# MODIFICATION OF A PREVIOUSLY APPROVED WATER POLLUTION ABATEMENT PLAN

## THE POINTE AT GAINES RANCH
## 5010 W US HIGHWAY SERVICE ROAD, AUSTIN, TEXAS
## TRAVIS COUNTY, TEXAS

*Prepared For:*

**5010 WEST HIGHWAY 290, LLC**

Z-Three Real Estate
PO Box 162304
Austin, TX 78716

*Prepared By:*

**KIMLEY-HORN AND ASSOCIATES, INC.**

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Firm No. 928
KHA Project No. 0693887221

June 2025

Revisions related to Regulated Entity ID: RN102670221;

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# SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

Texas Commission on Environmental Quality

# Edwards Aquifer Application Cover Page

## *Our Review of Your Application*

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

## *Administrative Review*

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

## *Technical Review*

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or if not withdrawn the application will be denied and the application fee will be forfeited.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

## *Mid-Review Modifications*

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the effected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Travis, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. Regulated Entity Name: The Pointe at Gaines Ranch | | | | | | 2. Regulated Entity No.: RN102670221 | | | |
| 3. Customer Name: 5010 West Highway 290, LLC | | | | | | 4. Customer No.: N/A | | | |
| 5. Project Type: (Please circle/check one) | New | | Modification | | | Extension | | Exception | |
| 6. Plan Type: (Please circle/check one) | WPAP | CZP | SCS | UST | AST | EXP | EXT | Technical Clarification | Optional Enhanced Measures |
| 7. Land Use: (Please circle/check one) | Residential | | Non-residential | | | 8. Site (acres): | | | SUBJECT SITE = 1.102<br>REG. ENTITY = 34.2 |
| 9. Application Fee: | $4,000 | | 10. Permanent BMP(s): | | | 4 existing sedimentation/filtration ponds | | | |
| 11. SCS (Linear Ft.): | N/A | | 12. AST/UST (No. Tanks): | | | N/A | | | |
| 13. County: | Travis | | 14. Watershed: | | | Barton Creek | | | |

## *Application Distribution*

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

| Austin Region | | | |
|---|---|---|---|
| County: | Hays | Travis | Williamson |
| Original (1 req.) | __ | _x_ | __ |
| Region (1 req.) | __ | _x_ | __ |
| County(ies) | __ | _x_ | __ |
| Groundwater Conservation District(s) | __Edwards Aquifer Authority<br>__Barton Springs/ Edwards Aquifer<br>__Hays Trinity<br>__Plum Creek | _x_Barton Springs/ Edwards Aquifer | NA |
| City(ies) Jurisdiction | __Austin<br>__Buda<br>__Dripping Springs<br>__Kyle<br>__Mountain City<br>__San Marcos<br>__Wimberley<br>__Woodcreek | _x_Austin<br>__Bee Cave<br>__Pflugerville<br>__Rollingwood<br>__Round Rock<br>__Sunset Valley<br>__West Lake Hills | ___ Austin<br>___ Cedar Park<br>___ Florence<br>___ Georgetown<br>___ Jerrell<br>___ Leander<br>___ Liberty Hill<br>___ Pflugerville<br>___ Round Rock |

| San Antonio Region | | | | | |
|---|---|---|---|---|---|
| County: | Bexar | Travis | Kinney | Medina | Uvalde |
| Original (1 req.) | __ | __ | __ | __ | __ |
| Region (1 req.) | __ | __ | __ | __ | __ |
| County(ies) | __ | __ | __ | __ | __ |
| Groundwater Conservation District(s) | __ Edwards Aquifer Authority<br>__Trinity-Glen Rose | __Edwards Aquifer Authority | __Kinney | __EAA<br>__Medina | __EAA<br>__Uvalde |
| City(ies) Jurisdiction | __Castle Hills<br>__Fair Oaks Ranch<br>__Helotes<br>__Hill Country Village<br>__Hollywood Park<br>__San Antonio (SAWS)<br>__Shavano Park | __Bulverde<br>__Fair Oaks Ranch<br>__Garden Ridge<br>__Austin<br>__Schertz | NA | __San Antonio ETJ (SAWS) | NA |

| |
|---|
| I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.<br><br>Ryan McKay, P.E. |
| Print Name of Customer/Authorized Agent |
| 06/02/2025 |
| Signature of Customer/Authorized Agent Date |

| **FOR TCEQ INTERNAL USE ONLY** | | | | |
|---|---|---|---|---|
| Date(s)Reviewed: | | Date Administratively Complete: | | |
| Received From: | | Correct Number of Copies: | | |
| Received By: | | Distribution Date: | | |
| EAPP File Number: | | Complex: | | |
| Admin. Review(s) (No.): | | No. AR Rounds: | | |
| Delinquent Fees (Y/N): | | Review Time Spent: | | |
| Lat./Long. Verified: | | SOS Customer Verification: | | |
| Agent Authorization Complete/Notarized (Y/N): | | Fee Check: | Payable to TCEQ (Y/N): | |
| Core Data Form Complete (Y/N): | | | Signed (Y/N): | |
| Core Data Form Incomplete Nos.: | | | Less than 90 days old (Y/N): | |

# SECTION 2:
# GENERAL INFORMATION

# General Information Form

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This General Information Form is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent:

## Project Information

1. Regulated Entity Name: The Pointe at Gaines Ranch
2. County: Travis
3. Stream Basin: Barton Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Recharge Zone
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☒ WPAP
   ☐ SCS
   ☒ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

Contact Person: Tricia Bragg
Entity: 5010 West Highway 290, LLC
Mailing Address: PO Box 162304
City, State: Austin, TX 78716 Zip: 78716
Telephone: 512-633-2825 ext. 718 Fax: N/A
Email Address: tricia@z3realestate.us

8. Agent/Representative (If any):

Contact Person: Ryan McKay, P.E.
Entity: Kimley-Horn
Mailing Address: 6800 Burleson Road, Building 312, Suite 150
City, State: Austin, Texas Zip: 78744
Telephone: 512-518-4875 Fax: N/A
Email Address: ryan.mckay@kimley-horn.com

9. Project Location:

☒ The project site is located inside the city limits of Austin.
☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
☐ The project site is not located within any city's limits or ETJ.

10. ☒ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

This project is located at 5010 W US 290 Highway Service Road. The site is part of a shopping center that is located east of the intersection of US Highway 290 Service Road and TX-1 Loop Service Road.

11. ☒ Attachment A – Road Map. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ Attachment B - USGS / Edwards Recharge Zone Map. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

☒ Project site boundaries.
☒ USGS Quadrangle Name(s).
☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
☒ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ The TCEQ must be able to inspect the project site or the application will be returned. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate

the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☒ Survey staking will be completed by this date: when advised of TCEQ site visit

14. ☒ Attachment C – Project Description. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

☒ Area of the site
☒ Offsite areas
☒ Impervious cover
☒ Permanent BMP(s)
☒ Proposed site use
☒ Site history
☒ Previous development
☒ Area(s) to be demolished

15. Existing project site conditions are noted below:

☒ Existing commercial site
☐ Existing industrial site
☐ Existing residential site
☒ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Uncleared)
☐ Other:

## *Prohibited Activities*

16. ☒ I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

## *Administrative Information*

18. The fee for the plan(s) is based on:

☒ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☐ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
☐ A request for an extension to a previously approved plan.

19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

☐ TCEQ cashier
☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
☐ San Antonio Regional Office (for projects in Bexar, Travis, Kinney, Medina, and Uvalde Counties)

20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

# *Attachment A*
# *Road Map*

DIRECTION FROM TCEQ HEADQUARTERS TO PROJECT SITE

1. GET ON S I-35 FROM PARK 35 CIR AND S I-35 FRONTAGE RD
2. CONTINUE ON S I-35 TO SUNSET VALLEY. TAKE THE EXIT TOWARD TX-1 LOOP / BRODIE LN / SOUTHWEST PKWY FROM W TX-71 / W US-290
3. FOLLOW W TEXAS HWY 71 SERVICE RD / W US HWY 290 SERVICE RD TO DESTINATION IN AUSTIN

# ROAD MAP

Austin, Texas
April 9, 2025

NORTH

0 500 1000

GRAPHIC SCALE IN FEET
SCALE: 1" =1000

DWG NAME K:\EAU_CIVIL\063887218-OLIVE GARDEN SOUTHWEST PKWY\CAD\EXHIBITS\ROAD MAP\ROAD MAP.DWG
LAST SAVED 4/9/2025 5:42 PM

NOTE: THIS EXHIBIT IS CONCEPTUAL IN NATURE AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES

Kimley»Horn

6800 Burleson Road, Building 312, Suite 150
Austin, TX 78744 - Ph: (512) 616-9942
State of Texas Registration No. F-928

# *Attachment B*

# *USGS/Edwards Recharge Zone Map*

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
OnDemand Topo

**7.5-MINUTE TOPO QUADRANGLE**
**TEXAS - CUSTOM EXTENT**
**7.5-MINUTE TOPO**

-97.8747° 30.2976° 609 000mE -97.7497° 30.2976°
3352 000mN 30.1726° 3339 000mN

Shopping Center, Regulated Entity RN102670221

Project Location

**Produced by the United States Geological Survey**
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: UNIVERSAL TRANSVERSE MERCATOR, ZONE 14R

Data is provided by The National Map (TNM), is the best available at the time of map generation, and includes data content from supporting themes of Elevation, Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover, and Orthoimagery. Refer to associated Federal Geographic Data Committee (FGDC) Metadata for additional source data information.

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands. Temporal changes may have occurred since these data were collected and some data may no longer represent actual surface conditions.

Learn About The National Map: https://nationalmap.gov

MN
GN
3°13′
57 MILS
0°36′
11 MILS
UTM GRID AND 2025 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
PU
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

TEXAS

QUADRANGLE LOCATION

| | |
|---|---|
| Austin West | Austin East |
| Oak Hill | Montopolis |

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

**7.5-MINUTE TOPO, TX**
**2025**

# *Attachment C*

# *Project Description*

## *Project Description*

This project proposes a modification to the approved Water Pollution Abatement Plan (WPAP) #91031901. The 1.102-acre project site is located at 5010 W US 290 Highway Service Road in Austin, Texas, and is a part of an existing shopping center, called The Pointe at Gaines Ranch (RN 102670221), located east of the intersection US Highway 290 Service Road and TX-1 Loop Service Road, within the Barton Creek watershed. The site is within the City of Austin Full Purpose Jurisdiction and lies within the Edwards Aquifer Recharge Zone.

The site is currently developed as a +/-5012 SF restaurant. The development proposes a +/-6,422 SF restaurant with associated parking and utility improvements. The proposed improvements will result in a reduction in impervious cover when compared to existing conditions. Drainage patterns for this site will remain the same as existing conditions and will sheet flow to the onsite storm sewer system before being treated by the existing sedimentation/filtration pond which is designed to treat the on-site flows. There is a shopping center reciprocal easement and operation agreement that allows the shared use of the water quality ponds as well as the storm, water, wastewater, and electrical infrastructure.

These improvements are proposed by 5010 West Highway 290 LLC, a new customer, and not the existing customers of The Point at Gaines Ranch (RN 102670221). The limits of construction for this site is +/-1.16 acres. A significant portion of the shopping center is not impacted by the proposed improvements.

# SECTION 3:
# GEOLOGIC ASSESSMENT

# *Attachment A*

# *Geologic Assessment Table*

An exception request has been granted. See Section 5, Attachment D.

# *Attachment B*
# *Stratigraphic Column*

An exception request has been granted. See Section 5, Attachment D.

# *Attachment C*

# *Site Geology*

An exception request has been granted. See Section 5, Attachment D.

# *Attachment D*

# *Site Geologic Map(s)*

An exception request has been granted. See Section 5, Attachment D.

# SECTION 4: MODIFICATION OF A PREVIOUSLY APPROVED PLAN

# Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This request for a Modification of a Previously Approved Plan is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent:

## *Project Information*

1. Current Regulated Entity Name: The Pointe at Gaines Ranch
   Original Regulated Entity Name: The Pointe at Gaines Ranch
   Regulated Entity Number(s) (RN): RN102670221
   Edwards Aquifer Protection Program ID Number(s): 91031901, 911TRAV01, 92070601
   ☐ The applicant has not changed and the Customer Number (CN) is: CN601355852, CN601441405, CN601441413
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ Attachment A: Original Approval Letter and Approved Modification Letters. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
   - ☐ Physical or operational modification of any water pollution abatement structure(s) including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
   - ☒ Change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
   - ☐ Development of land previously identified as undeveloped in the original water pollution abatement plan;
   - ☐ Physical modification of the approved organized sewage collection system;
   - ☐ Physical modification of the approved underground storage tank system;
   - ☐ Physical modification of the approved aboveground storage tank system.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

| *WPAP Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| Acres | 34.2 | 34.2 |
| Type of Development | Commercial retail | Commercial retail |
| Number of Residential Lots | 0 | 0 |
| Impervious Cover (acres) | 20.82 | 14.69 |
| Impervious Cover (%) | 60.88% | 42.94% |
| Permanent BMPs | 4 Filtration Ponds | Existing 4 Filtration Ponds |
| Other | N/A | N/A |

| *SCS Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| Linear Feet | N/A | N/A |
| Pipe Diameter | N/A | N/A |
| Other | N/A | N/A |

| *AST Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| Number of ASTs | N/A | N/A |
| Volume of ASTs | N/A | N/A |
| Other | N/A | N/A |

| *UST Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| *Number of USTs* | N/A | N/A |
| *Volume of USTs* | N/A | N/A |
| *Other* | N/A | N/A |

5. ☒ Attachment B: Narrative of Proposed Modification. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.

6. ☒ Attachment C: Current Site Plan of the Approved Project. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☒ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was not constructed as approved.
   - ☐ The approved construction has commenced and has not been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has not been completed. Attachment C illustrates that, thus far, the site was not constructed as approved.

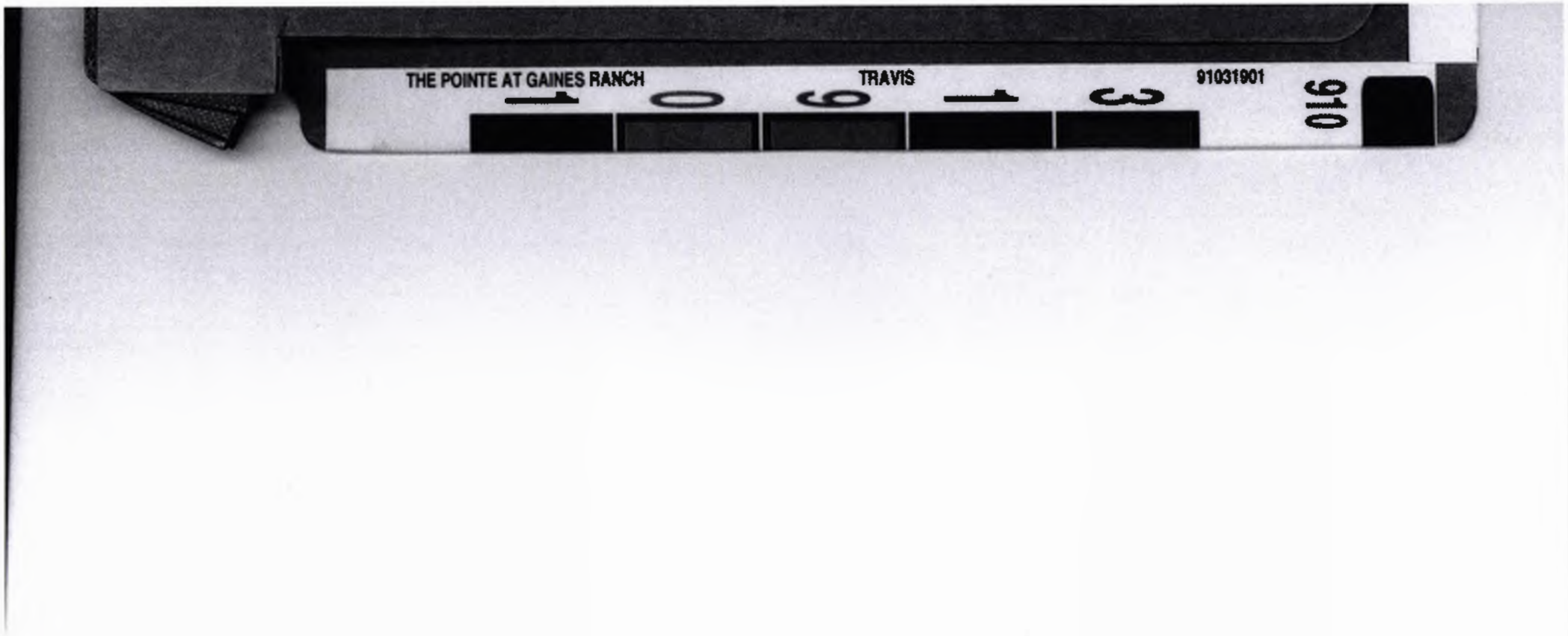
7. ☐ The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
   ☒ Acreage has not been added to or removed from the approved plan.

8. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county

in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

# *Attachment A*

# *Original Approval Letter and Approved Modification Letters*


THE POINTE AT GAINES RANCH
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Entered 7-19-91 B

John Hall, Chairman
B. J. Wynne, III, Commissioner
John E. Birdwell, Commissioner

# TEXAS WATER COMMISSION

*PROTECTING TEXANS' HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION*

JUL 18 1991

July 16, 1991

Mr. Taylor Gaines and Ms. Inez Gaines
4966 Highway 290 West
Austin, Texas 78701

Re: The Pointe at Gaines Ranch, Phase A, Section One, Lot 1 & Lot 2, and Section 1-A, 4980 US Highway 290 West, City of Austin and City of Sunset Valley, Travis County, Texas - Request for Approval of Water Pollution Abatement Plan (WPAP); 31 Texas Administrative Code (TAC) Section 313.4

Dear Mr. Gaines and Ms. Gaines:

We have completed our Texas Water Commission (TWC) review of the WPAP for the referenced proposed project that was submitted by Bury & Pittman Inc. on your behalf to the District 14 Office on March 19, 1991, with additional materials received on June 28, 1991 and July 1, 1991. The initial submittal was received by our Water Quality Division in Austin on April 1, 1991, and the latter submittals were received on July 11, 1991. The proposed referenced project will be located within the 2-mile extraterritorial jurisdiction of the City of Austin, with a small portion located within the corporate limits and the extraterritorial jurisdiction of the City of Sunset Valley. The site is on the north side of US Highway 290 West, west of its intersection with Brodie Lane and east of Loop 1.

There is a known well on the proposed site. If it is abandoned, or if any other abandoned wells exist on the site or are found during construction of the proposed development, they shall be plugged in accordance with the local underground water conservation district's plugging procedures, if applicable, or 31 TAC Section 287.50(a) of this title (relating to Standards for Plugging Wells that Penetrate Undesirable Water Zones), or an equivalent method, as approved by the Executive Director. Pursuant to 31 TAC Section 287.48(e), the person that plugs such a well shall, within 30 days after plugging is complete, submit a Water Well Completion and Plugging Report to the Executive Director, through the District 14 Office.

According to the submitted geologic assessment, no sinkholes occur along the drainage features downstream from the proposed developed areas. However, faults are common, and in areas where these faults cut the Edwards Limestone, enhanced fracture porosity occurs locally. Although significant enlargement of fractures was not observed, faults in the outcrop areas of the Edwards Limestone should be considered potentially significant with respect to

recharge. Such features are downstream from the proposed development, and accordingly, contamination mitigation of runoff originating on-site is needed to insure that quality of recharging waters is maintained. A potential on-site sinkhole, filled with terrace gravels and surficial soil, has been breached by the headwaters of a draw, resulting in non-closure of the potential recharge feature. Two other similar, sag-like features were mapped on the tract and were described as roughly circular heads of draws that could have resulted from deep-seated collapse of roofrock into karst features.

According to the District 14 Office field investigator's report there are numerous faults and fractures within the site which will accommodate a high potential for recharge during construction. Downstream in the tributary to Barton Creek, the creekbed is highly fractured and faulted Edwards Limestone. The sag in the northwest corner has fractured and vuggy limestone outcrops. The sidewalls and bedrock in the ravine immediately north of the aforementioned sag is Edwards Limestone. Also, there is a sinkhole near its up-gradient-most reach, and there is a fault running down its center.

The proposed 34.2-acre development is a commercial retail center with about 207,404 square feet (sf) (4.76 acres) of commercial/ retail uses and 16,288 sf (0.37 acre) of restaurant uses. A 940-sf self-service gas station/convenience store, which is also mentioned in the WPAP, is not included in this proposed development and will be required to comply with all applicable sections of 31 TAC Chapter 313 prior to commencing construction. Total impervious cover will amount to 906,920 sf (20.82 acres), of which 682,288 sf (15.66 acres) will be parking spaces, sidewalks, and driveways. The balance of the 34.2-acre tract will be left in a natural/ undeveloped state, and any disturbed areas shall be 100% revegetated. No facilities for automotive repair work shall be allowed within this proposed development. Projected population is not specified.

Wastewater from the proposed project will be primarily domestic in character. An estimated 39% of the wastewater will come from restaurants, and 61% of the wastewater will come from other commercial retail uses. The volume of wastewater, assuming 208 living unit equivalents, will be 72,800 gallons per day. There will be 2 private on-site lift stations that will be maintained by the landowner. Wastewater from the site will be transported to the Sunset Valley interceptor by a force main and will then gravity flow to the South Austin Regional Wastewater Treatment Plant.

Design of the 2 private on-site lift stations must be submitted to the TWC for review, possible modification, and approval prior to initiation of construction of the on-site lift stations.

The proposed development will produce stormwater typical of a commercial retail center. Volume of stormwater runoff is estimated to be 308.6 cubic feet per second (cfs) and 426.6 cfs for 25-year and 100-year storm events, respectively.

Potable water will be supplied to the site by the City of Austin.

During construction, silt fences and rock berms shall be used as temporary erosion controls to prevent sedimentation and erosion from stormwater runoff from the site. All areas disturbed by construction shall be restored to a vegetative state in accordance with the City of Austin Environmental Criteria Manual for permanent erosion control.

Stormwater runoff from the site will drain from the southwest to the northeast across the parking lot to various grate inlets. The stormwater will be conveyed by a storm-drain network from the inlets to cast-in-place splitter boxes. The splitter boxes will separate the first 1/2 inch of runoff (44,521 cubic feet) and convey these flows to four proposed sedimentation/filter ponds. A permanent rock berm shall be placed in the pond to allow sedimentation of solids prior to reaching a sand-bed area in the filter pond. The stormwater in the pond shall be filtered through 18 inches of sand and collected by a 4-inch perforated pipe before leaving the site. The sand-bed area shall be underlain by an impermeable liner. Additional stormwater runoff in excess of the first 1/2 inch will be diverted to the downstream drainage channel. There are no detention facilities proposed due to the location of the tract in the lower portion of the watershed. According to the submitted WPAP, drainage calculations indicate the developed flows of 308.6 cfs and 426.6 cfs for 25-year and 100-year storm events, respectively, will cause no substantial downstream impact.

Additional erosion and sedimentation control structures shall be placed north of Building #5 to connect the existing rock berm northwest of Building #5 to the rock berm south of Pond #2.

Sedimentation traps shall be provided for all proposed area inlets during construction. Final plans for the temporary erosion-control structures (such as sediment traps, silt fences, rock berms, etc..) shall be submitted to the Edwards Aquifer Coordinator prior to initiation of construction. The final plans shall include an evaluation which compares the flow-through rate of the structure times the effective surface area to evaluate which storms will be filtered and which storms will over-flow the structures. Additional rock berms may be necessary in the areas of concentrated flow north of the proposed development and in the roadside ditches along U.S. 290 and Mo-Pac.

The formal maintenance plan shall be amended to include inspections following rainfall events to evaluate detention times within the filtration basins. Filter media should be adjusted to maintain detention times of 24-36 hours. The plan should also include characterization and location of disposal of filter media.

Any buildings that are to be developed at a later date and that will contain storage of petroleum hydrocarbons will be required to have hazardous material traps for all stormwater outfalls.

Permanent structures (rock berms, etc.) shall be installed below all pond outfalls to minimize scouring and to spread the flow to minimize velocities.

All changes to the erosion and sedimentation control plans shall be submitted to the District 14 Field Office and to the Edwards Aquifer Coordinator prior to initiation of construction. Any changes to the type of filter media shall also be submitted for review.

Approval of the design of the sewage collection system for this proposed subdivision shall be obtained from the Executive Director prior to the commencement of construction of the sewage collection system, the design of which shall be in accordance with 31 TAC Section 313.5.

No waste-disposal wells, new confined animal feeding operations, land disposal of Class I wastes, or use of sewage holding tanks as parts of organized collection systems shall be allowed on the recharge zone of this regulated development.

The plan for this development has been reviewed for compliance with 31 TAC Section 313.4 which sets forth pollution abatement criteria for development located on the recharge zone of the Edwards Aquifer. The proposed pollution abatement activities are in general agreement with 31 TAC Section 313.4, and approval of the development is hereby granted with the specific conditions listed below. Prior to commencing construction, the applicant shall submit copies of any TWC-required changes to plans and specifications to all other permitting authorities.

The TWC may monitor stormwater discharges from the site to evaluate the adequacy of the temporary erosion and sedimentation control measures. Additional protection may be necessary if excessive solids are being discharged from the site.

During the course of construction related to the referenced regulated development, the owner/developer shall comply with all applicable provisions of 31 TAC Section 313.4. Construction which is initiated and abandoned, or not completed, shall be returned to

a permanent condition such that groundwater in the Edwards Aquifer is protected from potential contamination. Additionally, Mr. Taylor Gaines and/or Ms. Inez Gaines, applicant(s), shall remain responsible for the aforementioned provisions and special conditions until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume all aforementioned responsibilities.

Please be reminded that 31 TAC Section 313.4 (c) requires the owner/developer to: (1) record in the county deed records that this property is subject to the approved WPAP; (2) within 30 days of receiving written notice of approval of the water pollution abatement plan from the executive director, submit to the Executive Director proof of application for recordation of notice in the county deed records; and (3) prior to commencing construction, submit to the appropriate district office proof of application for recordation of notice in the county deed records. Enclosed is a suggested format you may wish to use to deed record your approved WPAP.

Pursuant to 31 TAC Section 313.4 (d) (1), prior to commencing construction the applicant must notify the District 14 Office in Austin when the regulated activity will commence.

Also, 31 TAC Section 313.4 (d) (2) requires that if any significant recharge features, such as solution openings or sinkholes, are discovered during construction, all regulated activities near the significant recharge feature must be immediately suspended and may not proceed until the Executive Director has reviewed and approved the methods proposed to protect the aquifer from any potential adverse impacts. Upon discovery of the significant recharge features, the developer shall immediately notify the District 14 Office located at 1700 South Lamar, Building 1, No. 101, Austin, Texas, 78704-3360, telephone (512) 463-7803.

Any substantial modification, as outlined in 31 TAC Section 313.4 (e), to this approved WPAP must be reported to the District 14 Office and approved by the Executive Director.

Please note that 31 TAC Section 313.4 (g) states that this approval expires two years from this date unless, prior to the expiration date, construction has commenced on the regulated development.

Failure to comply with any of the aforementioned conditions, deed recordation requirements, or any other specific conditions of approval is a violation of these rules. Pursuant to Section 26.136 of the Texas Water Code, violations of these rules may result in administrative penalties of up to $10,000 for each act of violation and for each day of violation.

If you have any questions or require additional information, please contact either the District 14 Office field inspector at (512) 463-7803 in Austin or the Edwards Aquifer Coordinator at (512) 463-8497 in Austin.

Sincerely,

Roy F. McDonnell Jr., P.E.

for Allen Beinke
Executive Director

Enclosure

cc: Gregory S. Strmiska, P.E., Bury & Pittman, Inc.
Austan Librach, Environmental & Conservation Services Dept.
Helen C. Besse, Mayor, City of Sunset Valley
Bill Aleshire, County Judge, Travis County
Bill Couch, Barton Springs / Edwards Aquifer Conservation District
Bobb Nelms, Texas Water Commission, District 14 Office

D-14

John Hall, Chairman
B. J. Wynne, III, Commissioner
John E. Birdwell, Commissioner

# TEXAS WATER COMMISSION

*PROTECTING TEXANS' HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION*

RECEIVED
AUG 20 1991
FIELD OPERATIONS
DISTRICT 14

August 19, 1991

Mr. Taylor Gaines
4966 W. Highway 290
Austin, Texas 78735

Re: The Pointe At Gaines Ranch Phase A, Section One, Lots 1 & 2, and Section 1-A

Dear Mr. Gaines:

We have received your letter, dated August 5, 1991, which stated that the Water Pollution Abatement Plan (WPAP) approval letter for the above referenced project was mistakenly directed to your attention, since you had conveyed the proposed development property to the Trammell Crow Company on July 3, 1991.

The approval letter stated that you would be responsible for complying with all applicable provisions of 31 Texas Administrative Code Chapter 313.4. However, since you have conveyed the property in question to the Trammell Crow Company, all responsibilities concerning this development is transferred to the Trammell Crow Company.

Thank you for informing us of the change in ownership, and we apologize for any inconvenience we may have caused you. If you have any questions or require additional information, please call the Edwards Aquifer Coordinator at 463-8497.

Sincerely,

Robert T. McDonnell, Jr.
for Clyde Bohmfalk, Director
Water Quality Division

cc: Charlie Ball, Trammell Crow Company
Bill Aleshire, County Judge, Travis County
Bill Couch, Barton Springs / Edwards Aquifer Conservation District
Bobb Nelms, TWC District 14 Office, Austin
Rob Conti, TWC Edwards Aquifer Coordinator

911
911TRAV01
TRAVIS
Points at Gaines Ranch

Entered
1-16-92
JEB

John Hall, Chairman
B. J. Wynne, III, Commissioner
Pam Reed, Commissioner

# TEXAS WATER COMMISSION

*PROTECTING TEXANS' HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION*

91/12/27
Amd

January 8, 1992

Mr. Gregory Strmiska
Bury & Pittman, Inc.
3345 Bee Caves Road/Suite 200
Austin, Texas 78746

Re: Request for Approval of Water Pollution Abatement Plan (WPAP), Amendment No. 1, The Point at Gaines Ranch, 4980 U.S. 290 West, Austin (Travis County), Texas. 31 TAC 313.4 - The Edwards Rules)

Dear Mr. Strmiska:

On December 27, 1991, the District 14 office received the enclosed letter requesting approval for: (1) the relocation of the level spreader for Filter Pond #2; (2) the postponement of the peat moss filter installation for Filter Pond #2; and (3) the installation of the Filter Pond #3 peat moss filter using shredding and compacting techniques.

The Texas Water Commission hereby approves the above requests with the following condition. The applicant is required to install the peat moss in Filter Pond #2 no later than April 15, 1992. Please note, this approval does not relieve the applicant of any other requirements contained in the approved WPAP.

Should you have any questions regarding this matter, please contact either myself or Bobb Nelms at (512) 463-7803.

Sincerely,

Wm. John Young, Manager
District 14

BWN:bwn

Enclosure

cc: Mr. Rob Conti, Watershed Management Division
Mr. Bill Couch, Barton Springs/Edwards Aquifer Conservation District
Mr. Mark Mauldin, City of Austin, Department of Environmental and Conservation Services

# *Attachment B*

# *Narrative of Proposed Modification*

# Narrative of Proposed Modification

A Water Pollution Abatement Plan (WPAP) (#91031901) was approved on July 16, 1991, for a 34.2-acre site. However, the development did not use the full 34.2 acres for the development and only used 24.98-acres for the shopping center. The development installed 4 water quality structures that are compliant with TCEQ technical guidance. The approved WPAP had an overall impervious cover of 20.82-acres (60.88%) for the approved 34.2-acres. The approved plan treats the first ½ inch of runoff (44,521 cubic feet) and conveys these flows to the 4 sedimentation/filtration ponds.

The existing shopping center has 14.71-acres of existing impervious cover, per SP-2011-0281CS. The existing impervious cover is 58.89% for the actual 24.98-acres that were developed. The existing impervious cover of 14.71-acres is 43.01% compared to the approved 34.2-acres. This percentage is the actual impervious cover amount on site, but it does not reflect the approved amount of 60.88% on the original WPAP.

The proposed project will demolish the existing 5,012 SF restaurant and pad surrounding the building. A 6,422 SF restaurant will replace the existing restaurant with a new pad that will decrease the impervious cover by 1,156 square feet (0.03 acres) which will bring the impervious cover of the 1.102-acre site from 91.66% to 89.38%.

With this subject site's decrease in impervious cover, the shopping center impervious cover goes down from 14.71 to 14.69 acres, for a 42.94% coverage of the total WPAP area. With a decrease in impervious cover, the shopping center will maintain the minimum Total Suspended Solids (TSS) reduction standard of 80% without having to make any updates to the existing permanent BMPs.

This modification proposes less impervious cover on site to maintain full compliance with TCEQ regulations for Edwards Aquifer protection. The project will ensure continued effective management of stormwater runoff and pollutant removal in accordance with the established guidelines.

## GENERAL NOTES

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
2. THE CONTRACTOR IS TO CONTACT THE TEXAS ONE CALL CENTER AT 472-2822 FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.
3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION OF THE CITY'S ONE STOP SHOP (OSS) AT 974-6360 AT LEAST 24 HOURS PRIOR TO INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET R.O.W. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S R.O.W. MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
4. FOR SLOPES OR TRENCHES GREATER THAN FIVE (5) FEET IN DEPTH, ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN, TEXAS.)
5. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.
6. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO RELEASE OF THE CERTIFICATE OF OCCUPANCY BY THE WPDRD, THE ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DRAINAGE, FILTRATION, AND DETENTION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS.
7. DEVELOPER INFORMATION
   A. OWNER:
      LAMY SOUTH TOWNE LTD
      ATTN: MR. PETER LAMY
      ADDRESS: 1717 WEST 6TH STREET
      SUITE 390
      AUSTIN, TX 78703
      512-684-3837
   B. OWNERS REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:
      JONES AND CARTER CONSULTING ENGINEERS INC.
      PHONE NO: (512) 441-9493
   C. PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDIMENTATION CONTROL:
      CONTRACTOR
   D. PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL AREA CONTROL:
      CONTRACTOR
8. ALL CONSTRUCTION SHALL COMPLY WITH THE "CITY OF AUSTIN STANDARD SPECIFICATIONS," AS AMENDED BY SPECIAL PROVISION, CURRENT AT THE TIME OF BIDDING.
9. CONTRACTOR TO TAKE ALL DUE PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF THESE CONSTRUCTION OPERATIONS TO BE REPAIRED IMMEDIATELY BY THE CONTRACTOR, AT NO ADDITIONAL COST TO OWNER.
10. CONTRACTOR TO GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO MAKE CERTAIN THAT ALL CONSTRUCTION PERMITS THAT CAN ONLY BE ISSUED TO THE CONTRACTOR HAVE BEEN OBTAINED BY THE CONTRACTOR AT HIS EXPENSE PRIOR TO COMMENCEMENT OF WORK.
11. CONTRACTOR TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING EXCESS AND WASTE MATERIAL, INCLUDING METHODS OF HANDLING AND DISPOSAL.
12. CONTRACTOR TO COORDINATE INTERRUPTIONS OF ALL UTILITIES AND SERVICES. ALL WORK TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY COMPANY OR AGENCY INVOLVED.
13. WHEN UNLOCATED OR INCORRECTLY LOCATED UNDERGROUND PIPING, OR A BREAK LOCATED IN THE LINE, OR OTHER UTILITIES AND SERVICES ARE ENCOUNTERED DURING SITE WORK OPERATIONS, NOTIFY THE APPLICABLE UTILITY COMPANY IMMEDIATELY TO OBTAIN PROCEDURE DIRECTIONS. COOPERATE WITH THE APPLICABLE UTILITY COMPANY IN MAINTAINING ACTIVE SERVICES IN OPERATION.
14. CONTRACTOR TO CONTROL DUST CAUSED BY THE WORK AND COMPLY WITH POLLUTION CONTROL REGULATIONS OF GOVERNING AUTHORITIES. (NO SEPARATE PAY.)
15. THESE PLANS, PREPARED BY JONES AND CARTER INC., DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF JONES AND CARTER INC.'S REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR TO PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY HOUSE BILLS 662 AND 665 ENACTED BY THE TEXAS LEGISLATURE IN THE 70TH LEGISLATURE - REGULAR SESSION.
16. CONTRACTOR TO EXERCISE CAUTION DURING CONSTRUCTION NEAR AND AROUND GAS LINES. NOTIFY GAS COMPANY 72 HOURS PRIOR TO CONSTRUCTION.
17. BURNING IS NOT ALLOWED ON THIS PROJECT.
18. CONTRACTOR TO INSTALL 1/2-INCH-DIAMETER BY 12-INCH-LONG REBAR VERTICALLY, WITH TWO (2) FEET OF SURVEYOR'S RIBBON ATTACHED, AT END OF ALL PIPE STUBS. TOP OF BAR TO BE NOT LESS THAN 12 INCHES BELOW THE FINISHED GRADE.
   A. BLUE RIBBON - WATER LINE
   B. RED RIBBON - WASTEWATER LINE
   C. WHITE RIBBON - GAS LINE
   D. YELLOW RIBBON - TELECOM DUCT BANK
   E. ORANGE RIBBON - ELECTRICAL DUCT BANK
19. MAKE CONNECTION BETWEEN NEW AND EXISTING ASPHALT BY REMOVING EXISTING ASPHALT, UNTIL FULL DEPTH BASE AND HMAC ARE ENCOUNTERED AND HMAC APPEARS TO BE IN SOUND CONDITION. PROVIDE EXPANSION JOINT AND DOWELS WHERE CONNECTING EXISTING CURB TO NEW.
20. A CURB LAYDOWN IS REQUIRED AT ALL POINTS WHERE THE PROPOSED SIDEWALK INTERSECTS THE CURB.
21. UNLESS OCCURRING AT AN EXPANSION JOINT, MAKE CONNECTION BETWEEN NEW AND EXISTING SIDEWALK BY EXPOSING AND CLEANING A ONE-FOOT LENGTH OF WELDED WIRE REINFORCEMENT AND LAPPING NEW REINFORCEMENT ONTO THIS LENGTH.
22. CONCRETE FOR SITE WORK TO BE CLASS "A" (5 SACK, 3000 PSI @ 28-DAYS) AND ALL REINFORCING STEEL TO BE ASTM A615 60, UNLESS OTHERWISE NOTED.
23. CONTRACTOR SHALL REFER TO THE TECHNICAL INVESTIGATION REPORT FOR THIS SITE FOR SUBSURFACE INFORMATION REGARDING THIS PROJECT. AT ITS EXPENSE THE CONTRACTOR IS ENCOURAGED TO MAKE ADDITIONAL SUBSURFACE INVESTIGATIONS.
24. ALL PRIVATE DRIVEWAYS WILL NOT EXCEED A GRADE OF 14% FOR THE FIRST 25' FROM EDGE OF RIGHT-OF-WAY AND WILL NOT REQUIRE CUT OR FILL OVER 8'.
25. SCREENING MATERIALS FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, THE MATERIALS USED FOR THE PRINCIPLE BUILDING.
26. SITE LIGHTING SHALL COMPLY WITH SECTION 2.5 SUBCHAPTER E OF THE LAND DEVELOPMENT CODE: LITHONIA LIGHTING MODEL KSF2 OR EQUAL
27. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO THE RELEASE BY THE CITY, THE DESIGN ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DRAINAGE AND DETENTION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS.
28. DESIGN PROCEDURES ARE IN COMPLETE COMPLIANCE WITH THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL OR DESIGN PROCEDURES ARE IN GENERAL COMPLIANCE WITH THE CITY OF AUSTIN DRAINAGE CRITERIA MANUAL AND ALL VARIANCES TO THE MANUAL ARE NOTED.
29. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY OF AUSTIN, CONSULTING ENGINEER, CONTRACTOR, COUNTY ENGINEER (IF APPROPRIATE), AND ANY OTHER AFFECTED PARTIES. NOTIFY DPWT, CONSTRUCTION INSPECTION DIVISION, 974-0170 X 7161, AND WATER AND WASTEWATER DEPARTMENT, 477-5761, AT LEAST 48 HOURS PRIOR TO THE TIME OF THE CONFERENCE AND 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
30. THE CONTRACTOR SHALL GIVE THE CITY A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION, CALL CONSTRUCTION INSPECTION DIVISION, 974-0170 X 7161.
31. BARRICADES, BUILT TO CITY OF AUSTIN STANDARD SPECIFICATIONS, SHALL BE CONSTRUCTED ON ALL DEAD-END STREETS AND AS NECESSARY DURING CONSTRUCTION TO MAINTAIN JOB SAFETY. (STREETS, ETC. MAY BE USTED IN ADDITION TO OR INSTEAD OF NOTE.)
32. IF BLASTING IS PLANNED BY THE CONTRACTOR, A BLASTING PERMIT MUST BE SECURED PRIOR TO COMMENCEMENT OF ANY BLASTING.
33. ANY EXISTING PAVEMENT, CURBS, AND/ OR SIDEWALKS DAMAGED OR REMOVED WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE BEFORE ACCEPTANCE OF THE SUBDIVISION.
34. THE LOCATION OF ANY WATER AND / OR WASTEWATER LINES SHOWN ON THE PLANS MUST BE VERIFIED BY THE WATER AND WASTEWATER DEPARTMENT.
35. USE ONE CALL UTILITY SYSTEM: DIAL 472-2822, 48 HOURS BEFORE YOU DIG.

## ELECTRIC UTILITY NOTES

1. AUSTIN ENERGY HAS THE RIGHT TO PRUNE AND/OR REMOVE TREES, SHRUBBERY AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR. AUSTIN ENERGY WILL PERFORM ALL TREE WORK IN COMPLIANCE WITH CHAPTER 25-8, SUBCHAPTER-B OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.
2. THE OWNER/DEVELOPER OF THIS SUBDIVISION/LOT SHALL PROVIDE THE AUSTIN ENERGY WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. THESE EASEMENTS AND/OR ACCESS ARE REQUIRED TO PROVIDE ELECTRIC SERVICE TO THE BUILDING, AND WILL NOT BE LOCATED AS SO TO CAUSE THE SITE TO BE OUT OF COMPLIANCE WITH CHAPTER 25-8 OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.
3. THE OWNER SHALL BE RESPONSIBLE FOR INSTALLATION OF TEMPORARY EROSION CONTROL, REVEGETATION AND TREE PROTECTION IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY INITIAL TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTER LINE OF THE PROPOSED OVERHEAD ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICES TO THIS PROJECT. THE OWNER SHALL INCLUDE AUSTIN ENERGY'S WORK WITH THE LIMITS OF CONSTRUCTION FOR THIS PROJECT.
4. THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR MAINTAINING CLEARANCES REQUIRED BY THE NATIONAL ELECTRIC SAFETY CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, CITY OF AUSTIN RULES AND REGULATIONS AND TEXAS STATE LAWS PERTAINING TO CLEARANCES ARE MAINTAINED. ALL COST INCURRED BECAUSE OF FAILURE TO COMPLY WITH THE REQUIRED CLEARANCES WILL BE CHARGE TO THE OWNER.

## FIRE DEPARTMENT NOTES

1. THE AUSTIN FIRE DEPARTMENT REQUIRES ASPHALT OR CONCRETE PAVEMENT PRIOR TO CONSTRUCTION AS AN "ALL-WEATHER DRIVING SURFACE."
2. HYDRANTS MUST BE INSTALLED WITH THE CENTER OF THE FOUR-INCH OPENING AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE FOUR-INCH OPENING MUST FACE THE DRIVEWAY OR STREET WITH THREE TO SIX-FOOT SETBACKS FROM THE CURBLINE(S). NO OBSTRUCTION IS ALLOWED WITHIN THREE FEET OF ANY HYDRANT AND THE FOUR-INCH OPENING MUST BE TOTALLY UNOBSTRUCTED FROM THE STREET.
3. TIMING OF INSTALLATION: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE DEVELOPER, SUCH FACILITIES SHALL INCLUDE ALL SURFACE ACCESS ROADS WHICH SHALL BE INSTALLED AND SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION (WHERE ALTERNATIVE METHODS OF PROTECTION, AS APPROVED BY FIRE CHIEF, ARE PROVIDED, THE ABOVE MAY BE MODIFIED OR WAIVED).
4. ALL PERVIOUS/DECORATIVE PAVING SHALL BE ENGINEERED AND INSTALLED FOR 80,000 LB. LIVE-VEHICLE LOADS. ANY PERVIOUS/DECORATIVE PAVING WITHIN 100 FEET OF ANY BUILDING MUST BE APPROVED BY THE FIRE DEPARTMENT.
5. COMMERCIAL DUMPSTERS AND CONTAINERS WITH AN INDIVIDUAL CAPACITY OF 1.5 CUBIC YARDS OR GREATER SHALL NOT BE STORED OR PLACED WITHIN TEN FEET OF OPENINGS, COMBUSTIBLE WALLS, OR COMBUSTIBLE EAVE LINES.
6. FIRE LANES DESIGNATED ON SITE PLAN SHALL BE REGISTERED WITH CITY OF AUSTIN FIRE MARSHAL'S OFFICE AND INSPECTED FOR FINAL APPROVAL.
7. VERTICAL CLEARANCE REQUIRED FOR FIRE APPARATUS IS 14 FEET, 0 INCHES FOR FULL WIDTH OF ACCESS DRIVE.

## ORDINANCE REQUIREMENTS

1. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE A SITE PLAN AMENDMENT AND APPROVAL FROM THE PLANNING AND DEVELOPMENT REVIEW DEPARTMENT.
2. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING CODE APPROVAL; FIRE CODE APPROVAL; OR BUILDING, DEMOLITION, OR RELOCATION PERMITS APPROVAL. A CITY DEMOLITION OR RELOCATION PERMIT CAN ONLY BE ISSUED ONCE THE HISTORIC REVIEW PROCESS IS COMPLETED.
3. ALL SIGNS MUST COMPLY WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE.
4. THE OWNER IS RESPONSIBLE FOR ALL COSTS OF RELOCATION OF, OR DAMAGE TO, UTILITIES.
5. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
6. A DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NON-CONSOLIDATED OR COMMISSION APPROVED SITE PLANS.
7. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN [OR IDENTIFY THE SERVICE PROVIDER IF OTHER THAN THE CITY OF AUSTIN].
8. NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OWNER OR OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE OF TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING CONDOMINIUMS.
9. FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.

## AMERICANS WITH DISABILITIES ACT:

THE CITY OF AUSTIN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH CITY DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.

## AUSTIN WATER UTILITY GENERAL CONSTRUCTION NOTES JULY 7, 2008

1. THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIAL AND METHODS USED TO DO THIS WORK.
2. CONTRACTOR MUST OBTAIN A STREET CUT PERMIT FROM WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT, CONSTRUCTION INSPECTION DIVISION BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY.
3. AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW INSPECTION OR WATER AND WASTEWATER UTILITY TAPS INSPECTION AT THE NUMBER INDICATED ON THE PLANS BY THE AWU PLAN REVIEWER.
4. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF AUSTIN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.
5. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
6. THE CITY SPECIFICATION ITEM 509S WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE.
7. ALL MATERIALS TESTS, INCLUDING SOIL DENSITY TESTS AND DETAILED SOIL ANALYSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804S.04.
8. PRESSURE TAPS SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(24). THE CONTRACTOR SHALL PERFORM EXCAVATION ETC., AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. WHEN CONTRACTORS MAKE THE TAP A CITY INSPECTOR MUST BE PRESENT AND 2 WORKING DAYS (MIN.) NOTICE MUST BE GIVEN. "SIZE ON SIZE" TAPS WILL NOT BE PERMITTED, UNLESS, IT HAS BEEN DEMONSTRATED THAT A MORE ACCEPTABLE CONNECTION WOULD INVOLVE CONSIDERABLE HARDSHIP TO THE UTILITY SYSTEM. ALL TAPS SHALL BE MADE BY USE OF AN APPROVED FULL CIRCLE-GASKETED CAST IRON OR DUCTILE IRON TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED UNDER ALL TAP SLEEVES PRIOR TO MAKING THE WET TAP AND THE USE OF PRECAST BLOCKS MAY BE USED TO HOLD THE TAP IN ITS CORRECT POSITION PRIOR TO BLOCKING. THE BLOCKING BEHIND AND UNDER THE TAP SHALL HAVE A MINIMUM OF 24 HOURS CURING TIME BEFORE THE VALVE CAN BE RE-OPENED FOR SERVICE FROM THAT TAP.
9. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3 (22).
10. ALL BRANCH CONNECTIONS SHALL HAVE THE VALVE BOLTED TO THE MAIN BY METHODS OF FLANGE OR SWIVEL TEES. FOSTER ADAPTERS MAY BE USED IN LIEU OF FLANGE OR SWIVEL TEES WHEN CALLED OUT ON THE PLANS BY THE DESIGN ENGINEER.
11. A). FIRE HYDRANTS SHALL BE SET IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 511S.4 B). FIRE HYDRANTS SHALL BE PAINTED FLYNT ALUMINUM OR EQUAL.
12. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29). FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AT THE PRESSURES SHOWN ON THE APPROVED PLANS.
13. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.
14. WHEN WATER SERVICES ARE DAMAGED AND THE SERVICE MATERIAL IS PE, THE LINE SHALL BE REPAIRED ONLY BY HEAT FUSION WELD OR REPLACED THE FULL LENGTH WITH TYPE K COPPER MATERIAL. ANY TIME PB IS DAMAGED OR TAMPERED WITH IN ANY WAY, THE SERVICE LINE SHALL BE REPLACED FULL LENGTH WITH TYPE K COPPER MATERIAL. NOTE: FULL LENGTH IS FROM BALL VALVE TO METER.
15. WHEN AN EXISTING WATERLINE SHOUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY THE AUSTIN WATER UTILITY DISPATCH AND THE AFFECTED CUSTOMERS A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE.
16. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR SO THAT HE CAN NOTIFY THE AUSTIN WATER UTILITY AT 972--0000 AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS. THE CONTRACTOR SHALL CAREFULLY REMOVE ALL METERS AND METERS BOXES THAT ARE INDICATED TO BE RELOCATED OR SALVAGED. THE CONTRACTOR SHALL INSTALL THE REMOVED METER OR CITY PROVIDED METER AT THE NEW LOCATION INDICATED ON THE CONSTRUCTION PLANS.
17. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY OF AUSTIN.
18. THE CONTRACTOR SHALL LOCATE ALL VERTICAL AND HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO STARTING ANY ONSITE UTILITY WORK.
19. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN DOES NOT REMOVE THESE RESPONSIBILITIES.
20. REVIEW BY THE AUSTIN WATER UTILITY APPLIES ONLY TO FACILITIES WITHIN PUBLIC STREETS OR PUBLIC UTILITY EASEMENTS. ALL OTHER WATER AND WASTEWATER FACILITIES INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICTION OF BUILDING INSPECTION.
21. ALL WATER AND WASTEWATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE SEPARATION DISTANCES INDICATED IN CHAPTER 290 - DRINKING WATER STANDARDS, AND CHAPTER 217 - DESIGN CRITERIA FOR SEWAGE SYSTEMS, OF TCEQ RULES.

## BENCHMARK

TEMPORARY BENCHMARK FOR THIS SURVEY IS A "A" CHISELED ON TOP BACK OF CURB LOCATED AT THE SOUTHWEST END OF A MEDIAN +/- 54.5 FEET NORTHWEST OF THE MOST EASTERLY CORNER OF THE SUBJECT LOT, AS SHOWN ON SURVEY. (ELEVATION=713.56) (NAVD 88 DATUM)

**APPENDIX Q-1**
**NET SITE AREA**
**SP-2011-0281CS**

| | | |
|---|---|---|
| Total gross site area = | 1.018 Acres | |
| Site Deductions: | | |
| Critical water quality zone (CWQZ) = | 0 Acres | |
| Water quality transition zone (WQTZ) = | 0 Acres | |
| Watewater irrigation areas = | 0 Acres | |
| Deduction subtotal = | 0 Acres | |
| Upland area (Gross minus deductions) = | 1.018 | |
| Net Site Area Calculation: | | |
| Area of Uplands with Slopes 0-15% | 1.018 X100%= | 1.018 Acres |
| Area of Uplands with Slopes 15-25% | 0 X40%= | 0.00 Acres |
| Area of Uplands with Slopes 25-35% | 0 X20%= | 0.00 Acres |
| Net Site Area (Subtotal) = | | 1.018 Acres |

**APPENDIX Q-2**
**IMPERVIOUS COVER**

Allowable Impervious Cover

| | | |
|---|---|---|
| Impervious cover allowed at | 0 % X WQTZ = | 0.00 Acres |
| Impervious cover allowed at | 73.46 % X NSA = | 0.748 Acres |
| Deductions for perimeter roadway = | | 0.00 Acres |
| Total impervious cover | | 0.748 Acres |

ALLOWABLE IMPERVIOUS COVER BREAKDOWN BY SLOPE CATEGORY

| | | |
|---|---|---|
| Total acreage 15-25% = | 0 Acres X 10% | 0 |

PROPOSED TOTAL IMPERVIOUS COVER

| | | |
|---|---|---|
| Impervious cover in WQTZ = | 0 Acres = | 0% |
| Impervious cover in Uplands Zone = | 0.72 Acres = | 71% |
| Total proposed impervious cover = | 0.72 Acres | |

PROPOSED IMPERVIOUS COVER ON SLOPES = N/A

| | | IMPERVIOUS COVER | | |
|---|---|---|---|---|
| SLOPE CATEGORIES | ACRES | BUILDINGS AND OTHER IMPERVIOUS COVER ACRES | % of Category | DRIVEWAY/ ROADWAYS ACRES |
| 0 - 15% | 0.720 | 0.09 | 12.5% | 0.63 |
| 15 - 25% | 0.00 | 0.0 | 0.0% | 0.0 |
| 25 - 35% | 0.00 | 0.0 | 0.0% | 0.0 |
| Over 35% | 0.00 | 0.0 | 0.0% | 0.0 |
| Total Site Area | 1.018 | | | |

Perimeter Roadway Calculations
Mopac Frontage 300'
22' pvmt in 250' ROW = 8.8%
15 percent allowed; no deduction

**APPENDIX Q-1**
**NET SITE AREA**
**SP-95-0509C**
**Lots 1A, 2, 3 & 4 Pointe at Gaines Ranch**

| | | |
|---|---|---|
| Total gross site area = | 24.980 Acres | |
| Site Deductions: | | |
| Critical water quality zone (CWQZ) = | 0 Acres | |
| Water quality transition zone (WQTZ) = | 0 Acres | |
| Watewater irrigation areas = | 0 Acres | |
| Deduction subtotal = | 0 Acres | |
| Upland area (Gross minus deductions) = | 24.98 | |
| Net Site Area Calculation: | | |
| Area of Uplands with Slopes 0-15% | 24.98 X100%= | 24.98 Acres |
| Area of Uplands with Slopes 15-25% | 0 X40%= | 0.00 Acres |
| Area of Uplands with Slopes 25-35% | 0 X20%= | 0.00 Acres |
| Net Site Area (Subtotal) = | | 24.98 Acres |

**APPENDIX Q-2**
**IMPERVIOUS COVER**

Allowable Impervious Cover Per SP-95-0509C

| | | |
|---|---|---|
| Impervious cover allowed at | 0 % X WQTZ = | 0.00 Acres |
| Impervious cover allowed at | 73.46 % X NSA = | 18.35 Acres |
| Deductions for perimeter roadway = | | 0.00 Acres |
| Total impervious cover | | 18.35 Acres |

ALLOWABLE IMPERVIOUS COVER BREAKDOWN BY SLOPE CATEGORY

| | | |
|---|---|---|
| Total acreage 15-25% = | 0 Acres X 10% | 0 |

PROPOSED TOTAL IMPERVIOUS COVER

| | | |
|---|---|---|
| Impervious cover in WQTZ = | 0 Acres = | 0% |
| Impervious cover in Uplands Zone = | 14.71 Acres = | 59% |
| Total proposed impervious cover = | 14.71 Acres | |
| Remaining unused impervious cover = | 3.64 Acres | |

PROPOSED IMPERVIOUS COVER ON SLOPES = N/A

| | | TOTAL IMPERVIOUS COVER | | |
|---|---|---|---|---|
| SLOPE CATEGORIES | ACRES | BUILDINGS AND OTHER IMPERVIOUS COVER ACRES | % of Category | DRIVEWAY/ ROADWAYS ACRES |
| 0 - 15% | 14.710 | 5.90 | 40.1% | 8.81 |
| 15 - 25% | 0.00 | 0.0 | 0.0% | 0.0 |
| 25 - 35% | 0.00 | 0.0 | 0.0% | 0.0 |
| Over 35% | 0.00 | 0.0 | 0.0% | 0.0 |
| Total Site Area | 24.980 | | | |

Perimeter Roadway Calculations
Mopac Frontage = 321'
22' pvmt in 250' ROW = 8.8%
15 percent allowed; no deduction

US 290 Frontage = 1800'
22' pvmt in 225' ROW = 9.8%
15 percent allowed; no deduction

REVIEWED
MAY 17 2012
George Reuh
Austin Water Utility

SITE PLAN APPROVAL SHEET 2 OF 16
FILE NUMBER: SP-2011-0281CS APPLICATION DATE: SEPTEMBER 29, 2011
APPROVED BY COMMISSION ON N/A UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE
EXPIRATION DATE (25-5-81, LDC) 5-11-14 CASE MANAGER NIKKI HOELTER
PROJECT EXPIRATION DATE (ORD.#970905-A) 9-24-14 DWPZ ✓ DDZ
Director, Planning and Development Review Department
RELEASED FOR GENERAL COMPLIANCE: 5-17-12 ZONING: CS-CO-NP
Rev. 1 Correction 1
Rev. 2 Correction 2
Rev. 3 Correction 3
*Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.*

| NO. | DATE | REVISIONS | APP. |
|---|---|---|---|

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

LAMY SOUTH TOWNE LTD.
AUSTIN, TEXAS

LOT 1, POINTE AT GAINES RANCH
5030 S. MOPAC EXPRESSWAY

GENERAL NOTES

JONES & CARTER, INC.
ENGINEERS • PLANNERS • SURVEYORS
Texas Board of Professional Engineers Registration No. F-439
1701 Directors Blvd., Suite 400 Austin, Texas 78744 (512) 441-9493

SCALE: NONE DGN. BY: JMS
DATE: SEPTEMBER 2011 DWN. BY: DJC
JOB NO. A663-001 DWG. NO.
SUBMITTED: SURV. BY:
F.B. NO.

STATE OF TEXAS
JAMES M. SCHISSLER
82472
LICENSED PROFESSIONAL ENGINEER
5-15-12

SHEET NO. 2 OF 16

JONES & CARTER, INC. ENGINEERS PLANNERS SURVEYORS

LOT 1, POINTE AT GAINES RANCH - 5030 MOPAC EXPRESSWAY - CASE NUMBER SP-2011-0281CS

J:\Projects\A663 Aquila Commercial\001-00 Pointe at Gaines Ranch\Civil\Construction Drawings\Sheets\02-GENOTES.dwg

# *Attachment C*

# *Current Site Plan of the Approved Project*

# THE POINTE AT GAINES RANCH
## SITE PLAN
## TAYLOR AND INEZ GAINES

LEGEND

- W — EXIST WATER LINE
- WW — EXIST WASTEWATER LINE
- W — PROP. WATER LINE
- WW — PROP. WASTEWATER LINE
- G — GAS LINE
- UT — UNDERGROUND TELEPHONE LINE
- UE — UNDERGROUND ELECTRIC LINE
- OE — OVERHEAD ELECTRIC LINE
- OT — OVERHEAD TELEPHONE LINE

GATE VALVE, WATER METER, REDUCER, PROP. FIRE HYDRANT, EXIST. FIRE HYDRANT, PROP. WASTEWATER MANHOLE, EXIST. WASTEWATER MANHOLE

ALL LOCATIONS APPROXIMATE

0 25 50 100

CORRECTION [4] — PHASE "F", ADD HANDICAPPED SPACE, ADJUST BLDG FOOTPRINT AND SIDEWALKS, ADD WHEEL STOPS, ADJUST GRADING

APPROVED BY: _____ DEPARTMENT OF PLANNING & DEVELOPMENT — DATE 6/26/92

PERMIT NO.: SP-90-0113B — Revision 6 (Phase F Contd) — APPROVED BY _____ DATE 05/19/93

DATE OF ANNEXATION: 921001-C 10-11-92

PERMIT NO.: SP-95-____C — CORRECTION [5] — APPROVED BY _____ DATE

**SITE PLAN RELEASE** — Sheet 2 of 5

FILE NUMBER: SP-95-0509C — EXPIRATION DATE:
CASE MANAGER: K. Pullen 974-2932 — APPLICATION DATE:
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON:
APPROVED BY CITY COUNCIL ON:
under Section 27 of Chapter 13-2 of the Austin City Code.

Director, Department of Planning and Development
DATE OF RELEASE: Feb. 8, 1996 — Zoning: GR-CO, GR
Rev. 1 May 16, 1996 Correction 1 — Southwest Parkway
Rev. 2 Correction 2
Rev. 3 Correction 3

IMPERVIOUS COVER CALCULATIONS:
TOTAL SITE AREA = 27.78 AC. = 1,210,097 S.F.
(AFTER 4.258 AC. TXDOT CONDEMNATION)
NET SITE AREA = 26.00 AC. = 1,132,560 S.F.
(AFTER 4.258 AC. TXDOT CONDEMNATION)
APPROVED IMPERVIOUS COVER WITH TRANSFERS = 19.10 AC. = 832,126 S.F.

IMPERVIOUS COVER CALCULATIONS AREA 1-A
Total Site Area = 31.68 Ac. = 1,379,980 S.F.
Net Site Area = 27.29 Ac. = 1,196,752 S.F.
Approved Impervious Cover with Transfers = 27.28 Ac. x 70% = 19.10 Ac. = 832,126 S.F.
Existing Impervious Cover = 15.39 Ac. = 670,327 S.F.
Remaining Approved Impervious Cover = 3.71 Ac. = 161,799 S.F.
Proposed Appletees Impervious Cover = .64 Ac. = 27,872 S.F.
Proposed Drive-Thru Bank Impervious Cover/= -0.009 Ac. = -400 S.F.
Remaining Approved Impervious Cover = 3.07 Ac. = 133,527 S.F.

4 10/8/01 CHANGE 1200 SQFT. OF TENANT FROM PERSONAL ENHANCEMENT TO PERSONAL SERVICES/RETAIL — MM 10-24-01
2 10/8/01 CHANGE OF USE OF 1800 S.F. FROM FINANCIAL SERVICE TO 3RDUI RESTAURANT. — JAC 3-5-03
28C ADD AWNING ENTRY TO BUILDING #7
29C CHANGE 1,500 SF FROM RETAIL TO MEDICAL OFFICE/BLDG. 4 — JAC 3-5-03
28C ONLY JAN 10 2002 — APPROVED
4/5/96 ADD DRIVE THROUGH TO PHASE "D" — 6/15/98 REVISION TO CHANGE BUILDING No. 9

| No. | Delta | Radius | Arc Length |
|---|---|---|---|
| C1 | 17°35'47" | 1909.86 | 586.55 |
| C2 | 28°24'37" | 1204.24 | 597.12 |
| C3 | 14°23'55" | 1204.24 | 302.63 |
| C4 | 11°13'10" | 1204.24 | 235.81 |
| C5 | 36°32'41" | 500.00 | 318.91 |
| C6 | 47°53'49" | 500.00 | 417.98 |
| C7 | 34°52'36" | 500.00 | 304.36 |
| C8 | 00°02'42" | 2929.79 | 4.86 |

| | | | |
|---|---|---|---|
| 301 | 3-9', 8" LD | 355 | 9" LD |
| 302 | 8", 10" LD | 356 | 12", 15" LD |
| 303 | 9", 10" LD | 357 | 14" LD |
| 304 | TWIN 8" LD | 358 | 10" LD |
| 305 | 8" LD | 359 | 15" ELM |
| 306 | 8" LD | 360 | 12", 13" LD |
| 307 | 8" LD | 361 | 16" ELM |
| 308 | 10" LD | 362 | 10" ELM |
| 309 | 9" LD | 363 | 18" LD |
| 310 | 10" LD | 364 | 8" HB |
| 311 | 8" LD | 365 | 10" OAK |
| 312 | 8" LD | 366 | 12" ELM |
| 313 | 9" LDF | 367 | 9" HB |
| 314 | 9" LD | 368 | 29" SU |
| 315 | 10" LD | 369 | 25" LD |
| 316 | 8" LD | 370 | 16" LD |
| 317 | 8", 10" LD | 371 | 16" LD |
| 318 | 5-8"-11" LD | 372 | 13" LD |
| 319 | 12" HB | 373 | 10", 13" LD |
| 320 | 13" LD | 374 | 20" LD |
| 321 | 9" LD | 375 | 14" LD |
| 322 | 8", 10" LD | 376 | 11" ELM |
| 323 | 10" LD | 377 | 16" LD |
| 324 | 4-8"-9" LD | 378 | 10"-12" HB |
| 325 | 8" LD & CL | 379 | 9" ELM |
| 326 | 10" HB | 380 | 14" ELM |
| 327 | 8" HB | 381 | 10" ELM |
| 328 | 15" HB | 382 | 10" LD |
| 329 | 12", 13" LD | 383 | 10", 11" ELM |
| 330 | 24" ELM | 384 | 8" ELM |
| 331 | 14" HB | 385 | 8" ELM |
| 332 | 14" HB | 386 | 12" HB |
| 333 | 9" HB | 387 | 10" SU |
| 334 | 13" LD | 388 | 16" ELM |
| 335 | 13" LD | 389 | 24" ELM |
| 336 | 8" LD | 390 | 22" ELM |
| 337 | 8" LD | 391 | 8" ELM |
| 338 | 12" LD | 392 | 15" ELM |
| 339 | 8" LD | 393 | 11" SHIN D |
| 340 | 12" LD | 394 | 9" SHIN OAK |
| 341 | 8" LD | 395 | 21" BOIS-D |
| 342 | 9" LD | 396 | 18" ELM |
| 343 | 14" MESQ | 397 | 10" HB |
| 344 | 12" MESQ | 398 | 14" ELM |
| 345 | 15" CB | 399 | 11" CT |
| 346 | 9", 10" LD | 400 | 15" ELM |
| 347 | 10" LD, 12" M | 401 | 5"-7"-8" HB |
| 348 | 16" LD | 402 | 19" HB |
| 349 | 9", 11" LD | 403 | 11" HB |
| 350 | 9", 10" LD | 404 | 22" LD |
| 351 | 8", 10" LD | 405 | 10" ELM |
| 352 | 10" LD | 406 | 14" ELM |
| 353 | 5-10"-13" L | 407 | 8", 9" ELM |
| 354 | 9", 11" LD | 408 | 25" LD |

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

REVIEWED BY:

_____ DEPARTMENT OF PLANNING & DEVELOPMENT — DATE _____

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Scale: 1" = 50' | Date: 7-31-91 | Designed by: GSS | Drawn by: JK | File Name: SH1-1A | Checked by: | Approved by: | Project No.: 427-02.11

SHEET 3 OF 61

SP-95-0509C

# SECTION 5: WATER POLLUTION ABATEMENT PLAN

# Water Pollution Abatement Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b), Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This Water Pollution Abatement Plan Application Form is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent:

Regulated Entity Name: The Pointe at Gaines Ranch

## Regulated Entity Information

1. The type of project is:

   ☐ Residential: Number of Lots:_____
   ☐ Residential: Number of Living Unit Equivalents:_____
   ☒ Commercial
   ☐ Industrial
   ☐ Other:

2. Total site acreage (size of property):1.102

3. Estimated projected population: 0

4. The amount and type of impervious cover expected after construction are shown below:

Table 1 - Impervious Cover Table

| Impervious Cover of Proposed Project | Sq. Ft. | Sq. Ft./Acre | Acres |
|---|---|---|---|
| Structures/Rooftops | 7,074.7 | ÷ 43,560 = | 0.16 |
| Parking | 32,194.8 | ÷ 43,560 = | 0.74 |
| Other paved surfaces | 3,622.7 | ÷ 43,560 = | 0.08 |
| Total Impervious Cover | 42,892.2 | ÷ 43,560 = | 0.98 |

Total Site Impervious Cover 0.98 ÷ Total Site Acreage 1.102 X 100 = 89.38 % Impervious Cover

5. ☒ Attachment A - Factors Affecting Surface Water Quality. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.

6. ☒ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

## *For Road Projects Only*

## *Complete questions 7 - 12 if this application is exclusively for a road project.*

7. Type of project:

   ☐ TXDOT road project.
   ☐ County road or roads built to county specifications.
   ☐ City thoroughfare or roads to be dedicated to a municipality.
   ☐ Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:

   ☐ Concrete
   ☐ Asphaltic concrete pavement
   ☐ Other: _____

9. Length of Right of Way (R.O.W.): _____ feet.

   Width of R.O.W.: _____ feet.
   L x W = _____ $Ft^2$ ÷ 43,560 $Ft^2$/Acre = _____ acres.

10. Length of pavement area: _____ feet.

    Width of pavement area: _____ feet.
    L x W = _____ $Ft^2$ ÷ 43,560 $Ft^2$/Acre = _____ acres.
    Pavement area _____ acres ÷ R.O.W. area _____ acres x 100 = _____% impervious cover.

11. ☐ A rest stop will be included in this project.

    ☐ A rest stop will not be included in this project.

12. ☐ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

## *Stormwater to be generated by the Proposed Project*

13. ☒ Attachment B - Volume and Character of Stormwater. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

## *Wastewater to be generated by the Proposed Project*

14. The character and volume of wastewater is shown below:

| | |
|---|---|
| 100% Domestic | 33,609 Gallons/day |
| _____% Industrial | _____Gallons/day |
| _____% Commingled | _____Gallons/day |
| TOTAL gallons/day _____ | |

15. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):
- ☐ Attachment C - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater from this site. The appropriate licensing authority's (authorized agent) written approval is attached. It states that the land is suitable for the use of private sewage facilities and will meet or exceed the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285 relating to On-site Sewage Facilities.
- ☐ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

☒ Sewage Collection System (Sewer Lines):
- ☒ Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
- ☐ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.
- ☐ The SCS was previously submitted on_____.
- ☒ The SCS was submitted with this application.
- ☐ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

☒ The sewage collection system will convey the wastewater to the South Austin Regional (name) Treatment Plant. The treatment facility is:
- ☒ Existing.
- ☐ Proposed.

16. ☒ All private service laterals will be inspected as required in 30 TAC §213.5.

## *Site Plan Requirements*

Items 17 – 28 must be included on the Site Plan.

17. ☒ The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 20'.

18. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Flood Insurance Rate Map 48453C0580H (eff. 9/26/2008)

19. ☒ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Lots, recreation centers, buildings, roads, open space, etc. are shown on the plan.

☐ The layout of the development is shown with existing contours at appropriate, but not greater than ten-foot intervals. Finished topographic contours will not differ from the existing topographic configuration and are not shown. Lots, recreation centers, buildings, roads, open space, etc. are shown on the site plan.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):

☐ There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
- ☐ The wells are not in use and have been properly abandoned.
- ☐ The wells are not in use and will be properly abandoned.
- ☐ The wells are in use and comply with 16 TAC §76.

☒ There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:

- ☐ All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.
- ☐ No sensitive geologic or manmade features were identified in the Geologic Assessment.
- ☒ Attachment D - Exception to the Required Geologic Assessment. A request and justification for an exception to a portion of the Geologic Assessment is attached.

22. ☒ The drainage patterns and approximate slopes anticipated after major grading activities.

23. ☒ Areas of soil disturbance and areas which will not be disturbed.
24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
25. ☒ Locations where soil stabilization practices are expected to occur.
26. ☐ Surface waters (including wetlands).

    ☒ N/A
27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☒ There will be no discharges to surface water or sensitive features.
28. ☒ Legal boundaries of the site are shown.

## *Administrative Information*

29. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

# *Attachment A*

# *Factors Affecting Surface Water Quality*

## *Factors Affecting Surface Water Quality*

Materials that are anticipated to be used on site that could be a potential source of contamination include the following:

During Construction:

1. Concrete and Masonry Materials
2. Wood, plastic, and metal Materials
3. Compacted Gravel for Base Stabilization
4. Oil, Grease, fuel, and hydraulic fluid from construction equipment and vehicle drippings
5. Miscellaneous construction trash and debris
6. Soil erosion and sedimentation due to construction activity

Ultimate Use:

1. Pollutants generated from vehicles utilizing the site
2. Miscellaneous trash and debris generated from the owner's representatives accessing the site

(This is not intended to be an all-inclusive list)

All practical management practices will be used to reduce the risk of spills and other exposure of any contaminant to surface or groundwater.

# *Attachment B*

# *Volume and Character of Storm Water*

## *Volume and Character of Storm Water*

The proposed Olive Garden project, located within The Pointe at Gaines Ranch, replaces the existing restaurant with a new restaurant with associated parking and utility improvements, which brings the total impervious cover for the WPAP from 14.71-acres (43.01%) to 14.69 acres (42.94%). The approved impervious cover is 20.82 acres (60.88%).

The existing site topography features a high point on the west corner of the subject site near W US Highway 290 Service Road. The subject site's stormwater runoff sheet flows from this high point towards the water quality pond located east of the Sam's Club. This is referenced as Pond 2 in SP-95-0509C. Approximately 14.6 acres of the 32.4 acre shopping center are being treated by Pond 2. Approximately 4.8 acres are treated by Pond 1, 3.6 acres by Pond 3, and 1.53 acres by Pond 4.

The volume and character of stormwater runoff from the proposed project are expected to be similar to existing conditions, with minimal changes due to the limited scope of construction. The existing ponds will remain complaint with TCEQ requirements, ensuring that runoff is released at rates below the design thresholds. These improvements will not negatively impact the quality and quantity of stormwater runoff leaving the site.

The preservation of existing drainage patterns and the decrease of impervious cover are key factors in maintaining the site's stormwater management capabilities. As a result, the site will maintain its ability to effectively manage the volume and character of stormwater, ensuring that both the quality and quantity of runoff remain at levels comparable to existing conditions.

The proposed site improvements are not located in the Federal Emergency Management Agency's 100-year floodplain according to Flood Insurance Rate Map 48453C0580H.

# *Attachment C*

# *Suitability Letter From Authorized Agent*

## *Suitability Letter From Authorized Agent*

There is no existing or proposed on-site sewage facility associated with this project or the existing shopping center.

# *Attachment D*

# *Exception to the Required Geologic Assessment*

## *Exception to the Required Geologic Assessment*

Email correspondence with James “Bo” Slone confirming that this site qualifies for an exception to the Geologic Assessment is provided.

## Sheaffer, Ryan

From: James Slone <james.slone@tceq.texas.gov>
Sent: Thursday, May 1, 2025 11:18 AM
To: EAAdmin; Sheaffer, Ryan
Cc: McKay, Ryan
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

You don't often get email from james.slone@tceq.texas.gov. Learn why this is important

The site qualifies for an Exception to the Geologic Assessment (GA). The GA is not required. Please retain this email for your records.
Bo

James "Bo" Slone, P.G.
Team Leader
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-6994

---

From: EAAdmin <EAAdmin@tceq.texas.gov>
Sent: Thursday, May 1, 2025 11:13 AM
To: Sheaffer, Ryan <Ryan.Sheaffer@kimley-horn.com>
Cc: McKay, Ryan <Ryan.McKay@kimley-horn.com>; James Slone <james.slone@tceq.texas.gov>
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

Ryan,

I have included our program's Team Lead and Professional Geoscientist, Mr. James "Bo" Slone on this email. Mr. Slone will be able to chime in if this project qualifies for a GA exception or if a GA will be required.

Regards,

Franklin Anciano
License & Permit Specialist | Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Office: 512-239-7017

Edwards Aquifer Protection Program Useful Links
Edwards Aquifer Map
Submitting Your Application / Application Review Process
What Plans You May Need
Forms, Instructions, and Checklists

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From: Sheaffer, Ryan <Ryan.Sheaffer@kimley-horn.com>
Sent: Thursday, May 1, 2025 10:37 AM
To: EAAdmin <EAAdmin@tceq.texas.gov>

Cc: McKay, Ryan <Ryan.McKay@kimley-horn.com>
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

Good morning Franklin,

Nice talking to you on the phone. Since this site is fully developed, could we submit a geologic assessment waiver for our WPAP and SCS modification? We are redeveloping the existing Applebee's site (circled below) and reducing the impervious cover. There are no geologic features on the site since it's a parking lot.

Regards,

**Ryan Sheaffer, EIT**
**Kimley-Horn** | 6800 Burleson Road, Building 312, Suite 150, Austin, Texas 78744
Direct: 737.667.6607 | Main: 512.616.9942 | ryan.sheaffer@kimley-horn.com
*Connect with us*: Twitter | LinkedIn | Facebook | Instagram | Kimley-Horn.com

Kimley»Horn

---

From: Sheaffer, Ryan
Sent: Tuesday, April 22, 2025 2:19 PM
To: 'EAAdmin' <EAAdmin@tceq.texas.gov>
Cc: McKay, Ryan <Ryan.McKay@kimley-horn.com>
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

Hey Franklin,

# *Attachment E*
# *Site Plan*

| PARKING TABLE | | | |
|---|---|---|---|
| TO-GO PARKING PROVIDED | REGULAR PARKING PROVIDED | ADA PARKING PROVIDED | TOTAL PARKING PROVIDED |
| 6 | 69 | 5 | 80 |

| ACCESSIBLE PARKING TABLE | | |
|---|---|---|
| | REQUIRED PARKING | PROVIDED PARKING |
| ACCESSIBLE PARKING | 4 | 5 |
| NOTES:<br>1. ACCESSIBLE PARKING IS CALCULATED PER ADA NATIONAL NETWORK<br>2. ONE VAN SPACE IS REQUIRED | | |

| BICYCLE PARKING TABLE | | |
|---|---|---|
| | REQUIRED | PROVIDED |
| SHORT-TERM PARKING | 8 | 10 |
| LONG-TERM PARKING | 0 | 0 |
| TOTAL BICYCLE PARKING | 8 | 10 |
| PER LDC 25-6-477(C)(1), MINIMUM OF 2 SPACES OR 10% OF PROPOSED MOTOR VEHICLE PARKING, WHICHEVER IS GREATER. COMMERCIAL USE REQUIRES 70%-100% SHORT TERM AND 0%-30% LONG TERM PARKING PER TCM TABLE 9-6 | | |

| SITE CALCULATIONS | | |
|---|---|---|
| | EXISTING | PROPOSED |
| GROSS SITE AREA (SF) | 47,987 | 47,987 |
| GROSS SITE AREA (AC) | 1.102 | 1.102 |
| BUILDING COVERAGE (SF) | 5,098 | 6,325 |
| BUILDING COVERAGE (%) | 11% | 13% |
| IMPERVIOUS COVER (SF) | 43,986 | 42,893 |
| IMPERVIOUS COVER (%) | 91.66% | 89.38% |
| LAND USE | RESTAURANT | RESTAURANT |

N E S W

0 20' 40'
GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- PROPOSED FIRE HYDRANT
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE
- ADA ROUTE
- LIGHT DUTY PAVEMENT PER GEOTECH
- HEAVY DUTY PAVEMENT PER GEOTECH
- DUMPSTER PAVEMENT PER GEOTECH
- STRUCTURAL CONCRETE PAVEMENT (RE: STRUCTURAL PLANS)

## NOTES

1. TREES AND TOPOGRAPHY BASED UPON SURVEY BY MANHARD CONSULTING ON FEBRUARY 06, 2025. NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THEIR ACCURACY.
2. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 14' VERTICAL CLEARANCE.
3. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS, "FIRE ZONE/TOW-AWAY ZONE", IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2.
4. ALL PARKING SPACES SHALL HAVE MINIMUM 7'-0" VERTICAL CLEARANCE.
5. WARNING SIGNS ARE REQUIRED TO BE PLACED UNDER THE OVERHEAD ELECTRIC LINES TO MAKE ALL PERSONNEL AWARE OF THE ELECTRIC HAZARD.
6. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED, OR EQUIVALENT LANGUAGE. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC, 3108(c) AND ANSI A1171-1986-4.6.2.
7. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
8. CAUTION: DO NOT PLACE THE STAGING AREA IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES.
9. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
10. ALL RADII TO BE 5' OR 10' UNLESS OTHERWISE NOTED. ALL SIDEWALK RADII TO BE 2' UNLESS OTHERWISE NOTED.
11. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
12. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN.
13. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
14. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.
15. COMPLIANCE WITH THE UNIVERSAL RECYCLING ORDINANCE IS MANDATORY FOR COMMERCIAL BUSINESSES (AUSTIN CITY CODE, SEC. 15-6-91).
16. REFER TO CITY OF AUSTIN ELECTRICAL DEPARTMENT FOR CONSTRUCTION PLANS AND DETAILS.
17. ADEQUATE BARRIERS BETWEEN ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, SUCH AS A 6" CONCRETE CURB ARE REQUIRED. IF A STANDARD 6" CURB AND GUTTER ARE NOT PROVIDED FOR ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, COMPLY WITH ECM. SECTION 2.4.7, "PROTECTION OF LANDSCAPE AREAS".
18. ALL FDC's TO BE TWO 2½" SIAMESE CONNECTIONS.
19. ALL TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE ADOPTED VERSION OF MUTCD. ALL PAVEMENT STRIPING SHALL BE 4" WIDE AND WHITE UNLESS OTHERWISE NOTED.
20. REFER TO ARCHITECT PLANS FOR EXACT BUILDING DIMENSIONS.
21. REFER TO LANDSCAPE AND IRRIGATION PLANS PRIOR TO PLACING PAVEMENT.

## SUBCHAPTER E NOTES

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5. ALL SITE LIGHTING TO BE LOCATED ON THE BUILDING WILL BE IN COMPLIANCE WITH SUBCHAPTER E 2.5, AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E.
2. ALL INTERNAL UTILITIES WILL BE LOCATED IN THE DRIVE AISLES AND NOT IN THE PARKING AREAS.
3. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.

| KEYNOTE LEGEND | |
|---|---|
| 1 | ACCESSIBLE PARKING SPACE (TYP); SEE NOTE 6; RE: ARCHITECTURAL PLANS |
| 2 | ACCESSIBLE PARKING SIGN (TYP); RE: ARCHITECTURAL PLANS |
| 3 | DUMPSTER AREA; RE: ARCHITECTURAL PLANS |
| 4 | CURB RAMP (TYP); RE: 23 |
| 5 | SIDEWALK (TYP); RE: 23 |
| 6 | BENCH (TYP); RE: ARCHITECTURAL PLANS FOR BENCH LAYOUT |
| 7 | SANITARY CLEANOUT (TYP); RE: 22 |
| 8 | GREASE INTERCEPTOR AND SAMPLE WELL; RE: 22 |
| 9 | CONCRETE CURB AND GUTTER (TYP); RE: 23 |
| 10 | TRAFFIC-RATED ELECTRIC PULL BOX; RE: 22 |
| 11 | CONCRETE WALK-OFF CURB AND GUTTER; RE: 24 |
| 12 | TO-GO PARKING SPACE (TYP); SEE NOTE 19; RE: ARCHITECTURAL PLANS |
| 13 | TO-GO PARKING SIGN (TYP); RE: ARCHITECTURAL PLANS |
| 14 | TRANSFORMER; RE: 22 |
| 15 | BACKFLOW PREVENTER; RE: 22 |
| 16 | GAS METER; RE: 22 |
| 17 | FIRE DEPARTMENT CONNECTION; RE: 22 |
| 18 | COMMUNICATIONS VAULT; RE: 22 |
| 19 | BIKE RACK (TYP); ANOVA LBR3PSURF, 1 LOOP, 3 BIKE CAPACITY; INSTALL PER MANUFACTURER'S INSTRUCTIONS; COORDINATE WITH OWNER FOR COLOR; RE: 23 |
| 20 | WATER METERS; RE: 22 |


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TX REGISTERED ENGINEERING FIRM F-928
TBPE Firm No. 928



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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

KHA PROJECT 063887221
DATE APRIL 2025
SCALE AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# OVERALL SITE PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
15 OF 41

SP-2025-0116C.CC


Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:36:53pm File Path:K:\EAU_Civil\063887216-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Overall Site Plan.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

# SECTION 6: TEMPORARY STORMWATER SECTION

# Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This Temporary Stormwater Section is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent:

Regulated Entity Name: The Pointe at Gaines Ranch

## Project Information

## Potential Sources of Contamination

*Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.*

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☐ The following fuels and/or hazardous substances will be stored on the site:

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.
   ☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ Attachment A - Spill Response Actions. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ Attachment B - Potential Sources of Contamination. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

## *Sequence of Construction*

5. ☒ Attachment C - Sequence of Major Activities. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Gaines Creek

## *Temporary Best Management Practices (TBMPs)*

*Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.*

7. ☒ Attachment D – Temporary Best Management Practices and Measures. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

   ☐ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☐ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

☐ Attachment E - Request to Temporarily Seal a Feature. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☒ Attachment F - Structural Practices. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ Attachment G - Drainage Area Map. A drainage area map supporting the following requirements is attached:

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ Attachment H - Temporary Sediment Pond(s) Plans and Calculations. Temporary sediment pond or basin construction plans and design calculations for a proposed

temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ Attachment I - Inspection and Maintenance for BMPs. A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

## *Soil Stabilization Practices*

*Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.*

17. ☒ Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices. A schedule of the interim and permanent soil stabilization practices for the site is attached.
18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

## *Administrative Information*

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

# *Attachment A*
# *Spill Response Actions*

# Spill Response Actions

If there is an accidental spill on site, the contractor shall respond with appropriate action. The contractor will be required to contact the owner and in turn the owner will contact the TCEQ in the event of a spill on site. In addition to the following guidance, reference the latest version of TCEQ's Technical Guidance Manual (TGM) RG-348 Section 1.4.16.

## Cleanup

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

## Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
  - Contain the spread of the spill.
  - Recover spilled materials.
  - Clean the contaminated area and properly dispose of contaminated materials.

## Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

- Contain spread of the spill.
- Notify the project foreman immediately.
- If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
- If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

## Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at (512)339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

TCEQ Reportable Quantities Link:

https://www.tceq.texas.gov/response/spills

# *Attachment B*

# *Potential Sources of Contamination*

# Potential Sources of Contamination

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance will be performed within the construction staging area or a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

Potential Source: Construction Debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

Potential Source: Soil and Mud from Construction Vehicle tires as they leave the site.

Preventative Measures: A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Silt leaving the site; Sediment from soil, sand, gravel and excavated materials stock piled on site.

Preventative Measures: Silt fence shall be installed on the down gradient side of the stock piled materials.. Contractor will install all temporary best management practices prior to start of construction including the stabilized construction entrance to prevent tracking onto adjoining streets.

# *Attachment C*

# *Sequence of Major Activities*

# Sequence of Major Activities

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site. The sequence of major construction activities will be as follows. Approximate acreage to be disturbed is listed in parentheses next to each activity.

## Intended Schedule or Sequence of Major Activities:

1. Construct Access (1.160 acres).
2. Installation of Temporary BMPs (up to 1.160 acres)
3. Wet and Dry Utility Construction (up to 1.160 acres )
4. Final Subgrade Preparation (up to 1.160 acres)
5. Installation of Base Materials (0.629 acres)
6. Concrete (foundations, curbs, flatwork) (0.629 acres)
7. Building Construction (0.145 acres)
8. Topsoil, Irrigation, and Landscaping (up to 1.160 Acres)
9. Site Cleanup and Removal of Temporary BMPs (up to 1.160 Acres)

The maximum total construction time is not expected to exceed 12 months.

# *Attachment D*

# *Temporary Best Management Practices and Measures*

# Temporary Best Management Practices and Measures

Temporary BMPs will be installed prior to soil distributing and construction activity:

A. Sediment Control Fence – This BMP prevents the transport of sediment from going off-site during storm events. This BMP is used in grass areas and will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area.
B. Triangular Filter Dike – This BMP prevents the transport of sediment from going off-site during storm events. This BMP is used on paved areas and will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area.
C. Temporary Seeding – This BMP stabilizes the soil from being washed away in a storm event
D. Offsite Vehicle Tracking Controls – This BMP removes excess dirt/mud on road daily, haul roads dampened for dust control, loaded haul trucks to be covered with tarpaulin, stabilized construction entrance.
E. Concrete Washout Pit – This BMP will be used to collect all excess concrete during construction.
F. Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, and other similar measures.

# *Attachment E*
# *Request to Temporarily Seal a Feature*

# *Request to Temporarily Seal a Feature*

This attachment is not applicable. There are no features located near the limits of construction.

# *Attachment F*
# *Structural Practices*

# Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMP's are shown on the erosion control plan sheet and details and specifications are provided on the erosion control details sheet which can be found at the end of this report under Section 9.

## Description of Temporary BMPs

### Sediment Removal Mat Construction Entrance/Exit

A sediment removal map is an alternative to a temporary gravel construction entrance. The purpose of sediment removal mat construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A sediment removal mat has pyramid-like shapes jutting out of the mat that causes loose sediment to fall off the tires. A sediment removal mat is ideal for laying on existing concrete because the bottom of the mat is flat. Stabilized construction entrances should be located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A mat stabilized construction entrance should be used at all designated access points.

### Silt Fence

The purpose of a silt fence is to intercept and detain water-borne sediment on pervious areas from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

### Triangular Filter Dike

The purpose of a triangular filter dike is to intercept and detain water-borne sediment on impervious areas from unprotected areas of a limited extent. Triangular filter dike is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Triangular filter dike should not be used where there is a concentration of water in a channel or drainage way.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

## Concrete Washout Area

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.
The following steps will help reduce stormwater pollution from concrete wastes:

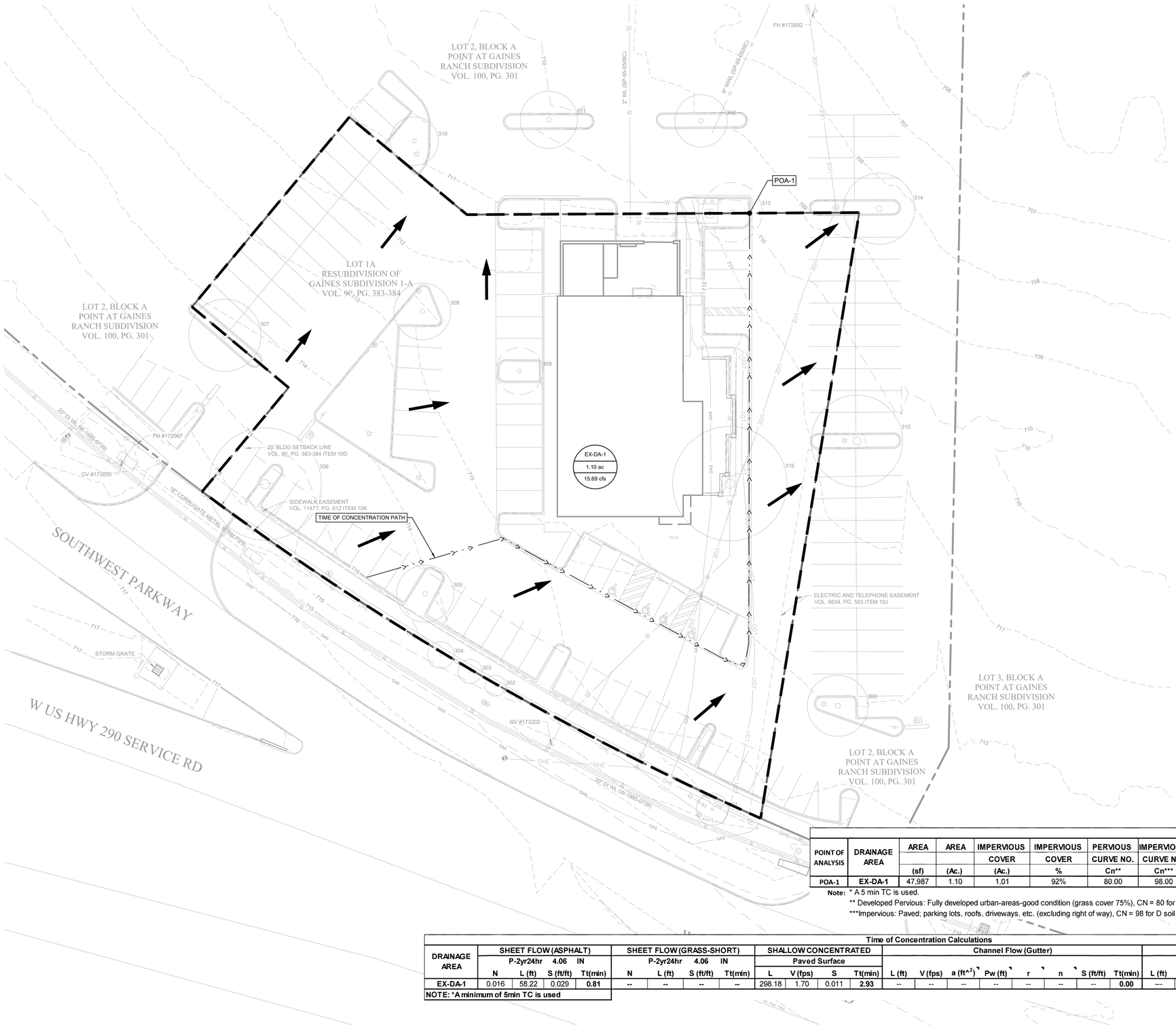
- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

# *Attachment G*

# *Drainage Area Map*




## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| | PROPERTY LINE |
| | EXISTING STORM DRAIN LINE |
| | EXISTING DRAINAGE DIVIDE |
| | EXISTING STORM DRAIN INLET |
| | EXISTING STORM DRAIN MANHOLE |
| | EXISTING STORM DRAIN HEADWALL |
| | EXISTING FLOW DIRECTION |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | EX-DA-1 | 47,987 | 1.10 | 1.01 | 92% | 80.00 | 98.00 | 96.50 | **5.00** | 4.92 | 8.32 | 10.85 | 15.69 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHALLOW CONCENTRATED Paved Surface L | V (fps) | S | Tt(min) | Channel Flow (Gutter) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Channel Flow (Pipe) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX-DA-1 | 0.016 | 58.22 | 0.029 | **0.81** | -- | -- | -- | -- | 298.18 | 1.70 | 0.011 | **2.93** | -- | -- | -- | -- | -- | -- | **0.00** | --- | --- | --- | --- | --- | --- | --- | **0.00** | **5.00** |

NOTE: *A minimum of 5min TC is used

Posted By:Sheaffer, Ryan Date:April 30, 2025 08:49:07am File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Existing Drainage Area Map.dwg
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| No. | REVISIONS | DATE | BY |
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04/25/2025

| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

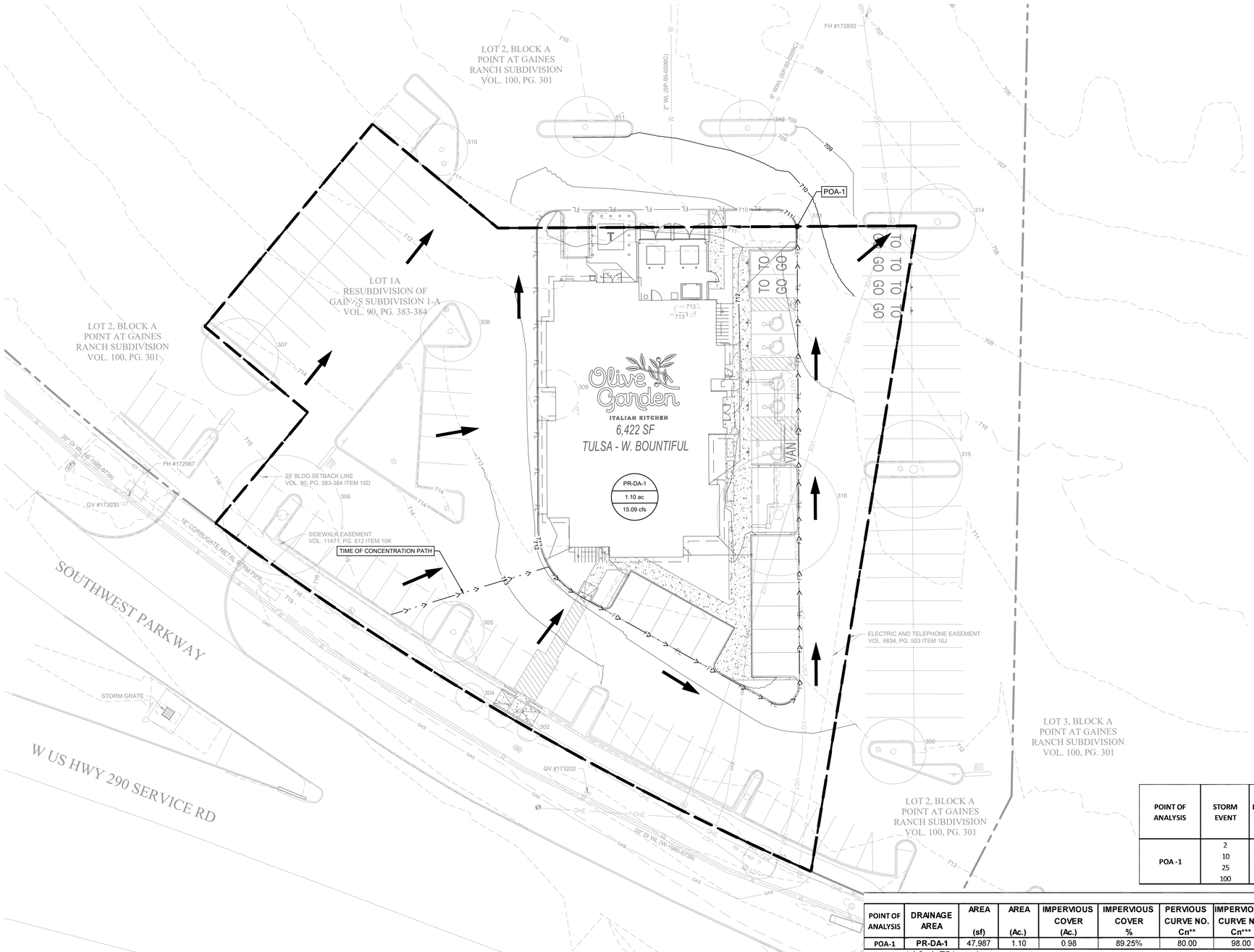
# EXISTING DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
18 OF 41

SP-2025-0116C.CC



0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| A-1 | INLET NUMBER |
| | PROPERTY LINE |
| | PROPOSED STORM DRAIN LINE |
| | EXISTING STORM DRAIN LINE |
| | PROPOSED DRAINAGE DIVIDE |
| | PROPOSED STORM DRAIN INLET |
| | PROPOSED STORM DRAIN MANHOLE |
| | PROPOSED STORM DRAIN HEADWALL |
| | PROPOSED FLOW DIRECTION |
| 555 | PROPOSED CONTOUR |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | STORM EVENT | EXISTING RUNOFF (CFS) | DEVELOPED RUNOFF (CFS) | RUNOFF DIFFERENCE AT POINT OF ANALYSIS (CFS) | IS DEVELOPED LESS THAN EXISTING |
|---|---|---|---|---|---|
| POA -1 | 2 | 4.92 | 4.73 | -0.19 | YES |
| | 10 | 8.32 | 8.00 | -0.32 | YES |
| | 25 | 10.85 | 10.43 | -0.41 | YES |
| | 100 | 15.69 | 15.09 | -0.59 | YES |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn* | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | PR-DA-1 | 47,987 | 1.10 | 0.98 | 89.25% | 80.00 | 98.00 | 96.07 | 5.44 | 4.73 | 8.00 | 10.43 | 15.09 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN | | | | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN | | | | SHALLOW CONCENTRATED Paved Surface | | | | Channel Flow (Gutter) | | | | | | | | Channel Flow (Pipe) | | | | | | | | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | L (ft) | S (ft/ft) | Tt(min) | N | L (ft) | S (ft/ft) | Tt(min) | L | V (fps) | S | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | |
| PR-DA-1 | 0.016 | 63.49 | 0.052 | 0.69 | -- | -- | -- | -- | 293.86 | 1.03 | 0.004 | 4.75 | -- | -- | -- | -- | -- | -- | -- | 0.00 | --- | --- | --- | --- | --- | --- | --- | 0.00 | 5.44 |
| NOTE: *A minimum of 5min TC is used | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:55:03pm File Path:K:\FAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Proposed Drainage Area Map.dwg
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|---|---|---|---|
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04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# PROPOSED DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
19 OF 41

SP-2025-0116C.CC

# *Attachment H*

# *Temporary Sediment Pond(s) Plans and Calculations*

# Temporary Sediment Pond(s) Plans and Calculations

This attachment is not applicable. There will be no temporary sediment pond or basin provided on site.

# *Attachment I*
# *Inspection and Maintenance for BMPs*

# Inspection and Maintenance for BMPs

## Personnel Responsible for Inspections

The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

## Inspection Schedule

The primary operator is required to choose one of the two inspections listed below.

☐ Option 1: Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

☐ Option 2: Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented (e.g., end of “dry” season and beginning of “wet” season).

If option 2 is the chosen frequency of inspections a rain gauge must be properly maintained on site or the storm event information from a weather station that is representative of the site location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, proper documentation of the total rainfall measured for that day must be recorded.
Personnel provided by the permittee must inspect:

- disturbed areas of the construction site that have not been finally stabilized;
- areas used for storage of materials that are exposed to precipitation;
- structural controls (for evidence of, or the potential for, pollutants entering the drainage system);
- sediment and erosion control measures identified in the SWP3 (to ensure they are operating correctly); and
- locations where vehicles enter or exit the site (for evidence of off-site sediment tracking).

## Reductions in Inspection Frequency

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. A record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections in the attached Rain Gauge Log.

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

## Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector’s name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections).

Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

Describe the inspector's qualifications, how the inspection was conducted, and describe any areas of non-compliance in detail. If an inspection report does not identify any incidents of non-compliance, then it must contain a certifying signature stating that the facility or site is in compliance. The report must be signed by a person and in a manner required by 30 TAC 305.128. There is space at the end of the form to allow for this certifying signature.

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

The Inspection Report Form functions as the required report and must be signed in accordance with TCEQ rules at 30 TAC 305.128.

## *Corrective Action*

### Personnel Responsible for Corrective Actions

Both Primary and Secondary Operators are responsible for maintaining all necessary Corrective Actions. If an individual is specifically identified as the responsible party for modifying the contact information for that individual should be documented in the attached Inspector Qualifications Log.

### Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

## *Maintenance*

Below are some maintenance practices to be used to maintain erosion and sediment controls:

- All measures will be maintained in good working order. The operator should correct any damage or deficiencies as soon as practicable after the inspection, but in no case later than seven (7) calendar days after the inspection.
- Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily). See Attachment A: Spill Response Actions.
- BMP Maintenance (as applicable)
- For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.
- Silt fence will be inspected for depth of sediment, tears, to see of the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate

the off-site conveyance, then the permittee must to work with the owner or operator of the property to remove the sediment.

- Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

To maintain the above practices, the following will be performed:

- Maintenance and repairs will be conducted before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. Following an inspection, deficiencies should be corrected no later than seven (7) calendar days after the inspection.

## *BMP-Specific Inspection and Maintenance Schedules*

### Temporary Seeding

- Temporary Seeding should be inspected weekly and after each rain event to locate and repair any erosion.
- Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
- If the vegetated cover is less than 80%, the area should be reseeded.

### Offsite Vehicle Tracking Controls

- The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
- All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
- When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
- When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
- All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

### Sediment Control Fence

- Inspect all fencing weekly, and after any rainfall.
- Remove sediment when buildup reaches 6 inches.
- Replace any torn fabric or install a second line of fencing parallel to the torn section.
- Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
- When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

## Concrete Washout

- Inspect all washout facilities daily and after significant rainfall event to check for leaks and assess the condition of plastic linings and sidewalls.
- Any damage to the washout container should be repaired promptly to ensure its effectiveness.

# Inspector Qualifications Log*

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

** The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification.*

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## *Amendment Log*

| No. | Description of the Amendment | Date of Amendment | Amendment Prepared by [Name(s) and Title] |
|---|---|---|---|
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# *Construction Activity Sequence Log*

| Name of Operator | Projected dates Month/year | Activity Disturbing Soil clearing, excavation, etc. | Location on-site where activity will be conducted | Acreage being disturbed |
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*Construction activity sequences for linear projects may be conducted on a rolling basis. As a result, construction activities may be at different stages at different locations in the project area. The Contractor is required to complete and update the schedule and adjust as necessary.

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# *Stormwater Control Installation and Removal Log*

| Stormwater Control | Location On-Site | Installation Date | Removal Date |
|---|---|---|---|
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# *Stabilization Activities Log*

| Date Activity Initiated | Description of Activity | Description of Stabilization Measure and Location | Date Activity Ceased (Indicate Temporary or Permanent) | Date When Stabilization Measures Initiated |
|---|---|---|---|---|
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Stabilization and erosion control practices may include, but are not limited to: establishing temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protecting existing trees and vegetation. List practices used where they are located, when they will be implemented, and whether they are temporary (interim) or permanent.

## *Inspection Frequency Log*

| Date | Frequency Schedule and Reason for Change |
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## *Rain Gauge Log*

| Date | Location of Rain Gauge | Gauge Reading |
|---|---|---|
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| General Information | | | | | |
|---|---|---|---|---|---|
| **Name of Project** | | **Tracking No.** | | **Inspection Date** | |
| Inspector Name, Title & Contact Information | | | | | |
| Present Phase of Construction | | | | | |
| Inspection Location (if multiple inspections are required, specify location where this inspection is being conducted) | | | | | |

Inspection Frequency

Standard Frequency: ☐ Weekly ☐ Every 14 days and within 24 hours of a 0.25" rain

Increased Frequency: ☐ Every 7 days and within 24 hours of a 0.25" rain

Reduced Frequency:

- ☐ Once per month (for stabilized areas)
- ☐ Once per month and within 24 hours of a 0.25" rain (for arid, semi-arid, or drought-stricken areas during seasonally dry periods or during drought)
- ☐ Once per month (for frozen conditions where earth-disturbing activities are being conducted)

Was this inspection triggered by a 0.25" storm event? ☐ Yes ☐ No

If yes, how did you determined whether a 0.25" storm event has occurred?

☐ Rain gauge on site ☐ Weather station representative of site. Specify weather station source:

Total rainfall amount that triggered the inspection (in inches):

Unsafe Conditions for Inspection

Did you determine that any portion of your site was unsafe for inspection? ☐ Yes ☐ No

If "yes", complete the following:

- Describe the conditions that prevented you from conducting the inspection in this location:

- Location(s) where conditions were found:

| Condition and Effectiveness of Erosion and Sediment (E&S) Controls | | | | |
|---|---|---|---|---|
| Type/Location of E&S Control | Repairs or Other Maintenance Needed? | Corrective Action Required? | Date on Which Maintenance or Corrective Action First Identified? | Notes |
| 1. | ☐Yes ☐No | ☐Yes ☐No | | |
| 2. | ☐Yes ☐No | ☐Yes ☐No | | |
| 3. | ☐Yes ☐No | ☐Yes ☐No | | |
| 4. | ☐Yes ☐No | ☐Yes ☐No | | |
| 5. | ☐Yes ☐No | ☐Yes ☐No | | |
| 6. | ☐Yes ☐No | ☐Yes ☐No | | |
| 7. | ☐Yes ☐No | ☐Yes ☐No | | |
| 8. | ☐Yes ☐No | ☐Yes ☐No | | |
| 9. | ☐Yes ☐No | ☐Yes ☐No | | |
| 10. | ☐Yes ☐No | ☐Yes ☐No | | |

| Condition and Effectiveness of Pollution Prevention (P2) Practices | | | | |
|---|---|---|---|---|
| Type/Location of P2 Practices | Repairs or Other Maintenance Needed? | Corrective Action Required? | Identification Date | Notes |
| 1. | ☐Yes ☐No | ☐Yes ☐No | | |
| 2. | ☐Yes ☐No | ☐Yes ☐No | | |
| 3. | ☐Yes ☐No | ☐Yes ☐No | | |
| 4. | ☐Yes ☐No | ☐Yes ☐No | | |
| 5. | ☐Yes ☐No | ☐Yes ☐No | | |
| 6. | ☐Yes ☐No | ☐Yes ☐No | | |
| 7. | ☐Yes ☐No | ☐Yes ☐No | | |
| 8. | ☐Yes ☐No | ☐Yes ☐No | | |
| 9. | ☐Yes ☐No | ☐Yes ☐No | | |
| 10. | ☐Yes ☐No | ☐Yes ☐No | | |

| Stabilization of Exposed Soil | | | |
|---|---|---|---|
| Stabilization Area | Stabilization Method | Have You Initiated Stabilization? | Notes |
| 1. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 2. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 3. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 4. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 5. | | ☐ YES ☐ NO<br>If yes, provide date: | |

| Description of Discharges | |
|---|---|
| Was a stormwater discharge or other discharge occurring from any part of your site at the time of the inspection? ☐ Yes ☐ No<br>If "yes", provide the following information for each point of discharge: | |
| Discharge Location | Observations |
| 1. | Describe the discharge:<br><br>At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No<br>If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue: |
| 2. | Describe the discharge:<br><br>At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No<br>If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue: |
| 3. | Describe the discharge:<br><br>At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No<br>If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue: |

| Contractor or Subcontractor Certification and Signature |
| --- |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Contractor or Subcontractor: _____ Date:<br><br>Printed Name and Affiliation: _____ |
| Certification and Signature by Permittee |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Permittee or<br>"Duly Authorized Representative": _____ Date:<br><br>Printed Name and Affiliation: _____ |

| Section A – Initial Report<br>(Complete this section within 24 hours of discovering the condition that triggered corrective action) | | | | | |
|---|---|---|---|---|---|
| Name of Project | | Tracking No. | | Today's Date | |
| Date Problem First Discovered | | | Time Problem First Discovered | | |
| Name and Contact Information of Individual Completing this Form | | | | | |

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (*Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day)*:

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

| Section B – Corrective Action Progress<br>(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action) | |
|---|---|
| Section B.1 – Why the Problem Occurred | |
| Cause(s) of Problem (Add an additional sheet if necessary) | How This Was Determined and the Date You Determined the Cause |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

| Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem | | | |
|---|---|---|---|
| List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary) | Completion Date | SWPPP Update Necessary? | Notes |
| 1. | | ☐Yes ☐No Date: | |
| 2. | | ☐Yes ☐No Date: | |
| 3. | | ☐Yes ☐No Date: | |

| Section A – Initial Report<br>(Complete this section within 24 hours of discovering the condition that triggered corrective action) | | | | | |
|---|---|---|---|---|---|
| Name of Project | | Tracking No. | | Today's Date | |
| Date Problem First Discovered | | | Time Problem First Discovered | | |
| Name and Contact Information of Individual Completing this Form | | | | | |

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (*Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day)*:

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

| Section B – Corrective Action Progress<br>(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action) | |
|---|---|
| Section B.1 – Why the Problem Occurred | |
| Cause(s) of Problem (Add an additional sheet if necessary) | How This Was Determined and the Date You Determined the Cause |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

| Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem | | | |
|---|---|---|---|
| List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary) | Completion Date | SWPPP Update Necessary? | Notes |
| 1. | | ☐Yes ☐No Date: | |
| 2. | | ☐Yes ☐No Date: | |
| 3. | | ☐Yes ☐No Date: | |

| Contractor or Subcontractor Certification and Signature |
| --- |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Contractor or Subcontractor: _____ Date:<br><br>Printed Name and Affiliation: _____ |
| Certification and Signature by Permittee |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Permittee or<br>"Duly Authorized Representative": _____ Date:<br><br>Printed Name and Affiliation: _____ |

# *Attachment J*

# *Schedule of Interim and Permanent Soil Stabilization Practices*

# Schedule of Interim and Permanent Soil Stabilization

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb for construction activity.

Records of the following shall be maintained:

a) The dates when major grading activities occur;
b) The dates when construction activities temporarily or permanently cease on a portion of the site; and
c) The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more that fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site.

In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

# SECTION 7: PERMANENT STORMWATER

# Permanent Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(Ii), (E), and (5), Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This Permanent Stormwater Section is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent

Regulated Entity Name: The Pointe at Gaines Ranch

## Permanent Best Management Practices (BMPs)

*Permanent best management practices and measures that will be used during and after construction is completed.*

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

   ☐ N/A

2. ☒ These practices and measures have been designed, and will be constructed, operated, and maintained to ensure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   ☒ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

☐ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is: _____

☒ N/A

3. ☒ Owners must ensure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

   ☐ N/A

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ The site will be used for low density single-family residential development and has 20% or less impervious cover.
   ☐ The site will be used for low density single-family residential development but has more than 20% impervious cover.
   ☒ The site will not be used for low density single-family residential development.

5. The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ☐ Attachment A - 20% or Less Impervious Cover Waiver. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.
   ☐ The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.
   ☒ The site will not be used for multi-family residential developments, schools, or small business sites.

6. ☒ Attachment B - BMPs for Upgradient Stormwater.

☒ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is attached.

☐ No surface water, groundwater or stormwater originates upgradient from the site and flows across the site, and an explanation is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, and an explanation is attached.

7. ☒ Attachment C - BMPs for On-site Stormwater.

☒ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is attached.

☐ Permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.

8. ☐ Attachment D - BMPs for Surface Streams. A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is attached. Each feature identified in the Geologic Assessment as sensitive has been addressed.

☒ N/A

9. ☒ The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

☒ The permanent sealing of or diversion of flow from a naturally-occurring sensitive feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed.

☐ Attachment E - Request to Seal Features. A request to seal a naturally-occurring sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.

10. ☒ Attachment F - Construction Plans. All construction plans and design calculations for the proposed permanent BMP(s) and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. The plans are attached and, if applicable include:

☐ Design calculations (TSS removal calculations)
☐ TCEQ construction notes
☐ All geologic features
☐ All proposed structural BMP(s) plans and specifications

☐ N/A

11. ☒ Attachment G - Inspection, Maintenance, Repair and Retrofit Plan. A plan for the inspection, maintenance, repairs, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan includes all of the following:

    ☒ Prepared and certified by the engineer designing the permanent BMPs and measures
    ☒ Signed by the owner or responsible party
    ☒ Procedures for documenting inspections, maintenance, repairs, and, if necessary retrofit
    ☒ A discussion of record keeping procedures

    ☒ N/A

12. ☐ Attachment H - Pilot-Scale Field Testing Plan. Pilot studies for BMPs that are not recognized by the Executive Director require prior approval from the TCEQ. A plan for pilot-scale field testing is attached.

    ☒ N/A

13. ☐ Attachment I -Measures for Minimizing Surface Stream Contamination. A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is attached. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

    ☒ N/A

## *Responsibility for Maintenance of Permanent BMP(s)*

*Responsibility for maintenance of best management practices and measures after construction is complete.*

14. ☒ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

    ☐ N/A

15. ☒ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

    ☐ N/A

# *Attachment A*

# *20% or Less Impervious Cover Declaration*

## *20% or Less Impervious Cover Declaration*

This site will not be used for multi-family residential developments, schools, or small business sites. Over 20% impervious cover is proposed.

# *Attachment B*
# *BMPs for Upgradient Stormwater*

## *BMPs for Upgradient Stormwater*

There are no upgradient drainage areas to the site. US Highway 290 Service Road and Southwest Parkway are upstream of the site and have public storm infrastructure that accept the flows before it gets to the subject site.

# *Attachment C*

# *BMPs for On-site Stormwater*

## *BMPs for On-Site Stormwater*

Like in the existing conditions, all stormwater runoff from impervious areas will sheet flow and discharge to one of the existing sedimentation/filtration ponds located inside the shopping center. There are 4 existing ponds at the shopping center that treat the flows. Temporary BMPs such as silt fence, triangular filter dike, mulch sock, concrete washout, sediment mat construction entrance, and inlet protection will be utilized. The construction plans provided in Attachment F include our erosion control plan (Sheet 14), the proposed drainage area map (Sheet 19), and the existing plan for the sedimentation/filtration pond used by the subject site (Sheet 32 and Sheet 33).

# *Attachment D*
# *BMPs for Surface Streams*

## *BMPs for Surface Streams*

There are no existing surface streams or sensitive features on site.

# *Attachment E*

# *Request to Seal Features*

## *Request to Seal Features*

There is no request to seal features that could divert flow from a naturally-occurring sensitive feature on site.

# *Attachment F*
# *Construction Plans*

| REVISIONS/CORRECTIONS | | | | | | | |
|---|---|---|---|---|---|---|---|
| NO. | DESCRIPTION | REVISE (R) VOID (V) ADD (A) SHEET NO.'S | TOTAL NO. SHEETS IN PLAN SET | NET CHANGE IMP. COVER (SQ. FT.) | TOTAL SITE IMP. COVER (SQ. FT.)/% | CITY OF AUSTIN APPROVAL DATE | DATE IMAGED |
| | | | | | | | |
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# CIVIL SITE DEVELOPMENT PLANS
FOR
# OLIVE GARDEN - SOUTHWEST PARKWAY
## 5010 W US 290 HIGHWAY SERVICE RD

GENERAL PLAN NOTES:

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
2. THE SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN. FIRM PANEL NO. 48453C0580H, TRAVIS COUNTY, TEXAS AND INCORPORATED AREAS (EFFECTIVE DATE SEPTEMBER 26, 2008).
3. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY AUSTIN WATER UTILITY, CONDITIONED UPON ALL FEES AND CHARGES ARE PAID.
4. THERE ARE NO NATURAL SLOPES ON THIS SITE IN EXCESS OF 15%.
5. THERE ARE NO KNOWN CRITICAL ENVIRONMENTAL FEATURES ON THIS SITE.
6. NO STRUCTURES CAN BE BUILT WITHIN WATER & WASTEWATER EASEMENTS.
7. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
8. AS PART OF THIS SITE PLAN, THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO BE ON SITE AT ALL TIMES.
9. SITE IS SUBJECT TO THE WATERSHED PROTECTION REGULATIONS.
10. THIS SITE IS LOCATED IN THE EDWARDS AQUIFER RECHARGE ZONE.
11. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.
12. THIS PROJECT IS SUBJECT TO THE VOID AND WATER FLOW MITIGATION RULE (COA ECM 1.12.0 AND COA ITEM NO. 658S OF THE SSM) PROVISION THAT ALL TRENCHING GREATER THAN 5 FEET DEEP MUST BE INSPECTED BY A GEOLOGIST (TEXAS P.G.) OR A GEOLOGIST'S REPRESENTATIVE.
13. OPERATING PERMIT FOR LOT 3 WATER QUALITY FACILITY IS OP-03-0112B.

OWNER/DEVELOPER NAME AND ADDRESS:
DARDEN RESTAURANTS, INC.
1000 DARDEN CENTER DRIVE
ORLANDO, FL 32837

SUBDIVISION CASE NO.:

ZONING CASE NO.: C14-2008-0129; NPA-2016-0025.02

PREVIOUS RELATED SITE DEVELOPMENT CASE NO.: SP-95-0509C

ZONING: GR-CO-NP

WATERSHED: BARTON CREEK

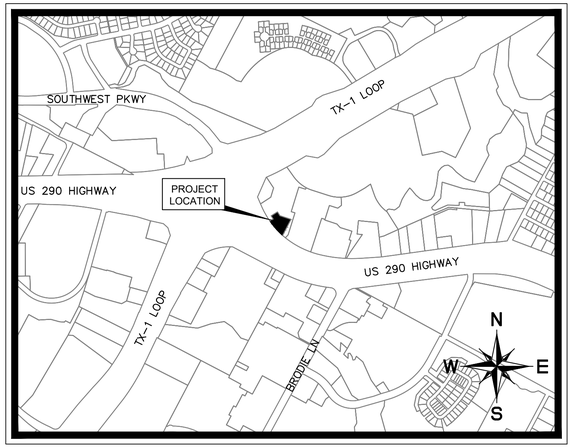
PRESSURE ZONE: SOUTH

SUBMITTAL DATE: 04/04/2025

| AUSTIN FIRE DEPARTMENT | |
|---|---|
| FIRE DESIGN CODES | 2021 INTERNATIONAL FIRE CODE (IFC) WITH CITY OF AUSTIN LOCAL AMENDMENTS TO THE IFC |
| FIRE FLOW DEMAND @20 PSI (GPM) | 2,250.00 GPM |
| OCCUPANCY CLASSIFICATION | RESTAURANT |
| CONSTRUCTION CLASSIFICATION | V-B |
| BUILDING FIRE AREA (S.F.) | 6,325 |
| AUTOMATIC FIRE SPRINKLER SYSTEM TYPE (IF APPLICABLE) | NFPA 13 |
| REDUCED FIRE FLOW DEMAND @ 20 PSI FOR HAVING A SPRINKLER SYSTEM (GPM) (IF APPLICABLE) | 1,500.00 GPM |
| AFD FIRE HYDRANT FLOW TEST DATE | 03/10/2025 |
| AFD HYDRANT FLOW TEST LOCATION | 5000 W US 290 HWY |
| CITY OF AUSTIN PIPELINE ORDINANCE APPLIES TO THIS PROJECT | NO |
| HIGH-RISE | NO |
| INTERNATIONAL WILDLAND-URBAN INTERFACE CODE | 2015 INTERNATIONAL WILDLAND-URBAN INTERFACE CODE (IWUIC) WITH CITY OF AUSTIN LOCAL AMENDMENTS |
| ALTERNATIVE METHOD OF COMPLIANCE AMOC (IF APPLICABLE) | N/A |

LEGAL DESCRIPTION

LOT 1A, RESUBDIVISION OF GAINES SUBDIVISION SECTION 1A, A SUBDIVISION ON TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 90, PAGES 383–384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS




VICINITY MAP
SCALE: 1" = 1,000'

COA GRID: E19
MAPSCO: 613T

# APRIL 2025

## SHEET INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| 1 | COVER SHEET |
| 2 | FINAL PLAT |
| 3 | ALTA SURVEY |
| 4 | GENERAL NOTES |
| 5 | KIMLEY-HORN GENERAL NOTES |
| 6 | AWU GENERAL NOTES (1 OF 2) |
| 7 | AWU GENERAL NOTES (2 OF 2) |
| 8 | DARDEN CIVIL SPECIFICATIONS (1 OF 5) |
| 9 | DARDEN CIVIL SPECIFICATIONS (2 OF 5) |
| 10 | DARDEN CIVIL SPECIFICATIONS (3 OF 5) |
| 11 | DARDEN CIVIL SPECIFICATIONS (4 OF 5) |
| 12 | DARDEN CIVIL SPECIFICATIONS (5 OF 5) |
| 13 | EXISTING CONDITIONS AND DEMO PLAN |
| 14 | EROSION CONTROL PLAN |
| 15 | OVERALL SITE PLAN |
| 16 | FIRE PROTECTION PLAN |
| 17 | GRADING PLAN |
| 18 | EXISTING DRAINAGE AREA MAP |
| 19 | PROPOSED DRAINAGE AREA MAP |
| 20 | OVERALL STORM PLAN |
| 21 | PUBLIC WATER PLAN |
| 22 | UTILITY PLAN |
| 23 | PAVING DETAILS (1 OF 2) |
| 24 | PAVING DETAILS (2 OF 2) |
| 25 | UTILITY DETAILS |
| 26 | EROSION CONTROL DETAILS |
| 27 | LANDSCAPE PLAN |
| 28 | LANDSCAPE DETAILS |
| 29 | LANDSCAPE SPECIFICATIONS |
| 30 | TREE MITIGATION PLAN |
| 31 | R1-GRADING PLAN |
| 32 | R2-WQ POND PLAN (1 OF 2) |
| 33 | R3-WQ POND PLAN (2 OF 2) |
| 34 | R4-UTILITY PLAN |
| 35 | GEOTECHNICAL REPORT (1 OF 5) |
| 36 | GEOTECHNICAL REPORT (2 OF 5) |
| 37 | GEOTECHNICAL REPORT (3 OF 5) |
| 38 | GEOTECHNICAL REPORT (4 OF 5) |
| 39 | GEOTECHNICAL REPORT (5 OF 5) |
| 40 | BORING LOGS (1 OF 2) |
| 41 | BORING LOGS (2 OF 2) |


THIS NOTE IS BEING PLACED ON THE PLAN SET IN PLACE OF A TEMPORARY TRAFFIC CONTROL STRATEGY WITH THE FULL UNDERSTANDING THAT, AT A MINIMUM OF 6 WEEKS PRIOR TO THE START OF CONSTRUCTION, A TEMPORARY TRAFFIC CONTROL PLAN MUST BE REVIEWED AND APPROVED BY THE RIGHT OF WAY MANAGEMENT DIVISION. THE OWNER/REPRESENTATIVE FURTHER RECOGNIZES THAT A REVIEW FEE, AS PRESCRIBED BY THE MOST CURRENT VERSION OF THE CITY'S FEE ORDINANCE, SHALL BE PAID EACH TIME A PLAN OR PLAN REVISION IS SUBMITTED TO RIGHT OF WAY MANAGEMENT DIVISION FOR REVIEW. THE FOLLOWING MUST BE TAKEN INTO CONSIDERATION WHEN DEVELOPING FUTURE TRAFFIC CONTROL STRATEGIES:

PEDESTRIAN AND BICYCLE TRAFFIC ACCESS MUST BE MAINTAINED AT ALL TIMES, UNLESS OTHER WISE AUTHORIZED BY RIGHT OF WAY MANAGEMENT.

NO LONG–TERM LANE CLOSURES WILL BE AUTHORIZED, UNLESS RIGHT OF WAY MANAGEMENT DETERMINES THAT ADEQUATE ACCOMMODATIONS HAVE BEEN MADE TO MINIMIZE TRAFFIC IMPACT.

PROJECT SHOULD BE PHASED SO THAT UTILITY INSTALLATION MINIMALLY IMPACTS EXISTING OR TEMPORARY PEDESTRIAN FACILITIES.

Know what's below. Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

SITE PLAN APPROVAL SHEET 1 OF 41
FILE NUMBER SP-2025-0116C.CC APPLICATION DATE 04/04/2025
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER XX-X OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81,LDC) _____ CASE MANAGER XXXX
PROJECT EXPIRATION DATE (ORD.#970905-A) _____ DWPZ _____ DDZ _____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING XXXX
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

*Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.*

DESIGNERS:


ARCHITECT
JENNIFER NELSON
ACS CINCINNATI
7870 E KEMPER ROAD, SUITE 320
CINCINNATI, OH 45242
(513) 477-8822
JNELSON@ACS-ARCHITECTS.COM

LANDSCAPE ARCHITECT
SHANNON MUNDY, P.L.A.
KIMLEY-HORN AND ASSOCIATES, INC.
11700 KATY FREEWAY, SUITE 800
HOUSTON, TX 77079
(281) 920-6322
SHANNON.MUNDY@KIMLEY-HORN.COM

SURVEYOR
ABRAM C. DASHNER, P.L.S
MANHARD CONSULTING
1120 S. CAPITOL OF TEXAS HIGHWAY, BLDG. 1, STE. 120
AUSTIN, TX 78746
(512) 244-3395


LISTS OF CONTACTS:

WATER & SANITARY SEWER
AUSTIN WATER UTILITY
625 E. 10TH STREET, SUITE 715
AUSTIN, TX 78701
PH. (512) 972-0207

FIRE
AUSTIN FIRE DEPARTMENT
RALPH CASTILLO
ONE TEXAS CENTER SUITE 200
505 BARTON SPRINGS ROAD
AUSTIN, TX 78704
PH. (512) 974-0192

GAS
TEXAS GAS SERVICE
LINDA BARGAR
5613 AVENUE F
AUSTIN, TX 78751
PH. (512) 465-1134
LBARGAR@TXGAS.COM

ELECTRIC
AUSTIN ENERGY
JIM ROWIN
2412 KRAMER LANE, BUILDING C
AUSTIN, TEXAS 78758
PH. (512) 505-7665

STORM SEWER
CITY OF AUSTIN
PLANNING & DEVELOPMENT
REVIEW DEPARTMENT
505 BARTON SPRINGS ROAD
AUSTIN, TX 78704
PH. (512) 974-2680

TELEPHONE
AT&T
DAVID A. WILLIAMS
712 EAST HUNTLAND, ROOM 229
AUSTIN, TX 78752
PH. (512) 870-4760
DW8132@ATT.COM

PREPARED BY:


Kimley»Horn
6800 BURLESON ROAD, BUILDING 312, SUITE 150 Tel. No. (512) 616-9942
AUSTIN, TEXAS 78744
CERTIFICATE OF REGISTRATION #928


_____ AUSTIN WATER UTILITY _____ DATE

_____ AUSTIN INDUSTRIAL WASTE DEPARTMENT _____ DATE

_____ CITY OF AUSTIN FIRE DEPARTMENT _____ DATE

_____ FOR DIRECTOR, PLANNING AND DEVELOPMENT REVIEW DEPARTMENT _____ DATE

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THE INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|


Kimley»Horn
6800 BURLESON ROAD, BUILDING 312, SUITE 150
AUSTIN, TX 78744
PHONE: 512-616-9942
WWW.KIMLEY-HORN.COM
TX REGISTRATION NO. KIMLEY-HORN AND ASSOCIATES, INC.
TBPE Firm No. 928

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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

COVER SHEET

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
1 OF 41

SP-2025-0116C.CC

Plotted By: Shreiffer, Ryan Date: April 30, 2025 08:46:10am File Path: K:\AU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\Plan Sheets\C - Cover Sheet.dwg
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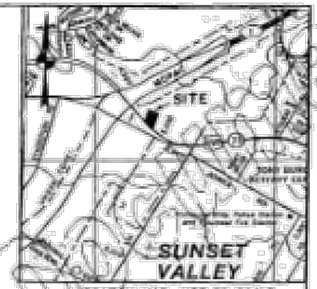
6696 $56.00 9/24/92

# RESUBDIVISION OF GAINES SUBDIVISION SECTION 1-A

Vol. 90 Page 383
PLAT RECORD, TRAVIS COUNTY, TEXAS



LOCATION MAP; NOT TO SCALE

MSC FILM CODE
00006229390

MO-PAC EXPRESSWAY SOUTH
(R.O.W. VARIES)

GAINES RANCH
PHASE A
SECTION ONE
BOOK 89, PAGE 328

LOT 2A
1.589 ACRES

LOT 1A
1.102 ACRES

LOT 1
10.484 Ac.

STATE OF TEXAS
VOL. 3166, PG. 27

U.S. HWY 290 WEST
(R.O.W. VARIES)

0 50 100 150 200
1" = 100'

LEGEND
- 1/2" IRON ROD SET
- "X" CUT IN CONC.
- IRON PIPE FOUND
- STATE HIGHWAY MONUMENT FOUND
- CALCULATED POINT
- SIDEWALK LOCATION

LINE TABLE

| No. | Bearing | Distance |
|---|---|---|
| L1 | N59° 17' 45" E | 58.57' |
| L2 | N30° 47' 15" W | 52.00' |
| L3 | S30° 47' 15" E | 83.81' |

CURVE TABLE

| No. | Delta | Radius | Arc Length | Ch. Bearing | Chord |
|---|---|---|---|---|---|
| C1 | 12° 41' 34" | 1204.24' | 266.77' | N40° 08' 58" W | 266.23' |
| C2 | 01° 42' 22" | 1204.24' | 35.86' | N32° 57' 00" W | 35.86' |
| C3 | 11° 13' 10" | 1204.24' | 235.81' | N28° 29' 14" W | 235.43' |
| C4 | 06° 17' 50" | 2929.79' | 322.01' | N65° 56' 13" E | 321.84' |
| C5 | 38° 34' 37" | 1204.24' | 567.12' | S80° 42' 03" E | 561.03' |
| C6 | 54° 01' 42" | 1204.24' | 1135.58' | N47° 53' 30" W | 1093.96' |
| C7 | 00° 05' 42" | 2929.79' | 4.86' | N69° 04' 17" E | 4.86' |

SURVEYORS CERTIFICATION:

I, LYNN R. SAVORY, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF SURVEYING AND HEREBY CERTIFY THAT THIS PLAT COMPLIES WITH TITLE 13 OF THE AUSTIN CITY CODE OF 1981, AS AMENDED; IS TRUE AND CORRECT, AND WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION.

8-17-92

LYNN R. SAVORY, R.P.L.S.
TEXAS REGISTRATION NO. 4598
BURY & PITTMAN, INC.
3345 BEE CAVES ROAD, #200
AUSTIN, TEXAS 78746

STATE OF TEXAS
LYNN R. SAVORY
4598
REGISTERED
LAND SURVEYOR

I, GREGORY S. STRMISKA, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF ENGINEERING, AND HEREBY CERTIFY THAT THIS PLAT IS FEASIBLE FROM AN ENGINEERING STANDPOINT AND COMPLIES WITH THE ENGINEERING RELATED PORTIONS OF TITLE 13 OF THE AUSTIN CODE OF 1981, AS AMENDED, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

FLOOD PLAIN NOTE: THE TRACT SHOWN HEREON LIES WITHIN ZONE "C" AREAS OF MINIMAL FLOODING, AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, FIRM PANEL No. 481026 0255 B, DATED APRIL 1, 1982, FOR TRAVIS COUNTY, TEXAS (UNINCORPORATED AREAS).

CHARLES E. STEINMAN, P.E.
TEXAS REGISTRATION NO. 64410
BURY & PITTMAN, INC.
3345 BEE CAVES ROAD, #200
AUSTIN, TEXAS 78746

STATE OF TEXAS
CHARLES E. STEINMAN
64410
REGISTERED
PROFESSIONAL ENGINEER

8-17-92

DATE: MARCH 1, 1992
PREPARED BY:

Bury+Pittman
Consulting Engineers and Surveyors
Austin, Texas Tel 512/328-8811 Fax 512/328-8525

DISK # : 24H
JOB # : 511-01.20
FILE # : 511101PL1.DWG
DRAWN BY : B. KAGAN

C8-92-0107.0A

SHEET 1 OF 2

Unofficial Document

Plotted By: Streiffer, Ryan Date: April 30, 2025 08:46:21am File Path(s): \EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Final Plat.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-418-1771
WWW.KIMLEY-HORN.COM
TX REGISTERED ENGINEERING FIRM F-928
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04/25/2025

| KHA PROJECT | |
|---|---|
| 063887221 | |
| DATE: | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

FINAL PLAT

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
2 OF 26

SP-2025-0116C.CC

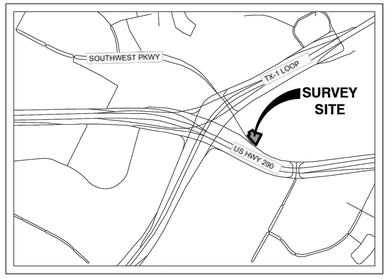
# ALTA/NSPS LAND TITLE SURVEY

## LEGAL DESCRIPTION

TRACT 1: LOT 1A, RESUBDIVISION OF GAINES SUBDIVISION SECTION 1A, A SUBDIVISION IN TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.

TRACT 2: NON-EXCLUSIVE EASEMENT AS CREATED AND DEFINED IN RECIPROCAL EASEMENT AGREEMENT FOR ACCESS, DRAINAGE AND UTILITIES DATED JUNE 17, 1991, RECORDED IN VOLUME 11471, PAGE 606 OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS AND BEING OVER AND ACROSS LOTS 1-5, BLOCK "A", POINTE AT GAINES RANCH SUBDIVISION, A SUBDIVISION IN TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 100, PAGES 301-302 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.

TRACT 3: NON EXCLUSIVE EASEMENTS AS CREATED AND DEFINED IN RESTATED AND AMENDED SHOPPING CENTER RECIPROCAL EASEMENT AND OPERATION AGREEMENT DATED JUNE 30, 1997, RECORDED IN VOLUME 12971, PAGE 11 OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS AND AS AMENDED UNDER DOCUMENT NO(S). 2001067363 AND 2012010750 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS, AND BEING OVER AND ACROSS LOTS 1-5, BLOCK "A", POINTE AT GAINES RANCH SUBDIVISION, A SUBDIVISION IN TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 100, PAGES 301-302 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.




## LOCATION MAP

NOT TO SCALE

## PARKING SUMMARY

| |
|---|
| REGULAR SPACES = 82 |
| HANDICAPPED SPACES = 4 |
| TOTAL SPACES = 86 |

| DIMENSION RECORD TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE | RADIUS | DELTA | LENGTH | CHORD BEARING | CHORD |
| (C1) | (1204.24') | (12°41'34") | (266.77') | (N40°08'58"W) | (266.36') |

| CURVE TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE | RADIUS | DELTA | LENGTH | CHORD BEARING | CHORD |
| C1 | 1204.24' | 12°41'55" | 266.90' | N41°33'10"W | 266.36' |

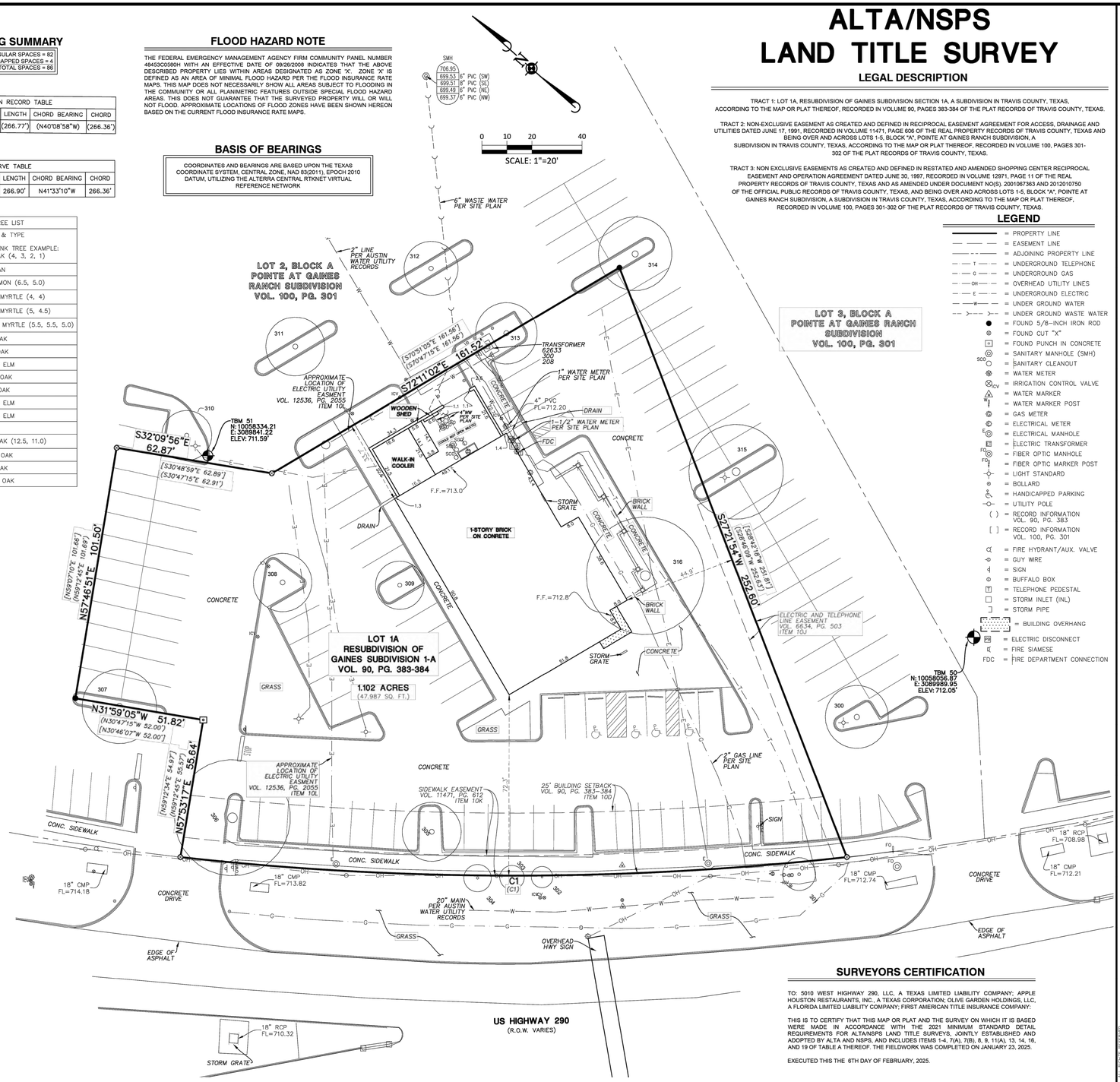
| TREE LIST | |
|---|---|
| TREE TAG# | TREE SIZE & TYPE<br>MULTI-TRUNK TREE EXAMPLE: 7" LIVE OAK (4, 3, 2, 1) |
| 300 | 12.5" PECAN |
| 301 | 9" PERSIMMON (6.5, 5.0) |
| 302 | 6" CRAPE MYRTLE (4, 4) |
| 303 | 7" CRAPE MYRTLE (5, 4.5) |
| 304 | 11" CRAPE MYRTLE (5.5, 5.5, 5.0) |
| 305 | 12" RED OAK |
| 306 | 23" LIVE OAK |
| 307 | 15" CEDAR ELM |
| 308 | 11.5" RED OAK |
| 309 | 9.5" RED OAK |
| 310 | 10" CEDAR ELM |
| 311 | 12" CEDAR ELM |
| 312 | 11" PECAN |
| 313 | 18" RED OAK (12.5, 11.0) |
| 314 | 14.5" RED OAK |
| 315 | 19" LIVE OAK |
| 316 | 23.5" LIVE OAK |

## FLOOD HAZARD NOTE

THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM COMMUNITY PANEL NUMBER 48453C0580H WITH AN EFFECTIVE DATE OF 09/26/2008 INDICATES THAT THE ABOVE DESCRIBED PROPERTY LIES WITHIN AREAS DESIGNATED AS ZONE "X". ZONE "X" IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD PER THE FLOOD INSURANCE RATE MAPS. THIS MAP DOES NOT NECESSARILY SHOW ALL AREAS SUBJECT TO FLOODING IN THE COMMUNITY OR ALL PLANIMETRIC FEATURES OUTSIDE SPECIAL FLOOD HAZARD AREAS. THIS DOES NOT GUARANTEE THAT THE SURVEYED PROPERTY WILL OR WILL NOT FLOOD. APPROXIMATE LOCATIONS OF FLOOD ZONES HAVE BEEN SHOWN HEREON BASED ON THE CURRENT FLOOD INSURANCE RATE MAPS.

## BASIS OF BEARINGS

COORDINATES AND BEARINGS ARE BASED UPON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD 83(2011), EPOCH 2010 DATUM, UTILIZING THE ALTERRA CENTRAL RTKNET VIRTUAL REFERENCE NETWORK




## TITLE NOTES

IN REFERENCE TO FIRST AMERICAN TITLE INSURANCE COMPANY TITLE COMMITMENT G.F. NO. 245146 WITH AN EFFECTIVE DATE OF NOVEMBER 08, 2024 HAS BEEN REVIEWED IN CONJUNCTION WITH THE PREPARATION OF THIS SURVEY. THIS SURVEY MAY NOT REFLECT MATTERS OF TITLE THAT MAY BENEFIT OR BURDEN THE PROPERTY UNLESS THEY ARE EVIDENT FROM THE FIELD SURVEY OR THEY ARE CONTAINED IN THE ABOVE TITLE COMMITMENT. THE FOLLOWING NOTES ARE RELATED TO CERTAIN SURVEY-RELATED TITLE EXCEPTIONS CONTAINED IN THE ABOVE COMMITMENT.

TITLE ISSUES RAISED IN PRIOR TITLE COMMITMENTS MAY NOT BE SHOWN EXCEPT THAT PLOTTABLE EASEMENTS THAT THE SURVEYOR IS AWARE OF HAVE BEEN SHOWN.

PREVIOUSLY RAISED TITLE ISSUES, INSURED OVER OR OTHERWISE DISPOSED OF IN THE ABOVE TITLE COMMITMENT ARE NOT SHOWN HEREON.

PLOTTABLE EASEMENTS AND SETBACKS IDENTIFIED IN THE ABOVE TITLE COMMITMENT HAVE BEEN SHOWN HEREON. EASEMENTS AND SETBACKS THAT HAVE BEEN VACATED, INSURED OVER, OR OTHERWISE DISPOSED OF HAVE NOT BEEN SHOWN HEREON.

SCHEDULE B:

– THE FOLLOWING MATTERS AND ALL TERMS OF THE DOCUMENTS CREATING OR OFFERING EVIDENCE OF THE MATTERS:

10A. VOLUME 77, PAGE 394, VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS; VOLUME 6570, PAGE 841, VOLUME 12087, PAGE 29, OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS.
**–SUBJECT TO,**

10D. A 25 FOOT BUILDING SETBACK LINE ALONG THE FRONT PROPERTY LINE AS SET FORTH ON THE PLAT RECORDED IN VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.
**–SUBJECT TO, AS SHOWN HEREON**

10E. JOINT ACCESS SHALL BE PROVIDED FROM LOTS 1A AND 2A TO U.S. 290 WEST AS STATED ON PLAT RECORDED IN VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.
**–SUBJECT TO, BLANKET TYPE/NOT PLOTTABLE**

10F. EASEMENT: TO: TEXAS POWER AND LIGHT COMPANY DATED: JULY 31, 1936 IN VOLUME 559, PAGE 606, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC TRANSMISSION AND/OR DISTRIBUTION LINE EASEMENT
**–SUBJECT TO, NOT PLOTTABLE**

10G. EASEMENT: TO: SOUTHWESTERN BELL TELEPHONE COMPANY RECORDED IN VOLUME 569, PAGE 248 AND VOLUME 2601, PAGE 293, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS.
PURPOSE: AS PROVIDED IN SAID INSTRUMENT
**–SUBJECT TO, NOT PLOTTABLE**

10H. EASEMENT: TO: TEXAS POWER AND LIGHT COMPANY DATED: MAY 6, 1939 IN VOLUME 614, PAGE 358, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC AND TELEPHONE LINE EASEMENT
**–SUBJECT TO, NOT PLOTTABLE**

10I. EASEMENT: TO: THE CITY OF AUSTIN RECORDED: NOVEMBER 03, 1964 IN VOLUME 2882, PAGE 468, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC AND TELEPHONE LINES AND SYSTEMS EASEMENT
**–SUBJECT TO, NOT PLOTTABLE**

10J. EASEMENT: TO: THE CITY OF AUSTIN DATED: JUNE 27, 1979 IN VOLUME 6634, PAGE 503, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC AND TELEPHONE LINES AND SYSTEMS EASEMENT
**–SUBJECT TO, AS SHOWN HEREON**

10K. EASEMENT: TO: THE CITY OF AUSTIN DATED: JUNE 17, 1991 IN VOLUME 11471, PAGE 612, OF THE REAL PROPERTY RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: SIDEWALK EASEMENT
**–SUBJECT TO, AS SHOWN HEREON**

10L. EASEMENT: TO: THE CITY OF AUSTIN DATED: SEPTEMBER 28, 1995 IN VOLUME 12536, PAGE 2055, OF THE REAL PROPERTY RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC UTILITY EASEMENT
**–SUBJECT TO, APPROXIMATE LOCATION SHOWN/NO WIDTH SPECIFIED**

10M. ACCESS LIMITATIONS AS SET OUT IN DEED RECORDED IN VOLUME 8166, PAGE 518 OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS.
**SUBJECT TO, (TRACT HAS FULL ACCESS TO US 290)**

10P. TERMS, CONDITIONS AND STIPULATIONS IN THE AGREEMENT: DATED: JUNE 17, 1991 IN VOLUME 11471, PAGE 606, REAL PROPERTY RECORDS, TRAVIS COUNTY, TEXAS. TYPE: RECIPROCAL EASEMENT AGREEMENT FOR ACCESS, DRAINAGE AND UTILITIES
**–SUBJECT TO, BLANKET TYPE/NOT PLOTTABLE**

10Q. TERMS, CONDITIONS AND STIPULATIONS IN THE AGREEMENT: DATED: JUNE 30, 1997 IN VOLUME 12971, PAGE 11, REAL PROPERTY RECORDS, TRAVIS COUNTY, TEXAS AND FIRST AMENDMENT RECORDED UNDER DOCUMENT NO. 2001067363 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS, AND SECOND AMENDMENT RECORDED UNDER DOCUMENT NO. 2012010750 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS. TYPE: RESTATED AND AMENDED SHOPPING CENTER RECIPROCAL EASEMENT AND OPERATION AGREEMENT
**–SUBJECT TO, NO PLOTTABLE ITEMS**

## SURVEYOR'S NOTES

1. DISTANCES ARE MARKED IN FEET AND DECIMAL PLACES THEREOF. NO DIMENSION SHALL BE ASSUMED BY SCALE MEASUREMENT HEREON. DISTANCES AND/OR BEARINGS SHOWN IN PARENTHESIS (456.67') ARE RECORD OR DEED VALUES, NOT FIELD MEASURED.
2. COMPARE THIS PLAT, BENCHMARKS AND ALL SURVEY MONUMENTS BEFORE BUILDING, AND IMMEDIATELY REPORT ANY DISCREPANCIES TO THE SURVEYOR.
3. ONLY THE IMPROVEMENTS WHICH WERE VISIBLE FROM ABOVE GROUND AT THE TIME OF SURVEY AND THROUGH A NORMAL SEARCH AND WALK THROUGH OF THE SITE ARE SHOWN ON THE FACE OF THIS PLAT. LAWN SPRINKLER SYSTEMS, IF ANY, ARE NOT SHOWN ON THIS SURVEY.
4. THIS SURVEY MAY NOT REFLECT ALL UTILITIES, OR IMPROVEMENTS, IF SUCH ITEMS ARE HIDDEN BY LANDSCAPING OR ARE COVERED BY LEAVES OR OTHER OBSTRUCTIONS. THERE MAY BE ADDITIONAL UTILITIES OR IMPROVEMENTS THAT HAVE NOT BEEN SHOWN.
5. SYMBOLS SHOWN HEREON ARE NOT TO SCALE.
6. SURVEYOR IS NOT AWARE OF ANY PROPOSED RIGHT-OF-WAY CHANGES AFFECTING SUBJECT TRACT AT TIME OF SURVEY.
7. THIS TRACT HAS ACCESS TO US HWY 290, A DEDICATED PUBLIC RIGHT-OF-WAY.
8. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED AT THE TIME OF SURVEY.
9. NO PROTRUSIONS OF IMPROVEMENT OVER BOUNDARY LINES WERE OBSERVED ON DATE OF SURVEY, EXCEPT AS SHOWN HEREON.
10. UNDERGROUND LINES/UTILITIES SHOWN HEREON ARE FIELD LOCATIONS OF MARKINGS MADE PURSUANT TO A TEXAS 811 UTILITY LOCATE REQUEST MADE BY SURVEYOR.

## LEGEND

- PROPERTY LINE
- EASEMENT LINE
- ADJOINING PROPERTY LINE
- UNDERGROUND TELEPHONE
- UNDERGROUND GAS
- OVERHEAD UTILITY LINES
- UNDERGROUND ELECTRIC
- UNDER GROUND WATER
- UNDER GROUND WASTE WATER
- FOUND 5/8-INCH IRON ROD
- FOUND CUT "X"
- FOUND PUNCH IN CONCRETE
- SANITARY MANHOLE (SMH)
- SANITARY CLEANOUT
- WATER METER
- IRRIGATION CONTROL VALVE
- WATER MARKER
- WATER MARKER POST
- GAS METER
- ELECTRICAL METER
- ELECTRICAL MANHOLE
- ELECTRIC TRANSFORMER
- FIBER OPTIC MANHOLE
- FIBER OPTIC MARKER POST
- LIGHT STANDARD
- BOLLARD
- HANDICAPPED PARKING
- UTILITY POLE
- ( ) = RECORD INFORMATION VOL. 90, PG. 383
- [ ] = RECORD INFORMATION VOL. 100, PG. 301
- FIRE HYDRANT/AUX. VALVE
- GUY WIRE
- SIGN
- BUFFALO BOX
- TELEPHONE PEDESTAL
- STORM INLET (INL)
- STORM PIPE
- BUILDING OVERHANG
- ELECTRIC DISCONNECT
- FIRE SIAMESE
- FDC = FIRE DEPARTMENT CONNECTION

## SURVEYORS CERTIFICATION

TO: 5010 WEST HIGHWAY 290, LLC, A TEXAS LIMITED LIABILITY COMPANY; APPLE HOUSTON RESTAURANTS, INC., A TEXAS CORPORATION; OLIVE GARDEN HOLDINGS, LLC, A FLORIDA LIMITED LIABILITY COMPANY; FIRST AMERICAN TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-4, 7(A), 7(B), 8, 9, 11(A), 13, 14, 16, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON JANUARY 23, 2025.

EXECUTED THIS THE 6TH DAY OF FEBRUARY, 2025.

ABRAM C. DASHNER
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 5901
MANHARD CONSULTING

## SURVEY PREPARED FOR

5010 WEST HIGHWAY 290, LLC

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| DATE | REVISIONS | DRAWN BY |
|---|---|---|
| 03/24/25 | ADDING CONTROL INFORMATION | TZ |
| 02/07/25 | ADDRESSING TITLE COMMITMENT | |

LOT 1A RESUBDIVISION OF GAINES SUBDIVISION SECTION 1-A
5010 W US HWY 290, TX 78735
ALTA/NSPS LAND TITLE

PROJ. MGR.: AD
DRAWN BY: AL
SURVEY DATE: 01/23/25
ISSUE DATE: 02/06/25
SCALE: 1"=20'

SHEET 1 OF 1
617.246001

Manhard CONSULTING
1501 S Capital of Texas Hwy, Bldg. I, Ste. 210, Austin, TX 78746 ph 512.244.3395 manhard.com
Civil Engineers | Water Resource Engineers | Surveyors | Water/Wastewater Engineers
Construction Managers | Environmental Scientists | Landscape Architects | Planners
Texas Board of Professional Engineers & Land Surveyors Reg. No. F-10964 (Civil) & F-10194 (Surv.)

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-646-3942
WWW.KIMLEY-HORN.COM
TEXAS REGISTRATION NO. F-928 (ARCH) & F-10956 (ENG)
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

04/25/2025

| KHA PROJECT 063887221 | DATE: APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

ALTA SURVEY

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
3 OF 26

SP-2025-0116C.CC

Plotted By: Sheaffer, Ryan Date: April 30, 2025 08:46:30am File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Final Plat.dwg
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Date: 04, 2025 08:43 Xref Name: p:\063746 olive garden restaurants\001 sdp w us 290\cad\xrefs\Vista Survey\Vistaltaxbg.dwg Updated By: ajhamed

## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

### ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTUAL START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.

   THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET __ OF __.

   IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: _____

   IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: _____

   SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

    IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __. (FOR POTENTIAL FUTURE LATERALS).

    THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET __ OF __ AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __.

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE LATERAL MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

    15.1. FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

    *15.1.1. LOW PRESSURE AIR TEST.*

    15.1.1.1. A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH(B)(II) OF THIS PARAGRAPH.

    15.1.1.2. FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

    15.1.1.2.1. A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.

    15.1.1.2.2. ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

    Equation C.3

$$T = \frac{0.085 \times D \times K}{Q}$$

    WHERE:

    T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
    K = 0.000419 X D X L, BUT NOT LESS THAN 1.0
    D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
    L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
    Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

### ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES

15.1.1.3. SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

| PIPE DIAMETER *(INCHES)* | MINIMUM TIME *(SECONDS)* | MAXIMUM LENGTH FOR MINIMUM TIME *(FEET)* | TIME FOR LONGER LENGTH *(SECONDS/FOOT)* |
|---|---|---|---|
| 6 | 340 | 398 | 0.855 |
| 8 | 454 | 298 | 1.520 |
| 10 | 567 | 239 | 2.374 |
| 12 | 680 | 199 | 3.419 |
| 15 | 850 | 159 | 5.342 |
| 18 | 1020 | 133 | 7.693 |
| 21 | 1190 | 114 | 10.471 |
| 24 | 1360 | 100 | 13.676 |
| 27 | 1530 | 88 | 17.309 |
| 30 | 1700 | 80 | 21.369 |
| 33 | 1870 | 72 | 25.856 |

15.1.1.4. AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.

15.1.1.5. IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.

15.1.1.6. WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.

15.1.1.7. A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

*15.1.1.*

*15.1.2. INFILTRATION/EXFILTRATION TEST.*

15.1.2.1. THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

15.1.2.2. AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.

15.1.2.3. THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.

15.1.2.4. FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.

15.1.2.5. IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

15.1.

15.2. IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

15.2.1. FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.

*15.2.1.1. MANDREL SIZING.*

15.2.1.1.1. A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

15.2.1.1.2. IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSES OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

15.2.1.1.3. ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

*15.2.1.1.*

*15.2.1.2. MANDREL DESIGN.*

15.2.1.2.1. A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

15.2.1.2.2. A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

15.2.1.2.3. A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

15.2.1.2.4. EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.

15.2.1.2.

*15.2.1.3. METHOD OPTIONS.*

15.2.1.3.1. AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

15.2.1.3.2. A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

15.2.1.3.3. IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

15.2.1.

15.2.2. FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.

15.2.3. A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

15.2.4. AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER FINAL BACKFILL.

15.2.5. GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).

15.2.6. IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.

16.1. ALL MANHOLES MUST PASS A LEAKAGE TEST.

16.2. AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.

16.2.1. HYDROSTATIC TESTING.

16.2.1.1. THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.

16.2.1.2. TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.

16.2.1.3. A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.

16.2.1.

16.2.2. VACUUM TESTING.

16.2.2.1. TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.

16.2.2.2. NO GROUT MAY BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.

16.2.2.3. STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.

16.2.2.4. AN OWNER SHALL USE A MINIMUM 60 INCH-LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.

16.2.2.5. A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

16.2.2.6. THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.

16.2.2.7. A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.

16.2.2.8. A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

| AUSTIN REGIONAL OFFICE | SAN ANTONIO REGIONAL OFFICE |
|---|---|
| 12100 PARK 35 CIRCLE, BUILDING A | 14250 JUDSON ROAD |
| AUSTIN, TEXAS 78753-1808 | SAN ANTONIO, TEXAS 78233-4480 |
| PHONE (512) 339-2929 | PHONE (210) 490-3096 |
| FAX (512) 339-3795 | FAX (210) 545-4329 |

**THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.**

## CITY OF AUSTIN STANDARD SITE PLAN NOTES

### SITE PLAN RELEASE NOTES

1. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE DEVELOPMENT SERVICES DEPARTMENT.
2. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.
3. ALL SIGNS MUST COMPLY WITH REQUIREMENTS OF THE LAND DEVELOPMENT CODE (CHAPTER 25-10).
4. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
5. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN.
6. ALL EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF AUSTIN DEVELOPMENT SERVICES DEPARTMENT.
7. FOR DRIVEWAY CONSTRUCTION: THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
8. FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.
9. NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OWNER OR OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE OF TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING CONDOMINIUMS.

### FIRE DEPARTMENT

1. THE AUSTIN FIRE DEPARTMENT REQUIRES FINAL ASPHALT OR CONCRETE PAVEMENT ON REQUIRED ACCESS ROADS PRIOR TO THE START OF COMBUSTIBLE CONSTRUCTION. ANY OTHER METHOD OF PROVIDING "ALL-WEATHER DRIVING CAPABILITIES" SHALL BE REQUIRED TO BE DOCUMENTED AND APPROVED AS AN ALTERNATIVE METHOD OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE RULES FOR TEMPORARY ROADS OUTLINED IN THE CITY OF AUSTIN FIRE PROTECTION CRITERIA MANUAL.
2. FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE FOUR (4) INCH OPENING (STEAMER) LOCATED AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE STEAMER OPENING OF THE FIRE HYDRANTS SHALL FACE THE APPROVED FIRE ACCESS DRIVEWAY OR PUBLIC STREET AND SET BACK FROM THE CURB LINE(S) AN APPROVED DISTANCE, TYPICALLY THREE (3) TO SIX (6) FEET. THE AREA WITHIN THE THREE (3) FEET IN ALL DIRECTIONS FROM ANY FIRE HYDRANT SHALL BE FREE OF OBSTRUCTIONS, AND THE AREA BETWEEN THE STEAMER OPENING AN THE STREET OR DRIVEWAY GIVING EMERGENCY VEHICLE ACCESS SHALL BE FREE OF OBSTRUCTIONS.
3. TIMING OF INSTALLATION: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE CONTRACTOR, SUCH FACILITIES SHALL INCLUDE SURFACE ACCESS ROADS. EMERGENCY ACCESS ROADS OR DRIVES SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION. WHEN THE FIRE DEPARTMENT APPROVES AN ALTERNATE METHOD OF PROTECTION, THIS REQUIREMENT MAY BE MODIFIED AS DOCUMENTED IN THE APPROVAL OF THE ALTERNATE METHOD.
4. ALL EMERGENCY ACCESS ROADWAYS AND FIRE LANES, INCLUDING PERVIOUS/DECORATIVE PAVING, SHALL BE ENGINEERED AND INSTALLED AS REQUIRED TO SUPPORT THE AXLE LOADS OF EMERGENCY VEHICLES. A LOAD CAPACITY SUFFICIENT TO MEET THE REQUIREMENTS FOR HS-20 LOADING (19KIP/WHEEL) AND A TOTAL VEHICLE LIVE LOAD OF 80,000 POUNDS IS CONSIDERED COMPLIANT WITH THIS REQUIREMENT.
5. FIRE LANES DESIGNATED ON SITE PLAN SHALL BE REGISTERED WITH CITY OF AUSTIN FIRE DEPARTMENT AND INSPECTED FOR FINAL APPROVAL.
6. THE MINIMUM VERTICAL CLEARANCE REQUIRED FOR EMERGENCY VEHICLE ACCESS ROADS OR DRIVES IS 14 FEET FOR THE FULL WIDTH OF THE ROADWAY OR DRIVEWAY.
7. SIGNAGE: THE WORDS "FIRE ZONE/TOW-AWAY ZONE" IN WHITE LETTERS AT LEAST 3" HIGH AT 35 FOOT INTERVALS ALONG THE CURB. SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE AND AT INTERVALS OF 50 FEET OR LESS.

### GENERAL CONSTRUCTION NOTES

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
2. CONTRACTOR SHALL CALL TEXAS 811 (811 OR 1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.
3. CONTRACTOR SHALL NOTIFY THE CITY OF AUSTIN - SITE & SUBDIVISION DIVISION TO SUBMIT REQUIRED DOCUMENTATION, PAY CONSTRUCTION INSPECTION FEES, AND TO SCHEDULE THE REQUIRED SITE AND SUBDIVISION PRE-CONSTRUCTION MEETING. THIS MEETING MUST BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN THE R.O.W. OR PUBLIC EASEMENTS. PLEASE VISIT HTTP://AUSTINTEXAS.GOV/PAGE/COMMERCIAL-SITE-AND-SUBDIVISION-INSPECTIONS FOR A LIST OF SUBMITTAL REQUIREMENTS, INFORMATION CONCERNING FEES, AND CONTACT INFORMATION.
4. FOR SLOPES OR TRENCHES GREATER THAN FIVE FEET IN DEPTH, A NOTE MUST BE ADDED STATING: "ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION." (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN TEXAS.)
5. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.
6. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO THE FOLLOWING, THE ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DRAINAGE, FILTRATION AND DETENTION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS:
   - RELEASE OF THE CERTIFICATE OF OCCUPANCY BY THE DEVELOPMENT SERVICES DEPARTMENT (INSIDE THE CITY LIMITS); OR
   - INSTALLATION OF AN ELECTRIC OR WATER METER (IN THE FIVE-MILE ETJ)

### DEVELOPER INFORMATION

DARDEN RESTAURANTS, INC. (352)246-7938
OWNER PHONE #

801 W. 5TH STREET, SUITE 100, AUSTIN, TEXAS 78703
OWNER ADDRESS

JARED KRITENBRINK, KIMLEY-HORN AND ASSOCIATES, INC. (405)241-4540
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS PHONE #

DARDEN RESTAURANTS, INC. (352)246-7938
PERSON OR FIRM RESPONSIBLE FOR EROSION/ PHONE #
SEDIMENTATION CONTROL MAINTENANCE

DARDEN RESTAURANTS, INC. (352)246-7938
PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL PHONE #
AREA PROTECTION MAINTENANCE

### AMERICANS WITH DISABILITIES ACT

THE CITY OF AUSTIN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH CITY DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.

### TRANSPORTATION NOTES:

1. ALL ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED BY A SIGN, CENTERED AT THE HEAD OF THE TWO PARKING SPACES. SIGN TO INCLUDE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED OR EQUIVALENT LANGUAGE.
2. COMPACT PARKING SPACES MUST BE IDENTIFIED BY A SIGN STATING "SMALL CAR ONLY"
3. EACH PARKING SPACE SHALL HAVE A VERTICAL CLEARANCE AS SPECIFIED BY THE BUILDING CODE (MINIMUM 7 FEET)
4. RAISED CONCRETE CURBS SHALL BE PROVIDED AT THE END OF PARKING BAY SAND ALL LANDSCAPED ISLANDS UNLESS OTHERWISE NOTED.
5. ALL PARKING AISLES ARE DESIGNED FOR TWO-WAY TRAFFIC UNLESS OTHERWISE NOTED.
6. WAS

## KH GENERAL NOTES

**OVERALL:**

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY (OR TOWN) STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND, COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
2. THE CONTRACTOR SHALL COMPLY WITH CITY (OR TOWN) "GENERAL NOTES" FOR CONSTRUCTION, IF EXISTING AND REQUIRED BY THE CITY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY.
3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.
4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THESE BENCHMARKS.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER IMMEDIATELY.
7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW.
8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING.
9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL.
10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
13. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
15. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PRIOR CONSTRUCTION PLANS, AND MAY BE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED.
18. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION AND SERVICE TO THE PROPOSED DEVELOPMENT.
19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO MOVE, ADJUST, SUPPORT, SHORING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
20. BRACING OF UTILITY POLES MAY BE REQUIRED BY THE OWNER WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
21. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
22. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
23. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
24. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
25. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
26. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
27. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
28. ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC…) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR.
29. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
30. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
31. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES, INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS NOT RELIEVED OF THEIR RESPONSIBILITY IF ANY CONFLICT BETWEEN THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC….) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY.
32. ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
33. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR AND FURNISH THE CERTIFICATIONS.
34. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
35. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
36. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
37. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO AREAS OF ALL NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
38. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER.
39. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, THEIR C… TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
40. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
41. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC… THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
42. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTION AT ALL TIMES.
43. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
44. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
45. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
46. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
47. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
48. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
49. LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
50. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
51. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.
52. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
53. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
54. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
55. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM THE PLANS.
56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.

**EROSION CONTROL:**

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE "TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000".
3. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE.
4. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT.
5. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
6. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
7. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
8. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.
9. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
10. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
11. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
13. CONTRACTOR SHALL INSPECT ALL DISTURBANCES, DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE, TO VERIFY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY.
14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT ALL TIMES FOR ALL INGRESS/EGRESS.
15. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY
16. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.
17. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP BMP.
18. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
19. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.
20. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE ASPHALT PAD WILL NEED TO BE REMOVED AND REPLACED. ANY DEBRIS FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
21. TEMPORARY SEEDING AND TEMPORARY VEGETATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
22. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS SOON AS POSSIBLE.
23. UPON COMPLETION OF FINE GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALK, PAVEMENT, OR ALL UNPAVED PERVIOUS AREAS HAVE ESTABLISHED A UNIFORM VEGETATIVE COVER.
24. AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH APPLICABLE REGULATIONS.

**STORM WATER DISCHARGE AUTHORIZATION:**

1. CONTRACTOR SHALL COMPLY WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000.
3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL PRIOR TO COMMENCING CONSTRUCTION. ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) RECEIVING DISCHARGE FROM THE SITE.
4. CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ AND EPA (E.G. NOI).
5. ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE REQUIRED CONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP.
6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE RESPONSIBLE CONTRACTOR AT THE TIME OF CONSTRUCTION.
7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS, OR AFTER FINAL STABILIZATION AND TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

**DEMOLITION:**

1. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES THAT EXIST. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES.
3. THIS PLAN IS INTENDED AS A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR SHALL STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER,
   c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
   d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
5. CONTRACTOR SHALL CONTACT THE OWNER TO DETERMINE WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
7. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE REMOVED.
8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

**GRADING:**

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY.
3. UNLESS OTHERWISE NOTED, FINISH GROUND ELEVATIONS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-IN

# GENERAL NOTES

ALL RESPONSIBILITY FOR THE ADEQUECY OF THESE PLANS REMAINS WITH THE ENGINEER. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN DOES NOT REMOVE THESE RESPONSIBILITIES.

"REVIEWED BY AUSTIN WATER" APPLIES ONLY TO AW PUBLIC INFRASTRUCTURE, ALL OTHER WATER AND WASTEWATER INFRASTRUCTURE INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICATION OF BUILDING INSPECTIONS.

USE OF ELECTRONIC FILES GENERAL DISCLAIMER: USE OF THE ATTACHED FILES IN ANY MANNER INDICATES YOUR ACCEPTANCE OF TERMS AND CONDITIONS AS SET FORTH BELOW. IF YOU DO NOT AGREE TO ALL OF THE TERMS AND CONDITIONS, PLEASE CONTACT AUSTIN WATER PIPELINE ENGINEERING, PROJECT COORDINATOR PRIOR TO USE OF THE REFERENCED INFORMATION. PLEASE BE ADVISED THAT THE ATTACHED FILES ARE IN A FORMAT THAT CAN BE ALTERED BY THE USER. DUE TO THIS FACT, ANY REUSE OF THE DATA WILL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE CITY OF AUSTIN AND USER SHALL INDEMNIFY AND HOLD HARMLESS THE CITY OF AUSTIN FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING FROM USING THE DIGITAL FILE. IN ADDITION, IT IS THE RESPONSIBILITY OF THE USER TO COMPARE ALL DATA WITH THE PDF VERSION OF THIS DRAWING. IN THE EVENT THERE IS A CONFLICT BETWEEN THE PDF VERSION DRAWING AND THE ELECTRONIC FILE, THE PDF VERSION DRAWING SHALL PREVAIL.

AUTOMATED METERING INFRASTRUCTURE: EFFECTIVE MARCH 2022, NEW WATER METERS INSTALLED SHALL BE IN CONFORMANCE WITH AW'S AUTOMATED METERING INFRASTRUCTURE TECHNOLOGY, AND WITH THE APPLICABLE STANDARD PRODUCT LIST. APPLICANTS FILING A SITE PLAN OR SUBDIVISION PLAN WILL BE REQUIRED TO COORDINATE WITH THE AUSTIN WATER PLAN REVIEWER FOR DETAILS ON APPROVAL AND INSTALLATION.

PRIOR TO THE HANDLING AND DISPOSAL OF ASBESTOS PIPE, THE CONTRACTOR'S WORK PLAN WILL BE REVIEWED AND COORDINATED THROUGH COA BUILDING SERVICES DEPARTMENT - ASBESTOS, LEAD AND MOLD MANAGEMENT GROUP MANAGER WHO CAN BE REACHED AT 512-974-7137. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE A TRAINED, CERTIFIED AND LICENSED ASBESTOS ABATEMENT CONTRACTOR IN ACCORDANCE WITH THE FEDERAL, STATE AND LOCAL REGULATIONS.

MODIFICATIONS TO AUSTIN WATER SIGNED AND STAMPED SHEETS ARE NOT PERMITTED. ALL DESIGN MODIFICATIONS WILL NEED TO BE SUBMITTED VIA THE ABC PORTAL FOR A PLAN CORRECTION OR REVISION. ALL UNETHICAL ENGINEERING PRACTICES, INCLUDING MODIFYING CITY STAMPED PLAN SHEETS, SHALL BE REPORTED TO THE TEXAS BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS (PELS).
REFERENCE: TEXAS ENGINEERING PRACTICE ACT AND RULES, SUBCHAPTER C: PROFESSIONAL CONDUCT AND ETHICS

THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES, BELOW GROUND AND OVERHEAD, PRIOR TO STARTING ONSITE UTILITY WORK.

# INSPECTION NOTES

PLEASE CONTACT DEVELOPMENT SERVICES DEPARTMENT, SITE AND SUBDIVISION INSPECTION AT SITESUBINTAKE@AUSTINTEXAS.GOV FOR ARRANGEMENTS FOR PAYMENT OF INSPECTION FEES AND JOB ASSIGNEMENT FOR INSPECTION OF THE PUBLIC UTILITIES TO THIS SITE. INSPECTION FEES MUST BE PAID BEFORE ANY PRE-CONSTRUCTION MEETING CAN BE CALLED.

## AW INFRASTRUCTURE INFORMATION

| PROPOSED PRODUCT TYPE (TO BE INSTALLED) | LENGTH OF PIPE (L.F.) | SIZE OF PIPE (INCH) | NO. OF METERED SERVICES |
|---|---|---|---|
| WATER MAIN | NA | NA | |
| WASTEWATER MAIN | NA | NA | |
| RECLAIMED WATER MAIN | NA | NA | |
| WATER SERVICE | 250; 19; 17 | 6; 2; 2 | 2 |
| WASTEWATER SERVICE | NA | NA | |
| RECLAIMED WATER SERVICE | NA | NA | |

# STANDARD CONSTRUCTION NOTES REVISED FEBRUARY 7, 2025

1. THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIALS AND METHODS USED TO DO THIS WORK.
2. CONTRACTOR MUST OBTAIN A ROW PERMIT FROM AUSTIN TRANSPORTATION AND PUBLIC WORKS DEPARTMENT, RIGHT OF WAY MANAGEMENT DIVISION BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY. ACTIVITY WITHIN RIGHT-OF-WAY SHALL COMPLY WITH APPROVED TRAFFIC CONTROL PLAN (TCP).
3. AT LEAST 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION ACTIVITY IN PUBLIC ROW OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE CITY OF AUSTIN INSPECTION GROUP (AUSTIN TRANSPORTATION AND PUBLIC WORKS DEPARTMENT (TPW), OR DEVELOPMENT SERVICES). SEE CURRENT NOTIFICATION REQUIREMENTS AT WWW.AUSTINTEXAS.GOV.
4. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF AUSTIN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.
5. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
6. MINIMUM TRENCH SAFETY MEASURES SHALL BE PROVIDED, AS REQUIRED BY OSHA, CITY SPECIFICATION 509S, AND CITY/COUNTY CONSTRUCTION INSPECTORS.
7. PRESSURE TAPS WILL ONLY BE ALLOWED ON A CASE BY CASE BASIS, AS DETERMINED BY THE DIRECTOR'S DESIGNEE. NORMALLY PRESSURE TAPS 4 INCHES AND LARGER SHALL BE ALLOWED IN THE FOLLOWING CASES: A) A TEST SHUT OUT INDICATES AN ADEQUATE SHUT OUT TO PERFORM THE WORK IS NOT FEASIBLE B) MORE THAN 30 CUSTOMERS OR A SINGLE CRITICAL CUSTOMER (AS DEFINED BY AUSTIN WATER) WOULD BE IMPACTED BY THE SHUT OUT OR C) THE EXISTING WATER LINE WARRANTS IT.
8. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29). FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
9. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.
10. WHEN WATER SERVICES ARE DAMAGED AND THE SERVICE MATERIAL IS POLYETHYLENE (PE), THE LINE SHALL BE REPAIRED ONLY BY HEAT FUSION WELD, AT BRASS FITTINGS, OR THE FULL LENGTH SHALL BE REPLACED PER CURRENT STANDARD DETAIL(S). WHEN POLYBUTYLENE (PB) TUBING IS DAMAGED OR TAMPERED WITH IN ANY WAY, THE FULL LENGTH OF SERVICE LINE SHALL BE REPLACED. (NOTE: FULL LENGTH IS FROM THE CORPORATION STOP TO THE METER.) REPAIR COUPLINGS ARE NOT ALLOWED FOR ANY WATER OR WASTEWATER SERVICE LINE REPAIR, RECONNECT, OR REPLACEMENT.
11. WHEN AN EXISTING WATERLINE SHUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY AUSTIN WATER DISPATCH AND THE AFFECTED CUSTOMERS A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE.
12. THE INSPECTOR SHALL NOTIFY AUSTIN WATER AT 972-1000 AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS.
13. PROJECT-SPECIFIC SHOP DRAWINGS SHALL BE SUBMITTED FOR AW APPROVAL FOR PRE-CAST CIRCULAR VERTICAL MANHOLE SECTIONS LARGER THAN 48" DIAMETER. THE SHOP DRAWINGS SHALL INCLUDE THE FLOWLINE ELEVATION OF ALL CONNECTING PIPES; ELEVATIONS OF TRANSITIONS FROM LARGE DIAMETER SECTIONS TO 48" DIAMETER SECTIONS; TOP OF MANHOLE AND SURROUNDING GROUND ELEVATIONS; AND DETAILS OF SPECIAL CONSTRUCTION CONSIDERATIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
14. WHEN CONCRETE MANHOLES LARGER THAN 48 INCH DIAMETER ARE USED, DRAWINGS THAT ARE SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED FOR BASE SLABS, FLAT TOP LIDS (IF USED), AND FLAT TYPE CONCRETE PIECES USED TO TRANSITION FROM LARGER TO SMALLER DIAMETER MANHOLE SECTIONS.
15. ALL FIRE HYDRANTS AND VALVES THAT ARE TO BE ABANDONED SHALL BE REMOVED, SALVAGED AND RETURNED TO AUSTIN WATER. NOTICE SHOULD BE GIVEN 48 HOURS PRIOR, TO PIPELINE OPERATIONS DISTRIBUTION SYSTEM -VALVES AND HYDRANT SERVICES SUPERVISOR AT AWDSM-ASSET-RECOVERY@CITYOFAUSTIN.OMMSOFT.COM.
16. ALL EXISTING WATER METERS IDENTIFIED TO BE RELOCATED OR ABANDONED AT THE DEVELOPMENT SHALL BE REMOVED FROM THE METER BOX PRIOR TO CONSTRUCTION AND GIVEN IMMEDIATELY TO THE CITY OF AUSTIN INSPECTOR.
17. THE ENGINEER SHALL CALL OUT THE SIZE, TYPE AND USE (DOMESTIC, IRRIGATION OR RECLAIM) OF ALL EXISTING WATER METERS TO BE RELOCATED OR REPURPOSED. WATER METER NUMBERS WILL NOT BE REQUIRED TO BE PLACED ON THE PLAN SHEET. A SEPARATE UTILITY PERMITTING OFFICE FORM CAN BE USED TO PROVIDE RELEVANT DATA FOR THE EXISTING INFORMATION ON EXISTING METERS TO RECEIVE APPROPRIATE CREDITS. THIS FORM SHALL BE DIRECTLY SUBMITTED TO UTILITY PERMITTING OFFICE FOR REVIEW AND PROCESSING.
18. NO CONNECTION MAY BE MADE BETWEEN THE PRIVATE PLUMBING AND AUSTIN WATER INFRASTRUCTURE UNTIL A CITY APPROVED WATER METER HAS BEEN INSTALLED.
19. METER BOXES AND CLEAN OUTS SHALL NOT BE LOCATED WITHIN PAVED AREAS SUCH AS DRIVEWAYS AND SIDEWALKS.
20. NO SOIL COMPACTION EQUIPMENT SHALL COME WITHIN 24-INCHES FROM THE TOP OF THE WATER OR WASTEWATER PIPE. BETWEEN 24-36 INCHES FROM TOP OF THE PIPE, ONLY LIGHT SOIL COMPACTION EQUIPMENT (E.G., RAMMERS OR "WHACKER PACKERS", VIBRATING PLATE COMPACTORS, WALK-BEHIND HAND-GUIDED ROLLERS) OR SMOOTH ROLLER COMPACTION EQUIPMENT WEIGHING LESS THAN 5,000 LBS. WILL BE ALLOWED. WHERE SOIL COMPACTION EQUIPMENT WILL BE 36-INCHES OR GREATER FROM THE TOP OF THE PIPE, HS20 LOADS SHALL NOT BE EXCEEDED. PIPE DEPTHS SHALL BE VERIFIED THROUGH POTHOLING, LEVEL A SUE OR BY MH INVERT DATA.
21. THE DESIGN AND CONSTRUCTION OF RETAINING WALLS, BRIDGES, CULVERTS, HEADWALLS, JUNCTION STRUCTURES, SCREENING WALLS, AND STORMWATER DRAINAGE PIPE WITHIN THE VICINITY OF AW UTILITIES SHALL BE IN COMPLIANCE WITH SECTION 13 OF THE COA'S TRANSPORTATION CRITERIA MANUAL.
22. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(22) AND SPL WW-27A, WW-27A-01, WW-27A-02 AND WW-27F.
23. ALL WATERLINE BRANCH CONNECTIONS SHALL HAVE AN MJ GATE VALVE POSITIVELY RESTRAINED TO THE MJ TEE BY USING A SWIVEL TEE, FOSTER ADAPTOR, OR SWIVEL X SOLID HYDRANT ADAPTOR (WITH SWIVEL GLAND).

* ON CITY SPONSORED PROJECTS, WHERE CONFLICTS ARE IDENTIFIED BETWEEN THESE CONSTRUCTION NOTES AND THE PROJECT CONTRACT DOCUMENTS, THE CONTRACT DOCUMENTS WILL TAKE PRECEDENCE.

## UTILITY CRITERIA MANUAL WAIVER SUMMARY

| WAIVER # | LINE | SHEET # | STATION(S) | WAIVER FOR | UCM # | JUSTIFICATION | AW SIGNATURE | DATE APPROVED |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## BUILDING WATER METER SIZE TABLE

| BUILDING NUMBER | FIXTURE UNITS | FLOW (GPM) | METER SIZE (IN) |
|---|---|---|---|
| 1 | | | 1.5000 |
| 1 | | | 1 |
| | | | |
| | | | |
| | | | |
| | | | |

| BUILDING | WSFU | GPM |
|---|---|---|
| EXISTING | | |
| PROPOSED | | |
| TOTAL | | |

NOTE: PROVIDE SIZE OF EXISTING METER AND MAX GPM PER AWWA METER SIZING TABLE

## LUE Tracking Table

Project: OLIVE GARDEN - SOUTHWEST PARKWAY
Case #: _____
Water SER #: _____
WW SER #: _____
Total LUE Allowed by SER: _____
LUE Benchmark / Trigger: _____

| Phase Number/Name | LUE Count |
|---|---|
| -RESTAURANT | 32 |
| - | |
| - | |
| - | |
| - | |
| Cumulative (Total) LUE | 32 |

*Note: This table to be utilized when SER required infrastructure is distributed across multiple site plans and subdivisions. Please show cumulative LUE count for development phases that have been installed, under construction, or currently under review by AW.*

**METER NOTICE NOTES:**

1. CHECK APPROPRIATE BOXES AND COMPLETE THE INFORMATION FOR METERS THAT WILL BE REQUIRED BY THIS PROJECT DESIGN.
2. FOR "LOOPED" PRIVATE WATER SYSTEMS THAT ARE UTILIZING MULTIPLE METERS, SERVICE UNITS WILL BE ASSESSED FOR ONLY ONE METER. THE SERVICE UNITS ASSESSED WILL BE CALCULATED USING TOTAL DOMESTIC DEMAND. REFERENCE AUSTIN WATER'S METER SIZING CHART (AWWA OPERATING CHARACTERISTICS FOR COLD WATER METERS) FOR FURTHER INFORMATION.
3. FOR WATER METERS THAT WILL HAVE NO WASTEWATER SERVICE ASSOCIATED WITH THEM, SPECIFY THE METER TYPE WITH THE INTENDED USE AND "WATER ONLY" DESIGNATION. "WATER ONLY" METER MAY INCLUDE OUTDOOR DRINKING FOUNTAINS, DECORATIVE FOUNTAINS, SWIMMING POOLS, ETC.
4. ADDRESSING FOR METERS IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD. FOLLOW 911 ADDRESSING LETTER GUIDELINES. ACCURATE ADDRESS REQUIRED FOR EACH METER PURCHASED.

# PROJECT INFORMATION

## FIRE, DOMESTIC AND IRRIGATION DEMAND DATA

| | |
|---|---|
| AUSTIN WATER PRESSURE IN PSI | 60 PSI |
| STATIC PRESSURE AT HIGHEST LOT SERVED IN PSI | 60 PSI |
| STATIC PRESSURE AT LOWEST LOT SERVED IN PSI | 60 PSI |
| BUILDING SIZE IN SQUARE FEET (LARGEST BUILDING) | 6325 SQ.FT. |
| BUILDING TYPE PER IFC TABLE B105.1(2) | V-B |
| BUILDING HEIGHT (LARGEST BUILDING) | 26'-0" |
| AVAILABLE FIRE FLOW CALCS AT 20 PSI | 4789 GPM |
| REQUIRED BUILDING FIRE FLOW PER IFC TABLE B105.1(2) | 2,250 GPM |
| REDUCED BUILDING FIRE FLOW PER 75% FIRE SPRINKLER (REDUCTION PER IFC TABLE B105.2) | 562.5 GPM |
| MINIMUM FIRE FLOW (SEE NOTE 2 BELOW)* | 1,500 GPM |
| WATER FIXTURE UNITS (WSFU) --CIRCLE ONE-- FLUSH TANKS OR FLUSHOMETERS | ____ WSFU |
| DOMESTIC WATER DEMAND IN GPM | ____ GPM |
| MAXIMUM IRRIGATION DEMAND IN GPM OR WAIVER LETTER | ____ GPM |
| DOMESTIC LINE VELOCITY: 2" SIZE OF DOMESTIC LINE (ADDITIONAL LINES MAY BE ADDED AS NECESSARY) | ____ FPS / ____ GPM ** |
| FIRE LINE VELOCITY: 6" SIZE OF DOMESTIC LINE (ADDITIONAL LINES MAY BE ADDED AS NECESSARY) | 17.0 FPS / 1500 GPM *** |
| LIVING UNIT EQUIVALENTS (LUEs) | 32 LUEs |

*NOTE: LOTS WITH 65 PSI OR GREATER REQUIRE A PRV TO BE INSTALLED ON THE PROPERTY OWNERS SIDE OF THE DOMESTIC WATER METER.
1. WITH THE EXCEPTION OF PROVIDING THE REQUIRED INFORMATION, DO NOT REVISE THESE TABLES IN ANYWAY.
2. MINIMUM FIRE FLOW: DESIGN ENGINEER MUST INDICATE VALUES WHICH COMPLY WITH IFC TABLES B105.1(2) OR B105.2 (REQUIRED OR REDUCED FIRE FLOWS). MINIMUM FIRE FLOW VALUE SHALL BE NO LESS THAN 1000 GPM FOR NFPA 13 SYSTEMS OR 1500 GPM FOR NFPA 13 R SYSTEMS (FOOTNOTES a AND b FOR TABLE B105.2)
3. IF DEMAND, OTHER THAN MINIMUM FIRE FLOW, IS UTILIZED IN FIRE LINE VELOCITY DETERMINATION, ENGINEERING JUSTIFICATION SHALL BE SHOWN ON THIS SHEET WITH APPLICABLE DATA AND CALCULATIONS.

** GPM TOTAL OF ALL CONNECTIONS TO THE DOMESTIC LINE.
*** GPM TOTAL OF ALL CONNECTIONS TO THE FIRE LINE.

# METER NOTICE

## POTABLE METER(S)

☐ ADDRESS: 5010 W US 290 HIGHWAY SERVICE ROAD
SOURCE AND USE: **POTABLE DOMESTIC**
METER TYPE: POSITIVE DISPLACEMENT
SIZE: 1 ½" MAX GPM: 100
SERVICE UNITS: 5

☐ ADDRESS: 5010 W US 290 HIGHWAY SERVICE ROAD
SOURCE AND USE: **IRRIGATION METER**
METER TYPE: POSITIVE DISPLACEMENT
SIZE: 1" MAX GPM: 50
SERVICE UNITS: 2.5

~~METER TYPE: SIZE: MAX GPM: SERVICE UNITS:~~

~~☐ ADDRESS: SOURCE AND USE: METER TYPE: SIZE: MAX GPM: SERVICE UNITS:~~

## RECLAIMED METER(S)

☐ ADDRESS:
SOURCE AND USE: **RECLAIMED IRRIGATION**
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for reclaimed connections)

☐ ADDRESS:
SOURCE AND USE: **RECLAIMED DOMESTIC (Toilet flushing etc.)**
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for reclaimed connections)

☐ ADDRESS:
SOURCE AND USE:
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS:

## POTABLE BACKUP TO OWRS (NP METERS)

☐ ADDRESS:
SOURCE AND USE: **POTABLE BACK-UP NP METER**
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for OWRS connections)

☐ ADDRESS:
SOURCE AND USE:
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for reclaimed connections)

## ADDITIONAL REVIEW ACKNOWLEDGEMENT

ONSITE WATER REUSE & AW RECLAIMED INFORMATION

DOES THIS DEVELOPMENT HAVE A TOTAL GROSS FLOOR BUILDING AREA OF 250,000 SQ.FT. OR MORE.

☐ YES
☒ NO

DISTANCE TO NEAREST EXISTING AW RECLAIMED MAIN?

☐ 250' OR LESS
☐ 251' TO 500'
☒ GREATER THAN 500'

AUTOMATED METERING INFORMATION

IS THIS PROJECT WITHIN THE CURRENT SERVICE AREA OF AWs DATA COLLECTION UNIT (DCUs), (REFER TO AUTOMATED METERING INFRASTRUCTURE NOTE UNDER GENERAL NOTES, FOR CLARIFICATION)

☐ YES
☒ NO

DOES THIS PROJECT REQUIRE A DEDICATED EASEMENT FOR DCU INFRASTRUCTURE?

☐ YES
☒ NO

AULCC REQUIREMENT

DOES THIS PROJECT REQUIRE AULCC REVIEW? (>300 LF OF W/WW PIPING IN ROW)

☐ YES
☒ NO

IF YES, PLEASE PROVIDE UCC#_____

**AW EXPIRATION STAMP**

**THREE YEARS FROM THE DATE OF SIGN-OFF**

**AUSTIN WATER REVIEW BLOCK**

CITY OF AUSTIN
AUSTIN WATER
FEBRUARY 7, 2025

VERSION 2.0
STANDARD NO.
1 OF 2

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

# AUSTIN WATER GENERAL INFORMATION CONSTRUCTION NOTES FOR COMMERCIAL SITES AND SUBDIVISION PLANS


Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-646-9942
WWW.KIMLEY-HORN.COM
TX REGISTERED ENGINEERING FIRM F-928

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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN |
|---|---|---|
| DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |

AWU GENERAL NOTES (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
6 OF 41

SP-2025-0116C.CC

Plotted By: Stiegffer, Ryan Date: May 01, 2025 05:14:30pm File Path: K:\TAU_Civil\063887221-Olive Garden Southwest Pkwy\C3D\PlanSheets\C - General Notes.dwg
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## SERVICE EXTENSION REQUESTS

### WATER SERVICE NO. ####

## FIRE FLOW TEST DATA

**AUSTIN FIRE DEPARTMENT**
FIRE PREVENTION DIVISION
6310 Wilhelmina Delco Dr., Austin, Texas 78752
afd.hydrants@austintexas.gov

### Hydrant Flow Test Report

| | | | | | |
|---|---|---|---|---|---|
| TEST DATE | 03/10/2025 | FIRE BOX | 5103 | COMPANY | PREVENTION |
| TIME | 751 HRS | MAP GRID ID | E19 | AFD STAFF | FIELDS, RONALD (MIKE) |

**RESIDUAL HYDRANT**

| | | | |
|---|---|---|---|
| RESIDUAL HYDRANT # | 172967 | MAIN SIZE (in.) | 20 |

| BLK # | DIRECTION | STREET NAME | TYPE |
|---|---|---|---|
| 5000 | W | US 290 | HWY |

| | | | |
|---|---|---|---|
| STATIC PRESSURE (PSI) | 60 | RESIDUAL PRESSURE (PSI) | 58 |

**FLOW HYDRANT**

| | | | |
|---|---|---|---|
| FLOW HYDRANT # | 174001 | MAIN SIZE (in.) | 20 |

| BLK # | DIRECTION | STREET NAME | TYPE |
|---|---|---|---|
| 4900 | W | US 290 | HWY |

| | | | |
|---|---|---|---|
| STATIC PRESSURE (PSI) | 66 | RESIDUAL PRESSURE (PSI) | 32 |

| | | |
|---|---|---|
| Comments | dc = discharge coefficient straight 2½" butt = 0.9 w/ 45° elbow = 0.75 | 0.9 |
| | FLOW RATE (GPM) = | 950 |

NOTE: This information represents the water supply characteristics in the immediate area on the date and time tested. The City of Austin does not guarantee this data will be representative of the water supply characteristics at any time in the future. It is the requesting party's responsibility to ensure that this test information is appropriate to the location of the project in question and that any differences in elevation between the two test location and project are accounted for and included in the hydraulic calculations.

HFTR #18473227

## TABLE 610.3/A103.1

Austin WATER — Reclaimed Water and Onsite Water Reuse System Meter Demand Sheet

**Site Plan Case Number:** _____ **Project Address:** _____

**Step 1. Fill out the Total Number of Fixtures column for your project and indicate the Water Supply Type in the table to get a total water supply fixture unit count by supply type (potable vs. non-potable).**

| Fixture Type | | Total Number of Fixtures | | Water Supply Fixture Units (WSFU) hot and cold | | Total WSFU | Water Supply Type |
|---|---|---|---|---|---|---|---|
| Bathtub or Combination Bath/Shower | | | x | 4.0 | = | 0.0 | Potable |
| Bathtub with 3/4" fill valve | | | x | 10.0 | = | 0.0 | Potable |
| Bidet | | | x | 1.0 | = | 0.0 | Potable |
| Clothes Washer | | | x | 4.0 | = | 0.0 | Non-potable |
| Dishwasher, domestic | | | x | 1.5 | = | 0.0 | Potable |
| Drinking Fountain or Water Cooler | | | x | 0.5 | = | 0.0 | Potable |
| Lavatory | | | x | 1.0 | = | 0.0 | Potable |
| Sinks | | | | | | | |
| Bar | Public | | x | 2.0 | = | 0.0 | Potable |
| | Private | | x | 1.0 | = | 0.0 | Potable |
| Kitchen, domestic | | | x | 1.5 | = | 0.0 | Potable |
| Laundry | | | x | 1.5 | = | 0.0 | Potable |
| Service or mop basin | Public | | x | 3.0 | = | 0.0 | Potable |
| | Private | | x | 1.5 | = | 0.0 | Potable |
| Washup basin | | | x | 2.0 | = | 0.0 | Potable |
| Shower, per head | | | x | 2.0 | = | 0.0 | Potable |
| Urinal, 1.0 GPF flushometer valve | | | x | 20,15.10,8.5 | = | 0.0 | Non-potable |
| Water Closet, 1.6 GPF | Flushometer Valve | | x | 40,30,20,15.10 | = | 0.0 | Non-potable |
| | Tank Type | | x | 2.5 | = | 0.0 | Non-potable |
| First Hose Bibb | | | x | 2.5 | = | 0.0 | Potable |
| Hose Bibb, each additional | | | x | 1.0 | = | 0.0 | Potable |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | | Total Fixture Units (WSFU) | | 0.0 | Potable |
| | | | | Total Fixture Units (WSFU) | | 0.0 | Non-potable |

**Step 2. Convert WSFU to gpm for each supply type using Chart A 103.1 from the 2021 UPC.**

| | | | | |
|---|---|---|---|---|
| Potable WSFU | = | 0.0 | -> | gpm |
| Non-potable WSFU | = | 0.0 | -> | gpm |

**Step 3. Specify additional peak demands from water use by supply type (select Supply Type).**

| Additional Water Use | Peak Demand | Flow Rate | Supply Type |
|---|---|---|---|
| Process water or special use water | | gpm | Non-potable |
| Cooling tower makeup water | | gpm | Non-potable |
| Irrigation system | | gpm | Non-potable |

**Step 4. Select the type of non-potable water supply system to add the demands for each required meter (select Yes or No).**

Reclaimed Water System: _____ ***OR*** Onsite Water Reuse System Applying for OWRS fee in lieu: _____

| Required Meter Types | GPM |
|---|---|
| Domestic potable water meter | 0 |
| Domestic reclaimed water meter | 0 |
| Irrigation reclaimed water meter | 0 |

| Required Meter Types | GPM |
|---|---|
| Domestic potable water meter | 0 |
| Non-potable water backup meter | 0 |
| Reclaimed main size needed for OWRS fee in lieu | NA |

**Step 5. Please email complete sheet to AW_ONSITEREUSE@austintexas.gov for approval**
**Step 6. Determine the appropriate sized meters to meet the demands and add them to the Meter Notice Table on the AW Standard Notes sheet along with a printout of this sheet.**

**Austin Water Staff Review**
Signature: _____ Date: _____

Type of Service/Rate: _____ Type of Service/Rate: _____
(SP) O Mandatory O Non-mandatory
(SA) O Residential O Commercial O City of Austin O Parkland Fee in lieu $ NA

For Utility Permitting Office, reach out to AW_onsitereuse@austintexas.gov for SA and SP info at time of meter purchase

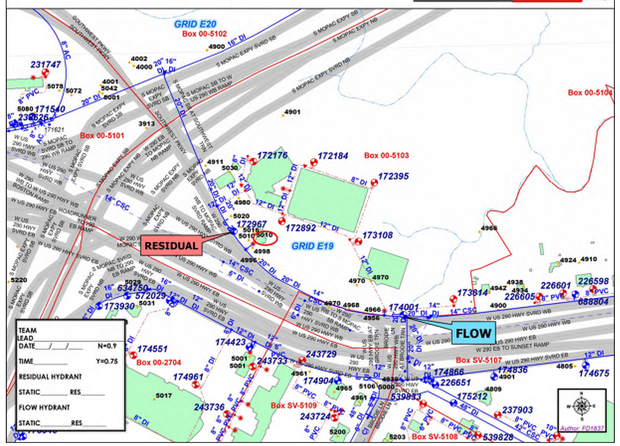
**OBTAIN COPY OF RECLAIMED WATER AND ONSITE WATER REUSE SYSTEM METER DEMAND SHEET TEMPLATE FROM PIPELINE ENGINEERING WEBSITE:**
**https://www.austintexas.gov/page/pipeline-engineering**
UNDER CHECKLISTS AND GENERAL CONSTRUCTION NOTES.

**PURPOSE:**
THIS SPREADSHEET IS REQUIRED TO BE FILLED OUT FOR SITE PLAN APPLICATIONS THAT ARE SUBJECT TO THE RECLAIMED WATER CONNECTION REQUIREMENTS AND ONSITE WATER REUSE SYSTEM REQUIREMENTS IN SECTION 25-9 OF THE LAND DEVELOPMENT CODE. WHILE NOT REQUIRED FOR OTHER PROJECTS, IT MAY BE FILLED OUT AND SUBMITTED WITH A SITE PLAN APPLICATION TO HELP CALCULATE WATER SUPPLY FIXTURE UNITS AND WATER DEMANDS FOR A PROJECT.

**NOTES:**
1. TABLE 610.3 MUST BE USED FOR PROJECTS WITH FEWER THAN 10 TOILETS/URINALS THAT HAVE FLUSHOMETER VALVES. PROJECTS WITH 10 OR MORE TOILETS/URINALS WITH FLUSHOMTER VALVES MAY USE EITHER 610.3 OR TABLE A 103.1.
2. THESE TABLE ARE FROM THE 2021 VERSION OF THE UNIFORM PLUMBING CODE, BUT HAVE BEEN MODIFIED SLIGHTLY FOR EASE OF USE.
3. THIS CALCULATOR ASSUMES PROJECTS USING NON-POTABLE WATER FOR CLOTHES WASHING WILL HAVE A SINGLE COLD NON-POTABLE SUPPLY LINE THAT BRANCHES OFF TO AN ON-DEMAND/TANKLESS WATER HEATER FOR EACH CLOTHES WASHER. HAVING A HOT POTABLE SUPPLY LINE ENTER THE WASHING MACHINE FROM A WATER HEATER SUPPLYING OTHER POTABLE FIXTURE CREATES A POTENTIAL FOR BACKFLOW AND CONTAMINATION OF A BUILDING'S POTABLE WATER SUPPLY. SEE THE SCHEMATIC BELOW OF A SINGLE NON-POTABLE SUPPLY LINE TO TOILETS AND CLOTHES WASHERS.

## FIRE FLOW MAP

5000 BLK W US HWY 290 ...BOX 5103 — REF# 18438401 — 03/03/2025




## OFFSITE UTILITY LETTER

Plotted By: Sheaffer, Ryan Date: May 01, 2025 05:14:35pm File Path: K:\Aus_Civil\063887216-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — General Notes.dwg
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CITY OF AUSTIN
AUSTIN WATER
FEBRUARY 7, 2025

VERSION 2.0
STANDARD NO.
2 OF 2

# AUSTIN WATER GENERAL INFORMATION ON CONSTRUCTION NOTES FOR COMMERCIAL SITES AND SUBDIVISION PLANS

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-416-9942
WWW.KIMLEY-HORN.COM
TX REGISTERED ENGINEERING FIRM F-928
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RYAN MCKAY 144618 LICENSED PROFESSIONAL ENGINEER
04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

AWU GENERAL NOTES (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
7 OF 41

SP-2025-0116C.CC

SECTION 02210 – SITE EARTHWORK

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of furnishing all labor, materials and equipment, and performing all operations required to complete the site preparation, earthwork and grading as shown on the Drawings and as specified herein. This work shall include, but not be limited to: site clearing and grubbing; root-raking; stripping; removal of muck and other unsuitable material; proof-rolling; earthwork for site grading, including dewatering, excavation, filling or backfilling, and compaction; supplying approved fill material; final site grading; and other related requirements.
B. The operations specified herein shall be performed within the limits indicated for site grading and other construction, as shown on the Drawings.
C. The Contractor shall provide adequate protection against construction activity for all existing structures and utilities, above the surface or underground, including trees that are to remain, and other construction activities concurrently occurring on the site.
D. Should damage occur to any structure, utility or other facility from these construction activities, repair or replacement to a condition equal to or better than the original shall be immediately made by the Contractor, at no cost to the Owner.
E. The Contractor must determine for himself the total volume of all fill materials required for the project site.
F. Definitions:
1. Open Areas: Open areas shall be those areas that do not include building sites, paved areas, and street right-of-way and parking areas.
2. Maximum Dry Density: Maximum dry soil unit weight in pounds per cubic foot at optimum moisture content of a specific material as determined by ASTM Test Designation D-1557 (Modified Proctor).
3. Optimum Moisture Content: Percentage of water in a specific soil material at maximum dry density.

1.02 RELATED WORK
A. Per local Transportation Standard Specifications for Highway and Bridge Construction, latest edition.

1.03 REFERENCE INFORMATION
A. The following pertinent geotechnical investigation report has been prepared. The Contractor shall perform his own site observations/investigations as necessary and obtain and review the contents of the referenced report to become familiar with the site subsurface soil and groundwater conditions. In the event of discrepancies, the geotechnical report shall prevail where discrepancies between the geotechnical report and the specifications exist.

1.04 QUALITY ASSURANCE
A. Testing of materials to be used for fill, determination of unsuitable soil limits, density testing to adequately confirm the specified compaction, proof-rolling and strip subgrade observations shall be made by a Geotechnical Consultant approved by the Owner, at the expense of the Owner, with reports thereform submitted to the Engineer documenting that the testing and compaction requirements as outlined in this specification have been satisfied. If initial density tests fail to meet the specifications, retesting shall be performed by the Owner's Geotechnical Consultant at the expense of the Contractor. Said tests shall be performed for each lift of fill, if more than one is required for the depth of fill, and shall be taken where directed by the Engineer. Should test results be unsatisfactory, the Contractor shall recompact the fill and provide supplemental tests for the area in question.
B. A sufficient time shall be allotted for the testing laboratory to perform all control tests necessary to determine that proper fill material is being used and compaction is being obtained. The Contractor shall schedule backfilling operations so as to permit the making of the necessary control tests for each layer prior to the placing of subsequent layers.

Part 2.00 Products

2.01 MATERIALS
A. Suitable materials for fills shall be classified as A-1, A-3, A-2-4, or A-2-6 in accordance with AASHTO Designation M-145 and shall be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Suitable materials for imported fills shall be classified as A-1 or A-3 in accordance with AASHTO Designation M-145 and shall consist of clean, granular soils and be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
B. Suitable Material To Be Placed In Water: Suitable material for fill to be placed in water shall be classified as A-1 or A-3 in accordance with AASHTO Designation M-145. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
C. Unsuitable materials are classified as A-2-5, A-2-7, A-4, A-5, A-6, A-7 and A-8 in accordance with AASHTO Designation M-145.

Part 3.00 Execution

3.01 PREPARATION
A. Clearing, Grubbing, and Stripping
1. Clearing, grubbing, and stripping shall be performed in the areas where required, including cuts, fills, borrow areas, areas to be excavated, areas to receive fills, and where any structures will be erected. It shall include the complete removal and satisfactory disposal of all timbers, brush, stumps, weeds, rubbish, root-laden topsoil, and all other obstructions resting on or protruding through the surface of the existing ground. Where excavation is to be performed within the areas to be cleared and grubbed, all stumps, roots and deleterious material thereby exposed, passing through or appearing on the surface of the completed excavation, shall be removed to a depth of two feet minimum below the excavated surface and replaced with suitable compacted backfill. Within all areas where clearing and grubbing is to be done, all stumps, roots, brush and other deleterious material projecting through or appearing on the surface of the ground shall be removed to a depth of one (1) foot below the surface. Cleared, grubbed and stripped areas shall be inspected and approved by the Owner's Geotechnical Consultant prior to any subsequent excavation or filling operations.
2. Discing shall be performed within the limits of construction. Designated discing areas shall be mowed and raked to remove cuttings prior to discing operations. The designated areas shall be disced two times such that the first pass is in a direction 90 degrees opposite the second pass and discing operations shall be completed to a depth of 12-inches. Surficial soils to be removed from the disced areas shall be placed only in non-structural or embankment/berm areas approved by the Engineer soils in disced areas to be filled shall be tested for organic or filling by the Owner's Geotechnical Consultant prior to any in, or filling. If the organic content exceeds 10 percent in areas to be paved, or 5 percent in building areas, the surficial disced soils shall be removed and placed in non-structural areas as indicated above.
3. Selective clearing shall be performed in areas shown on the Drawings or as required by the Owner, in order to save selected trees. The trees designated to be saved shall be protected from construction equipment by the Contractor in a manner as shown on the Drawings or as approved by the Engineer
4. Plants to be excavated or filled upon shall be stripped of grass, roots, and any unsuitable material, if present, shall be completely removed. Stripped materials suitable for topsoil shall be raked to remove materials larger than 2 inches in diameter and stockpiled on-site, as directed by the Owner.
5. Timber, stumps, roots, brush, rotten wood and other refuse and unsuitable materials from clearing, grubbing, and stripping operations shall be disposed of either by burning or removal to an approved legal dump area. Burning on-site is permitted provided the Contractor obtains all necessary permits and provides copies to the Owner. Burning, if permitted, shall be done at locations and at times as directed, in a manner that will avoid all hazards such as damage to existing structures, construction progress, trees and vegetation, and interference with traffic. Disposal by burning shall be kept under constant attendance until the fires have burned out or have been extinguished and shall be done in compliance with all State and local laws and regulations relative to the building of fires.

3.02 PERFORMANCE
A. Excavation
1. Excavation shall conform to the limits indicated on the Drawings or specified herein. This work shall include shaping and sloping and other work necessary in bringing the earthwork to the required grade, alignment and cross-section.
2. All suitable materials removed from excavation areas shall be used as far as practicable in future pavement or building areas, or in the formation of embankments, subgrades, boulders, building sites and other places as shown on the Drawings, or as directed by the Engineer. All suitable excavated material shall be considered property of the Owner and shall not be removed from the property without permission of the Owner. Excess excavated suitable material shall be stockpiled on-site at a location approved by the Owner and Engineer.
3. Suitable on-site excavated materials containing silty, and slightly clayey to clayey fine sands shall be sufficiently dried by surface spreading and discing if necessary, or by mixing with cleaner fine sands prior to reuse/placement in fill areas, as directed by the Owner's Geotechnical Consultant.
4. Existing or remaining silty and slightly clayey to clayey fine sand materials, as determined by the Owner's Geotechnical Consultant, at or below the area of the building slab or foundations shall be removed and replaced (if necessary) to a depth of 24-inches (minimum), as directed by the Owner's Geotechnical Consultant, with suitable compacted structural materials.

Muck, organic, silty and clayey sediments, or other unsuitable materials encountered under fill areas, structures, pavement areas, underground utilities and/or as shown on the drawings, shall be excavated and removed as directed by the Owner's Geotechnical Consultant. Removal of unsuitable material in areas where buildings are to be constructed shall include the area under the building and extend to a minimum of ten (10) feet beyond the building limits, or as directed by the Engineer. Removal of unsuitable material in areas where pavement is to be placed shall include the area under the surfacing and extend to a minimum of five (5) feet beyond the outside edges, or as directed by the Owner's Geotechnical Consultant. At locations where underground utilities (piping, etc.) are to be installed with a top (crown) elevation above the bottom surface of any unsuitable material, removal shall be completed to a minimum width of three (3) feet outside the utility alignment.

5. Muck, organic, silty and clayey sediments, and other unsuitable material excavated under the requirements of this Section shall be disposed of off-site, unless otherwise indicated on the Drawings or as directed by the Owner, at the Contractor's expense.

SECTION 02210 – SITE EARTHWORK – CONTINUED

D. Fills and Compaction
1. Suitable backfill or fill material shall be provided, placed and compacted where unsuitable material has been removed, and as required to perform construction and elevate the site to the finish grades, as shown on the Drawings. Materials to be used for fill shall be approved by the Owner's Geotechnical Consultant prior to their placement. If a suitable fill material source is available within the limits of the project, the Owner may allow the use thereof and shall designate the borrow site whereby the Contractor may acquire the fill. If a suitable fill material source is not available on the project site; the Contractor shall furnish the necessary additional suitable fill material to complete the work to the lines and grades indicated on the Drawings. Off-site fill sources shall be tested and approved by the Owner's Geotechnical Consultant prior to moving any material on-site.
2. Areas excavated to building and pavement subgrade elevations, and excavated areas required to be filled shall be leveled, compacted, and tested prior to placement of fill material. Compaction shall be by means of a vibrating drum roller or by other suitable methods capable of completing the work in an efficient manner. The vibratory drum roller shall have a- minimum static drum weight of 20,000 pounds and be capable of exerting a minimum impact energy of 36,000 pounds. Soft, pumping, disturbed, unsuitable soils encountered during subgrade compaction shall be brought to the attention of the Owner's Geotechnical Consultant to determine whether over-excavation and replacement, of any of these types of materials is required. A minimum of 10 overlapping passes in a perpendicular direction shall be made with the vibratory drum roller to initially compact the subject areas. Compaction shall continue until a minimum density equivalent to 95 percent of the Maximum Modified Proctor Density is achieved in accordance with ASTM D-1557. Compaction shall be tested for a minimum depth of three (3) foot below the excavated or stripped surface in pavement areas, and a minimum of three (3) feet below building areas.
3. The backfill and fill materials shall be placed and compacted as specified hereinafter. Fills shall be constructed of approved suitable material placed in successive lifts of not more than 12 successive uniform lifts of not more than twelve (12) inches in depth loose measure, and compacted by the use of a vibrating steel wheel roller as described above, or other suitable method(s). Thickness of layers may be increased (to no greater than 18 inches loose) provided the equipment and methods used are proven by field density testing to be capable of compacting thicker layers to specified densities. Layer thickness shall be decreased if equipment and methods used are proven to be incapable of compacting layers to specified densities. Where applicable, the first lift may be up to eighteen (18) inches above the groundwater table, if approved by the Owner a Geotechnical Consultant to serve as a working platform for the compaction equipment. The use of this procedure does not relieve the Contractor of the requirement to achieve the specified density for a 2 foot depth below the natural grade depending on the area.
4. Fills shall be compacted to a density of not less than 95 percent of its maximum Modified Proctor Density as determined by ASTM D-1557. The subgrade materials immediately below the building floor slab, footings, pavement base, subbase, and base shall be re-compacted to a minimum of 98 percent of ASTM D-1557 just prior to placing the floor slab, pavement, footing or pavement subbase construction. Should tests indicate unsatisfactory results, compaction procedures shall continue until subsequent tests indicate the stipulated requirements.
5. Backfill soils placed adjacent to footings or walls below grade shall be carefully compacted with a light rubber-tired roller or vibratory plate compactor to avoid damaging the footings or walls and shall be compacted to 98 percent of ASTM D-1557 soil lifts of 8 inches or less, and to 95 percent of ASTM D-1557 against below grade walls. Suitable sand fills placed in footing excavations above the bearing level, and in other areas where required to provide support or foundation embedment constraint (including all pipeline or utility excavations within the structure and pavement areas), shall be placed in loose lifts not exceeding 12 inches and shall be compacted to a minimum of 95 percent of the maximum density determined by ASTM (ASTMD-1557).
6. Suitable fill materials containing silty, slightly clayey to clayey fine sand materials which exhibit characteristics of high plasticity or wetness, spongy and/or unstable conditions, shall be sufficiently air-dried or adequately mixed with cleaner fine sands prior to use for fill. Placement of these materials in fill areas shall be directed by the Geotechnical Consultant on-site, and such fill materials shall be positioned within lower lift levels of high fill areas, with a top elevation of not less than four (4) feet below any finished surface or structural subgrade foundation or slab, unless otherwise approved by the Owner's Geotechnical Consultant.
7. Fine sands to slightly silty fine sands classified as suitable fill materials, as determined by the Owner's Geotechnical Consultant, excavated from on-site areas shall be placed in fill areas in lifts levels in all fill areas.
8. The engineered fill material placement and compaction shall be required within the specified areas, and to the depths described as follows:
a. Structures (foundations and slabs): Under the complete structure and to a dimension ten (10) feet outside the maximum perimeter of the structure, or to the property line, whichever is less, and to the depths specified as follows:
b. Pavement: The full area beneath the surfacing and to a dimension five (5) feet outside the outside edges thereof; from the surface of approved clean in-place soil up to the bottom elevation of the base or subbase course. Soil material within 18 inches of the bottom of the subbase course shall be dry or filled material in lifts not exceeding 8 inches in loose depth to a weight of material pass the U.S. No. 200 sieve.
c. Sidewalks: For a width of (3) feet beyond each side of the walk; from the surface of approved clean in-place soil to the finish grade.
d. Utilities (piping, etc.): For a width three (3) feet beyond each side of the utility; from the surface of approved clean in-place soil to the finish grade.
9. In areas of fill placement requiring greater than four feet or more of structural fill (where building structures or pavement are proposed), the Contractor shall be required to allow to settle for a period of not less than 60 days prior to construction of the building foundation construction or construction of the pavement base or subbase course. Settlement plates shall be installed by the Owner's Geotechnical Consultant for monitoring purposes to monitor fill areas.
10. The Contractor shall maintain the surface of the fill to prevent ponding or collection of surface runoff and subsequent saturation of compacted materials. When inclement weather can reasonably be expected during off-shift hours, any uncompacted layer shall be rolled to provide a surface seal. During periods of inclement weather, the Contractor shall control surface runoff in such a manner as to prevent erosion of the fill or slope surfaces.

11. Should suitable excavated material exceed the backfill and fill requirements, said excess suitable fill shall be hauled off site to a location approved by the Owner.
12. Some types of excavated suitable materials may be adequately mixed with suitable fill material and may be used in open areas of the project if approved in writing by the Owner's Geotechnical Consultant and Engineer. Unsuitable material to be mixed shall be raked to remove all materials larger than two (2) inches in diameter and shall be mixed with the suitable mixed material be used to fill under structures, pavements, sidewalks or utilities. The extent of mixing and suitability of the material to be mixed shall be approved by the Owner's Geotechnical Consultant and the Engineer.
13. Mixed fill material, as specified above, shall be placed in layers of not more than 12 inches in depth measured loose. When dry or as directed by the testing laboratory or Engineer, this layer shall be disced and harrowed to break up large pieces of the material. The above density requirements shall not apply to unsuitable material placed.

E. Grading
14. Grading shall be performed over the total construction area, as indicated on the Drawings. This work shall include all cutting and filling necessary in order to comply with the elevations shown on the Drawings.
15. The final finish grading shall provide a surface, which is within 0.1 foot of the required elevations shown on the Drawings, unless otherwise approved by the Engineer. Finished grades shall be uniform between final contours, and shall not include abrupt changes in grade, pothholes, or eroded areas. Where grading meets with the existing surface, a smooth interface shall be provided. Roundings shall be provided at the top and bottom of embankments, dikes or other breaks in grade. Around buildings and other structures, the finish grade shall slope away from walls in all directions at ¾-inch per foot minimum for at least ten (10) feet. Allowance shall be made in finish grading elevations for sodding or other surface treatment, as indicated on the Drawings.

END OF SECTION

SECTION 02220 – STRUCTURE EXCAVATION AND BACKFILL

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of furnishing all labor, materials and equipment, and performing all operations required to complete the site preparation, earthwork and grading as shown on the Drawings and as specified herein for construction of the storm drainage, sanitary sewer, and water distribution system structures. This work shall include, but not be limited to site clearing and grubbing; stripping; dewatering; removal of muck and other unsuitable material; earthwork for grading around structures; excavation; backfilling; compaction; supplying approved fill material; final site grading; and other related requirements.
B. The operations specified herein shall be performed within the limits indicated for site grading and other construction, as shown on the Drawings.
C. The Contractor shall provide adequate protection against construction activity for all existing structures and utilities, above the surface or underground, including trees that are to remain, and other construction activities concurrently occurring on the site.
D. Should damage occur to any structure, utility or other facility from these construction activities, repair or replacement to a condition equal or better than the original shall be immediately made by the Contractor, at no cost to the Owner.
E. Definitions:
1. Maximum Density: Maximum weight in pounds per cubic foot of a specific material as determined by ASTM Test Designation D–1557.
2. Optimum Moisture: Percentage of water in a specific material at maximum density.

1.02 RELATED WORK
A. Section 02210 – Site Earthwork
B. Section 02221– Trenching, Back–filling and Compaction for Utility and Drainage Systems
C. Section 2530 – Dewatering System

1.03 REFERENCE INFORMATION
A. If a geotechnical report pertaining to the site has been prepared, it may be obtained from the Engineer upon request.
B. Contractor may obtain copies of standard specifications from the City, at his own expense, for requirements of related standards.

SECTION 02220 – STRUCTURE EXCAVATION AND BACKFILL – CONTINUED

1.04 QUALITY ASSURANCE
A. Density tests to adequately confirm the specified compaction shall be made by a testing laboratory approved by the Owner, at the expense of the Owner, with reports therefrom submitted to the Owner documenting that the compaction requirements as outlined in this specification have been satisfied. If initial density tests fail to meet the specifications, retesting shall be done at the expense of the Contractor. Said tests shall be performed for each lift of fill, if more than one is required for the depth of fill, and shall be taken where directed by the Engineer. Should test results be unsatisfactory, the Contractor shall recompact the fill and provide supplemental tests for the area in question.
B. A sufficient time shall be allotted for the testing laboratory to perform all control tests necessary to determine that proper fill material is being used and compaction is being obtained. The Contractor shall schedule backfilling operations so as to permit the making of the necessary control tests for each layer prior to the placing of subsequent layers.

Part 2.00 Products

2.01 MATERIALS
A. Suitable materials for fills shall be classified as A-1, A-3, A-2-4, or A-2-6 in accordance , with AASHTO Designation M-145 and shall be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Suitable materials for imported fills shall be classified as A-1 or A-3 in accordance with AASHTO Designation M-145 and shall consist of clean, granular soils and be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
B. Suitable Material To Be Placed In Water: Suitable material for fill to be placed in water shall be classified as A–1 or A–3 in accordance with AASHTO Designation M–145. Not more than 15 percent by weight of fill material shall pass the U.S. No. 100 sieve.
C. Unsuitable materials are classified as A–2–5, A–2–7, A–4, A–5, A–6, A–7 and A–8 in accordance with AASHTO Designation M–145.
D. Graded Limerock: Material for backfill below precast structures shall be graded limerock equal to state DOT specifications.
E. Select Material: Select material shall be suitable material that does not contain any rock larger than that which will pass through a 3–inch diameter ring.

Part 3.00 Execution

3.01 PREPARATION
A. Clearing, Grubbing, and Stripping
Clearing, grubbing, and stripping shall be performed in the areas where required for proper installation of all piping and appurtenances at locations shown on the Drawings. It shall include the complete removal and satisfactory disposal of all timbers, brush, stumps, weeds, rubbish, topsoil, and all other obstructions resting on or protruding through the surface of the existing ground.
B. Selective clearing shall be performed in areas shown on the Drawings or as required by the Owner, in order to save plantings, shrubbery, trees, utility poles, or structures. The above items, where designated by the Owner or Engineer, shall be transplanted, relocated, braced, shored, or otherwise protected and preserved.

3.02 PERFORMANCE
A. Excavation:
1. The Contractor shall perform all excavation of every description and of whatever substances encountered, to the dimensions required for construction and as specified herein. All excavations shall be made by open cut.
2. Slopes of temporary excavations below 4 feet deep should be sloped at 1.5 horizontal (H) to 1 vertical (V) or flatter and be protected from seepage and erosion. Temporary excavations greater than 4 feet but not more than 10 feet deep shall have side slopes of 1H: 1V or flatter and be braced. Excavation areas shall be properly sheeted and braced if required to protect the safety of workmen, the general public, or other work or structures. Excavation for the structures shall be sufficient to provide a clearance between their outer surfaces and the face of the excavation, sheeting, or bracing, of not less than 2 feet. Materials encountered in the excavation which are unsuitable for backfill, such as roots, brush, rubbish, boulders, the banks, weaken the overlying strata, or are otherwise rendered unstable by the excavation operation shall be removed by shoring, stabilization, grading or other methods approved.
3. Excavation for the structures shall be carried to an elevation one (1) foot lower than the proposed outside bottom of the structure to provide space for the select backfill material. Any unsuitable material encountered below proposed structure bottom elevations shall be replaced with suitable material. Prior to placing the select backfill, the excavation shall be leveled so that it is reasonably uniform over the area to be occupied by the structure.
4. Excavation for structures shall be carried down to the bottom of the structure where dewatering methods are such that a dry excavation bottom is exposed and the naturally occurring material at this elevation level shall be left undisturbed to receive the structure.
5. Any water which accumulates in the excavations for structures shall be removed promptly by well point systems or other means satisfactory to the Engineer in such a manner as not to cause injury to public health, to public or private property, to work completed or in progress, to the surface of the streets, or cause any interference with the use of the same by the public. Pumps and engines for dewatering systems shall be operated with mufflers and at a minimum noise level suitable to a residential area. The Contractor shall be responsible for any nuisance created due to the disposal of water from his drainage system.
6. All excess suitable material shall be stockpiled on-site at a location approved by the Owner and Engineer. Muck, organic, silty and clayey sediments, or other unsuitable material shall be excavated under the requirements of this Section shall be disposed of offsite, unless otherwise indicated on the Drawings or as directed by the Owner, at the Contractor's expense.

B. Backfills and Compaction
1. The space between the proposed outside bottom of the structure and the bottom of the excavation shall be backfilled with graded limerock and leveled to receive the proposed structure.
2. Suitable backfill material shall be provided, placed and compacted around the structures as required to fill excavations and to provide the finish grades as shown on the Drawings. Materials to be used for fill shall be approved by the Engineer prior to their placement. If a suitable fill material source is available within the limits of the project, the Owner may allow the use thereof and shall designate the borrow site whereby the Contractor may acquire the fill. If a suitable fill material source is not available on the project site; the Contractor shall furnish the necessary additional suitable fill material to complete the work to the lines and grades indicated on the Drawings.
3. Excavated areas below proposed structures shall be leveled, compacted and tested prior to placement of the structure and any backfill material. Compaction shall be to a minimum density equivalent to 95 percent of the Maximum Modified Proctor Density in accordance with ASTM D-1557 and as tested for a minimum depth of two (2) feet below the bottom of structure slabs.
4. The backfill under and around structures shall be placed and compacted as specified hereinafter. Fills shall be constructed of suitable material placed in successive lifts of not more than 12 inches in depth loose measure, and compacted by the use of a vibrating steel wheel roller or other suitable method(s). Thickness of layers may be increased provided the equipment and methods used are proven by field density testing to be capable of compacting thicker layers to specified densities. Layer thickness shall be decreased if equipment and methods used are proven to be incapable of compacting layers to specified densities. Where applicable, the first lift may be up to eighteen (18) inches above the groundwater table, if approved by the Engineer, to serve as a working platform for the compaction equipment. The use of this procedure does not relieve the Contractor of the requirement to achieve the specified density for a minimum depth of one (1) foot below the natural grade.
5. Backfills shall be compacted to a density of not less than 95 percent of its Maximum Modified Proctor Density in accordance with ASTM D–1557. Should tests indicate unsatisfactory results, compaction procedures shall continue until subsequent tests indicate the stipulated requirements.

END OF SECTION

SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of furnishing all labor, materials and equipment, and performing all operations required to complete the site preparation, earthwork and grading as shown on the Drawings and as specified herein for construction of the utility and drainage systems consisting of piping and appurtenances. This work shall include, but not be limited to: site clearing and grubbing; stripping; dewatering; trenching; bed preparation; removal of muck and other unsuitable material; earthwork for grading above and around utility and drainage system improvements; excavation; backfilling; compaction; supplying approved fill material; final site grading; and other related requirements.
B. The operations specified herein shall be performed within the limits indicated for site grading and other construction, as shown on the Drawings.
C. The Contractor shall provide adequate protection against construction activity for all existing structures and utilities, above the surface or underground, including trees that are to remain, and other construction activities concurrently occurring on the site.
D. Should damage occur to any structure, utility or other facility from these construction activities, repair or replacement to a condition equal or better than the original shall be immediately made by the Contractor, at no cost to the Owner.
E. Definitions:
1. Maximum Density: Maximum weight in pounds per cubic foot of a specific material as determined by ASTM Test Designation D–1557.
2. Optimum Moisture: Percentage of water in a specific material at maximum density.

1.02 RELATED WORK
A. Section 02210 – Site Earthwork
B. Section 02220 – Structure Excavation and Backfill
C. Section 02530 – Dewatering System

1.03 REFERENCE, INFORMATION
A. Contractor may obtain the geotechnical report(s) pertaining to the site from the Owner.
B. Contractor may obtain a copy of standard specifications from the City, at his own expense, for requirements of related standards.

SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS – CONT'D.

1.04 QUALITY ASSURANCE
A. Density tests to adequately confirm the specified compaction shall be made by a testing laboratory approved by the Engineer, at the expense of the Owner, with reports therefrom submitted to the Engineer documenting that the compaction requirements as outlined in this specification have been satisfied. If initial density tests fail to meet the specifications, retesting shall be done at the expense of the Contractor. Said tests shall be performed for each lift of fill, if more than one is required for the depth of fill, and shall be taken where directed by the Engineer. Should test results be unsatisfactory, the Contractor shall recompact the fill and provide supplemental tests for the area in question.
B. A sufficient time shall be allotted for the testing laboratory to perform all control tests necessary to determine that proper fill material is being used and compaction is being obtained. The Contractor shall schedule backfilling operations so as to permit the making of the necessary control tests for each layer prior to the placing of subsequent layers.

Part 2.00 Products

2.01 MATERIALS
A. Suitable materials for fills shall be classified as A–1, A–3, A–2–4, or A–2–6 in accordance, with AASHTO Designation M–145 and shall be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Suitable materials for imported fills shall be classified as A–1 or A–3 in accordance with AASHTO Designation M–145 and shall consist of clean, granular soils and be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
B. Suitable Material To Be Placed In Water: Suitable material for fill to be placed in water shall be classified as A–1 or A–3 in accordance with AASHTO Designation M–145. Not more than 15 percent by weight of fill material shall pass the U.S. No. 100 sieve.
C. Unsuitable materials are classified as A–2–5, A–2–7, A–4, A–5, A–6, A–7 and A–8 in accordance with AASHTO Designation M–145.
D. Granular Backfill Material: Material for backfill below precast structures shall be graded limerock equal to state DOT specifications.

Part 3.00 Execution

3.01 PREPARATION
A. Clearing, Grubbing, and Stripping
Clearing, grubbing, and stripping shall be performed in the areas where required for proper installation of all piping and appurtenances at locations shown on the Drawings. It shall include the complete removal and satisfactory disposal of all timbers, brush, stumps, weeds, rubbish, topsoil, and all other obstructions resting on or protruding through the surface of the existing ground.
B. Selective clearing shall be performed in areas shown on the Drawings or as required by the Owner, in order to save plantings, shrubbery, trees, utility poles, or structures. The above items, where designated by the Owner or Engineer, shall be transplanted, relocated, braced, shored, or otherwise protected and preserved.

3.02 PERFORMANCE
A. Excavation:
1. The Contractor shall perform all excavation of every description and of whatever substances encountered, to the dimensions and depth shown on the Drawings or as directed by the Engineer
All excavations shall be made, by open cut, unless otherwise specified on the Drawings. All existing structures such as pipes, poles and structures shall be carefully supported and protected from injury and damage by the Owner or Engineer, and shall be restored to the Owner's expense.
2. Where trench widths are limited by right–of–way and/or easement widths, property line restrictions, existing adjacent improvements, or other restrictions, trench walls shall be kept vertical, and, if required to protect the safety of workmen, the general public, this or other work or structures, or to maintain the minimum trench widths specified on the Drawings, shall be properly sheeted and braced. Where wood sheeting or certain designs of steel sheeting are used, the excavation shall be cut off at a level 2 feet above the top of the installed pipe and that portion below that level shall be left in place. If interlocking steel sheeting is used, it may be removed, providing removal can be accomplished without disturbing the bedding, the pipe or alignment of the pipe. Any damage to the pipe bedding or alignment of the constructed utility caused by removal of sheeting shall be cause for rejection of the unsuitable work and shall be removed and replaced. Not more than 100 feet of trench shall be opened ahead of pipe laying operations at one time unless a greater length of open trench is approved by the Engineer.
3. In areas where trench widths are not limited by right–of–way, and/or easement widths, property line restrictions, existing adjacent improvements, including pavements, structures and other utilities, or the maintenance of traffic, the trench sides may be sloped to the angle of repose of the excavated material. A substantially and safely constructed movable shield, "box" or "mole" may be used in place of sheeting when the trench is opened immediately ahead of the pipe laying operations and is moved only ahead of the pipe laying operations.
4. Ladders or steps shall be provided for and used by workmen to enter and leave trenches.
5. Pipe trenches for utility lines shall be excavated to a width within the limits of the top of the pipe and the trench bottom so as to provide a clearance on each side of the pipe barrel, measured to the face of the excavation or sheeting, if used, of 8 inches to 12 inches. Where pipe is laid in rock, sandy clay, clay sediments, silty or clayey fine sands, all pipe trenches shall be excavated to a level 8 inches below the outside bottom of the proposed pipe barrel.
6. Excavation for appurtenances shall be sufficient to provide a clearance between their outer surfaces and the face of the excavation or sheeting, if used, of not less than 12 inches. Manhole excavations shall be carried to sufficient depth to permit their construction on the undisturbed bottom of the excavation.
7. Material encountered in the trenches shall be stored and disposed of in such a manner that they will not interfere unduly with traffic on public streets and sidewalks and they shall not be placed on private property. In congested areas, such materials that cannot be stored adjacent to the trench shall be removed immediately as backfill, or shall be removed to a storage, as approved by the Engineer.
8. All materials suitable for use as backfill shall be hauled to and used in areas where not enough suitable material is available from the excavation.
9. All excess suitable material shall be disposed of as directed by the Engineer.
Material disposed of within the limits of the project shall be finish graded upon completion of the work. Material to be removed from the project shall be hauled away and disposed of at the Contractor's expense.
10. Trench Stabilization: No claim for extras, or additional payment will be considered for cost incurred in the stabilization of trench bottoms which are rendered soft or unstable as a result of construction methods, such as improper or inadequate
sheeting, dewatering or other causes. In no event shall pipe be installed when such conditions exist and the Contractor shall correct such conditions until the backfill has progressed to a sufficient depth over the pipe to prevent flotation or movement of the pipe in the trench and so that it is above the natural water table.
11. Water from trenches and excavation shall be disposed of in such a manner as will not cause injury to public health, to public or private property, to the work completed or in progress, to the surface of the streets, or cause any interference with the use of the same by the public. The Contractor shall submit his proposed methods of handling trench water and locations at which the water will be disposed of to the Engineer for approval and shall receive approval before starting the excavation. The Contractor shall obtain and pay for all additional required permits from state or local agencies for dewatering activities.
12. Pumps and engines for dewatering systems shall be operated with mufflers and at a minimum noise level suitable to a residential area. The Contractor shall be responsible for any nuisance created due to the disposal of water from his drainage system.

C. Pipe Bedding:
1. As described above, all pipe trenches shall be excavated to a level 8 inches below the outside bottom of the proposed pipe barrel for rigid pipe and up to 4 inches above crown for flexible (ADS or similar) pipe. The resulting excavation shall be backfilled with approved pipe bedding material, up to the level of the lower one–third of the proposed pipe barrel. This backfill shall be tamped and compacted to provide proper bedding for the pipe and shall then be shaped to receive the pipe. Bedding shall be provided under the branch of all fittings to furnish adequate support and bearing under the fitting. Bedding material for piping shall be pea rock, drainfield limerock, or similar materials as approved by the Engineer. Limerock screenings, sand or other suitable material from the excavation may be used for bedding material when pipe is installed above the natural water table.
2. Any excavation below the levels required for installation of the pipe bedding shall be backfilled with approved bedding material provided by the Contractor, tamped, compacted and shaped to provide proper support for the proposed pipe, at no additional cost to the Owner.

D. Backfills and Compaction
1. Backfilling of trenches shall not be allowed until the work has been approved by the Engineer, pressure tested if required, and the Engineer indicates that backfilling may proceed. Any work which is covered or concealed without the knowledge and consent of the Engineer shall be uncovered or exposed for inspection at no cost to the Owner. Partial backfill may be made to restrain the pipe during pressure testing.
2. Backfill material shall be suitable material as described herein. Backfill material placed within 1 foot of piping and appurtenances shall not contain any stones or rocks larger than 2 inches in diameter (1 inch for PVC pipe) and no stones or rocks larger than 6 inches in diameter will be permitted in any backfill.
3. If a sufficient quantity of suitable backfill material is not available from the trench or other excavations within the site of the work, the Contractor shall provide additional material suitable for this purpose. The additional material shall be installed as specified herein.
4. Suitable backfill material containing no stones or rocks larger than 2 inches shall be placed in 6–inch layers and thoroughly tamped to a depth of 12 inches over the top of the pipe. Particular attention and care shall be exercised in obtaining thorough support for the branch of all service connection fittings and compaction of the fill under the haunches of the pipe. Care shall be taken to preserve the alignment and gradient of the installed pipe.
5. After the backfill has been placed to a level 12 inches over the waterline or force main pipe, the remainder of the backfill shall be placed in layers, not to exceed 12 inches, and compacted with mechanical vibrators or other suitable equipment, to obtain a density of the backfilled material of not less than 98 percent of its maximum density as hereinafter defined.

SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS – CONT'D.

6. After selected backfill has been placed to a depth of 12 inches over the storm drainage and sanitary sewer pipe, backfilling shall proceed to a depth of 30 inches over the pipe by placing the backfill material in 9–inch layers and thoroughly compacting it with mechanical vibrators. Backfill in this portion of the work shall be compacted to 95 percent of maximum density of the material as hereinafter defined.
7. After the backfill has been placed to a level 30 inches over the storm drainage' and sanitary sewer pipe, the remainder of the backfill shall be placed in layers, not to exceed 12 inches, and compacted with mechanical vibrators or other suitable equipment to obtain a density of the backfilled material of not less than 98 percent of its maximum density as hereinafter defined.
8. For storm drainage and sanitary sewer pipe in unpaved areas outside the right–of–way, the backfill shall be placed to a level 36 inches above the crown of the pipe by placing the backfill material in 9 inch layers and compacted to a minimum density of 95 percent of its maximum density, as hereinafter defined. The remaining backfill shall be placed in layers of not more than 12 inches and compacted to a minimum density of 95 percent of its maximum density.
9. Within paved areas of trench excavation, the base and surfacing shall be reconstructed as specified under Section 02574 – Pavement Removal and Replacement (granular material all the way up).
10. No more than 800 feet of trench with pipe in place shall be partially backfilled at any time.

A. Additional Excavation and Backfill:
5. Where unsuitable material, such as organic soils, roots, muck, other vegetable matter, or other material which, in the opinion of the Geotechnical Engineer, will result in unsatisfactory foundation conditions, is encountered below the level of the proposed pipe bedding material, it shall be wholly or partially removed as directed by the Geotechnical Engineer and disposed of off–site at the Contractor's expense. Sheeting shall be installed, if necessary, to maintain pipe trenches within the specified limits. The resulting excavation shall be backfilled with suitable backfill material, placed in 6 inch layers, tamped and compacted up to the level of the bottom of the proposed pipe bedding material. Sufficient compaction of backfill material shall be performed to protect the proposed pipe against settlement. Construction shall then proceed in accordance with the provisions as specified above.
6. Additional excavation shall be performed only when ordered by the Engineer. Where organic or other unsuitable material is encountered in the excavation, the Contractor shall notify the consultant in the attention of the Engineer and obtain his determination as to whether or not the material will require removal, prior to preparing the pipe bedding.

F. Restoration of Surfaces: Paved and grassed areas disturbed by the operations required under this Section shall be restored to a condition equal to or better than the existing condition, or as indicated on the Drawings and/or specified herein.

3.03 COMPACTION AND DENSITIES
A. Number of control and testing of backfill construction to be employed in this work are:
1. Maximum density of the material in trenches shall be determined by ASTMD–1557.
B. Laboratory and field density tests, which, in the opinion of the Engineer, are necessary to establish compliance with the compaction requirements of these specifications, will be conducted at the Owner's expense. Tests will be made at depths and locations selected by the Engineer.
C. Trench backfill that does not comply with the specified density, as indicated by such tests, shall be reworked and recompacted until the required compaction is secured, at no additional cost to the Owner. The costs for retesting such work shall be paid for by the Contractor.

END OF SECTION

SECTION 02232 – GRANUL

## SECTION 02240 – STABILIZED SUBGRADE

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of a stabilized subgrade where indicated on the Drawings. Construction shall be to the uniformity, density and bearing ratio specified hereinafter. Roadways, streets, and parking areas shall be stabilized to the depths and dimensions indicated on the Drawings.
B. Definitions: The stabilizing shall be stone per state DOT or as described hereinafter. The required bearing ratio value shall be obtained either by constructing the subgrade of selected materials from the roadway and borrow areas, or by stabilizing the subgrade material by the addition and mixing in of suitable stabilizing material. Such work shall be done in accordance with these specifications, lines, grades, thicknesses and notes as shown on the Drawings.

1.02 RELATED WORK
A. Section 02210 – Site Earthwork

Part 2.00 Products

2.01 MATERIALS
A. General: The particular type of stabilizing material to be used shall be in accordance with Paragraph 2.01.E hereinafter and shall meet the following requirements:
B. Use of Materials from Existing Base:
1. When the utilization of materials from an existing base is called for, the Engineer will direct the locations, placing, and distribution of such materials, and this work shall be done prior to the spreading of any additional commercial or local materials. Removal of any section of existing base will not be required until the need for it in maintaining traffic is fulfilled.
2. The utilization of stone from an existing base may be called for in combination with the designated type of stabilizing.
C. Commercial Materials:
1. General: Materials that are designated as Commercial Materials that are to be used for stabilizing may be either commercial limerock, limerock overburden or crushed shell, or state DOT specified.
2. Limerock: For limerock and limerock overburden, the percentage of carbonates of calcium and magnesium shall be at least 70, and the plasticity index shall not exceed 10. The gradation of both commercial limerock and limerock overburden shall be such that 97 percent of these materials will pass a 1-inch sieve.
3. Crushed Shell: Crushed shell for this use shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina, etc.). Steamed shell will not be permitted. This shell shall meet the following requirements:
a. At least 97 percent by weight of the total material shall pass a 3–1/2 inch screen and at least 50 percent by weight of the total material shall be retained on the No. 4 sieve.
b. Not more than 20 percent by weight of the total material shall pass the No. 200 sieve. The determination of the percentage passing the No. 200 sieve shall be made by washing the material over the sieve.
c. In the event that the shell meets the above requirements without crushing, crushing will not be required.
D. Local Materials:
1. General: Local materials used for stabilizing may be high-bearing–value soils of sand–clay material. The material passing the 40–mesh sieve shall have a liquid limit not greater than 30 and a plasticity index not greater than 10.
2. Blending: No blending of materials to meet these requirements will be permitted unless authorized by the Engineer. When blending is permitted, the blended material shall be tested and approved before being spread on the roadway or parking area.
E. Type B Stabilization:
1. The type of materials, Commercial or Local, shall be at the Contractor's option.
2. No separate payment for stabilizing materials will be made.
3. Under this method, it shall be the Contractor's responsibility that the finished subgrade section meets the bearing value requirements, regardless of the quantity of stabilizing materials necessary to be added. Also under this method, full payment will be made for any areas where the existing sub–grade materials meet the design bearing value requirements without the addition of stabilizing additives, as well as areas where the Contractor may elect to place select high–bearing materials from other sources, within the limits of the stabilizing.
4. After the subgrade grading operations have been substantially completed, the Contractor shall make his own determination as to the quantity (if any) of additional stabilizing material, of the type selected by him, necessary for compliance with the bearing value requirements. The Contractor shall notify the Engineer of the approximate quantity to be added, and the spreading and mixing in of such quantity of materials shall meet the approval of the Engineer as to uniformity and effectiveness.

Part 3.00 Execution

3.01 PREPARATION
A. General:
1. Prior to the beginning of stabilizing operations, the area to be stabilized shall have been constructed to an elevation such that upon completion of stabilizing operations the completed stabilized subgrade will conform to the lines, grades and cross–sections shown in the plans. Prior to the spreading of any additive stabilizing material, the surface of the subgrade shall be brought to a plane approximately parallel to the plane of the proposed finished surface.
2. The subgrade to be stabilized may be processed in advance of the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction and other desired results, in which case, the Engineer will direct that the processing be done in more than one course.

3.02 APPLICATION
A. Stabilizing Material:
1. When additional stabilizing materials are required, the designated quantity shall be spread uniformly over the area to be stabilized.
2. When materials from an existing base are to be utilized in the stabilizing at a particular location, all of such materials shall be placed and spread prior to the addition of other stabilizing additives.
3. Commercial stabilizing material shall be spread by the use of mechanical material spreaders except that where use of such equipment is not practicable other means of spreading may be used, but only upon written approval by the Engineer of the proposed alternate method.
B. Mixing:
1. The mixing shall be done with rotary tillers, or other suitable equipment. The area to be stabilized shall be thoroughly mixed throughout the entire depth and width of the stabilizing limits.
2. The mixing operations, as specified, will be required regardless of whether the existing soil, or any select soils placed within the limits of the stabilized sections, have the required bearing value without the addition of stabilizing materials.
C. Maximum Particle Size of Mixed Materials: At the completion of mixing, all particles of material within the limits of the area to be stabilized shall pass a 3–1/2 inch ring. Any particles not meeting this requirement shall be removed from the stabilized area or shall be broken down so as to meet this requirement.
D. Compaction: After the mixing operations have been completed and requirements for bearing value, uniformity and particle size have been satisfied, the stabilized area shall be compacted, in accordance with Paragraph 3.03.B hereinafter. The materials shall be compacted at a moisture content permitting the specified compaction. If the moisture content of the material is improper for attaining the specified density, either water shall be added or the material shall be permitted to dry until the proper moisture content for the specified compaction is reached.
E. Finish Grading: The completed stabilized subgrade shall be shaped to conform with the finished lines, grades and cross–section indicated in the Drawings. The subgrade shall be checked by the use of elevation stakes, or other means approved by the Engineer.
F. Requirements for Condition of Completed Subgrade:
1. After the stabilizing and compacting operations have been completed, the subgrade shall be firm and substantially unyielding, to the extent that it will support construction equipment and will have the bearing value required by the Drawings.
2. All soft and yielding material, and any other portions of the subgrade that will not compact readily, shall be removed and replaced with suitable material and the whole subgrade brought to line and grade, with proper allowance for subsequent compaction.
G. Maintenance Of Completed Subgrade: After the subgrade has been completed as specified above, the Contractor shall maintain it free from ruts, depressions and any damage resulting from the hauling or handling of materials, equipment, tools, etc. It shall be the Contractor's responsibility to maintain the required density until the subsequent base or pavement is in place. Such responsibility shall include any repairs, replacement, etc., of curb and gutter, sidewalk, etc., which might become necessary in order to recompact the subgrade in the event of underwash or other damage occurring to the previously compacted subgrade. Any such work required for recompaction shall be at the Contractor's expense. Ditches and drains shall be constructed and maintained along the completed subgrade section to provide adequate drainage.

3.03 FIELD QUALITY CONTROL
A. Bearing Value Requirements:
1. General: Bearing value samples will be obtained and tested by the Engineer at completion of satisfactory mixing of the stabilized area. For any area where the bearing value obtained is deficient from the value indicated in the Drawings, in excess of the tolerances established herein, additional stabilizing material shall be spread and mixed in accordance with 3.02.B.1 & 2. This reprocessing shall be done for the full width of the roadway being stabilized and longitudinally for a distance of 50 feet beyond the limits of the area in which the bearing value is deficient. The Contractor shall make his own determination of the quantity of additional stabilizing material to be used in reprocessing.
B. Density Requirements:
1. General: Within the entire limits of the width and depth of the areas to be stabilized, the minimum density acceptable at any location will be 98 percent of the maximum density as determined by AASHTO T–180, Test Method D.
C. Testing: Tests for the subgrade bearing capacity and compaction shall be located no more than 300 feet apart and shall be staggered to the left, right, and on the centerline of roadways, and at a frequency of one test per 1,100 square yards of stabilized area in parking areas, at locations to be determined by the Engineer.

END OF SECTION

## SECTION 02276 – TEMPORARY EROSION AND SEDIMENTATION CONTROL

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of designing, providing, maintaining and removing temporary erosion and sedimentation controls as necessary.
B. Temporary erosion controls include, but are not limited to, grassing, mulching, seeding, watering and reseeding on–site surfaces and spoil and borrow area surfaces, and providing interceptor ditches of ends of berms, installing staked silt barriers or floating silt barriers at those locations which will ensure that erosion and pollution during construction will be prevented in accordance with state DOT Standard Specifications for Road and Bridge Construction.
C. Contractor is responsible for providing effective temporary erosion and sedimentation control measures during construction or until final controls become effective, so as to ensure that sedimentation and/or turbidity problems are not created in the receiving water bodies. The Contractor shall be responsible for the correction of any erosion, shoaling, or water quality problems that result from the construction or operation of the surface water management system.
D. Sufficient precautions shall be taken during construction to minimize the runoff of polluting substances such as silt, clay, fuels, oils, bitumens, calcium chloride, or other polluting materials harmful to humans, fish, or other life, into the supplies and surface waters of the State. Control measures must be adequate to assure that turbidity in the receiving water will not be increased in the receiving water more than 25 nephelometric turbidity units (NTU). Special precautions shall be taken in the use of construction equipment to prevent operations that promote erosion.
E. Temporary sedimentation controls include, but are not limited to, silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the Owner.
F. Temporary erosion and sediment control measures shall include effective means to maintain water quality prior to discharge from project site.

1.02 RELATED WORK
A. Section 02210– Site Earthwork
B. Section 02932 – Seeding and Mulching
C. Section 02934 – Sodding

1.03 SUBMITTALS
A. The Contractor shall be required to submit to state and local agencies (with copy to the Owner and Engineer) for review and approval the program for temporary erosion control to be implemented by the Contractor prior to commencing construction. All additional permits required by the agencies shall be obtained and paid for by the Contractor.
B. The approval by the state and local agency of the Contractor's program in no way relieves the Contractor from the responsibility to meet all applicable rules, regulations, and permitting conditions.

Part 2.00 Products

2.01 EROSION CONTROL
A. Materials to control erosion and sedimentation shall comply with Section 104 of FDOT Standard Specifications for Road and Bridge Construction and FDOT Roadway and Traffic Design Standards, Index No. 103.

2.02 SEDIMENTATION CONTROL
A. Install and maintain silt dams, traps, barriers, and other appurtenances as necessary. Hay bales, which deteriorate, and filter stone which dislodges, shall be replaced.

Part 3.00 Execution

3.01 PREPARATION
A. Minimum procedures for grassing are:
1. Scarify slopes to a depth of not less than six inches and remove large clods, rock, stumps, roots larger than ½–inch in diameter, and debris.
2. Sow seed within twenty–four (24) hours after the ground is scarified with either mechanical seed drills or rotary band seeders.
3. Apply mulch loosely and to a thickness of between ¼–inch and 1–1/2 inches.
4. Apply netting over mulched areas on sloped surfaces.
5. Roll and water seeded areas in a manner that will encourage sprouting of seeds and growing of grass. Reseed areas which exhibit unsatisfactory growth. Backfill and seed eroded areas.
B. Floating Silt Barriers:
1. This work shall consist of installing, maintaining and removal of floating silt barriers to contain turbidity that may occur as the result of dredging, filling, dewatering, or other construction activities in Waters of the State or any of the existing on–site lakes, ponds, or storm–water management systems.
2. The type of barrier used, the deployment and maintenance of the barrier shall be such as to minimize dispersion of turbid waters and will not cause an increase in the existing permitted turbidity from the construction site into the receiving waters.

3.02 PERFORMANCE
A. Should any of the temporary erosion and sedimentation control measures employed by the Contractor fail to produce results which comply with the requirements of this specification, the Contractor shall immediately take whatever steps necessary to correct the deficiency.

END OF SECTION

## SECTION 02285 – TERMITE CONTROL

Part 1.00 General

1.01 SECTION INCLUDES
A. Soil poisoning treatment.
B. Warranty

1.02 INTENT
A. To guard against termites and other common ground insects detrimental to wood construction. Materials mentioned in Part 2.00 of this Specification are suggested for use but shall not be used if disallowed by governing laws and/or ordinances.

1.03 QUALITY ASSURANCE
A. Applicator:
Company specializing in soil treatment for termite control with five years documented experience.
B. Materials:
Provide certification that toxicants conform to requirements.

1.04 REGULATORY AGENCY REQUIREMENTS
A. Conform to governing authority requirements for application licensing and authority to use toxicant chemicals.

1.05 SUBMITTALS
A. Product Data:
Submit per SUBMITTALS Section; indicate toxicants to be used, composition by percentage, dilution schedule, and intended application rate. Owner's acceptance is required prior to shipment.
B. Manufacturer's Installation Instructions: Submit per SUBMITTALS Section.

1.06 GUARANTEE
A. Bonded Guarantee which covers against invasion or propagation of subterranean termites, damage to building or building contents caused by termites; repairs to building or building contents so caused, for a period of five years after substantial completion; subject to annual renewal thereafter.

Part 2.00 Products

2.01 TOXICANT CHEMICAL(S)
A. Termidor, BASF – apply per manufacturer's recommendations.

2.02 MIXES
A. Dilute toxicant chemical to a percent solution specified by manufacturer.

Part 3.00 Execution

3.01 DELIVERY
A. Deliver materials in original unopened manufacturer's packaging with labels and seals identifying content.

3.02 INSPECTION
A. Verify exposed soil surfaces are unfrozen, sufficiently dry to absorb toxicant, ready to receive treatment. Beginning of application means acceptance means acceptance of soil conditions.

3.03 APPLICATION
A. Safety:
Apply materials in accord with recommended safety precautions for materials used.
B. Toxicant Chemicals:
Apply toxicant immediately prior to installation of vapor barrier under slab–on–grade or finish grading outside foundation walls. Apply extra treatment to structure penetrations, pipe, ducts, and other soil penetrations. Apply as a coarse spray to ensure uniform distribution. Coordinate soil treatment at foundation perimeter with finish grading and landscaping work to avoid disturbance of treated soil.

3.04 CLEAN–UP
A. Upon completion of work of this Section, remove related debris from premises.

END OF SECTION

## SECTION 02507 – PRIME AND TACK COATS

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of an application of bituminous material on previously prepared bases and on existing pavements surfaces in accordance with these specifications and in conformity with the lines, grades, dimensions and notes shown on the Drawings.

Part 2.00 Products

2.01 MATERIALS
A. Prime Coat: Unless otherwise indicated, the material used for the prime coat shall be cutback Asphalt Grade RC–70 or RC–250 and shall conform to the requirements specified in AASHTO Designation M–81. Unless otherwise indicated, the use of either RC–70 or RC–250 shall be at the Contractor's option.
B. Tack Coat: The material used for the tack coat shall be emulsified asphalt, Grade RS–2 and shall conform to the requirements specified in AASHTO Designation M–140.

2.02 EQUIPMENT
A. The pressure distributor used for placing the tack or prime coat shall be equipped with pneumatic tires having sufficient width of rubber in contact with the road surface to avoid breaking the bond of or forming a rut in the surface. The distance between the centers of openings of the outside nozzles of the spray bar shall be equal to the width of the application required, within an allowable variation of 2 inches. The outside nozzle at each end of the spray bar shall have an area of opening of not less than 25 percent, nor more than 75 percent in excess of the other nozzles which shall have uniform openings. When the application covers less than the full width, the normal opening of the end nozzle at the junction line may remain the same as those of the interior nozzles.

Part 3.00 Execution

3.01 PREPARATION
A. Before applying any bituminous material, all loose material, dust, dirt, and foreign material, which might prevent proper bond with the existing surface, shall be removed. Particular care shall be taken to clean the outer edges of the strip to be treated in order to ensure that the prime or tack coat will adhere.
B. When the prime or tack coat is applied adjacent to curb and gutter, or any other concrete surface (except where they are to be covered by a bituminous surface course), such concrete surfaces shall be protected by heavy paper or other protective material while the prime or tack coat is being applied. Any bituminous material deposited on such concrete surfaces shall be removed immediately.

3.02 WEATHER LIMITATIONS
A. No bituminous material shall be applied when the air temperature is less than 50°F in the shade, or when the weather conditions or the condition of the existing surface is unsuitable. In no case shall bituminous material be applied while rain is falling or when there is water on the surface to be covered.

3.03 APPLICATION OF PRIME COAT
A. After the base has been finished; the full width of surface shall be swept with a power broom supplemented with hand brooms and mechanical blowers prior to the application of the prime coat. Care shall be taken to remove all loose dust, dirt and objectionable matter. If deemed necessary, the base shall be lightly sprinkled with water immediately in advance of the prime coat. The prime coat shall be applied to the full width of the base.
B. The temperature of the prime material shall be such as to ensure uniform distribution. The material shall be applied with a pressure distributor at a specified rate. The prime coat applied shall be sufficient to coat the surface thoroughly and uniformly without any excess to form pools or to flow off the base. For limerock base, the rate of application shall not be less than 0.10 gallons per square yard; for shell base, the rate of application shall not be less than 0.15 gallons per square yard; for soil cement base, the rate of application shall not be less than 0.15 gallons per square yard.
C. If the roadway is to be opened for use following the application of the prime material, a light uniform application of clean sand shall be applied and rolled. The sand shall be applied immediately, shall be free from silt and rock particles and shall not contain any sticks, vegetation, grass, roots or organic matter. After the sand covering has been applied, the surface may be opened to traffic.

3.04 APPLICATION OF TACK COAT
A. In general, a tack coat will not be used on primed bases except in areas which have become excessively dirty and cannot be cleaned or where the prime has cured and lost all of its bonding effect.
B. No tack coat shall be applied until the primed base or leveling course has been cleaned and is free from sand, dust or other objectionable material.
C. The tack coat shall be applied with a pressure distributor as specified above. It shall be heated to a suitable consistency and applied in a thin uniform layer at the rate between 0.02 gallons and 0.08 gallons per square yard.
D. The tack coat shall be applied sufficiently in advance of the laying of the wearing surface to permit drying, but shall not be applied so far in advance or over such an area as to lose its adhesiveness as a result of being covered with dust or other foreign material. Suitable precautions shall be taken by the Contractor to protect the surface while the tack coat is drying and until the wearing surface is applied.

END OF SECTION

## SECTION 02512 – ASPHALTIC CONCRETE PAVING

Part 1.00 General

1.01 SCOPE OF WORK
A. The work specified in this Section consists of the construction of asphaltic concrete surface courses composed of a mixture of aggregates, mineral filler and asphalt cement properly laid upon a prepared base, or a newly constructed binder course, in accordance with these specifications and all requirements of State Department of Transportation Standard Specifications (latest edition) and in conformity with the lines, grades, thickness and typical cross section shown on the Drawings. Contractor shall furnish Types I, S–I or S–III asphaltic concrete as specified by the Drawings. Asphaltic concrete pavement around drain inlets and catch basins shall conform to the following provisions, except placing material may be by hand methods.

## SECTION 02512 – ASPHALTIC CONCRETE PAVING – CONTINUED

4. The fine aggregate, when tested by means of laboratory sieves, shall meet the following requirements:

| Passing Sieve | Retained on Sieve | Percent by Weight |
|---|---|---|
| No. 4 | | 90–100 |
| No. 4 | No. 10 | 0–15 |
| No. 10 | No. 40 | 15–50 |
| No. 40 | No. 80 | 25–60 |
| No. 80 | No. 200 | 8–40 |
| No. 200 | | 0–10 |

5. Fine aggregate containing more than 1.00 percent of phosphate shall not be used.
D. Mineral Filler:
1. Mineral filler shall consist of limerock dust, Portland cement, slag dust, hydrated lime or other inert mineral matter approved by the Engineer and conforming to the following gradation requirements:
Total Passing No. 30 Sieve ..... 100 Percent
Total Passing No. 80 Sieve ..... 95 Percent (Min.)
Total Passing No. 200 Sieve ..... 65 Percent (Min.)
2. The mineral filler shall be thoroughly dry and free from lumps consisting of aggregations of fine particles. Ground phosphate will not be allowed as a mineral filler.

2.02 GENERAL COMPOS–ON OF MIXTURE
A. The bituminous mixture shall be composed of a combination of aggregate (coarse, fine, or mixtures thereof), mineral filler, if required, and bituminous material. The several aggregate fractions shall be sized, uniformly graded and combined in such proportions that the resulting mixture will meet the grading and physical properties of the approved job mix formula
B. In all cases, the job mix formula shall be within the design ranges specified in the following table:

GRADATION DESIGN RANGE

| Sieve Size | Percent Passing by Weight Type S–I | Type S–II | Type I |
|---|---|---|---|
| 3/4 inch | 100 | | |
| 1/2 inch | 88–100 | 100 | 100 |
| 3/8 inch | 75–93 | 88–100 | 88–100 |
| No. 4 | 47–75 | 60–90 | 54–85 |
| No. 10 | 31–53 | 40–70 | 35–59 |
| No. 40 | 19–35 | 20–45 | 16–41 |
| No. 80 | 7–21 | 10–30 | 7–28 |
| No. 200 | 2–7 | 2–7 | 4–8 |

C. Asphalt cement (Bitumen) shall consist of 4–1/2 to 9 percent by weight of the total mix as determined by job mix formula. For highly absorptive aggregates, the upper limit may be raised.
D. Where bituminous placing and finishing is permitted for small and irregular areas, such as turnouts, crossovers, acceleration and deceleration lanes, etc., the portion of the Grade No. 16 coarse aggregate retained on a No. 4 sieve may be omitted from the mixture and the percent by weight of the coarse aggregate passing the No. 4 sieve and retained on the No. 10 sieve shall be within the range specified for the total coarse aggregate in the mix.
E. Proportions of Rubber and Local Materials: Not more than 25 percent by weight of the total aggregate used shall be silica sand or local materials. The silica sand shall conform to all requirements of specifications and the local materials shall meet the requirements of state DOT Standard Specifications for Road and Bridge Construction (latest edition).

2.03 FORMULA FOR JOB MIX
A. The general composition limits prescribed above are master ranges of tolerances to govern mixtures made from any materials meeting the specifications, and they are maximum and minimum for all cases. A closer control appropriate to the job materials will be required for the specific project in accordance with the job mix formula.
B No work shall be started until the Engineer has approved the job mix formula.
C. Materials that will be used to make up the approved job mix should be stockpiled in sufficient quantity to meet the demands for the entire project in progress. If this is not practicable, care must be taken to ensure adequate quality control of the materials used in each job mix. Should the source of supply for the materials used in the job mix be changed, or should the materials from the source vary appreciably from the materials used in the job mix formula, the job mix formula must be altered accordingly.
C. Combined dry aggregate gradation of the hot bins shall be within the following limits of the job mix formula:

| Sieve Size | Tolerance Percent One Test | Two Tests | Three Tests |
|---|---|---|---|
| 3/4 inch | 5.0 | 3.5 | 2.9 |
| 1/2 inch | 5.0 | 3.5 | 2.9 |
| 3/8 inch | 5.0 | 3.5 | 2.9 |
| No. 4 | 5.0 | 3.5 | 2.9 |
| No. 10 | 5.0 | 3.5 | 2.9 |
| No. 40 | 4.0 | 2.8 | 2.3 |
| No. 80 | 3.0 | 2.1 | 1.7 |
| No. 200 | 2.0 | 1.4 | 1.2 |

D. After the job mix formula is established, each mix for the project shall meet the approved formula within the following tolerances:

| Characteristic | Tolerance |
|---|---|
| Asphalt Content (Extraction) | ± 0.70% |
| Asphalt Content (Printout) | ± 0.30% |
| Passing No. 10 Sieve | ± 6.50% |
| Passing No. 200 Sieve | ± 2.00% |

E. In no case shall a job mix that is within the tolerances stated above be such that it falls out of the master range.
G. Samples of the mixture in use will be taken as many times daily as is necessary in the opinion of the Engineer. The mixtures shall be maintained uniformly throughout the project within the above tolerances.
F. Job materials found to have characteristics requiring a content of bituminous material less than is indicated in the formula prescribed above, will be rejected or adjusted to forma blend, which will produce a balanced mixture under the terms of the formula. Where job materials otherwise meeting specifications are found, on account of highly absorptive or other special characteristics, to produce an acceptable balanced mix only if the bituminous material content is increased over the amount specified, the mixture may be accepted provided that the job mix shall be adjusted to require the use of such additional bituminous material content.
G. The asphaltic content shall be such for the material used that when the mixture is tested, in accordance with ASTM Designation D 1559, the stability shall be at a maximum with an optimum asphalt cement content. Physical properties of the mix shall be as shown in the following table:

| Mix Type | Minimum Marshall Stability (lbs) | Flow (0.01 in) | Minimum Air VMA (%) | Voids (%) |
|---|---|---|---|---|
| S–I | 1500 | 8–14 | 14 | 3–5 |
| S–III | 1000 | 8–16 | 14 | 3–7 |
| I | 1000 | 8–14 | 14 | 3–5 |

Part 3.00 Execution

3.01PREPARATION OF ASPHALTIC CEMENT
A. The asphalt cement shall be delivered to the asphalt plant at a temperature not to exceed 350°F and shall be maintained within a range of 230°F to 350°F in advance of mixing operations. Heating within these limits shall be constant and wide fluctuations of temperature during a day's production will not be permitted.

3.02 PREPARATION OF AGGREGATES
A. Stockpiling coarse aggregate shall be done in such a manner so the aggregate will not segregate.
B. All aggregates to be blended or proportioned shall be placed in separate bins at the cold hopper and proportioned by means of calibrated gates or other approved devices. When two or more aggregates are blended, the use of two or more bins shall be employed for the blending of such material.
C. The aggregates shall be heated and dried at the paving plant before entering the mixer. The temperature of the aggregates shall be so controlled that the temperature of the completed mixture at the plant will fall within the permissible range allowed by these Specifications. Any dried aggregated contaminated with fuel oil shall be wasted.

3.03 PREPARATION OF MIXTURE.
A. Batch Mixing
1. The dried aggregate, prepared as described herein before and combined in batches to meet the job mix formula by weighing each separate bin size, shall be conveyed to the empty mixer.
2. The hot asphalt cement, accurately measured, shall then be introduced, and the mixing continued until the mixture is thoroughly uniform and homogeneous. The total mixing time in no case shall be less than 35 seconds. Each batch must be kept separate throughout the weighing and mixing operations.
B. Continuous Mixing: The dried aggregate, prepared as described herein before and proportioned to meet the job mix formula by volumetric measurement, shall be introduced into the mixer. The hot asphalt cement shall be introduced into the mixer in synchronization with the feeding of aggregate. The quantity shall be measured by volume. Mixing shall be sufficient to produce a thoroughly uniform and homogeneous mixture.
C. General: The ingredients of the mix shall be heated and combined in such a manner as to produce a mixture which shall beat a temperature, when discharged from the pugmill or surge bin, between the limits of 230°F and 310°F.

3.04 TRANSPORTATION OF MIXTURE
A. The mixture shall be transported in tight vehicles previously cleaned of all foreign material and, if necessary, each load shall be covered with a waterproof canvas cover of sufficient dimensions to protect it from weather conditions. The inside surface of the truck bodies may be thinly coated with soapy water, or a mixture of water with not more than five percent of lubricating oil, but no excess of either shall be used. After the truck bodies are coated and before any mixture is placed therein, they shall be raised so that all excess water will drain out. Kerosene, gasoline or similar products shall not be used to prevent adhesion.

## SECTION 02512 – ASPHALTIC CONCRETE PAVING – CONTINUED

3.05 LIMITATIONS FOR SPREADING
A. The mixture shall be spread only when the surface is properly prepared and is intact, firm, cured and dry. No mixture shall be spread when the air temperature is less than 40°F, or when the spreading cannot be finished and compacted during daylight hours. The temperature of the mix at the time of spreading shall not be less than 230°F.

3.06 PLACING MIXTURE
A. Upon arrival, the mixture shall be dumped into an approved mechanical spreader and immediately spread and struck off to the full width required and to such appropriate loose depth for each successive course that when the work is completed the required thickness or weight of mixture per square yard will be secured. An excess amount of mixture shall be carried ahead of the screed at all times. Hand raking shall be done behind the machine as required.
B. In limited areas, where, on account of irregularities or unavoidable obstacles, the use of mechanical spreading and finishing equipment is impracticable, the mixture may be spread by hand, when so authorized by the Engineer.
C. The mixture shall be laid only when the surface to be covered is dry and only when weather conditions are suitable. All defective areas in the foundation shall be replaced in advance of laying the mixture.
D. All structures which will be in actual contact with the asphaltic mixture, including the vertical faces of existing pavements, shall be painted with a uniform coating of asphalt material to provide a closely bonded, watertight joint.
E. When necessary, due to the traffic requirements, the mixture shall be laid in strips in such manner as to provide for a passage of traffic. When the road is closed to traffic, the mixture may be laid the full width of pavement, by machines traveling in echelon.
F. Before any rolling is started, the surface shall be checked, any inequalities adjusted, and the drippings, fat spots, or any accumulations from the screed, and fat spots from any source, shall be removed and replaced with satisfactory material.

3.07 COMPACTING MIXTURE
A. After the spreading, the mixture shall be rolled when it has set sufficiently or come to the proper condition to be rolled, and when the rolling does not cause undue displacement.
B. Rolling shall begin at the center and progress toward the outside, paralleling the centerline of the roadway, uniformly lapping at least one–half of the width of the roller.
C. The motion of the roller shall at all times be slow enough to avoid displacement of the mixture, and any displacement occasioned shall be corrected at once by the use of rakes and fresh mixture where required. The rolling shall include transverse, longitudinal, diagonal and, where practicable, crescent rolling, as may be necessary to obtain the specified density.
D. The seal rolling with steel–wheeled rollers weighing from 5 tons to 12 tons shall follow as close behind the spreader as is possible without picking up, displacing, or blistering the material. Rolling with the self–propelled pneumatic–tired rollers shall follow as soon as possible and as close behind the seal rolling as the heat of the mixture will permit. This rolling shall be done such that the self–propelled traffic roller shall cover every area of the surface with at least six passes. This final rolling shall be before the mixture has cooled to a temperature lower than 140°F, and shall be continued until all roller marks or tire marks are eliminated. Self–propelled, pneumatic–tired rollers shall be used for the rolling of patching and leveling courses. At the option of the Contractor, a steel–wheeled roller may be used to supplement the self–propelled pneumatic–tired rollers, but not more than one steel–wheeled roller may be used in conjunction with the necessary number of self–propelled pneumatic–tired rollers. Before the final compaction, the finished pavement shall at no point have a density less than 95 percent of the laboratory compacted density. Rolling with the self–propelled pneumatic–tired roller shall proceed at a speed from 6 to 10 miles per hour and the rate of rolling shall not exceed 3,000 square yards per hour per roller. A sufficient number of self–propelled pneumatic–tired rollers shall be used so that the rolling of the surface for the required number of passes is completed within this maximum rolling limit of time after placing of the placing operation, nor result in excessive cooling of the mixture before the rolling is complete. In the event the rolling of any course is not properly maintained to meet the above limits, the operation shall be discontinued until the rolling operations have caught up to the spreader(s).
E. In all places inaccessible to a roller, such as adjacent to curbs, headers, gutters, bridges, manholes, and other locations not readily accessible to rollers, depressions which may develop before the completion of the rolling shall be remedied by loosening the mixture laid and adding new material, which shall be compacted by tampers to a true surface.
F. Should any depressions remain after final compaction has been obtained the mixture shall be removed sufficiently and new material added to form a true and even surface.
G. The mixture, after rolling, shall be of the thickness shown on the Drawings. The surface, after compaction, at no place shall show an excess of asphalt, and any area showing such excess, or where the mixture shall be cut out and replaced with fresh mixture which shall be immediately compacted to conform with the surrounding area. Any mixture which becomes loose or broken, mixed or coated with dirt or in any way defective prior to laying the wearing course shall be removed and replaced with fresh mixture which shall be immediately compacted to conform with the surrounding area.
H. Gasoline or oil from rollers shall not be allowed to deposit on the pavement and any pavement damaged by such deposits shall be removed and replaced.
I. Any mixture remaining unbonded after rolling shall be removed and replaced.

3.08 JOINTS
A. Transverse Joints: At the end of each day's work, or whenever the laying is to be discontinued for such length of time as to allow the mixture to become chilled, transverse joints shall be formed either by laying a bump, equal in thickness to the compacted thickness of the pavement, across the width of strip being spread and rolling the mixture against the board, or by using paper or sand, provided in either case the asphalt is cut back to well bonded material of the required thickness before placing additional asphalt.
B. Longitudinal Joints: Where only a portion of the width of pavement is to be laid and opened to traffic, longitudinal joints shall be formed rolling the exposed edge of the strip first laid. When the adjacent strip is constructed, the edge of the mixture in place shall be trimmed back so as to expose an unsealed or granular vertical surface. When the strip first laid is closed to traffic, the edge shall not be sealed, but shall be left vertical and the adjacent strip placed against it without trimming.
C. General: The exposed edge of the transverse joints, trimmed or formed as provided above, shall be painted with a thin coat of hot asphalt cement just prior to the laying of fresh surface course mixture adjacent. The fresh mixture shall be raked against the joint and rolled.

3.09 FIELD QUALITY CONTROL
A. Surface Requirements:
4. For the purpose of testing the finished surface, a 15–foot straightedge and a standard template cut to the true cross section of the road shall at all times be available on the work site. The Contractor shall provide or designate some employee whose duty is to handle the straightedge and template in checking all rolled surfaces, under the direction of the Engineer.
5. The finished surface shall be such that it will not vary more than 1/4 inch from the template cut to the cross section of the road, not more than 3/16 inch from the 15foot straightedge applied parallel to the center line of the pavement. Any irregularity of the surface exceeding the above limits shall be corrected. Depressions that may develop after the initial rolling shall be remedied by loosening of surrounding the mixture and adding new material to bring the areas to a true surface. No skin patching shall be done. Such portions of the completed pavement that are defective in surface compaction or in composition, or that do not comply with all other requirements of these specifications, shall be taken up and replaced with suitable mixture, properly laid in accordance with these specifications and at the expense of the Contractor.
B. Removing and Replacing: If correction is made by removing and replacing the pavement, the removal must be for the full depth of the course and extend at least 50 feet on either side of the defective area, for the full width of the paving lane.
C. Overlaying: If correction is made by overlaying, the overlay shall cover the length of the defective area and taper uniformly to a featheredge thickness at a minimum distance of 50 feet on either side of the defective area. The overlay shall extend full width of the roadway. Care shall be taken to maintain the specified cross slope. The mix used for the overlay may be adjusted as necessary for this purpose by the Engineer. Overlaying will not be permitted, when the finished pavement surface is a friction course or abuts concrete curbs.
D. Other Methods: For courses which will not be the final pavement surface, correction of minor straightedge deficiencies by methods other than specified above may be approved by the Engineer.
E. Thickness Requirements: The thickness of the compacted asphaltic concrete surface course shall be determined by coring and shall be no less than that shown on the Drawings. Any surface course found to be less than the thickness shown on the Drawings by greater than ¾–inch shall be removed and replaced.
F. Protection of Pavement: After the completion of the pavement, no vehicular traffic of any kind shall be permitted on the pavement until it has set sufficiently to prevent rutting of fresh surface distortion.

3.10TESTING AND REPORTS
A. Testing for performance in accordance with these Specifications will be paid for by the Owner. The frequency of testing shall be a minimum of that specified below and at the locations as directed by the Engineer. However, any retesting necessary in areas not initially meeting these Specifications shall be paid for by the Contractor.
B. Prior to the start of the placing of the asphaltic concrete, the job mix formula prepared by a certified material–testing laboratory shall be submitted to and be approved by the Engineer. All job mix design formulas design shall be current within the last 12 months.
C. During construction of the asphaltic concrete wearing surface, the following tests must be completed and reports submitted to the Engineer before acceptance can be given:
1. Extraction stability and gradation of combined aggregate –1 test per day. Bitumen content, stability and gradation of aggregates to conform to intent of job mix formula.
2. Density and depth checks –1 test per 250 lineal feet of roadway (minimum 2 tests per street) and one test per 2,700 square yards of parking lot area. Minimum acceptable density for each course of asphaltic concrete material shall be 95 percent of the design unit weight in the job mix formula.

END OF SECTION

Plotted By: Sheaffer, Ryan Date: April 30, 2025 08:47:23am File Path: K:\EAU-Civil\05388721-Olive Garden Southwest Pkwy\Cad\PlanSheets\Cvr - Darden Civil Specifications.dwg
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| BY | DATE | REVISIONS |
|---|---|---|

RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT | 063887221 |
|---|---|
| DATE | APRIL 2025 |
| SCALE | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

DARDEN CIVIL SPECIFICATIONS (2 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
9 OF 41

THIS SHEET PROVIDED FOR REFERENCE ONLY

CITY STANDARDS AND SPECIFICATIONS AS WELL AS NOTES PROVIDED IN THE CIVIL PLANS SUPERSEDE SPECIFICATIONS SHOWN HERE.

SP-2025-0116C.CC

SECTION 02528 – CONCRETE SIDEWALK; CURB AND GUTTER, AND TRAFFIC SEPARATOR

Part 1.00 General

1.01 WORK INCLUDED

A. The work included in this Section consists of furnishing all labor, material, equipment and transportation for the construction of the concrete sidewalks, curb and gutter, and traffic separator to the lines and grades as shown on the Drawings.

1.02 RELATED WORK

A. Section 02210 – Site Earthwork
B. Section 03000 – Concrete (Site Work)

1.03 SUBMITTALS

A. All materials specified shall be certified by the producer or manufacturer that the furnished material meets the specific requirements of the specifications.

Part 2.00 Products

2.01 MATERIALS

A. Concrete: Concrete shall be Class B that conforms to the requirements of Section 03000 – Concrete (Site Work).
B. All other necessary materials shall comply with those described in Article 2.01 of Section 03000 – Concrete (Site Work).

Part 3.00 Execution

3.01 PREPARATION

A. Subgrade Condition:
1. The finished subgrade shall be maintained in a smooth, compact condition and any areas that are disturbed prior to placing of the concrete shall be restored at the Contractor's expense. The subgrade shall be moist at the time the concrete is placed. . Water shall be uniformly applied ahead of the pouring operations. Depressions with standing water and other obstructions shall be removed to a minimum depth of 6 inches below the finished subgrade elevation, and the space shall be backfilled with sand, base course material or other suitable material, which shall be thoroughly compacted by rolling or tamping.
2. The subgrade shall be accurately trimmed to the required elevation with a ¼-inch tolerance. High areas shall be trimmed to proper elevation. Low areas may be filled with suitable material and compacted to the specified density or filled with concrete integrally with the placing of the pavement.

B. Setting Forms: The forms shall be accurately set to line and grade and such that they rest firmly, throughout their entire length upon the compacted subgrade surface. Forms shall be jointed neatly and tightly and braced to resist the pressure of the concrete and the finished operations. The alignment and grade of all forms shall be approved before and immediately prior to the placing of concrete.
C. Slipforming: The slipforming method will be allowed, provided that an acceptable finished product, true to line, grade, and cross-section is consistently produced.
D. Mixing Concrete: Concrete shall be mixed in accordance with the requirements of Section 03000 –Concrete (Site Work).

3.02 INSTALLATION

A. Placing Concrete:
1. The concrete shall be distributed on the subgrade to such depth that, when it is consolidated and finished, the thickness required by the Drawings will be obtained at all points and the surface will at no point be below the grade specified for the finished surface. The concrete shall be deposited on the subgrade in a manner that will require as little rehanding as possible. Placing of the concrete shall be continuous between transverse joints, without the use of intermediate bulkheads.
2. Reinforcement shall be placed as shown on the Drawings and shall be maintained at this location during the placing and finishing operations.
3. Concrete shall be thoroughly consolidated against and along the faces of all forms by means of vibrators. Vibrators shall not be permitted to come in contact with the subgrade or a side form. Vibration at any one location shall not continue so long as to produce segregation or accumulation of mortar or grout on the surface.
B. Striking-off, Consolidating and Finishing Concrete: Immediately after the placing, the concrete shall be struck off, consolidated and finished, to produce a finished product conforming to the cross-section, width and surface finish required by the Drawings and Specifications.
C. Straightedging and Surface Corrections:
1. After floating has been completed and the excess water removed, but while the concrete is still in a plastic state, the surface of the concrete shall be tested for trueness with an accurate 10-foot straightedge. The straightedge shall be furnished by the Contractor. The straightedge shall be held in successive positions parallel to the walk centerline, in contact with the surface, and the whole area shall be tested from one side of the slab to the other as necessary. The advance along the walk shall be in successive stages of not more than one-half the length of the straightedge. Any depressions shall be immediately filled with freshly mixed concrete and struck-off, consolidated and refinished. High areas shall be cut down and refinished. Straightedge testing and surface correction shall continue until the entire surface appears to conform to the required grade and cross-section. All surface irregularities exceeding 1/4 inch in 10 feet shall be corrected.
D. Final Finish: For sidewalks, as soon as the water sheen has disappeared and just before the concrete becomes nonplastic, all edges, including expansion joint edges, shall be finished with an edging tool having a radius of 1/4 inch and a light broom finish shall be given to the surface perpendicular to the form. For curbs, as soon as the water sheen has disappeared and just before the concrete becomes nonplastic, a light broom finish shall be given to the surface in the longitudinal direction of the curb.
E. Joints–Sidewalks:
1. Transverse Construction Joints: Transverse construction joints shall be conducted at the end of all pours and at other locations where the pouring operation are stopped for as long as 30 minutes. Construction joints, however, shall not be placed within five feet of any other transverse joint or at either end of a section of walk. If sufficient concrete has not been placed to form a slab at least five feet long, the excess concrete, back to the last preceding joint, shall be removed. The joints shall be formed by placing a wood or metal bulkhead accurately and securely in place, in a plane perpendicular to the profile and centerline of the walk. Construction joints shall have tooled edges with a 1/4–inch radius.
2. Transverse Contraction Joints: Transverse contraction joints shall be formed at fivefoot intervals, unless otherwise shown on the drawings, and shall consist of planes of weakness created by an edging tool. The cut in the fresh concrete shall be perpendicular to the surface of the walk, shall extend to a depth of 1–1/2 inches below the top surface and shall have 1/4–inch radius tooled edges.
3. Transverse Expansion Joints: One–half inch expansion joints shall be formed by placing preformed joint filler around all structures and at intervals not exceeding 100 feet, or as shown on the Drawings
C. Joints–Curb, Curb and Gutter, and Traffic Separator:
1. Transverse Construction Joints: Transverse construction joints shall be constructed at the end of all pours and at other locations where the pouring operations are stopped for as long as 30 minutes. Construction joints, however, shall not be placed within five feet of any other transverse joint or at either end of a section of curb. If sufficient concrete has not been placed to form a slab at least ten feet long, the excess concrete, back to the last preceding joint, shall be removed. The joints shall be formed by placing a wood or metal bulkhead accurately and securely in place, in a plane perpendicular to the profile and centerline of the pavement. Construction joints shall be keyed, in a manner similar to contraction joints, so that a groove will be formed for holding the joint sealing compound.
2. Transverse Contraction Joints: Transverse contraction joints shall be constructed at ten–foot intervals and shall consist of planes of weakness created by sawing the surface of the hardened concrete. The cut shall be perpendicular to the surface of the pavement, and shall extend to a depth of six inches below the top of the curb and one and one–half inches below the gutter.
a. It shall be the Contractor's responsibility to see that the sawing equipment does not damage the curb and to saw the transverse contraction joints as soon as the curb, and curb and gutter has hardened to the degree that tearing and raveling are not excessive and before uncontrolled shrinkage cracking begins. If, at any time, uncontrolled cracking occurs, the Contractor will be required to modify his methods.
3. Transverse Expansion Joints: One–half inch expansion joints shall be formed by placing preformed joint filler at the ends of each radius return, around all structures, and at intervals not exceeding 300 feet.
4. Cleaning and Sealing Joints: Joints in gutters which are to be sealed, shall be filled with joint sealing material before the roadway is opened to traffic and as soon after completion of the curing period as is feasible. Just prior to sealing, each joint shall be thoroughly cleaned of all foreign material (including any membrane curing compound) and the joint faces shall be clean and surface–dry when the sealer is applied.
a. The sealing material shall be applied to each joint to conform to the details shown on the Drawings and in accordance with the manufacturer's recommendation. The pouring shall be done in such manner that the material will not be spilled on the exposed surfaces of the concrete. Any excess material on the surface of the concrete gutter shall be removed immediately and the gutter surface cleaned.
b. All cracks occurring in the gutter prior to its acceptance shall be cleaned out and sealed as specified above, except that the cracks and fractures shall be completely filled with joint sealer and any excess filler material cut down level with the gutter surface.

D. Curing:
1. After the finishing operations have been completed and as soon as the concrete has hardened sufficiently that marring of the surface will not occur, the entire surface and the edges of the newly placed concrete shall be covered and cured with membrane curing compound.
2. Curing compound shall be uniformly applied to the surfaces to be cured, in a single coat, continuous film, at the rate of one gallon to not more than 200 square feet, by a mechanical sprayer.
3. Curing compound shall not be applied during periods of rainfall. Curing compound shall not be applied to the inside faces of joints to be sealed. Should the film become damaged from any cause within the required curing period, the damaged portion shall be repaired immediately with additional compound. Upon removal of side forms the sides of the slabs exposed shall immediately be coated to provide a curing treatment equal to that provided for the surface.
E. Form Removal: After the concrete has sufficiently set a minimum of 12 hours, the Contractor shall remove the forms and shall 196 fill the minimum on each side. The earth shall be compacted and graded in a satisfactory manner without damage to the concrete work. Honeycombed areas and spalled concrete surfaces shall not be allowed on the face of the walk or curb. Rejected work shall be removed and replaced at the expense of the Contractor.

END OF SECTION

SECTION 02530 – DEWATERING SYSTEM

Part 1.00 General

1.01 SCOPE OF WORK

A. In general, the work specified in this Section consists of supplying labor, materials and performing all work necessary to lower and control the groundwater levels and hydrostatic pressures to permit all excavations and construction specified under this Contract to be performed in the dry.

1.02 EXAMINATION OF THE SITE AND REFERENCE DOCUMENTS

A. The Contractor shall take all the steps that he considers necessary to familiarize himself with the site conditions, the ground conditions and the groundwater conditions.
B. The Contractor shall obtain permits as required by local, state, or other agencies having jurisdiction over dewatering activities.
C. The Contractor shall obtain the geotechnical report(s) pertaining to the site from the Owner.

Part 2.00 Products

Not used

Part 3.00 Execution

3.01 METHOD

A. The Contractor may use any dewatering method he deems feasible so long as it results in working in the dry and stable soil conditions.
B. The Contractor shall install the permanent site underdrain system during the early stages of construction to aid in controlling the groundwater during construction.
C. The Contractor shall conform and meet all conditions, obtain necessary permits and requirements of the regulatory agencies that have jurisdiction.
D. The exhaust system of gasoline and diesel engines for dewatering pumps shall be equipped with mufflers, subject to the approval of the Engineer, said mufflers so designed as to provide maximum noise suppression. In the event the Engineer considers the muffling of gasoline or diesel driven pumps unsatisfactory, the Contractor shall be required to use electrically driven dewatering pumps. If a portable generator is used, the exhaust gas system of said generator shall also be properly muffled and subject to the approval of the Engineer.

3.02 DEWATERING REQUIREMENTS

A. It is the intent of these specifications that an adequate dewatering system be installed to lower and control the groundwater in order to permit excavation, grading and the placement of fill materials, all to be performed under dry conditions. The dewatering system shall be adequate to pre-drain the water-bearing strata above and below the bottom of the excavation.
B. The contractor shall be solely responsible for the arrangement, location and depths of the dewatering system necessary to accomplish the work described under this section of the specifications. The dewatering shall be accomplished in a manner that will maintain the hydrostatic pressure below the excavation to the extent that the water level in the construction area are a minimum of two (2) feet below the prevailing excavation surface and any surface to be compacted; will prevent the loss of fines, seepage, boils, quick conditions, or softening of the foundation strata; will maintain stability of the sides and bottom of the excavation; and will result in all construction operations being performed in the dry.
C. The Contractor shall promptly dispose of all water removed from the excavations in such a manner as will not endanger public health, damage public or private property, or affect adversely any portion of the work under construction or completed by him or any other Contractor. Contractor shall obtain written permission from the Owner for any property, involved before digging ditches or constructing watercourses for the removal of water.
D. The disposal of water from the dewatering system shall be coordinated with applicable portions of Section 02276 entitled Temporary Erosion and Sedimentation Control and the requirements of all regulatory agencies having jurisdiction.
E. If the dewatering requirements are not satisfied due to inadequacy or failure of the dewatering system, then loosening of the foundation strata, or instability of the slopes, or damage to the foundations or structures may occur. The supply of all labor and materials, and the performance of all work necessary to carry out additional work for reinstatement of the structures of foundation soil resulting from such inadequacy or failure shall be undertaken by the Contractor subject to the approval of the Engineer, and at no additional expense to the Owner.

END OF SECTION

SECTION 02577 – PAVEMENT MARKING

Part 1.00 General

1.01 WORK INCLUDED

A. The work included in this Section consists of furnishing all labor, materials, transportation, equipment and incidentals required to provide painted reflectorized traffic stripes, including edge stripes and traffic guides as shown on the Drawings and specified herein.

1.02 SUBMITTAL

A. Certification of testing laboratory as to compliance with State DOT Standard Specifications for Highway and bridge Construction (latest edition).

Part 2.00 Products

2.01 MATERIALS

A. Traffic paint shall conform to the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).
B. Thermoplastic traffic stripes and markings shall conform with the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).
C. Glass spheres for reflective paint shall conform with the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).

Part 3.00 Execution

3.01 APPLICATION

A. Equipment used, alignment, application and protection shall be in accordance with the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).

END OF SECTION

SECTION 02640 – VALVES AND APPURTENANCES

Part 1.00 General

1.01 SCOPE OF WORK

A. Furnish and install all valves and appurtenances as shown on the Drawings and as specified herein.
B. The equipment shall include, but not be limited to, the following:
1. Gate valves
2. Ball valves for PVC pipe
3. Check valves
4. Plug valves
5. Air and vacuum valves
6. Fire hydrants
7. Corporation stops
8. Expansion joints 9. Unions
9. Compression couplings
11. Hose bibbs
12. Hydraulic cushioned check valves
13. Pressure gauges

1.02 DESCRIPTION OF SYSTEMS

A. All of the equipment and materials specified herein are intended to be standard for use in controlling the flow of water, sewage, sludge, chemicals, etc., depending on the applications.
B. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will maintain this system. Contractor shall obtain a copy of the requirements from the agency.

1.03 QUALIFICATIONS

A. All of the types of valves and appurtenances shall be a product of well–established reputable firms who are fully experienced and qualified in the manufacture of the particular equipment to be furnished. The equipment shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these specifications as applicable.
B. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will maintain this system. Contractor shall obtain a copy of the requirements from the agency.

1.04 SUBMITTALS

A. Submit to the Engineer within 30 days after execution of the contract a list of materials to be furnished, the names of the suppliers and the date of delivery of materials to the site.
B. Complete shop drawings of all valves and appurtenances shall be submitted to the Engineer for approval.

1.05 TOOLS

A. Special tools required for normal operation and maintenance shall be supplied with the equipment.

Part 2.00 Products

2.01 MATERIALS AND EQUIPMENT

A. General:
1. All valves and appurtenances shall be of the size shown on the Drawings, and whenever possible, all equipment of the same type shall be from one manufacturer.
2. All valves and appurtenances shall have the name of the maker and the working pressure for which they are designed cast in raised letters upon some appropriate part of the body.

2.02 GATE VALVES

A. Gate valves for water shall meet the requirements of AWWA C509. Valves shall be rated for 150 psi working pressure and a minimum 300–psi test pressure. Valves shall be iron body, bronze–mounted, resilient seal double disc, parallel set, and non–rising stem type fitted with O–Ring seals. The operating nuts shall be 2 inches square. All valves shall open counter clockwise. Stuffing boxes shall be the O–Rings type. Gate valves shall be mechanical joint, ANSI/AWWA C111/A21.11, or flange joint, ANSI B16.1 Class 125, as shown on the Drawings.
B. All buried valves shall be fitted with cast iron three–piece adjustable valve boxes. The barrel shall be two–piece, screw type, having a 5–1/4 inch shaft. The upper section shall be provided with a heavy cast iron cover. Covers shall have "WATER" for water valves and "RECLAIM" for reclaim valves cast into the top. Valve boxes shall be provided with a concrete base as shown on the Drawings. Pour tee–bonded valve wrenches of suitable length shall be furnished to operate all valves within valve boxes.
C. Exposed valves shall be equipped with handwheels or chainwheels as shown on the Drawings. Handwheels shall be of ample size and shall have an ARROW and the word "OPEN" cast thereon to indicate the direction of opening.
D. Valves 12 Size or larger shall be provided with bevel or spur gears depending on the position of the valve as indicated on the Drawings. The gears shall be housed in a grease case of the extended yoke type to permit repacking the stuffing box of the valve without disassembly. Valves 16 inches or larger designed to lie horizontally shall be equipped with rollers to carry the weight of the wedge throughout its travel.
E. Valve wrenches and extension stems shall be provided by the manufacturer.

2.03 BALL VALVES FOR PVC PIPE

A. Ball valves for PVC pipe shall be of PVC Type 1 with union, socket, threaded or flanged ends as required. Ball valves shall be full port, full flow, all plastic construction, 150 psi rated with Teflon seat seals and T–handles.
B. All valves shall be mounted in such a position that valve position indicators are plainly visible when standing on the floor.

2.04 CHECK VALVES

A. Check valves for cast iron and ductile iron pipe shall be swing type and shall meet the material requirements of AWWA Specification C500. The valves shall be iron body, bronze mounted, single disc, 150 psi working water pressure, nonshock, and hydrostatically tested at 300 psi. Ends shall be 125 pound ANSI B16.1 flanges or 125 pound ANSI B2.1 threaded fittings depending upon location.
B. When there is no flow through the line, the disc shall hang lightly against its seat in practically a vertical position. When open, the disc shall swing clear of the waterway.
C. Check valves shall have bronze seat and body rings, stainless steel hinge pins and bronze nuts on the bolts of bolted covers.
D. Valves shall be so constructed that disc arid body seat may easily be removed and replaced without removing the valve from the line. Valves shall be fitted with an extended hinge arm with outside lever and spring or weight.
E. Check valves for small diameter PVC pipe shall be of PVC Type 1, Series BC with union, socket, threaded or flanged ends as required.

SECTION 02640 – VALVES AND APPURTENANCES – CONTINUED

2.05 PLUG VALVES

A. Plug valves for sewer piping shall be non–lubricated eccentric plug type with semi–steel bodies, resilient faced plugs, and welded nickel seats. Port areas shall be at least 80 percent of full pipe area. Valves shall be capable of drip–tight shutoff at pressure differentials up to the full rating of. the valve with pressure in either direction. All exposed nuts, bolts, springs, and washers shall be zinc plated, except exposed hardware for submerged valves shall be stainless steel. Valve bodies shall be furnished with 125/150–pound ANSI standard flanged ends, or mechanical joints, as shown on the Drawings.
B. All valves 20 inches or larger shall be equipped with gear actuators. All gearing shall be enclosed, suitable for running in oil, with seals provided on all shafts to prevent entry of dirt and water into the actuator. All shaft bearings shall be furnished with permanently lubricated torque bearing bushings. Actuator shall clearly indicate valve position and an adjustable stop shall be provided. Construction of actuator housing shall be semi–steel. Plug valves installed such that actuators are 6 feet or more above the floor, shall be provided with chainwheels and chains.
C. Where shown on the drawings, plug valves shall be installed with extended shafts and actuators. Actuator for extended shafts shall be mounted on floor stands where indicated on the Drawings or shall have removable handwheels where floor stands are not called for. Six–inch sleeves shall be provided for extended shafts in all floors, and covers shall be provided where necessary. Shafts shall be of adequate strength to operate the valve, and shall be 304 stainless steel where submerged and carbon steel elsewhere. Floor stands shall be equipped with valve position indicators and a lock for handwheel.
D. All buried valves shall be furnished with three–piece cast iron adjustable valve boxes. The barrel shall be two–piece, screw type, having a 5–1/4 inch shaft. The upper section shall be completed with cast iron cover. Covers shall have "SEWER" cast into the top. Valve boxes shall be provided with concrete base as shown on the Drawings
E. All plug valves shall be installed so that the direction of flow through the valve is in accordance with the manufacturer's recommendations.

2.06 AIR RELEASE VALVES – AIR AND VACUUM VALVES AND COMBINATION

A. The air release valves and air and vacuum release valves shall be suitable for sewage or water, rated for working pressure, and shall have a cast iron body and cover, stainless steel float and trim, and Buna–N seat. The fittings shall be threaded. Valves shall be furnished with backwash accessories. Valves shall meet AWWA C–507. Valves used in potable water service shall be certified to meet NSF/ANSI 61 Drinking Water System Components. Valve body and cover shall be constructed of ASTM A126 Class B cast iron for working water pressure of up to 300 psi.
B. Check assembly air and vacuum release valves shall be able to allow air or gas to escape during the liquid filling process and to permit air to enter when the system is drained, partially drained or the flow is stopped, causing the system pressure to drop below atmospheric pressure. The valves shall be of the large orifice, floating ball type. The body shall be of flanged gray cast iron construction with integral seat and ball retaining rolls. The ball shall be a hollow steel sphere with a smooth covering of nitril rubber. The valve shall be suitable for 150 psi working pressure and a temperature of 185 degrees F. Flanged end in the dry. an integral with body casting, flat faced and drilled to ANSI B16.1, Class 125 cast iron standard.

2.07 FIRE HYDRANTS

A. Fire hydrants shall be 5–1/4 inch minimum valve opening and shall comply with the current AWWA Standard Specification C502–05 with the fire hydrants for water service. Each hydrant shall have 6–inch mechanical joint ends with strapping lugs and shall open by turning counterclockwise. The hydrant shall be of compression type, 1–1/2 inch pentagon nut of bury, and be furnished with a safety flange and compression type main valve. It shall be provided with two 2–1/2 inch hose nozzles and one 4–1/2 inch pumper nozzle, all having National Standard threads. Hose nozzles shall be attached by means of chain to the hydrant. Operating nuts shall be AWWA Standard (pentagonal, measuring 1–/2 inch point to flat). Fire hydrants shall be supplied with ball–valving bonnet and "O–Ring" seals. All hydrants shall be painted in accordance with the specifications in a color to correspond to the present standard of the city having jurisdiction.
1. Hydrants shall be installed plumb and in true alignment with the connection pipes to the water main. They shall be securely braced against the end of the trench (undisturbed earth) by concrete blocks. The hydrant shall be set to proper depth for the drain sump, followed by backfilling, shall be carefully placed and compacted).
B. Prior to installation of cast couplings, the pipe ends shall be cleaned thoroughly for a distance of 8 inches. Use pipe manufacturer pipe lubricant that does not support bacterial growth and is non–toxic, water soluble, imparts neither taste or odor to the conveyed water and is ANS/NSF approved as a gasket lubricant. A follower and gasket, in that order, shall be slipped over each pipe to a distance of about 6 inches from the end, and the middle ring shall be placed on the already laid pipe and until it is properly centered over the joint. The other pipe end shall be inserted into the middle ring and brought to proper position in relation to the pipe already laid. The gaskets and followers shall then be pressed evenly and firmly in the middle ring flares. After the bolts have been inserted and all nuts have been made up finger–tight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joint, preferably by use of a torque wrench of the appropriate size and torque for the bolts.

2.08 CORPORATION STOPS AND CURB STOPS

A. Corporation stops and curb stops shall be oil brass and bronze suitable for 150 psi operating water pressure and conforming with connections compatible with connecting service pipe type, threaded in accordance with AWWA C800–05, and shall be of size required and/or noted on the Drawings.

2.09 EXPANSION JOINTS

A. Joints in the arch type with the number of arches dependent on movement, as shown on Drawings. They shall be constructed of multiple plies of woven fabric, impregnated with viton and reinforced with welded steel rings imbedded in the body. They shall have flanges integral with the body of Neoprene/Hypalon rubber, with ANSI 125 pound drilling, and a Hypalon coating applied at the factory for protection from ozone–and weathering. Each end flange with the backup ring shall be furnished with 3/8" thick–neoprene gasket. Joints shall be installed in accordance with manufacturer's recommendations.
B. Control units (restraining rods) shall be installed if adequate anchoring is not practical, in accordance with the manufacturer's standard installation instructions. Rods and plates should be steel, and rubber grommets should be used to isolate the rods from the plates.

2.10 COMPRESSION COUPLINGS

A. Compression couplings and compression fittings for piping 2 inches in diameter and smaller shall conform to ASA specifications for 150 psi rated fittings. Coupling bodies shall be seamless steel, and fitting bodies shall be malleable iron. Retainer rings shall be steel. Fittings for copper tubing shall be constructed of brass. When pipe movement will occur, and rubber grommets should be used to isolate the rods from the plates.
B. Copper Pipe: Copper pipe or tubing for underground installation shall be Type K and conform to the requirements of AWWA C901/ASTM D 2737, and shall have a minimum pressure class of 160 with DR 9. Polyethylene materials shall be PE 3406 and shall conform, to ASTM D 3350.
E. Polyethylene Pressure Pipe: Polyethylene pressure pipe for service lines shall be iron pipe sized and approved for potable water use by the National Sanitation Foundation. Pipe shall bear the NSF seal and conform to the requirements of AWWA C901/ASTM D 2239, and shall have a minimum pressure class of 160 with IDR 7. Polyethylene materials shall be PE 3406 and shall conform to ASTM D 3350.

Part 3.00 Execution

3.01 PREPARATION

A. Clearing: The Contractor shall perform all necessary clearing operations for the installation of the water pipe and appurtenances as specified in Section 02221Trenching, Backfilling and Compaction for Utility Systems.
B. Cleanliness: The interior of the pipes shall be thoroughly cleaned of all foreign matter before being lowered into the trench and shall be kept clean during laying operations by means of plugs approved by the Engineer.

3.02 PERFORMANCE

A. The Contractor shall perform all necessary operations, such as excavation, dewatering, foundation preparation, pipe bedding, backfilling, backfill compaction, etc, for the proper installation of the water pipe as specified in Section 02221– Trenching, Backfilling and Compaction for Utility Systems.
B. Water in Excavation: Water shall not be allowed in the trenches while the pipes are being laid and/or tested. The Contractor shall not open more trench than the available pumping facilities are able to dewater. The Contractor shall assume responsibility for disposing of all water so as not to injure or interfere with the normal drainage of the area. The Contractor shall not cause damage to existing structures. In no case shall the pipelines being installed be used as drains for such water, and the ends of the pipe shall be kept properly and adequately blocked during construction by the use of stoppers approved by the Engineer. All necessary precautions shall be taken to prevent the entrance of dirt, mud, or other objectionable material into the pipelines.
C. Clean up: During the progress of work, the Contractor shall clean up the work area as each section of pipe is completed and backfilled completed. Upon completion of the work, all trash, debris and excess material must be hauled away and disposed of to the satisfaction of the Engineer. The completed work shall be cleared and graded to a condition at least equal to that existing before the start of construction.

3.03 INSTALLATION

A. Pipe:
1. Gradient: Lines shall be laid straight and to grade, as indicated on the Drawings, with a minimum of 36 inches of cover or deeper if required by local frost depth, maintained with respect to finish grade.
2. Pipe Joint Deflection: Whenever it is desirable to deflect pipe, the amount of deflection shall not exceed the maximum limits as shown in AWWA Standard C600 for ductile iron pipe and the maximum limits as established by the manufacturer of PVC pipe.
3. Rejects: Any pipe found defective shall be immediately removed and replaced with sound pipe at the Contractor's expense.
4. Anchors: Concrete thrust blocks shall be placed at all bends, tees, plugs and other fittings to provide lateral support, except when restrained joints are specified. Thrust blocks shall conform to the details shown on the Drawings and shall be of Class C concrete.

B. Ductile Iron Pipe Joints:
1. Mechanical Joints: All types of mechanical joint pipes shall be laid and jointed in full conformance with manufacturer's recommendations, which shall be submitted to the Engineer for review and approval before work is begun,
2. Push–on Joints: Push–on joints shall be made in strict, complete compliance with the manufacturer's recommendations. Lubricant, if required, shall be an inert, nontoxic, water–soluble compound incapable of harboring, supporting, or culturing bacterial life. Lubricant is as specified by ANSI/NSF61.

C. Concrete Encasement:
1. Concrete encasement shall be constructed in accordance with details shown on the Drawings and shall be constructed of Class C concrete.
2. The points of beginning and ending of pipe encasement shall be not more than 6 inches from a pipe joint to protect the pipe from cracking due to uneven settlement of its foundation or the effects of superimposed live loadings.

D. Service Connections:
1. Service connections of the size and type called for on the Drawings shall be provided per local utility standards.
2. Connections to water mains 4 inches and larger shall be made by drilling the appropriate size holes and installing service saddles. Service to smaller pipe sizes shall be accomplished by in–line fittings.
3. On curbed streets, the exact location for each service connection shall be marked by etching or cutting a "W" in the concrete curb. Where no curb exists or is planned, locations shall be marked by a method approved by the Engineer.

E. Roadway Crossing:
1. Roadway crossings which require jacking and boring, as identified on the Drawings, shall use steel casing and jacking procedures conforming to the requirements of the State Department of Transportation having jurisdiction as outlined in Utility Accommodation Policy and any supplements thereto. Right–of–way property and surface conditions shall be restored at least equal to their original condition.
2. The casing shall maintain a minimum 30–inch clearance under the roadway surface. Plastic skids for slipping the carrier pipe through the casing shall be spaced per the manufacturer's recommendations and the skids shall be permanently banded to the carrier pipe. After the carrier pipe has been tested for leakage the ends shall be sealed with an 8–inch course of brick masonry with a weep hole installed near the bottom of each wall. A vent shall be installed as indicated on the Drawings.

F. Connection to Existing System:
1. All connections to existing mains shall be made after complete disinfection of the proposed system and shall be made under the direction of the owners of the existing system. Valves separating the mains being installed from existing mains shall be operated by or under the direction of said owner's representative. The cost of the work in making the connections shall be paid for by the Contractor.
2. In the event any existing users will be without water while a connection is being made, the Contractor shall notify them when the water will be turned off and when he estimates service will be resumed. In some instances, these connections may have to be made at night. No user shall be without water service for more than two hours or as allowed by the local water utility.

SECTION 02660 – WATER DISTRIBUTION SYSTEM

Part 1.00 General

1.01 WORK INCLUDED

A. The work included under this Section consists of furnishing all material, equipment, transportation, tools and labor to install water mains, valves, fittings, specials, and other appurtenances, as shown on the Drawings or specified herein, including flushing, testing and sterilizing for a complete job ready to operate.

1.02 RELATED WORK

A. Section 02210 – Site Earthwork
B. Section 02221– Trenching, Backfilling and Compaction for Utility Systems
C. Section 02530 – Dewatering System
D. Section 02640 – Valves and Appurtenances
E. Section 03000 – Concrete

1.03 QUALITY ASSURANCE

A. Design Requirements:
1. PVC water mains 4 inches and larger in diameter shall be constructed with cast or ductile iron fittings.
2. PVC pipe shall not be used for water mains larger than 12 inches in diameter.
3. Water mains 4 inches to 12 inches in diameter shall be PVC or ductile iron as shown on the Drawings.
4. Water mains larger than 12 inches in diameter shall be ductile iron, unless otherwise noted on the Drawings.

B. Storage: All pipe shall be stored on level ground, preferably turf or sand, free of sharp objects which could damage the pipe. Stacking of pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes. Where necessary, due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.
C. Pipe Inspection: The Contractor shall obtain from the pipe manufacturers a certificate of inspection to the effect that the pipe and fittings supplied have been inspected at the plant and that they meet the requirements of these Specifications. All pipe will be inspected upon delivery and that which does not conform to the requirements of these Specifications shall be rejected and must be immediately removed from the site by the Contractor.
D. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will own and maintain this system. Contractor shall obtain a copy of the requirements form the agency.

1.04 SUBMITTALS

A. Shop Drawings: In general, six (6) copies of the following shop drawings shall be submitted to the Engineer for approval prior to construction:
1. Mill test certificates and reports on the pipe and fittings.
2. Details of restrained and flexible joints
3. Hydrants
4. Meter vaults and boxes
5. Valves and valve boxes
6. Service pipe connection assemblies
7. Joint lubricant
8. Restrained Joints

Part 2.00 Products

2.01 MATERIALS

A. Ductile Iron Pipe and Fittings:
1. Ductile Iron Pipe: Ductile iron pipe shall conform to the requirements of ANSI Standard A21.51/ C151. A minimum of Class 50 pipe shall be supplied.
2. Fittings:
a. All ductile iron fittings shall be mechanical joint or single gasket push–on type with a minimum pressure rating of 350 psi and shall conform to the requirements of ANSI/AWWA A21.53/C153.
b. Mechanical joint and/or single gasket push–on type fittings shall be cement lined, seal coated and outside coated as specified above for ductile iron pipe.

3. Joints: Mechanical joints consisting of bell, socket, gland, gasket, bolts and nuts shall conform to ANSI/AWWA A21.11/C111. Bolts shall be high strength, annealed cast iron or low alloy steel, T–head type having hexagonal nuts. Bolts and nuts shall be machined true and nuts shall be tapped at right angles to a smooth bearing surface. Single seal gasket push on type joints shall conform to the requirements of ANSI A21.11. Flanged joints shall conform to ANSI Standard B16.1–125 LB.
3. Restrained Joints: Restrained joints may be of the types fabricated by the various manufacturers, upon approval by the Engineer of details submitted by the Contractor. Restrained joints that require field welding will not be acceptable. The thickness of the socket portion of the pipe barrel remaining at grooves shall be not less than that required for the design wall thickness. Joints using set screws will not be acceptable. Restrained joints shall be furnished for 24 inches and larger pipe at changes in direction of the water main.
4. Gaskets: Gaskets shall be of vulcanized synthetic rubber compound, chloride plastisol. Gaskets shall have plain tips unless otherwise specified. Gaskets shall meet ANSI/AWWA C111/A21.11.

B. Polyvinyl Chloride Pipe:
1. Pipe:
a. PVC Pipe (4 inches to 12 inches in diameter) shall be manufactured from polyvinyl chloride resin conforming to ASTM Designation D1784. Pipe of this material shall conform to AWWA C900. The pipe shall bear the National Sanitation Foundation (NSF) seal for potable water pipe. Pipe shall have a minimum dimension ratio number of 18 and shall be supplied in standard lengths of 20 feet.
b. PVC Pipe (14 inches to 36 inches in diameter) shall be manufactured from polyvinyl chloride resin conforming to ASTM Designation D1784. Pipe of this material shall conform to AWWA C905. The pipe shall bear the National Sanitation Foundation (NSF) seal for potable water pipe. Pipe shall have a dimension ratio number of 25 and a pressure class rating of 165. Pressure class 235 shall meet DR18 and shall be supplied in standard lengths of 20 feet.

2. Joints:
a. All joints for PVC pipe 2 inches and larger shall be push–on type– joints. Joints shall conform to the requirements of ASTM Designation D 3139 and provide for the pressure rating of the pipe.
b. Joints in PVC pipe smaller than 2 inches shall be solvent welded in accordance with the recommendations of the pipe manufacturer.

A. Prestressed Concrete Pipe (PCP): Pipe, fittings and specials shall conform to AWWA Standard C301, "Prestressed Concrete Pressure Pipe, Steel Cylinder Type, for Water and Other Liquids." Fittings and specials shall be Type "B". The pipe interior shall receive a bituminous seal coat as specified in AWWA C104, unless other special protective linings are specified. Gaskets shall be of a material composition suitable for the specific service application. Pipe design shall be in accordance with AWWA C301, for the maximum operational internal pressure and external loading. The Contractor shall submit said design calculations from the manufacturer to the Engineer.
B. Copper Pipe: Copper pipe or tubing for underground installation shall be Type K and conform to the requirements of ASTM Designation B 251. Fittings shall be brass with approved compression or flare type connections.
C. Galvanized Steel Pipe:
1. Pipe Material: Galvanized steel pipe shall be Schedule 40 and conform to the requirements of ASTM Designation A 120.
2. Fittings: Fittings for galvanized steel pipe shall be galvanized malleable iron pipe, 150 pound, Type U, conforming to Federal Specification WW–P–521.
3. Joints: Joints shall be standard screw thread type.

F. Polyethylene Tubing: Polyethylene tubing for service lines shall be municipal service copper tube sized and approved for potable water use by the National Sanitation Foundation. Tubing shall bear the NSF seal and conform to the requirements of AWWA C901/ASTM D 2737, and shall have a minimum pressure class of 160 with DR 9. Polyethylene materials shall be PE 3406 and shall conform, to ASTM D 3350.
E. Polyethylene Pressure Pipe: Polyethylene pressure pipe for service lines shall be iron pipe sized and approved for potable water use by the National Sanitation Foundation. Pipe shall bear the NSF seal and conform to the requirements of AWWA C901/ASTM D 2239, and shall have a minimum pressure class of 160 with IDR 7. Polyethylene materials shall be PE 3406 and shall conform to ASTM D 3350.

Part 3.00 Execution

3.01 PREPARATION

A. Clearing: The Contractor shall perform all necessary clearing operations for the installation of the water pipe and appurtenances as specified in Section 02221Trenching, Backfilling and Compaction for Utility Systems.
B. Cleanliness: The interior of the pipes shall be thoroughly cleaned of all foreign matter before being lowered into the trench and shall be kept clean during laying operations by means of plugs approved by the Engineer.

3.02 PERFORMANCE

A. The Contractor shall perform all necessary operations, such as excavation, dewatering, foundation preparation, pipe bedding, backfilling, backfill compaction, etc, for the proper installation of the water pipe as specified in Section 02221– Trenching, Backfilling and Compaction for Utility Systems.
B. Water in Excavation: Water shall not be allowed in the trenches while the pipes are being laid and/or tested. The Contractor shall not open more trench than the available pumping facilities are able to dewater. The Contractor shall assume responsibility for disposing of all water so as not to injure or interfere with the normal drainage of the area. The Contractor shall not cause damage to existing structures. In no case shall the pipelines being installed be used as drains for such water, and the ends of the pipe shall be kept properly and adequately blocked during construction by the use of stoppers approved by the Engineer. All necessary precautions shall be taken to prevent the entrance of dirt, mud, or other objectionable material into the pipelines.
C. Clean up: During the progress of work, the Contractor shall clean up the work area as each section of pipe is completed and backfilled completed. Upon completion of the work, all trash, debris

SECTION 02720 –STORM DRAINAGE STRUCTURES, PIPES AND FITTINGS – CONTINUED

Part 3.00 Execution

3.01 PREPARATION

A. Clearing: The Contractor shall perform all necessary clearing operations for the installation of the storm drainage structures, pipe and fittings as specified in Section 02210 – Site Earthwork, Section 02220 – Structure Excavation and Backfill, and Section 02221– Trenching, Backfilling and Compaction for Utility and Drainage Systems.

3.02 PERFORMANCE

A. The Contractor shall perform all necessary operations, such as excavation, dewatering, foundation preparation for structures, pipe bedding, backfilling, backfill compaction, etc., for the proper installation of the storm drainage structures, pipe and fittings as specified in Section 02220–Structure Excavation and Backfill, and Section 02221–Trenching, Backfilling, and Compaction for Utility and Drainage Systems.

B. Installation

1. Laying Concrete Pipe:
   a. All pipe shall be carefully laid true to the line and grade shown on the Drawings. Any deviation from true alignment or grade which would result in a displacement from the normal position of the gasket of as much as 1/4 inch, or which would produce a gap exceeding 1/2 inch between sections or pipe for more than 1/3 of the circumference of the inside of the pipe, will not be acceptable and where such occurs, the pipe shall be relaid without additional compensation. No mortar, joint compound, or other filler which would tend to restrict the flexibility of the gasket joint shall be applied to the gap. Pipes having defects that have not caused their rejection are to be so laid that these defects will be in the upper half of the pipe.
   b. Before installation of the pipe gasket, the gasket and the surface of the pipe joint, including the gasket recess shall be clean and free from grit, dirt, or other foreign matter at the time the joints are made. In order to facilitate closure of the joint, application of an approved vegetable soap lubricant immediately prior to closing of the joint will be permitted.
   c. All pipes shall be laid with bells or grooves uphill. As the pipes are laid throughout the work, they must be thoroughly cleaned and protected from dirt and water. No length of pipe shall be laid until the two preceding lengths have been thoroughly embedded in place so as to prevent any movement or disturbance of the finished joint. No walking on or working over the pipes after they are laid, except as may be necessary in tamping earth and refilling, will be permitted until they are covered to a depth of one foot. Fill placed around the pipe shall be deposited on both sides simultaneously to approximately the same elevation and uniformly compacted. Whenever the pipe laying is discontinued, as at night, the unfinished end is to be securely protected from displacement due to caving of the banks or from other injury and a suitable stopper is to be inserted therein.
2. Laying Corrugated Pipe:
   a. All corrugated pipe shall be carefully laid, true to the line and grade shown on the Drawings. The pipe gasket and coupling band shall be. centered over the joint with the coupling bank bolts securely tightened without cutting the gasket.
   b. Fill placed around the pipe shall be deposited on both sides simultaneously to, approximately the same elevation and uniformly compacted. Whenever the pipe laying is discontinued, as at night, the unfinished end is to be securely protected from displacement due to caving of the banks or from other injury and a suitable stopper is to be inserted therein.
3. Drainage Structures
   c. Concrete inlets or other structures shall be constructed in conformity with the Drawings. Forms shall be designed and constructed so that they may be removed without injury to the concrete and shall be left in place for at least 24 hours after concrete is poured. Concrete shall be thoroughly tamped and shall be cured for at least 5 days after removal of forms. Honeycomb places shall be thoroughly cleaned, saturated with water and pointed up with mortar.
   d. Precast inlets or other structures may be used in lieu of cast–in–place structures. Grates are to be set in place in mortar to the proper line and grade.

3.03 TESTING STRUCTURES

A. Leakage: The watertightness of manholes and inlets (except for bottomless types) may be tested, at the Engineer's option, at the time the structure is completed and backfilled. The test procedure is as follows:
1. Fill the structures with water to an elevation 1 foot below the start of the cone section with a minimum depth of 4 feet and a maximum depth of 20 feet.
2. Plug all inlets and outlets with approved stoppers or plugs.
3. Record the water surface drop during a 15–minute period. The maximum allowable drop in water surface is 1/2 inch for each 15–minute period. If the leakage exceeds this rate, the Contractor shall repair or replace the structure so as to provide a structure which will meet the required watertightness standards.

END OF SECTION

SECTION 02730 – SANITARY SEWAGE SYSTEM

Part 1.00 General

1.01 WORK INCLUDED

A. The work included in this Section consists of furnishing all labor, equipment and materials necessary for the construction of gravity sanitary sewer lines, manholes, laterals, sewer connections and oppurtenances as shown on the Drawings and specified herein.

1.02 RELATED WORK

A. Section 02210 – Site Earthwork.
B. Section 02220 – Structure Excavation and Backfill.
C. Section 02221 – Trenching, Backfilling and Compaction.
D. Section 02530 – Dewatering System.
E. Section 03000 – Concrete (Site Work).

1.03 QUALITY ASSURANCE

A. Details and shop drawings of the manholes, proposed to be furnished for this work, are submitted to and approved by the Engineer prior to the manufacture of the units. Manholes which are not manufactured in strict compliance with the approved shop drawings and these specifications will be rejected.
B. The Contractor shall furnish shop drawings on all pipe, fittings and other appurtenances to show conformity with plans and specifications.
C. Tests: Certified records of the tests made by the manufacturer, or by a reliable commercial laboratory, or both, shall be submitted with each shipment of pipe. All pipe will be inspected upon delivery and that which does not conform to the requirements of these specifications shall be rejected and must be immediately removed by the Contractor. The Contractor shall furnish and provide samples of pipe for the performance of such additional tests, as the Owner may deem necessary.
D. Each length of pipe shall bear the name or trademark of the manufacturer, the location of the manufacturing plant, and the class or strength classification of the pipe. The markings shall be plainly visible on the pipe barrel. Pipe, which is not marked, clearly is subject to rejection. All rejected pipe shall be promptly removed from the project site by the Contractor.
E. For precast manhole structures, the date of manufacture and the name or trademark of the manufacturer shall be clearly marked on each precast section.
F. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will maintain this system. Contractor shall obtain a copy of the requirements from the agency.

1.04 SUBMITTALS

A. Shop Drawings:
1. Shop drawings shall be submitted to the Engineer for approval prior to construction. Where applicable, the following information shall be submitted:
   a. Precast manholes.
   b. Manufacturer's certification of conformance to ASTM requirements for precast structures.
   c. Manhole frames, covers and other castings.
   d. Manufacturer's certification of conformance to ASTM requirements for castings.
   e. Pipe joint and fittings.
   f. Mill Test Certificates on ductile iron pipe.
   g. Certified test records for polyvinyl chloride pipe.
   h. Pipe adapters.

B. Record Information: The Contractor shall submit to the Engineer the stations and left or right offsets of all services (terminal ends) as measured from the nearest downstream manhole along the centerline of the sewer, along with the elevations of the manhole covers and inverts of all pipes in the manholes.

Part 2.00 Products

2.01 MATERIALS

A. Pipe used in gravity sewer construction shall be polyvinyl chloride pipe (PVC) or ductile iron pipe (DIP).
B. Polyvinyl Chloride Pipe (PVC):
1. PVC pipe and fittings for gravity sewer lines shall be manufactured from polyvinyl chloride resin conforming to ASTM Designation D–1784.
2. PVC pipe and fittings, 4–inches to 15–inches in diameter, shall conform to the requirements of ASTM Designation D–3034, and shall have a Standard Dimension Ratio (SDR) of not more than thirty–five (35). PVC pipe and fittings, 18–inches to 27 inches in diameter, shall conform to the requirements of ASTM Designation F–679, and shall have a Standard Dimension Ratio (SDR) of not more than thirty–five (35).
3. All PVC pipe shall bear the NSF–DW seal. The minimum standard length of pipe shall be 13 feet.
4. PVC pipe joints shall be integral bell elastomeric gasket joints manufactured in accordance with ASTM D–3212 and ASTM F–477. Rubber sealing rings shall be factory installed.
5. Minimum pipe stiffness (F/ΔY) at 5 percent deflection shall be 46 psi for all sizes tested in accordance with ASTM Method of Test D–2412.
6. Polyvinyl chloride pipe shall be stored on level ground, preferably turf or sand, free of sharp objects which could damage the pipe. Stacking of the polyvinyl chloride pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes. Where necessary, due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.
7. All PVC pipe, fittings, and specials shall be manufactured by J–M Manufacturing Company, CertainTeed or approved equal.

C. Ductile Iron Pipe:
1. Ductile iron pipe shall conform to the requirements of ANSI/AWWA A21.51/C151, with a class thickness in conformance with the requirements of ANSI/AWWA A21.50/C150. The pipe shall be furnished in minimum standard lengths of 18 feet.
2. Fittings shall conform to ANSI Standard A21.10,150 psi minimum pressure rating. Fittings shall have the same lining as adjacent piping.
3. Joints shall be mechanical type or "push–on" type conforming to ANSI Standard A21.11.
4. Coatings and Linings: Interior and exterior of ductile iron pipe shall be polyethylene lined. The lining shall extend from the plain end of the pipe to the gasket set of the bell socket. Not less than five (5) percent of the pipe shall be checked from dry mil thickness, with compliance certification submitted to the Engineer.
   a. Bituminous exterior coating, when polyethylene lining is not required, shall have a dry thickness coating a minimum of 20 mils (0.02 inches) and shall be Koppers Bitumastic 300–M, or approved equal.
   b. Polyethylene interior lining shall comply with AWWA C116 and shall be compounded with enough carbon black during manufacture to resist ultraviolet rays during above ground storage. The polyethylene lining shall be fused to the interior of the pipe by heat, forming a tightly bonded lining, with minimum 40 mils dry thickness. The polyethylene lining system shall be "Polybond", as manufactured by the American Cast Iron Pipe Co., or approved equal.

D. Casing Pipe: Casing pipe shall be steel pipe that conforms to the requirements of ASTM Designation A–139 Grade B and have a yield strength of 35,000 psi. Joints for steel casing shall be single–butt weld and shall conform to AWWA Standard C–206. Casing pipe wall thickness for roadway crossings shall not be less than that listed in the following schedule:

| Nominal Outside Diameter (inches) | *Nominal Thickness (inches) |
|---|---|
| 18 or less | 0.250 |
| 20 | 0.281 |
| 24 | 0.344 |
| 26 | 0.375 |
| 28 or 30 | 0.406 |

SECTION 02730 – SANITARY SEWAGE SYSTEM – CONTINUED

C. Pipe Adapters:
1. Donut pipe adapters shall be manufactured from virgin polyvinyl chloride (PVC) or polyurethane adaptable to similar or dissimilar pipes of the same or different sizes. Donuts shall be as manufactured by Femco Joint Sealer Company, Dickey Company or approved equal.
2. Flexible couplings shall be manufactured from virgin polyvinyl chloride (PVC) or polyurethane adaptable to similar or dissimilar pipes of the same or different sizes. The flexible coupling shall be as manufactured by Femco Joint Sealer Company, Can–Tex or approved equal and supplied with No. 304 stainless steel bands.
3. Connection of gravity sewer lines to precast manholes and wetwells shall be made by using a watertight resilient connector conforming to the requirements of ASTM Designation C–923.

F. Pipe Fittings: Unless otherwise specified, wye branches shall be provided in the gravity sewer main for service lateral connections. Wyes shall be 6 inches inside diameter, unless otherwise indicated on the Drawings. All fittings shall be of the same material as the pipe. Plugs for stubouts shall be of the same material as the pipe and gasketed with the same gasket material as the pipe joint. The plug shall be secured to withstand system test pressures.

G. Concrete and Reinforcing Steel: Concrete and reinforcing steel shall conform to the requirements of Section 03000 – Concrete (Site Work). Concrete classes for the various purposes shall be as follows:
1. Manhole bottoms, Class A
2. Precast manholes, Class B (minimum)
3. Pipe and miscellaneous cement, Class C

H. Protective slabs, Class C

Castings: Gray iron castings for manhole frames, covers and other items shall conform to the ASTM Designation A–48, Class 30. Castings shall be true to pattern in form and dimensions, free from cold or defective flaws and other defects in positions which would impair their strength or otherwise make them unfit for the service intended. The seating surfaces between frames and covers shall be machined to fit true. No plugging or filling will be allowed. Lifting or "pick" holes shall be provided, but shall not penetrate the cover. Casting patterns shall conform to those shown or indicated on the Drawings. The words SANITARY SEWER shall be cast in all manhole covers. All manhole frames and covers shall be furnished bearing to meet AASHTO H–20 loadings. Frames shall be suitable for the future addition of a cast iron ring for upward adjustment of the top elevation.

I. Bricks: Brick for manhole construction shall be dense, hard burned, shale or clay brick conforming toASTM Designation C–216, Grade SW, Size 31/2 inch (W) x 8 inches (L) X 21/4 inch (H).

J. Cement Mortar: Cement mortar for manhole construction shall comply with ASTM Designation C–270, Type M, except that the cement shall be Portland Type I or II only. No mortars that have stood for more than one hour shall be used.

K. Coal Tar Epoxy: Coal tar epoxy shall be Koppers Bitumastic No. 300M, Tnemec TnemeTar No. 46–413 or approved equal.

L. Joint Sealer: Joint sealer material for precast manhole structures shall be cold adhesive preformedflexible plastic gaskets conforming with FOOT Standard Specifications for Road and Bridge Construction (latest edition), Section 942–2. The joint sealer material shall be "Ram–Nek, as manufactured by, K.T. Snyder Co., Inc., or approved equal.

M. Non–Shrink Mortar: Non–shrink mortar for filling annular spaces between precast manhole walls and pipe coupling adapters shall be Embeco No. 167 Mortar or approved equal.

Part 3.00 Execution

3.01 PREPARATION

N. Bedding:
1. Pipe Cradle: Upon satisfactory installation of the pipe bedding, as specified in Section 02221– Trenching, Backfilling and Compacting for Utility and Drainage Systems, a continuous trough for the pipe barrel shall be formed. Recesses for the pipe bells or couplings shall be excavated by hand digging. When the pipe is laid in the prepared trench, true to line and grade, the full bed of the barrel of the pipe shall provide uniform support and no pressure shall be exerted on the pipe joints from the trench bottom.
2. Cleanliness: The interior of all pipe shall be thoroughly cleaned of all foreign material before being lowered in the trench and shall be kept clean during laying operations by means of plugs, or other approved methods. During suspension of work for any reason at any time, a suitable stopper shall be placed in the end of the pipe laid to prevent mud or other foreign material from entering the pipe.

3.02 INSTALLATION

A. Pipe:
1. Pipe laying shall proceed upgrade with spigot ends pointing in the direction of flow. Before pipe is joined, gaskets shall be cleaned of all dirt and stones and other foreign material. The spigot ends of the pipe and/or pipe gaskets shall be lubricated lightly with a lubricant as specified by the pipe manufacturer and approved by the Engineer. Sufficient pressure shall be applied to the pipe so to properly seat the socket into the bell of the pipe. All pipe shall be laid straight, true to the lines and grades shown on the Drawings. Variance from established line and grade, at any point along the length of the pipe, shall not be greater than 1/32 of an inch per inch of pipe diameter and not to exceed 1/2 inch, provided that any such variation does not result in a level or reverse sloping invert.
2. Any pipe which is disturbed or found to be defective after laying shall be taken up and relaid or replaced at the Contractor's expense.
3. Polyvinyl Chloride Pipe:
   a. Transportation: Care shall be taken during transportation of the pipe that it is not cut, kinked or otherwise damaged.
   b. Handling Pipe Lengths: Ropes, fabric or rubber protected slings and straps shall be used when handling pipes. Chains, cables or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe. Pipe or fittings shall not be dropped onto rocky or unprepared ground.
   c. Handling Pipeline: The pipeline shall be assembled in a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Sections of the pipes with deep cuts and gouges shall be removed.
   d. Lowering Pipe into Trench: Care shall be exercised when lowering pipe into the trench to prevent damage to or twisting of the pipe.
   e. Special Provisions: Polyvinyl chloride pipe connected to heavy fittings, manholes and rigid structures shall be supported in such a manner that no subsequent relative movement between the pipe and the joint with the rigid structures is possible.

B. Service Connections:
1. Service connections, of the size and type called for on the Drawings, shall be provided in accordance with the details therefore as shown or indicated on the Drawings.
2. Sewer pipe shall be extended to the street right–of–way line and plugged with an approved removable plastic plug (unless otherwise indicated on the Drawings). All connections and changes of direction shall be made using standard fittings designed for the purpose.
3. In order to provide and insure economic service connection where septic tanks are to be abandoned and the house or building sewer connected to the new collection system, the Contractor shall, with the Engineer or his representative, locate and determine the elevation of the septic tank influent line or house sewer before locating or installing the wye or other fitting in the street sewer. The Engineer or his representative shall approve all such wye or other fitting locations after giving due consideration to lengths, obstructions and such other conditions affecting the location.
4. On curbed streets, the exact location for each service connection shall be marked by etching or cutting an 'S' in the concrete curb. Where no curb exists or is planned, locations shall be marked by a method approved by the Engineer.

C. Concrete Encasement:
1. Class C concrete encasement shall be constructed so as to provide a minimum of 6 inches of concrete on all sides of the sewer pipe. Encasement shall be constructed where:
   a. The sewer or service pipe shall have less than 30 inches of cover between the top of the pipe and the final top of pavement or ground line.
   b. The Engineer shall order the line encased.
   *c. The PVC sewer or service pipe is installed over, or at a depth which provides less than 18 inches clear distance between pipes when crossing under water mains. Encasement shall extend a minimum of 10 feet on each side of the point of crossing.
   *d. The lateral separation of the PVC sewer pipe and potable water piping is less than 10 feet.

*The installation of pressure–tight joint ductile iron pipe for the same dimensions may be substituted for the concrete encasement.

2. If, through failure to provide suitable trench sheeting, or other causes, the maximum width for trench excavations, as specified elsewhere in these specifications, is exceeded, the Contractor shall construct concrete encasement around the pipe for the length of the excessive excavation. No payment will be made for the concrete encasement required due to excessive trench widths.
3. The points of beginning and end of sewer or service pipe encasement shall not be more than 6 inches from a pipe joint to protect the pipe from cracking due to uneven settlement of its foundation or the effects of superimposed live loads.

A. Manholes/Concrete Structures:
1. Structures shall be leak–tight and constructed of precast units conforming to the requirements of. ASTM Designation C–478 with reinforcement of Grade 40 bars and the following modifications thereto:
   a. The minimum shell thickness shall be 8 inches.
   b. Concrete to be used in precast manholes shall be Type II.
   c. Lift rings shall be provided for handling precast structure sections. Only non–penetrating lift holes shall be permitted. Such holes shall be filled with non\expndtwO shrink grout after installation of the structure sections.
   d. The design of the structure shall include a precast base' of not less than 8 inches in thickness poured monolithically with the bottom section of the structure walls.
   e. All openings and joints shall be sealed watertight with approved gaskets meeting ASTM C–443.
   f. The structure barrel, top and base sections shall have tongue and groove joints.
   g. Precast structure tops, if used, shall terminate at such elevations as will permit concrete grade rings set in bitumastic sealer under the structure frame to make allowance for future street grade adjustments.
   h. Drop connections, where required on precast structures, shall be manufactured with the structure elements at the casting yard. The manufacturer shall submit for approval the method of drop construction.
2. The interior and exterior walls shall be coasted with two applications of .coal tar epoxy applied as recommended by the coating manufacturer. Interior surfaces shall be coated with a minimum dry mil thickness of 16 mils, and exterior surfaces shall be coated with a minimum dry mil thickness of 9 mils.
3. Shallow structures may substitute an eight–inch precast reinforced slab on the top in lieu of the cone section. Slabs shall be laid in a full bed of mortar and pointed to form a dense joint.
4. Structure top slabs or cone sections shall be set between 3 inches and 12 inches below bottom of structure cover frame. When shown on the Drawings the Contractor shall provide a minimum of 3 inches to accommodate future grade changes without disturbing structure. Where distance between bottom of structure cover frame and top of cone is greater than 18 inches, riser units shall be sawed to bring top of cone to within limits specified. Precast leveling rings for setting cast iron frames over structures shall be a minimum of 2 inches thick and have one No. 2 continuous reinforcing steel bar. Leveling rings shall not be used for more than 18 inches of vertical adjustment.
5. Structure castings shall be fully bedded in mortar with adjustment brick courses placed between the frame and structure. The top of structure castings located in pavement, shoulder areas, and sidewalks shall be set flush with grade. The top of structure castings located outside these areas shall be set 2 inches above grade unless otherwise shown on the Drawings.
6. Precast structures that are installed in conjunction with PVC pipe shall utilize approved coupling adapters set in the concrete wall, as specified herein before and indicated on the Drawings.
7. The invert channels shall be smooth and accurately shaped to a semicircular bottom conforming to the inside of the adjacent sewer section. Steep slopes outside the invert channels shall be avoided. Changes in size and grade shall be made gradually and evenly. Changes in the direction of the sewer or entering branch shall be a smooth curve with radius as long as practicable. Invert channels shall also be formed for pipe stub–outs.
8. All annular spaces between structure or wetwell walls and pipe coupling adapters shall be thoroughly plugged with Embeco No. 167 Mortar or approved equal, nonshrink mortar, applied and cured in strict conformance with the manufacturer's recommendations so there will be no leakage around the pipe. The mortar shall be finished smooth and flush with the adjoining interior and exterior structure or wetwell wall surfaces.

E. Connections to Existing Structures and Sewers:
1. Various sewer lines shall be connected to existing manholes and structures. Provisions have been made in some of the existing structures for future connections and may require only the removal of a plug and the connection of the proposed line, while other connections will require cutting into the existing structure. The Contractor shall exercise care in cutting into the existing structure and any damage done to the structure shall be repaired as required by the Engineer and at the Contractor's expense. Drop connections to existing manholes shall be installed as detailed on the Drawings for new construction.
2. The drop connection for existing manhole shall be constructed of SDR 35 polyvinyl chloride (PVC) pipe. Anchor straps, shall be not less than 3/16 inch by 1 1/2 inches and constructed of ANSI 304 stainless steel. Wall anchor bolts shall not be less than 5/8 inch and constructed of corrosion resistant metal.
3. Flows through existing lines shall be maintained during construction with existing structures.
4. The invert channels of the existing structure shall be reshaped to accommodate the existing line and proposed line as specified herein before for manhole constructions.

SECTION 02730 – SANITARY SEWAGE SYSTEM – CONTINUED

F. Roadway Crossing:
2. New gravity sewer lines to be installed under existing roadways shall be installed in a casing to be bored and jacked under the pavement orby open–cut as shown on the plans. The steel casing and jacking procedures shall conform to the requirements of the specifications and the local and state authority and any supplements thereto.
3. The Contractor shall maintain traffic on the roadway and shall keep all workmen and equipment clear of the pavement during the work. All safety regulations of the Department of Transportation shall be complied with.
4. The top of the casing shall maintain a minimum 30–inch clearance under the roadway surface. Wood skids for sliding the carrier pipe through the casing shall be pressure treated with creosote and the skids shall be permanently bonded to the carrier pipe. After the carrier pipe has been tested for leakage the ends shall be blocked with an 8–inch wall of brick masonry with a weep hole installed near bottom of each wall. A vent shall be installed as indicated on the Drawings. The carrier pipe of the crossing shall be ductile iron.
5. If installed by open–cut, the line shall be bedded and backfilled as shown on the plans. Existing pavement and base shall be replaced with the new pavement better than or equal to existing. Contractor is responsible for repairing any settlement. No extra compensation will be made for such repairs.

G. Additional Work: Additional items of construction such as cleanouts, terminal lamp holes, special manholes and other items necessary for the complete installation of the system shall conform to specific details on the Drawings and shall be constructed of first–class materials conforming to the applicable portions of these specifications.

3.03 FIELD QUALITY CONTROL

A. Tests, Inspections and Acceptance of Materials and Workmanship:
1. Workmanship: It is imperative that all sewers and appurtenances be built practically watertight and that the Contractor adheres rigidly to the specifications for materials and workmanship. Upon completion, the sewers, or sections thereof, will be tested and gauged and if leakage is above the allowable limits specified, the sewer will be rejected.
2. Inspection:
   a. On completion of each block or section of sewer, or such other times as the Engineer may direct, the block or section of sewer shall be cleaned, tested and inspected. Each section of the sewer shall show, on examination from either end, a full circle of light between manholes.
   b. Each manhole or other appurtenance to the system shall be of the specified size and form, be watertight, neatly and substantially constructed, with the top set permanently to the position and grade indicated on the Drawings. All repairs shown necessary by the inspection shall be made at the Contractor's expense, broken or cracked pipe replaced; all deposits removed and the sewer left clean, true to line and grade and ready for use.
   c. Written notice shall be given to the Engineer and to the agency that will operate the system, if different from the Owner, a minimum of 48 hours (excluding weekends) prior to any test for acceptance being run. A representative of the Engineer shall be present during all tests for acceptance. The Contractor should determine that the sections to be tested have been cleaned, tested and inspected. Failure in providing the above notice to the Engineer. If any section fails to pass the tests for acceptance, the Contractor shall make all repairs needed for the section to pass and retest the section including notification as above. The Contractor shall bear all costs incurred by the Owner and/or the Engineer for the retests.
   d. All newly constructed manholes shall be cleaned of any accumulation of silt, debris, or foreign matter of any kind, and shall be flushed with fresh water. Care shall be taken not to flood any downstream sewer system.
3. Closed Circuit Television Inspection:
   a. Each sewer line 21 inches in diameter and smaller shall be inspected between manholes by a closed circuit television camera especially designed for and adapted for this purpose. The Contractor shall employ a reputable testing agency for this inspection, which shall be subject to the Engineer's approval. The type of equipment employed shall be sufficient to give adequate detail on the reviewing screen as may be determined by the Engineer. The Engineer will provide a representative to be present to view the screen when the inspection is in progress. The Contractor shall provide suitable methods of measuring the distance along the lines and shall enter such data in a log. Lines found defective shall be corrected as directed by the Engineer and the repaired lines shall be reinspected until the lines are acceptable.
   b. The Contractor shall provide all labor, equipment and materials and shall conduct the closed circuit television inspection as required. No separate payment will be made for this work and the cost thereof shall be included in the unit prices listed in the proposal.
   c. Inspection of sewer lines over 21 inches in diameter will be made by the Engineer and the Contractor shall assist the Engineer in making these inspections, if necessary. Service connections need not be inspected by the television camera method.

B. Limits of Infiltration, Exfiltration and Testing:
1. The allowable limits of infiltration, exfiltration or leakage for the entire system or any portion thereof, including house service lines, shall not exceed a rate of 0.1 gallon per foot of pipe per 24 hours for all sizes of pipe throughout the system. The allowable limits of infiltration or exfiltration of manholes shall not exceed a rate of four gallons pr manhole pr 24 hours.
2. Infiltration, if taken between any two adjacent manholes, shall not exceed 0.1 gallon per 24 hours per foot of pipe for all sizes and all locations. This testing of lines between manholes is required except in cases where it is to localize the position of a leak in a portion of the system that exceeds the allowable leakage limit, or as directed by the Engineer.
3. Any part or all of the system may be tested for infiltration or exfiltration, as directed by the Engineer. Prior to testing for infiltration, the system shall be pumped out so that normal infiltration conditions exist at the time of testing. The amounts of infiltration or exfiltration shall be determined by pumping into or out of calibrated drums, or by other approved methods.
4. The exfiltration test will be conducted by filling the portion of the system being tested with water to a level which will provide: a minimum head on a service lateral connected to the test portion of 2 feet; or in the event there are no service laterals in the test portion, a minimum difference in elevation of 5 feet between the crown of the highest portion of the sewer and the test level.
5. Tests shall be conducted on portions of the system not 'exceeding three manhole runs or more than 1,000 feet of main sewer, or as otherwise directed by the Engineer. Tests shall be run continuously for three hours. Where infiltration or exfiltration exceeds the allowable limits also specified herein, the defective pipe, joints, or other faulty construction shall be located and repaired by the Contractor. If the defective portions cannot be located, the Contractor shall remove and reconstruct as much of the work as is necessary in order to conform to the specified allowable limits. Testing shall be performed as the job progresses and shall be started after 2,000 feet of pipe are laid.
6. The Contractor shall provide all labor, equipment and materials and shall conduct all testing required, under the direction of the Engineer. No separate payment will be made for this work and the cost for this work shall be included in the unit price quoted in the proposal for the applicable item of work.
7. Specifications for Sanitary Sewer Main Low Pressure Air Test Revised March 2006
   a. Scope: This specification governs the testing of sanitary sewer mains by the low pressure air test (time pressure drop method).
   b. General Requirement
   b.1. Sanitary sewer mains less than 18 inch diameter shall be low–pressure air tested for leaks upon the completion of the backfill and compaction operation. Sanitary sewer mains less than 8 inch and greater than 18 inch diameter will be tested for leaks per test method determined/specified by RWU.
   b.1.a. The sanitary sewer manholes must passed the manhole vacuum testing process and all sanitary sewer services must be complete with ends capped but are connected to said mains prior to the low–pressure air test.
   b.1.b. The low–pressure air test method shall be in accordance with ASTM F1417–92 (Reapproved 2005), except as specified otherwise herein.
   b.1.c. The Contractor shall remove all debris, soil and rocks from the sanitary sewer mains and manholes prior to the low–pressure air test by a cleaning ball, high velocity jet, cleaning mandrel or other means.
   b.1.d. The Contractor shall furnish all equipment and labor required, including necessary piping/hoses, pneumatic plugs, compression pump, pressure–regulator valve, 9 psi pressure–relief valve, control valves, pressure gauges and second timer or stop watch. The test pressure gauge shall have a maximum range of 0–10 pounds per square inch (psi) and the pressure gauge figure intervals shall be a maximum of 0.25 psi increments.
   b.1.e. The required low–pressure air test time shall be based upon the total length and diameter of sanitary sewer main from manhole to manhole (sewer service lines are not included). The minimum low–pressure air test period is 7 minutes and 34 seconds.
   b.2. The low–pressure air test shall be performed by the Contractor and witnessed by the Engineer and the RWU personnel. The Engineer shall furnish low–pressure air test reports of sanitary sewer mains to the Contractor and RWU.
   b.2.a. The low–pressure air test may be stopped (passed) if no pressure drop/loss has occurred during the first 50 percent of the test period as calculated from the 0.5 psi pressure drop table (not less than the minimum low–pressure air test period of 7 minutes and 34 seconds).
   c. Safety Precautions
   c.1. This low–pressure air test may be dangerous to personnel if, through lack of understanding or carelessness, a line is over pressurized or plugs/caps are installed or restrained improperly. The axial force on an 8 inch plug at the start of a properly conducted test is over 200 pounds. Restraint systems must be designed to handle these forces with adequate safety factors.
   c.2. No one shall be allowed in the manholes or near a capped pipe during testing. All gauges, piping manifolds and control valves shall be located above ground.
   c.3. When sanitary sewer mains are tested, it is mandatory that all caps and plugs be braced as an added safety factor.
   c.4. Do not over pressurize the sanitary sewer main. Do not exceed 9.0 psi.
   d. Test Procedures
   d.1. After cleaning the interior surface of the sanitary sewer main, the Contractor shall place and inflate pneumatic plugs in the sanitary sewer main pipe at both connecting manholes. One of the plugs must have an inlet tap, or other provision for connecting a hose to a portable air control source.
   d.2. Connect the air hose to the inlet tap and the portable air control source. The air equipment shall consist of necessary valves and pressure gauges to control an oil–free air source and the rate at which airflow into the test section.
   d.3. Add air slowly to the test section until the pressure inside the sewer pipe reaches 4.0 psi. After the pressure of 4.0 psi is obtained, regulate the air supply so that the pressure is maintained between 3.5 psi to 4.0 psi for at least two minutes to stabilize air/ground temperature conditions.
   d.4. Close the air supply valve; release the pressure in the pipe test section to 3.5 psi and the test period is started. Observe the time required for the pressure to drop from 3.5 psi to 2.5 psi. The minimum test time/period is determined from the following 1.0 psi pressure drop table.
   d.5. All pneumatic plugs shall be removed from both connecting manholes after the test.
   e. Failure of Low–Pressure Air Test
   Any sanitary sewer main/services that fails the low–pressure air test must be repaired. Upon completion of the repairs and the backfill/compaction operation, the sanitary sewer main shall be retested as described in the above test procedures. The Engineer must witness the sewer main repair and backfill operation. The cost of the repair and backfill is incidental to the cost of the project.
   f. Acceptance
   The sanitary sewer main shall have passed the low–pressure air test if the pipe test section does not drop below 2.5 psi during the specified test period.

Minimum Specified Time Required for a 1.0 PSI Pressure Drop
For Sizes and Length of Pipe indicated for Q=0.0015

| Specification Time for Length (L) Shown, Minutes: Seconds | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe Dia. (in.) | Minimum Time (Min.) | Length for Minimum Time (Feet) | Time for Longer Length (Sec.) | 100 Ft. | 150 Ft. | 200 Ft. | 250 Ft. | 300 Ft. | 350 Ft. | 400 Ft. | 450 Ft. |
| 8 | 7:34 | 298 | 1.520 L | 7:34 | 7:34 | 7:34 | 7:34 | 7:36 | 8:52 | 10:08 | 11:24 |
| 10 | 9:26 | 239 | 2.374 L | 9:26 | 9:26 | 9:26 | 9:53 | 11:52 | 13:51 | 15:49 | 17:48 |
| 12 | 11:20 | 199 | 3.418 L | 11:20 | 11:20 | 11:24 | 14:15 | 17:05 | 19:56 | 22:47 | 25:38 |
| 15 | 14:10 | 159 | 5.342 L | 14:10 | 14:10 | 17:48 | 22:15 | 26:42 | 31:09 | 35:36 | 40:04 |
| 16 | 15:10 | 149 | 6.282 L | 15:10 | 15:42 | 20:56 | 26:10 | 31:25 | 36:39 | 41:53 | 47:07 |
| 18 | 17:00 | 133 | 7.692 L | 17:00 | 19:13 | 25:38 | 32:03 | 38:27 | 44:52 | 51:16 | 57:41 |

SECTION 02730 – SANITARY SEWAGE SYSTEM – CONTINUED

8. Vacuum Testing (ASTM C1244)
   a. Scope:
   a.1. This test method covers procedures for testing precast concrete manhole sections when using the vacuum test method to demonstrate the integrity of the installed materials and the construction procedures. This test method is used for testing concrete manhole sections utilizing mortar or mastic joints.
   a.2. This test method is intended to be used as a preliminary test to enable the installer to demonstrate the condition of the concrete manholes prior to backfill. It may also be used to test manholes after backfilling; however, testing should be correlated with the connector supplier.
   a.3. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.
   a.4. The values stated in this method is the companion to metric Test Method C 1244M; therefore, no SI equivalents are shown in this test method.
   b. References, ASTM Standards:
   b.1. C 822 Terminology Relating to Concrete Pipe and Related Products.
   b.2. C 924 Practice for Testing Concrete Pipe Sewer Lines by Low–Pressure Air Test Method.
   b.3. C 969 Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
   c. Terminology
   For definitions of terms relating to manholes, see Terminology C 822.
   d. Summary of Practice
   All lift holes and any pipes entering the manhole are to be plugged. A vacuum will be drawn and the vacuum drop over a specified time period is used to determine the acceptability of the manhole.
   e. Significance and Use
   This is not a routine test. The values recorded are applicable only to the manhole being tested and at the time of testing.
   f. Preparation of the Manhole
   f.1. All lift holes shall be plugged.
   f.2. All pipes entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.
   g. Procedure
   g.1. The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
   g.2. A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 inches of mercury.
   g.3. The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds the values indicated in the table below.
   g.4. Vacuum test time shall be a minimum of one minute.
   g.5. If the manhole fails the initial test, necessary repairs shall be made by an approved method. Themanhole shall then be retested until a satisfactory test is obtained.
   g.6. Upon a failure of this vacuum test shall precede acceptance by appropriate water infiltration or exfiltration testing, (see Practice C 969), or other means.
   h. Precision and Bias
   No justifiable statement can be made either on the precision or bias of this procedure, since the testsuit merely states whether there is conformance to the criteria for the success specified.

Minimum Test Times for Various Manhole Diameters

| Depth (ft) | Diameter (inches) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 30 | 33 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| 2 | 3 | 3 | 4 | 4 | 5 | 6 | 7 | 7 | 8 |
| 3 | 4 | 5 | 5 | 6 | 7 | 9 | 10 | 11 | 12 |
| 4 | 6 | 6 | 7 | 9 | 10 | 12 | 13 | 15 | 16 |
| 5 | 7 | 8 | 9 | 11 | 12 | 14 | 16 | 18 | 20 |
| 6 | 8 | 10 | 11 | 13 | 15 | 17 | 20 | 22 | 24 |
| 7 | 10 | 11 | 12 | 15 | 17 | 20 | 23 | 26 | 28 |
| 8 | 11 | 12 | 14 | 17 | 20 | 23 | 26 | 29 | 33 |
| 10 | 14 | 15 | 18 | 21 | 25 | 29 | 33 | 36 | 41 |
| 12 | 17 | 18 | 21 | 25 | 30 | 35 | 39 

SECTION 02847 – TRAFFIC SIGNALS

Part 1.00 General

1.01 SCOPE OF WORK
A. The work included IN this Section consists of furnishing and erecting traffic signs as shown on the Drawings.

1.02 QUALITY ASSURANCE
A. The Contractor shall furnish manufacturer's certification that all signs furnished conform to these specifications and shall replace or repair, without additional cost to the Owner, all signs that fail to meet this requirement.

1.03 SUBMITTALS
A. Contractor shall submit the Manufacturer's certification that the signs furnished conform to these specifications.

Part 2.00 Products

2.01 GENERAL
A. Traffic regulating signs conforming to the colors, dimensions and requirements of the Manual on Uniform Traffic Control Devices for Streets and Highways and IDOT Standard Highway Signs Manual and displaying the lettering and symbols shown on the Drawings shall be furnished and installed at the locations and in the manner indicated and herein specified.
B. If not indicated on the Drawings, the Contractor shall provide the standard size sign as shown in the Standard Highway Signs Manual.

2.02 MATERIALS
A. Materials for traffic signs and the construction thereof shall be in accordance with State DOT Standard Specifications for Highway and bridge Construction (latest edition).

2.03 FABRICATION OF SIGNS
A. Preparation of sign blanks and fabrication of reflectorized sign faces shall conform to the applicable requirements of State DOT Standard Specifications for Highway and bridge Construction (latest edition).

Part 3.00 Execution

3.01 ERECTION OF SIGNS AND SIGN SUPPORTS
A. Signs and sign supports shall be erected in accordance with the details shown on the Drawings and shall be set plumb unless otherwise indicated. All structural support members shall conform to the dimensions indicated.

END OF SECTION

SECTION 03000 – CONCRETE (SITE WORK)

Part 1.00 General

1.01 SCOPE OF WORK
A. The work included in this Section consists of furnishing all materials, forms, transportation and equipment, and performing all necessary labor to do all the plain and reinforced concrete work shown on the Drawings, or incidental to the proper execution of the work, or as herein specified.
B. Composition: Concrete shall be composed of cement, fine aggregate, coarse aggregate, and water, so proportioned and mixed as to produce a plastic workable mixture in accordance with all requirements under this Section suitable to the specific conditions of placement.

1.02 SUBMITTALS
A. All materials specified shall be certified by the producer or manufacturer that the furnished material meets the specific requirements of the specifications.

Part 2.00 Products

2.01 MATERIALS
A. Cement:
1. Cement: Cement for all concrete shall be domestic Portland cement that conforms to the requirements of ASTM Designation C–150, Type I, Type II, unless noted otherwise on the structural drawings, or Type III cement, for high early strength concrete, shall be used only for special locations and only with the sewer manholes, wet wells and pump stations.
2. Only one brand of cement shall be used in any individual structure unless approved by the engineer. Cement which has become damaged, partially set, lumpy or caked shall not be used, and the entire contents of the sack or container which contains such cement will be rejected for use. No salvaged or reclaimed cement shall be used.
B. Fine Aggregate:Fine aggregate shall conform to the requirements of ASTM C–33.
C. Coarse Aggregate:Coarse aggregate shall conform to the requirements of ASTM C–33.
D. Water: Water shall be taken from a potable water supply and shall be fresh, clean and free of oil, acid, alkali, organic matter, and other deleterious substances.
E. Admixtures: No admixtures shall be used except by specific approval of the Engineer. When approved admixtures shall met the following minimum standards.
1. Air entraining agent: ASTM C–260.
2. Water Reducing and Retarding Admixture: ASTM C–494, Type D and free of chlorides.
F. Membrane Curing Compound: Membrane curing compound shall conform to the requirements of ASSHTO Designation M–148, Type 1–clear, or Type 2–white pigmented.
G. Expansion Joint Filler:
1. Preformed expansion joint filler shall be of the non–extruding and resilient bituminous type and shall conform to the requirements of AASHTO Designation M–213.
2. Expansion joint filler shall be gray neoprene sponge rubber that conforms to AASHTO Designation M–153, Type I.
H. Separation Board: Separation board shall be closed cell, non–extruding, PVC foam Grade No. 327 as manufactured by AC Horn, Inc., with a 20 psi maximum compressive strength to compress to 75 percent of thickness.
I. Membrane: Membrane shall be a 6–mil polyethylene film.
J. Reinforcing Steel:
1. Reinforcing steel shall conform to the requirements of ASTM Designation A–615, Deformed Grade 60, except where otherwise indicated.
a. The name of the manufacturer of the reinforcing steel shall be called out in the shop drawings together with a sketch showing the pattern of the deformation, including the mill mark.
b. Bar reinforcement shall be accurately fabricated in accordance with the test CRSI Manual of Standard Practice. The Contractor shall prepare and submit the necessary shop drawings and bar lists to the Engineer.
2. Welded wire fabric for concrete reinforcement shall conform to the requirements of ASTM Designation A–185 and shall be formed with smooth cold–drawn wire.
3. Cold–drawn wire for spirals shall be plain and shall conform to the requirements of ASTM Designation A–82 with a minimum yield strength of 70,000 psi.
4. Bar supports:
a. Bar supports for reinforcing steel shall conform to the requirements of CRSI Manual of Standard Practice, Chapter 3 and shall be of a eight to furnish the concrete cover called for on Drawings. High chairs shall be furnished for bent or top bars in solid slabs. Bar supports to be in contact with exterior surfaces of concrete shall be class C with plastic caps at least 1 inch in length on the leg tips, or Class E with stainless steel legs. Bar supports shall be spaced not more than 100 times the diameter of the bars to be supported, with not more than 1/4 spacing from the end of the supported bars to the first chair.
b. Bar supports for slabs on grade shall be plain concrete blocks, 3 inches high by 4 inches square with tie wires embedded in support. Concrete strength shall be at 3,000 psi at time of use.
K. Forms: Forms shall be of wood, metal or other approved materials. The sheeting for all exposed surfaces shall be 5–ply plywood, unless otherwise specifically authorized. Forms of like character shall be used for concrete from 1 foot below finished exterior grade to top of structure shall be carefully fabricated so as to provide a smooth finish without defects. The type, size, shape, quality and strength of all materials of which the forms are made shall be subject to the approval of the engineer. If it is his opinion that the interior surfaces of the forms are too irregular to produce the specified finish, they shall be lined with smooth, dense, moisture resistant hardboard or other material of which he approves.
L. Nonshrink Grout: Nonshrink grout shall be nonmetallic, pre–mixed type and shall be Saureisen F–100 Level fill, Master Builders Masterflow 713 Burke Non–Ferrous – Nonshrink Grout or approved equal.

2.02 CLASSIFICATION AND STRENGTH OF CONCRETE
A. Class and minimum strength requirements for concrete shall be as tabulated below. Unless otherwise specified, Class B concrete shall be used.

B. Strength Requirements: Concrete class and strength shall meet the minimum compressive strength requirements at the age of 7 and 28 days as shown in the following table. The compressive strengths shall be a determined by standard laboratory cylinder tests in accordance with the procedure set forth in ASTM Designation C–31 and C–39. (See article 3.03 of this Section for quantity and testing of cylinders.)

COMPREHENSIVE STRENGTH IN POUNDS PER SQUARE INCH

| Class | For Design Purposes | 3 Consecutive Cylinder Average | | Lower Cylinder | |
|---|---|---|---|---|---|
| | | 7 Days | 3 Days | 7 Days | 3 Days |
| A | 4000 | 2950 | 4250 | 2600 | 3750 |
| B | 3000 | 2100 | 3200 | 1850 | 2800 |
| C | 2500 | 1800 | 2700 | 1550 | 2300 |

SECTION 03000 – CONCRETE (SITE WORK) – CONTINUED

2.03 PROPERTIES AND DESIGN OF CONCRETE MIX
A. Tests and Design Mix:
1. The Contractor, 30 days before the beginning of concrete work, shall advise the engineer of the proposed sources of the materials, or ready–mixed concrete, which the contractor intends to use in the work. A design mix which has been used by the concrete supplier before, may be submitted for approval provided the proportions and strengths meet the requirements of this specification.
2. The source and manufacturer of material after once having been approved shall not be changed by the Contractor, except as approved by the Engineer, and additional laboratory tests may be required by the Engineer to prove conformance with specification requirements.
3. If during the progress of the work, tests indicate that concrete is not being produced in accordance with these Specifications, the Engineer may order changes in the materials or the proportions so as to secure as specified.
B. Slump: Slumps shall be as low possible consistent with proper placing. Low slump concrete shall be used for footing and slabs on grade. Medium slump concrete shall be used for walls, columns and suspended slabs. Concrete shall conform to the limits specified in the following schedule:

| Class of Concrete | Medium Slump | Lower Slump |
|---|---|---|
| A | 4 to 5 in. | 2 to 3 in. |
| B | 4 to 5 in. | 2 to 3 in. |
| C | 5 to 6 in. | 3 to 4 in. |

Part 3.00 Execution

3.01 PREPARATION
A. Concrete Mixing:
1. Equipment: The concrete shall be ready–mixed and the equipment shall conform to the applicable requirements of ASTM Designation C–94.
2. Measurement: Equipment necessary to positively determine and control the actual amounts of all materials entering the concrete shall be provided by the Contractor or the concrete manufacturer. All materials shall be measured by weight, except that water may be measured by volume. A bag of cement weighs 94 pounds.

3.02 INSTALLATION
A. Forms:
1. Construction:
a. Forms shall be built true to line and grade, and shall be mortar tight and sufficiently rigid to prevent displacement or sagging between supports. The Contractor shall give particular attention to the adequacy of supports and shoring. The surfaces of forms used or permanently exposed surfaces shall be smooth and free from irregularities, dents, sags, or holes. Forms or surfaces to receive stucco finish shall be suitable for is application. Bolts and rods used for internal ties shall be so arranged that, when the forms are removed, all metal is at least 1 – 1/2 inch from any concrete surface. Form ties shall be removed immediately after removal of forms, and holes shall be thoroughly plugged with grout within 24 hours after form removal and kept damp for 4 days to prevent shrinking.
b. Wire ties will not be permitted. All forms shall be so constructed that they can be removed without hammering against the concrete. Unless otherwise indicated, suitable moldings shall be placed to bevel or round exposed edges at expansion joints or at any other corners that are to remain. Beams below grade shall have forms at both sides.
2. Coating: Prior to the placing of steel reinforcement or concrete, forms for exposed surfaces shall be coated with a non–staining paraffin base oil or mineral oil. Forms for unexposed surfaces may be thoroughly wetted in lieu of oiling, immediately before the placing of concrete.
3. Removal: Forms and/or form supports shall not be removed from any concrete until it has obtained sufficient strength to support itself and any live loads that may be subjected to.
B. Reinforcing Steel: When placed in the forms, reinforcement shall be clean and free of all rust, scale, dust, dirt, paint, oil or other foreign material and shall be accurately and securely positioned in the forms as shown on the Drawings before the placing of concrete. Reinforcing steel shall be wired or otherwise fastened at intersections and shall be supported by concrete or metal supports, spacers or hangers. Bar supports, where adjacent to the ground, shall be set on precast concrete pads compressed into the reinforcing steel at intersections by welding methods.
1. Splicing of reinforcement shall be held to a minimum and shall be placed at points of minimum stress. Bars shall be lapped splices a minimum of 36 bar diameters unless otherwise shown on the Drawings or directed by the Engineer, and shall be rigidly wired or clamped.
2. Wire fabric shall be straightened before placing and shall overlap one full space of mesh at ends and edges and shall be securely fastened. Fabric shall be supported so as to occupy its proper location in the concrete as shown on the Drawings. Fabric shall not cross any expansion joints.
C. Embedded Items: In addition to steel reinforcement, pipes, inserts and other metal objects as shown, specified or ordered shall be built into, set in, or attached to, the concrete. All necessary precautions shall be taken to prevent these objects from being displaced or deformed. Before concrete is placed, care shall be taken to determine that all embedded parts are firmly and securely fastened in place as indicated. They shall be thoroughly clean and free from paint or other coating, rust, scale, oil, or any foreign matter. No wood shall be embedded in concrete. The concrete shall be packed tightly around pipes and other metal work to prevent leakage and to secure perfect adhesion. Drains shall be adequately protected from intrusion of concrete.
D. Concrete:
1. General: Reinforcement shall be secured in position, inspected and approved before placing concrete. Runways for transporting concrete shall not rest on reinforcing steel. Concrete not placed within 90 minutes from the time mixing is started will be rejected and shall be removed from the job by the Contractor. Concrete shall be deposited as nearly as practicable in final position. Concrete shall not be allowed to drop freely more than six feet. All concrete shall be placed in daylight and (excepting seal concrete) shall be placed in the dry unless otherwise authorized by the Engineer.
2. Slab Placed on Subgrade: Slab concrete placed on earth or fill subgrade shall be separated from direct contact with the subgrade by 6 mil polyethylene film or other approved material, unless noted otherwise on structural drawings. Sidewalks and walkways will not require a separation sheet. Polyethylene film shall be lapped 4 inches on sides and12 inches on ends.
3. Compaction: Concrete shall be compacted by internal vibrating equipment, supplemented by hand rodding and tamping as required. Vibrators shall in no case be used to move the concrete laterally inside the forms. Internal vibrators shall be used to maintain a speed of at least 5000 impulses per minute when submerged in concrete. (at least one spare vibrator, in working condition, shall be maintained at the site during concrete placing operations.) Duration of vibration shall be limited to the time necessary to produce satisfactory consolidation without causing segregation. Vibrator shall be moved constantly and placed in each specific spot only once.
4. Bonding:Before depositing new concrete on or against concrete that has set, the surfaces of the set concrete shall be thoroughly cleaned so as to expose the coarse aggregate and be free of coatings, foreign matter and loose particles. The cleaned surfaces shall be dampened, but not saturated, and then thoroughly covered with a coat of cement grout of similar proportions to the mortar in the concrete. The grout shall be as thick as possible on vertical surfaces and at least ½ inch thick on horizontal surfaces. The fresh concrete shall be placed before the grout has obtained its initial set.
5. Protection: Rainwater shall not be allowed to increase the ratio of mixing water, nor to damage the surface finish. Concrete shall be protected from disfigurement, damage, vibration, internal fractures and construction overloads.
E. Curing:
1. All concrete, including gunite, shall be water cured by covering with a double thickness of clean burlap, cotton mats, or other approved material kept thoroughly saturated with water. The forms shall be kept wet until removed and upon removal, the curing specified herein shall be started immediately. Concrete shall be cured for a period of 7 days for normal Portland cement or 4 days for high early strength cement. Concrete poured in the dry shall not be submerged until it has attained sufficient strength to adequately sustain the stress involved, nor shall it be subjected to flowing water across its surface until it has cured 4 days. Curing of gunite shall be started as soon as possible without damaging surface and not later than 2 hours after placing.
2. In lieu of wet burlap or cotton mats as specified above, concrete slabs may be covered with wet sand and kept moist for the specified curing period. The initial curing period of not less than 24 hours shall consist of the wet burlap or cotton mat method, then the wet sand method may be utilized until the end of the curing period.
3. Concrete surfaces which will not be coated, painted, plastered, stuccoed, covered with tile or floor covering or requiring a bonding surface may be cured by means of a membrane curing compound in lieu of the wet cure method. The curing compound shall be applied immediately after a satisfactory surface finish has been completed or forms have been removed. The uniform application of membrane curing compound shall be at least one gallon to every 200 square feet of exposed surface to be cured. The membrane curing compound and impervious covering shall be continuous and without defects and shall retain the required moisture in the concrete. Membrane curing compound that becomes damaged by rain, foot traffic or other conditions within 5 days of application shall be reapplied.
F. Finishes:
1. As soon as forms can safely be removed, all irregular projections shall be chipped off flush with the concrete surfaces. All voids produced by spacers or any honeycombing shall be pointed up with grout and troweled flush with the concrete surface immediately after removal of forms and water cured to prevent shrinkage. Honeycombing shall be cut out to expose a sound concrete surface prior to pointing. The use of mortar pointing or patching shall be confined to the repair of small defects in relatively green concrete. Where in the opinion of the Engineer substantial repairs are required, the defective concrete shall be cut out to sound concrete and repaired with gunite or the concrete shall be removed and reconstructed as directed.
2. Floor slabs shall be brought to a true and even finish by power or hand floating in a manner that will not bring excess fines to the surface. The consistency of the concrete shall be such that water does not accumulate at the surface. Unless otherwise shown on the Drawings, the surface shall be floated with a wood float and shall be steel troweled to a smooth finish. Troweling shall be the minimum to obtain a smooth, dense surface and shall not be done until the mortar has hardened sufficiently to prevent excess fine material from being worked into the surface. If so directed, the surface shall be brushed lightly with a push broom so as to produce a non–slip surface.
3. Concrete surfaces that are not exposed in the completed work will require no special finish other than such pointing up and rubbing as is necessary to leave them smooth and impervious.
4. Other surfaces which will be exposed in the completed work shall be finished by being rubbed smooth and dense, without pits, irregularities, blow holes or bubbles.
G. Grout:
1. Grout for pointing and patching shall consist of cement and fine aggregate mixed in the proportions used in the concrete and a minimum amount of water to produce a workable grout.
2. Material for grouting manhole or drainage inlet openings, column base places, anchor bolts, reinforcing bars, pipe sleeves and pump base plates shall be of non–shrink type and shall be mixed and placed as recommended by the manufacturer. Machinery set on grout pads shall not be operated until the grout has cured for at least 24 hours.

3.03 FIELD QUALITY CONTROL
A. General: The quality of the concrete as to conformance to the specifications is the entire responsibility of the Contractor until it is accepted in place in the structure and verified by the final cylinder tests made by the laboratory. Arrangements for field testing shall be made by the Contractor with the laboratory as selected by the Owner.
B. Compressive Tests: Standard laboratory compressive test cylinders will be obtained by the laboratory when concrete is discharged from the mixer at the site of the work. A set of 6 cylinders will be obtained for each 60 cubic yards or fraction thereof placed each day, for each type of concrete. The cylinders will be cured under laboratory condition and will be tested in two groups of three at 7 and 28 days of age, respectively.
C. Slump Tests: The laboratory of the Owner or their representative will make slump tests of Class A and Class B concrete as it is discharged from the mixer at the site of the work. Slump tests may be made on any batch and failure to meet specified slump requirements will be sufficient cause for rejection of that batch.
D. Reports: Proper reports of all tests performed by the laboratory will be prepared by the laboratory and submitted promptly to the Engineer and Owner. Such reports shall be properly labeled so as to identify the portions of the project into which the materials have been placed.

END OF SECTION

SECTION 03100 – CONCRETE FORMWORK

Part 1.00 General

1.01 SCOPE OF WORK
A. Furnish labor, materials, services, equipment and appliances required for concrete formwork indicated on the Drawings and specified herein.

1.02 REFERENCE STANDARDS
A. Material Standards: American Society for Testing Materials (ASTM)
B. Concrete Standards: American Concrete Institute (ACI)

Part 2.00 Products

2.01 MANUFACTURER
A. The Drawings were prepared and this Specification written on the basis of using the products of specific manufacturers. Such is intended to establish minimum quality standards, not to limit competitive bidding. Products with equal or superior characteristics by other manufacturers are acceptable under conditions of the Specifications.

2.02 FORM MATERIALS
A. Wood:
No. 2, or better, southern pine dressed lumber, white pine or Douglas fir, non–stress grades.
B. Plywood:
DFPA Plyform, Exterior B–B, edge sealed.
C. Plastic Fiber:
Special forms of molded fiber, if required.
D. Cardboard:
Beam void forms "VOIDCO" or equal, as required under pier supported grade beams.
E. Metal:
Commercial standard, or as noted on drawings.

2.03 FORM ACCESSORIES
A. Gateway, Superior or equal, catalog items selected for minimum 350 psf form loadings.

2.04 FORM OIL
A. Non–staining mineral oil of viscosity 250/100 F.

Part 3.00 Execution

3.01 FORM CONSTRUCTION
A. General: Design, construct and maintain forms so as to insure that after removal, finished concrete members will have true surfaces, be free of waves or bulges, and conform accurately to indicated shapes, dimensions, lines and positions of concrete members shown. Place, align and fit forms in successive units to ensure smooth continuous completed surfaces free from form marks and irregularities. Provide temporary openings in forms as required to facilitate cleanings and inspection. Forms shall be readily removable without impact, shock or damage to concrete. Clean form surfaces before each use.
B. Deflection and Leakage:Space waters, ties, bracing, etc. to prevent form deflection. Construct form joints sufficiently tight to prevent leakage of grout and cement paste during placing.
C. Exposed Surfaces:Give special care to formwork, ties, bracing, etc. for retaining walls or other surfaces to be left exposed to permanent view. Waves, bulges, form marks, staining, joint marks or irregularities will not be acceptable.

3.02 CURING CONCRETE WITHIN FORMS
A. If surfaces are to be cured within forms, accomplish by keeping forms continuously wet. If forms are removed before end of curing period, continue curing as specified in CAST–IN–PLACE CONCRETE.

3.03 REMOVAL OF FORMS
A. Timing: Remove forms after concrete has adequately hardened; not earlier than two days after concrete is placed.
B. Method:Remove forms as a hand operation, take care to avoid damage to finished concrete surfaces or reinforcing passing through forms being removed.

3.04 CLEAN–UP
A. Upon completion of work of this Section, remove related debris from the premises.

END OF SECTION

SECTION 0300 CAST–IN–PLACE CONCRETE

Part 1.00 General

1.01 SCOPE OF WORK
A. Furnish labor, materials, services, equipment and appliances required for Cast–in–Place concrete work indicated on the Drawings and specified herein.

1.02 INTENT
A. Concrete shall be ready–mixed, or transit mixed, obtained from a plant; ASTM C94. Use job–mixed concrete only where and if authorized by Owner.

1.03 MILL TESTS
A. Submit certified copies of reports to Owner, if requested.

1.04 REFERENCE STANDARDS

A. American Society for Testing Materials (ASTM)
B. American Concrete Institute (ACI)
C. Federal Specifications (FS)

1.05 SUBMITTALS
A. Shop Drawings:
Submit drawings of reinforcement for acceptance prior to start of fabrication. List reinforcing and accessories quantities, sizes, bends, dimensions and notes required for fabrication and placement. Draw placing plans, elevations, details and sequence of placement. Member marks on shop drawings; same as on structural drawings.
B. Testing Laboratory Reports:
Submit three copies to Owner.

Part 2.00 Products

2.01 MANUFACTURER
A. The Drawings were prepared and this Specification written on the basis of using the products of specific manufacturers. Such is intended to establish minimum quality standards, not to limit competitive bidding. Products with equal or superior characteristics by other manufacturers are acceptable under conditions of the Specifications.

2.02 BASIC MATERIALS
A. Concrete:
1. Portland Cement
ASTM C150, Type I, unless noted otherwise on structural drawings.
2. Aggregates
a. Fine Aggregates:
Washed sand; ASTM C33
b. Coarse Aggregates:
Crushed stone; ASTM C33
i. Members to 8 inches in section – Table II, Size 67.
ii. All other concrete – Table II, Size 467.
3. Water
Local tap water.
B. Reinforced Steel:
1. Bars
ASTM A615, grade 60 or as shown on the Drawings.
2. Wire Fabric
ASTM A185.

SECTION 0300 CAST–IN–PLACE CONCRETE

Part 1.00 General

1.01 SCOPE OF WORK
A. Furnish labor, materials, services, equipment and appliances required for Cast–in–Place concrete work indicated on the Drawings and specified herein.

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A. Concrete shall be ready–mixed, or transit mixed, obtained from a plant; ASTM C94. Use job–mixed concrete only where and if authorized by Owner.

1.03 MILL TESTS
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Submit drawings of reinforcement for acceptance prior to start of fabrication. List reinforcing and accessories quantities, sizes, bends, dimensions and notes required for fabrication and placement. Member marks on shop drawings; same as on structural drawings.
B. Testing Laboratory Reports:
Submit three copies to Owner.

Part 2.00 Products

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A. The Drawings were prepared and this Specification written on the basis of using the products of specific manufacturers. Such is intended to establish minimum quality standards, not to limit competitive bidding. Products with equal or superior characteristics by other manufacturers are acceptable under conditions of the Specifications.

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b. Coarse Aggregates:
Crushed stone; ASTM C33
i. Members to 8 inches in section – Table II, Size 67.
ii. All other concrete – Table II, Size 467.
3. Water
Local tap water.
B. Reinforced Steel:
1. Bars
ASTM A615, grade 60 or as shown on the Drawings.
2. Wire Fabric
ASTM A185.

SECTION 0300 CAST–IN–PLACE CONCRETE – CONTINUED

3.06 CURING CONCRETE
A. Requirements:
Cure concrete not less than 7 days by protecting it against moisture loss, rapid temperature change, mechanical injury, and injury from weather, rain, or flowing water. Contractor's choice:
1. Compound
Apply in accord with manufacturer's instructions. Protect compound–formed membrane on slabs with 1 inch of sand. Compound must be completely removed once concrete has achieved specified set. Remove per manufacturer's written instructions with a mechanical scrubber and water soluble stripper.
2. Plastic Sheet
Cover surface with membrane, edges lapped 4 inches or more and sealed with tape.
3. Moisture
Keep surfaces continuously wet or moist during curing period, by covering surfaces with wet sand, wet burlap, or moist curing mats.
4. Surface Within Forms
Keep forms continuously wet. If forms are removed before end of curing period, continue for full curing period as for unformed surfaces.

3.07 SEALING CONCRETE
A. Where shown on the Drawings, apply to slab in accord with manufacturer's instructions. Apply during later stages of construction.

3.08 TESTING
A. Independent Testing Laboratory:
Contractor employs and pays for services of an Owner–acceptable independent testing laboratory to perform concrete cylinder testing. Test cylinders shall be taken and cured by Contractor and tested by laboratory for each different class of concrete placed in any one day. Take cylinders in accord with ASTM C31, and cure and test in accord with ASTM C39. One set of three cylinders is required for each 50 cu yds of concrete or less, placed in any one day. Test one cylinder at seven days, one at 28 days, and hold one as a spare from each set of three.
B. Contractor Tests:
Slump Tests
Contractor take slump tests when cylinders are taken; maximum slump 5 inches and minimum slump 3 inches.
2. Air Entrainment
Air content by volume: 3 to 5 percent based on measurements made in concrete mixture at point of discharge at job site at time slump tests are made. Air content by volume; ASTM C231.
C. Special Testing:
1. Owner may direct core tests; ASTM C42, or load tests; Section 202 of ACI 318 be made of portions of structure under provisions of Article 7 of the GENERAL CONDITIONS.

3.09 CLEANING CONCRETE
A. At completion of concrete work, clean surfaces exposed to view with water and fiber bristle brushes. Completely strip all curing compounds before installation of floor finishes.

3.10 CLEAN–UP
A. Upon completion of work of this Section, remove related debris from premises.

END OF SECTION

SECTION 0300 CAST–IN–PLACE CONCRETE – CONTINUED

3.02 VAPOR BARRIER INSTALLATION
A. Install in accord with manufacturer's instructions over prepared granular or non–expansive fill; seams lapped 6 inches minimum.

3.03 PLACING REINFORCING
A. General:
Place accurately and securely saddle–tie at intersection with 16 gage black, annealed wire. Support bars rigidly in place with chairs or spacers permitted by ACI–315. Inches of concrete protection at reinforcement shall be in accord with "ACI Building Code", unless shown otherwise on Drawings.
B. Shop Drawings and Splicing:
Place bars and wire fabric in accord with accepted shop drawings and schedules on structural Drawings. Splice wire fabric by lapping both directions not less than distance between wires, and tying two transverse wires. Splice bars as shown on Drawings.
C. Inspection Before Coverings:
Owner's acceptance of inserts and reinforcing in place is required before concrete is placed; do not conceal until inspected and authorized to proceed. Prior to Owner's inspection, remove water, clean, tighten supports, close openings and coat forms with form oil.

3.04 PLACING CONCRETE
A. General:
Deposit concrete as nearly as practical to final position to avoid segregation due to re–handling or flowing. Deposit concrete at rate that it stays plastic and flows readily into spaces between inserts and reinforcing and completely fills forms. Temperature of concrete at time of placing; between 50 and 90 Degrees F.
B. Discharge and Layering:
Control concrete discharge so that concrete may be effectively placed in horizontal layers not more than 8 inches thick. Stacking or piling concrete in one place and then removing it any appreciable distance into position with hoes, rakes, shovels, and/or compactors is prohibited.

C. Tremies and Chutes:
Use tremies and chutes when placing concrete in piers, high narrow retaining walls, etc., so that concrete will not vertical drop more than 3 feet.
D. Compacting:
Compact each layer of concrete using SPUD–type mechanical internal vibrators, supplemented with hand tampers. Maintain vibrator speed of not less than 5000 cycles while submerged in concrete. Maintain at least one spare vibrator at hand.
E. Bonding:
Before depositing fresh concrete on previously placed concrete which has partially or fully hardened, scrape surfaces of hardened concrete, hammer, or wire–brush while hosing with water under pressure, until large aggregate is exposed and scraping, laitance and dust removed. Tighten forms, wet concrete surfaces, slush with neat cement grout, and deposit new concrete before grout attains initial set. Slushing grout; not less than 1/8 inch in thickness.
F. Jointing:
Locate and make construction joints in accord with the Drawings. Construction joints will not be permitted at other locations without Owner's acceptance.
G. Anchor Bolts:
Set anchor bolts, furnished by and/or for the work of other trades, in freshly placed concrete. Set bolts plumb and true and in accord with accepted shop drawings and the Drawings.

3.05 FINISHING CONCRETE
A. Smooth Finish Slabs:
1. Tamping
While placing concrete, tamp to force coarse aggregate away from surface. Screed with straight edges to bring surface to finish level required.
2. Floating
Wood float to true plane with no coarse aggregate showing while concrete is still green but sufficiently hard to bear a man's weight without imprint. Float level or slope to drains as required. Use sufficient pressure while floating to bring moisture to surface.
3. Troweling
Steel trowel not less than two passes. Begin with power trowel as soon as little or no cement sticks to blades. Do not dust with dry cement or aggregate to absorb moisture or to stiffen mix. Hand steel trowel third pass to remove slight imperfections and produce smooth impervious face. Continue hand troweling until ringing sound is heard as trowel burnishes surface.
4. Tolerance
Slabs to receive applied finishes, special finishes, or to be sealed shall be level with tolerance of 1/8 inch in 10 feet, when tested with 10 foot straight edge at 3 foot intervals in both directions.
B. Depressed Slabs:
Finish depressed slabs, if shown on the Drawings, to receive waterproofing, topping, fill or mortar beds for tile, etc., as for smooth finish slabs but only through wood floating.
C. Surfaces Other Than Slabs:
1. Exposed Vertical Surfaces
Fill bolt and tie rod holes with same mix as placed concrete, except without course aggregate. Fill holes passing through concrete members from inside face. Stone rub to uniform finish.
2. Patching and Repairs
Remove honeycomb voids, cracks, and irregularities. Where repair is required, cut back defects not less than 1/2 inch with square edges, brush out, drench with water and fill with same mix as placed concrete, except without coarse aggregate. When cut–outs have been filled, trowel surface smooth, remove excess grout. After set, grind slightly to uniform color and appearance using neat Portland Cement applied with a power grinder wheel.
3. Topping and Fills
Screed, float and finish same as slabs.

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:47:38am File Path:K:\EAU_Civil\08388721B–Olive Garden Southwest Pkwy\Civil\Sheets\C– Darden Civil Specifications.dwg
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THIS SHEET PROVIDED FOR REFERENCE ONLY

CITY STANDARDS AND SPECIFICATIONS AS WELL AS NOTES PROVIDED IN THE CIVIL PLANS SUPERSEDE SPECIFICATIONS SHOWN HERE.

RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

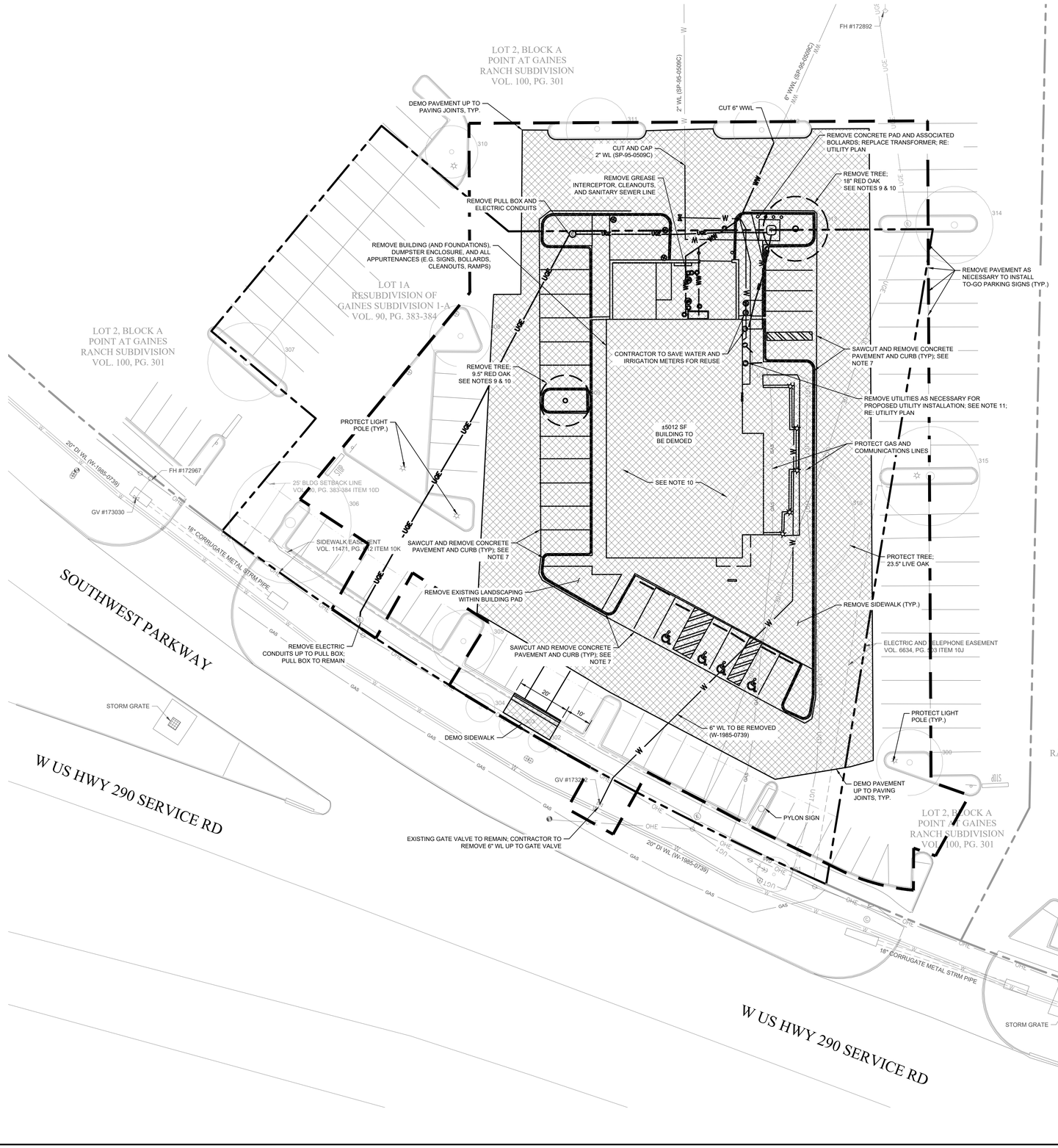
KHA PROJECT: 063887221
DATE: APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

DARDEN CIVIL SPECIFICATIONS (5 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
12 OF 41

SP-2025-0116C.CC



0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- W — WATER LINE
- WW — WASTEWATER LINE
- STORM SEWER LINE
- GAS — GAS
- GUARD RAIL
- OHE — OVERHEAR ELECTRIC
- BENCHMARK
- FIRE HYDRANT
- WATER METER
- WATER MANHOLE
- WATER VAULT
- WATER VALVE
- IRRIGATION VALVE
- WASTEWATER CLEANOUT
- WASTEWATER MANHOLE
- STORM SEWER GRATE INLET
- STORM SEWER MANHOLE
- GAS METER
- GAS SIGN
- GAS VALVE
- TELEPHONE BOX
- TELEPHONE MANHOLE
- ELECTRIC BOX
- ELECTRIC METER
- ELECTRIC MANHOLE
- UTILITY POLE
- GUY ANCHOR
- TRAFFIC SIGNAL
- SIGN
- DEMOLITION AREA: ITEMS TO BE REMOVED AS NOTED
- LIMITS OF CONSTRUCTION AREA
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED

### DEMOLITION NOTES

1. THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIAL FROM THE PROJECT SITE.
2. CONTRACTOR SHALL PROTECT ALL PUBLIC AND FRANCHISE UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.
3. ALL UTILITY STRUCTURES SHALL BE ADJUSTED TO PROPER LINE AND GRADE BEFORE FINAL ACCEPTANCE.
4. ALL PROPER EROSION CONTROL SHALL BE IN PLACE PRIOR TO THE DISTURBANCE OF ANY EXISTING SURFACE.
5. NO TRAFFIC LANE OR SIDEWALK ALONG ANY PUBLIC STREET IS TO BE CLOSED WITHOUT FIRST OBTAINING THE APPROPRIATE PERMIT FROM THE AUTHORITY HAVING JURISDICTION.
6. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
7. WHERE SAWCUT IS LESS THAN 5' FROM CONCRETE PAVEMENT JOINT, REMOVE PAVEMENT TO THAT JOINT. DIMENSIONS SHOWN ON THE PLAN ARE MINIMUMS.
8. AT LOCATIONS WHERE WHEEL STOPS ARE BEING REMOVED FROM PAVEMENT THAT IS TO REMAIN IN PLACE, CONTRACTOR SHALL FILL ASSOCIATED WHEEL STOP ANCHOR HOLES WITH EPOXY.
9. REMOVE/RELOCATE IRRIGATION SYSTEM AS NECESSARY FOR SITE AND LANDSCAPING IMPROVEMENTS. REFERENCE IRRIGATION PLANS.
10. REFERENCE GEOTECH REPORT BY INTERTEK PSI DATED DECEMBER 20, 2024 FOR DEMOLITION OF EXISTING PAVING/STRUCTURES, AND PROCEDURES FOR ABANDONING OLD UTILITY LINES AND REMOVING TREES.
11. EXISTING UTILITIES NOT LOCATED ON SURVEY. EXISTING UTILITY LINES WERE DRAWN USING AS-BUILT DRAWINGS AND RECORDS FROM THE CITY OF AUSTIN. CONTRACTOR TO VERIFY UTILITY LOCATIONS.

### BENCHMARKS

TBM 50:
N: 10058056.87
E: 3089989.95
ELEVATION=712.05'

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|---|---|---|---|

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PROFESSIONAL ENGINEER
04/25/2025

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|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# EXISTING CONDITIONS AND DEMO PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
13 OF 41

SP-2025-0116C.CC

Plotted By:Shoaffer, Ryan Date:May 01, 2025 05:26:42pm File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Existing Conditions and Demo Plan.dwg
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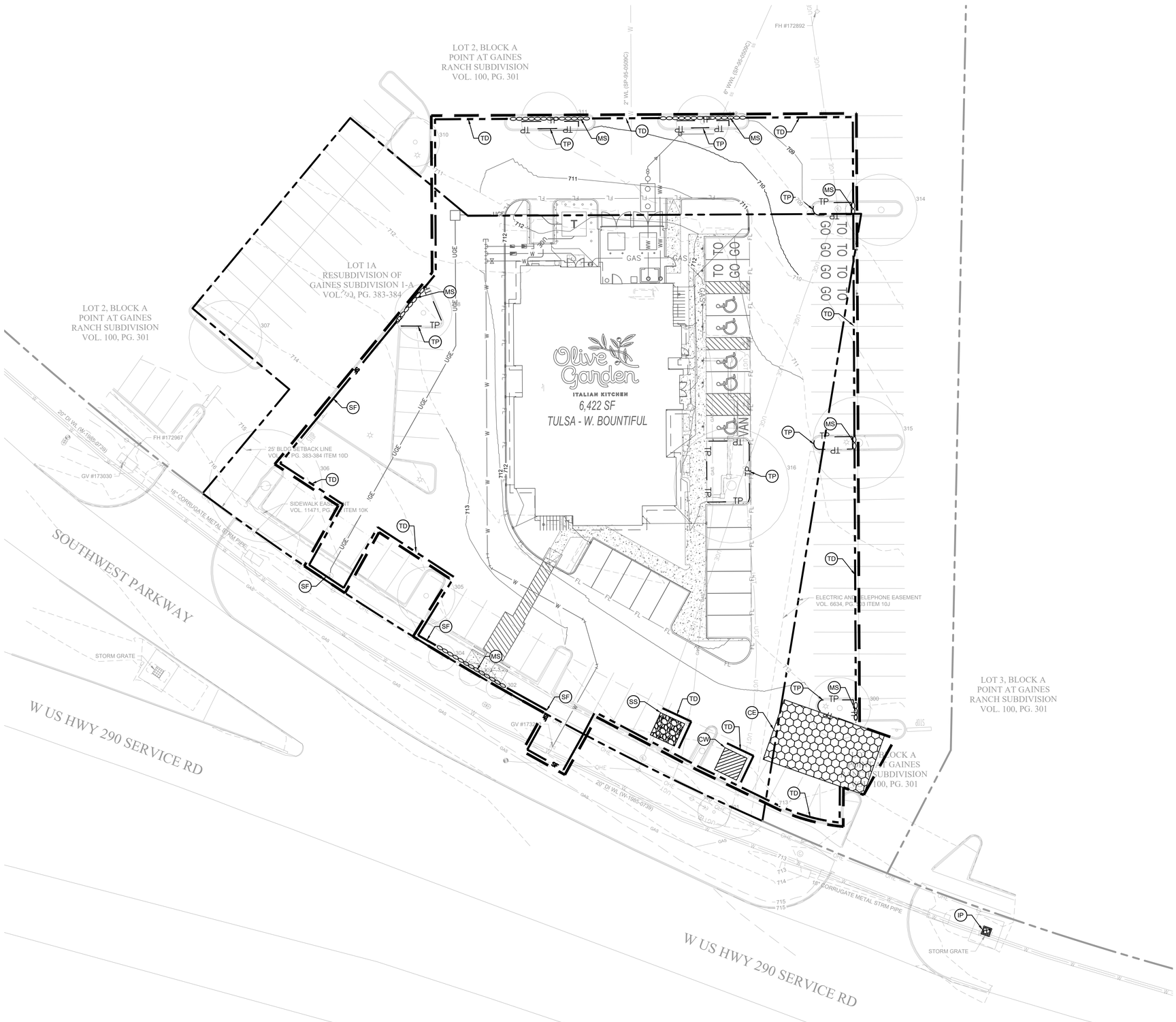

0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

| | |
|---|---|
| TD | TRIANGULAR FILTER DIKE |
| SF | SILT FENCE |
| TP | TREE PROTECTION |
| IP | PROPOSED INLET PROTECTION |
| CE | CONSTRUCTION ENTRANCE |
| SS | STAGING AND SPOILS |
| CW | CONCRETE WASHOUT |
| MS | MULCH SOCK |
| 450 | EXISTING CONTOURS |
| 450 | PROPOSED CONTOURS |
| | LIMITS OF CONSTRUCTION AREA |
| | TREE TO REMAIN |

## NOTES

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) DIRECTLY ON THE SITE MAP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY RULES AND REGULATIONS
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURE DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5(D) OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE, AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
6. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
7. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.
8. REFERENCE EROSION CONTROL NOTES AND DETAILS ON SHEET 26.
9. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING [ECM 1.4.4.B.3, SECTION 5, I.]. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY [ECM 1.4.4.D.4].
10. ALL DISTURBED AREAS TO BE RE-VEGETATED PER CITY OF AUSTIN STANDARDS.
11. SEE LANDSCAPE ARCHITECT PLANS FOR TREE PRESERVATION PLAN AND TREE LIST.
12. THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION IF ANY ADDITIONAL INFORMATION ON THE CONSTRUCTION SEQUENCE IS NECESSARY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.

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|---|---|---|---|

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|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# EROSION CONTROL PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
14 OF 41

SP-2025-0116C.CC

Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:36:36pm File Path:K:\AU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Erosion Control Plan.dwg
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| PARKING TABLE | | | |
|---|---|---|---|
| TO-GO PARKING PROVIDED | REGULAR PARKING PROVIDED | ADA PARKING PROVIDED | TOTAL PARKING PROVIDED |
| 6 | 69 | 5 | 80 |

| ACCESSIBLE PARKING TABLE | | |
|---|---|---|
| | REQUIRED PARKING | PROVIDED PARKING |
| ACCESSIBLE PARKING | 4 | 5 |
| NOTES:<br>1. ACCESSIBLE PARKING IS CALCULATED PER ADA NATIONAL NETWORK<br>2. ONE VAN SPACE IS REQUIRED | | |

| BICYCLE PARKING TABLE | | |
|---|---|---|
| | REQUIRED | PROVIDED |
| SHORT-TERM PARKING | 8 | 10 |
| LONG-TERM PARKING | 0 | 0 |
| TOTAL BICYCLE PARKING | 8 | 10 |
| PER LDC 25-6-477(C)(1), MINIMUM OF 2 SPACES OR 10% OF PROPOSED MOTOR VEHICLE PARKING, WHICHEVER IS GREATER. COMMERCIAL USE REQUIRES 70%-100% SHORT TERM AND 0%-30% LONG TERM PARKING PER TCM TABLE 9-6 | | |

| SITE CALCULATIONS | | |
|---|---|---|
| | EXISTING | PROPOSED |
| GROSS SITE AREA (SF) | 47,987 | 47,987 |
| GROSS SITE AREA (AC) | 1.102 | 1.102 |
| BUILDING COVERAGE (SF) | 5,098 | 6,325 |
| BUILDING COVERAGE (%) | 11% | 13% |
| IMPERVIOUS COVER (SF) | 43,986 | 42,893 |
| IMPERVIOUS COVER (%) | 91.66% | 89.38% |
| LAND USE | RESTAURANT | RESTAURANT |

N E S W

0 20' 40'
GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- PROPOSED FIRE HYDRANT
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE
- ADA ROUTE
- LIGHT DUTY PAVEMENT PER GEOTECH
- HEAVY DUTY PAVEMENT PER GEOTECH
- DUMPSTER PAVEMENT PER GEOTECH
- STRUCTURAL CONCRETE PAVEMENT (RE: STRUCTURAL PLANS)

## NOTES

1. TREES AND TOPOGRAPHY BASED UPON SURVEY BY MANHARD CONSULTING ON FEBRUARY 06, 2025. NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THEIR ACCURACY.
2. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 14' VERTICAL CLEARANCE.
3. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS, "FIRE ZONE/TOW-AWAY ZONE", IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2.
4. ALL PARKING SPACES SHALL HAVE MINIMUM 7'-0" VERTICAL CLEARANCE.
5. WARNING SIGNS ARE REQUIRED TO BE PLACED UNDER THE OVERHEAD ELECTRIC LINES TO MAKE ALL PERSONNEL AWARE OF THE ELECTRIC HAZARD.
6. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED, OR EQUIVALENT LANGUAGE. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC, 3108(c) AND ANSI A1171-1986-4.6.2.
7. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
8. CAUTION: DO NOT PLACE THE STAGING AREA IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES.
9. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
10. ALL RADII TO BE 5' OR 10' UNLESS OTHERWISE NOTED. ALL SIDEWALK RADII TO BE 2' UNLESS OTHERWISE NOTED.
11. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
12. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN.
13. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
14. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.
15. COMPLIANCE WITH THE UNIVERSAL RECYCLING ORDINANCE IS MANDATORY FOR COMMERCIAL BUSINESSES (AUSTIN CITY CODE, SEC. 15-6-91).
16. REFER TO CITY OF AUSTIN ELECTRICAL DEPARTMENT FOR CONSTRUCTION PLANS AND DETAILS.
17. ADEQUATE BARRIERS BETWEEN ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, SUCH AS A 6" CONCRETE CURB ARE REQUIRED. IF A STANDARD 6" CURB AND GUTTER ARE NOT PROVIDED FOR ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, COMPLY WITH ECM. SECTION 2.4.7, "PROTECTION OF LANDSCAPE AREAS".
18. ALL FDC's TO BE TWO 2½" SIAMESE CONNECTIONS.
19. ALL TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE ADOPTED VERSION OF MUTCD. ALL PAVEMENT STRIPING SHALL BE 4" WIDE AND WHITE UNLESS OTHERWISE NOTED.
20. REFER TO ARCHITECT PLANS FOR EXACT BUILDING DIMENSIONS.
21. REFER TO LANDSCAPE AND IRRIGATION PLANS PRIOR TO PLACING PAVEMENT.

## SUBCHAPTER E NOTES

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5. ALL SITE LIGHTING TO BE LOCATED ON THE BUILDING WILL BE IN COMPLIANCE WITH SUBCHAPTER E 2.5, AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E.
2. ALL INTERNAL UTILITIES WILL BE LOCATED IN THE DRIVE AISLES AND NOT IN THE PARKING AREAS.
3. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.

| KEYNOTE LEGEND | |
|---|---|
| 1 | ACCESSIBLE PARKING SPACE (TYP); SEE NOTE 6; RE: ARCHITECTURAL PLANS |
| 2 | ACCESSIBLE PARKING SIGN (TYP); RE: ARCHITECTURAL PLANS |
| 3 | DUMPSTER AREA; RE: ARCHITECTURAL PLANS |
| 4 | CURB RAMP (TYP); RE: 23 |
| 5 | SIDEWALK (TYP); RE: 23 |
| 6 | BENCH (TYP); RE: ARCHITECTURAL PLANS FOR BENCH LAYOUT |
| 7 | SANITARY CLEANOUT (TYP); RE: 22 |
| 8 | GREASE INTERCEPTOR AND SAMPLE WELL; RE: 22 |
| 9 | CONCRETE CURB AND GUTTER (TYP); RE: 23 |
| 10 | TRAFFIC-RATED ELECTRIC PULL BOX; RE: 22 |
| 11 | CONCRETE WALK-OFF CURB AND GUTTER; RE: 24 |
| 12 | TO-GO PARKING SPACE (TYP); SEE NOTE 19; RE: ARCHITECTURAL PLANS |
| 13 | TO-GO PARKING SIGN (TYP); RE: ARCHITECTURAL PLANS |
| 14 | TRANSFORMER; RE: 22 |
| 15 | BACKFLOW PREVENTER; RE: 22 |
| 16 | GAS METER; RE: 22 |
| 17 | FIRE DEPARTMENT CONNECTION; RE: 22 |
| 18 | COMMUNICATIONS VAULT; RE: 22 |
| 19 | BIKE RACK (TYP); ANOVA LBR3PSURF, 1 LOOP, 3 BIKE CAPACITY; INSTALL PER MANUFACTURER'S INSTRUCTIONS; COORDINATE WITH OWNER FOR COLOR; RE: 23 |
| 20 | WATER METERS; RE: 22 |


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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

KHA PROJECT 063887221
DATE APRIL 2025
SCALE AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# OVERALL SITE PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
15 OF 41

SP-2025-0116C.CC


Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:36:53pm File Path:K:\EAU_Civil\063887216-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Overall Site Plan.dwg
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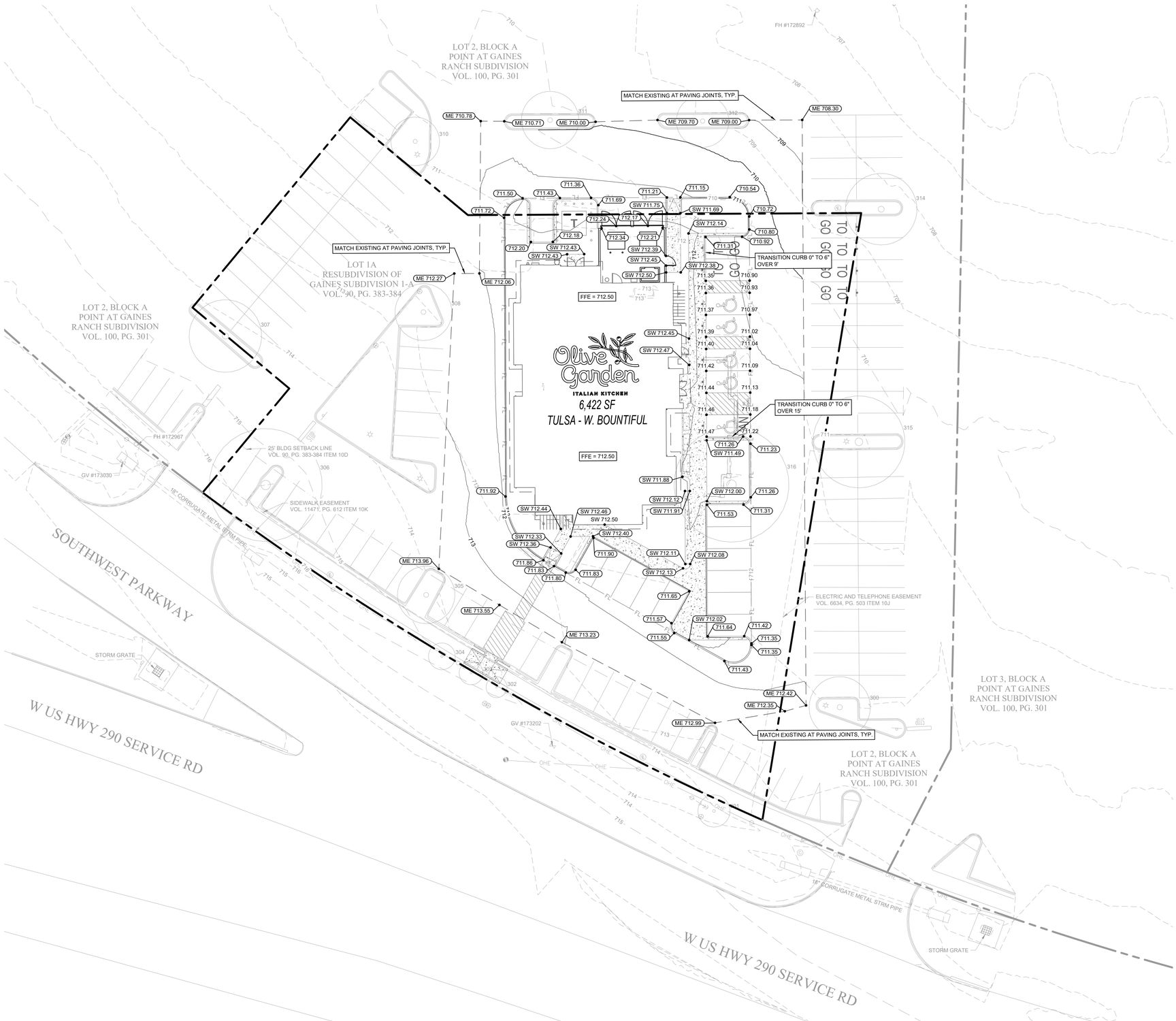


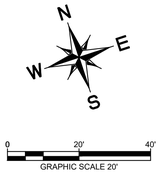


## LEGEND

| | |
|---|---|
| | PROPERTY LINE |
| FFE=XXX.XX | PROPOSED FINISHED FLOOR ELEVATION |
| XXX.X | PROPOSED TOP OF PAVEMENT ELEVATION |
| EX XXX.X | EXISTING TOP OF PAVEMENT ELEVATION |
| ME XXX.X | MATCH PROPOSED GRADE TO EXISTING |
| TW XXX.X | PROPOSED GRADE AT TOP OF WALL |
| BW XXX.X | PROPOSED GRADE AT BOTTOM OF WALL |
| EW XXX.X | PROPOSED GRADE AT END OF WALL |
| SW XXX.X | PROPOSED GRADE AT SIDEWALK |
| | PROPOSED SWALE |
| HP | HIGH POINT |
| | FLOW DIRECTION |
| | PROPOSED RETAINING WALL |
| 555 | PROPOSED CONTOUR |
| 555 | EXISTING CONTOUR |
| | EXISTING TREE TO REMAIN |

## NOTES

1. ALL PROPOSED ELEVATIONS ARE TOP OF PAVEMENT OR NATURAL GROUND UNLESS OTHERWISE NOTED.
2. ALL TOP OF WALL ELEVATIONS ARE TO TOP OF GRADE AT WALL.
3. ALL BOTTOM OF WALL ELEVATIONS ARE TO BOTTOM OF GRADE AT WALL.
4. CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. STANDARDS: NOT EXCEED 5.0% ALONG TRAVEL PATH WITH NOT MORE THAN 2.0% CROSS SLOPE AND NOT EXCEED 2.0% IN ANY DIRECTION IN ACCESSIBLE PARKING AREAS.
5. MAINTAIN EXISTING GRADE IN TREE WELLS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO AREA INLETS.
6. CONTRACTOR SHALL SOD/SEED OR LANDSCAPE ALL DISTURBED AREAS WHICH ARE NOT PAVED. REFER TO LANDSCAPE PLANS.
7. ON TURN, MINIMUM SLOPES SHALL BE 1% AND MAXIMUM SLOPES SHALL NOT EXCEED 3H:1V, UNLESS OTHERWISE NOTED.
8. FINISHED GRADES DIRECTLY ADJACENT TO THE BUILDING THAT ARE NOT PAVED SHALL BE 6" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
9. FINISHED GRADES ADJACENT TO THE BUILDING SHALL BE SLOPED AT A MINIMUM OF 1% AWAY FROM THE BUILDING FOR PAVED SURFACES AND 2% AWAY FROM THE BUILDING FOR LANDSCAPED AREAS UNLESS OTHERWISE NOTED.
10. CONTRACTOR TO ENSURE THAT PONDING OF STORM WATER DOES NOT OCCUR AROUND BUILDING OR WITHIN PAVES ARES WHERE WORK IS PERFORMED.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|


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PROFESSIONAL ENGINEER
04/25/2025

| | |
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| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

GRADING PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
17 OF 41

SP-2025-0116C.CC


Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:37:27pm File Path:K:\TAU_Civil\063887216-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Grading Plan.dwg
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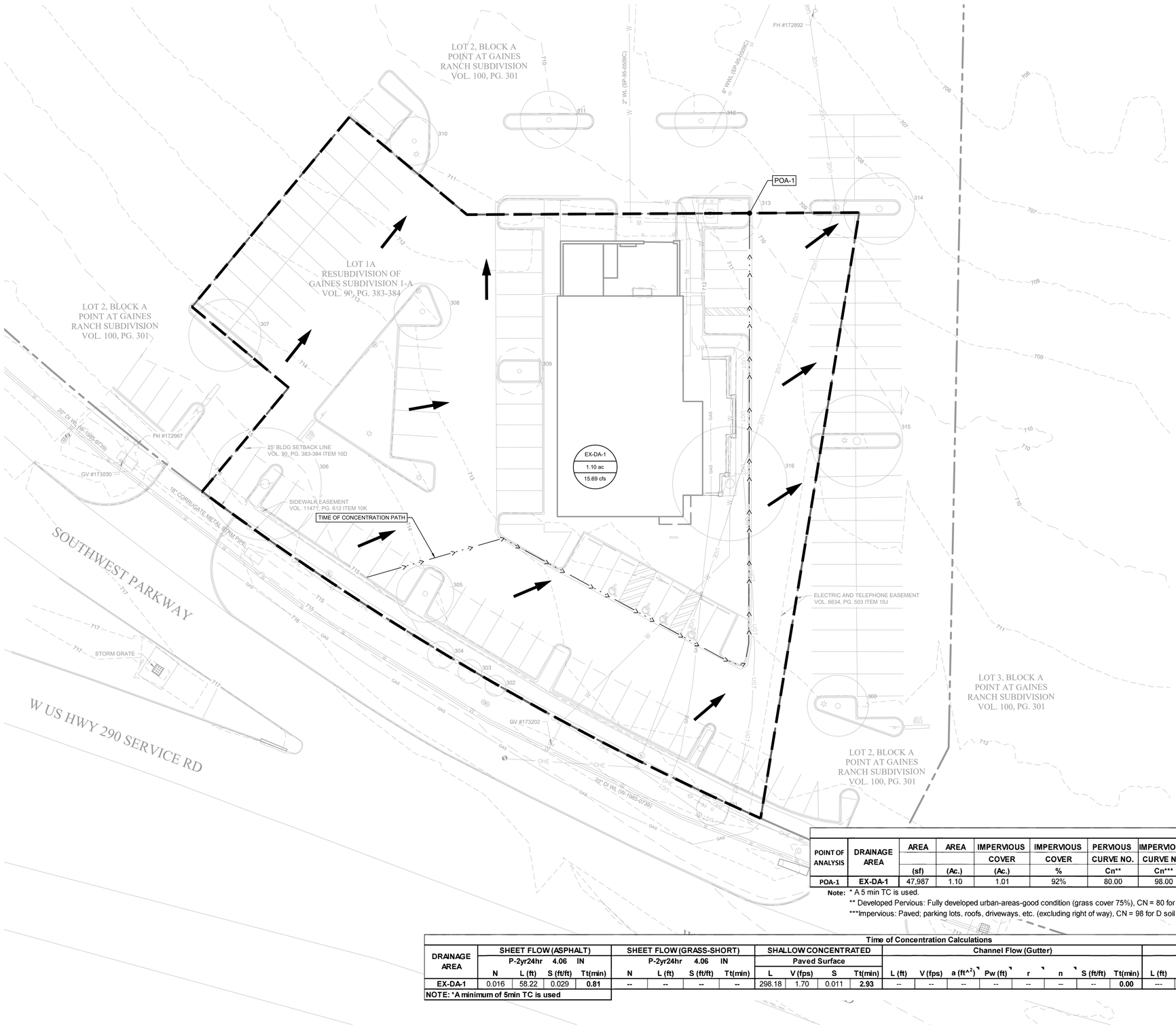


## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| | PROPERTY LINE |
| | EXISTING STORM DRAIN LINE |
| | EXISTING DRAINAGE DIVIDE |
| | EXISTING STORM DRAIN INLET |
| | EXISTING STORM DRAIN MANHOLE |
| | EXISTING STORM DRAIN HEADWALL |
| | EXISTING FLOW DIRECTION |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | EX-DA-1 | 47,987 | 1.10 | 1.01 | 92% | 80.00 | 98.00 | 96.50 | **5.00** | 4.92 | 8.32 | 10.85 | 15.69 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHALLOW CONCENTRATED Paved Surface L | V (fps) | S | Tt(min) | Channel Flow (Gutter) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Channel Flow (Pipe) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX-DA-1 | 0.016 | 58.22 | 0.029 | **0.81** | -- | -- | -- | -- | 298.18 | 1.70 | 0.011 | **2.93** | -- | -- | -- | -- | -- | -- | **0.00** | --- | --- | --- | --- | --- | --- | --- | **0.00** | **5.00** |

NOTE: *A minimum of 5min TC is used

Posted By:Sheaffer, Ryan Date:April 30, 2025 08:49:07am File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Existing Drainage Area Map.dwg
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PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

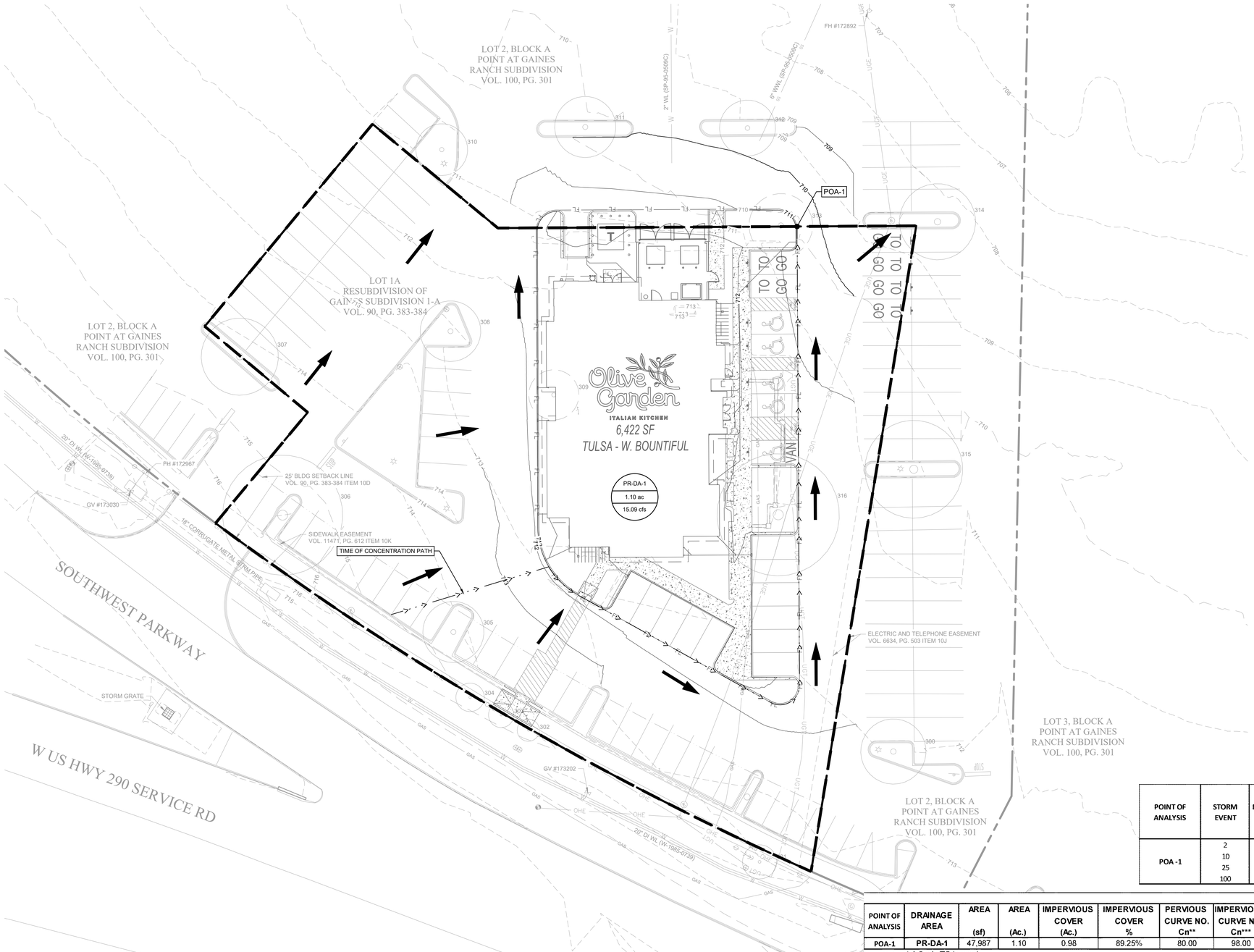
# EXISTING DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
18 OF 41

SP-2025-0116C.CC



0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| A-1 | INLET NUMBER |
| | PROPERTY LINE |
| | PROPOSED STORM DRAIN LINE |
| | EXISTING STORM DRAIN LINE |
| | PROPOSED DRAINAGE DIVIDE |
| | PROPOSED STORM DRAIN INLET |
| | PROPOSED STORM DRAIN MANHOLE |
| | PROPOSED STORM DRAIN HEADWALL |
| | PROPOSED FLOW DIRECTION |
| 555 | PROPOSED CONTOUR |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | STORM EVENT | EXISTING RUNOFF (CFS) | DEVELOPED RUNOFF (CFS) | RUNOFF DIFFERENCE AT POINT OF ANALYSIS (CFS) | IS DEVELOPED LESS THAN EXISTING |
|---|---|---|---|---|---|
| POA -1 | 2 | 4.92 | 4.73 | -0.19 | YES |
| | 10 | 8.32 | 8.00 | -0.32 | YES |
| | 25 | 10.85 | 10.43 | -0.41 | YES |
| | 100 | 15.69 | 15.09 | -0.59 | YES |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn* | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | PR-DA-1 | 47,987 | 1.10 | 0.98 | 89.25% | 80.00 | 98.00 | 96.07 | 5.44 | 4.73 | 8.00 | 10.43 | 15.09 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN | | | | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN | | | | SHALLOW CONCENTRATED Paved Surface | | | | Channel Flow (Gutter) | | | | | | | | Channel Flow (Pipe) | | | | | | | | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | L (ft) | S (ft/ft) | Tt(min) | N | L (ft) | S (ft/ft) | Tt(min) | L | V (fps) | S | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | |
| PR-DA-1 | 0.016 | 63.49 | 0.052 | 0.69 | -- | -- | -- | -- | 293.86 | 1.03 | 0.004 | 4.75 | -- | -- | -- | -- | -- | -- | -- | 0.00 | --- | --- | --- | --- | --- | --- | --- | 0.00 | 5.44 |
| NOTE: *A minimum of 5min TC is used | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:55:03pm File Path:K:\FAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Proposed Drainage Area Map.dwg
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04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

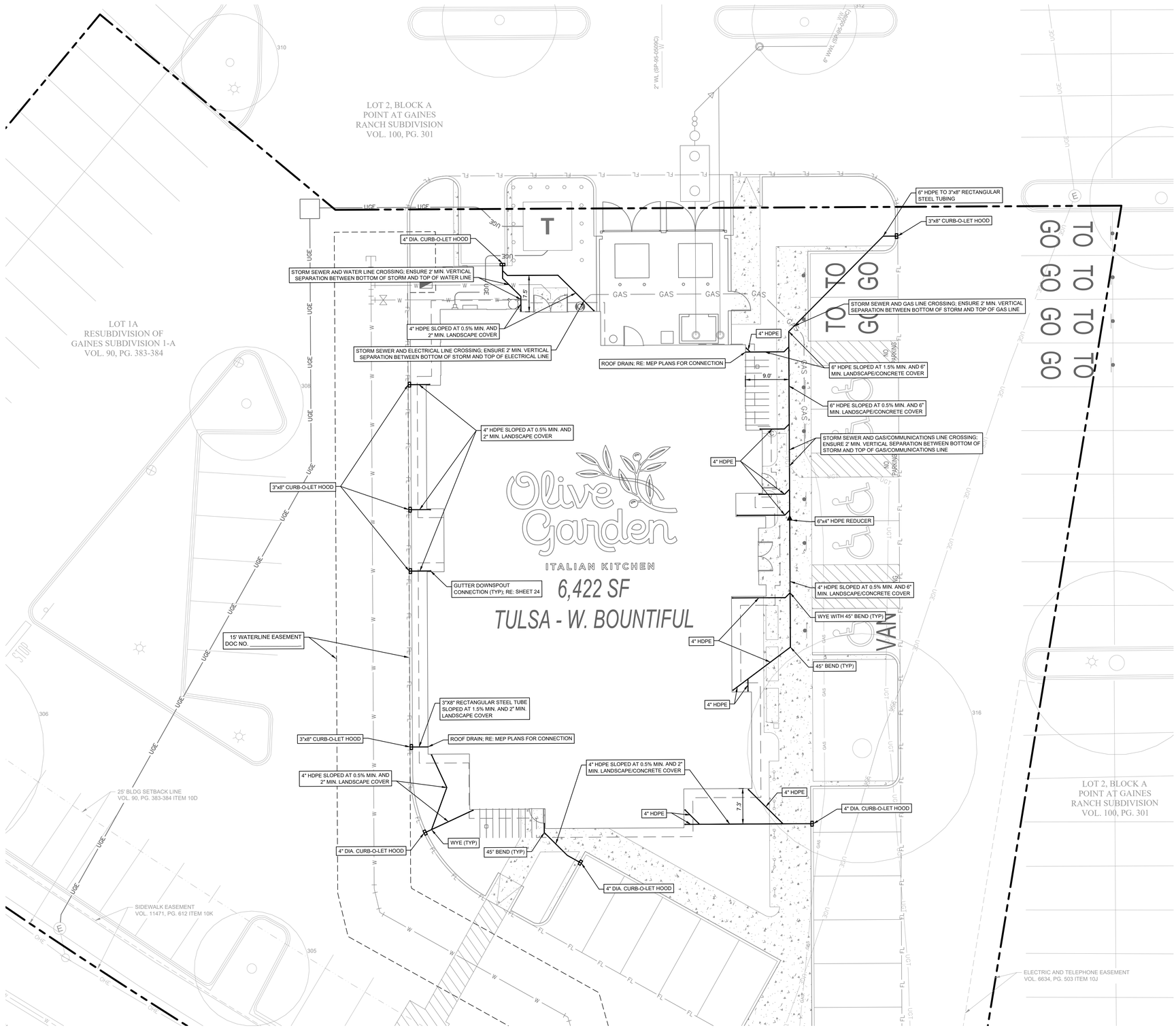
# PROPOSED DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
19 OF 41

SP-2025-0116C.CC




0 10' 20'
GRAPHIC SCALE 10'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WASTEWATER MANHOLE

## STORM NOTES

1. STORM (STM) PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   A) RCP - ASTM C76 CLASS III - REQUIRED IN PUBLIC RIGHT OF WAY, PUBLIC DRAINAGE EASEMENTS, AND AT CONNECTION POINTS TO PUBLIC STORM SEWER.
   B) DUCTILE IRON PIPE - ASTM A746
   C) HDPE - AASHTO M252 TYPE S , M294 TYPE S R ASTM F 2306 SMOOTH WALL
   D) PVC - ASTM D 3034 SDR35
2. CONNECT DOWNSPOUT TO 3"x8" RECTANGULAR STEEL PIPE. CONNECT STEEL PIPE TO 3"x8" CURB-O-LET HOOD WITHIN THE CURB. INSTALL RECTANGULAR STEEL BENDS AS NECESSARY TO TIE DOWNSPOUT INTO CURB-O-LET HOOD. AT LEAST 2" OF CONCRETE OR LANDSCAPING SHALL BE PLACE ABOVE THE RECTANGULAR STEEL PIPE. INSTALL RECTANGULAR STEEL PIPE AND CURB-O-LET HOOD IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. CONNECT DOWNSPOUT TO 4" HDPE PIPE. CONNECT HDPE PIPE TO 4" CURB-O-LET HOOD WITHIN THE CURB. INSTALL HDPE BENDS AS NECESSARY TO THE DOWNSPOUT INTO CURB-O-LET HOOD. AT LEAST 2" OF CONCRETE OR LANDSCAPING SHALL BE PLACE ABOVE THE 4" HDPE PIPE AND AT LEAST 6" OF CONCRETE OR LANDSCAPING ABOVE THE 6" HDPE PIPE. INSTALL HDPE PIPE AND CURB-O-LET HOOD IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

## CLASS IV RCP NOTE

1. ALL STORM PIPE WITH LESS THAN 3' OF COVER LOCATED UNDER VEHICULAR PAVEMENT SHALL BE CLASS IV RCP.

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04/25/2025

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| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# OVERALL STORM PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
20 OF 41

SP-2025-0116C.CC

Plotted By: Sheaffer, Ryan Date: May 01, 2025 05:55:17pm File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C- Overall Storm Plan.dwg
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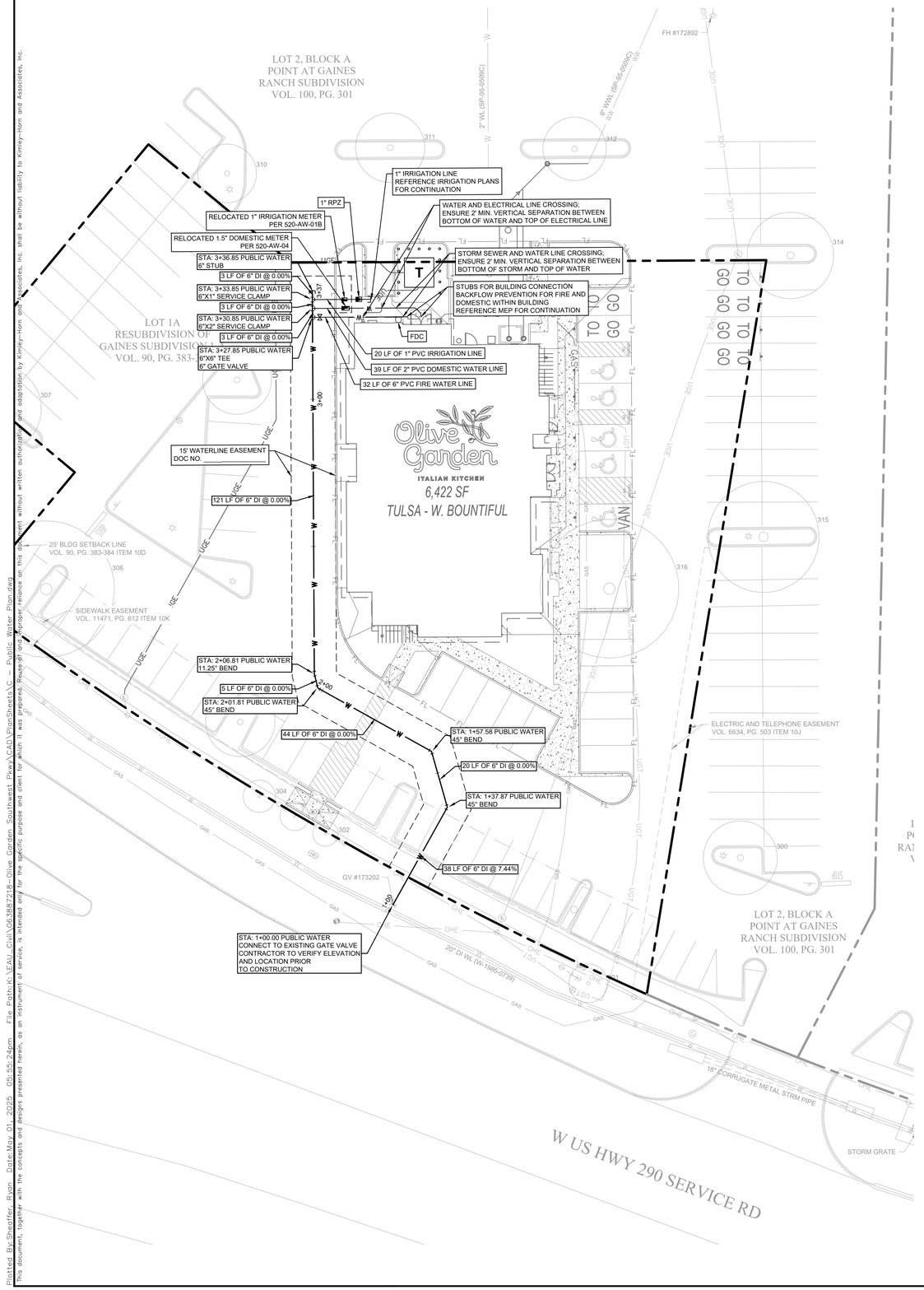


NOTES:

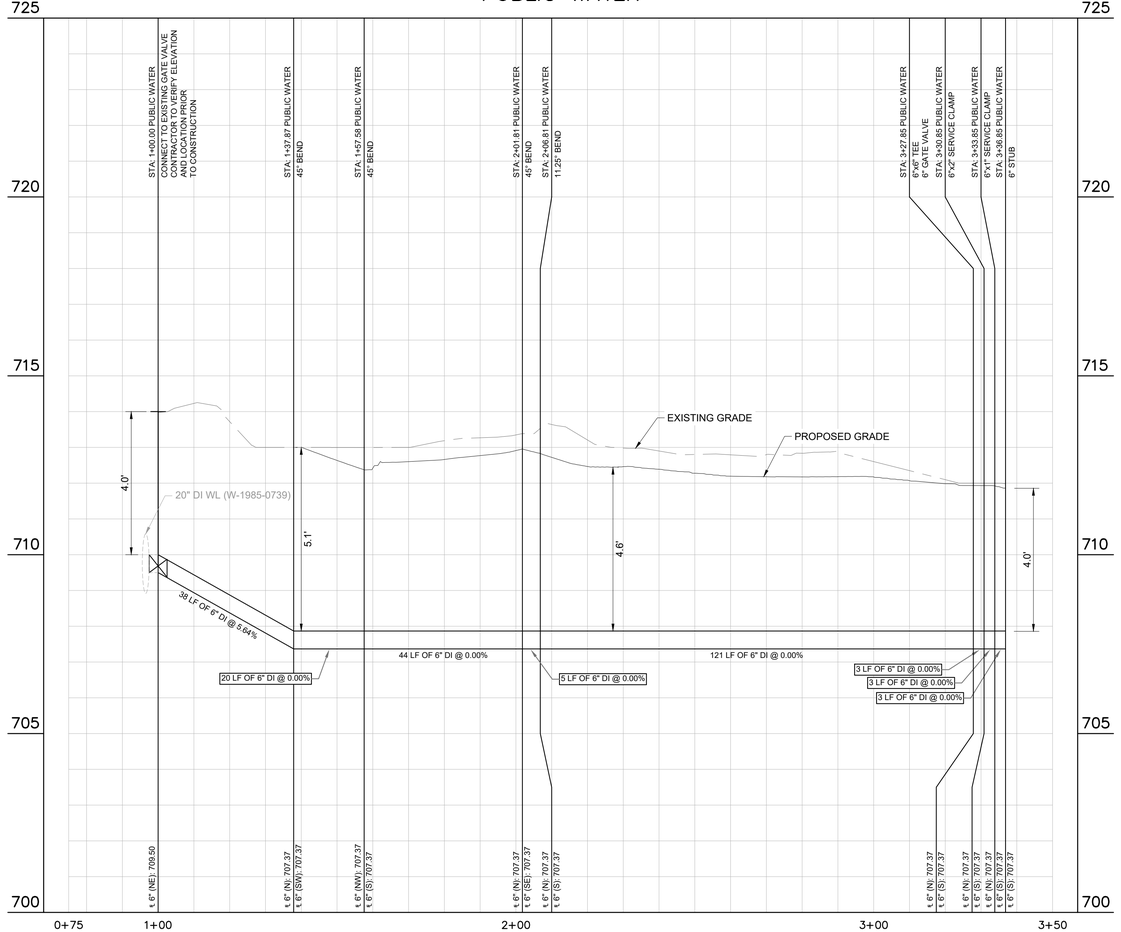
1. DOMESTIC WATER LINES UNDER 4 INCHES IN SIZE SHALL BE SCHEDULE 40 PVC, IN ACCORDANCE WITH ASTM D 1785. FITTINGS SHALL BE SCHEDULE 40 PVC (SOCKET TYPE) IN ACCORDANCE WITH ASTM D 2466. SOLVENT CEMENT SHALL BE IN ACCORDANCE WITH ASTM D 2564 (PRIMER IN ACCORDANCE WITH ASTM F 656). INSTALL WATER SERVICE PIPING PER MANUFACTURER'S INSTRUCTIONS.
2. ALL CONSTRUCTION AND MATERIALS FOR WATER LINES 4 INCHES IN SIZE AND LARGER SHALL BE IN ACCORDANCE WITH CITY STANDARD DETAILS AND SPECIFICATIONS.
3. THE SIZE OF THE FIRE SUPPRESSION LINE SHOWN ON THESE PLANS IS PRELIMINARY. THE CONTRACTOR SHALL COORDINATE THE FINAL SIZE OF THE FIRE SUPPRESSION LINE WITH THE FINAL DESIGN OF THE FIRE SPRINKLER SYSTEM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
4. CONTRACTOR SHALL CONSTRUCT A CLAY PLUG 4 FEET BEYOND THE EXTERIOR OF THE BUILDING EDGE FOR ALL UTILITY TRENCHES.
5. TOPS OF EXISTING STRUCTURES AND APPURTENANCES SHALL BE RAISED/LOWERED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS OR TO BE 6 INCHES ABOVE THE FINISHED GRADE ELEVATIONS IN NON-PAVED AREAS.

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE

PROFILE SCALE
1"=20' HORIZONTAL
1"=2' VERTICAL

## PUBLIC WATER

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04/25/2025

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| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# PUBLIC WATER PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
21 OF 41

SP-2025-0116C.CC

Plotted By:Shoaffer, Ryan Date:May 01, 2025 09:55:24pm File Path:K:\AU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\Plan Sheets\C - Public Water Plan.dwg
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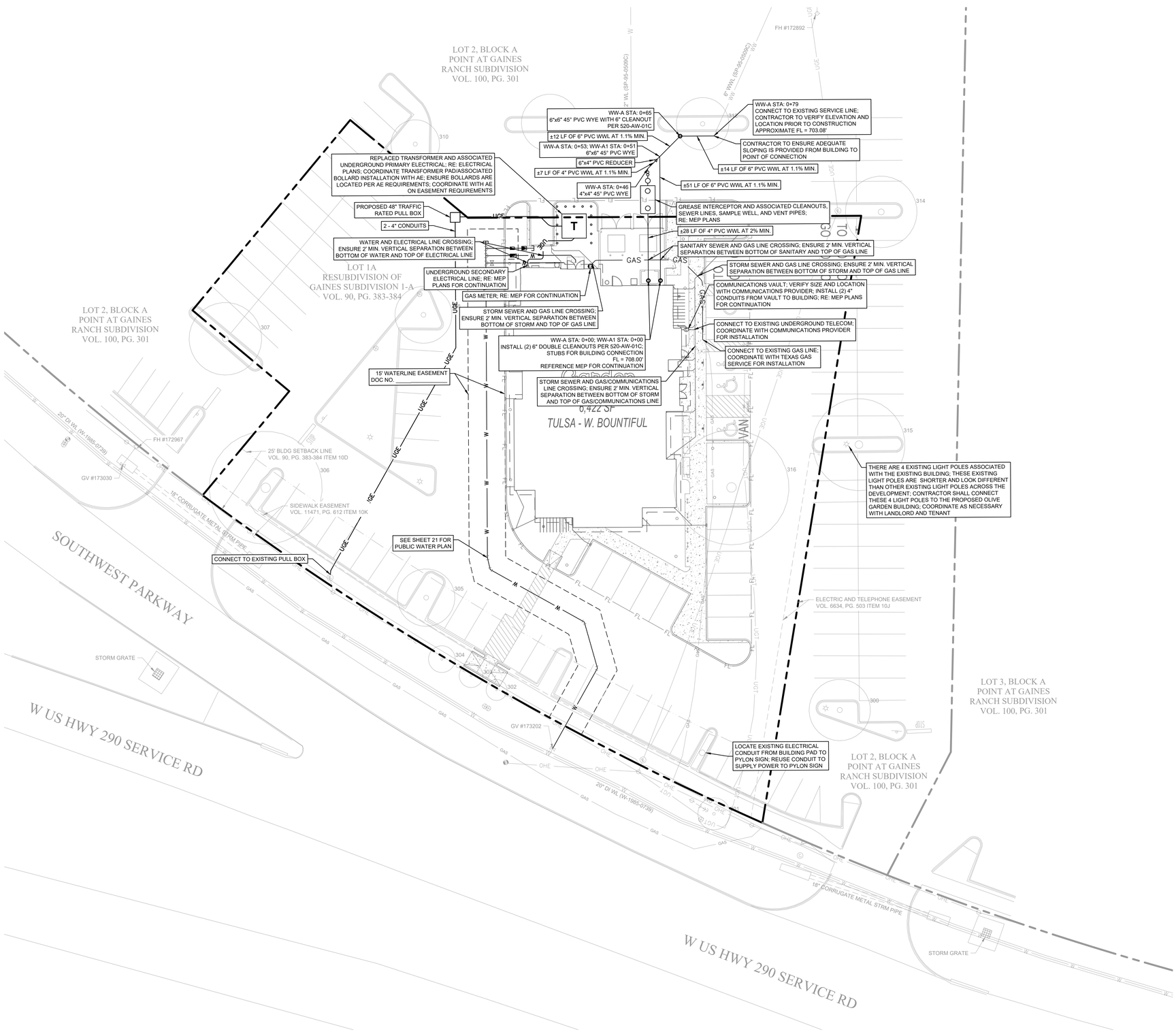


N
W E
S

0 20' 40'
GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- EXISTING WATER METER
- EXISTING GATE VALVE
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING IRRIGATION VALVE
- EXISTING WASTEWATER MANHOLE

NOTES:

1. ANY RELOCATION OF ELECTRIC FACILITIES SHALL BE AT LANDOWNER'S / DEVELOPER'S EXPENSE.
2. ALL UTILITY SERVICE LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE.
3. CONTRACTOR SHALL COORDINATE WITH ALL PRIVATE UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS, SPECIFICATIONS, AND SCHEDULING OF INSTALLATION.
4. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR TEMPORARY UTILITY SERVICES TO THE PROJECT SITE.
5. SANITARY SEWER SERVICE PIPING SHALL BE SDR 35, PVC TYPE PSM SEWER PIPE WITH BELL-AND-SPIGOT ENDS FOR GASKETED JOINTS IN ACCORDANCE WITH ASTM D 3034. FITTINGS SHALL BE PVC WITH BELL ENDS IN ACCORDANCE WITH ASTM D 3034. GASKETS SHALL BE ELASTOMERIC SEALS IN ACCORDANCE WITH ASTM F 477. INSTALL SANITARY SEWER SERVICE PIPING PER MANUFACTURER'S INSTRUCTIONS.
6. CONTRACTOR SHALL CONSTRUCT A CLAY PLUG 4 FEET BEYOND THE EXTERIOR OF THE BUILDING EDGE FOR ALL UTILITY TRENCHES.
7. TOPS OF EXISTING STRUCTURES AND APPURTENANCES SHALL BE RAISED/LOWERED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS OR TO BE 6 INCHES ABOVE THE FINISHED GRADE ELEVATIONS IN NON-PAVED AREAS.
8. REFER TO ELECTRICAL PLANS FOR ELECTRICAL SERVICE LINES, COMMUNICATION LINES, AND TRANSFORMER.
9. SEE SHEET 34 (REFERENCE SHEET) FOR THE PUBLIC WASTEWATER CONNECTION POINT.

| No. | REVISIONS | DATE | BY |
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04/25/2025

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| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# UTILITY PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
22 OF 41

SP-2025-0116C.CC

Plotted By:Shoffer, Ryan Date:May 08, 2025 11:53:56pm File Path:K:\AEAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C_ Utility Plan.dwg
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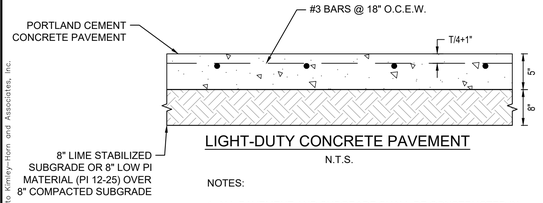


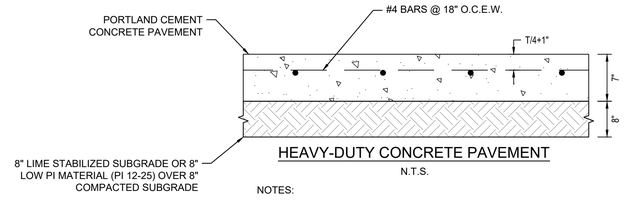

## LIGHT-DUTY CONCRETE PAVEMENT

N.T.S.

NOTES:

1. ALL PAVEMENT AND SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.

2. REFER TO PAVEMENT JOINTING NOTES FOR CONCRETE PANEL SIZES AND REINFORCING REQUIREMENTS.



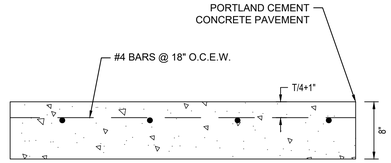

## HEAVY-DUTY CONCRETE PAVEMENT

N.T.S.

NOTES:

1. ALL PAVEMENT AND SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.

2. REFER TO PAVEMENT JOINTING NOTES FOR CONCRETE PANEL SIZES AND REINFORCING REQUIREMENTS.



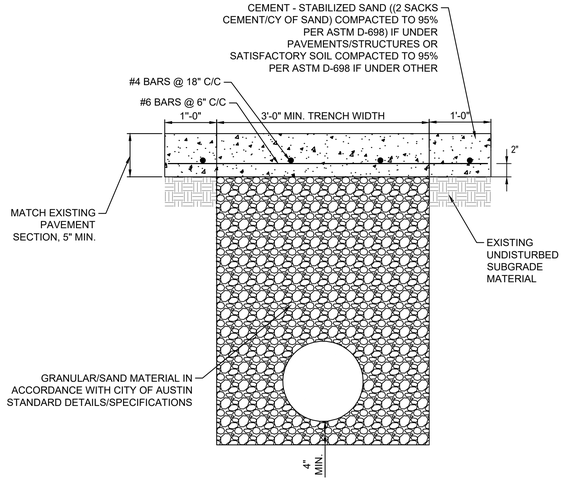

## DUMPSTER CONCRETE PAVEMENT

N.T.S.

NOTES:

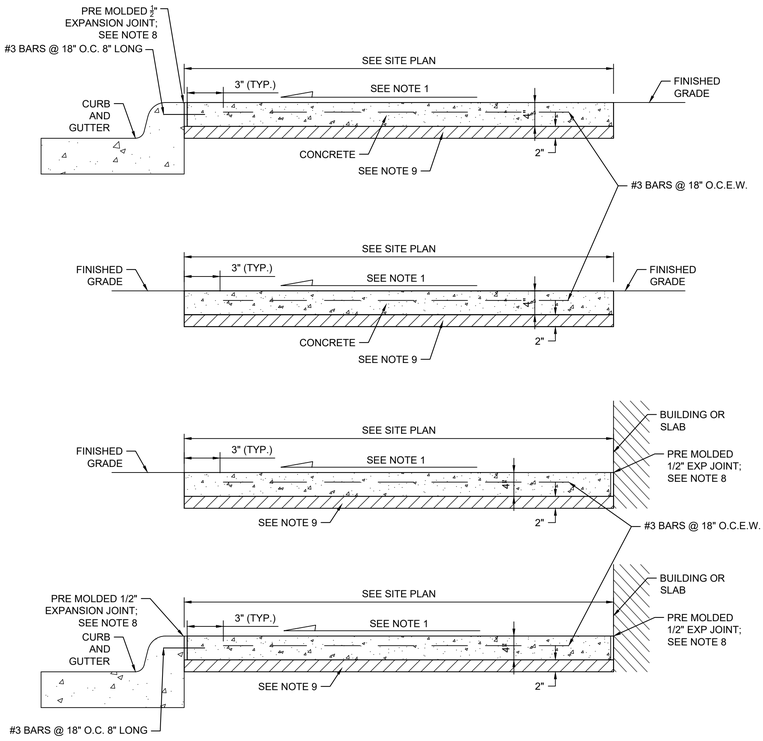
1. ALL PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.

2. REFER TO PAVEMENT JOINTING NOTES FOR CONCRETE PANEL SIZES AND REINFORCING REQUIREMENTS.




## CONCRETE REPAIR DETAIL

N.T.S.




## CONCRETE SIDEWALK DETAILS

N.T.S.

SIDEWALK NOTES:

1. A MAX CROSS SLOPE OF 2% AND RUNNING SLOPE OF 5% SHALL BE PROVIDED AND SHALL SLOPE TOWARDS THE DIRECTION OF POSITIVE DRAINAGE IN THE AREA.
2. CONCRETE WALKS SHALL BE GROOVED TRANSVERSELY TO A DEPTH OF 1 1/2" AT INTERVALS MATCHING SIDEWALK WIDTH UP TO 7'. IF SIDEWALK WIDTH IS GREATER THAN 7', CONTRACTION JOINTS SHALL BE SAWCUT LONGITUDINALLY AND TRANSVERSELY AT DISTANCES EQUAL TO 1/2 OF SIDEWALK WIDTH. NO PANEL SIZE TO EXCEED 7'X7'.
3. CONTRACTION JOINTS MAXIMUM DISTANCE = 7'. GROOVE 1 1/2" DEEP AND FILL WITH SEALANT. SAWCUT JOINTS WITHIN 24 HOURS.
4. EXPANSION JOINTS MAXIMUM DISTANCE = 100'. USE 1/2" PREMOLDED EXPANSION MATERIAL. TRANSVERSE SIDEWALK EXPANSION JOINT SHALL BE DOWELED PER JOINTING DETAILS ON C7.2.
5. USE 1/2" PREMOLDED EXPANSION JOINT AT CURB.
6. 1/2" EXPANSION JOINTS SHALL BE INSTALLED TO SURROUND OR TO SEPARATE ALL STRUCTURES OR FEATURES WHICH PROJECT THROUGH OR AGAINST SIDEWALK SLAB. 36" OF CLEAR TRAVEL SPACE MUST BE MAINTAINED AT ALL TIMES ALONG LENGTH OF SIDEWALK.
7. ALL JOINTS TO BE SEALED. PREMOLDED EXPANSION MATERIAL TO BE REMOVED TO A DEPTH OF 1/2" PRIOR TO APPLYING SEALANT.
8. AT DOORWAYS AND WHERE SIDEWALK ABUTS PAVEMENT, EXPANSION JOINTS SHALL BE DOWELED PER JOINTING DETAILS ON SHEET 24. WHERE SIDEWALK ABUTS CURB, BUILDING, OR OTHER STRUCTURES, DOWELED EXPANSION JOINTS ARE NOT REQUIRED.
9. 2" SAND CUSHION UNLESS SPECIFIED DIFFERENTLY IN GEOTECHNICAL REPORT. PREPARE SUBGRADE IN ACCORDANCE WITH INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.
10. WHERE CONSTRUCTION OF SIDEWALK BEGINS AND ENDS EACH DAY, INSTALL A DOWELED EXPANSION JOINT WITH THICKENED EDGE IN ACCORDANCE WITH SHEET 24.
11. PORTLAND CEMENT CONCRETE MATERIAL FOR SIDEWALKS SHALL BE IDENTICAL TO CONCRETE PAVEMENT (IN ACCORDANCE WITH GEOTECHNICAL REPORT).

ANOVA

**Contact Us:**
800.231.1327
specify@anovafurnishings.com

**LBR3PSURF — Streetside 1-Loop Bike Rack with 3-Bike Capacity, Powder Coated Finish and Surface Mount**

**One-loop steel tubular bike rack with three-bike capacity, powder coated finish and surface mount**

**Material**
The bike rack is 14.63" wide and can accommodate three bicycles. A bicycle can be parked within the loop plus on the outside of each leg. The rack is made from 2.38" O.D. x 11-gauge wall steel tubing. Each leg features a 5" diameter mounting plate with predrilled holes for easy surface mounting. Mounting hardware is not included.

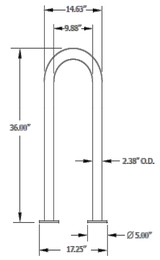
**Finish**
Fade-resistant, powder coated steel tubing features a state-of-the-art primer proven to prevent rusting. Treated components exceed the industry by 34% in testing by independent sources.

**Color**
See website or sales representative for color choices.

**Assembly**
Bike rack requires no assembly except for the surface mounting.

**Maintenance**
The product is virtually maintenance-free and requires only periodic cleaning with a sponge and a solution of mild detergent and water to remove surface dirt. Do not clean with solvent or petroleum base products.

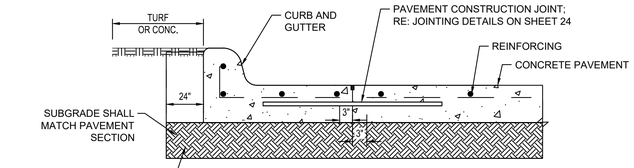
**Warranty**
20-year limited structural warranty with 7-year finish warranty against fading; 3-year finish warranty on powder coated metal components against rusting, peeling, chipping, cracking, mold, mildew and defects in materials and/or workmanship. See full details on multi-year warranties for components at https://www.anovafurnishings.com/warranty




3/16/2023 Copyright 2023 ANOVA® Manufactured in the U.S.

## BIKE RACK DETAIL

N.T.S.

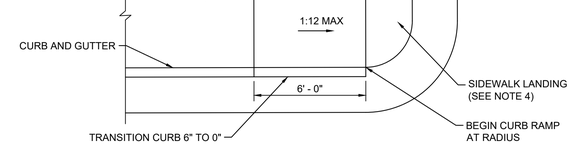


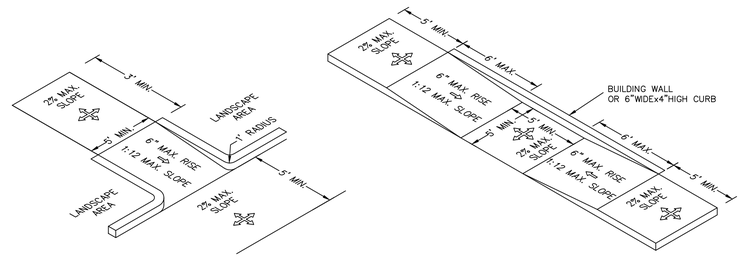

## CONCRETE PAVING WITH CURB AND GUTTER

N.T.S.

NOTES:

1. ALL PAVEMENT AND SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.
2. REFER TO SHEET 24 FOR JOINTING DETAILS AND NOTES.




## ACCESSIBLE RAMPS DETAIL

N.T.S.

NOTES:

1. ALL ACCESSIBLE COMPONENTS CONSTRUCTED AS PART OF THESE PLANS SHALL COMPLY WITH ADA AND TAS STANDARDS.
2. ACCESSIBLE ROUTE TO ACCESSIBLE SPACES, BUILDING ENTRANCES, AND PUBLIC STREETS SHALL NOT EXCEED 5% RUNNING SLOPE AND 2% CROSS SLOPE.
3. UNLESS OTHERWISE SHOWN ON THE PLANS, THE MINIMUM CLEAR ROUTE SHALL BE 36" WIDE WITH A 60" X 60" PASSING SPACE EVERY 200 FEET.
4. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE RAMP LEADING TO THE LANDING. THE LANDING CLEAR LENGTH SHALL BE 3 FEET LONG MINIMUM. THE LANDING SLOPE SHALL NOT BE GREATER THAN 2% IN ANY DIRECTION.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-418-1771
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TX REGISTERED ENGINEERING FIRM F-928
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RYAN MCKAY
146418
LICENSED PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT | 063887221 |
|---|---|
| DATE | APRIL 2025 |
| SCALE | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

PAVING DETAILS (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
23 OF 41

SP-2025-0116C.CC

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:50:20am File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\Cad\PlanSheets\C - Paving Details.dwg
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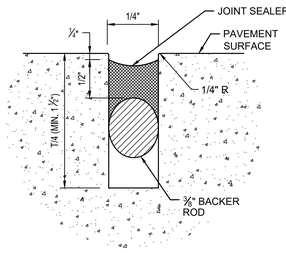
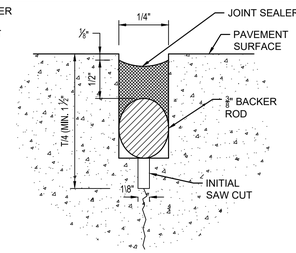



GROOVED JOINT

N.T.S.




SAWCUT JOINT

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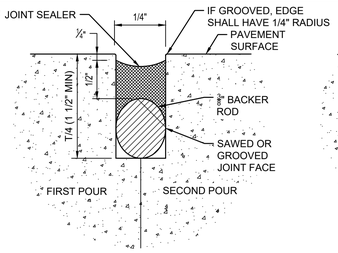
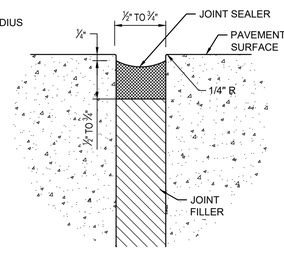
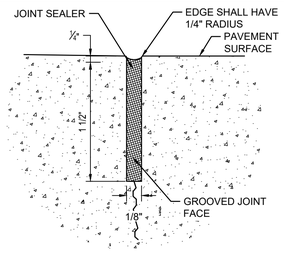



PAVEMENT CONSTRUCTION JOINT DETAIL




PAVEMENT/SIDEWALK EXPANSION JOINT DETAIL

N.T.S.




SIDEWALK CONTRACTION JOINT DETAIL

N.T.S.

## PAVEMENT CONTRACTION JOINT DETAIL

N.T.S.

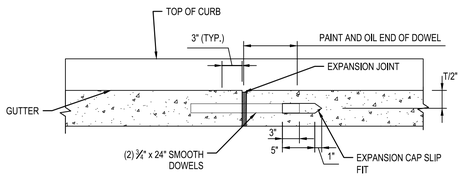
PAVEMENT JOINTING NOTES:

1. JOINT SPACING FOR CONCRETE PAVEMENT SHALL BE PROVIDED SUCH THAT NO PANEL EXCEEDS THE 1.25L:1.00W RATIO. MAXIMUM PANEL SIZE FOR 5-INCH SHALL BE 10 FEET X 12.5 FEET AND FOR 7-INCH/8-INCH CONCRETE SHALL BE 12 FEET X 15 FEET. JOINTS SHOULD BE CUT AS SOON AS CONCRETE WILL SUPPORT MACHINARY(WITHIN 6 TO 12 HOURS OF CONCRETE PLACEMENT).
2. JOINTS MUST INTERSECT PAVEMENT-FREE EDGE AT A 90-DEGREE ANGLE TO THE PAVEMENT EDGE AND MUST EXTEND STRAIGHT FOR A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE UNLESS OTHERWISE NOTED.
3. EXPANSION JOINTS SHOULD BE INSTALLED TO SURROUND OR TO SEPARATE ALL STRUCTURES OR FEATURES WHICH PROJECT THROUGH OR AGAINST CONCRETE PAVEMENT.
4. JOINT SEALANT SHALL BE COLD-APPLIED, SINGLE COMPONENT, SELF-LEVELING, SILICONE THAT IS IN ACCORDANCE WITH ASTM D-5893 (TYPE SL.).

SIDEWALK PAVEMENT NOTES:

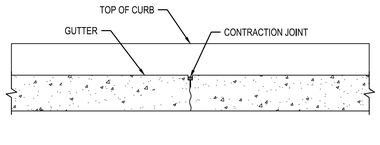
1. REFERENCE SIDEWALK DETAIL FOR SIDEWALK JOINTING NOTES.

2. JOINT SEALANT SHALL BE COLD-APPLIED, SINGLE COMPONENT, SELF-LEVELING, SILICONE THAT IS IN ACCORDANCE WITH ASTM D-5893 (TYPE SL).




CURB AND GUTTER EXPANSION JOINT

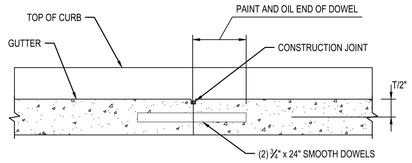
N.T.S.




CURB AND GUTTER CONTRACTION JOINT

N.T.S.

CURB AND GUTTER JOINTS




CURB AND GUTTER CONSTRUCTION JOINT

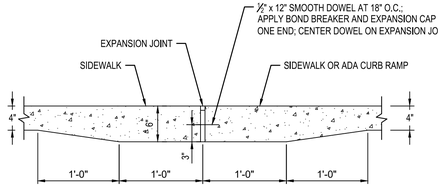
N.T.S.

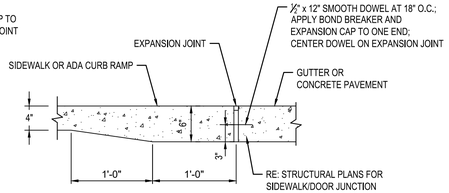
CURB AND GUTTER JOINT NOTES:

1. CONTRACTION JOINTS SHALL BE PROVIDED AT INTERVALS NOT LESS THAN 5 FEET AND NOT GREATER THAN 15 FEET. CONTRACTION JOINT SHALL EXTEND TO A DEPTH OF 6 INCHES BELOW TOP OF CURB AND 1 1/2 INCHES BELOW TOP OF GUTTER. FOR INTEGRAL CURB AND GUTTER, CONTRACTION JOINTS SHALL MATCH PAVEMENT JOINTS.

2. EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT LESS THAN 30 FEET AND NOT GREATER THAN 500 FEET. FOR INTEGRAL CURB AND GUTTER, EXPANSION JOINTS SHALL MATCH PAVEMENT JOINTS.

3. JOINT SEALANT SHALL BE COLD-APPLIED, SINGLE COMPONENT, SELF-LEVELING, SILICONE THAT IS IN ACCORDANCE WITH ASTM D-5893 (TYPE SL).



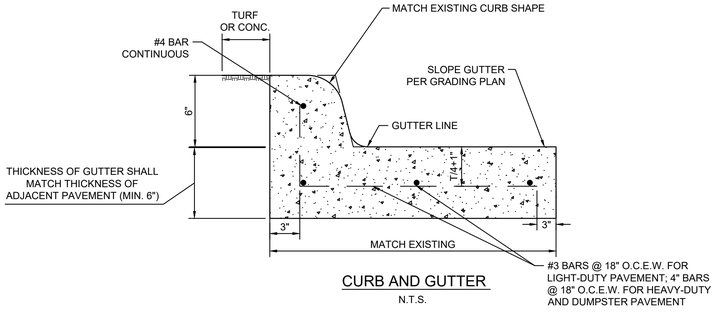




DOWELED SIDEWALK EXPANSION JOINT

N.T.S.

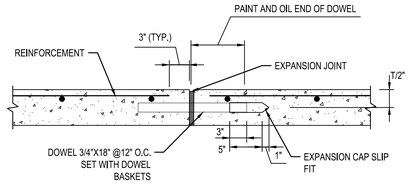
NOTES:

1. REFERENCE SIDEWALK DETAIL FOR SIDEWALK JOINTING NOTES.




CURB AND GUTTER

N.T.S.



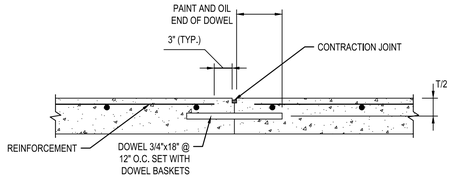

PAVEMENT CONTRACTION JOINTS

N.T.S.




PAVEMENT EXPANSION JOINT

N.T.S.




PAVEMENT CONSTRUCTION JOINT

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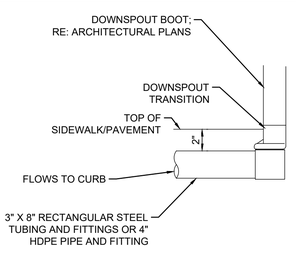
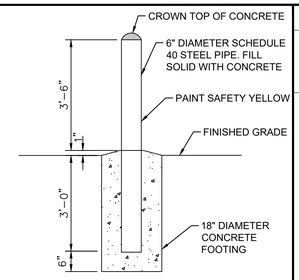


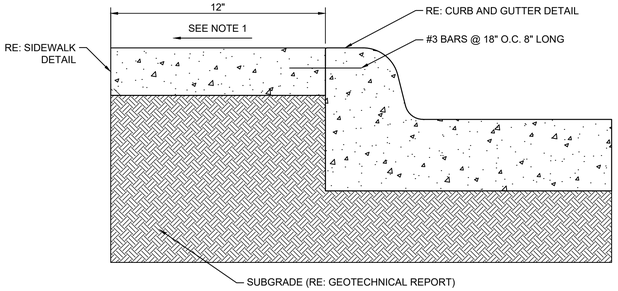

ROOF DRAIN/DOWNSPOUT CONNECTION DETAIL

N.T.S.




BOLLARD DETAIL

N.T.S.

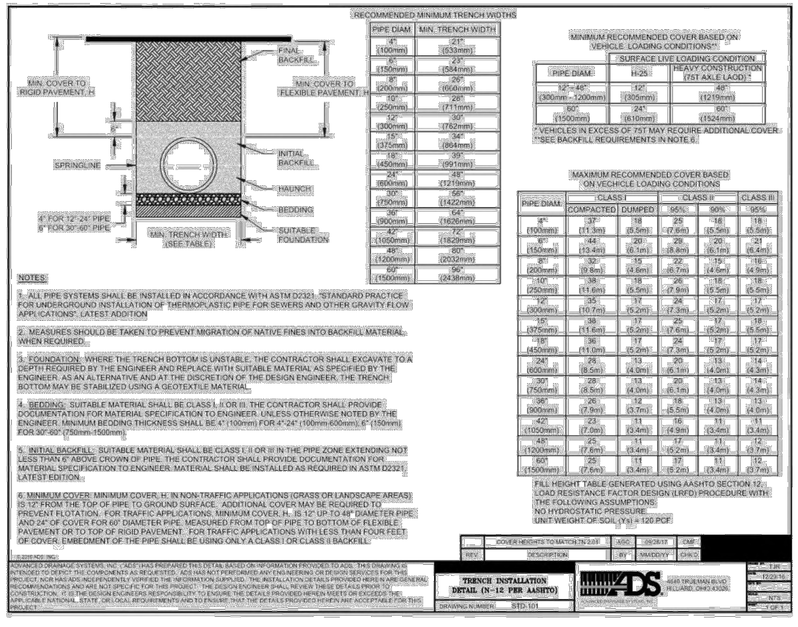



WALK-OFF CURB DETAIL

N.T.S.

NOTES:

1. A MAX CROSS SLOPE OF 2% AND RUNNING SLOPE OF 5% SHALL BE PROVIDED TOWARDS THE DIRECTION OF POSITIVE DRAINAGE IN THE AREA UNLESS OTHERWISE NOTED.




HDPE TRENCH DETAIL

N.T.S.

NOTES:

1. ALL INITIAL BACKFILL AND BEDDING SHALL BE CLASS I MATERIAL COMPACTED TO 95% PER ASTM D-698.

2. FINAL BACKFILL UNDER PAVEMENT SHALL BE CLASS I MATERIAL COMPACTED TO 95% PER ASTM D-698.

3. FINAL BACKFILL UNDER NON-PAVED AREAS AND SIDEWALKS SHALL BE SATISFACTORY SOIL COMPACTED TO 95% PER ASTM D-698.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|


Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-418-9942
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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE | AS SHOWN |
| DESIGNED BY | RJM |
| DRAWN BY | RPS |
| CHECKED BY | RJM |

PAVING DETAILS (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER

24 OF 41

SP-2025-0116C.CC

Plotted By: Streiffer, Ryan Date: April 30, 2025 08:50:25am File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Paving Details.dwg
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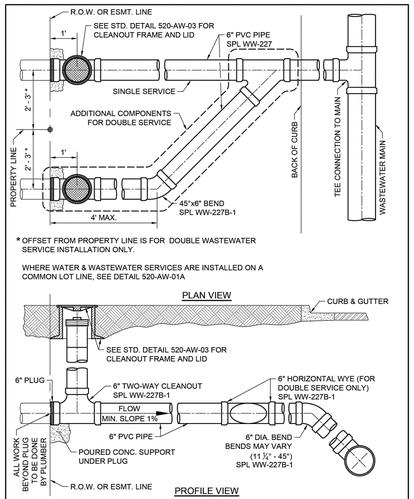


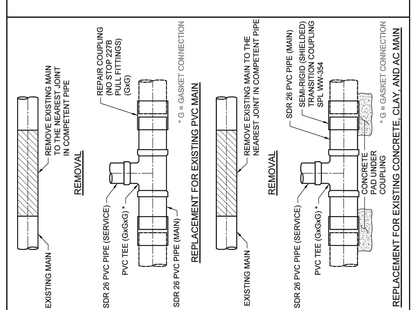

* OFFSET FROM PROPERTY LINE IS FOR DOUBLE WASTEWATER SERVICE INSTALLATION ONLY.

WHERE WATER & WASTEWATER SERVICES ARE INSTALLED ON A COMMON LOT LINE, SEE DETAIL 520-AW-01A

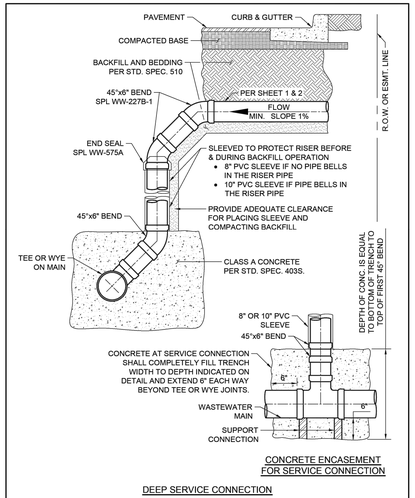
| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>1 OF 4 |

NOTES:

1. DURING SUBDIVISION CONSTRUCTION, UTILITY CONTRACTOR INSTALLS WASTEWATER TEE CONNECTION TO MAIN, 6" STUB, HORIZONTAL WYE FOR DOUBLE SERVICES, 6" SERVICE BRANCH WITH TWO-WAY CLEANOUT(S) AND RISER, FRAME, AND COVER. CLEANOUT(S) TO BE PLUGGED AT PROPERTY LINE OR EASEMENT LINE END. ALL WASTEWATER PIPING SHALL HAVE ELASTOMERIC GASKET TYPE JOINTS AND SLOPE DOWNWARD TO MAIN 1% MIN. TO 45° MAX. DEPTH OF SERVICE AT PROPERTY LINE WILL BE SHOWN ON PLANS BY ENGINEER IF GREATER THAN 4', OTHERWISE THE INSTALLED DEPTH WILL BE 4' MIN. AND 6' MAX. AT PROPERTY LINE. IF WASTEWATER SERVICE LINE TO MAIN REQUIRES DEFLECTION EXCEEDING 45°, SEE SHEET 3 OF 4.
2. PIPING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY CITY OF AUSTIN STANDARD SPECIFICATION 510.3 (14); MATERIALS SHALL BE AS SPECIFIED IN 510.2 (2)(A) AND (3)(B); BACKFILL ABOVE THE GRANULAR BEDDING SHALL BE AS REQUIRED BY SECTION 510.3 (25). SERVICE LINES IN THESE AREAS SHALL HAVE A MIN. COVER BELOW FINAL STREET GRADE OF 42".
3. PLUMBER SHALL REMOVE PLUG AND CONNECT TO TWO-WAY CLEANOUT. NO CONNECTION TO CLEANOUT STACK IS ALLOWED.

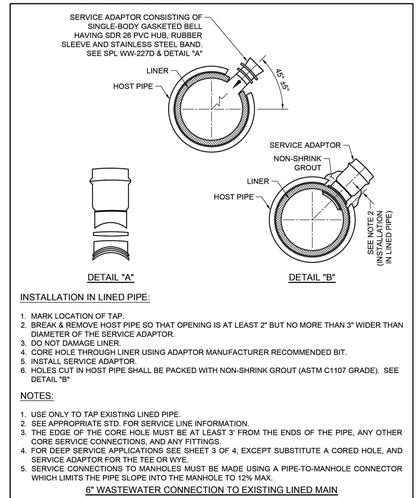



| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>2 OF 4 |




DEEP SERVICE CONNECTION

| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>3 OF 4 |




INSTALLATION IN LINED PIPE:

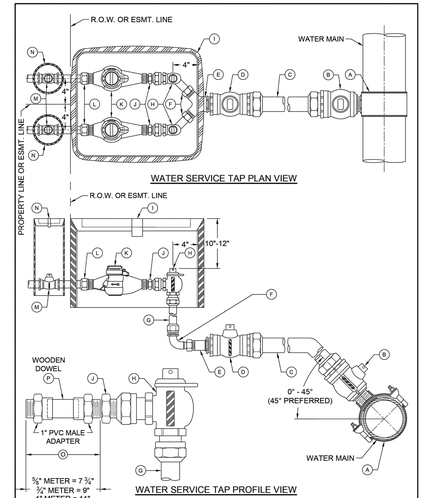
1. MARK LOCATION OF TAP.
2. BREAK & REMOVE HOST PIPE SO THAT OPENING IS AT LEAST 2" BUT NO MORE THAN 3" WIDER THAN DIAMETER OF THE SERVICE ADAPTOR.
3. DO NOT DAMAGE LINER.
4. CORE HOLE THROUGH LINER USING ADAPTOR MANUFACTURER RECOMMENDED BIT.
5. INSTALL SERVICE ADAPTOR.
6. HOLES CUT IN HOST PIPE SHALL BE PACKED WITH NON-SHRINK GROUT (ASTM C1107 GRADE). SEE DETAIL "B"

NOTES:

1. USE ONLY TO TAP EXISTING LINED PIPE.
2. SEE APPROPRIATE STD. FOR SERVICE LINE INFORMATION.
3. THE EDGE OF THE CORE HOLE MUST BE AT LEAST 3" FROM THE ENDS OF THE PIPE, ANY OTHER CORE SERVICE CONNECTIONS, AND ANY FITTINGS.
4. FOR DEEP SERVICE APPLICATIONS SEE SHEET 3 OF 4, EXCEPT SUBSTITUTE A CORED HOLE, AND SERVICE ADAPTOR FOR THE TEE OR WYE.
5. SERVICE CONNECTIONS TO MANHOLES MUST BE MADE USING A PIPE-TO-MANHOLE CONNECTOR WHICH LIMITS THE PIPE SLOPE INTO THE MANHOLE TO 12% MAX.

6" WASTEWATER CONNECTION TO EXISTING LINED MAIN

| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>4 OF 4 |




| CITY OF AUSTIN<br>AUSTIN WATER | WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS | |
|---|---|---|
| *JEFF A. KYLE* 08/16/2019<br>ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO.<br>520-AW-01B<br>1 OF 2 |

MATERIALS LIST:

A. 2" SERVICE CLAMP, SPL WW-264
B. 2" CORPORATION STOP, SPL WW-68
C. 2" HDPE WATER SERVICE TUBING, SPL WW-65
D. 2" BALL VALVE, SPL WW-68
E. SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
F. 1" SWIVEL NUT x 1" COMPRESSION 90° BEND, SPL WW-68
G. 1" HDPE WATER SERVICE TUBING, SPL WW-65
H. 1" ANGLE METER STOP, SPL WW-68
I. METER BOX AND LID, SPL WW-145A; FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

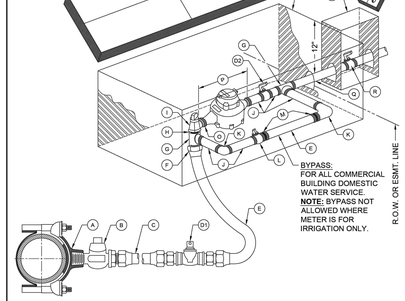
MATERIALS TO BE INSTALLED BY PLUMBER:

J. BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER
K. WATER METER PURCHASED FROM AUSTIN WATER
L. BRASS WATER METER COUPLING MALE IPT x SWIVEL COUPLING NUT:
⅝" AND ¾" METERS: 8 ½" LONG x ¾" DIA.
1" METERS: 8 ½" LONG x 1" DIA.
M. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276
N. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID
O. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
P. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

NOTES:

1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.
7. METER SIZES TO BE SHOWN ON PLANS.
8. METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
9. INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1' ABOVE TUBING FROM SERVICE CLAMP "A" TO BALL VALVE "D".
10. TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM 2' DEPTH OF COVER.
11. 1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT SECTION OF TUBING.
12. SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE COMPRESSION FITTING USED.
13. FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE **"RECLAIMED WATER"** CAST INTO THEM, SPL WW-145A.

| CITY OF AUSTIN<br>AUSTIN WATER | WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS | |
|---|---|---|
| *JEFF A. KYLE* 08/16/2019<br>ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO.<br>520-AW-01B<br>2 OF 2 |




| CITY OF AUSTIN<br>AUSTIN WATER | 1 ½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS | |
|---|---|---|
| *RECORD COPY SIGNED BY KATHI L FLOWERS* 05/18/2016<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-04<br>1 OF 2 |

MATERIALS LIST:

A. 2" SERVICE CLAMP
B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
C. 2" COPPER WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
D1. 2" BALL VALVE, SPL WW-275
D2. 2" BALL VALVE, SPL WW-275
E. 2" COPPER SERVICE TUBING
F. 2" BRASS COUPLING - COMPRESSION TO MALE IPT
G. 2" BRASS TEE
H. 2" BRASS CLOSE-NIPPLE
I. 2" ANGLE METER STOP; SERVICE TUBING INLET x FLANGED OUTLET
J. 2" BRASS NIPPLE
K. 2" BRASS ELBOW
L. 2" LOCKABLE CURB STOP - FEMALE IPT INLET BY COMPRESSION OUTLET
M. 2" BRASS COUPLING - SERVICE TUBING TO MALE IPT
N. RECTANGULAR METER BOX AND COVER, SPL WW-145A
O. BRASS ADAPTER (2" x 1 ½") FOR 1 ½" METER ONLY
P. WATER METER. LENGTH 13". (PURCHASED FROM AUSTIN WATER)
Q. 2" COPPER SERVICE TUBING (PRIVATE PLUMBING PER CODE)
R. CUSTOMER CUT-OFF VALVE
S. CUSTOMER VALVE BOX AND LID

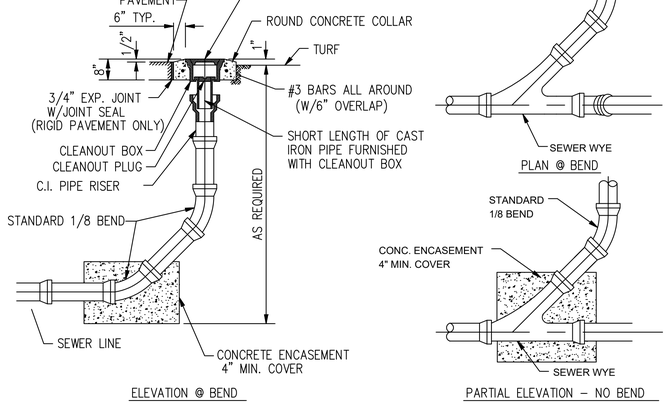
NOTES:

1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF BOXES SHOULD BE 1" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D1" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 24" HORIZONTALLY FROM METER BOX OR 36" BELOW FINAL GRADE.
7. COPPER SERVICE SHALL BE COPPER TUBING SIZE ANNEALED SEAMLESS TYPE "K" MEETING ASTM B88 WITH NO SWEAT OR SOLDERED JOINTS.

**RECLAIMED WATER:**

FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED PURPLE TUBING. ALL OTHER TUBING AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL TUBING AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE **"RECLAIMED WATER"** CAST INTO THEM.

| CITY OF AUSTIN<br>AUSTIN WATER | 1 ½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS | |
|---|---|---|
| *RECORD COPY SIGNED BY KATHI L FLOWERS* 05/18/2016<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-04<br>2 OF 2 |




## STORM SEWER CLEAN OUT

N.T.S

NOTES:

1. WHERE A CLEANOUT IS LOCATED ON A WYE LARGER THAN 6 INCHES, A 4-INCH OR 6-INCH PVC REDUCER SHALL BE USED TO TRANSITION FROM THE STORM SEWER PIPE TO THE CLEANOUT.

2. WHEN LOCATED WITHIN PAVEMENT, A HEAVY-DUTY, TRAFFIC-RATED COVER/CLEANOUT BOX SHALL BE USED.

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:50:42am File Path:K:\EAU_Civil\065887218-Olive Garden Southwest Pkwy\Cad\PlanSheets\C – Utility Details.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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TEXAS REGISTERED ENGINEERING FIRM F-928
TBPE Firm No. 928

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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

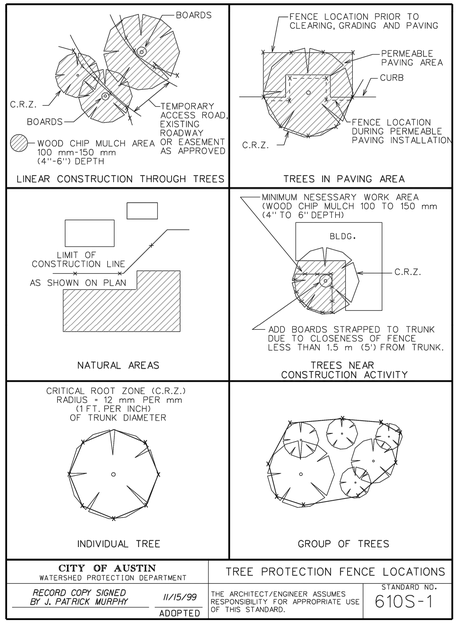
| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

UTILITY DETAILS

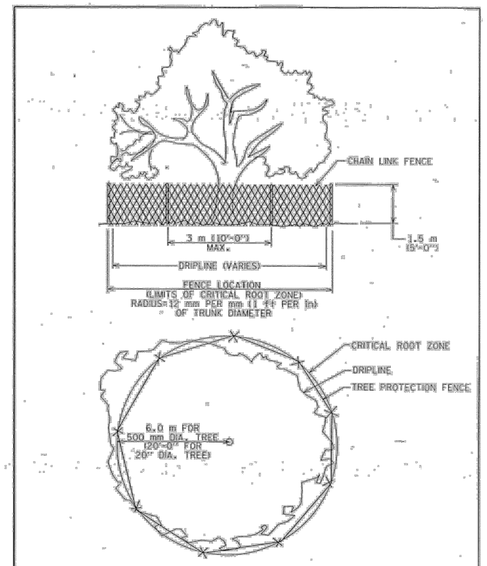
OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
25 OF 41

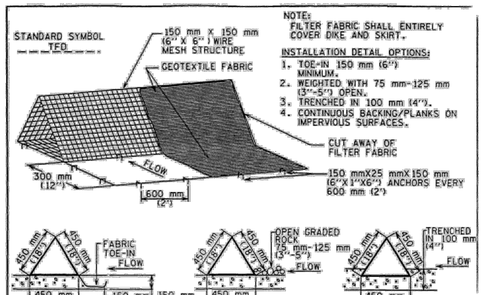
SP-2025-0116C.CC




| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | TREE PROTECTION FENCE LOCATIONS | |
|---|---|---|
| RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 610S-1 |




| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | TREE PROPTECTION FENCE TYPE A - CHAIN LINK | |
|---|---|---|
| 11/15/99 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 610S-2 |

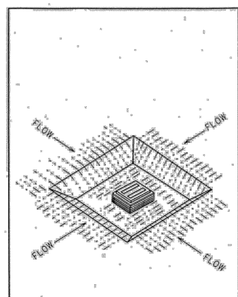



NOTE:
FILTER FABRIC SHALL ENTIRELY COVER DIKE AND SKIRT.

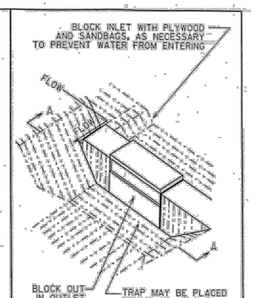
INSTALLATION DETAIL OPTIONS:
1. TOE-IN 150 mm (6") MINIMUM.
2. WEIGHTED WITH 75 mm-125 mm (3"-5") OPEN.
3. TRENCHED IN 100 mm (4").
4. CONTINUOUS BACKING/PLANKS ON IMPERVIOUS SURFACES.

GENERAL NOTES
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 75-125 mm (3-5") OPEN GRADED ROCK OR TOED-IN 150 mm (6") WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 100 mm (4").
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 150 mm (6") WIRE STAPLES ON 600 mm (2') CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 10M (⅜") DIAMETER RE-BAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 150 mm (6") TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE MW40-150 mmX150 mm (6 GA. 6"X6") WIRE MESH, 450 mm (18") ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6") AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETLY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | TRIANGULAR SEDIMENT FILTER DIKE | |
|---|---|---|
| 3-27-00 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 628S |



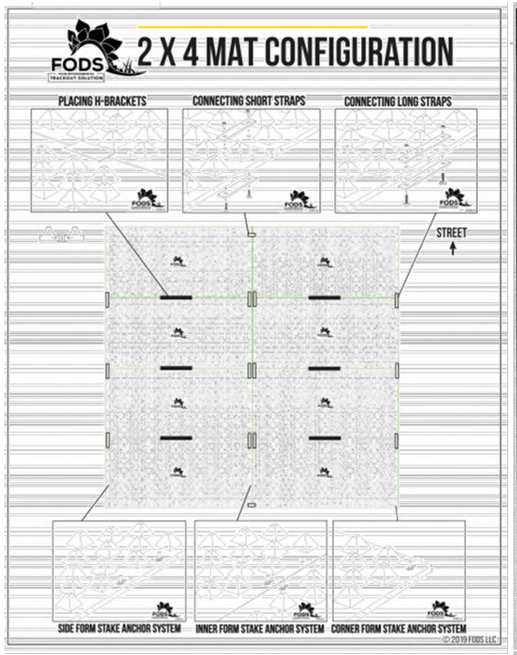

CROSS SECTION YARD DRAIN

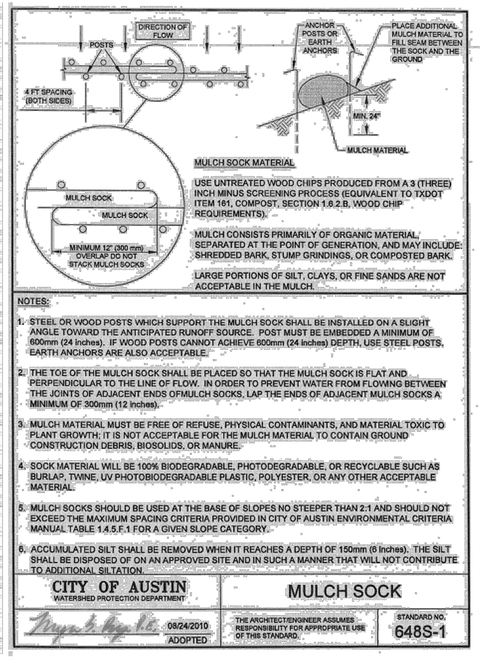



SECTION A-A CURB DRAIN

NOTE:
WHERE CURB IS IN PLACE, PROVIDE A 300 mm (1') WIDE OPENING IN THE CURB, OR USE A SANDBAG TO DAM TO FORCE WATER OVER THE CURB TO THE TRAP.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | STORM INLET SEDIMENT TRAP | |
|---|---|---|
| 3-27-00 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 632S-1 |




USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:
1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS, EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWNG BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | MULCH SOCK | |
|---|---|---|
| 08/24/2010 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 648S-1 |

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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RYAN MCKAY
146418
LICENSED PROFESSIONAL ENGINEER
04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# EROSION CONTROL DETAILS

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
26 OF 41

SP-2025-0116C.CC

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:50:57am File Path:K:\CAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Erosion Control Details.dwg
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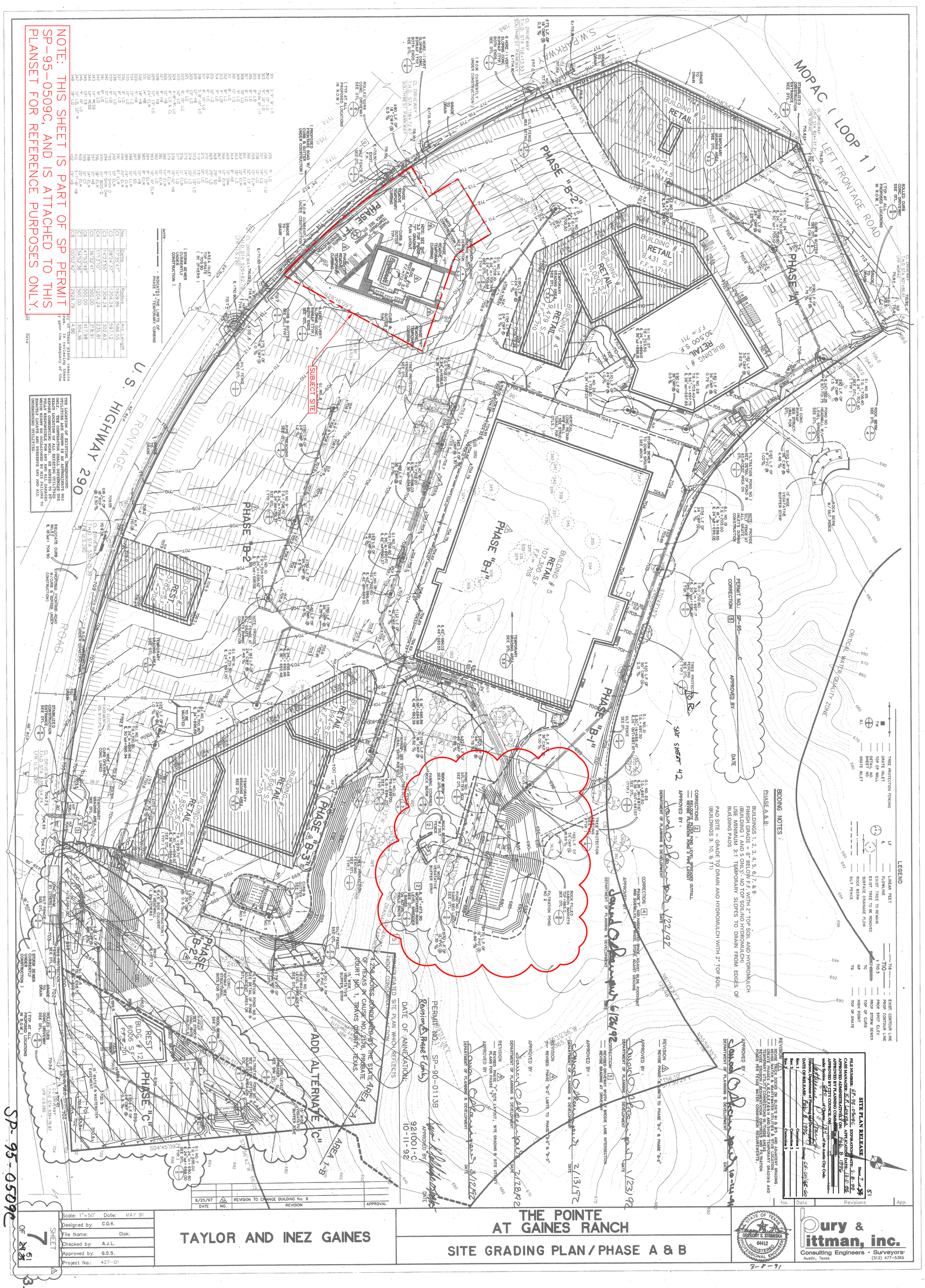
NOTE: THIS SHEET IS PART OF SP PERMIT SP-95-0509C, AND IS ATTACHED TO THIS PLANSET FOR REFERENCE PURPOSES ONLY.




| No. | Date | Revisions | App. |
|---|---|---|---|
| 1 | 8/25/97 | REVISION TO CHANGE BUILDING No. 9 | |

| | |
|---|---|
| Scale: | 1"=50' Date: MAY 91 |
| Designed by: | C.Q.K. |
| File Name: | Disk: |
| Checked by: | A.J.L. |
| Approved by: | G.S.S. |
| Project No.: | 427-01 |

TAYLOR AND INEZ GAINES

THE POINTE AT GAINES RANCH

SITE GRADING PLAN / PHASE A & B

Kury & Littman, inc.
Consulting Engineers · Surveyors
Austin, Texas (512) 477-5369

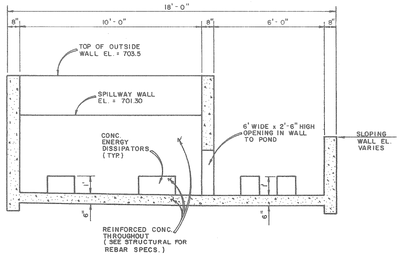
SHEET 7 OF 61



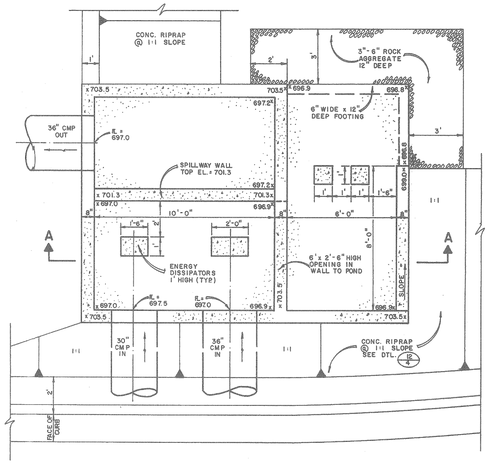
| | |
|---|---|
| SHEET NUMBER | 31 OF 41 |
| OLIVE GARDEN - SOUTHWEST PARKWAY | CITY OF AUSTIN, TRAVIS COUNTY, TEXAS |
| R1-GRADING PLAN | |
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |
| 04/25/2025 | |

Kimley»Horn
6800 BURLESON ROAD, BUILDING 312, SUITE 150
AUSTIN, TX 78744
PHONE: 512-616-9942
WWW.KIMLEY-HORN.COM
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
TBPE Firm No. 928

| No. | REVISIONS | DATE | BY |
|---|---|---|---|




SECTION A-A

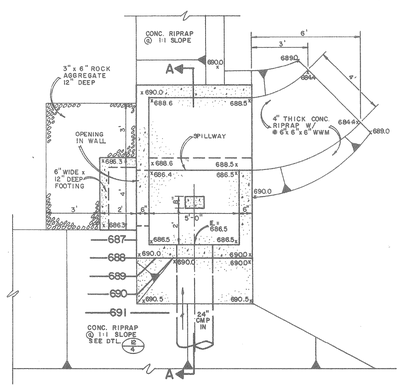



1 POND NO. 1 SPLITTER BOX

SCALE: 1" = 3'




SECTION A-A



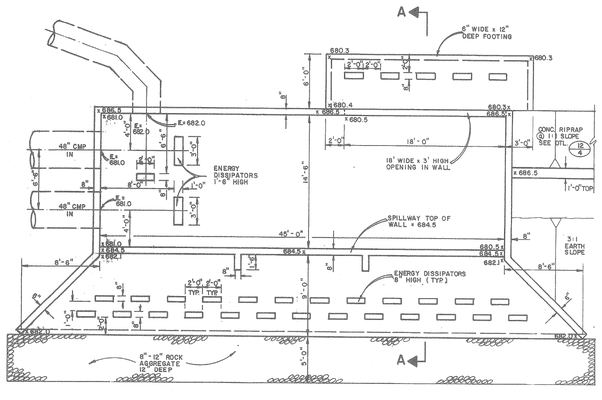

6 POND NO. 4 SPLITTER BOX

SCALE: 1" = 3'



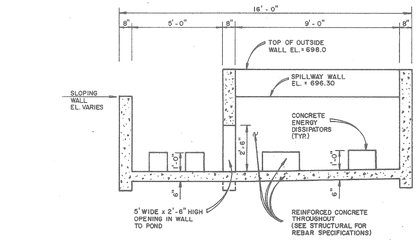

SECTION A-A

SCALE: 1" = 6'

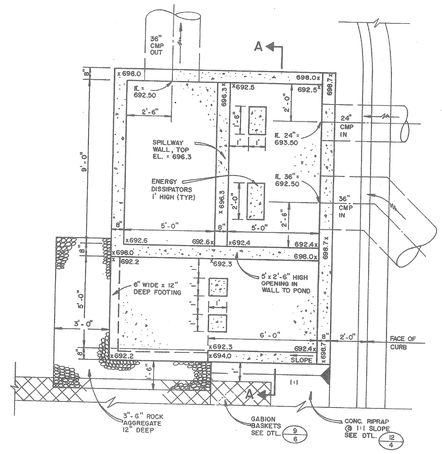



2 POND NO. 2 SPLITTER BOX

SCALE: 1" = 6'

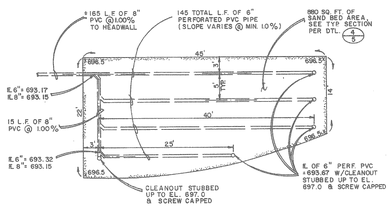



SECTION A-A



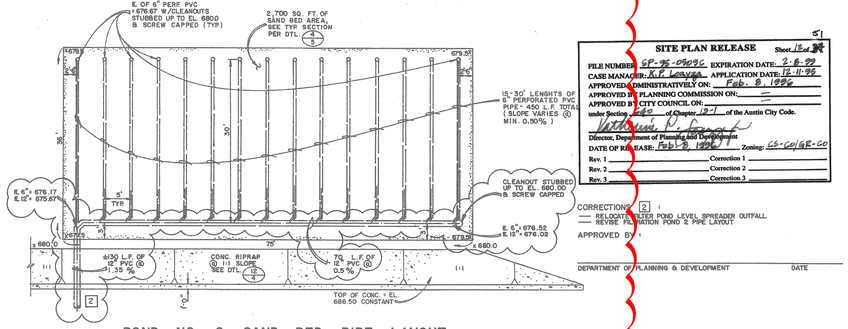

3 POND NO. 3 SPLITTER BOX

SCALE: 1" = 6'



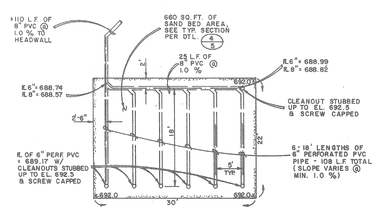

4 POND NO. 1 SAND BED PIPE LAYOUT

SCALE: 1" = 10'



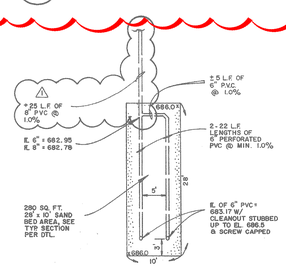

5 POND NO. 2 SAND BED PIPE LAYOUT

SCALE: 1" = 10'




7 POND NO. 3 SAND BED PIPE LAYOUT

SCALE: 1" = 10'




8 POND NO. 4 SAND BED PIPE LAYOUT

SCALE: 1" = 10'

9 GABION

NOT TO SCALE

**SITE PLAN RELEASE** Sheet 12 of 29

FILE NUMBER: SP-95-0509C EXPIRATION DATE: 2-8-97
CASE MANAGER: Kit Lanyon APPLICATION DATE: 12-11-95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 646 of Chapter 13-1 of the Austin City Code.

Director, Department of Planning and Development

DATE OF RELEASE: Feb 13, 1996 Zoning: CS-CO/GR-CO

Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

CORRECTIONS: 2
— RELOCATE FILTER POND LEVEL SPREADER OUTFALL.
— REVISE FILTRATION POND 2 PIPE LAYOUT

APPROVED BY:

DEPARTMENT OF PLANNING & DEVELOPMENT DATE

REVISION 1
— REVISE TRAFFIC BLOCKS A-1, BLOCK A-1 & B-1, AND ADJACENT GRADING
— REVISE NUMBER OF PARTITIONED DRAINAGE AREAS WITHIN LOCATION
— CREATE PHASES A,B,C,D,E,F,G & H AND SHOW TEMPORARY GRADING AND TEMPORARY UTILITY CONNECTIONS IN THESE AREAS
— REVISE EROSION / SEDIMENTATION CONTROLS AND FILTRATION PONDS PER TEXAS WATER COMMISSION REQUIREMENTS.

APPROVED BY: 10-14-91
DEPARTMENT OF PLANNING & DEVELOPMENT DATE

All responsibility for the adequacy of these plans remains with the engineer who prepared them. In reviewing these plans, the City of Austin must rely upon the adequacy of the work of the design engineer.

Reviewed By: 6-28-91
Department of Planning & Development Date

NOTE: THIS SHEET IS PART OF SP PERMIT SP-95-0509C, AND IS ATTACHED TO THIS PLANSET FOR REFERENCE PURPOSES ONLY.

SP-95-0509C

SP-2025-0116C.CC

Plotted By: Sheaffer, Ryan Date: April 30, 2025 09:02:54am File Path: K:\TEAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\FinalSheets\C - Pond Reference Sheets.dwg

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Pury & Pittman, inc.
Consulting Engineers • Surveyors
Austin, Texas (512) 477-3389

| No. | Date | Revisions | App. |
|---|---|---|---|
| | | | |

3-8-91

| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |

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TBPE Firm No. 928

04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

THE POINTE AT GAINES RANCH

SITE GRADING DETAILS

TAYLOR & INEZ GAINES

| Scale: AS SHOWN | Date: MAR. 1991 |
|---|---|
| Designed by: C.O.K. | |
| Drawn by: D.B.K. | |
| Checked by: G.S.S. | |
| Approved by: G.S.S. | |
| Project No. 427 - 02.00 | |

SHEET 12 OF 29 31

R2-WQ POND PLAN (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
32 OF 41

Plotted By: Streiffer, Ryan Date: April 30, 2025 09:03:06am File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\SC - Pond Reference Sheets.dwg
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TRAVIS COUNTY CONSTRUCTION NOTES FOR STREETS AND DRAINAGE

1. STREET AND DRAINAGE CONSTRUCTION STANDARDS SHALL BE IN ACCORDANCE WITH THE REQUIREMENT OF TRAVIS COUNTY AS DETAILED IN COUNTY ORDER NO. 8596, AD ADOPTED BY THE COMMISSIONERS COURT ON JANUARY 4, 1984, UNLESS OTHERWISE SPECIFIED AND APPROVED BY TRAVIS COUNTY PUBLIC IMPROVEMENTS AND TRANSPORTATION DEPARTMENT (PITD).
2. PRIOR TO BEGINNING ANY CONSTRUCTION, A TRAVIS COUNTY BASIC DEVELOPMENT PERMIT SHALL BE POSTED ON JOB SITE.
3. PRIOR TO BEGINNING ANY CONSTRUCTION, THE TEMPORARY EROSION CONTROL ITEMS SHALL BE IN PLACE.
4. A TRAFFIC CONTROL PLAN SHALL BE PROVIDED BY THE ENGINEER AND REVIEWED BY TRAVIS COUNTY PRIOR TO BEGINNING CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY TRAVIS COUNTY AT 472-7483 (CONSTRUCTION/INSPECTION DIVISION) AND THE CITY OF AUSTIN INSPECTOR TO ARRANGE FOR A JOINT INSPECTION ON ITEMS NOTED AS "CONTACT TRAVIS COUNTY."
6. DENSITY CONTROL SHALL BE COMPLETED AND SUBMITTED TO THE TRAVIS COUNTY PITD FOR APPROVAL BY AN APPROVED SOILS TESTING LABORATORY. THE CONTROL TO MEET 95% COMPACTION AS PER SDHPT TEST METHOD TEX 114-C FOR SUBGRADE. EACH LIFT OF BASE AND HMAC TO MEET 95% COMPACTION AS PER SDHPT TEST METHOD TEX 113-C.
7. STREET SIGNS SHALL BE INSTALLED BY THE DEVELOPER PRIOR TO ACCEPTANCE OF ANY STREETS FOR MAINTENANCE BY TRAVIS COUNTY.
8. CONTOUR DATA SOURCE: INTERNATIONAL AERIAL MAPPING
9. SOIL DATA SOURCE: U.S. DEPARTMENT OF AGRICULTURE
10. CONTRACTOR SHALL NOT STOCKPILE MATERIAL WITHIN THE 100 YEAR FLOOD PLAIN.
11. CONTRACTOR SHALL NOT BE INSTALLED IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION.
12. WITHIN TRAVIS COUNTY RIGHT-OF-WAY, RESIDENTIAL DRIVEWAYS ARE TO HAVE A 10% MAXIMUM GRADE. NON-RESIDENTIAL DRIVEWAYS ARE TO HAVE A 3% MAXIMUM GRADE FOR THE FIRST THIRTY (30) FEET OFF THE EDGE OF THE PAVEMENT.
13. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, TRAVIS COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

NOTE: THIS SHEET IS PART OF SP PERMIT SP-95-0509C, AND IS ATTACHED TO THIS PLANSET FOR REFERENCE PURPOSES ONLY.

## GENERAL CONSTRUCTION NOTES

1. All responsibility for the adequacy of these plans remains with the engineer who prepared them. In reviewing these plans, the City of Austin must rely upon the adequacy of the work of the design engineer.
2. Reviewed By:

Department of Planning & Development — Date: 6-25-91

SP-90-0113D
Development Permit Number

3. Contractor shall call the One Call Center (472-2822) for utility locations prior to any work in City easements or street right-of-way.
4. The Contractor shall notify the Transportation and Public Services Department at 499-7161 at least 24 hours prior to the installation of any drainage facility within a drainage easement or street right-of-way.
5. Contractor shall notify the State Department of Highways and Public Transportation at least 48 hours prior to starting work in the state right-of-way.
6. All construction operations shall be accomplished in accordance with applicable regulations of the U.S. Occupational Health and Safety Administration. Copies of OSHA Standards may be purchased from the U.S. Government Printing Office. Information and related reference materials may be purchased from OSHA, 611 E. 6th Street, Austin, Texas.
7. Temporary Erosion/Sedimentation Control and Tree/Natural Area Protection Measures:
   - The contractor shall install erosion/sedimentation controls and tree/natural area protective fencing prior to any site preparation work (clearing, grubbing, grading or excavation).
   - The placement of erosion/sedimentation controls shall be in accordance with the Environmental Criteria Manual.
   - The placement of tree/natural area protective fencing shall be in accordance with City of Austin Standard Notes for Tree and Natural Area Protection and the approved Grading/Tree and Natural Area Plan.
   - A pre-construction conference shall be held subsequent to installation of the initial phase of the erosion and sedimentation controls and prior to beginning construction. This conference should take place on the site to demonstrate compliance with the erosion and sedimentation control manual and the approved plans, and to present a plan including future erosion and sedimentation controls, tree protection, and drainage utility and street layouts. Contractor shall arrange a meeting date with Dave Fowler, Supervisor of Environmental Inspection, Department of Environmental Protection, at 499-2278 at least three days prior to the meeting time. The design engineer and/or the permit applicant shall also be present at this meeting.
   - Any significant variation in materials or locations of controls or fences from that which is shown on the approved plans must be approved by the planning specialist or arborist, as appropriate.
   - The Contractor is to inspect the controls and fences at weekly intervals and after every significant rainfall to insure that they have not been substantially disturbed. The person(s) or firm(s) responsible for maintenance of controls and fences shall be immediately directed to make any necessary repairs.
   - Any sediment build-up occurring after a significant rain shall be removed and placed in the designated spoil disposal site.
8. Off-site disposal: The Contractor shall not dispose of surplus excavated material from the site without notifying the Supervisor of Environmental Inspection at 499-2278 at least 48 hours prior to the removal. This notification shall include the disposal location and a copy of the permit issued to receive the material.
9. Permanent Erosion Control:
   - All disturbed areas shall be restored as noted below (for specifics, reference the City of Austin Standard Specifications-- Series 600, Environmental Criteria Manual).
   - A minimum of 4" of topsoil shall be placed in all drainage channels (except rock) and between the curb and right-of-way line.
   - The Contractor shall hydromulch or sod all exposed cuts and fills upon completion of construction except where cuts are made in solid rock.
   - The seeding for erosion control shall be applied over areas disturbed by construction as follows: From September 15 to March 1, seeding shall be with a combination of 1 pound per 1,000 square feet of unhulled Bermuda and 7 pounds per 1,000 square feet of germination. From March 2 to September 14, seeding shall be with hulled Bermuda grass (Cynodon dactylon) at a rate of 1 pound per 1,000 square feet with a purity of 95% with 85% germination.
   - Fertilizer shall have an analysis of 20-20-10 and shall be applied at the rate of 500 pounds per acre.
   - The planted area shall be irrigated or sprinkled in a manner that will not erode the topsoil, but will sufficiently soak the soil to a depth of 6 inches. The irrigation shall occur at 10-day intervals during the first two months. Rainfall occurrences of 1/2 inch or greater shall postpone the water schedule on week.
   - Restoration shall be acceptable when the grass has grown at least 1-1/2" high with 95% coverage, provided that no bare spots larger than 10 square feet exist.
   - Use of fertilizers and pesticides is restricted in the vegetative buffer strips, & Filter Ponds.
10. Upon completion of the proposed site improvements and prior to:
    - the release of the Certificate of Occupancy by the Planning Department (inside the City limits), or
    - the installation of the electric or water meter (in the 5 mile ETJ),

    the design engineer shall certify in writing that the proposed detention facility was constructed in substantial conformity to the approved plans.
11. The name and phone number of the designated representative for the owner/engineer who will have the authority to make appropriate changes to the sedimentation/erosion control plan, if it is discovered to be inadequate:

Bury & Pittman, Inc. — 512/477-5369
Engineer — Phone #

12. The identity of the person or firm who will be responsible for the maintenance of each sedimentation/erosion control scheme being used on the project:

Trammell Crow Co. — 512/474-9900
Firm Name — Phone #

13. Sequence of Construction:
    a. Install tree protection.
    b. Install erosion and sedimentation control.
    c. Rough cut filtration pond. Place rock berm at outfall to filtration pond to serve as a temporary sedimentation trap.
    d. Construct paving and building pads.
    e. Grade site.
    f. Remove temporary sedimentation trap and complete the filtration pond.
    g. Landscape and restore disturbed areas.
    h. Remove erosion/sedimentation controls and tree protection.
14. Owner's Name and Address:
    State Street Bank & Trust Company of Connecticut
    750 Main St. # 1114
    Hartford, Connecticut
15. Engineer's Name, Address and Telephone Number:
    Bury & Pittman, Inc.
    1601 Rio Grande, Suite 300
    Austin, Texas 78701
    512/577-5369
16. Legal Description: 120.50 acre portion of the James Trammell Survey No. 4 in Travis County, Texas, as conveyed to Taylor and Inez Gaines by deed in Volume 2133, Page 264 of the Deed Records of Travis County, Texas. (5)
17. Site Address: 4980 Highway 290 West
18. This project is located in the Barton Creek Watershed.
19. This site will comply with the Comprehensive Watershed Ordinance.
20. Flood Plain Note: The 100 year flood plain is contained within the drainage easements shown hereon. A portion of this tract is within the boundaries of the 100 year flood plain of a waterway that is within the limits of study of the Federal Flood Insurance Administration Firm Panel No. 481026 0255B, dated April 1, 1982, and Panel No. 481026 0210B, dated April 1, 1982, for the unincorporated areas of Travis County, Texas.
21. All berms and backfill in channels, filtration ponds, detention ponds, etc. shall be placed in 8-inch lifts and compacted to a density of 95% as determined in accordance with the SDHPT Test Method Tex 114-E within +/- 3% of the optimum moisture content.

PERMIT NO.: SP-95-____C
CORRECTION 5 — APPROVED BY — DATE

## DRAINAGE CALCULATIONS

POND 1 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 696.5 | 880 | 0 | 0 |
| 696.8 | 1,280 | 324 | 324 |
| 697.0 | 1,480 | 276 | 600 |
| 698.0 | 1,720 | 1,600 | 2,200 |
| 699.0 | 1,960 | 1,840 | 4,040 |
| 700.0 | 2,200 | 2,080 | 6,120 |
| 701.0 | 2,440 | 2,320 | 8,440 |
| 701.3 | 2,500 | 741 | 9,181 |

POND 2 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 679.5 | 2,625 | 0 | 0 |
| 680.0 | 4,000 | 1,656 | 1,656 |
| 681.0 | 5,750 | 4,879 | 6,531 |
| 682.0 | 6,563 | 6,156 | 12,687 |
| 683.0 | 7,325 | 6,944 | 19,631 |
| 684.0 | 8,087 | 7,706 | 27,337 |
| 684.5 | 8,468 | 4,138 | 31,475 |

POND 3 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 692.0 | 660 | 0 | 0 |
| 692.2 | 1,040 | 170 | 170 |
| 693.0 | 1,280 | 928 | 1,098 |
| 694.0 | 1,600 | 1,440 | 2,538 |
| 695.0 | 1,920 | 1,760 | 4,298 |
| 696.0 | 2,240 | 2,080 | 6,378 |
| 696.3 | 2,400 | 696 | 7,074 |

POND 4 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 686.0 | 280 | 0 | 0 |
| 686.5 | 1,080 | 340 | 340 |
| 687.0 | 1,160 | 560 | 900 |
| 688.0 | 1,320 | 1,240 | 2,140 |
| 688.5 | 1,480 | 700 | 2,840 |

Filtration Volumes

POND 1
Volume = 4.80 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 8,712 cu. ft.

POND 2
Volume = 14.60 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 26,499 cu. ft.

POND 3
Volume = 3.60 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 6,534 cu. ft.

POND 4
Volume = 1.53 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 2,776 cu. ft.

Total Filter Volume Required = 44,521 C.F.
Total Filter Volume Provided = 50,570 C.F.

SEE SHEETS 42 AND 45 FOR RETENTION/RE-IRRIGATION POND CALCULATIONS AND DETAILS

10 R

12

MODIFICATIONS TO RETENTION/REIRRIGATION POND DRAINAGE AREA AND CALCULATIONS - 4-24-95

| POND | FILTRATION POND SAND BED AREA | SEDIMENTATION POND VOLUME |
|---|---|---|
| 1 | $A_f = A_D$ H / 10 | $V_s$ Required = 1,742 CF (20%) |
| | $= A_D$ (.042)/10 | |
| | = 4.80 (.042)/10 | |
| | = 878 SF | $V_s$ Actual = 2,050 CF (23.5%) |
| 2 | $A_f = A_D$ (0.042)/10 | $V_s$ Required = 5,300 CF (20%) |
| | = 14.60 (.042)/10 | |
| | = 2,671 SF | $V_s$ Actual = 7,125 CF (26.88%) |
| 3 | $A_f = A_D$ (0.042)/10 | $V_s$ Required = 1,307 CF (20%) |
| | = 3.60 (.042)/10 | |
| | = 659 SF | $V_s$ Actual = 1,416 CF (21.67%) |
| 4 | $A_f = A_D$ (0.042)/10 | $V_s$ Required = 550 CF (20%) |
| | = 1.53 (.042)/10 | |
| | = 280 SF | $V_s$ Actual = 603 CF (21.7%) |

Total Sedimentation Volume Required = 8,899 C.F.
Total Sedimentation Volume Provided = 11,194 C.F.

51
SITE PLAN RELEASE — Sheet 12 of 29
FILE NUMBER: SP-95-0509C — EXPIRATION DATE: 2-8-97
CASE MANAGER: K.P. Lovell — APPLICATION DATE: 12-11-95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 640 of Chapter 13-1 of the Austin City Code.
Director, Department of Planning and Development
DATE OF RELEASE: Feb. 8, 1996 — Zoning: GR-CO / GR-CO
Rev. #1 4-24-95 SP — Correction 1 —
Rev. #2 10-23-95 SP — Correction 2 —
Rev. 3 — Correction 3 —

| No. | Date | Revisions | App. |
|---|---|---|---|
| | | | |

Bury & Pittman, inc. — Consulting Engineers • Surveyors — Austin, Texas — (512) 477-5369

GREGORY S. STRNADKA — 64412 — LICENSED PROFESSIONAL ENGINEER — STATE OF TEXAS
3-7-91

THE POINTE AT GAINES RANCH
SITE GRADING DETAILS
TAYLOR & INEZ GAINES

Scale: NONE — Date: MAR. 1991
Designed by: G.S.S.
Drawn by: D.B.K.
Checked by: G.S.S.
Approved by: G.S.S.
Project No. 427-02.00

SHEET 13 OF 41

| No. | Date | REVISIONS | BY |
|---|---|---|---|
| | | | |

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
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FAX: 512/418-1791
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TBPE Firm No. 928

04/25/2025

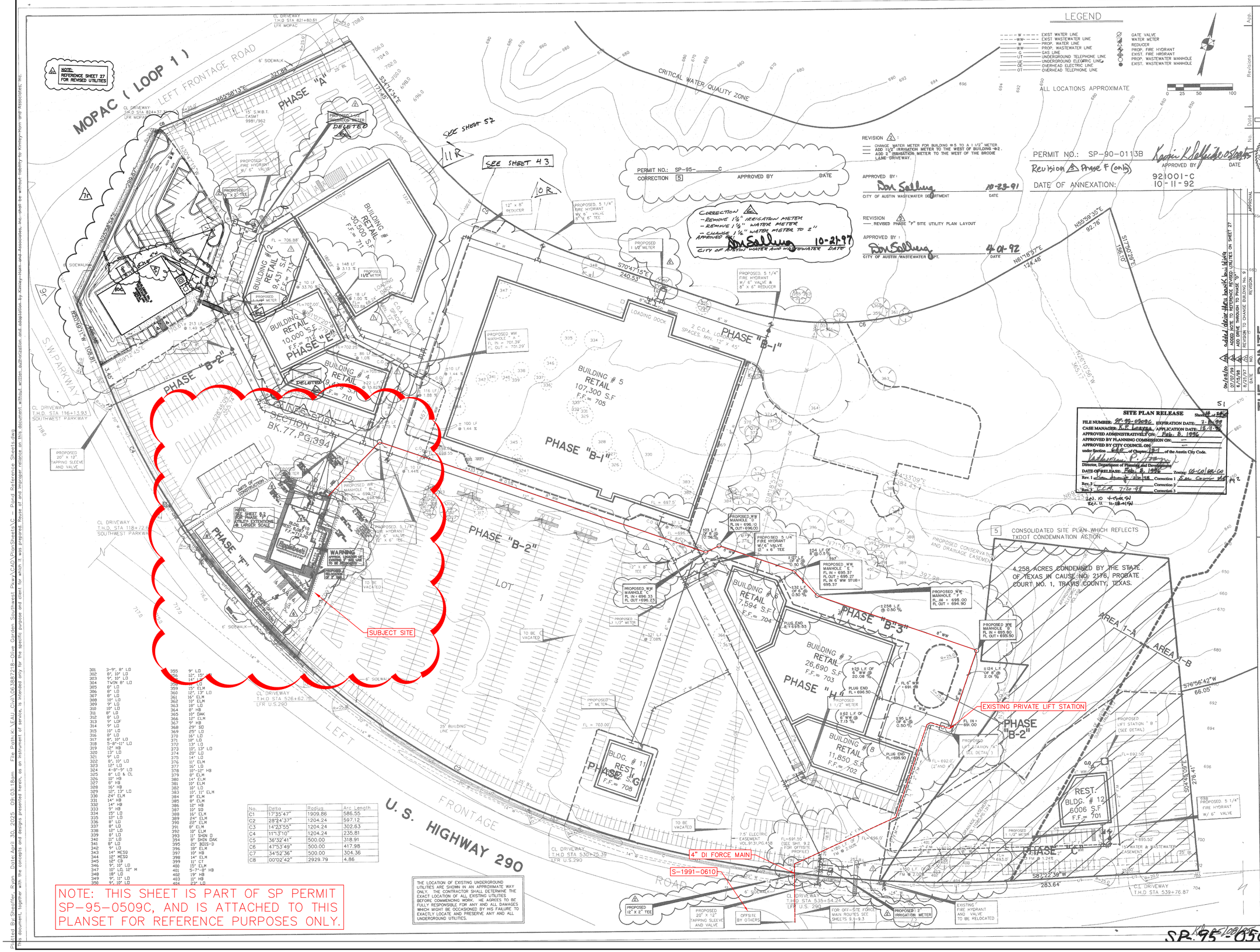
KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

R3-WQ POND PLAN (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER 33 OF 41

SP-2025-0116C.CC


MOPAC ( LOOP 1 )
LEFT FRONTAGE ROAD
NOTE: REFERENCE SHEET 27 FOR REVISED UTILITIES
PHASE "A"
PROPOSED 1" IRRIGATION METER DELETED
SEE SHEET 52
SEE SHEET 43
PERMIT NO.: SP-95-____C
CORRECTION 5 APPROVED BY DATE
CORRECTION 6
-REMOVE 1½" IRRIGATION METER
-REMOVE 1½" WATER METER
-CHANGE 1½" WATER METER TO 2"
APPROVED BY Don Sellung 10-21-97
CITY OF AUSTIN WATER AND WASTEWATER DATE
REVISION 4
— CHANGE WATER METER FOR BUILDING #5 TO A 1 1/2" METER.
— ADD 1½" IRRIGATION METER TO THE WEST OF BUILDING #2.
— ADD 2" IRRIGATION METER TO THE WEST OF THE BRODIE LANE DRIVEWAY.
APPROVED BY: Don Sellung 10-23-91
CITY OF AUSTIN WASTEWATER DEPARTMENT DATE
REVISION 5
— REVISED PHASE "F" SITE UTILITY PLAN LAYOUT
APPROVED BY: Don Sellung 4-01-92
CITY OF AUSTIN WASTEWATER DEPT. DATE
PERMIT NO.: SP-90-0113B
Revision 5 Phase F (only)
DATE OF ANNEXATION:
APPROVED BY
9210001-C
10-11-92
DATE
LEGEND
EXIST WATER LINE
EXIST WASTEWATER LINE
PROP. WATER LINE
PROP. WASTEWATER LINE
GAS LINE
UNDERGROUND TELEPHONE LINE
UNDERGROUND ELECTRIC LINE
OVERHEAD ELECTRIC LINE
OVERHEAD TELEPHONE LINE
GATE VALVE
WATER METER
REDUCER
PROP. FIRE HYDRANT
EXIST. FIRE HYDRANT
PROP. WASTEWATER MANHOLE
EXIST. WASTEWATER MANHOLE
ALL LOCATIONS APPROXIMATE
0 25 50 100
CRITICAL WATER QUALITY ZONE
BUILDING RETAIL #1 30,500 S.F. F.F.= 717
BUILDING RETAIL #2 9,431 S.F. F.F.= 712
BUILDING RETAIL 10,000 S.F. F.F.= 712
PHASE "E"
BUILDING # 4 RETAIL 9,419 S.F. F.F.= 710
BUILDING # 5 RETAIL 107,300 S.F. F.F.= 705
PHASE "B-1"
PHASE "B-2"
PHASE "B-3"
PHASE "H"
BUILDING # 6 RETAIL 7,594 S.F. F.F.= 704
BUILDING # 7 RETAIL 26,690 S.F. F.F.= 703
BUILDING #8 RETAIL 11,850 S.F. F.F.= 702
BLDG. # 10 REST. 6,086 S.F. F.F.= 710
BLDG. # 11 REST. 6,086 S.F. F.F.= 708
REST. BLDG. # 12 6006 S.F. F.F.= 701
PHASE "C"
PHASE "F"
PHASE "B-2"
PHASE "B-1"
LOT 1
SUBJECT SITE
EXISTING PRIVATE LIFT STATION
4.258 ACRES CONDEMNED BY THE STATE OF TEXAS IN CAUSE NO. 2176, PROBATE COURT NO. 1, TRAVIS COUNTY, TEXAS.
5 CONSOLIDATED SITE PLAN WHICH REFLECTS TXDOT CONDEMNATION ACTION.
AREA 1-A
AREA 1-B
U.S. HIGHWAY 290
FRONTAGE ROAD
CL DRIVEWAY T.H.D STA 821+80.61 LFR MOPAC
CL DRIVEWAY T.H.D STA 824+37.7 LFR MOPAC
CL DRIVEWAY T.H.D STA 116+13.93 SOUTHWEST PARKWAY
CL DRIVEWAY T.H.D STA 118+72.8 SOUTHWEST PARKWAY
CL DRIVEWAY T.H.D STA 526+62.76 LFR U.S.290
CL DRIVEWAY T.H.D STA 539+54.24 LFR U.S. 290
CL DRIVEWAY T.H.D STA 539+76.87
S.W.PARKWAY
PROPOSED 20" x 12" TAPPING SLEEVE AND VALVE
PROPOSED 12" x 2" TEE
PROPOSED 5 1/4" FIRE HYDRANT W/ 6" VALVE
PROPOSED 5 1/4" FIRE HYDRANT W/ 6" VALVE & 8" x 6" REDUCER
PROPOSED 1½" METER
PROPOSED 2" METER
PROPOSED WW MANHOLE "A" FL IN = 701.39' FL OUT = 701.29'
PROPOSED WW MANHOLE "B" FL IN = 696.10 FL OUT= 696.00
PROPOSED WW MANHOLE "C" FL IN = 696.53 FL OUT =696.23
PROPOSED WW MANHOLE "D" FL IN = 695.50 FL OUT = 694.90
PROPOSED WW MANHOLE "E" FL IN = 695.37 FL OUT = 695.27 FL IN 6" WW STUB = 695.37
PROPOSED WW MANHOLE "F" FL IN = 693.50 FL OUT = 693.50
PROPOSED LIFT STATION "A" (SEE DETAIL)
PROPOSED LIFT STATION "B" (SEE DETAIL)
PROPOSED 12" x 8" REDUCER
PROPOSED 12" x 8" TEE
PROPOSED 20" x 12" TAPPING SLEEVE AND VALVE
OFFSITE BY OTHERS
FOR OFF-SITE FORCE MAIN ROUTES SEE SHEETS 9.1-9.3
PROPOSED 2" IRRIGATION METER
EXISTING FIRE HYDRANT AND VALVE TO BE RELOCATED
4" DI FORCE MAIN
S-1991-0610
7.5' ELECTRIC EASEMENT VOL.9130,PG.458
DRAINAGE EASEMENT (DOC.2001...)
PROPOSED CONSERVATION AND DRAINAGE EASEMENT
TO BE VACATED
LIMITS OF CONSTRUCTION
NOTE: SEE SHEET 9.2 FOR PHASE "F" UTILITY EXTENTIONS & LARGER SCALE
WARNING APPROX. LOCATION OF EXISTING 4" FORCE MAIN TO BE RELOCATED
PROPOSED 6" x 2" TEE
PROPOSED 6" x 4" REDUCER
PROPOSED 6" x 6" TEE
PROPOSED 6" x 6" CROSS
PROPOSED 6" x 6" VALVE
PROPOSED 6" x 4" REDUCER
PROPOSED 6" x 6" VALVE
PROPOSED 6" x 6" TEE
PROPOSED 6" x 6" CROSS

**GEOTECHNICAL ENGINEERING REPORT**

**Proposed Olive Garden Building**
**5010 W. Highway 290 Service Road**
**Austin, Texas 78735**

**PSI Project No. 03031928**

**PREPARED FOR:**

**Darden Restaurants, Inc.**
**1000 Darden Center Drive**
**Orlando, Florida 32809**

**December 20, 2024**

**BY:**

**PROFESSIONAL SERVICE INDUSTRIES, INC.**
**2600 McHale Court, Suite 125**
**Austin, Texas 78758**
**Phone: (512) 491–0200**
**Fax: (512) 491–0221**

intertek psi

GEOTECHNICAL, CONSTRUCTION MATERIALS TESTING, & ENVIRONMENTAL SERVICES

Professional Service Industries, Inc.
2600 McHale Court, Suite 125
Austin, TX 78758
Office - 512.491.0200

December 20, 2024

**Darden Restaurants, Inc.**
1000 Darden Center Drive
Orlando, Florida 32809

Attn: Mr. Chris Zalapi

**RE: GEOTECHNICAL ENGINEERING REPORT**
**PROPOSED OLIVE GARDEN BUILDING**
**5010 W. HIGHWAY 290 SERVICE ROAD**
**AUSITN, TEXAS 78735**
**PSI Project No. 03031928**

Dear Mr. Zalapi:

Professional Service Industries, Inc. (PSI), an Intertek company, is pleased to submit this Geotechnical Engineering Report for the above-referenced project. This report includes the results from the field and laboratory investigation along with recommendations for use in preparation of the appropriate design and construction documents for this project.

PSI appreciates the opportunity to provide this Geotechnical Engineering Report and looks forward to continuing participation during the design and construction phases of this project. If there are questions pertaining to this report, or if PSI may be of further service, please contact us at your convenience.

PSI also has great interest in providing materials testing and inspection services during the construction of this project.

Respectfully submitted,

***PROFESSIONAL SERVICE INDUSTRIES, INC.***
*Texas Board of Professional Engineers Certificate of Registration # F003307*

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**12/20/2024**



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## 1.0 PROJECT INFORMATION

### 1.1 PROJECT AUTHORIZATION

Professional Service Industries, Inc. (PSI), an Intertek company, has completed a field exploration and geotechnical evaluation for the proposed Olive Garden project. Mr. Chris Zalapi, representing Darden Restaurants, Inc., authorized PSI's services on November 18, 2024, by signing the Project Authorization Form (PAF) for PSI Proposal No. 0303-436320. Reference to Master Services Agreement for Environmental, Industrial Hygiene, Geotechnical, Construction Materials Testing, Nondestructive Examination, Facilities Consulting & Other Assurance, Testing, Inspection and Certification Services dated January 21, 2021, between GMRI, Inc. and PSI.

### 1.2 PROJECT DESCRIPTION

Based on information provided by the Client, and the results of this geotechnical investigation, a summary of the proposed project is provided below in the following table.

**TABLE 1.1: GENERAL PROJECT DESCRIPTION**

| | |
|---|---|
| Project Description | One (1) 6,292 square feet, single-story building, with associated parking spaces and driveways |
| Building Construction Type | Unknown. It is anticipated to be wood-frame and masonry veneer building |
| Existing Grade Change within Building Pad | ± 3 Feet (Google Earth Estimate) |
| Existing Grade Change within Project Site | ± 3 Feet (Google Earth Estimate) |
| Finished Floor Elevations | Not available at this time. It is anticipated be within 2 feet ± of current grade |
| Requested or Anticipated Foundation Types | Monolithic Stiffened Beam or Spread Footings and Slab-on-Grade |
| Maximum Design Column Loads | 100 kips |
| Maximum Design Wall Loads | 4 kips per Lineal Foot |
| Pavement for Parking and Drives | Flexible Asphalt (HMAC) and/or Rigid Concrete Pavement |

The geotechnical recommendations presented in this report are based on the available project information, structure locations, and the subsurface materials encountered during the field investigation. If the noted information or assumptions are incorrect, please inform PSI so that the recommendations presented in this report can be amended as necessary. PSI will not be responsible for the implementation of provided recommendations if not notified of changes in the project.

### 1.3 PURPOSE AND SCOPE OF SERVICES

The purpose of this study is to evaluate the subsurface conditions at the site and develop geotechnical engineering recommendations and guidelines for use in preparing the design and other related construction documents for the proposed project. The scope of services included drilling borings, performing laboratory testing, and preparing this geotechnical engineering report.



Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:53:38am File Path:K:\TEAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Geotechnical Report.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

Kimley»Horn
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TBPE Firm No. 928

04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

GEOTECHNICAL REPORT (1 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
35 OF 41

SP-2025-0116C.CC

This report briefly outlines the available project information, describes the site and subsurface conditions, and presents the recommendations regarding the following:

- General site development and subgrade preparation;
- Estimated potential soil movements associated with shrinking and swelling soils and methods to reduce these movements to acceptable levels;
- Recommendations for site excavation, fill compaction, and the use of on-site and imported fill material under pavements and the structure;
- Recommendations for building pad preparation for ground-supported slabs having a maximum movement potential, due to heave or settlement, of 1-inch;
- Recommendations for the design of foundations for supporting the proposed structure, which may include Wire Reinforcing Institute (WRI) and Post-Tensioning Institute (PTI) design criteria for slab-on-grade foundations designed for a 1" potential vertical movement;
- Seismic design site classification per the 2018 International Building Code; and
- Recommendations for the design of flexible asphaltic and rigid concrete pavement systems for the proposed parking and drive areas.

The scope of services for this geotechnical exploration did not include an environmental, mold nor detailed seismic/fault assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.





## 2.0 SITE AND SUBSURFACE CONDITIONS

### 2.1 SITE DESCRIPTION

The following table provides a generalized description of the existing site conditions based on visual observations during the field activities, as well as other available information.

**TABLE 2.1: SITE DESCRIPTION**

| | |
|---|---|
| Site Location | Address: 5010 W. US Hwy 290 Service Rd., Austin, TX 78735<br>GPS Coordinates: Lat.: 30.2352°; Long.: -97.821243° |
| Site History | Previously developed and consists of a building along with a paved area |
| Existing Site Ground Cover | Pavement & Foundations |
| Existing Site Features | Relatively Flat |
| Existing Grade/Elevation Changes | General Incline to the NE |
| Site Geology (Geologic Atlas of Texas) | High gravel deposits |
| Site Soils (USDA) | Crawford clay, 1 to 3 percent slopes, San Saba clay, 1 to 2 percent slopes |
| Site Boundaries | North: CraigO's Pizza and Pastaria & Buildings<br>East: Southwest Pkwy. & Paved Parking Lots<br>South: W Texas HWY 71 Service Road<br>West: Spec's Wines, Spirits & Finer Foods |
| Ground Support Capability or Access Issues | Firm enough for field equipment |

### 2.2 FIELD EXPLORATION

Field exploration for the project consisted of drilling a total of six (6) borings. The boring design element, boring labels, and approximate depths are provided in the following table.

**TABLE 2.2: FIELD EXPLORATION SUMMARY**

| Design Element | Boring Label | Boring Location | Approx. Depth of Boring (Feet) |
|---|---|---|---|
| Building | B-1 | Lat: 30.2352°, Long: -97.8211° | 20 |
| | B-2 | Lat: 30.2353°, Long: -97.8209° | 20 |
| | B-3 | Lat: 30.2351°, Long: -97.8208° | 20 |
| | B-4 | Lat: 30.2350°, Long: -97.8212° | 20 |
| | B-5 | Lat: 30.2349°, Long: -97.8209° | 20 |
| Pavement | P-1 | Lat: 30.2351°, Long: -97.8211° | 6 |

The boring locations were selected by PSI personnel and located in the field using a recreational-grade GPS system. Elevations of the ground surface at the boring locations were not provided and should be surveyed by others prior to construction. The references to elevations of various subsurface strata are based on depths





below existing grade at the time of drilling. The approximate boring locations are depicted on the Boring Location Plan provided in the Appendix.

**TABLE 2.3: FIELD EXPLORATION DESCRIPTION**

| | |
|---|---|
| Drilling Equipment | Truck-Mounted Drilling Equipment |
| Drilling Method | Continuous Flight Augers, Air Rotary |
| Drilling Procedure | Applicable ASTM and PSI Safety Manual |
| Field Testing | Hand Penetrometer, Standard Penetration Test (ASTM D1586) |
| Sampling Procedure | ASTM D1587/1586 |
| Sampling Frequency | Continuously to a Depth of 10 Feet and at 5-foot Intervals Thereafter |
| Frequency of Groundwater Level Measurements | During and After Drilling |
| Boring Backfill Procedures | Soil Cuttings, Bentonite Pellets, Grouting |

During field activities, the encountered subsurface conditions were observed, logged, and visually classified (in general accordance with ASTM D2487). Field notes were maintained to summarize soil types and descriptions, water levels, changes in subsurface conditions, and drilling conditions.

### 2.3 LABORATORY TESTING PROGRAM

PSI supplemented the field exploration with a laboratory testing program to determine additional engineering characteristics of the subsurface soils encountered. The laboratory testing program included:

- Visual Classification (ASTM D2488),
- Moisture Content Tests (ASTM D2216),
- Atterberg Limits (ASTM D4318), and
- Material Finer than No. 200 (ASTM D1140).

The laboratory testing program was conducted in general accordance with applicable ASTM Test Methods. The results of the laboratory tests are provided on the Boring Logs in the Appendix. Portions of samples not altered or consumed by laboratory testing will be discarded 60 days from the date shown on this report.

### 2.4 SITE GEOLOGY

As shown on the Geologic Map of the Austin Area, Texas, reprinted in 1981, the site is located in an area where the **High Gravel Deposits (Qhg)** formation is present at or near the ground surface, and underlain by the **Fredericksburg Group (Kfr)**. The High Gravel Deposits (Qhg) formation is generally composed of an upper silty clay unit good for crop production and a lower coarse unit that yields some water. The Fredericksburg Group (Kfr) consists of Edwards Limestone, Comanche Peak Limestone, Keys Valley Marl, Cedar Park Limestone, and Bee Cave.





### 2.5 SUBSURFACE CONDITIONS

The results of the field and laboratory investigation have been used to generalize a subsurface profile at the project site. The following subsurface descriptions provide a highlighted generalization of the major subsurface stratification features and material characteristics.

**TABLE 2.4: GENERALIZED SOIL PROFILE**

| Layer | Depth of Layer (ft) Top | Bottom | Soil Type | ω (%) | LL (%) | PI | % Pass. #200 |
|---|---|---|---|---|---|---|---|
| — | 0 | 0.5 to 1 | Concrete with Base | — | — | — | — |
| I | 0.5 to 1 | 6 to 13.5 | Fat Clay with Varying Sand Content | 10 to 26 | 60 to 68 | 40 to 49 | 68 to 95 |
| IA | 0 to 2 | 6 to 13.5 | Lean Clay with Sand | 12 to 18 | 34 to 43 | 21 to 29 | 82 to 85 |
| IB | 2 | 6 to 8.5 | Clayey Gravel with Sand | 8 to 16 | 45 to 74 | 31 to 55 | 38 to 40 |
| II | 13.5 | 20 | Marl or Fat Clay | 10 to 20 | 63 | 74 | 55 |

*Note:*
1. *w = Moisture Content (%)*
2. *LL= Liquid limit (%)*
3. *PI = Plasticity Index*
4. *-#200 Sieve = % Passing the #200 Sieve*

The material properties for the marl were obtained by laboratory testing, however, these tests were typically performed on grab samples from cuttings where the rock and rock-like materials had been broken down to its finer constituent materials. Therefore, the reported properties reflect the nature of broken-down rock or rock-like material, which was considered in the analysis and recommendations provided in this report.

The boring logs included in the Appendix should be reviewed for specific information at individual boring locations. The boring logs include soil descriptions, stratifications, locations of the samples, and field and laboratory test data. The descriptions provided in the logs only represent the conditions at that actual boring location; the stratifications represent the approximate boundaries between subsurface materials. The actual transitions between strata may be more gradual and less distinct. Variations will occur and should be expected across the site.

#### *2.5.1 GROUNDWATER INFORMATION*

Water level measurements were performed during drilling and after completion of drilling. Specific information concerning groundwater is noted on each boring log presented in the Appendix of this report. Groundwater **was not** encountered during the field investigation of this site.

Groundwater levels fluctuate seasonally as a function of rainfall, proximity to creeks, rivers and lakes, the infiltration rate of the soil, seasonal and climatic variations and land usage. In relatively pervious soils, such as sandy soils, the indicated depths are a relatively reliable indicator of groundwater levels. In relatively impervious soils, water levels observed in the borings may not provide a reliable indication of groundwater elevations, even after several days. If a detailed water level evaluation is required, observation wells or piezometers can be installed at the site to monitor water levels.





The groundwater levels presented in this report were measured at the time of PSI field activities. The contractor should determine the actual groundwater levels at the site before construction activities.





## 3.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

### 3.1 GEOTECHNICAL DISCUSSION

Based upon the information gathered from the soil borings and laboratory testing, the clay soils encountered at this site within the seasonally active zone have a **high** potential for expansion. PSI recommends the expansive potential (i.e. "Potential Vertical Movement" or PVM) of these soils be addressed in the design and construction of this project to reduce the potential for foundation movements and foundation distress.

Based on the subsurface conditions. It is anticipated that the additional building will be 1-story wood frame structures. For this type of structure, a shallow foundation system with soil-supported stiffened-beam and slab-on-grade or similar post-tensioned type foundation (Waffle Slab) may be considered support for the proposed building.

An improved foundation pad must be constructed under soil-supported floor slab and foundation elements due to the presence of expansive foundation soils. Several methods are available to reduce the PVM of the foundation soil beneath a grade-supported foundation or floor slab. PSI recommends excavating and moisture conditioning onsite or imported general fill for use as density and moisture controlled engineered fill (Reconditioning Method).

The following design recommendations have been developed based on the previously described project characteristics and subsurface conditions encountered. If there are changes in the project criteria, PSI should be retained to determine if modifications in the recommendations will be required. The findings of such a review would be presented in a supplemental report. Once final design plans and specifications are available, a general review by PSI is recommended to observe that the conditions assumed in the project description are correct and verify that the earthwork and foundation recommendations are properly interpreted and implemented within the construction documents.

### 3.2 POTENTIAL VERTICAL MOVEMENT OF EXPANSIVE SOILS

The soils encountered at the soil boring locations exhibit a **high** potential for volumetric changes, due to fluctuations in soil moisture content. PSI has conducted laboratory testing on the soils to estimate the expansive soil potential with soil moisture variations. These soil moisture variations are based on historical climate change data for a particular site detailed in the Thornthwaite Moisture Index Maps. Determining the soil potential for shrinking and swelling, combined with historical climate variation, aids the engineer in quantifying the soil movement potential of the soils supporting the floor slab and shallow foundations. Various shrink/swell movement procedures, and two soil modeling systems, the Post Tensioning Institute's (PTI) "Design of Post-Tensioned Slabs-on-Ground, 3rd Edition" and Texas Department of Transportation (TxDOT) method TEX-124-E, were used to approximate the Potential Vertical Movement (PVM) for this location.

#### *3.2.1 SHRINK/SWELL MOVEMENT (PVM) ESTIMATE*

Based on laboratory testing results, and the TEX-124-E and the PTI methods, the potential vertical movement within the proposed project area was estimated to be approximately **4½ inches.**

It is not possible to accurately quantify actual soil moisture changes and resulting shrink/swell movements. The PVM and referenced structural movements values provided should not be considered absolute values



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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

GEOTECHNICAL REPORT (2 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
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that could occur in the field but approximate values based on industry standard practice and experience. Extreme soil moisture variations could occur due to unusual drought severity, leaking water or sewer lines, poor drainage (possibly due to landscape changes after construction), irrigation line breaks, perched groundwater infiltration, springs, soil desiccation from large trees located adjacent to the building or previously underneath the building, downspouts directing roof discharge under the foundation, etc. Therefore, because of these unknown factors, the shrink/swell potential of soils in Texas can often be significantly underestimated using the previously mentioned methods of evaluating PVM.

The unknown factors previously mentioned cannot be determined at the time of the geotechnical study. Therefore, estimated shrink/swell movements are calculated only in consideration of historical climate data related to soil moisture variations for a particular area. Movements in excess of these assumed variations should be anticipated and regular maintenance should be provided to address these issues throughout the life of the structure.

#### *3.2.2 Design PVM Considerations*

Grade-supported floor slabs and foundations should be expected to undergo some vertical movements, including differential, due to the action of expansive soils and possible soil settlement. In this general area, most owners, architects, structural and geotechnical engineers consider a value of one inch or less to be within acceptable movement tolerances for grade-supported floor slabs or foundations. This generally accepted tolerance for movement has been used by PSI in developing the recommendations for preparing the foundation pad for this project.

The amount of structural movement associated with a PVM magnitude of 1-inch may not be considered acceptable per "operational" or "aesthetic" performance criteria, which often occur at less movement than the magnitude of the PVM which is based on "structural" considerations. Cracking in the foundation and walls and sticking doors, which requires periodic maintenance, will likely occur for foundations designed using an allowable 1-inch PVM. This should be understood by the Owner and Design Team.

PSI recommends that the Owner discuss allowable movement tolerances with the structural engineer, architect, and all other members of the Design Team prior to commencement of the final design to make certain that appropriate movement tolerances are developed and used for this project. If design PVM values other than 1-inch is desired, PSI should be contacted to review and revise the recommendations presented in this report as necessary to meet the project requirements.

If the risk of grade-supported foundation and floor slab movements is not acceptable, or if the required foundation pad preparation costs for a soil-supported foundation are determined to be excessive, it is our opinion that a drilled pier foundation with a structurally suspended floor slab should be used. We would be pleased to provide geotechnical recommendations for this foundation type if desired.

### 3.3 Foundation Discussion

Based on information provided to PSI, information obtained during the field operations, results of the laboratory testing, and PSI's experience with similar projects, recommendations for a stiffened beam and slab-on-grade (Waffle Slab) type foundation are presented in this report. If an alternative foundation type is desired, PSI can provide alternative recommendations in a supplemental letter upon request.





#### *3.3.2 Compaction and Testing Recommendations for Foundation Pad Areas*

The following table outlines foundation pad compaction recommendations in consideration of appropriate vertical movement reduction method.

**Table 3.2: Compaction Recommendations Reconditioning Method**

| Location | Material | Density Test Method | Plasticity Index | Percent Compaction | Optimum Moisture Content | Testing Frequency |
|---|---|---|---|---|---|---|
| Foundation Pad Areas | Subgrade, Reconditioned Fill, Structural Common Fill | ASTM D 698 | PI ≥ 25 | 94% to 98% | ≥ +2% | 1 per 5,000 SF; min. 3 per lift |
| | | | PI < 25 | ≥ 95% | 0 to +4% | |
| | Select Fill (Item 247 or Pit Run) | ASTM D 698 | PI ≤ 20 | ≥ 95% | -1 to +3% | |

### 3.4 Design Measures to Reduce Changes in Soil Moisture

The following recommended measures can reduce possible moisture fluctuations of the soils under the floor slab. Movements of the foundation soil can be effectively reduced by providing horizontal and/or vertical moisture barriers around the edge of the slab. Typically, the moisture barriers would consist of concrete flatwork or asphalt or concrete pavement placed adjacent to the edge of the building, a clay cap over poly, and/or a deepened perimeter grade beam or vertical trench filled with flowable fill.

Although subgrade modification is recommended to reduce potential soil-related foundation movements, the design and construction of a grade-supported foundation should also include the following elements:

- Roof drainage should be controlled by gutters and carried well away from the structure.
- The ground surface adjacent to the building perimeter should be sloped and maintained a minimum of 5% grade away from the building for 10 feet to result in positive surface flow or drainage away from the building perimeter. In areas adjacent to the building controlled by ADA, concrete flatwork slopes should not be more than 2% within 10 feet of the building.
- Hose bibs, sprinkler heads, and other external water connections should be placed well away from the foundation perimeter such that surface leakage cannot readily infiltrate into the subsurface or compacted fills placed under the proposed foundations and slabs.
- No trees or other vegetation over 6 feet in height shall be planted within 15 feet of the structure unless specifically accounted for in the foundation design.
- Utility bedding should not include gravel near the perimeter of the foundation. Compacted clay or flowable fill trench backfill should be used in lieu of permeable bedding materials between 2 feet inside the building to 4 feet beyond the exterior of the building edge to reduce the potential for water to infiltrate within utility bedding and backfill material.





A potential for vertical movement greater than 1-inch is above the value considered acceptable by most structural and geotechnical engineers in this area. Therefore, foundation pad improvement is recommended to reduce the PVM to an acceptable value for the grade-supported floor slabs and shallow foundations proposed for this project.

#### *3.3.1 Slab-on-Grade Earthwork Recommendations*

Foundation pad improvement should consist of removing the upper soils to the recommended minimum over-excavation depth, compacting the exposed subgrade, placement and compaction of moisture conditioned common fill in areas between the top of the compacted subgrade up to the bottom of the select fill, and finally compaction of the select fill to finish floor grade. This procedure is outlined in the following sections.

##### 3.3.1.1 *Reconditioning Method*

The following illustration and table provide general requirements for the installation of a foundation pad that should provide a PVM magnitude of 1 inch or less using the *Reconditioning Method*.

**Table 3.1: Reconditioning Method Recommendations**

| | |
|---|---|
| Application | Stiffened Beam and Soil-Supported Floor Slab (Waffle Slab) |
| Site Stripping Removal | Upper 6 inches of organics and deleterious material including debris to expose clean subgrade |
| Foundation Improvement Method | Remove and replace existing soils with moisture conditioned soil and select fill |
| Improved Site Condition PVM | Approximately 1 inch |
| Minimum Over-Excavation | **5 feet**<br><br>If the new building will be adjacent to an existing building, then the undercut against the existing building should be excavated at no steeper than a ½H:1V slope so as to not undermine the existing foundation. |
| Horizontal Undercut Extent | Below all slab areas and at least 5 feet beyond the slab perimeter and extending the full width of flatwork that may be sensitive to movement |
| Subgrade Proof-Rolling | Proof-roll subgrade with rubber tired 20-ton (loaded) construction equipment<br>Alternate Equipment can be used with Geotechnical Engineer Approval<br>Remove rutting or excessively deflecting soils<br>Replace failing soils with compacted select fill material |
| Exposed Subgrade Treatment (Zone 3) | Proof-roll then scarify, moisture condition, and compact 9 inches subgrade below base of undercut |
| Select Fill Thickness Minimum Thickness (Zone 1) | **2 feet + as required to achieve bottom of slab elevation** |





| | |
|---|---|
| Select Fill Material<br>(Other low plasticity materials may be used pending review and approval from PSI) | Pit Run<br>Free of organics, trash, or other deleterious material<br>Liquid Limit <40%<br>Plasticity Index 7 to 20<br>Max Particle Size < 3"<br>Percent Material Passing 200 Sieve > 35% |
| Select Fill Material Alternative | TxDOT Item 247 (Crushed Limestone Material)<br>Type A or B<br>Grade 1-2 or 3 |
| Reconditioned Fill Minimum Thickness (Zone 2) | **3 feet** |
| Reconditioned Fill (Zone 2) | On site or imported materials having:<br>Allowable PI from 12 to 50<br>Percent Passing No. 200 Sieve > 35%<br>Max Particle Size < 3" |
| Structural Common Fill (Zone 4) | Clean on-site materials having:<br>Allowable PI from 12 to 50<br>Percent Passing No. 200 Sieve > 35%<br>Max Particle Size < 3" |
| Vapor Retarder Material | Approved by Architect and Structural Engineer |
| Maximum Loose Lift Thickness | 8 inches |
| Time Between Reconditioned Fill and Select Fill Placement | Less than 4 days |

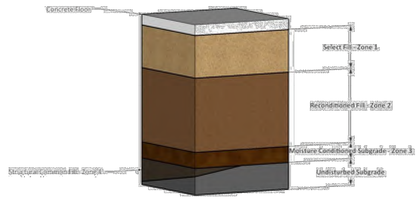


**Figure 3.1: Reconditioning Method Pad Improvement**





- Paved areas around the structure are helpful in maintaining soil moisture equilibrium. It will be very beneficial to have pavement, sidewalks or other flatwork located immediately adjacent to the building to both reduce intrusion of surface water into the more permeable select fill and to reduce soil moisture changes along the exterior portion of the floor due to soil moisture changes from drought, excessive rainfall or irrigation, etc. The use of a clay cap over poly sheeting (horizontal barrier) or impervious geosynthetic liner or concrete (vertical barrier) is recommended in those areas not covered with asphalt or concrete pavement or flatwork.
- Flower beds and planter boxes should be piped or watertight to prevent water infiltration under the building.
- Experience indicates that landscape irrigation is a common source of foundation movement problems and pavement distress. Repairing irrigation lines as soon as possible after leakage commences will benefit foundation performance greatly.
- Foundation pad and pavement subgrade should be protected and covered within 48 hours to reduce changes in the natural moisture regime from rainfall events or excessive drying from heat and wind.

### 3.5 Foundation Design Recommendations

#### *3.5.1 Monolithic Stiffened Slab-on-Grade Foundation Recommendations*

The proposed building can be supported on a monolithic, steel reinforced stiffened slab-on-grade foundation system (i.e., a waffle type grade beam configuration) designed using Post-Tensioning Institute (PTI) or Wire Reinforcement Institute (WRI) guidelines. The foundation system can be designed provided that some amount of differential movement can be tolerated and provided the recommended subgrade preparation activities are performed.

The intent of a monolithic, steel reinforced stiffened slab-on-grade foundation system is to allow the structure and foundation to move with soil movements while providing sufficient stiffness to limit differential movements within the superstructure to an acceptable magnitude.

The foundation may be designed using the Design of Slab-On-Ground Foundations published by the Wire Reinforcement Institute, Inc. (August 1981, updated March 1996). Alternately, the foundation may be designed using the 3rd Edition of the Design of Post-Tensioned Slabs-on-Ground published by the Post-Tensioning Institute (PTI DC10.1-08). The following table is applicable for a conventionally reinforced "Waffle Slab" with subgrade prepared in accordance with Section 3.3, which details foundation pad preparation and construction recommendations.

**Table 3.3: WRI Design Parameters**

| | |
|---|---|
| Effective Plasticity Index | 28 |
| Soil/Climatic Rating Factor (1–C) | 0.14 |
| Allowable Bearing Pressure for Grade Beams | 2,500 psf |
| Bearing Stratum at Bottom of Grade Beams | Compacted Reconditioned Soil or Select Fill |
| Penetration of Perimeter Beams Below Final Exterior Grade | At least 24 inches |





PSI is providing PTI design values for the Structural Engineer's consideration and possible use. These design values are estimated from the "Volflo" computer program in consideration of the soil conditions in the building area, an improved foundation pad for a 1 inch PVM and local experience. The following table is applicable for a post-tensioned slab-on-grade with subgrade prepared in accordance with Section 3.3, which details foundation pad preparation and construction recommendations.

**Table 3.4: PTI Design Parameters**

| | |
|---|---|
| **Edge Moisture Variation Distance** | |
| Center Lift, $e_m$ | 8.3 feet |
| Edge Lift, $e_m$ | 4.2 feet |
| **Differential Soil Movement** | |
| Center Lift, $y_m$ | -0.92 inches |
| Edge Lift, $y_m$ | 1.17 inches |
| Allowable Bearing Pressure for Grade Beams | 2,500 psf |
| Bearing Stratum at Bottom of Grade Beams | Compacted Reconditioned Soil or Select Fill |
| Penetration of Perimeter Beams Below Final Exterior Grade | At least 24 inches |

Utilities that project through slab and grade beam foundations should be designed either with some degree of flexibility or with sleeves in order to prevent damage to these lines as a result of vertical movement. Contraction, control or expansion joints should be designed and placed in various portions of the structure to minimize and control wall cracking as a result of foundation movements. Properly planned placement of these joints will assist in controlling the degree and location of material cracking which normally occurs due to material shrinkage, thermal affects, soil movements and other related structural conditions.

### 3.6 Sidewalks and Flatwork

For sidewalks or other flatwork located adjacent to grade-supported foundations, the undercutting and select fill placement operations for the building should extend beyond the perimeter of the building and pavements to at least the width of the adjacent sidewalk or flatwork.

Any other sidewalks or flatwork not adjacent to buildings should be placed on an improved subgrade meeting or exceeding the pavement subgrade improvement methods previously recommended. If the sidewalk subgrade consists of material with a plasticity index of 25 or greater, a 12-inch-thick layer of material satisfying the requirements of select fill provided in Section 3.3.1 must be placed below the sidewalk. The material should be compacted to 95% or greater than the maximum dry unit weight and contain a moisture content between -1 and +3% optimum moisture content.

Proper drainage around grade-supported sidewalks and flatwork is also very important to reduce potential movements. Elevating the sidewalks where possible and providing rapid, positive drainage away from them will reduce moisture variations within the underlying soils and will therefore provide valuable benefit in reducing the full magnitude of potential movements from being realized.

### 3.7 Site Seismic Design Recommendations

For the purposes of seismic design, based on the encountered site conditions and local geology, PSI interpreted the subsurface conditions to satisfy the **Site Class D** criteria for use at this site as defined by the



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04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# GEOTECHNICAL REPORT (3 OF 5)

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
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International Building Code (IBC). The site class is based on the subsurface conditions encountered at the soil borings, the results of field and laboratory testing, experience with similar projects in this area, and considering the site prepared as recommended herein. The table below provides recommended seismic parameters for the project based on the 2018 edition of the IBC.

**TABLE 3.5: RECOMMENDED DESIGN SEISMIC PARAMETERS**

| Project/Structure Centroid Coordinates (WGS84 - Decimal Degree) | 30.2351°, -97.8210° |
|---|---|
| **Seismic Parameter** | **IBC 2018/ASCE 7-16** |
| Site Class | D |
| Risk Category | II |
| 0.2 sec ($S_s$) | 0.052g |
| 1.0 sec ($S_1$) | 0.03g |
| Site Coefficient 0.2sec, $F_a$ | 1.6 |
| Site Coefficient 1.0 sec, $F_v$ | 2.4 |
| 0.2 sec ($S_{DS}$) | 0.055g |
| 1.0 sec ($S_{D1}$) | 0.048g |





## 4.0 PAVEMENT DESIGN RECOMMENDATIONS

### 4.1 PAVEMENT DESIGN PARAMETERS

PSI understands that flexible and rigid pavements will be considered for this project. Therefore, pavement design recommendations for several levels of traffic loading were developed based on assumptions of potential traffic, drive paths or patterns and anticipated soil support characteristics of pavement subgrades. PSI utilized the "AASHTO Guide for Design of Pavement Structures" published by the American Association of State Highway and Transportation Officials to evaluate the pavement thickness recommendations in this report. This method of design considers pavement performance, traffic, roadbed soil, pavement materials, environment, drainage and reliability. Each of these items is incorporated into the design methodology. *PSI is available to provide laboratory testing and engineering evaluation to refine the site specific design parameters and sections, upon request.*

Specific design traffic types and volumes for this project were not available to PSI at the issuance of this report. This traffic information is typically used to determine the number of 18-kip Equivalent Single Axle Loads (ESAL) that is applied to the pavement over its design life. Furthermore, the scope of services for this project did not include California Bearing Ratio (CBR) testing. In lieu of project specific design parameters, general traffic and subgrade parameter assumptions were used for this design. Based on this information, PSI has provided recommended pavement sections for "light duty", and "heavy duty" pavements constructed on stable and properly prepared/compacted subgrades. Flexible pavement options with and without geogrid options are also provided for consideration. Details regarding the basis for this design are presented in the table below.

**TABLE 4.1: PAVEMENT DESIGN PARAMETERS AND ASSUMPTIONS (RIGID AND FLEXIBLE)**

| | |
|---|---|
| **Reliability, percent** | 75 |
| **Initial Serviceability Index, Flexible Pavement** | 4.2 |
| **Initial Serviceability Index, Rigid Pavement** | 4.5 |
| **Terminal Serviceability Index** | 2.0 |
| **Traffic Load for Light Duty Pavement** | 15,000 equivalent single axle loads (ESALs) |
| **Traffic Load for Heavy Duty Pavement** | 150,000 equivalent single axle loads (ESALs) |
| **Standard Deviation, Flexible Pavement** | 0.45 |
| **Standard Deviation, Rigid Pavement** | 0.35 |
| **Concrete Compressive Strength** | 3,500 psi |
| **Subgrade California Bearing Ratio (CBR)** | 2.0 for high plasticity clay subgrade |
| **Subgrade Modulus of Subgrade Reaction, k in pci** | 75 for high plasticity clay subgrade |

Asphaltic concrete pavements founded on top of expansive soils will be subjected to PVM soil movements estimated and presented in this report. These potential soil movements are typically activated to some degree during the life of the pavement. Consequently, pavements can be expected to crack and require periodic maintenance to reduce damage to the pavement structure.

Light duty areas include parking and drive lanes that are subjected to passenger vehicle traffic only and exclude entrance aprons and general and single access roadway drives to the parking lot area. Heavy duty





areas include areas subjected to 18-wheel tractor trailers, including loading and unloading areas, and areas where truck turning and maneuvering may occur.

Eight-inch thick concrete pavement is recommended for dumpster pad areas and that area leading up to the dumpster pad.

During the paving life, maintenance to seal surface cracks within concrete or asphalt paving and to reseal joints within concrete pavement should be undertaken to achieve the desired paving life. Perimeter drainage should be controlled to prevent or retard influx of surface water from areas surrounding the paving. Water penetration leads to paving degradation. Water penetration into base or subgrade materials, sometimes due to irrigation or surface water infiltration leads to pre-mature paving degradation. Curbs should be used in conjunction with asphalt paving to reduce potential for infiltration of moisture into the base course. Curbs should extend the full depth of the base course and should extend at least 3 inches into the underlying clayey subgrade. The base layer should be tied into the area inlets to drain water that may collect in the base.

Material specifications, construction considerations, and section requirements are presented in following sections.

The presented recommended pavement sections are based on the field and laboratory test results for the project, local pavement design practice, design assumptions presented herein and previous experience with similar projects. The project Civil Engineer should verify that the ESAL and other design values are appropriate for the expected traffic and design life of the project. PSI should be notified in writing if the assumptions or design parameters are incorrect or require modification.

### 4.2 PAVEMENT SECTION RECOMMENDATIONS

PSI anticipated that the roadways and parking areas will be used primarily by passenger vehicles and delivery vehicles. PSI is providing parking and drive area sections based on experience with similar facilities constructed on similar soil conditions for the design traffic loading anticipated.

#### *4.2.1 FLEXIBLE PAVEMENT*

The proposed roadways and parking areas for this project may be constructed with flexible asphaltic concrete pavement. Recommendations for flexible asphaltic concrete pavement for roadways and parking areas are provided below.

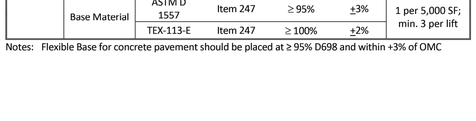


**FIGURE 4.1: OPTION 1 FLEXIBLE PAVEMENT TYPICAL SECTION**








**FIGURE 4.2: OPTION 2 FLEXIBLE PAVEMENT TYPICAL SECTION**

**TABLE 4.2: FLEXIBLE PAVEMENT SECTION OPTIONS**

| Material | Option 1 | | Option 2 | |
|---|---|---|---|---|
| Traffic Type | Light | Heavy | Light | Heavy |
| Hot Mix Asphaltic Concrete | 2" | 3" | 2" | 3" |
| Import Flexible Base | 7" | 10" | 7" | 10" |
| Lime Stabilized Subgrade | 8" | | No | |
| Geogrid | No | | Yes | |
| Compacted Subgrade | — | | 8" | |

#### *4.2.2 RIGID PAVEMENT*

The proposed roadways and parking areas for this project may also be constructed with rigid concrete pavement. Recommendations for rigid concrete pavement for roadways and parking areas are provided below.




**FIGURE 4.3: OPTION 1 RIGID PAVEMENT TYPICAL SECTION**








**FIGURE 4.4: OPTION 2 RIGID PAVEMENT TYPICAL SECTION**

**TABLE 4.3: RIGID PAVEMENT SECTION OPTIONS**

| Material | Option 1 | | Option 2 | |
|---|---|---|---|---|
| Traffic Type | Light | Heavy | Light | Heavy |
| Portland Cement Concrete | 5" | 7" | 5" | 7" |
| Low PI Material | – | – | 8" | 8" |
| Lime Stabilized Subgrade | 8" | | – | |
| Compacted Subgrade | – | | 8" | |

#### *4.2.3 GENERAL PAVEMENT DESIGN AND CONSTRUCTION RECOMMENDATIONS*

**TABLE 4.4: PAVEMENT DESIGN AND CONSTRUCTION RECOMMENDATIONS**

| | |
|---|---|
| Minimum Undercut Depth | 6 inches or as needed to remove roots |
| Reuse Excavated Soils | Must be free of roots and debris and meet material requirements of intended use |
| Undercut Extent | 2 feet beyond the paving limits |
| Exposed Subgrade Treatment | Proof-roll subgrade with rubber tired 20-ton (loaded) construction equipment<br>Alternate Equipment can be used with Geotechnical Engineer Approval |
| Proof-Rolled Pumping and Rutting Areas | Excavate to firmer materials and replace with compacted general or select fill under direction of a representative of the Geotechnical Engineer |
| General Fill | Materials free of roots, debris, and other deleterious materials with a maximum rock size of 4 inches with a CBR greater than 3 |
| Minimum General Fill Thickness | As required to achieve grade |
| Maximum General Fill Loose Lift Thickness | 9 Inches |
| Lime Stabilization | Performed in general accordance with TxDOT Item 260. Upper 8 inches of subgrade stabilized with lime to achieve pH of 12.4 or greater. Sulfate testing should be conducted before placement of lime. |





| | |
|---|---|
| Low PI Material<br>(Other low plasticity materials may be used pending review and approval from PSI) | On-Site or Imported<br>Free of organics, trash, or other deleterious material<br>Plasticity Index 12 to 25<br>Max Particle Size < 3"<br>% passing #200 sieve > 35% |
| Geogrid | Geogrid must meet TxDOT Item DMS - 6240.<br>Subgrade should be leveled and smoothed prior to geogrid placement on compacted subgrade. |
| Imported Flexible Base | TxDOT Item 247, Type A, Grade 1 or 2 |
| Maximum Flexible Base Loose Lift Thickness | 9 Inches |
| Hot Mix Asphaltic Concrete | TxDOT Item 340, Type D |
| Concrete Minimum Recommended Strength | 3,500 psi (avg. 28-day comp. strength) |
| Concrete Contraction Joint Min. Reinforcement<br>(Intended to assist in countering cracking and swelling soil pressures) | No. 3 bars at 18-inch on center each way<br>Located in top half of concrete section<br>Minimum 2 inches cover |
| Concrete Construction Joint Min. Reinforcement | 12" On Center Spaced, 14" Long, ¾" Diameter Dowels |
| Contraction Joint Spacing<br>(In General Accordance with ACI 330) | Maximum joint spacing should be less than 30 times the thickness of the concrete pavement or 15 feet, whichever is smaller. |

**TABLE 4.5: COMPACTION AND TESTING RECOMMENDATIONS FOR PAVEMENT AREAS**

| Location | Material | Density Test Method | Soil Type | Percent Compaction | Optimum Moisture Content | Testing Frequency |
|---|---|---|---|---|---|---|
| Pavement Areas | Subgrade<br>General Fill Soil<br>Low PI Material | ASTM D 698 | PI ≥ 25 | 94% to 98% | 0 to +4% | 1 per 10,000 SF; min. 3 tests |
| | | | PI < 25 | ≥ 95% | 0 to +4% | |
| | Base Material | ASTM D 1557 | Item 247 | ≥ 95% | ±3% | 1 per 5,000 SF; min. 3 per lift |
| | | TEX-113-E | Item 247 | ≥ 100% | ±2% | |

Notes: Flexible Base for concrete pavement should be placed at ≥ 95% D698 and within +3% of OMC



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DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

GEOTECHNICAL REPORT (4 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
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## 5.0 CONSTRUCTION CONSIDERATIONS

**Geotechnical Engineer Involvement at the Time of Construction** – Foundation pad preparation requirements on expansive clay sites depend on the soil moisture condition due to the prevailing climate at the time of construction in addition to the expansive properties of the clay. It is recommended that the foundation pad recommendations presented in this report be confirmed immediately prior to construction by a Geotechnical Engineer. Wetter climate conditions near the time of construction can lead to a significant reduction in pad preparation requirements which are often a substantial percentage of site development cost.

Having a Geotechnical Engineer retained to review the earthwork recommendations in the Contract Documents and be an active participant in team meetings near the time of construction can often result in project cost savings. Therefore, PSI recommends that an AASHTO accredited 3rd party laboratory with qualified professional engineers who specialize in geotechnical engineering be retained to provide observation and testing of construction activities involved in the foundations, earthwork, pavements and related activities of this project. As the Geotechnical Engineer of Record, PSI's services can be retained as the 3rd party laboratory. PSI's participation would be advantageous to project flow and value engineering during construction.

**The geotechnical engineer can assess soil conditions at the time of construction more accurately by knowing the location of the building, surrounding flatwork, pavements, planned landscaping, and drainage features often resulting in less risk and project cost savings.**

PSI cannot accept responsibility for conditions which deviate from those described in this report, nor for the performance of the foundations or pavements if not engaged to also provide construction observation and materials testing for this project. The PSI geotechnical engineer of record must also be engaged by the Design Team, even if periodic on-call testing is contracted with PSI Construction Services.

### 5.1 Initial Site Preparation Considerations

#### *5.1.1 Subgrade Preparation for Site Work Outside Building Pad and Pavement Areas*

Grade adjustments outside of the foundation pad and pavement areas can be made using select or general fill materials. The clean excavated onsite soils may also be reused in areas not sensitive to movement.

**Table 5.1: Subgrade Preparation for Non-Structural - General Fill**

| | |
|---|---|
| Minimum Undercut Depth | 4 inches or as needed to remove roots, organic and/or deleterious materials |
| Exposed Subgrade Treatment | Proof-roll subgrade with rubber tired 20-ton (loaded) construction equipment<br>Alternate Equipment can be used with Geotechnical Engineer Approval |
| Proof-Rolled Pumping and Rutting Areas | Excavate to firmer materials and replace with compacted general or select fill under direction of a representative of the Geotechnical Engineer |
| General Fill Type | Any clean material free of roots, debris and other deleterious material with a maximum particle size of 4 inches |





| | |
|---|---|
| Maximum General Fill Loose Lift Thickness | 8 inches |

**Table 5.2: Fill Compaction Recommendations Outside of Building and Pavement Areas**

| Location | Material | Test Method for Density Determination | Plasticity Index | Percent Compaction | Optimum Moisture Content | Testing Frequency |
|---|---|---|---|---|---|---|
| **Outside of Structure / Pavement Areas** | General Fill | ASTM D 698 | PI ≥ 25 | 94% to 98% | 0 to +4% | 1 per 10,000 SF; min. 3 per lift |
| | | | PI < 25 | ≥ 95% | 0 to +4% | |

#### *5.1.2 Existing Site Conditions*

The following table outlines construction considerations in consideration of demolition of existing structures, demolition of existing paving, procedures for abandoning old utility lines and removing trees.

**Table 5.3: Considerations for Demolition**

| | |
|---|---|
| **Existing Structures** | |
| Foundations of former structure(s) located below new structure | Impact of foundation of former structures should be evaluated on a case by case basis |
| Foundations for former structure(s) located below new paving | Cut off at least 3 feet below finished paving grade |
| **Existing Pavement** | |
| Former paving located within footing of proposed structure(s) | Remove concrete and/or HMAC surface course and base entirely or review impact on case by case basis |
| Former paving located within footprint of proposed new paving | Remove concrete and/or HMAC surface course and evaluate if base can be reused |
| **Abandoned Utilities** | |
| Utilities of former structure(s) located within new foundation pad/footprint of proposed structure | Remove pipe, bedding and backfill and then replace with select fill placed using controlled compaction |
| Utilities of former structure(s) located outside of foundation pad footprint | Abandon in place using a grout plug |
| **Tree Removal** | |
| Trees located within proposed building footprint; roadways, parking, and sidewalk areas; and 5 feet of building area | Remove root system for full vertical and lateral extent and extend removal for at least 3 feet beyond presence of root fragments and replace void with compacted general fill or flowable fill |

### 5.2 Moisture Sensitive Soils/Weather Related Concerns

Soils are sensitive to disturbances caused by construction traffic and changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support capabilities. In addition, soils which become wet may be slow to dry and thus





significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork, foundation, and construction activities during dry weather. A relatively all-weather compacted crushed limestone cap having a thickness of at least 6 inches should be provided as a working surface.

### 5.3 Excavation Observations

Excavations should be observed by a representative of PSI prior to continuing construction activities in those areas. PSI needs to assess the encountered materials and confirm that site conditions are consistent with those discussed in this report. This is especially important to identify the condition and acceptability of the exposed subgrades under foundations and other structures that are sensitive to movement. Soft or loose soil zones encountered at the bottom of the excavations should be removed to the level of competent soils as directed by the Geotechnical Engineer or their representative. Cavities formed as a result of excavation of soft or loose soil zones should be backfilled with compacted select fill or lean concrete.

After opening, excavations should be observed and concrete should be placed as quickly as possible to avoid exposure to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. Excavations left open for an extended period of time (greater than 24 hours) should be protected to reduce evaporation or entry of moisture.

### 5.4 Drainage Considerations

Water should not be allowed to collect in foundation excavations, on foundation surfaces, or on prepared subgrades within the construction area during or after construction. Proper drainage around grade-supported sidewalks and flatwork is important to reduce potential movements. Excavated areas should be sloped toward one corner to facilitate removal of collected rainwater, groundwater, or surface runoff. Providing rapid, positive drainage away from the building reduces moisture variations within the underlying soils and will aid in reducing the magnitude of potential movements.

### 5.5 Excavations and Trenches

Excavation equipment capabilities and field conditions may vary. Geologic processes are erratic and large variations can occur in small vertical and/or lateral distances. Details regarding "means and methods" to accomplish the work (such as excavation equipment and technique selection) are the sole responsibility of the project contractor. The comments contained in this report are based on small diameter borehole observations. The performance of large excavations may differ as a result of the differences in excavation sizes.

**The Marl Stratum encountered in the borings is hard. Excavations penetrating the marl and marl removal as part of site grading will likely require high-powered, heavy-duty rock excavation equipment.**

The Occupational Safety and Health Administration (OSHA) Safety and Health Standards (29 CFR Part 1926, Revised October 1989), require that excavations be constructed in accordance with the current OSHA guidelines. Furthermore, the State of Texas requires that detailed plans and specifications meeting OSHA standards be prepared for trench and excavation retention systems used during construction. PSI understands that these regulations are being strictly enforced, and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.





The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and Federal safety regulations.

PSI is providing this information as a service to the client. PSI does not assume responsibility for construction site safety or the contractor's or other parties' compliance with local, state, and Federal safety or other regulations. A trench safety plan was beyond the scope of our services for this project.





## 6.0 REPORT LIMITATIONS

The recommendations submitted in this report are based on the available subsurface information obtained by PSI and design details furnished by the client for the proposed project. If there are revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not notified of such changes, PSI will not be responsible for the impact of those changes on the project.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional Geotechnical Engineering practices in the local area. No other warranties are implied or expressed. This report may not be copied without the expressed written permission of PSI.

After the plans and specifications are more complete, the Geotechnical Engineer should be retained and provided the opportunity to review the final design plans and specifications to check that the engineering recommendations have been properly incorporated in the design documents. At this time, it may be necessary to submit supplementary recommendations. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project.

This report has been prepared for the exclusive use of Darden Restaurants, Inc., its subsidiaries and affiliates may rely upon the report under the same terms as if it was originally prepared for them for specific application to the proposed Olive Garden to be constructed at 5010 W. Highway 290 Service Road in Austin, Texas.



Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:54:08am File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Geotechnical Report.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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04/25/2025

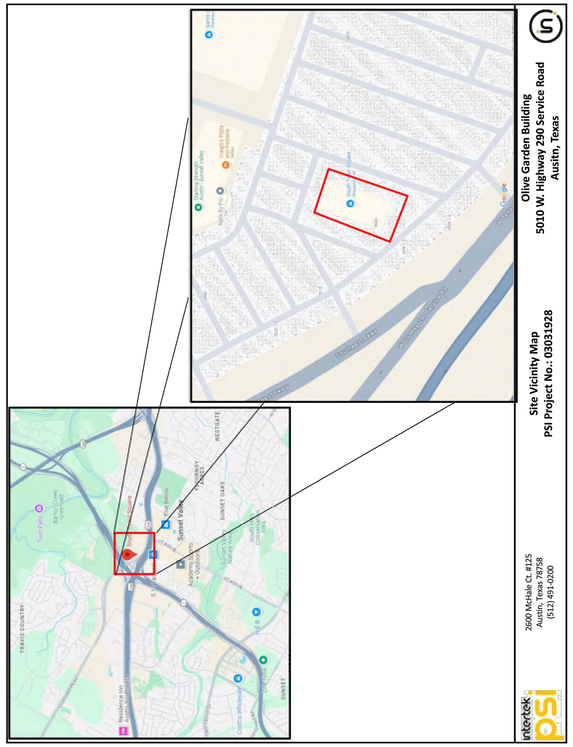
| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

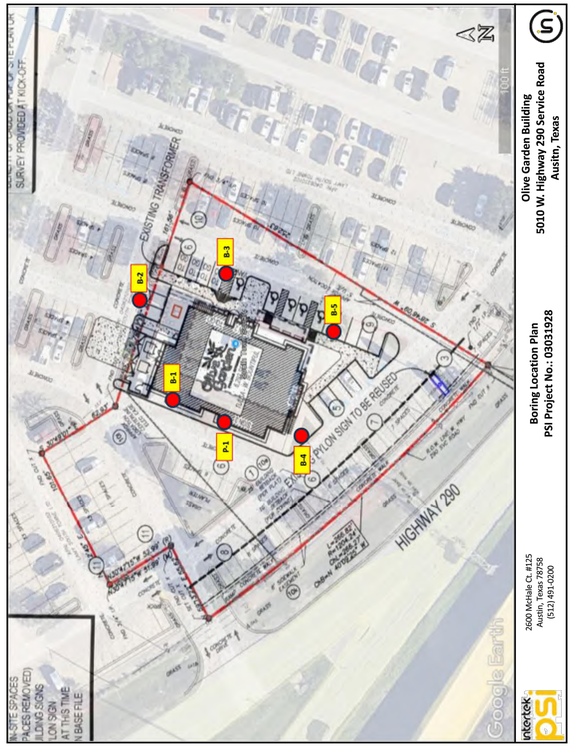
GEOTECHNICAL REPORT (5 OF 5)

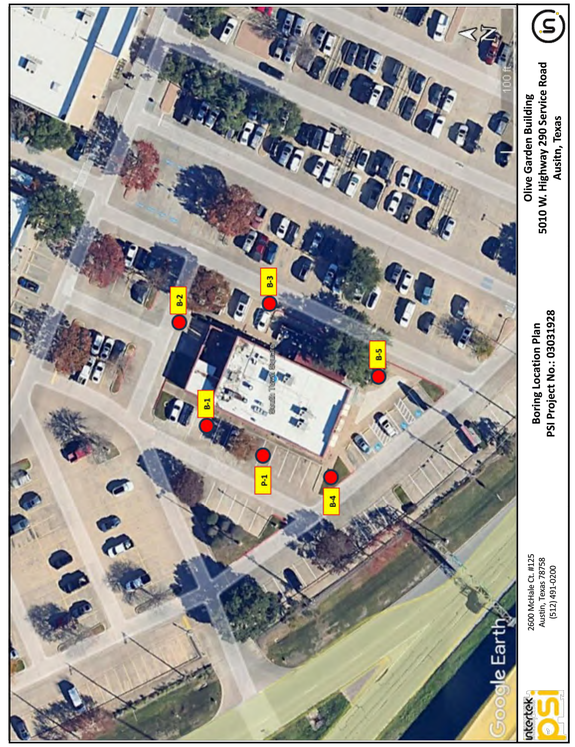
OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
39 OF 41

SP-2025-0116C.CC




Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

BORING B-1

LOCATION: Lat: 30.2352°, Long: -97.8211°

Elevation: 712.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4 inches Concrete, 3 inches Base | | | | | | | | | |
| | FAT CLAY (CH), stiff to very stiff, dark brown | 26 | | | | | | | | |
| | | 25 | 4 | 89 | | | | 64 | 22 | 42 |
| 5 | | 10 | | | 18 | | | | | |
| | | 15 | | | 22 | | | | | |
| | - calcareous from 6 ft to 8 ft | | | | | | | | | |
| 10 | | 15 | 0 | 95 | 17 | | | 60 | 20 | 40 |
| | MARL, hard, light brown | 10 | | | 50/3 | | | | | |
| 15 | | | | | | | | | | |
| | | 11 | | | 50/4.5 | | | | | |
| | Boring terminated at approximately 20 ft | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF)
2.0 4.0 6.0
PL WC LL
20 40 60

UNCONF. COMP. (TSF)

UNIT DRY WT. (LB/CU.FT.)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

BORING B-2

LOCATION: Lat: 30.2353°, Long: -97.8209°

Elevation: 710.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|
| | 6 inches Concrete, 1 inch Base | | | | | | | | | |
| | CLAYEY GRAVEL with SAND (GC), dense, brown | 26 | | | | | | | | |
| | | 14 | | | 48 | | | | | |
| 5 | | 8 | | | 36 | | | | | |
| | LEAN CLAY with SAND (CL), very stiff, brown | 12 | 3 | 82 | 28 | | | 35 | 12 | 23 |
| | - calcareous from 6 ft to 7.5 ft | | | | | | | | | |
| 10 | | 16 | 2 | 83 | 25 | | | 43 | 14 | 29 |
| | FAT CLAY with SAND (CH), very stiff, brown | 21 | | | 19 | | | | | |
| 15 | | | | | | | | | | |
| | | 15 | | | 25 | | | | | |
| | Boring terminated at approximately 20 ft | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF)
2.0 4.0 6.0
PL WC LL
20 40 60

UNCONF. COMP. (TSF)

UNIT DRY WT. (LB/CU.FT.)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

BORING B-3

LOCATION: Lat: 30.2351°, Long: -97.8208°

Elevation: 712.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4.5 inches Concrete | | | | | | | | | |
| | FAT CLAY with SAND (CH), hard, dark brown | 20 | | | | | | | | |
| | | 19 | | | 33 | | | | | |
| 5 | CLAYEY GRAVEL with SAND (GC), very dense, brown | 8 | 29 | 38 | 52 | | | 74 | 19 | 55 |
| | LEAN CLAY with SAND (CL), stiff to very stiff, brown | 12 | 2 | 85 | 26 | | | 34 | 13 | 21 |
| | - calcareous from 6 ft to 7.5 ft | | | | | | | | | |
| 10 | | 18 | | | 13 | | | | | |
| | FAT CLAY with SAND (CH), hard, brown-gray | 20 | | | | | | | | |
| 15 | | | | | | | | | | |
| | | 14 | | | | | | | | |
| | Boring terminated at approximately 20 ft | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF)
2.0 4.0 6.0
PL WC LL
20 40 60

UNCONF. COMP. (TSF)

UNIT DRY WT. (LB/CU.FT.)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Plotted By: Stauffer, Ryan Date: April 30, 2025 08:54:15am File Path: K:\FAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Geotechnical Report.dwg
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|---|---|---|---|

04/25/2025

KHA PROJECT 063887221
DATE: APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

BORING LOGS (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
40 OF 41

SP-2025-0116C.CC

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

## BORING B-4

LOCATION: Lat: 30.2350°, Long: -97.8212°

Elevation: 714.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|
| 0 | SANDY FAT CLAY (CH), stiff to hard, dark brown | 13 | 7 | 68 | | | | 65 | 17 |
| 2 | | 18 | | | 14 | | | | |
| 4 | | 15 | | | 29 | | | | |
| 6 | - marly from 6 ft to 8 ft | 11 | | | 50/5 | | | | |
| 8 | CLAYEY GRAVEL with SAND (GC), dense, brown | 9 | 33 | 40 | 39 | | | 45 | 14 |
| 10 | MARL, hard, brown | 16 | | | 50/5 | | | | |
| 12 | | | | | | | | | |
| 14 | | | | | | | | | |
| 16 | | | | | | | | | |
| 18 | | 13 | | | 50/0.5 | | | | |
| 20 | Boring terminated at approximately 20 ft | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF) — 2.0 4.0 6.0; PI 20 — WC 40 — LL 60

UNCONF. COMP. (TSF) | UNIT DRY WT. (LBS/CU FT)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

## BORING B-5

LOCATION: Lat: 30.2349°, Long: -97.8209°

Elevation: 713.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 inches Concrete | | | | | | | | |
| 2 | FAT CLAY (CH), stiff to hard, dark brown | 19 | | | 11 | | | | |
| 4 | | 20 | 1 | 93 | 13 | | | 66 | 18 |
| 6 | CLAYEY GRAVEL with SAND (GC), dense to very dense, brown | 16 | | | 43 | | | | |
| 8 | | 10 | | | 86 | | | | |
| 10 | MARL, hard, brown | 15 | 20 | 63 | 50/5 | | | 74 | 19 |
| 12 | | 12 | | | 50/5.5 | | | | |
| 14 | | | | | | | | | |
| 16 | | | | | | | | | |
| 18 | - with weathered limestone lenses at 18.5 ft | 15 | | | 50/0.5 | | | | |
| 20 | Boring terminated at approximately 20 ft | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF) — 2.0 4.0 6.0; PI 20 — WC 40 — LL 60

UNCONF. COMP. (TSF) | UNIT DRY WT. (LBS/CU FT)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

## BORING P-1

LOCATION: Lat: 30.2351°, Long: -97.8211°

Elevation: 713.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 7 inches Concrete, 3 inches Base | | | | | | | | |
| 2 | FAT CLAY (CH), firm to very stiff, brown | 26 | | | 7 | | | | |
| 4 | | 26 | 1 | 94 | | | | 68 | 19 |
| 6 | | 22 | | | 26 | | | | |
| 8 | Boring terminated at approximately 6 ft | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF) — 2.0 4.0 6.0; PI 20 — WC 40 — LL 60

UNCONF. COMP. (TSF) | UNIT DRY WT. (LBS/CU FT)

COMPLETION DEPTH: 6.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

## KEY TO TERMS AND SYMBOLS USED ON LOGS

### ROCK CLASSIFICATION

### RECOVERY

| DESCRIPTION OF RECOVERY | % CORE RECOVERY |
|---|---|
| Incompetent | < 40 |
| Competent | 40 TO 70 |
| Fairly Continuous | 70 TO 90 |
| Continuous | 90 TO 100 |

### ROCK QUALITY DESIGNATION (RQD)

| DESCRIPTION OF ROCK QUALITY | RQD |
|---|---|
| Very Poor (VPo) | 0 TO 25 |
| Poor (Po) | 25 TO 50 |
| Fair (F) | 50 TO 75 |
| Good (Gd) | 75 TO 90 |
| Excellent (Exlnt) | 90 TO 100 |

### CONSISTENCY OF COHESIVE SOILS

| CONSISTENCY | N-VALUE (Blows/Foot) | SHEAR STRENGTH (tsf) | HAND PEN VALUE (tsf) |
|---|---|---|---|
| Very Soft | 0 TO 2 | 0 TO 0.125 | 0 TO 0.25 |
| Soft | 2 TO 4 | 0.125 TO 0.25 | 0.25 TO 0.5 |
| Firm | 4 TO 8 | 0.25 TO 0.5 | 0.5 TO 1.0 |
| Stiff | 8 TO 15 | 0.5 TO 1.0 | 1.0 TO 2.0 |
| Very Stiff | 15 TO 30 | 1.0 TO 2.0 | 2.0 TO 4.0 |
| Hard | >30 | >2.0 OR 2.0+ | >4.0 OR 4.0+ |

### SOIL DENSITY OR CONSISTENCY

| DENSITY (GRANULAR) | CONSISTENCY (COHESIVE) | THD (BLOWS/FT.) | FIELD IDENTIFICATION |
|---|---|---|---|
| Very Loose (VLo) | Very Soft (VSo) | 0 TO 8 | Core (height twice diameter) sags under own weight |
| Loose (Lo) | Soft (So) | 8 TO 20 | Core can be pinched or imprinted easily with finger |
| Slightly Compact (SlCmpt) | Stiff (St) | 20 TO 40 | Core can be imprinted with considerable pressure |
| Compact (Cmpt) | Very Stiff (VSt) | 40 TO 80 | Core can only be imprinted slightly with fingers |
| Dense (De) | Hard (H) | 80 TO 5"/100 | Core cannot be imprinted with fingers but can be penetrated with pencil |
| Very Dense (VDe) | Very Hard (VH) | 5"/100 to 0"/100 | Core cannot be penetrated with pencil |

### DEGREE OF PLASTICITY OF COHESIVE SOILS

| DEGREE OF PLASTICITY | PLASTICITY INDEX (PI) | SWELL POTENTIAL |
|---|---|---|
| None or Slight | 0 to 4 | None |
| Low | 4 to 20 | Low |
| Medium | 20 to 30 | Medium |
| High | 30 to 40 | High |
| Very High | >40 | Very High |

### BEDROCK HARDNESS

| MORHS' SCALE | CHARACTERISTICS | EXAMPLES | APPROXIMATE THD PEN TEST | |
|---|---|---|---|---|
| 5.5 to 10 | Rock will scratch knife | Sandstone, Chert, Schist, Granite, Gneiss, some Limestone | Very Hard (VH) | 0" to 2"/100 |
| 3 to 5.5 | Rock can be scratched with knife blade | Siltstone, Shale, Iron Deposits, most Limestone | Hard (H) | 1" to 5"/100 |
| 1 to 3 | Rock can be scratched with fingernail | Gypsum, Calcite, Evaporites, Chalk, some Shale | Soft (So) | 4" to 6"/100 |

### MOISTURE CONDITION OF COHESIVE SOILS

| DESCRIPTION | CONDITION |
|---|---|
| Absence of moisture, dusty, dry to touch | DRY |
| Damp but no visible water | MOIST |
| Visible free water | WET |

### RELATIVE DENSITY FOR GRANULAR SOILS

| APPARENT DEINITY | SPT (BLOWS/FT) | CALIFORNIA SAMPLER (BLOWS/FT) | MODIFIED CA SMAPLER (BLOWS/FT) | RELATIVE DENSITY (%) |
|---|---|---|---|---|
| Very Loose | 0 to 4 | 0 to 5 | 0 to 4 | 0 to 15 |
| Loose | 4 to 10 | 5 to 15 | 5 to 12 | 15 to 35 |
| Medium Dense | 10 to 30 | 15 to 40 | 12 to 35 | 35 to 65 |
| Dense | 30 to 50 | 40 to 70 | 35 to 60 | 65 to 85 |
| Very Dense | >50 | >70 | >60 | 85 to 100 |

### SAMPLER TYPES

NO SAMPLE; TXDOT CONE; SHELBY TUBE; NO RECOVERY; ROCK CORE; SPLIT SPOON; AUGER SAMPLE

### SOIL TYPES

CLAY (CL); CLAY (CH); SILT; LIMESTONE; SHALE; SANDSTONE; SAND; GRAVEL; FILL; ASPHALT; CONCRETE; CHALK

### ABBREVIATIONS

PL – Plastic Limit
LL – Liquid Limit
WC – Percent Moisture

$Q_p$ – Hand Penetrometer
$Q_u$ – Unconfined Compression Test
UU – Unconsolidated Undrained Triaxial

Note: Plot Indicates Shear Strength as Obtained By Above Tests

WATER SEEPAGE
WATER LEVEL AT END OF DRILLING

### CLASSIFICATION OF GRANULAR SOILS

U.S. STANDARD SIEVE SIZE(S)

| 6" | 3" | 3/4" | 4 | 10 | 40 | 200 | |
|---|---|---|---|---|---|---|---|
| BOULDERS | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY / CLAY |
| | | COARSE | FINE | COARSE | MEDIUM | FINE | |
| 152 | 76.2 | 19.1 | 4.76 | 2.0 | 0.42 | 0.074 | 0.002 |


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|---|---|---|---|

04/25/2025

KHA PROJECT 063887221
DATE: APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

BORING LOGS (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
41 OF 41

SP-2025-0116C.CC


Plotted By: Stauffer, Ryan Date: April 30, 2025 08:54:23am File Path: K:\AUS_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Geotechnical Report.dwg
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# *Attachment G*

# *Inspection, Maintenance, Repair, and Retrofit Plan*

# Inspection, Maintenance, Repair, and Retrofit Plan

The inspection and maintenance plan outlines the procedures necessary to maintain the performance of the Permanent Best Management Practices for this project. It should be noted that the plan provides guidelines that may have to be adjusted dependent on site specific and weather-related conditions.

It is the responsibility of the owner to provide the inspections and maintenance as outlined in the plan for the duration of the project. The owner will maintain this responsibility until it is assumed or transferred to another entity in writing. If the property is leased or sold, the responsibility for the maintenance will be required to be transferred through the lease agreement, binding covenants, closing documents, or other binding legal instrument.

Disposal of accumulated silt shall be accomplished following Texas Commission on Environmental Quality guidelines and specifications.

Maintenance records shall be kept on the installation, maintenance, or removal of items necessary for the proper operation of the facilities. All inspections shall be documented.

**Inspection and Maintenance For BMPs**

The below procedures apply to both wet basins and batch detention basins. Batch detention basins may have somewhat higher maintenance requirements than a wet detention basin since they are active stormwater controls. The maintenance activities are identical to those of wet detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

**Inspections.** Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

**Mowing.** The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

**Litter and Debris Removal.** Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

**Erosion control.** The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.

**Nuisance Control.** Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

**Structural Repairs and Replacement**. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

**Sediment Removal**. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

**Logic Controller.** The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset. A ladder may be required during the inspection process to access the controller box.

An amended copy of this document will be provided to the Texas Commission on Environmental Quality within thirty (30) days of any changes in the following information.

Responsible Party: 23 Real Estate

Mailing Address: P.O Box 162304 Austin, TX 78716

City, State: _____ ZIP: _____

Telephone: 512.348.9688 FAX: _____

I, the owner, have read and understand the requirements of the attached Inspection and Maintenance Plan for the proposed Permanent Best Management Practices for my project. I acknowledge that I will maintain responsibility for the implementation and execution of the plan until the responsibility is transferred to or assumed by another party in writing through a binding legal instrument.

Signature of responsible party _____ Date: 6/3/2025

This Maintenance Plan is based on the TCEQ Edwards Aquifer Technical Guide .

By: Ryan McKay, P.E. _____ Date: 06/02/2024

# *Attachment H*

# *Pilot-Scale Field Testing Plan*

# *Pilot-Scale Field Testing Plan*

This attachment is not applicable. A pilot-scale field testing plan is not required for this project.

# *Attachment I*

# *Measures for Minimizing Surface Stream Contamination*

# *Measures for Minimizing Surface Stream Contamination*

This attachment is not applicable. Surface streams do not exist on site. All disturbed areas will be re-vegetated.

# SECTION 8:
# ADDITIONAL FORMS

**Agent Authorization Form**
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Harvey Finn,
Print Name

Agent A/M for 5010 West Hwy 290, LLC,
Title - Owner/President/Other

of _____,
Corporation/Partnership/Entity Name

have authorized Ryan McKay, P.E.
Print Name of Agent/Engineer

of Kimley-Horn and Associates, Inc.
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Authorized Agent for
Applicant's Signature
5010 West Highway 290, LLC

4-14-2025
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Harvey Zinn known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 14th day of April, 2025.

NOTARY PUBLIC

Sean Laughlin
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2.25.2026

SEAN LAUGHLIN
Notary Public, State of Texas
Comm. Expires 02-25-2026
Notary ID 133612606

Kimley»Horn

# Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: The Pointe at Gaines Ranch
Regulated Entity Location: Loop 1 & W US 290 Hwy, Austin, TX
Name of Customer: 5010 W Highway 290, LLC
Contact Person: Tricia Bragg Phone: 512-633-2825 ext. 718
Customer Reference Number (if issued): N/A
Regulated Entity Reference Number (if issued): RN102670221
Austin Regional Office (3373)
☐ Hays ☒ Travis ☐ Williamson
San Antonio Regional Office (3362)
☐ Bexar ☐ Medina ☐ Uvalde
☐ Travis ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the Texas Commission on Environmental Quality. Your canceled check will serve as your receipt. This form must be submitted with your fee payment. This payment is being submitted to:

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):
☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

| *Type of Plan* | *Size* | *Fee Due* |
|---|---|---|
| Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential | 1.102 Acres | $ 4,000.00 |
| Sewage Collection System | L.F. | $ |
| Lift Stations without sewer lines | Acres | $ |
| Underground or Aboveground Storage Tank Facility | Tanks | $ |
| Piping System(s)(only) | Each | $ |
| Exception | Each | $ |
| Extension of Time | Each | $ |

Signature: _____ Date: 06/02/2025

Kimley»Horn

## *Application Fee Schedule*

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

### Water Pollution Abatement Plans and Modifications
### Contributing Zone Plans and Modifications

| *Project* | *Project Area in Acres* | *Fee* |
|---|---|---|
| One Single Family Residential Dwelling | < 5 | $650 |
| Multiple Single Family Residential and Parks | < 5<br>5 < 10<br>10 < 40<br>40 < 100<br>100 < 500<br>≥ 500 | $1,500<br>$3,000<br>$4,000<br>$6,500<br>$8,000<br>$10,000 |
| Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur) | < 1<br>1 < 5<br>5 < 10<br>10 < 40<br>40 < 100<br>≥ 100 | $3,000<br>$4,000<br>$5,000<br>$6,500<br>$8,000<br>$10,000 |

### Organized Sewage Collection Systems and Modifications

| *Project* | *Cost per Linear Foot* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Sewage Collection Systems | $0.50 | $650 - $6,500 |

### Underground and Aboveground Storage Tank System Facility Plans and Modifications

| *Project* | *Cost per Tank or Piping System* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Underground and Aboveground Storage Tank Facility | $650 | $650 - $6,500 |

### Exception Requests

| *Project* | *Fee* |
|---|---|
| Exception Request | $500 |

### Extension of Time Requests

| *Project* | *Fee* |
|---|---|
| Extension of Time Request | $150 |

TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

## SECTION I: General Information

**1. Reason for Submission** *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

| 2. Customer Reference Number *(if issued)* | Follow this link to search for CN or RN numbers in Central Registry** | 3. Regulated Entity Reference Number *(if issued)* |
|---|---|---|
| CN | | RN 1026702 |

## SECTION II: Customer Information

**4. General Customer Information** | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 6/2/2025

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

***The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).***

**6. Customer Legal Name** *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

5010 West Highway 290, LLC

| 7. TX SOS/CPA Filing Number | 8. TX State Tax ID (11 digits) | 9. Federal Tax ID (9 digits) | 10. DUNS Number *(if applicable)* |
|---|---|---|---|
| 802613198 | | | |

**11. Type of Customer:** ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

**12. Number of Employees**
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

**13. Independently Owned and Operated?**
☐ Yes ☐ No

**14. Customer Role** (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

**15. Mailing Address:**

PO Box 162304

| City | Austin | State | TX | ZIP | 78714 | ZIP + 4 | |
|---|---|---|---|---|---|---|---|

| 16. Country Mailing Information *(if outside USA)* | 17. E-Mail Address *(if applicable)* |
|---|---|
| | tricia@z3realestate.us |

| 18. Telephone Number | 19. Extension or Code | 20. Fax Number *(if applicable)* |
|---|---|---|
| ( 512 ) 348-9688 | | ( ) - |

## SECTION III: Regulated Entity Information

**21. General Regulated Entity Information** *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

***The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).***

**22. Regulated Entity Name** *(Enter name of the site where the regulated action is taking place.)*

The Pointe at Gaines Ranch

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **23. Street Address of the Regulated Entity:** *(No PO Boxes)* | | | | | | | |
| **City** | | **State** | | **ZIP** | | **ZIP + 4** | |
| **24. County** | Travis | | | | | | |

**If no Street Address is provided, fields 25-28 are required.**

| | | | | | |
|---|---|---|---|---|---|
| **25. Description to Physical Location:** | LOOP 1 & US 290 W | | | | |
| **26. Nearest City** | | | **State** | | **Nearest ZIP Code** |
| Austin | | | TX | | 78735 |

***Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).***

| | | | | | |
|---|---|---|---|---|---|
| **27. Latitude (N) In Decimal:** | 30.235333 | | **28. Longitude (W) In Decimal:** | -97.819960 | |
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| 30 | 14 | 7.2 | 97 | 49 | 11.9 |

| 29. Primary SIC Code (4 digits) | 30. Secondary SIC Code (4 digits) | 31. Primary NAICS Code (5 or 6 digits) | 32. Secondary NAICS Code (5 or 6 digits) |
|---|---|---|---|
| 1623 | | 237110 | |

**33. What is the Primary Business of this entity?** *(Do not repeat the SIC or NAICS description.)*

Commercial

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **34. Mailing Address:** | | | | | | | |
| **City** | | **State** | | **ZIP** | | **ZIP + 4** | |
| **35. E-Mail Address:** | | | | | | | |

| 36. Telephone Number | 37. Extension or Code | 38. Fax Number *(if applicable)* |
|---|---|---|
| ( ) - | | ( ) - |

**39. TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

| | | | | |
|---|---|---|---|---|
| ☐ Dam Safety | ☐ Districts | ☐ Edwards Aquifer | ☐ Emissions Inventory Air | ☐ Industrial Hazardous Waste |
| | | | | |
| ☐ Municipal Solid Waste | ☐ New Source Review Air | ☐ OSSF | ☐ Petroleum Storage Tank | ☐ PWS |
| | | | | |
| ☐ Sludge | ☐ Storm Water | ☐ Title V Air | ☐ Tires | ☐ Used Oil |
| | | | | |
| ☐ Voluntary Cleanup | ☐ Wastewater | ☐ Wastewater Agriculture | ☐ Water Rights | ☐ Other: |
| | | | | |

## SECTION IV: Preparer Information

| | | | |
|---|---|---|---|
| **40. Name:** | Ryan McKay, P.E. | **41. Title:** | Project Manager |
| **42. Telephone Number** | **43. Ext./Code** | **44. Fax Number** | **45. E-Mail Address** |
| ( 512 ) 518-4875 | | (  )  - | ryan.mckay@kimley-horn.com |

## SECTION V: Authorized Signature

**46.** By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

| | | | |
|---|---|---|---|
| **Company:** | Z3 Real Estate | **Job Title:** | CEO |
| **Name** *(In Print)*: | Harvey Zinn | **Phone:** | 512 348 9688 |
| **Signature:** | | **Date:** | 6.3.2025 |

# ORGANIZED SEWAGE COLLECTION SYSTEM

## THE POINTE AT GAINES RANCH
## 5010 W US HIGHWAY SERVICE ROAD, AUSTIN, TEXAS
## TRAVIS COUNTY, TEXAS

*Prepared For:*

**5010 WEST HIGHWAY 290, LLC**

Z-Three Real Estate
PO Box 162304
Austin, TX 78716

*Prepared By:*

**KIMLEY-HORN AND ASSOCIATES, INC.**

6800 Burleson Road, Building 312, Suite 150
Austin, Texas 78744
(512) 616-9942

Firm No. 928
KHA Project No. 0693887221

June 2025

Revisions related to Regulated Entity ID: RN102670221;

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# SECTION 1: EDWARDS AQUIFER APPLICATION COVER PAGE

Texas Commission on Environmental Quality

# Edwards Aquifer Application Cover Page

## *Our Review of Your Application*

The Edwards Aquifer Program staff conducts an administrative and technical review of all applications. The turnaround time for administrative review can be up to 30 days as outlined in 30 TAC 213.4(e). Generally administrative completeness is determined during the intake meeting or within a few days of receipt. The turnaround time for technical review of an administratively complete Edwards Aquifer application is 90 days as outlined in 30 TAC 213.4(e). Please know that the review and approval time is directly impacted by the quality and completeness of the initial application that is received. In order to conduct a timely review, it is imperative that the information provided in an Edwards Aquifer application include final plans, be accurate, complete, and in compliance with 30 TAC 213.

## *Administrative Review*

1. Edwards Aquifer applications must be deemed administratively complete before a technical review can begin. To be considered administratively complete, the application must contain completed forms and attachments, provide the requested information, and meet all the site plan requirements. The submitted application and plan sheets should be final plans. Please submit one full-size set of plan sheets with the original application, and half-size sets with the additional copies.

   To ensure that all applicable documents are included in the application, the program has developed tools to guide you and web pages to provide all forms, checklists, and guidance. Please visit the below website for assistance: http://www.tceq.texas.gov/field/eapp.

2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.

3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.

4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

   An appointment should be made to resubmit the application. The application is re-examined to ensure all deficiencies are resolved. The application will only be deemed administratively complete when all administrative deficiencies are addressed.

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
6. If the geologic assessment was completed before October 1, 2004 and the site contains “possibly sensitive” features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

## *Technical Review*

1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.
3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or if not withdrawn the application will be denied and the application fee will be forfeited.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

## *Mid-Review Modifications*

It is important to have final site plans prior to beginning the permitting process with TCEQ to avoid delays.

Occasionally, circumstances arise where you may have significant design and/or site plan changes after your Edwards Aquifer application has been deemed administratively complete by TCEQ. This is considered a "Mid-Review Modification". Mid-Review Modifications may require redistribution of an application that includes the proposed modifications for public comment.

If you are proposing a Mid-Review Modification, two options are available to you:

- You can withdraw your application, and your fees will be refunded or credited for a resubmittal.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

If the application is withdrawn, the resubmitted application will be subject to the administrative and technical review processes and will be treated as a new application. The application will be redistributed to the effected jurisdictions.

Please contact the regional office if you have questions. If your project is located in Williamson, Travis, or Hays County, contact TCEQ's Austin Regional Office at 512-339-2929. If your project is in Travis, Bexar, Medina, Uvalde, or Kinney County, contact TCEQ's San Antonio Regional Office at 210-490-3096

Please fill out all required fields below and submit with your application.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1. Regulated Entity Name: The Pointe at Gaines Ranch | | | | | | 2. Regulated Entity No.: RN102670221 | | | |
| 3. Customer Name: 5010 West Highway 290, LLC | | | | | | 4. Customer No.: N/A | | | |
| 5. Project Type: (Please circle/check one) | New | | Modification | | | Extension | | Exception | |
| 6. Plan Type: (Please circle/check one) | WPAP | CZP | SCS | UST | AST | EXP | EXT | Technical Clarification | Optional Enhanced Measures |
| 7. Land Use: (Please circle/check one) | Residential | | Non-residential | | | 8. Site (acres): | | | SUBJECT SITE = 1.102<br>REG. ENTITY = 34.2 |
| 9. Application Fee: | $650 | | 10. Permanent BMP(s): | | | | | 4 existing sedimentation/filtration ponds | |
| 11. SCS (Linear Ft.): | 218 LF | | 12. AST/UST (No. Tanks): | | | | | N/A | |
| 13. County: | Travis | | 14. Watershed: | | | | | Barton Creek | |

## *Application Distribution*

Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which cross into multiple jurisdictions, can require additional copies. Refer to the "Texas Groundwater Conservation Districts within the EAPP Boundaries" map found at:

http://www.tceq.texas.gov/assets/public/compliance/field_ops/eapp/EAPP%20GWCD%20map.pdf

For more detailed boundaries, please contact the conservation district directly.

| Austin Region | | | |
|---|---|---|---|
| County: | Hays | Travis | Williamson |
| Original (1 req.) | __ | _x_ | __ |
| Region (1 req.) | __ | _x_ | __ |
| County(ies) | __ | _x_ | __ |
| Groundwater Conservation District(s) | __Edwards Aquifer Authority<br>__Barton Springs/ Edwards Aquifer<br>__Hays Trinity<br>__Plum Creek | _x_Barton Springs/ Edwards Aquifer | NA |
| City(ies) Jurisdiction | __Austin<br>__Buda<br>__Dripping Springs<br>__Kyle<br>__Mountain City<br>__San Marcos<br>__Wimberley<br>__Woodcreek | _x_Austin<br>__Bee Cave<br>__Pflugerville<br>__Rollingwood<br>__Round Rock<br>__Sunset Valley<br>__West Lake Hills | ___ Austin<br>___ Cedar Park<br>___ Florence<br>___ Georgetown<br>___ Jerrell<br>___ Leander<br>___ Liberty Hill<br>___ Pflugerville<br>___ Round Rock |

| San Antonio Region | | | | | |
|---|---|---|---|---|---|
| County: | Bexar | Travis | Kinney | Medina | Uvalde |
| Original (1 req.) | __ | __ | __ | __ | __ |
| Region (1 req.) | __ | __ | __ | __ | __ |
| County(ies) | __ | __ | __ | __ | __ |
| Groundwater Conservation District(s) | __ Edwards Aquifer Authority<br>__Trinity-Glen Rose | __Edwards Aquifer Authority | __Kinney | __EAA<br>__Medina | __EAA<br>__Uvalde |
| City(ies) Jurisdiction | __Castle Hills<br>__Fair Oaks Ranch<br>__Helotes<br>__Hill Country Village<br>__Hollywood Park<br>__San Antonio (SAWS)<br>__Shavano Park | __Bulverde<br>__Fair Oaks Ranch<br>__Garden Ridge<br>__Austin<br>__Schertz | NA | __San Antonio ETJ (SAWS) | NA |

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review.

Ryan McKay, P.E.

Print Name of Customer/Authorized Agent

06/02/2025

Signature of Customer/Authorized Agent Date

| **FOR TCEQ INTERNAL USE ONLY** | | | | |
|---|---|---|---|---|
| Date(s)Reviewed: | | Date Administratively Complete: | | |
| Received From: | | Correct Number of Copies: | | |
| Received By: | | Distribution Date: | | |
| EAPP File Number: | | Complex: | | |
| Admin. Review(s) (No.): | | No. AR Rounds: | | |
| Delinquent Fees (Y/N): | | Review Time Spent: | | |
| Lat./Long. Verified: | | SOS Customer Verification: | | |
| Agent Authorization Complete/Notarized (Y/N): | | Fee Check: | Payable to TCEQ (Y/N): | |
| Core Data Form Complete (Y/N): | | | Signed (Y/N): | |
| Core Data Form Incomplete Nos.: | | | Less than 90 days old (Y/N): | |

# SECTION 2:
# GENERAL INFORMATION

# General Information Form

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This General Information Form is hereby submitted for TCEQ review. The application was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent:

## Project Information

1. Regulated Entity Name: The Pointe at Gaines Ranch
2. County: Travis
3. Stream Basin: Barton Creek
4. Groundwater Conservation District (If applicable): Edwards Aquifer Recharge Zone
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

   ☐ WPAP
   ☒ SCS
   ☒ Modification
   ☐ AST
   ☐ UST
   ☐ Exception Request

7. Customer (Applicant):

Contact Person: Tricia Bragg
Entity: 5010 West Highway 290, LLC
Mailing Address: PO Box 162304
City, State: Austin, TX 78716 Zip: 78716
Telephone: 512-633-2825 ext. 718 Fax: N/A
Email Address: tricia@z3realestate.us

8. Agent/Representative (If any):

Contact Person: Ryan McKay, P.E.
Entity: Kimley-Horn
Mailing Address: 6800 Burleson Road, Building 312, Suite 150
City, State: Austin, Texas Zip: 78744
Telephone: 512-518-4875 Fax: N/A
Email Address: ryan.mckay@kimley-horn.com

9. Project Location:

☒ The project site is located inside the city limits of Austin.
☐ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of Austin.
☐ The project site is not located within any city's limits or ETJ.

10. ☒ The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

This project is located at 5010 W US 290 Highway Service Road. The site is part of a shopping center that is located east of the intersection of US Highway 290 Service Road and TX-1 Loop Service Road.

11. ☒ Attachment A – Road Map. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.

12. ☒ Attachment B - USGS / Edwards Recharge Zone Map. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

☒ Project site boundaries.
☒ USGS Quadrangle Name(s).
☒ Boundaries of the Recharge Zone (and Transition Zone, if applicable).
☒ Drainage path from the project site to the boundary of the Recharge Zone.

13. ☒ The TCEQ must be able to inspect the project site or the application will be returned. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate

the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.

☒ Survey staking will be completed by this date: when advised of TCEQ site visit

14. ☒ Attachment C – Project Description. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:

☒ Area of the site
☒ Offsite areas
☒ Impervious cover
☒ Permanent BMP(s)
☒ Proposed site use
☒ Site history
☒ Previous development
☒ Area(s) to be demolished

15. Existing project site conditions are noted below:

☒ Existing commercial site
☐ Existing industrial site
☐ Existing residential site
☒ Existing paved and/or unpaved roads
☐ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Uncleared)
☐ Other:

## *Prohibited Activities*

16. ☒ I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);

(2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;

(3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;

(4) The use of sewage holding tanks as parts of organized collection systems; and

(5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

(6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

17. ☒ I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:

(1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);

(2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and

(3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

## *Administrative Information*

18. The fee for the plan(s) is based on:

☐ For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
☒ For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
☐ For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
☐ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
☐ A request for an extension to a previously approved plan.

19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

☐ TCEQ cashier
☒ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
☐ San Antonio Regional Office (for projects in Bexar, Travis, Kinney, Medina, and Uvalde Counties)

20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

21. ☒ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.

# *Attachment A*
# *Road Map*

DIRECTION FROM TCEQ HEADQUARTERS TO PROJECT SITE

1. GET ON S I-35 FROM PARK 35 CIR AND S I-35 FRONTAGE RD
2. CONTINUE ON S I-35 TO SUNSET VALLEY. TAKE THE EXIT TOWARD TX-1 LOOP / BRODIE LN / SOUTHWEST PKWY FROM W TX-71 / W US-290
3. FOLLOW W TEXAS HWY 71 SERVICE RD / W US HWY 290 SERVICE RD TO DESTINATION IN AUSTIN

# ROAD MAP

Austin, Texas
April 9, 2025

NORTH

0 500 1000

GRAPHIC SCALE IN FEET
SCALE: 1" =1000

DWG NAME K:\EAU_CIVIL\063887218-OLIVE GARDEN SOUTHWEST PKWY\CAD\EXHIBITS\ROAD MAP\ROAD MAP.DWG
LAST SAVED 4/9/2025 5:42 PM

NOTE: THIS EXHIBIT IS CONCEPTUAL IN NATURE AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES

Kimley»Horn

6800 Burleson Road, Building 312, Suite 150
Austin, TX 78744 - Ph: (512) 616-9942
State of Texas Registration No. F-928

# *Attachment B*

# *USGS/Edwards Recharge Zone Map*

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
OnDemand Topo

**7.5-MINUTE TOPO QUADRANGLE**
**TEXAS - CUSTOM EXTENT**
**7.5-MINUTE TOPO**

-97.8747° 30.2976° 609 000mE -97.7497° 30.2976°
3352 000mN 30.1726° 3339 000mN

Shopping Center, Regulated Entity RN102670221

Project Location

**Produced by the United States Geological Survey**
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: UNIVERSAL TRANSVERSE MERCATOR, ZONE 14R

Data is provided by The National Map (TNM), is the best available at the time of map generation, and includes data content from supporting themes of Elevation, Hydrography, Geographic Names, Boundaries, Transportation, Structures, Land Cover, and Orthoimagery. Refer to associated Federal Geographic Data Committee (FGDC) Metadata for additional source data information.

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands. Temporal changes may have occurred since these data were collected and some data may no longer represent actual surface conditions.

Learn About The National Map: https://nationalmap.gov

MN
GN
3°13′
57 MILS
0°36′
11 MILS
UTM GRID AND 2025 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
PU
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
CONTOUR SMOOTHNESS = Medium

TEXAS

QUADRANGLE LOCATION

| | |
|---|---|
| Austin West | Austin East |
| Oak Hill | Montopolis |

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

**7.5-MINUTE TOPO, TX**
**2025**

# *Attachment C*

# *Project Description*

## *Project Description*

This project proposes a modification to the approved Organized Sewage Collection System Plan (SCS) #91031901. The 1.102-acre project site is located at 5010 W US 290 Highway Service Road in Austin, Texas, and is a part of an existing shopping center, called The Pointe at Gaines Ranch (RN 102670221), located east of the intersection US Highway 290 Service Road and TX-1 Loop Service Road, within the Barton Creek watershed. The site is within the City of Austin Full Purpose Jurisdiction and lies within the Edwards Aquifer Recharge Zone.

The site is currently developed as a +/-5012 SF restaurant. The development proposes a +/-6,422 SF restaurant with associated parking and utility improvements. The proposed improvements will result in a reduction in impervious cover when compared to existing conditions. Drainage patterns for this site will remain the same as existing conditions and will sheet flow to the onsite storm sewer system before being treated by the existing sedimentation/filtration pond which is designed to treat the on-site flows. There is a shopping center reciprocal easement and operation agreement that allows the shared use of the water quality ponds as well as the storm, water, wastewater, and electrical infrastructure.

These improvements are proposed by 5010 West Highway 290 LLC, a new customer, and not the existing customers of The Point at Gaines Ranch (RN 102670221). The limits of construction for this site is +/-1.16 acres. A significant portion of the shopping center is not impacted by the proposed improvements.

# SECTION 3:
# GEOLOGIC ASSESSMENT

# *Attachment A*

# *Geologic Assessment Table*

An exception request has been granted. See the attached exhibit.

## Sheaffer, Ryan

From: James Slone <james.slone@tceq.texas.gov>
Sent: Thursday, May 1, 2025 11:18 AM
To: EAAdmin; Sheaffer, Ryan
Cc: McKay, Ryan
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

You don't often get email from james.slone@tceq.texas.gov. Learn why this is important

The site qualifies for an Exception to the Geologic Assessment (GA). The GA is not required. Please retain this email for your records.
Bo

James "Bo" Slone, P.G.
Team Leader
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
(512) 239-6994

---

From: EAAdmin <EAAdmin@tceq.texas.gov>
Sent: Thursday, May 1, 2025 11:13 AM
To: Sheaffer, Ryan <Ryan.Sheaffer@kimley-horn.com>
Cc: McKay, Ryan <Ryan.McKay@kimley-horn.com>; James Slone <james.slone@tceq.texas.gov>
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

Ryan,

I have included our program's Team Lead and Professional Geoscientist, Mr. James "Bo" Slone on this email. Mr. Slone will be able to chime in if this project qualifies for a GA exception or if a GA will be required.

Regards,

Franklin Anciano
License & Permit Specialist | Edwards Aquifer Protection Program
Texas Commission on Environmental Quality
Office: 512-239-7017

Edwards Aquifer Protection Program Useful Links
Edwards Aquifer Map
Submitting Your Application / Application Review Process
What Plans You May Need
Forms, Instructions, and Checklists

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From: Sheaffer, Ryan <Ryan.Sheaffer@kimley-horn.com>
Sent: Thursday, May 1, 2025 10:37 AM
To: EAAdmin <EAAdmin@tceq.texas.gov>

Cc: McKay, Ryan <Ryan.McKay@kimley-horn.com>
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

Good morning Franklin,

Nice talking to you on the phone. Since this site is fully developed, could we submit a geologic assessment waiver for our WPAP and SCS modification? We are redeveloping the existing Applebee's site (circled below) and reducing the impervious cover. There are no geologic features on the site since it's a parking lot.

Regards,

**Ryan Sheaffer, EIT**
**Kimley-Horn** | 6800 Burleson Road, Building 312, Suite 150, Austin, Texas 78744
Direct: 737.667.6607 | Main: 512.616.9942 | ryan.sheaffer@kimley-horn.com
*Connect with us*: Twitter | LinkedIn | Facebook | Instagram | Kimley-Horn.com

Kimley»Horn

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From: Sheaffer, Ryan
Sent: Tuesday, April 22, 2025 2:19 PM
To: 'EAAdmin' <EAAdmin@tceq.texas.gov>
Cc: McKay, Ryan <Ryan.McKay@kimley-horn.com>
Subject: RE: 5010 W US Hwy - WPAP and SCS Mod

Hey Franklin,

# *Attachment B*

# *Stratigraphic Column*

An exception request has been granted. See Attachment A.

# *Attachment C*

# *Site Geology*

An exception request has been granted. See Attachment A.

# *Attachment D*

# *Site Geologic Map(s)*

An exception request has been granted. See Attachment A.

# SECTION 4: MODIFICATION OF A PREVIOUSLY APPROVED PLAN

# Modification of a Previously Approved Plan

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This request for a Modification of a Previously Approved Plan is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent:

## *Project Information*

1. Current Regulated Entity Name: The Pointe at Gaines Ranch
   Original Regulated Entity Name: The Pointe at Gaines Ranch
   Regulated Entity Number(s) (RN): RN102670221
   Edwards Aquifer Protection Program ID Number(s): 91040101, 91062002
   ☐ The applicant has not changed and the Customer Number (CN) is: CN601355852, CN601441405, CN601441413
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ Attachment A: Original Approval Letter and Approved Modification Letters. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):
   - ☐ Physical or operational modification of any water pollution abatement structure(s) including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;
   - ☒ Change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;
   - ☐ Development of land previously identified as undeveloped in the original water pollution abatement plan;
   - ☐ Physical modification of the approved organized sewage collection system;
   - ☐ Physical modification of the approved underground storage tank system;
   - ☐ Physical modification of the approved aboveground storage tank system.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

| *WPAP Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| Acres | N/A | N/A |
| Type of Development | N/A | N/A |
| Number of Residential Lots | N/A | N/A |
| Impervious Cover (acres) | N/A | N/A |
| Impervious Cover (%) | N/A | N/A |
| Permanent BMPs | N/A | N/A |
| Other | N/A | N/A |

| *SCS Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| Linear Feet | 116 LF; 1,012 LF | 130 LF; N/A |
| Pipe Diameter | 6"; 8" | 6"; N/A |
| Other | 1610 LF of 4" FM | N/A |

| *AST Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| Number of ASTs | N/A | N/A |
| Volume of ASTs | N/A | N/A |
| Other | N/A | N/A |

| *UST Modification Summary* | *Approved Project* | *Proposed Modification* |
|---|---|---|
| *Number of USTs* | N/A | N/A |
| *Volume of USTs* | N/A | N/A |
| *Other* | N/A | N/A |

5. ☒ Attachment B: Narrative of Proposed Modification. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including any previous modifications, and how this proposed modification will change the approved plan.

6. ☒ Attachment C: Current Site Plan of the Approved Project. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☒ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was not constructed as approved.
   - ☐ The approved construction has commenced and has not been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has not been completed. Attachment C illustrates that, thus far, the site was not constructed as approved.

7. ☐ The acreage of the approved plan has increased. A Geologic Assessment has been provided for the new acreage.
   ☒ Acreage has not been added to or removed from the approved plan.

8. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county

in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

# *Attachment A*

# *Original Approval Letter and Approved Modification Letters*

Pointe at Gaines Ranch
TRAVIS
91040101
0
0
4
910

Rec'd 7-31-91 SF

D-14

John Hall, Chairman
B. J. Wynne, III, Commissioner
John E. Birdwell, Commissioner

# TEXAS WATER COMMISSION

*PROTECTING TEXANS' HEALTH AND SAFETY BY PREVENTING AND REDUCING POLLUTION*

Entered 8-1-91

July 24, 1991

Taylor and Inez Gaines
4966 Hwy. 290 West
Austin, Texas 78701

JUL 26 1991

Re: Sanitary Sewer Construction, The Pointe At Gaines Ranch Phase A, Section One, Lot 1 & 2, and Section 1-A, Travis County; Request for Approval, 31 Texas Administrative Code (TAC) Section 313.5.

Dear Mr. and Ms. Gaines:

We have completed our review of the 6 sheets of engineering drawings and technical specifications prepared by Bury & Pittman, Inc. The plans were received in our District 14 Office in Austin on April 1, 1991. Additional material was requested and subsequently received on April 15, 1991 and forwarded to the Edwards Aquifer Coordinator on April 18, 1991. That portion of the proposed sewage collection system which is contained within the Edwards Aquifer Recharge Zone (EARZ) consists of approximately 116 linear feet of 6-inch and 1,012 linear feet of 8-inch gravity sewer line with appurtenances. These plans have been reviewed for compliance with 31 TAC Section 317 of this title (Design Criteria for Sewerage Systems), which is comprised of general design requirements, plus specific requirements in 31 TAC Section 313.5 relating to the construction of sanitary sewage collection systems located on the EARZ.

The plans generally comply with this agency's minimum requirements, and we note that, unless otherwise specified, construction will be in accordance with the City of Austin Standard Specifications for Public Works Construction. Approval is hereby granted, subject to the conditions listed below and with the understanding that construction shall be in accordance with the aforementioned design criteria, special requirements, and specifications.

1. In all cases, the appropriate bedding class shall be used to support all anticipated loads (31 TAC Section 317.2 (a)(5)). Bedding classes shall be equivalent to that described in ASTM D-2321 for semi-rigid and flexible pipe or ASTM C-12 for rigid pipe.

2. Where PVC sewer lines cross water mains, and the separation distance is 9 feet or less, the following requirements shall apply:

a. the separation distance shall not be less than 6 inches;
b. pipe and joints shall be pressure rated to a minimum of 150 psi;
c. sewer lines shall be located under the water mains unless otherwise approved by the Texas Water Commission and/or the Texas Department of Health.

3. All ductile iron pipe used in this system shall be corrosion protected on both the interior and exterior surfaces. All corrosion protection materials shall be applied and/or installed in such a manner as to maintain a continuously protected surface after final pipe installation.

4. For gravity collection systems, all PVC pipe must have a Standard Dimension Ratio (SDR) of 35 or less. For all pressurized sewer systems, all PVC pipe must have a SDR of 26 or less. All sewer pipes must have compression or mechanical joints, with the exception of private service laterals, in which case solvent weld joints may be used if the pipe diameter is less than six inches.

5. Sewer lines that bridge caverns, sinkholes, or solution features shall be constructed in a manner that will maintain the structural integrity of the pipe. When such geologic features are encountered, excavation shall be immediately halted, and their location and extent shall be reported to the District 14 Office. Construction shall not continue until adequate design and construction methods are approved by the Texas Water Commission District 14 Manager.

6. To be in compliance with 31 TAC Section 313.5 (c)(1), all manholes must be watertight with watertight rings and covers. Wherever the manholes are within the 100 year flood plain, the manhole covers shall have gaskets and be bolted. Every fourth manhole shall be provided with alternate means of venting as specified in 31 TAC Section 317.2 (c)(5)(F).

7. A deflection test shall be conducted on all flexible and semi-rigid sewer lines after the final backfill has been in place at least 30 days in accordance with 31 TAC Section 317.2 (a)(5)(B). The test shall be performed without mechanical pulling devices, and pipe deflection shall not exceed 5%.

8. The District 14 Office shall be notified at least 4

working days in advance of any pre-construction conference.

9. This approval shall not be construed as approval for new connections, increased flow, or significant changes in influent quality that will result in violations of the permit requirements for the treatment facility to which this system connects.

10. Blasting for sewer line excavation shall be done in accordance with appropriate criteria established by the National Fire Protection Association. Should such blasting result in damage to an already in-place sewer or its appurtenances, the owner of the sewer system and appurtenances must repair and retest such sewer and its appurtenances immediately. The use of sand for pipe embedment and/or backfill in blasted rock shall not be allowed.

11. Certification by a Texas Registered Professional Engineer that the collection system meets or exceeds the requirements of 31 TAC Section 317.2 (a)(4)(B) shall be forwarded to the Executive Director in accordance with 31 TAC Section 313.5 (c)(4). A copy of this certification shall also be submitted to the District 14 Office.

12. Every five years after the certification (Item 11 above), the system shall be inspected to detect excessive leakage. The type of test must receive approval from the Executive Director prior to test initiation. The results of such testing shall be certified by a Texas Registered Professional Engineer as having been correctly performed and shall be reported to the District 14 Office along with plans for any corrective action (31 TAC Section 313.5 (c)(5)).

13. Private service laterals connecting to this system shall be inspected prior to covering to certify that they have been constructed in conformance with the applicable provisions of 31 TAC Section 313.5. Upon request, copies of this certification shall be forwarded to the District 14 Office in accordance with 31 TAC Section 313.5 (c)(9).

14. All temporary erosion and sedimentation controls must be installed prior to construction, shall be maintained during construction, and shall be removed when vegetation is established and the construction area is stabilized. The District 14 Office may monitor stormwater discharges from the site to evaluate the adequacy of the temporary

erosion and sedimentation control measures. Additional protection may be necessary if excessive solids are being discharged from the site.

15. In accordance with 31 TAC Section 313.4, if this project is determined to fall within a "regulated development" a "Water Pollution Abatement Plan" must be approved by the Executive Director of the Texas Water Commission prior to commencement of any construction. Inquiries regarding abatement plans may be directed to the Wastewater Enforcement Section of the Water Quality Division by calling (512) 463-7741.

16. During the course of construction related to the referenced regulated development, the owner/developer shall comply with all applicable provisions of 31 TAC Section 313.4. Construction which is initiated and abandoned, or not completed, shall be returned to a permanent condition such that groundwater in the Edwards Aquifer is protected from potential contamination. Additionally, Taylor and Inez Gaines, applicant, shall remain responsible for the aforementioned provisions and special conditions until such responsibility is legally transferred to another person or entity. Upon transfer, the transferee shall assume all aforementioned responsibilities.

17. The lift station and force main for the proposed project shall be submitted as an addendum, and shall be approved by the Executive Director prior to the initiation of construction.

If you have any questions or require additional information, please contact either the District 14 Office field Office inspector for proposed projects over the Edwards Aquifer at (512) 463-7803, in Austin or the Edwards Aquifer Coordinator at (512) 463-8497 in Austin.

Sincerely,

Ref A. McDonnell, Jr., P.E.

for Allen Beinke
Executive Director

cc: Greg Strmiska, Bury & Pittman, Inc.
Bill Couch, Barton Springs/Edwards Aquifer Conservation District
Bobb Nelms, Texas Water Commission District 14 Office, Austin
Steve Mendoza, TWC Plans & Specifications Review Section
Rob Conti, Edwards Aquifer Coordinator, TWC

# *Attachment B*

# *Narrative of Proposed Modification*

# Narrative of Proposed Modification

Organized Sewage Collection System Plan (SCS) (#91040101 and #91062002) was approved on July 24 and September 11, 1991, for the 34.2-acre shopping center. The approved SCS plan involves private 6" and 8" sanitary lines connecting to each building and flowing to a private lift station that pumps flow out of the site with a 4" ductile iron force main.

A 6,422 SF restaurant will replace the existing 5,012 SF restaurant and the existing utility connections to the existing building will also be replaced. Approximately 105 LF of the existing 6" PVC wastewater service line will be removed and replaced with 130 LF of 6" PVC wastewater service line. The existing grease trap for the restaurant will be replaced with a new one.

# *Attachment C*

# *Current Site Plan of the Approved Project*

# THE POINTE AT GAINES RANCH

## TAYLOR AND INEZ GAINES

## SITE UTILITY PLAN

Pury & Littman, inc.
Consulting Engineers • Surveyors
Austin, Texas (512) 328-0011

64412 — BRIAN S. SIMMONS — REGISTERED PROFESSIONAL ENGINEER — STATE OF TEXAS

3-5-97

| No. | Date | Revisions | App. |
|---|---|---|---|
| 10 | 10/15/96 | added detail sheet, bench, bus stand | |
| 9 | 07/07/96 | ADDED NOTE TO REFERENCE REVISED UTILITIES ON SHEET 27 | |
| 8 | 6/15/96 | ADD DRIVE THROUGH BUILDING No. 9 | |
| 7 | 3/5/97 | REVISION TO CHANGE BUILDING No. 9 | |

APPROVAL

Scale: 1"=50' Date: 7-31-95
Designed by: GSS
File Name: SHT-14.DWG Disk: 24LX
Drawn by:
Checked by:
Approved by:
Project No.: 427-02.11

SHEET 14 OF 61

NOTE: REFERENCE SHEET 27 FOR REVISED UTILITIES

MOPAC ( LOOP 1 )

LEFT FRONTAGE ROAD

CL DRIVEWAY T.H.D STA 821+80.61 LFR MOPAC

CL DRIVEWAY T.H.D STA 824+37.71 LFR MOPAC

PHASE "A"

PROPOSED 12" W DEPARTMENT OF WATER — DELETED

PROPOSED 8" W DEPARTMENT OF WATER

PROPOSED 8" x 2" TEE

PROPOSED 5 1/4" FIRE HYDRANT W/ 6" VALVE

PROPOSED 1 1/2" METER

PROPOSED 2" METER

PROPOSED 12" x 8" REDUCER

PROPOSED 5 1/4" FIRE HYDRANT W/ 6" VALVE & 8" x 6" REDUCER

BUILDING #1 RETAIL 30,500 S.F. F.F.= 711

BUILDING #2 RETAIL 9,431 S.F. F.F.= 713

BUILDING #3 RETAIL 10,000 S.F. F.F.= 707 PHASE "E"

BUILDING # 4 RETAIL 9,479 S.F. F.F.= 710 — DELETED

BUILDING # 5 RETAIL 107,300 S.F. F.F.= 705

BUILDING # 6 RETAIL 7,594 S.F. F.F.= 704

BUILDING # 7 RETAIL 26,690 S.F. F.F.= 703

BUILDING # 8 RETAIL 11,850 S.F. F.F.= 702

BLDG. # 11 REST. 2,160 S.F. F.F.= 708

REST. BLDG. # 12 6006 S.F. F.F.= 701

PHASE "B-1"

PHASE "B-2"

PHASE "B-3"

PHASE "C"

PHASE "F"

PHASE "H"

LOT 1

TAINAN SUBD. SECTION 1 AMD. BK.77, PG.394

CRITICAL WATER QUALITY ZONE

SEE SHEET 52

SEE SHEET 43

11 R

10 R

7R

9R

PERMIT NO.: SP-95-____C
CORRECTION [5] APPROVED BY DATE

CORRECTION [6]
- REMOVE 1½" IRRIGATION METER
- REMOVE 1½" WATER METER
- CHANGE 1½" WATER METER TO 2"
APPROVED BY Don Sallum 10-21-97
CITY OF AUSTIN WATER AND WASTEWATER DATE

REVISION [2]:
— CHANGE WATER METER FOR BUILDING #5 TO A 1 1/2" METER
— ADD 1½" IRRIGATION METER TO THE WEST OF BUILDING #12.
— ADD 2" IRRIGATION METER TO THE WEST OF THE BRODIE LANE DRIVEWAY.

APPROVED BY: Don Sallum 10-23-91
CITY OF AUSTIN WASTEWATER DEPARTMENT DATE

REVISION [3]
— REVISED PHASE "F" SITE UTILITY PLAN LAYOUT

APPROVED BY: Don Sallum 4-01-92
CITY OF AUSTIN WASTEWATER DEPT. DATE

PERMIT NO.: SP-90-0113B Kristin K. Lofgren 05/28/92 APPROVED BY DATE
Revision [3] Phase F (only)
DATE OF ANNEXATION: 921001-C 10-11-92

5 CONSOLIDATED SITE PLAN WHICH REFLECTS TXDOT CONDEMNATION ACTION

4.258 ACRES CONDEMNED BY THE STATE OF TEXAS IN CAUSE NO. 2176, PROBATE COURT NO. 1, TRAVIS COUNTY, TEXAS.

AREA 1-A

AREA 1-B

LEGEND

- W EXIST WATER LINE
- WW EXIST WASTEWATER LINE
- W PROP. WATER LINE
- WW PROP. WASTEWATER LINE
- G GAS LINE
- UT UNDERGROUND TELEPHONE LINE
- UE UNDERGROUND ELECTRIC LINE
- OE OVERHEAD ELECTRIC LINE
- OT OVERHEAD TELEPHONE LINE

GATE VALVE
WATER METER
REDUCER
PROP. FIRE HYDRANT
EXIST. FIRE HYDRANT
PROP. WASTEWATER MANHOLE
EXIST. WASTEWATER MANHOLE

ALL LOCATIONS APPROXIMATE

0 25 50 100

SITE PLAN RELEASE — Sheet 14 of 61
FILE NUMBER: SP-95-0509C EXPIRATION DATE: 2-8-99
CASE MANAGER: K.S. Leavy APPLICATION DATE: 12-11-95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: ____
APPROVED BY CITY COUNCIL ON: ____
under Section 6.4.2 of Chapter 13-2 of the Austin City Code.
Director, Department of Planning and Development
DATE OF RELEASE: Feb. 8, 1996 Zoning: GR-CO; GR-CO
Rev. 1 ____ Correction 1 ____
Rev. 2 ____ Correction 2 ____
Rev. 3 C.C.M. 7-10-98 Correction 3 ____
Rev. 10 4-4-96 SW
Rev. 11 4-28-97 SW

| No. | Delta | Radius | Arc Length |
|---|---|---|---|
| C1 | 17°35'47" | 1909.86 | 586.55 |
| C2 | 28°24'37" | 1204.24 | 597.12 |
| C3 | 14°23'55" | 1204.24 | 302.63 |
| C4 | 11°13'10" | 1204.24 | 235.81 |
| C5 | 36°32'41" | 500.00 | 318.91 |
| C6 | 47°53'49" | 500.00 | 417.98 |
| C7 | 34°52'36" | 500.00 | 304.36 |
| C8 | 00°02'42" | 2929.79 | 4.86 |

| | | | |
|---|---|---|---|
| 301. | 3-9", 8" LD | 355. | 9" LD |
| 302. | 8", 10" LD | 356. | 12", 15" LD |
| 303. | 9", 10" LD | 357. | 14" LD |
| 304. | TWIN 8" LD | 358. | 10" LD |
| 305. | 8" LD | 359. | 15" ELM |
| 306. | 8" LD | 360. | 12", 13" LD |
| 307. | 8" LD | 361. | 16" ELM |
| 308. | 10" LD | 362. | 10" ELM |
| 309. | 9" LD | 363. | 18" LD |
| 310. | 10" LD | 364. | 8" HB |
| 311. | 8" LD | 365. | 10" OAK |
| 312. | 8" LD | 366. | 12" ELM |
| 313. | 9" LDF | 367. | 9" HB |
| 314. | 9" LD | 368. | 29" SD |
| 315. | 10" LD | 369. | 25" LD |
| 316. | 8" LD | 370. | 16" LD |
| 317. | 8", 10" LD | 371. | 10" LD |
| 318. | 5-8"-11" LD | 372. | 13" LD |
| 319. | 12" HB | 373. | 10", 13" LD |
| 320. | 13" LD | 374. | 20" LD |
| 321. | 9" LD | 375. | 14" LD |
| 322. | 8", 10" LD | 376. | 11" ELM |
| 323. | 12" LD | 377. | 16" LD |
| 324. | 4-8"-9" LD | 378. | 10"-12" HB |
| 325. | 8" LD & CL | 379. | 8" ELM |
| 326. | 10" HB | 380. | 14" ELM |
| 327. | 8" HB | 381. | 10" ELM |
| 328. | 16" HB | 382. | 10" LD |
| 329. | 10", 13" LD | 383. | 10", 11" ELM |
| 330. | 24" ELM | 384. | 8" ELM |
| 331. | 14" HB | 385. | 8" ELM |
| 332. | 14" HB | 386. | 12" HB |
| 333. | 9" HB | 387. | 10" SD |
| 334. | 15" LD | 388. | 15" ELM |
| 335. | 12" LD | 389. | 24" ELM |
| 336. | 8" LD | 390. | 22" ELM |
| 337. | 8" LD | 391. | 8" LD |
| 338. | 12" LD | 392. | 10" ELM |
| 339. | 8" LD | 393. | 8" SHIN D |
| 340. | 11" LD | 394. | 8" SHIN OAK |
| 341. | 8" LD | 395. | 21" BOIS-D |
| 342. | 9" LD | 396. | 18" ELM |
| 343. | 14" MESQ | 397. | 10" HB |
| 344. | 12" MESQ | 398. | 14" ELM |
| 345. | 12" CB | 399. | 11" CT |
| 346. | 9", 10" LD | 400. | 15" ELM |
| 347. | 10" LD, 12" M | 401. | 5-7"-8" HB |
| 348. | 10" LD | 402. | 19" HB |
| 349. | 9", 11" LD | 403. | 11" HB |
| 350. | 9", 10" LD | 404. | 23" LD |
| 351. | 8", 10" LD | 405. | 10" ELM |
| 352. | 10" LD | 406. | 14" ELM |
| 353. | 5-10"-13" L | 407. | 8", 9" ELM |
| 354. | 9", 11" LD | 408. | 25" LD |

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

U.S. HIGHWAY 290 FRONTAGE ROAD

CL DRIVEWAY T.H.D STA 535+54.24 LFR U.S. 290

CL DRIVEWAY T.H.D STA 539+76.87

CL DRIVEWAY T.H.D STA 526+63.11 LFR U.S.290

CL DRIVEWAY T.H.D STA 118+72.67 SOUTHWEST PARKWAY

SOUTHWEST PARKWAY

PROPOSED 20' x 12' TAPPING SLEEVE AND VALVE

PROPOSED 12" x 2" TEE

OFFSITE BY OTHERS

FOR OFF-SITE FORCE MAIN ROUTES SEE SHEETS 9.1-9.3

PROPOSED 2" IRRIGATION METER

EXISTING FIRE HYDRANT AND VALVE TO BE RELOCATED

SP-95-0509C

# THE POINTE AT GAINES RANCH
## TAYLOR AND INEZ GAINES
## SITE UTILITY PLAN / PHASE A & B

Pury & Littman, inc.
Consulting Engineers • Surveyors
Austin, Texas (512) 477-5388

LEGEND

- W — EXIST. WATER LINE
- WW — EXIST. WASTEWATER LINE
- W — PROP. WATER LINE
- WW — PROP. WASTEWATER LINE
- G — GAS LINE
- UT — UNDERGROUND TELEPHONE LINE
- UE — UNDERGROUND ELECTRIC LINE
- OE — OVERHEAD ELECTRIC LINE
- OT — OVERHEAD TELEPHONE LINE
- GATE VALVE
- WATER METER
- REDUCER
- PROP. FIRE HYDRANT
- EXIST. FIRE HYDRANT
- PROP. WASTEWATER MANHOLE
- EXIST. WASTEWATER MANHOLE

ALL LOCATIONS APPROXIMATE

0 25 50 100

PERMIT NO.: SP-90-0113B
Revision 3 Phase F (only) APPROVED BY Kevin K. Pfeil DATE 9/20/95
DATE OF ANNEXATION: 921001-C 10-11-92

PERMIT NO.: SP-95-_____C
CORRECTION 5 APPROVED BY DATE

**SITE PLAN RELEASE** Sheet 15 of 81

FILE NUMBER: SP-95-0509C EXPIRATION DATE: 2-8-97
CASE MANAGER: K.P. Leary APPLICATION DATE: 12-11-95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 640 of Chapter 13-1 of the Austin City Code.
Director, Department of Planning and Development
DATE OF RELEASE: Feb. 8, 1996 Zoning: CS-CO / GR-CO
Rev. 1 4-18-01 SH — Correction 1
Rev. 2 11-26-01 SH — Correction 2
Rev. 3 — Correction 3

Daniel Mejia 6-18-96
Date

5 CONSOLIDATED SITE PLAN WHICH REFLECTS TXDOT CONDEMNATION ACTION

4.258 ACRES CONDEMNED BY THE STATE OF TEXAS IN CAUSE NO. 2176, PROBATE COURT NO. 1, TRAVIS COUNTY, TEXAS.

| No. | Delta | Radius | Arc Length |
|---|---|---|---|
| C1 | 17°35'47" | 1909.86 | 586.55 |
| C2 | 28°24'37" | 1204.24 | 597.12 |
| C3 | 14°23'55" | 1204.24 | 302.63 |
| C4 | 11°37'10" | 1204.24 | 235.61 |
| C5 | 36°32'41" | 500.00 | 318.91 |
| C6 | 47°53'49" | 500.00 | 417.98 |
| C7 | 34°52'38" | 500.00 | 304.36 |
| C8 | 00°02'42" | 2929.79 | 4.86 |

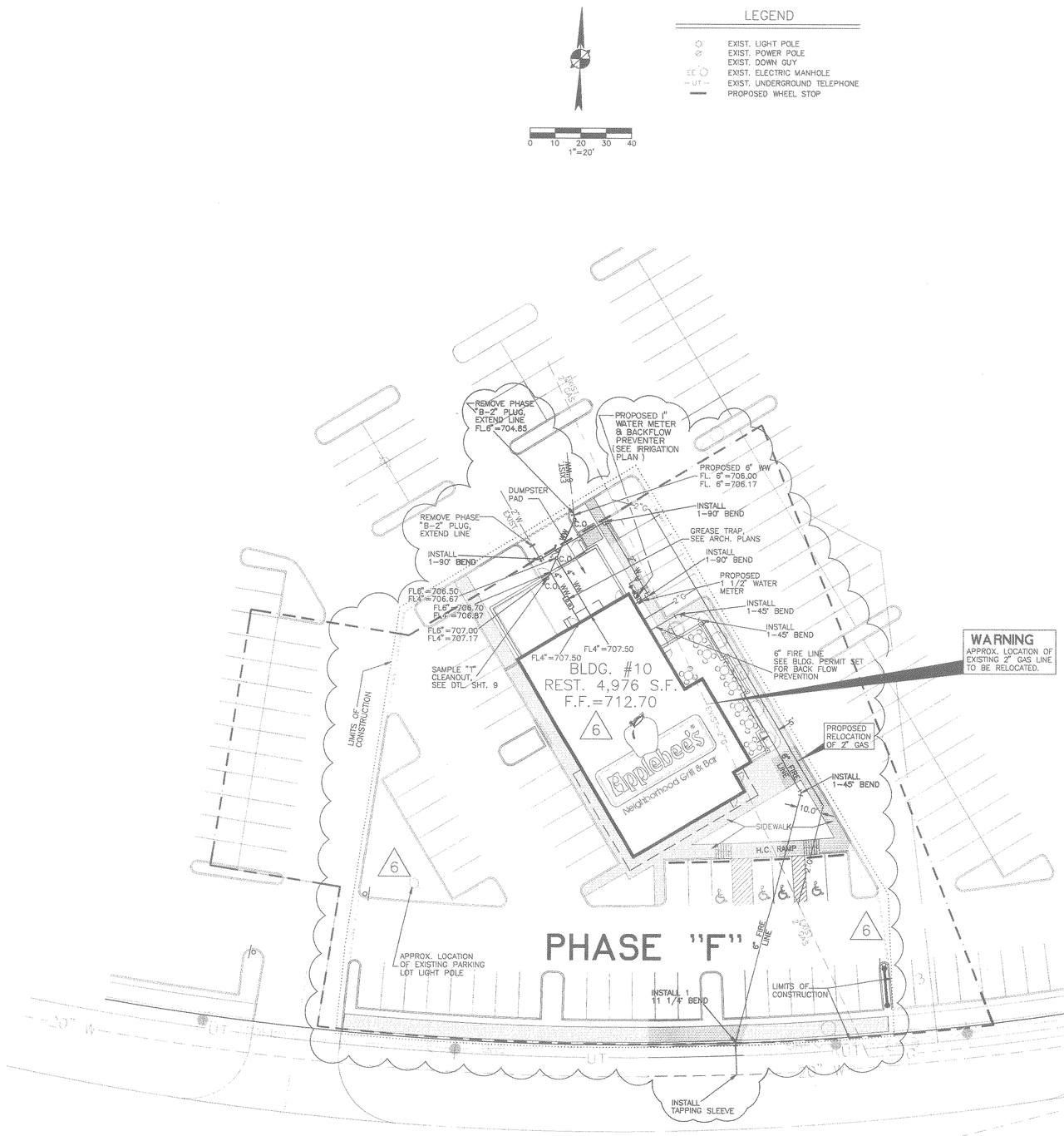
NOTE: — — — — INDICATES THE LIMITS OF PHASE "A" TEMPORARY CURBING

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| | | | |
|---|---|---|---|
| 301 | 3-9", 8" LD | 355 | 9" LD |
| 302 | 8", 10" LD | 356 | 12", 15" LD |
| 303 | 9", 10" LD | 357 | 11" LD |
| 304 | TWIN 8" LD | 358 | 13" LD |
| 305 | 8" LD | 359 | 15" ELM |
| 306 | 8" LD | 360 | 2", 13" LD |
| 307 | 8" LD | 361 | 16" ELM |
| 308 | 10" LD | 362 | 10" ELM |
| 309 | 9" LD | 363 | 18" LD |
| 310 | 10" LD | 364 | 8" HB |
| 311 | 9" LD | 365 | 10" OAK |
| 312 | 8" LD | 366 | 12" ELM |
| 313 | 9" LDK | 367 | 9" HB |
| 314 | 9" LD | 368 | 39" SQ |
| 315 | 16" LD | 369 | 29" LD |
| 316 | 8" LD | 370 | 16" LD |
| 317 | 8", 10" LD | 371 | 10" LD |
| 318 | 5-8"-11" LD | 372 | 13" LD |
| 319 | 12" HB | 373 | 13", 13" LD |
| 320 | 13" LD | 374 | 33" LD |
| 321 | 9" LD | 375 | 14" LD |
| 322 | 8", 10" LD | 376 | 11" ELM |
| 323 | 12" LD | 377 | 15" LD |
| 324 | 4 @ 8"-11" LD | 378 | 13"-12"-18" |
| 325 | 6" LD & DL | 379 | 8" ELM |
| 326 | 10" HB | 380 | 14" ELM |
| 327 | 8" HB | 381 | 10" ELM |
| 328 | 16" HB | 382 | 9" LD |
| 329 | 12", 13" LD | 383 | 10", 11" ELM |
| 330 | 24" ELM | 384 | 8" ELM |
| 331 | 14" HB | 385 | 8" ELM |
| 332 | 14" HB | 386 | 12" HB |
| 333 | 9" HB | 387 | 10" SG |
| 334 | 15" LD | 388 | 16" ELM |
| 335 | 12" LD | 389 | 24" ELM |
| 336 | 8" LD | 390 | 22" ELM |
| 337 | 8" LD | 391 | 8" ELM |
| 338 | 12" LD | 392 | 10" ELM |
| 339 | 9" LD | 393 | 11" SHIN O |
| 340 | 13" LD | 394 | 9"-SHIN OAK |
| 341 | 6" LD | 395 | 21" BOIS-E |
| 342 | 9" LD | 396 | 12" ELM |
| 343 | 14" MESQ | 397 | 13" HB |
| 344 | 12" MESQ | 398 | 14" ELM |
| 345 | 12" CB | 399 | 11" CT |
| 346 | 9", 10" LD | 400 | 15" ELM |
| 347 | 10" LD, 12" M | 401 | 3-7"-6" HB |
| 348 | 18" LD | 402 | 19" HB |
| 349 | 9", 11" LD | 403 | 11" HB |
| 350 | 9", 16" LD | 404 | 23" LD |
| 351 | 8", 10" LD | 405 | 10" ELM |
| 352 | 14" ELM | 406 | 14" ELM |
| 353 | 5-10"-13" L | 407 | 8", 9" ELM |
| 354 | 9", 11" LD | 408 | 25" LD |

KP 05/08/95 SP-95-0509C

Sheet 15 of 81




## UTILITY PLAN

SCALE : 1"=20'

**NOTES:**

1. SHEETS 1.1, 3.3, AND 8.2 ARE SUPPLEMENTAL TO THE APPROVED CONSOLIDATED SITE PLAN APPLICATION FOR THE POINT AT GAINES RANCH. (CITY OF AUSTIN CASE #SP-90-0113D) PLEASE REFERENCE ALL PLAINS, NOTES, AND DETAILS THROUGHOUT THIS PLAN SET. THE APPLEBEE'S NEIGHBORHOOD GRILL & BAR SITE IS SUBJECT TO ALL CONDITIONS WITHIN THESE APPROVED PLANS. PLEASE REVIEW CAREFULLY.
2. ALL SITE GRADING, PARKING, AND SIDEWALKS MUST BE CONSTRUCTED TO MEET CURRENT A.D.A. STANDARDS.
3. SITE PREPARATION SHALL CONSIST OF STRIPPING AND WASTING ALL SURFACE VEGETATION FROM ALL AREAS TO BE DEVELOPED. IF THE EXPOSED SOILS ARE WET, THEY SHOULD BE PROOF ROLLED WITH A RUBBER TIRE VEHICLE SUCH AS A PARTIALLY LOADED DUMP TRUCK TO DETECT ANY SOFT AREAS. SOFT AREAS SHOULD BE EXCAVATED AND BACK-FILLED AND COMPACTED TO APPROXIMATE THE SURROUNDING SOILS. HOLES RESULTING FROM EXCAVATION OF STUMPS OR OTHER BURIED DEBRIS SHOULD BE HANDLED IN THE SAME MANNER.
4. WHERE DIMENSIONS ARE SHOWN TO EDGE OF PAVING, AND THERE IS A PROPOSED CURB AT SAID EDGE OF PAVING, THE DIMENSIONS ARE TO THE BACK OF CURB, UNLESS OTHERWISE NOTED.
5. WHERE CONCRETE PAVING IS ADJACENT TO CONCRETE SIDEWALKS, LIGHT POSTS, OR ANY OTHER CONCRETE STRUCTURES, CONTRACTOR SHALL INSTALL EXPANSION JOINT MATERIAL AND SEALANT BETWEEN THEM. ALSO CONTRACTOR SHALL INSTALL PAVING EXPANSION JOINTS AT A MAXIMUM SPACING OF 60 FEET, PAVING CONTRACTION JOINTS AT A MAXIMUM SPACING OF 25 FEET AND HAVE CONSTRUCTION JOINTS AT THOSE LOCATIONS WHERE CONCRETE POURS ARE TERMINATED (NO COLD JOINTS WILL BE ALLOWED). THERE ARE TO BE NO CONCRETE PANELS WITH A LENGTH TO WIDTH RATIO GRATER THAT 1 1/2 TO 1. REFER TO DETAIL SHEETS FOR JOINTING DETAILS.
6. CONTRACTOR SHALL PROVIDE SHEETING, SHORING, AND BRACING AS NECESSARY TO PROTECT WORKMEN AND UTILITIES DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF OSHA REGULATIONS FOR TRENCH SAFETY SYSTEMS.
7. UNLESS OTHERWISE NOTED FINISHED GRADE AT PROPERTY LINES SHALL BE EQUAL TO EXISTING ELEVATIONS.
8. CONTRACTOR SHALL PLACE FILL AS REQUIRED, AND SLOPE FROM FINISHED TOP OF CURB ELEVATIONS TO NATURAL GROUND ELEVATIONS AT THE PROPERTY LINES.
9. ALL WORK SHALL BE COMPLETED TO THE SATISFACTION OF THE OWNER AND ALL AGENCIES HAVING JURISDICTION.
10. PAVEMENT SUBGRADE TREATMENT SHALL CONSIST OF REMOVING ALL EXISTING VEGETATION AND TOPSOIL AND GRADING THE AREA TO THE REQUIRED SUBGRADE ELEVATIONS. THE EXPOSED SUBGRADE SHOULD THEN BE SCARIFIED AND RECOMPACTED TO DENSITIES BETWEEN 95% - 105% AS RECOMMENDED IN THE GEOTECHNCIAL REPORT FOR THE POINT AT GAINES RANCH.
11. ALL PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RECOMMENDATION SET FORTH IN THE GEOTECHNCIAL REPORT PROPOSED BY ATEC, REPORT No. 25-02-94-00291 FOR APPLEBEE'S ON OCTOBER 7, 1994. ( SEE NOTE 14, SHT. 3.3 )
12. CONTRACTOR WILL ADJUST ALL EXISTING VALVE BOXES, MANHOLE COVERS, VALVE STEMS AND COVERS, ECT. TO PROPOSED FINISHED GRADE.
13. SPOILS WILL BE HAULED OFF DAILY.

★ 10/2/95 ADDED 1"IRRIGATION METER AND BACKFLOW PREVENTER, AS PER IRRIGATION PLAN.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

FOR CITY USE ONLY:

★ Don Sallung 10-23-95
Utility Engineering Date

PERMIT NO.: SP-90-0113B
Revision 5 Phase F (only)
DATE OF ANNEXATION:
APPROVED BY DATE
921001-C
10-11-92

**SITE PLAN RELEASE** Sheet: 16 of 29

FILE NUMBER: SP-95-0509C EXPIRATION DATE: 2-8-97
CASE MANAGER: K.P Lovell APPLICATION DATE: 12-11-95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 646 of Chapter 13-1 of the Austin City Code.
Director, Department of Planning and Development
DATE OF RELEASE: Feb. 8, 1996 Zoning: CS-CO/GR-CO
Rev. 1 ____ Correction 1 ____
Rev. 2 ____ Correction 2 ____
Rev. 3 ____ Correction 3 ____

Bury+Pittman, Inc.
Consulting Engineers and Surveyors
Austin/Texas (512) 328-0011 Fax (512) 328-4005
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64982 REGISTERED PROFESSIONAL ENGINEER 9-4-11

# SITE UTILITY PLAN

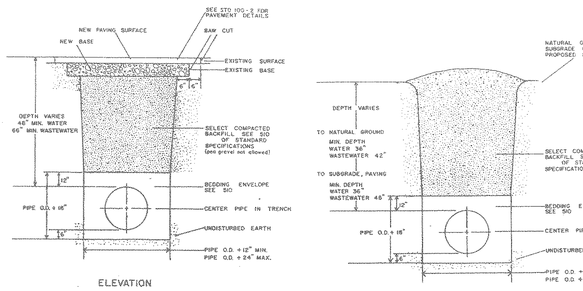
APPLEBEE'S
AT THE POINT AT GAINES RANCH

Scale: 1"=20' Date: 7/18/92
Revised: 4/17/95
File: G:\672\01\67201U12.DWG
Drawn by: C.O.K.
Approved by: G.S.S.
Project No.: 672-01.00

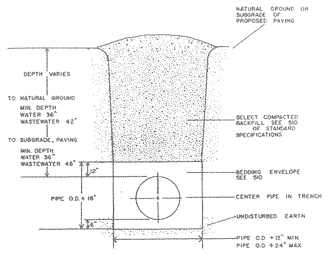
SHEET 16 OF 29 (51)

8.2

SP-95-0509C



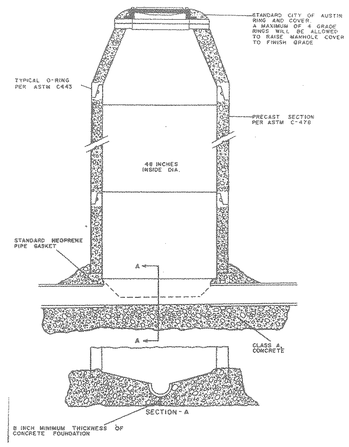

ELEVATION



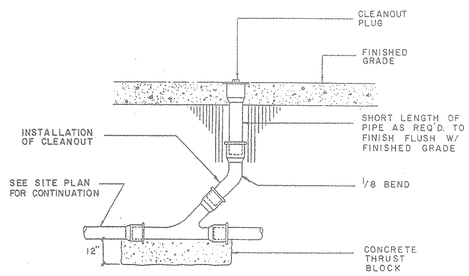

NOTES

1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE, A MINIMUM OF 12 INCHES WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMETRICAL ABOUT THE CENTER-LINE OF THE EXCAVATION.
2. ANY CONCRETE PAVING SHALL BE SAW CUT 6 INCHES WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
3. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE THE SURFACE SHALL BE RESTORED WITH ADJACENT GRADE AND ADJACENT PAVING SURFACE WITH COLD MIX OR FLEXIBLE BASE MATERIAL.
4. ROAD BASE AND SURFACE MATERIALS SHALL BE REPLACED IN KIND OF EQUAL THICKNESS WITH MINIMUM BASE THICKNESS OF 10 INCHES.

TYPICAL TRENCH W/ PAVED & UNPAVED SURFACES



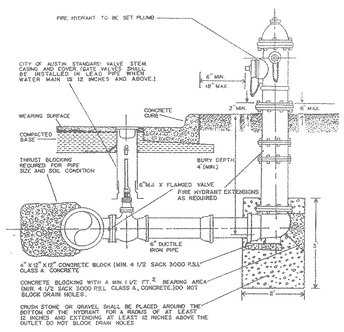

TYPICAL MANHOLE DETAIL



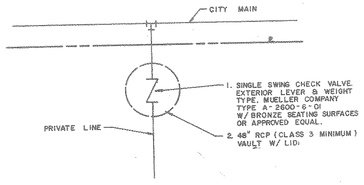

CLEAN - OUT

CITY OF AUSTIN WATER AND WASTEWATER UTILITY SPECIAL CONSTRUCTION NOTES 12/20/89

1. THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL GOVERN MATERIAL AND METHODS USED TO DO THIS WORK.
2. CONTRACTOR MUST OBTAIN A STREET CUT PERMIT FROM TRANSPORTATION AND PUBLIC SERVICES DEPARTMENT BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY.
3. AT LEAST 48 HOURS BEFORE BEGINNING ANY WATER AND WASTEWATER CONSTRUCTION IN PUBLIC R.O.W. OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY TRANSPORTATION AND PUBLIC SERVICES INSPECTION DIVISION FOR MAIN LINE CONSTRUCTION, OR WATER AND WASTEWATER UTILITY TAPS INSPECTION FOR TAPS ONLY CONSTRUCTION.
4. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 472-2822 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION. IN ADVANCE OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF AUSTIN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.
5. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
6. THE CITY SPECIFICATION ITEM 509 WILL BE REQUIRED AS A MINIMUM TRENCH SAFETY MEASURE. CONTRACT DOCUMENTS WHICH INCLUDE A TRENCH SAFETY PLAN AND A PAY ITEM FOR TRENCH SAFETY MEASURES, IN COMPLIANCE WITH TEXAS HOUSE BILL 1369, MUST BE RECEIVED BY TRANSPORTATION AND PUBLIC SERVICES CONTRACT ADMINISTRATION OFFICE BEFORE BEGINNING WORK ON THE PROJECT.
7. ALL MATERIALS TEST, INCLUDING SOIL DENSITY TESTS AND RELATED SOIL ANALYSIS, SHALL BE ACCOMPLISHED BY AN INDEPENDENT LABORATORY FUNDED BY THE DEVELOPER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804.04.
8. PRESSURE TAPS SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(24). THE CONTRACTOR SHALL DO ALL EXCAVATION ETC., AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. IF A PRIVATE CONTRACTOR MAKES THE TAP AN A CITY INSPECTOR MUST BE PRESENT. WITH 2 WORKING DAYS (MON.) NOTICE, CITY CREWS CAN MAKE "TAPS UP" TO 12 INCHES, AT THE CONTRACTOR'S EXPENSE; FISCAL ARRANGEMENTS MUST BE MADE IN ADVANCE AT THE TAPS OFFICE, 625 EAST 10TH STREET. "SIZE ON SIZE" TAPS WILL NOT BE PERMITTED, UNLESS MADE BY USE OF AN APPROVED FULL CIRCLE-CLEVITED TAPPING SLEEVE. CONCRETE BLOCKING SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES 24 HOURS PRIOR TO MAKING THE WET TAP.
9. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(22).
10. FIRE HYDRANTS SHALL BE SET IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 511.4(2). FIRE HYDRANTS IN PARK LAND SHALL BE PAINTED GRAY.
11. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3(27)-(29). FORCE MAIN TESTING SHALL BE CONDUCTED AT THE PRESSURES SHOWN ON THE PLANS.

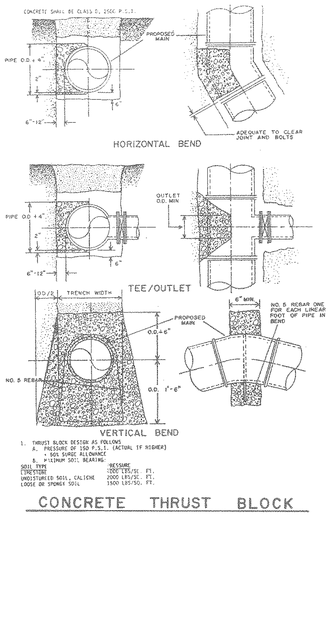



TYPICAL FIRE HYDRANT DETAIL




TYPICAL DETAIL 8" & 12" SWING CHECK VALVE

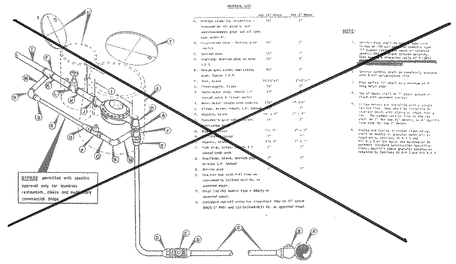
N.T.S.



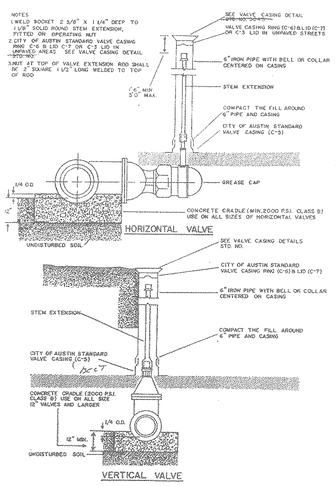

1. THRUST BLOCK DESIGN AS FOLLOWS
   A. PRESSURE OF 150 P.S.I. (ACTUAL IF HIGHER) + 50% SURGE ALLOWANCE
   B. MINIMUM SOIL BEARING

| SOIL BY CLASSIFICATION | PRESSURE (SETTLING FT. |
|---|---|
| UNDISTURBED SOIL, CALICHE | 2000 LBS/SQ. FT. |
| LOOSE OR SPONGY SOILS | 1500 LBS/SQ. FT. |

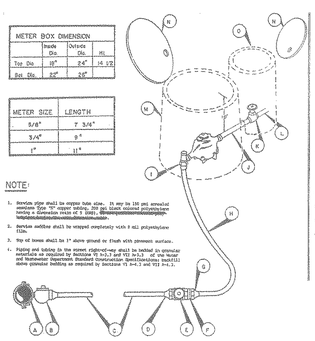
CONCRETE THRUST BLOCK



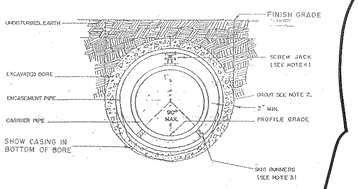

2" METER DETAIL




TYPICAL GATE VALVE




1" METER DETAIL



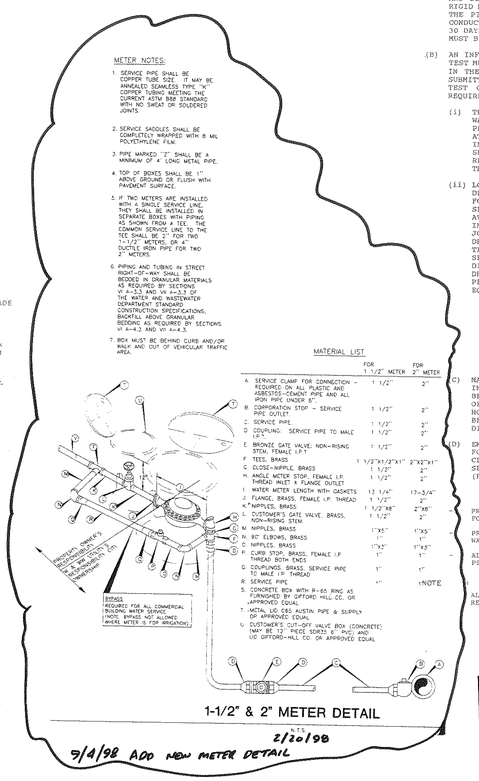

NOTES:

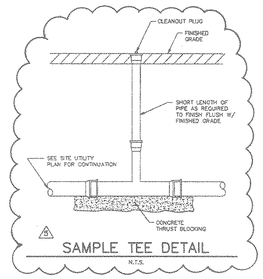
1. ENCASEMENT AND CARRIER PIPE SIZE, MATERIAL AND CLASS AS APPROVED BY THE UTILITY.
2. FOR BORED OR JACKED ENCASEMENT, PRESSURE GROUT SPACE BETWEEN EARTH AND ENCASEMENT PER ITEM 505 OF THE STANDARD SPECIFICATIONS. CRIT AND USE APPROVED BACKFILL IF INSTALLED IN OPEN TRENCH.
3. SKID RUNNERS SHALL BE PLACED AND ATTACHED IN THE ENCASEMENT BY WELDING OR OTHER METHODS AS APPROVED AND NOTED OR DETAILED ON THE PLANS.

   RUNNERS:

   A. SHALL BE 3" x 1 1/2" MIN. CHANNEL IRON FOR 15" OR SMALLER CARRIER PIPE.
   B. SHALL BE 6" x 2" MIN. CHANNEL IRON FOR 16" OR LARGER CARRIER PIPE.
   C. MAY BE OMITTED FROM STEEL OR RCP ENCASEMENT EXCEPT AS MAY BE NEEDED TO LIMIT THE CLEARANCE SPACE BETWEEN THE CASING I.D. AND THE MAXIMUM O.D. OF THE CARRIER TO LESS THAN THE ALLOWABLE JOINT DEFLECTION FOR THE CARRIER PIPE OR 4", WHICHEVER IS SMALLER.
4. ONE SCREW JACK SHALL BE INSTALLED AT EACH BELL OR COUPLING EXCEPT JACKS MAY BE OMITTED IF THE CARRIER PIPE IS D.I. OR RCP AND THE CLEARANCE BETWEEN THE CASING I.D. AND THE TOP OF THE CARRIER AS INSTALLED ON THE RUNNER/CRADLE IS LESS THAN THE ALLOWABLE JOIN DEFLECTION FOR THAT CARRIER PIPE OR 4", WHICHEVER IS SMALLER.

ENCASEMENT DETAIL




## TEXAS WATER COMMISSION NOTES

1. THE PLANS ARE IN ACCORDANCE WITH:
   A. LOCAL CITY SPECIFICATIONS.
   B. TEXAS WATER COMMISSION'S EDWARDS AQUIFER RULES 31 TAC 313.5
   C. TEXAS DEPARTMENT OF HEALTH'S DESIGN CRITERIA FOR SEWERAGE SYSTEMS.
2. ALL MANHOLES SHALL BE CONSTRUCTED WITH WATER TIGHT RINGS AND COVERS (WITH VENTING EVERY FOURTH MANHOLE IF WITHIN 100 YEAR FLOOD PLAIN) - 31 TAC 313.5 (C)(1).
3. ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS 31 TAC 313.5 (C)(2)(ii).
4. ALL SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH EDWARDS AQUIFER RULE 31 TAC 313.5 (C)(4) AND 31 TAC 313.5 (C)(10).
5. ALL SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH EDWARDS AQUIFER RULE 31 TAC 313.5(C)(9).
6. A MANDREL TEST WILL NOT BE PERFORMED UNTIL BACKFILL HAS BEEN IN PLACE FOR A MINIMUM OF 30 DAYS - 31 TAC 313.5(C)(10)(A).
7. ALL MANHOLES AND WET WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES - 31 TAC 313.5(C)(10)(C).
8. IF ANY SIGNIFICANT RECHARGE FEATURES ARE DISCOVERED DURING CONSTRUCTION, ALL CONSTRUCTION ACTIVITY NEAR THE SIGNIFICANT RECHARGE FEATURE WILL BE IMMEDIATELY SUSPENDED AND NOT PROCEED UNTIL THE TEXAS WATER COMMISSION HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE AQUIFER FROM ANY POTENTIAL ADVERSE IMPACTS.

TAC 313.5(C)(10) TESTING

TESTING NEW GRAVITY SEWER LINES. FOR ALL NEW GRAVITY SEWER PIPE HAVING A DIAMETER GREATER THAN OR EQUAL TO SIX (6) INCHES ON THE RECHARGE ZONE, THE FOLLOWING REQUIREMENTS SHALL APPLY:

(A) IN-PLACE DEFLECTION TESTS MUST BE PERFORMED ON ALL FLEXIBLE AND SEMI-RIGID PIPES. THE TEST MUST CONSIST OF PULLING A RIGID BALL OR A MANDREL SIZED AT 95% OF THE INSIDE DIAMETER OF THE PIPE FROM THE MANHOLE TO MANHOLE. THE TEST MUST BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE MAY EXCEED A DEFLECTION OF 5.0%. THE TEST MUST BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

(B) AN INFILTRATION AND/OR EXFILTRATION AND/OR LOW-PRESSURE AIR TEST MUST BE PERFORMED, AND THE TYPE OF TEST MUST BE SPECIFIED IN THE DESIGN PLANS. COPIES OF ALL TEST RESULTS MUST BE SUBMITTED TO THE APPROPRIATE DISTRICT OFFICE WITHIN 30 DAYS OF TEST COMPLETION. TESTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

(i) THE TOTAL INFILTRATION OR EXFILTRATION, AS DETERMINED BY WATER TEST, MUST BE AT A RATE NOT GREATER THAN 50 GALLONS PER INCH OF PIPE DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET. IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, REMEDIAL ACTION MUST BE UNDERTAKEN IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITH THE LIMITS SPECIFIED.

(ii) LOW-PRESSURE AIR TESTS MUST CONFORM TO THE PROCEDURE DESCRIBED IN ASTM C-924 OR OTHER EQUIVALENT PROCEDURES. FOR SAFETY REASONS, IT IS RECOMMENDED THAT AIR TESTING OF SECTIONS OF PIPE BE LIMITED TO LINES LESS THAN 36-INCH AVERAGE INSIDE DIAMETER. LINES THAT ARE 36-INCH AVERAGE INSIDE DIAMETER AND LARGER MAY BE AIR TESTED AT EACH JOINT. THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 POUNDS PER SQUARE INCH GAUGE DURING A JOINT TEST, REGARDLESS OF PIPE SIZE, SHALL BE 20 SECONDS. FOR SECTIONS OF PIPE LESS THAN 36-INCH AVERAGE INSIDE DIAMETER, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 POUNDS PER SQUARE INCH GAUGE TO 2.5 POUNDS PER SQUARE INCH GAGE MUST BE COMPUTED BY THE FOLLOWING EQUATION:

T = 0.0850(D)(K)/(Q), WHERE:
T = TIME FOR PRESSURE TO DROP 1.0 POUNDS PER SQUARE INCH GAGE IN SECONDS;
K = 0.00049(D)(L), BUT NOT LESS THAN 1.0;
D = AVERAGE INSIDE DIAMETER IN INCHES;
L = LENGTH OF LINE OF SAME PIPE SIZE IN FEET; AND
Q = RATE OF LOSS, ASSUME 0.003 CUBIC FEET PER MINUTE PER SQUARE FOOT (FT³/MIN/FT SQ) OF INTERNAL SURFACE AREA.

(C) MANHOLES AND WET WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES. ALL MANHOLES MUST BE HYDROSTATICALLY TESTED WITH A MAXIMUM-LOSS ALLOWANCE OF .025 GALLON PER FOOT DIAMETER PER FOOT OF HEAD PER HOUR. OTHER TESTING METHODS, SUCH AS VACUUM TESTING, MAY BE APPROVED ON A CASE-BY-CASE BASIS BY THE EXECUTIVE DIRECTOR.

(D) EMBEDMENT MATERIALS MUST MEET OR EXCEED THE SPECIFICATION FOR BEDDING CLASS A OR B AS DESCRIBED IN ASTM C 12, ON CLASS I OR II AS DESCRIBED IN ASTM D 2321, AND SPECIFICATIONS AS CONTAINED IN CHAPTER 317 OF THIS TITLE (RELATING TO DESIGN CRITERIA FOR SEWERAGE SYSTEMS).

PROVIDE 4 FOOT MINIMUM COVER FOR ALL WASTEWATER GRAVITY AND FORCEMAIN LINES.

PROVIDE 9 INCH MINIMUM SEPARATION BETWEEN ALL WATER AND WASTEWATER LINE CROSSINGS.

ALL PIPE AND JOINTS SHALL HAVE MINIMUM PRESSURE RATING OF 150 PSI.

ALL FORCE MAINS SHALL BE TREATED IN ACCORDANCE WITH THE REQUIREMENTS OF TWC SECTION 317.2 (d) 4

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APPROVED for JUN 25 1998 Water & Wastewater Engineering Design/ Inspection Division

**SITE PLAN RELEASE** Sheet 17 of 29

FILE NUMBER: SP-98-0509C EXPIRATION DATE: 2-8-99
CASE MANAGER: K.P. Leavse APPLICATION DATE: 12-11-97
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 25-1 of Chapter 13-1 of the Austin City Code.
Director, Department of Planning and Development
DATE OF RELEASE: Feb. 8, 1996 Zoning: CS-CO/GR-CO
Rev. 1 — Correction 1 —
Rev. 2 — Correction 2 —
Rev. 3 — Correction 3 —

| No. | Date | Revisions | App. |
|---|---|---|---|

Pury & Pittman, inc. Consulting Engineers • Surveyors (512) 477-5369 Austin, Texas

JEFFREY SCOTT HOWARD 64412 REGISTERED PROFESSIONAL ENGINEER 3-9-98

THE POINTE AT GAINES RANCH

SITE UTILITY DETAILS

TAYLOR & INEZ GAINES

Scale: NONE Date: MAR 1998
Designed by: —
Drawn by: C.O.K.
Checked by: S.S.S.
Approved by: —
Project No: 427-02.00

SHEET 17 OF 29 57

SP-98-0509C

# 4" NON-CLOG SUBMERSIBLE SEWAGE PUMPS

1.01 GENERAL: Contractor shall furnish all labor, materials, equipment and insidentals required to provide __2__ non clog submersible centrifugal sewage pump(s) as specified herein.

2.01 OPERATING CONDITIONS: Each pump shall be rated __10.0__ H.P., __230__ volts __3__ phase, __60__ hertz, __1750__ R.P.M. The unit shall produce __160__ U.S.GPM at __60__ feet TDH, with a minimum pump efficiency of __35__ % and maximum input KW of __9.3__ KW. The pump shall be capable of handling a 3" spherical solid. The pump shall be non-overloading throughout the entire range of operation without employing service factor. The pump shall reserve a minimum servicefactor of 1.15. The performance curve submitted for approval shall state in addition to head and capacity performance, the pump efficiency, solid handling capacity, and reflect motor service factor.

3.01 CONSTRUCTION: Each pump shall be of the sealed submersible type, model 3.4 MRC as manufactured by Hydromatic Pumps, a division of the Marley Pump Company. The pump volute, motor and seal housing shall be high quality gray cast iron, ASTM A-48, Class 25. The pump discharge shall be fitted with a 4" standard ASA 125 lb. flange, faced and drilled. All external mating parts shall be machined and Buna N Rubber O-ring sealed on a beveled edge. Gaskets shall not be acceptable. All fasteners exposed to the pumped liquids shall be 300 series stainless steel.

4.01 ELECTRICAL POWER CORD: Electrical power cord shall be STW-A, water resistant 600V, 60°C., UL and CSA approved and applied dependent on amp draw for size.

4.02 The pump shall be triple protected with a compression fitting and two epoxy potted areas at the power cord entry to the pump. A separation between the junction box area of the pump and the motor by a stator lead sealing gland or terminal board shall not be acceptable.

4.03 The power cable entry into the cord cap assembly shall first be made with a compression fitting. Each individual lead shall be stripped down to bare wire at staggered intervals, and each strand shall be individually separated. This area of the cord cap shall then be filled with an epoxy compound potting which will prevent water contamination to gain entry even in the event of wicking or capillary attraction.

4.04 The power cord leads shall then be connected to the motor leads with extra heavy connectors having brass inserts with a screwed wire to wire connection, rather than a terminal board that allows for possible leaks.

4.05 The connection box wiring shall be separated from the motor housing wiring by stripping each lead down to bare wire, at staggered intervals, and separating each strand. This area shall be filled with an epoxy compound potting. Fiberglass terminal boards which are subject to heat fatigue and cracking, and which may lead to possible leaks shall not be acceptable.

4.06 The cord cap assembly where bolted to the connection box assembly and the connection box assembly where bolted to the motor housing shall each be sealed with a Buna N Rubber O-ring on a beveled edge to assure proper sealing.

5.01 MOTOR: The stator, rotor and bearings shall be mounted in a sealed submersible type housing. The stator windings shall have Class F insulation, (155°C or 311°C), and a dielectric oil filled motor, NEMA B design. Further protection shall be provided by on winding thermal sensors. Because air-filled motors do not dissipate heat as efficiently as oil-filled motors, they shall not be acceptable.

5.02 The pump and motor shall be specifically designed so that they may be operated partially or completely submerged in the liquid being pumped. The pump shall not require cooling water jackets. Dependence upon, or use of, water jackets for supplemental cooling shall not be acceptable.

5.03 Stators shall be securely held in place with a removable end ring and threaded fasteners so they may be easily removed in the field without the use of heat or a press. Stators held by a heat shrink fit shall not be acceptable. Stators must be capable of being repaired or rewound by local motor service station. Units which require service only by the factory shall not be acceptable. No special tools shall be required for pump and motor disassembly.

5.04 Pump shall be equipped with heat sensors. The heat sensor shall be a low resistance, bi-metal disc that is temperature sensitive. It shall be mounted directly on the stator windings and sized to open at 120°C and automatically reset at 30-35°C, differential. The sensors shall be connected in series with motor starter coil so that the starter shall be equipped with 3 leg overload heaters so all normal overloads are protected by the starter.

6.01 BEARINGS AND SHAFT: An upper radial bearing and a lower thrust bearing shall be required. These shall be heavy-duty single row ball bearings which are permanently lubricated by the dielectric oil which fills the motor housing. Double row, sealed grease packed bearings shall not be acceptable. Bearings which require lubrication according to a prescribed schedule shall not be acceptable. The upper radial bearing shall have a minimum B-10 life at the specified condition of 20,000 hours and the lower thrust bearing shall have a minimum B-10 life at the specified condition of 20,000 hours. Bearings shall be locally available.

6.02 The shaft shall be machined from a solid 303 stainless steel forging and be a design which is of large diameter with minimum overhang to reduce shaft deflection and prolong bearing life.

7.01 SEALS: The pump shall have two mechanical seals, mounted in tandem, with an oil chamber between the seals. John Crane Type 21, 8F1C1, seals shall be used with the rotating seal faces being carbon and the stationary seal faces to be ceramic. The lower seal shall be replaceable without disassembly of the seal chamber and without the use of special tools. Pump-out vanes on the backside of the impeller to keep contaminates out of the seal area. Units which require the use of tungsten-carbide seals or foreign manufactured seals shall not be acceptable. Seals shall be locally available.

7.02 The pump shall be equipped with a seal leak detection probe and warning system. This shall be designed to alert maintenance personnel of lower seal failure without having to take the unit out of service for inspection or requiring access for checking seal chamber oil level and consistency.

7.03 There shall be an electric probe or seal failure sensor installed in the seal chamber between the two tandem mechanical seals. If the lower seal fails, contaminants which enter the seal chamber shall be detected by the sensor and send a signal to operate the specified warning device.

7.04 Units equipped with opposed mechanical seals shall not be acceptable.

8.01 IMPELLER: Impeller shall be of the two-vane, enclosed non-clogging design and have pump-out vanes on the front and backside of the impeller to prevent grit and other materials from collecting in the seal area. Single vane design impellers which cannot be easily trimmed and which do not maintain balance with wear causing shaft deflections and reducing seal and bearing life are not acceptable. Impeller shall not require coating. Because most impeller coatings do not remain beyond the very early life of the impeller, efficiency and other performance data submitted shall be based on performance with an uncoated impeller. Attempts to improve efficiency by coating impeller shall not be acceptable.

8.02 Impellers shall be dynamically balanced. The tolerance values shall be listed below according to the International Standard Organization grade 6.3 for rotors in rigid frames. The tolerance is to be split equally between the two balance planes which are the two impeller shrouds.

| RPM | Tolerance |
|---|---|
| 3500 | .01 in. - oz./lb. of impeller weight |
| 1750 | .02 in - oz./lb. of impeller weight |
| 1150 | .026 in. - oz./lb. of impeller weight |
| 870 | .03 in. - oz./lb. of impeller weight |

8.03 The impeller shall be slip fit to a tapered shaft and key driven. A 300 series stainless steel washer and impeller bolt shall be used to fasten the impeller to the shaft. Straight end shafts and/or threaded shafts for attachment of the impeller shall not be acceptable.

8.04 A volute case wearing ring shall be provided to minimize impeller wear. The wear ring shall be alloy 230 brass, ASTMB-43 and held by 300 series stainless steel fasteners. The wear ring shall be easily replaceable in the field. Wear rings of any other material shall not be acceptable.

9.01 PAINTING: The pump shall be painted after assembly, but before testing, with a zinc chromate base enamel. The paint shall be applied in one coat with minimum mil thickness of __3__ mils. The paint shall be air dried prior to testing.

10.01 SERVICEABILITY: The complete rotating assembly shall be capable of being removed from the volute without disturbing the suction piping, discharge piping, and volute. The motor housing, seal housing with seal plate and impeller still attached to the shaft shall be capable of being lifted out of the volute case from the top as one assembly.

11.01 SUPPORT: Though the pump may not require feet to support the unit while installed, the pump volute must have feet to support the unit when removed for service. Units which do not have feet upon which the unit can be supported when removed for service shall not be acceptable.

12.01 TESTING: Commercial testing shall be required and include the following:

- The pump shall be visually inspected to confirm that it is built in accordance with the specification as to HP, voltage, phase and hertz.
- The motor seat and housing chambers shall be meggered for infinity to test for moisture content or insulation defects.
- Pump shall be allowed to run dry to check for proper rotation.
- Discharge piping shall be attached, the pump submerged in water and amp readings shall be taken in each leg to check for an imbalanced stator winding. If there is a significant difference in readings, the stator windings shall be checked with a bridge to determine if an unbalanced resistance exists. If so, the stator shall be replaced.
- The pump shall be removed from the water, meggered again, dried and the motor housing filled with dielectric oil.

12.02 ~~ADDITIONAL~~ In addition to the above commercial testing, a special megger test shall be performed and include the following:

- The pump shall be submerged in water and allowed to run at maximum load for 30 minutes.
- A written report on the above shall be prepared by the test engineer, certified and submitted to the engineer.

12.03 ~~(OPTIONAL)~~ A hydrostatic test shall also be performed on the pump. The hydrostatic test shall require that the volute first impeller be removed and a fixture installed to hold the spring and lower mechanical seal in place. A double plate, gasket and through bolt shall be installed on the pump. A discharge mating flange, gasket and pressure fitting shall be installed. The inlet port, volute and discharge nozzle shall then be pressurized with water to 150% of the maximum pump shut off pressure. This hydro-static pressure shall be maintained for at least 5 minutes and the housing checked for leaks and/or loss of pressure.

13.01 WARRANTY: The pump unit or any part thereof shall be warranted against defects in material or workmanship within one year from date of installation or 18 months from date of manufacture, whichever comes first, and shall be replaced at no charge with a new or manufactured part, F.O.B. factory or authorized warranty service station. The warranty shall not assume responsibility for removal, reinstallation or freight, nor shall it assume responsibility of incidental damages resulting from the failure of the pump to perform. The warranty shall not apply to damage resulting from accident, alteration, design, misuse or abuse.

# SINGLE RAIL 4" NON-CLOG SEWAGE LIFT STATIONS

1.01 GENERAL: Contractor shall furnish all labor, materials, equipment and incidentals required to provide a complete pumping system as specified herein.

1.02 The system shall include __2__ 4" submersible non-clog sewage pump(s) with hydraulic sealing diaphragm, discharge base elbow, guide rail, piping, access frame and hatch cover, float mounting bracket, lifting chain or cable, and control equipment.

1.03 Refer to separate specifications for pump(s) and for control equipment.

2.01 HYDRAULIC SEALING FLANGE: A hydraulically operated sealing flange, complete with Buna N rubber diaphragm type sealing gasket, shall be mounted on each pump discharge. The diaphragm shall be held in place by a clamp ring with stainless steel fasteners.

When pump is activated, the resulting discharge pressure shall force the diaphragm seal against the flange face of the discharge elbow providing a leak proof seal. When pressure is removed, the diaphragm shall relax so that there is no mechanical connection to the discharge, and pump with hydraulic sealing flange may be easily removed. Units utilizing total flange-to-flange connection which could corrode together shall not be acceptable.

3.01 GUIDE RAIL: The guide rail used to direct the pump in proper alignment with the stationary discharge piping shall be of a single rail design. The single rail shall be a non-corrosive, non-sparking, FRP pultrusion formed in the shape of an I-beam. Dual rail or single rail systems utilizing a metal material such as galvanized piping or stainless steel piping shall not be acceptable.

3.02 The pump shall be automatically connected to the discharge connection elbow when lowered into place, and shall be easily removed for inspection or service. There shall be no need for personnel to enter the pump well. Sealing of the pumping unit to the discharge connection elbow shall be accomplished by a single down and in motion of the pump.

4.01 GUIDE BRACKET: A sliding guide connector shall be an integral part of the pump unit. No other carrier shall be required. The sliding guide connector shall be 300 series stainless steel wire formed. When the pump approaches the bottom of the non-corrosive FRP I-beam pultrusion, two D-shaped rods cast into the hydraulic sealing flange shall contact two (2) 300 series stainless steel arms flanking the discharge elbow. The downward sliding action of the rod shall clean the arms of any sewage debris and align the sealing flange. A small crescent-shaped peg on the bottom of the base elbow flange shall insure proper spacing of the sealing faces, and thus eliminate the potential for further metal-to-metal contact.

5.01 DISCHARGE BASE ELBOW: A discharge base elbow shall be furnished for each pump. The discharge base elbow shall rest squarely on the floor of the pump well and be securely anchored to the floor. Units which require a separate concrete or fabricated structure in order to elevate the base elbow above the pump well floor shall not be acceptable.

5.02 The base elbow shall be equivalent to 4" steel piping in size. The elbow shall be at 90 degrees with a standard 125-lb. flange faced and drilled on the outlet side and an inlet flange faced only. The inlet side shall have the flange face sprayed with corrosion resistant and abrasion resistant molten zinc. The non-corrosive FRP I-beam shall attach to the base elbow with 300 series stainless steel fasteners. The base elbow shall be painted with one coat of corrosion resistant zinc chromate enamel.

6.01 ACCESS FRAME AND DOOR: A separate access frame assembly shall be supplied with separate hinged door for removal of each pump. Access frame assembly and door shall be aluminum with 300 series stainless steel hinges and hardware. The door shall be aluminum tread plate to provide a skid-proof surface. Frame opening dimensions shall be 20-1/4" x 30-3/4" with a separate access frame and door required for each pump. Load rating for the door and frame assembly shall be 150 psf and 300 psf in light traffic areas. Frame shall support float mounting bracket. The non-corrosive FRP I-beam shall attach to the access frame assembly with 300 series stainless steel fasteners. A recessed, stainless steel handle shall be provided with each door. A safety latch to hold door in open position shall also be provided.

7.01 FLOAT MOUNTING BRACKET: A float mounting bracket shall be provided. Float mounting bracket shall provide strain reliefs to hold level control cords and allow adjustment of level controls to desired pumping and alarm levels. Continuous cords are to run from pump(s) and level controls to control panel. No splices shall be made in wiring. Float mounting bracket shall be fabricated from steel and coated for corrosion resistance. Float mounting bracket shall attach to access frame with 300 series stainless steel fasteners. A dielectric spacer should be installed between the aluminum access frame and float mounting bracket.

8.01 LIFTING CHAIN/CABLE: Each pumping unit shall be provided with a galvanized lifting chain. The lifting chain shall be of sufficient length to extend from the pumping unit at one end to the top of the wet well at the other end. The access frame shall provide a hook to attach the lifting chain when not in use.

9.01 WARRANTY: In addition to the manufacturers standard warranty, a five-year warranty shall also beprovided. The warranty period shall be five years from the date of shipment on all equipment except for control equipment which will carry the manufacturers standard warranty and except that the following parts will be replaced within five years of date of shipment upon payment of the applicable percentage of the list price of each part in effect at the time of replacement.

| | Months After Shipment | | | |
|---|---|---|---|---|
| | 0-18 | 19-31 | 32-45 | 46-60 |
| Mechanical Seal | 0% | 25% | 50% | 75% |
| Impeller | 0% | 30% | 50% | 80% |
| Pump Housing | 0% | 30% | 50% | 80% |
| Wear Ring | 0% | 50% | 80% | 100% |
| Ball Bearings | 0% | 50% | 80% | 100% |
| Rotor & Stator | 0% | 40% | 80% | 100% |

9.02 Months after shipment shall be determined by date of receipt of defective product by authorized service station representing manufacturer. Purchaser shall assume all responsibility and expense for removal, reinstallation, and freight.

# DUPLEX "Q" CONTROL PANEL

1.01 GENERAL: Contractor shall furnish all labor, materials, equipment and incidentals required to provide duplex motor control panel as specified herein.

1.02 The motor control panel shall be assembled and tested by a shop meeting U.L. Standard 508 for industrial controls. The motor control panel shall be assembled and tested by the same manufacturer supplying the pump so as to insure suitability and assurance of experience in matching controls to motors and to insure single source responsibility for the equipment.

2.01 CONSTRUCTION: The controls for the pump shall be contained in a non-corrosive enclosure meeting NEMA 4X and U.L. 94 V-O requirements.

2.02 The enclosure shall be thermal formed from an engineered thermoplastic material. The enclosure shall be steel gray in color and chemically induced. Painting of the enclosure shall not be acceptable. The enclosure shall have provisions for padlocking. A nameplate shall be permanently affixed to the panel and include the model number, voltage, phase, hertz, ampere rating and horsepower rating. A warning label against electric shock shall be permanently affixed to the outer door. All fasteners shall be 300 series stainless steel or type 6063T5 aluminum, or thermoplastic. The outer door shall be attached to the enclosure using captured, quarter turn thermoplastic screws and a non-corrosive lift off hinge. The hinge shall permit the outer door to be separated from the main enclosure, when opened, by a simple upward motion. A hinge arrangement which requires unbolting for removal of the outer door is not acceptable.

2.03 A steel back panel with electroplated bright zinc and clear chromate finish shall be provided. A painted steel back panel shall not be acceptable. The back panel shall be mounted on stainless steel bolts using stainless steel nuts and lock washers to maintain enclosure integrity and shall be used as the means for mounting the components in the enclosure.

3.01 For each pump a run light and a hand-off-auto switch shall be provided. Run lights and hand-off-auto switches shall be mounted on an electroplated bright zinc with clear chromate finish steel bracket. The run lights and hand-off-auto switches shall be properly labeled as to function. The hand-off-auto switches shall be rocker type with an electrical life of 50,000 operations. The run lights shall match the hand-off auto switches in appearance and have an electrical life of 50,000 hours. Run lights shall be red.

4.01 The incoming power shall be __230__ volts, __3__ phase, __60__ hertz service. Thermal blocks with box type lugs shall be supplied to terminate all wiring for floats and heat and seat sensors for the pump, if required. The pump leads shall be terminated at the overload relay or at box type terminal blocks. The terminal blocks for the float connections shall be on the pump controller, as described in paragraphs 9.03 and 9.04.

5.01 A circuit breaker shall be used to protect from line faults and to disconnect the pump from the incoming power. Circuit breakers shall be thermal magnetic and sized to meet NEC requirements for motor controls.

6.01 The magnetic starter shall include a contactor with a minimum mechanical life of 3,000,000 operations and a minimum contact life of 1,000,000 operations. Definite purpose contactors shall not be acceptable. The magnetic starter shall include an overload relay which is ambient temperature compensated and bimetallic. The overload relay shall be capable of being set in either a manual or automatic reset mode. In the manual mode, reset shall be accomplished only by the operator. At 6 times full load amps the overload relay shall trip within 10 seconds or Class 10 rated overload relays shall be required.

7.01 Control voltage shall be 120 VAC and may be accomplished by the means of a transformer or available line voltage. A control fuse and on/off switch shall protect and isolate the control voltage from the line.

8.01 Wire ties shall be used to maintain panel wiring in neat bundles due maintenance and to prevent interference with operating devices. All wiring shall be color coded to facilitate maintenance and repair of the control panel. Where a color is repeated, number coding shall be added. A schematic shall be permanently attached to the inside surface of the front door.

8.02 All ground connections shall be made with ring tongue terminals and star washers to assure proper ground.

9.01 A duplex pump controller shall be provided for control logic. Pump controller shall be solid state utilizing a printed circuit board to avoid conventional wiring. The printed circuit board of the pump controller shall be made of U.L. listed materials.

9.02 The pump controller shall indicate float circuit operations utilizing red amber LED indicator lights. LED indicator lights shall provide adequate information so that they can be used for diagnosis in troubleshooting problems located in the float circuits. Each LED shall be permanently labeled on the pump controller as to function.

9.03 Pump controller shall have provisions for connecting float level controls and heat sensor monitors, where applicable, to box type lug connectors.

9.04 Box type lug connectors shall be made of polyamide thermoplastic to exclude aging due to heat influences. Phenolic type terminal blocks on the pump controller shall not be acceptable. Each terminal block shall be properly and permanently labeled on the pump controller as to its purpose.

9.05 Pump controller shall include alternating circuit of the low voltage type and be operational from a transformer mounted on the pump controller board. The alternator shall consist of an alternating relay which alternately switches when voltage is removed from its circuit. Alternating circuit shall have a totally isolated ground.

9.06 Wiring of hand-off-auto switches, run lights, contactors, and overloads to the pump controller shall be accomplished by means of plug connectors. The pump controller shall have male header assemblies from the corresponding devices on the pump controller for that male header assembly. Header assemblies shall be constructed of a corrosion-resistant thermoplastic material having a temperature range of -55°C to 105°C and copper alloy, bright acid tin over nickel plating contacts.

9.07 A flashing alarm light shall be provided to indicate high water situation. Relay contacts shall be provided for high water telemetry. Seal failure indicators shall be provided on the exterior.

## AUTOMATIC ALARM MONITOR

Furnish one (1) automatic dialing alarm monitor. The monitor shall be a microprocessor based system that shall sense four alarm conditions at the site. In addition, power failure shall be sensed internally and shall not require using one of the fault channels. Upon detection of any of the fault conditions or power failure the unit shall commence dialing the first of eight (8) user selected phone numbers and deliver a message describing the actual alarm condition. This message shall be delivered in an electronic digitized voice, utilizing the user's own digitally recorded voice. Message programming shall be accomplished by speaking into the system and shall not be limited to internal synthesized speech vocabulary. Messages will include actual system location and alarm conditions. The unit will continue to call the phone numbers in succession until acknowledged by calling the unit back or by depressing a touch-tone key. Once acknowledged, the unit shall enter a programmable intercall delay to allow the alarm condition to be attended to before beginning notification again. Additionally, the system shall have the capability of answering incoming calls. Upon receipt of a call, the system shall report the station status to the caller. All communications shall utilize standard telephone lines; no leased or dedicated lines shall be required. The system shall be an MCS-250/Real Voice as manufactured by Microtel, Inc.

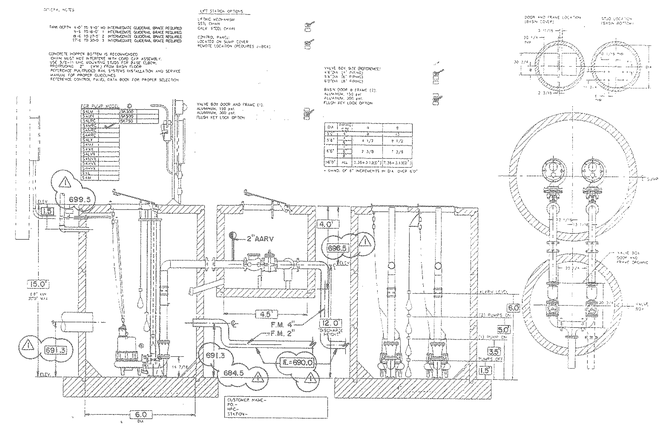
The alarm monitor unit shall possess the following physical and functional characteristics:

* Fiberglass NEMA 12 enclosure, with clear polycarbonate gasketed cover and external mounting holes.
* Built-in maintenance free battery backup, 4 hours.
* Sealed mylar keyboard to prevent contamination.
* Tubular screw-clamp terminals for fault leads, not requiring lugs or connectors, for up to 12 AWG wire.
* Individually selectable fault delay times - keyboard programmable.
* Adjustable normally open or normally closed fault contacts - keyboard selectable.
* Tone or loop-disconnect dialing capability.
* Visual indications of the following conditions, even when the cover is closed:
  - All fault channels
  - Power on
  - Call in progress
  - Battery condition
  - Intercall delay in progress
  - Successful acknowledgement
  - Message in progress

The unit shall utilize non-volatile ROM circuitry such that the unit's operating system, programmed phone numbers and all other functions and values stored in memory shall be retained without any power requirement.

Additionally, each unit shall include the following standard features:

1. Individually selectable intercall-delay from the keyboard.
2. Individually selectable open and closed contacts for alarm sensing from the keyboard.
3. Dual color, red/green indicators for each channel.
4. U.L. Listed power source.




LIFT STATION LAYOUT

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**SITE PLAN RELEASE** Sheet 18 of 29

FILE NUMBER: SP-95-0509C EXPIRATION DATE: 2.8.97
CASE MANAGER: K.P. Leavitt APPLICATION DATE: 12.1.95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: ---
APPROVED BY CITY COUNCIL ON: ---
under Section 640 of Chapter 127 of the Austin City Code.

Director, Department of Planning and Development

DATE OF RELEASE: Feb. 8, 1996 Zoning: GR-CO/GR-CO

Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

05/08/95
SP-95-0509C

No. | Date | Revisions | App

Pury & Littman, inc.
Consulting Engineers - Surveyors
Austin, Texas (512) 477-3089

JAMES M. COOK 80840 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
6-6-95

THE POINTE AT GAINES RANCH

ON-SITE LIFT STATION

TAYLOR AND INEZ GAINES

Scale: AS NOTED Date: 6-12-95
Designed by: JWC
Drawn by: —
Checked by: GSS
Approved by: GSS
Project No. 427-02.20

SHEET 18 OF 29 51

9.1

# SECTION 5: ORGANIZED SEWAGE COLLECTION SYSTEM PLAN

kimley-horn.com | 6800 Burleson Road, Building 312, Suite 150, Austin, TX 78744 | 512 616 9942

# Organized Sewage Collection System Application

Texas Commission on Environmental Quality

For Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(c), Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

Regulated Entity Name: The Pointe at Gaines Ranch

1. ☒ Attachment A – SCS Engineering Design Report. This Engineering Design Report is provided to fulfill the requirements of 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable, and is required to be submitted with this SCS Application Form.

## *Customer Information*

2. The entity and contact person responsible for providing the required engineering certification of testing for this sewage collection system upon completion (including private service connections) and every five years thereafter to the appropriate TCEQ region office pursuant to 30 TAC §213.5(c) is:

   Contact Person: Tricia Bragg
   Entity: 5010 West Highway 290, LLC
   Mailing Address: PO Box 162304
   City, State: Austin, TX 78716 Zip: 78716
   Telephone: 512-633-2825 ext. 718 Fax: N/A
   Email Address: tricia@z3realestate.us
   *The appropriate regional office must be informed of any changes in this information within 30 days of the change.*

3. The engineer responsible for the design of this sewage collection system is:

   Contact Person: Ryan McKay
   Texas Licensed Professional Engineer's Number: 146418
   Entity: Kimley-Horn
   Mailing Address: 6800 Burleson Road, Building 312, Suite 150
   City, State:Austin, TX Zip: 78744
   Telephone:512-646-2237 Fax:N/A
   Email Address:ryan.mckay@kimley-horn.com

## *Project Information*

4. Anticipated type of development to be served (estimated future population to be served, plus adequate allowance for institutional and commercial flows):

   ☐ Residential: Number of single-family lots: _____
   ☐ Multi-family: Number of residential units: _____
   ☒ Commercial
   ☐ Industrial
   ☐ Off-site system (not associated with any development)
   ☐ Other: _____

5. The character and volume of wastewater is shown below:

| | |
|---|---|
| 100% Domestic | 33,609 gallons/day |
| _____% Industrial | _____ gallons/day |
| _____% Commingled | _____ gallons/day |

   Total gallons/day: 33,609

6. Existing and anticipated infiltration/inflow is 750 gallons/day. This will be addressed by: maintenance of existing service piping.

7. A Water Pollution Abatement Plan (WPAP) is required for construction of any associated commercial, industrial or residential project located on the Recharge Zone.

   ☒ The WPAP application for this development was approved by letter dated July 16, 1991. A copy of the approval letter is attached.
   ☐ The WPAP application for this development was submitted to the TCEQ on _____, but has not been approved.
   ☐ A WPAP application is required for an associated project, but it has not been submitted.
   ☐ There is no associated project requiring a WPAP application.

8. Pipe description:

Table 1 - Pipe Description

| *Pipe Diameter(Inches)* | *Linear Feet (1)* | *Pipe Material (2)* | *Specifications (3)* |
|---|---|---|---|
| 6 | 130 | PVC SDR-26 | ASTM D-3034 |
| | | | |
| | | | |
| | | | |
| | | | |

Total Linear Feet: 130

(1) Linear feet - Include stub-outs and double service connections. Do not include private service laterals.
(2) Pipe Material - If PVC, state SDR value.
(3) Specifications - ASTM / ANSI / AWWA specification and class numbers should be included.

9. The sewage collection system will convey the wastewater to the South Austin Regional (name) Treatment Plant. The treatment facility is:

   ☒ Existing
   ☐ Proposed

10. All components of this sewage collection system will comply with:

   ☒ The City of Austin standard specifications.
   ☐ Other. Specifications are attached.

11. ☒ No force main(s) and/or lift station(s) are associated with this sewage collection system.

   ☐ A force main(s) and/or lift station(s) is associated with this sewage collection system and the Lift Station/Force Main System Application form (TCEQ-0624) is included with this application. (There is an existing lift station with associated force main piping located in the corner of the shopping center. This project does not propose to modify the lift station or force main.)

## *Alignment*

12. ☒ There are no deviations from uniform grade in this sewage collection system without manholes and with open cut construction.

13. ☒ There are no deviations from straight alignment in this sewage collection system without manholes.

   ☐ Attachment B - Justification and Calculations for Deviation in Straight Alignment without Manholes. A justification for deviations from straight alignment in this sewage collection system without manholes with documentation from pipe manufacturer allowing pipe curvature is attached.

   ☐ For curved sewer lines, all curved sewer line notes (TCEQ-0596) are included on the construction plans for the wastewater collection system.

## *Manholes and Cleanouts*

14. ☒ Manholes or clean-outs exist at the end of each sewer line(s). These locations are listed below: (Please attach additional sheet if necessary)

Table 2 - Manholes and Cleanouts

| *Line* | *Shown on Sheet* | *Station* | *Manhole or Clean-out?* |
|---|---|---|---|
| WW-A | 22 Of 41 | 0+00 | Cleanout |
| WW-A1 | 22 Of 41 | 0+00 | Cleanout |
| WW-A | 22 Of 41 | 0+79 | Cleanout |
| | Of | | |
| | Of | | |
| | Of | | |
| | Of | | |

| *Line* | *Shown on Sheet* | *Station* | *Manhole or Clean-out?* |
|---|---|---|---|
| | Of | | |
| | Of | | |
| | Of | | |

15. ☐ Manholes are installed at all Points of Curvature and Points of Termination of a sewer line.

16. ☐ The maximum spacing between manholes on this project for each pipe diameter is no greater than:

| Pipe Diameter (inches) | Max. Manhole Spacing (feet) |
|---|---|
| 6 - 15 | 500 |
| 16 - 30 | 800 |
| 36 - 48 | 1000 |
| ≥54 | 2000 |

☐ Attachment C – Justification for Variance from Maximum Manhole Spacing. The maximum spacing between manholes on this project (for each pipe diameter used) is greater than listed in the table above. A justification for any variance from the maximum spacing is attached, and must include a letter from the entity which will operate and maintain the system stating that it has the capability to maintain lines with manhole spacing greater than the allowed spacing.

17. ☐ All manholes will be monolithic, cast-in-place concrete.

☐ The use of pre-cast manholes is requested for this project. The manufacturer's specifications and construction drawings, showing the method of sealing the joints, are attached.

## *Site Plan Requirements*

*Items 18 - 25 must be included on the Site Plan.*

18. ☒ The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = 20'.

19. ☒ The Site Plan must include the sewage collection system general layout, including manholes with station numbers, and sewer pipe stub outs (if any). Site plan must be overlain by topographic contour lines, using a contour interval of not greater than ten feet and showing the area within both the five-year floodplain and the 100-year floodplain of any drainage way.

20. Lateral stub-outs:

☒ The location of all lateral stub-outs are shown and labeled.
☐ No lateral stub-outs will be installed during the construction of this sewer collection system.

21. Location of existing and proposed water lines:

☐ The entire water distribution system for this project is shown and labeled.
☒ If not shown on the Site Plan, a Utility Plan is provided showing the entire water and sewer systems.
☐ There will be no water lines associated with this project.

22. 100-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 100-year floodplain, either naturally occurring or manmade. (Do not include streets or concrete-lined channels constructed above of sewer lines.)
☐ After construction is complete, all sections located within the 100-year floodplain will have water-tight manholes. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 3 - 100-Year Floodplain

| *Line* | *Sheet* | *Station* |
|---|---|---|
| | of | to |
| | of | to |
| | of | to |
| | of | to |

23. 5-year floodplain:

☒ After construction is complete, no part of this project will be in or cross a 5-year floodplain, either naturally occurring or man-made. (Do not include streets or concrete-lined channels constructed above sewer lines.)
☐ After construction is complete, all sections located within the 5-year floodplain will be encased in concrete or capped with concrete. These locations are listed in the table below and are shown and labeled on the Site Plan. (Do not include streets or concrete-lined channels constructed above sewer lines.)

Table 4 - 5-Year Floodplain

| *Line* | *Sheet* | *Station* |
|---|---|---|
| | of | to |
| | of | to |
| | of | to |
| | of | to |

24. ☒ Legal boundaries of the site are shown.

25. ☒ The *final plans and technical specifications* are submitted for the TCEQ's review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

*Items 26 - 33 must be included on the Plan and Profile sheets.*

26. ☐ All existing or proposed water line crossings and any parallel water lines within 9 feet of sewer lines are listed in the table below. These lines must have the type of pressure rated pipe to be installed shown on the plan and profile sheets. Any request for a variance from the required pressure rated piping at crossings must include a variance approval from 30 TAC Chapter 290.

☒ There will be no water line crossings.
☒ There will be no water lines within 9 feet of proposed sewer lines.

Table 5 - Water Line Crossings

| *Line* | *Station or Closest Point* | *Crossing or Parallel* | *Horizontal Separation Distance* | *Vertical Separation Distance* |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

27. Vented Manholes:

☒ No part of this sewer line is within the 100-year floodplain and vented manholes are not required by 30 TAC Chapter 217.
☐ A portion of this sewer line is within the 100-year floodplain and vented manholes will be provided at less than 1500 foot intervals. These water-tight manholes are listed in the table below and labeled on the appropriate profile sheets.
☐ A portion of this sewer line is within the 100-year floodplain and an alternative means of venting shall be provided at less than 1500 feet intervals. A description of the alternative means is described on the following page.
☐ A portion of this sewer line is within the 100-year floodplain; however, there is no interval longer than 1500 feet located within. No vented manholes will be used.

Table 6 - Vented Manholes

| *Line* | *Manhole* | *Station* | *Sheet* |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| *Line* | *Manhole* | *Station* | *Sheet* |
|---|---|---|---|
| | | | |

28. Drop manholes:

☒ There are no drop manholes associated with this project.
☐ Sewer lines which enter new or existing manholes or "manhole structures" higher than 24 inches above the manhole invert are listed in the table below and labeled on the appropriate profile sheets. These lines meet the requirements of 30 TAC §217.55(l)(2)(H).

Table 7 - Drop Manholes

| *Line* | *Manhole* | *Station* | *Sheet* |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

29. Sewer line stub-outs (For proposed extensions):

☒ The placement and markings of all sewer line stub-outs are shown and labeled.
☐ No sewer line stub-outs are to be installed during the construction of this sewage collection system.

30. Lateral stub-outs (For proposed private service connections):

☒ The placement and markings of all lateral stub-outs are shown and labeled.
☐ No lateral stub-outs are to be installed during the construction of this sewage collection system.

31. Minimum flow velocity (From Appendix A)

☒ Assuming pipes are flowing full; all slopes are designed to produce flows equal to or greater than 2.0 feet per second for this system/line.

32. Maximum flow velocity/slopes (From Appendix A)

☒ Assuming pipes are flowing full, all slopes are designed to produce maximum flows of less than or equal to 10 feet per second for this system/line.
☐ Attachment D – Calculations for Slopes for Flows Greater Than 10.0 Feet per Second. Assuming pipes are flowing full, some slopes produce flows which are greater than 10 feet per second. These locations are listed in the table below. Calculations are attached.

Table 8 - Flows Greater Than 10 Feet per Second

| *Line* | *Profile Sheet* | *Station to Station* | *FPS* | *% Slope* | *Erosion/Shock Protection* |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

33. Assuming pipes are flowing full, where flows are ≥ 10 feet per second, the provisions noted below have been made to protect against pipe displacement by erosion and/or shock under 30 TAC §217.53(l)(2)(B).

☐ Concrete encasement shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☐ Steel-reinforced, anchored concrete baffles/retards placed every 50 feet shown on appropriate Plan and Profile sheets for the locations listed in the table above.
☒ N/A

## *Administrative Information*

34. ☒ The final plans and technical specifications are submitted for TCEQ review. Each sheet of the construction plans and specifications are dated, signed, and sealed by the Texas Licensed Professional Engineer responsible for the design on each sheet.

35. ☒ Standard details are shown on the detail sheets, which are dated, signed, and sealed by the Texas Licensed Professional Engineer, as listed in the table below:

Table 9 - Standard Details

| *Standard Details* | *Shown on Sheet* |
|---|---|
| Lateral stub-out marking [Required] | N/A of N/A |
| Manhole, showing inverts comply with 30 TAC §217.55(l)(2) [Required] | N/A of N/A |
| Alternate method of joining lateral to existing SCS line for potential future connections [Required] | N/A of N/A |
| Typical trench cross-sections [Required] | 24 of 41 |
| Bolted manholes [Required] | N/A of N/A |
| Sewer Service lateral standard details [Required] | 25 of 41 |
| Clean-out at end of line [Required, if used] | 25 of 41 |
| Baffles or concrete encasement for shock/erosion protection [Required, if flow velocity of any section of pipe >10 fps] | N/A of N/A |
| Detail showing Wastewater Line/Water Line Crossing [Required, if crossings are proposed] | N/A of N/A |
| Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) [Required, if Flexible Pipe is used] | N/A of N/A |

| *Standard Details* | *Shown on Sheet* |
|---|---|
| Drop manholes [Required, if a pipe entering a manhole is more than 24 inches above manhole invert] | N/A of N/A |

36. ☒ All organized sewage collection system general construction notes (TCEQ-0596) are included on the construction plans for this sewage collection system.

37. ☒ All proposed sewer lines will be sufficiently surveyed/staked to allow an assessment prior to TCEQ executive director approval. If the alignments of the proposed sewer lines are not walkable on that date, the application will be deemed incomplete and returned.

    ☐ Survey staking was completed on this date: _____

38. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.

39. ☒ Any modification of this SCS application will require TCEQ approval, prior to construction, and may require submission of a revised application, with appropriate fees.

## *Signature*

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This Organized Sewage Collection System Application is hereby submitted for TCEQ review and executive director approval. The system was designed in accordance with the requirements of 30 TAC §213.5(c) and 30 TAC §217 and prepared by:

Print Name of Licensed Professional Engineer: Ryan McKay

Date: 06/02/2025

Place engineer's seal here:

Signature of Licensed Professional Engineer:

## *Appendix A-Flow Velocity Table*

*Flow Velocity (Flowing Full)* All gravity sewer lines on the Edwards Aquifer Recharge Zone shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second, and not greater than 10 feet per second. The grades shown in the following table are based on Manning's formula and an n factor of 0.013 and shall be the minimum and maximum acceptable slopes unless provisions are made otherwise.

Table 10 - Slope Velocity

| *Pipe Diameter(Inches)* | *% Slope required for minimum flow velocity of 2.0 fps* | *% Slope which produces flow velocity of 10.0 fps* |
|---|---|---|
| 6 | 0.50 | 12.35 |
| 8 | 0.33 | 8.40 |
| 10 | 0.25 | 6.23 |
| 12 | 0.20 | 4.88 |
| 15 | 0.15 | 3.62 |
| 18 | 0.11 | 2.83 |
| 21 | 0.09 | 2.30 |
| 24 | 0.08 | 1.93 |
| 27 | 0.06 | 1.65 |
| 30 | 0.055 | 1.43 |
| 33 | 0.05 | 1.26 |
| 36 | 0.045 | 1.12 |
| 39 | 0.04 | 1.01 |
| >39 | * | * |

**For lines larger than 39 inches in diameter, the slope may be determined by Manning's formula (as shown below) to maintain a minimum velocity greater than 2.0 feet per second when flowing full and a maximum velocity less than 10 feet per second when flowing full.*

$$v = \frac{1.49}{n} \times R_h^{0.67} \times \sqrt{S}$$

Figure 1 - Manning's Formula

*Where:*

*v = velocity (ft/sec)*
*n = Manning's roughness coefficient (0.013)*
*Rh = hydraulic radius (ft)*
*S = slope (ft/ft)*

# *Attachment A*

# *SCS Engineering Design Report*

# SCS Engineering Design Report

This Engineering Design Report has been prepared to comply with the Texas Commission on Environmental Quality Design Criteria for Domestic Wastewater Systems, 30 TAC Chapter 217, including 217.10 of Subchapter A, §§217.51 – 217.70 of Subchapter C, and Subchapter D as applicable. Please note that throughout this application, the more stringent of AWU or TCEQ regulations shall apply.

## Project Description

### *Introduction*

Olive Garden – Southwest Parkway, a 1.102-acre site, is located within a shopping center that is east of the intersection US Highway 290 Service Road and TX-1 Loop Service Road, within the City of Austin full purpose jurisdiction. The tract's parcel number is 509126 and Geographic ID is 0406210101. The site is in the Barton Creek watershed, classified by the City of Austin as within the Barton Springs Zone. The existing impervious cover is approximately 91.7%, while the proposed impervious cover is approximately 89.38%. Flow on-site sheet flows to the existing private storm sewer network before discharging into the existing ponds which are designed to treat the on-site flows. The site is located outside the Edwards Aquifer Contributing Zone but inside the Edwards Aquifer Recharge Zone, as defined and regulated by the Texas Commission on Environmental Quality. No portion of the site is located in the Federal Emergency Management Agency's (FEMA) 100-year floodplain according to FIRM number 48453C0580H, dated September 26, 2008. There are no critical environmental features on the property. An Environmental Resource Inventory (ERI) waiver was approved by the Austin Watershed Protection Department.

## Pipe Design

### *Flow Design Basis*

The redevelopment of the 1.102-acre site will be served by the proposed wastewater improvements to an existing system. The City of Austin Criteria Manuals and TCEQ 217.53(a) were used to determine the parameters for the design of the wastewater line extension.

### *Gravity Pipe and Joint Materials*

The proposed 6-inch wastewater line will be ASTM D3034 SDR-26 PVC pipe (cell class 12454). The joints for this pipe shall meet the requirements of ASTM D3212. The pipe joints shall have an integral bell and rubber gasket seal with the locked-in type gasket. Per TCEQ 217.53 Table C.2, the minimum slope for a 6-inch line is 0.50% and maximum is 12.35%. The improvements are designed to be within this range, with the proposed pipe sloping to be at a minimum of 1.1%.

### *Separation Distances for Water and Wastewater*

There is no utility crossing with the proposed wastewater infrastructure. A nine-foot minimum horizontal separation is maintained between all proposed wastewater and water lines.

## Building Laterals and Taps

The only proposed improvement is updating an existing service lateral.

## Boring and Tunneling of Crossings

No boring or tunneling of crossings are proposed for this project.

## Corrosion Potential

PVC pipe will be utilized for the proposed wastewater line. No deterioration of the proposed pipe or its associated components is anticipated in this application.

## Odor Control

All flows contributing to the proposed wastewater lines are domestic sewage. No odor control is used.

## Active Geologic Faults

Per the Geologic Assessment waiver, there are no active geologic faults located within the area of the project.

## Capacity Analysis

The City of Austin is currently reviewing the capacity of the downstream system and treatment facility via the Service Extension Request (SER) submittal to Austin Water Utilities. The approved SER will be provided under the Service Extension Request section of Sheet 7 - AWU General Notes (2 of 2).

The capacity of each proposed wastewater segment is calculated below based on Manning's Equation. The calculation for each segment is based on the minimum proposed slope.

### Capacity:

$$Q = \frac{1.49}{n} * A * R^{0.67} * S^{0.5}$$

Where:

Qfull = flow rate of fluid in pipe at full flow ($ft^3/s$) (cfs)

Q90%= flow rate of fluid in pipe at 90% full flow ($ft^3/s$) (cfs)

A = area of pipe (ft^2) = $\frac{\pi * d^2}{4}$

d = internal pipe diameter (ft) = Do – 2t

Do = outside diameter (in)

t = pipe wall thickness (in)

n = Manning's Roughness coefficient = 0.013

Rfull = hydraulic radius of pipe (full flow) = A/P = D/4 (ft)

R90%= hydraulic radius of pipe (90% full flow) = 0.9*A/P = 0.9*D/4 (ft)

PW = wetted perimeter of pipe = $\pi$ *D (ft)

S = slope of energy line

| PIPE-ID | LENGTH | AVERAGE SLOPE | PIPE DIAMETER | | MANNING'S | PW | A | Rfull | R90% | Qfull | Qfull | Q90% (Qcap) | Q90% (Qcap) | Vfull | V90% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FT | FT/FT | IN | FT | | FT | SF | FT | FT | CFS | MGD | CFS | MGD | FPS | FPS |
| EX Pipe | 115 | 0.0499 | 6 | 0.50 | 0.013 | 1.57 | 0.20 | 0.13 | 0.11 | 1.25 | 0.81 | 1.12 | 0.73 | 6.36 | 5.72 |
| 1 | 14.00 | 0.0110 | 6 | 0.50 | 0.013 | 1.57 | 0.20 | 0.13 | 0.11 | 0.59 | 0.38 | 0.53 | 0.34 | 2.98 | 2.69 |
| 2 | 12.00 | 0.0110 | 6 | 0.50 | 0.013 | 1.57 | 0.20 | 0.13 | 0.11 | 0.59 | 0.38 | 0.53 | 0.34 | 2.98 | 2.69 |
| 3 | 7.00 | 0.0110 | 6 | 0.50 | 0.013 | 1.57 | 0.20 | 0.13 | 0.11 | 0.59 | 0.38 | 0.53 | 0.34 | 2.98 | 2.69 |
| 4 | 51.00 | 0.0110 | 6 | 0.50 | 0.013 | 1.57 | 0.20 | 0.13 | 0.11 | 0.59 | 0.38 | 0.53 | 0.34 | 2.98 | 2.69 |
| 5 | 28.00 | 0.0200 | 6 | 0.50 | 0.013 | 1.57 | 0.20 | 0.13 | 0.11 | 0.79 | 0.51 | 0.71 | 0.46 | 4.02 | 3.62 |

## Project Flows:

LUE = Living Unit Equivalent = Population of Service

SA = Service Acreage: 1.102-Acres

Existing LUE's: 25

Valor Southwest LUE's: 32

Total LUE's: 32

*Peak Dry Flows*

PDWF = F*LUE*PF/1,000,000

Where:

PDWF = Peak Dry Weather Flow (MGD)

F = Average flow per capita per day = 245 GPD

PF = Peaking Factor = 4.0 Used for Lines <15"

PDWF = 245*32*4.23 / 1,000,000

PDWF = 0.0328 MGD

*Infiltration & Inflow*

I&I = 750*SA / 1,000,000 (MGD)

I&I = 750*1.102 / 1,000,000

I&I = 0.0008 MGD

## Organized Sewage Collection System
## Attachment A

*Peak Wet Flows*

PWWF = PDWF + I&I

Where:

PWWF = Peak Wet Weather Flow (MGD)

PWWF = 0.0328 + 0.0008

PWWF = 0.0336 MGD

## Minimum and Maximum Velocity

Minimum Velocity occurs during Average Dry Weather Flow. Flow calculations are based on Partial flow velocity calculations for pipe's flowing less than half full as noted in tables above.

Maximum Velocity occurs during Peak Wet Weather Flow. Flow calculations are based on Partial flow velocity calculations for pipe's flowing greater than half full as noted in tables above.

PWWF 0.0336 MGD < $Q_{90}$ = 0.34 MGD

## 6" ASTM D3034 SDR-26

The 6" wastewater lines proposed as part of this each serve approximately 0.0336 MGD of PWWF. The private laterals are also designed to meet applicable plumbing codes. No additional wastewater flow above the 0.0336 MGD is anticipated to be added to the private 6" laterals.

# *Structural Analysis*

Flexible pipe is proposed on this project. Structural calculations are provided for the flexible pipe to be installed. The proposed collection system piping is designed to have a minimum structural life of 50 years. As previously mentioned, all proposed PVC pipe shall be cell class 12454 with a tensile strength of 7,000 psi.

Live Load Calculations – no significant live loads are anticipated on any segment of this project.

*Buckling Pressure* - the following equations utilized for the calculation of buckling pressure are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$Pcr = \frac{2 * E}{(1 - v^2) * (DR - 1)^3} \qquad \textit{(Equation 7.14)}$$

$$Pb = 1.15 * \sqrt{Pcr * E'} \qquad \textit{(Equation 7.18)}$$

H = (Pb*144)/w *(Equation 6.7)*

Where:

Pcr = critical buckling pressure (psi)

E = modulus of elasticity (psi) = 400,000 psi for PVC

v = Poisson's Ratio = 0.38 for PVC

DR = dimension ratio

Pb = buckling pressure in soil (psi)

E' = modulus of soil reaction (psi) = 2,000 psi for crushed rock compacted to greater than 95% relative density

H = maximum allowable cover height of soil (ft)

w = weight of soil (lbs/ft$^3$) = 120 lbs/ft$^3$

6" ASTM D3034 SDR-26

$$Pcr = \frac{2 * 400{,}000}{(1 - 0.38^2) * (26 - 1)^3}$$

Pcr = 59.84 psi

$$Pb = 1.15 * \sqrt{59.84 * 2{,}000}$$

Pb = 397.84 psi

H = (397.84*144) / 120

H = 477.41 ft height of soil to cause pipe buckling

*Prism Load Calculations* - the following equations utilized for the calculation of prism loads are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

P = H*w *(Equation 6.7)*

Where:

P = prism load pressure due to soil weight (lbs/ft$^2$)

H = depth of pipe (ft)

w = soil density (lbs/ft$^3$) = 120 lbs/ft$^3$

6" ASTM D3034 SDR-26

H = 20' (Max Depth for System)

P = 20 * 120

P = 2,400 lbs/ft$^2$ or 12.50 psi

*Long Term Deflection Calculations* - the following equations utilized for the calculation of long term deflection are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$\Delta Y/D = \frac{DL*K*P+K*W_1}{[2E/(3(DR-1)^3)]+0.061*E'}*100 \qquad \textit{(Equation 7.10)}$$

Where:

ΔY/D = long term deflection (%)

DL = Deflection Lag Factor = 1.0 for prism load calculation

K = bedding constant = 0.096 for 90°

P = prism load pressure due to soil weight (lbs/ft$^2$)

$W_1$ = live load (psi) = 0 psi

E = modulus of elasticity (psi) = 400,000 psi for PVC

DR = dimension ratio

E' = modulus of soil reaction (psi) = 2,000 psi for crushed rock bedding compacted to greater than 95% relative density

Note: Leonhardt's Zeta factor is assumed to equal 1, and thus is not required in the calculation. This is a conservative assumption that results in a more conservatively calculated value for long term deflection.

6" ASTM D3034 SDR-26

$$\Delta Y/D = \frac{1.0*0.096*12.50 +0.096*0}{[2(400{,}000)/(3(26-1)^3)] + 0.061*2{,}000}*100$$

**Δ**Y/D = 0.86%

*Wall Crushing Calculations* - the following equations utilized for the calculation of wall crushing are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$Py = \frac{\Theta c * 2 * A}{D}$$ *(Equation 7.20)*

H = Py / w *(Equation 6.7*

Where:

Py = pressure due to soil weight (psi)

$\Theta c$ = compressive stress (psi) = 4,000 psi for PVC pipe

A= surface area of the pipe wall ($in^2/in$)

D = mean pipe diameter (in) = Do – t

t = pipe wall thickness (in)

H = maximum allowable height of cover (ft)

w = soil density ($lbs/ft^3$) = 120 $lbs/ft^3$

6" ASTM D3034 SDR-26

D = 6.275 – 0.241 = 6.034 in, A = 2.89 $in^2/ft$ (0.241 in * 12 in/ft)

$Py = \frac{4{,}000*2*(2.89/12)}{6.034}$

Py = 319.30 psi

H = (319.30*144) / 120

H = 383.16 ft height of soil to cause wall crushing

*Strain Calculations* - the following equations utilized for the calculation of strain are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$\varepsilon h = \frac{P*D}{2*t*E}$$ *(Equation 7.22)*

$$\varepsilon f = \frac{t}{D} * \frac{[3*\Delta Y/D]}{[1-2*\Delta Y/D]}$$ *(Equation 7.24)*

$\varepsilon = \varepsilon h + \varepsilon f$ *(Equation 7.25)*

Where:

$\varepsilon h$ = maximum strain in the pipe wall due to hoop stress (in/in)

P = prism load pressure due to soil weight (psi)

D = mean pipe diameter (in) = Do – t

t = pipe wall thickness (in)

E = modulus of elasticity (psi) = 400,000 psi for PVC

$\varepsilon f$ = maximum strain in the pipe due to ring deflection or flexure (in/in)

$\Delta Y/D$ = long term deflection

$\varepsilon$ = maximum combined strain in pipe wall (in/in)

6" ASTM D3034 SDR-26

$$\varepsilon h = \frac{12.50 * 6.034}{2 * 0.241 * 400{,}000}$$

$\varepsilon h = 0.00039$ in/in

$$\varepsilon f = \frac{0241}{6.034} * \frac{[3 * 0.0086]}{[1 - 2 * 0.0086]}$$

$\varepsilon f = 0.00105$ in/in

$\varepsilon = 0.00039 + 0.00105$

$\boldsymbol{\varepsilon} = 0.00144$ in/in

Per the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001), deflection test samples have experienced a pipe wall strain of up to 0.025 in/in and have not "showed any failures or cracks". The calculated strains for this project are significantly below this level, so no failure due to strain is anticipated.

*Pipe Stiffness Calculation* - the following equations utilized for the calculation of pipe stiffness are taken from the *Handbook of PVC Pipe: Design and Construction* (Uni-Bell PVC Pipe Association, 2001).

$$Ps = 4.47 * \frac{E}{(DR-1)^3} \qquad \textit{(Equation 7.3)}$$

Where:

Ps = pipe stiffness (psi)

DR = Dimensional Ration = Do / t

Do = Outside diameter (in)

t = pipe wall thickness (in)

E = modulus of elasticity (psi) = 400,000 psi for PVC

6" ASTM D3034 SDR-26

DR = 26

$$Ps = 4.47 * \frac{400{,}000}{(26-1)^3}$$

Ps = 115 psi

# Criteria for Laying Pipe

## *Pipe Embedment*

Bedding and initial backfill material selection and installation will be carried out in accordance with applicable governing procedures contained within the *City of Austin Criteria Manual, TCEQ Chapter 217.54(a),* and in accordance with the City of Austin. Brush, debris, and junk shall not be utilized as a backfilling material.

## *Compaction*

Trench compaction will be carried out in accordance with the *City of Austin Code of Ordinances* and *TCEQ Chapter 217.54(b)*. Proper placement of the backfill and compaction per City of Austin requirements will not negatively impact the structural integrity of the pipe.

## *Envelope Size*

Envelope size will be in accordance with *City of Austin Code of Ordinances* and *TCEQ Chapter 217.54(c).* Per the City of Austin, a minimum of 6-inch and maximum of 24-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. The embedment and initial backfill must be installed to a minimum depth of 12 inches above the crown of the pipe.

## *Trench Width*

Trench width will be in accordance with the *City of Austin Code of Ordinances* and *TCEQ Chapter 217.54(d).* Per the City of Austin, a minimum of 6-inch and maximum of 24-inch space shall be allowed between the outside diameter of the pipe and the trench wall and floor. These limits shall be maintained to protect the structural integrity of the pipe and will be sufficient for the placement of materials and use of compaction equipment in the pipe zone.

# Manholes and Related Structures

## *Manhole and Appurtenance Placement*

There are no proposed manholes associated with this project.

### *Manhole Stub Outs*

No manhole stub outs are proposed in this project.

### *Cleanouts*

Cleanouts are proposed along the wastewater line and all dead ends.

### *Manhole Material*

There are no proposed manholes associated with this project.

### *Manhole Spacing*

There are no proposed manholes associated with this project.

### *Manholes within Waterways*

There are no proposed manholes associated with this project.

### *Manhole Covers, Inlets, and Bases*

There are no proposed manholes associated with this project.

### *Manhole Steps*

There are no proposed manholes associated with this project.

### *Manhole Connections*

There are no proposed manholes associated with this project.

### *Manhole Venting*

There are no proposed manholes associated with this project.

### *Trenchless Pipe Installation*

There will be no trenchless pipe installation.

## Testing Requirements for Gravity Pipes

### *Infiltration/Exfiltration and Low Pressure Air Test*

All testing will be in compliance with Texas Administrative Code title 30 Part 1 Chapter 217 Subchapter C 217.57 and 217.58. Infiltration and exfiltration or low-pressure air testing in accordance with ASTM C828, C924 or F1417 are required for all proposed gravity wastewater pipe as specified in the project notes. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

## Deflection Testing

For the proposed 6-inch wastewater line, deflection shall be measured with a rigid mandrel. The requirements specified are in accordance with *TCEQ Chapter 217.57*.

## Owner Inspection

The Owner shall have an inspector onsite during construction of the project. A professional engineer registered in the state of Texas (Ryan McKay, P.E.) shall be present to witness the testing of the wastewater lines.

## Testing Requirements for Manholes

Manhole testing in accordance with *TCEQ Chapter 217.58* is not required since no manholes are proposed with these improvements.

Inspection will be provided during critical phases of construction by a qualified inspector under the direction of a P.E. (Ryan McKay, P.E.). Critical phases of construction are deemed at a minimum to include testing of pipe and structures for leakage, and testing of flexible pipe for installed deflection.

TCEQ approval letters for plans and specifications review contain the requirement that once the project is completed, a P.E. registered in the state of Texas (Ryan McKay, P.E.) much certify that the construction was performed substantially in accordance with the approved plans and specifications.

## Notification and Inspection

*TCEQ Chapter 213* requires that the applicant must provide written notification to the Austin regional office at least 48 hours prior to commencing construction on the regulated activity. If any sensitive feature is discovered during construction then the work shall be suspended immediately and the Austin regional office shall be notified to then determine the appropriate course of action. All other notification and inspection requirements identified in *TCEQ Chapter 213.5(c)* shall be met.

# *Attachment B*

# *Justification and Calculations for Deviation in Straight Alignment without Manholes*

## *Justification and Calculations for Deviation in Straight Alignment without Manholes*

This section is not applicable to the proposed wastewater improvements.

# *Attachment C*

# *Justification for Variance from Maximum Manhole Spacing*

## *Justification for Variance from Maximum Manhole Spacing*

This section is not applicable because there are no manholes proposed.

# *Attachment D*

# *Calculations for Slopes for Flows Greater than 10.0 Feet Per Second*

## *Calculations for Slopes for Flows Greater than 10.0 Feet Per Second*

This section is not applicable because there are no proposed flows greater than 10 ft/s.

# *Attachment E*
# *Site Plan*

| REVISIONS/CORRECTIONS | | | | | | | |
|---|---|---|---|---|---|---|---|
| NO. | DESCRIPTION | REVISE (R) VOID (V) ADD (A) SHEET NO.'S | TOTAL NO. SHEETS IN PLAN SET | NET CHANGE IMP. COVER (SQ. FT.) | TOTAL SITE IMP. COVER (SQ. FT.)/% | CITY OF AUSTIN APPROVAL DATE | DATE IMAGED |
| | | | | | | | |
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# CIVIL SITE DEVELOPMENT PLANS
FOR
# OLIVE GARDEN - SOUTHWEST PARKWAY
## 5010 W US 290 HIGHWAY SERVICE RD

GENERAL PLAN NOTES:

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
2. THE SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN. FIRM PANEL NO. 48453C0580H, TRAVIS COUNTY, TEXAS AND INCORPORATED AREAS (EFFECTIVE DATE SEPTEMBER 26, 2008).
3. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY AUSTIN WATER UTILITY, CONDITIONED UPON ALL FEES AND CHARGES ARE PAID.
4. THERE ARE NO NATURAL SLOPES ON THIS SITE IN EXCESS OF 15%.
5. THERE ARE NO KNOWN CRITICAL ENVIRONMENTAL FEATURES ON THIS SITE.
6. NO STRUCTURES CAN BE BUILT WITHIN WATER & WASTEWATER EASEMENTS.
7. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
8. AS PART OF THIS SITE PLAN, THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO BE ON SITE AT ALL TIMES.
9. SITE IS SUBJECT TO THE WATERSHED PROTECTION REGULATIONS.
10. THIS SITE IS LOCATED IN THE EDWARDS AQUIFER RECHARGE ZONE.
11. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.
12. THIS PROJECT IS SUBJECT TO THE VOID AND WATER FLOW MITIGATION RULE (COA ECM 1.12.0 AND COA ITEM NO. 658S OF THE SSM) PROVISION THAT ALL TRENCHING GREATER THAN 5 FEET DEEP MUST BE INSPECTED BY A GEOLOGIST (TEXAS P.G.) OR A GEOLOGIST'S REPRESENTATIVE.
13. OPERATING PERMIT FOR LOT 3 WATER QUALITY FACILITY IS OP-03-0112B.

OWNER/DEVELOPER NAME AND ADDRESS:
DARDEN RESTAURANTS, INC.
1000 DARDEN CENTER DRIVE
ORLANDO, FL 32837

SUBDIVISION CASE NO.:

ZONING CASE NO.: C14-2008-0129; NPA-2016-0025.02

PREVIOUS RELATED SITE DEVELOPMENT CASE NO.: SP-95-0509C

ZONING: GR-CO-NP

WATERSHED: BARTON CREEK

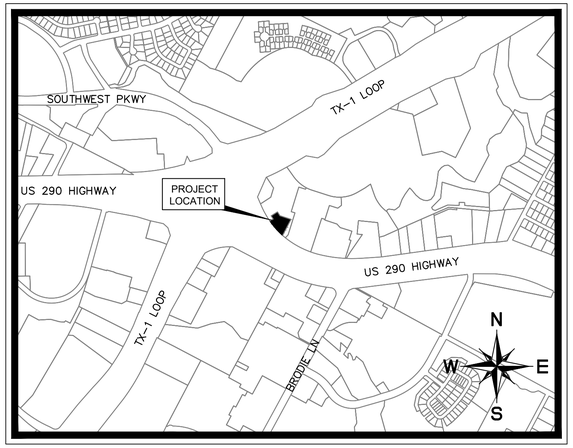
PRESSURE ZONE: SOUTH

SUBMITTAL DATE: 04/04/2025

| AUSTIN FIRE DEPARTMENT | |
|---|---|
| FIRE DESIGN CODES | 2021 INTERNATIONAL FIRE CODE (IFC) WITH CITY OF AUSTIN LOCAL AMENDMENTS TO THE IFC |
| FIRE FLOW DEMAND @20 PSI (GPM) | 2,250.00 GPM |
| OCCUPANCY CLASSIFICATION | RESTAURANT |
| CONSTRUCTION CLASSIFICATION | V-B |
| BUILDING FIRE AREA (S.F.) | 6,325 |
| AUTOMATIC FIRE SPRINKLER SYSTEM TYPE (IF APPLICABLE) | NFPA 13 |
| REDUCED FIRE FLOW DEMAND @ 20 PSI FOR HAVING A SPRINKLER SYSTEM (GPM) (IF APPLICABLE) | 1,500.00 GPM |
| AFD FIRE HYDRANT FLOW TEST DATE | 03/10/2025 |
| AFD HYDRANT FLOW TEST LOCATION | 5000 W US 290 HWY |
| CITY OF AUSTIN PIPELINE ORDINANCE APPLIES TO THIS PROJECT | NO |
| HIGH-RISE | NO |
| INTERNATIONAL WILDLAND-URBAN INTERFACE CODE | 2015 INTERNATIONAL WILDLAND-URBAN INTERFACE CODE (IWUIC) WITH CITY OF AUSTIN LOCAL AMENDMENTS |
| ALTERNATIVE METHOD OF COMPLIANCE AMOC (IF APPLICABLE) | N/A |

LEGAL DESCRIPTION

LOT 1A, RESUBDIVISION OF GAINES SUBDIVISION SECTION 1A, A SUBDIVISION ON TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 90, PAGES 383–384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS




VICINITY MAP
SCALE: 1" = 1,000'

COA GRID: E19
MAPSCO: 613T

# APRIL 2025

## SHEET INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| 1 | COVER SHEET |
| 2 | FINAL PLAT |
| 3 | ALTA SURVEY |
| 4 | GENERAL NOTES |
| 5 | KIMLEY-HORN GENERAL NOTES |
| 6 | AWU GENERAL NOTES (1 OF 2) |
| 7 | AWU GENERAL NOTES (2 OF 2) |
| 8 | DARDEN CIVIL SPECIFICATIONS (1 OF 5) |
| 9 | DARDEN CIVIL SPECIFICATIONS (2 OF 5) |
| 10 | DARDEN CIVIL SPECIFICATIONS (3 OF 5) |
| 11 | DARDEN CIVIL SPECIFICATIONS (4 OF 5) |
| 12 | DARDEN CIVIL SPECIFICATIONS (5 OF 5) |
| 13 | EXISTING CONDITIONS AND DEMO PLAN |
| 14 | EROSION CONTROL PLAN |
| 15 | OVERALL SITE PLAN |
| 16 | FIRE PROTECTION PLAN |
| 17 | GRADING PLAN |
| 18 | EXISTING DRAINAGE AREA MAP |
| 19 | PROPOSED DRAINAGE AREA MAP |
| 20 | OVERALL STORM PLAN |
| 21 | PUBLIC WATER PLAN |
| 22 | UTILITY PLAN |
| 23 | PAVING DETAILS (1 OF 2) |
| 24 | PAVING DETAILS (2 OF 2) |
| 25 | UTILITY DETAILS |
| 26 | EROSION CONTROL DETAILS |
| 27 | LANDSCAPE PLAN |
| 28 | LANDSCAPE DETAILS |
| 29 | LANDSCAPE SPECIFICATIONS |
| 30 | TREE MITIGATION PLAN |
| 31 | R1-GRADING PLAN |
| 32 | R2-WQ POND PLAN (1 OF 2) |
| 33 | R3-WQ POND PLAN (2 OF 2) |
| 34 | R4-UTILITY PLAN |
| 35 | GEOTECHNICAL REPORT (1 OF 5) |
| 36 | GEOTECHNICAL REPORT (2 OF 5) |
| 37 | GEOTECHNICAL REPORT (3 OF 5) |
| 38 | GEOTECHNICAL REPORT (4 OF 5) |
| 39 | GEOTECHNICAL REPORT (5 OF 5) |
| 40 | BORING LOGS (1 OF 2) |
| 41 | BORING LOGS (2 OF 2) |


THIS NOTE IS BEING PLACED ON THE PLAN SET IN PLACE OF A TEMPORARY TRAFFIC CONTROL STRATEGY WITH THE FULL UNDERSTANDING THAT, AT A MINIMUM OF 6 WEEKS PRIOR TO THE START OF CONSTRUCTION, A TEMPORARY TRAFFIC CONTROL PLAN MUST BE REVIEWED AND APPROVED BY THE RIGHT OF WAY MANAGEMENT DIVISION. THE OWNER/REPRESENTATIVE FURTHER RECOGNIZES THAT A REVIEW FEE, AS PRESCRIBED BY THE MOST CURRENT VERSION OF THE CITY'S FEE ORDINANCE, SHALL BE PAID EACH TIME A PLAN OR PLAN REVISION IS SUBMITTED TO RIGHT OF WAY MANAGEMENT DIVISION FOR REVIEW. THE FOLLOWING MUST BE TAKEN INTO CONSIDERATION WHEN DEVELOPING FUTURE TRAFFIC CONTROL STRATEGIES:

PEDESTRIAN AND BICYCLE TRAFFIC ACCESS MUST BE MAINTAINED AT ALL TIMES, UNLESS OTHER WISE AUTHORIZED BY RIGHT OF WAY MANAGEMENT.

NO LONG–TERM LANE CLOSURES WILL BE AUTHORIZED, UNLESS RIGHT OF WAY MANAGEMENT DETERMINES THAT ADEQUATE ACCOMMODATIONS HAVE BEEN MADE TO MINIMIZE TRAFFIC IMPACT.

PROJECT SHOULD BE PHASED SO THAT UTILITY INSTALLATION MINIMALLY IMPACTS EXISTING OR TEMPORARY PEDESTRIAN FACILITIES.

Know what's below. Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

SITE PLAN APPROVAL SHEET 1 OF 41
FILE NUMBER SP-2025-0116C.CC APPLICATION DATE 04/04/2025
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER XX-X OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE (25-5-81,LDC) _____ CASE MANAGER XXXX
PROJECT EXPIRATION DATE (ORD.#970905-A) _____ DWPZ _____ DDZ _____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING XXXX
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

*Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.*

DESIGNERS:


ARCHITECT
JENNIFER NELSON
ACS CINCINNATI
7870 E KEMPER ROAD, SUITE 320
CINCINNATI, OH 45242
(513) 477-8822
JNELSON@ACS-ARCHITECTS.COM

LANDSCAPE ARCHITECT
SHANNON MUNDY, P.L.A.
KIMLEY-HORN AND ASSOCIATES, INC.
11700 KATY FREEWAY, SUITE 800
HOUSTON, TX 77079
(281) 920-6322
SHANNON.MUNDY@KIMLEY-HORN.COM

SURVEYOR
ABRAM C. DASHNER, P.L.S
MANHARD CONSULTING
1120 S. CAPITOL OF TEXAS HIGHWAY, BLDG. 1, STE. 120
AUSTIN, TX 78746
(512) 244-3395


LISTS OF CONTACTS:

WATER & SANITARY SEWER
AUSTIN WATER UTILITY
625 E. 10TH STREET, SUITE 715
AUSTIN, TX 78701
PH. (512) 972-0207

FIRE
AUSTIN FIRE DEPARTMENT
RALPH CASTILLO
ONE TEXAS CENTER SUITE 200
505 BARTON SPRINGS ROAD
AUSTIN, TX 78704
PH. (512) 974-0192

GAS
TEXAS GAS SERVICE
LINDA BARGAR
5613 AVENUE F
AUSTIN, TX 78751
PH. (512) 465-1134
LBARGAR@TXGAS.COM

ELECTRIC
AUSTIN ENERGY
JIM ROWIN
2412 KRAMER LANE, BUILDING C
AUSTIN, TEXAS 78758
PH. (512) 505-7665

STORM SEWER
CITY OF AUSTIN
PLANNING & DEVELOPMENT
REVIEW DEPARTMENT
505 BARTON SPRINGS ROAD
AUSTIN, TX 78704
PH. (512) 974-2680

TELEPHONE
AT&T
DAVID A. WILLIAMS
712 EAST HUNTLAND, ROOM 229
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PH. (512) 870-4760
DW8132@ATT.COM

PREPARED BY:


Kimley»Horn
6800 BURLESON ROAD, BUILDING 312, SUITE 150 Tel. No. (512) 616-9942
AUSTIN, TEXAS 78744
CERTIFICATE OF REGISTRATION #928


_____ AUSTIN WATER UTILITY _____ DATE

_____ AUSTIN INDUSTRIAL WASTE DEPARTMENT _____ DATE

_____ CITY OF AUSTIN FIRE DEPARTMENT _____ DATE

_____ FOR DIRECTOR, PLANNING AND DEVELOPMENT REVIEW DEPARTMENT _____ DATE

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THE INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|


Kimley»Horn
6800 BURLESON ROAD, BUILDING 312, SUITE 150
AUSTIN, TX 78744
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TX REGISTRATION NO. KIMLEY-HORN AND ASSOCIATES, INC.
TBPE Firm No. 928

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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

COVER SHEET

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
1 OF 41

SP-2025-0116C.CC

Plotted By: Shreiffer, Ryan Date: April 30, 2025 08:46:10am File Path: K:\AU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\Plan Sheets\C - Cover Sheet.dwg
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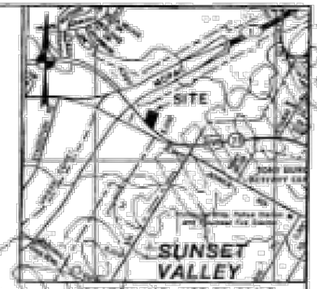
6696 $56.00 9/24/92

# RESUBDIVISION OF GAINES SUBDIVISION SECTION 1-A

Vol. 90 Page 383
PLAT RECORD, TRAVIS COUNTY, TEXAS



LOCATION MAP; NOT TO SCALE

MSC FILM CODE
00006229390

MO-PAC EXPRESSWAY SOUTH
(R.O.W. VARIES)

GAINES RANCH
PHASE A
SECTION ONE
BOOK 89, PAGE 328

LOT 2A
1.589 ACRES

LOT 1A
1.102 ACRES

LOT 1
10.484 Ac.

STATE OF TEXAS
VOL. 3166, PG. 27

U.S. HWY 290 WEST
(R.O.W. VARIES)

0 50 100 150 200
1" = 100'

LEGEND
- 1/2" IRON ROD SET
- "X" CUT IN CONC.
- IRON PIPE FOUND
- STATE HIGHWAY MONUMENT FOUND
- CALCULATED POINT
- SIDEWALK LOCATION

LINE TABLE

| No. | Bearing | Distance |
|---|---|---|
| L1 | N59° 17' 45" E | 58.57' |
| L2 | N30° 47' 15" W | 52.00' |
| L3 | S30° 47' 15" E | 83.81' |

CURVE TABLE

| No. | Delta | Radius | Arc Length | Ch. Bearing | Chord |
|---|---|---|---|---|---|
| C1 | 12° 41' 34" | 1204.24' | 266.77' | N40° 08' 58" W | 266.23' |
| C2 | 01° 42' 22" | 1204.24' | 35.86' | N32° 57' 00" W | 35.86' |
| C3 | 11° 13' 10" | 1204.24' | 235.81' | N28° 29' 14" W | 235.43' |
| C4 | 06° 17' 50" | 2929.79' | 322.01' | N65° 56' 13" E | 321.84' |
| C5 | 38° 34' 37" | 1204.24' | 567.12' | S80° 42' 03" E | 561.03' |
| C6 | 54° 01' 42" | 1204.24' | 1135.58' | N47° 53' 30" W | 1093.96' |
| C7 | 00° 05' 42" | 2929.79' | 4.86' | N69° 04' 17" E | 4.86' |

SURVEYORS CERTIFICATION:

I, LYNN R. SAVORY, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF SURVEYING AND HEREBY CERTIFY THAT THIS PLAT COMPLIES WITH TITLE 13 OF THE AUSTIN CITY CODE OF 1981, AS AMENDED; IS TRUE AND CORRECT, AND WAS PREPARED FROM AN ACTUAL ON-THE-GROUND SURVEY OF THE PROPERTY MADE UNDER MY SUPERVISION.

8-17-92

LYNN R. SAVORY, R.P.L.S.
TEXAS REGISTRATION NO. 4598
BURY & PITTMAN, INC.
3345 BEE CAVES ROAD, #200
AUSTIN, TEXAS 78746

STATE OF TEXAS
LYNN R. SAVORY
4598
REGISTERED
LAND SURVEYOR

I, GREGORY S. STRMISKA, AM AUTHORIZED UNDER THE LAWS OF THE STATE OF TEXAS TO PRACTICE THE PROFESSION OF ENGINEERING, AND HEREBY CERTIFY THAT THIS PLAT IS FEASIBLE FROM AN ENGINEERING STANDPOINT AND COMPLIES WITH THE ENGINEERING RELATED PORTIONS OF TITLE 13 OF THE AUSTIN CODE OF 1981, AS AMENDED, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

FLOOD PLAIN NOTE: THE TRACT SHOWN HEREON LIES WITHIN ZONE "C" AREAS OF MINIMAL FLOODING, AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, FIRM PANEL No. 481026 0255 B, DATED APRIL 1, 1982, FOR TRAVIS COUNTY, TEXAS (UNINCORPORATED AREAS).

CHARLES E. STEINMAN, P.E.
TEXAS REGISTRATION NO. 64410
BURY & PITTMAN, INC.
3345 BEE CAVES ROAD, #200
AUSTIN, TEXAS 78746

STATE OF TEXAS
CHARLES E. STEINMAN
64410
REGISTERED
PROFESSIONAL ENGINEER

8-17-92

DATE: MARCH 1, 1992
PREPARED BY:

Bury+Pittman
Consulting Engineers and Surveyors
Austin, Texas Tel 512/328-8811 Fax 512/328-8525

DISK # : 24H
JOB # : 511-01.20
FILE # : 511101PL1.DWG
DRAWN BY : B. KAGAN

C8-92-0107.0A

SHEET 1 OF 2

Unofficial Document

Plotted By: Streiffer, Ryan Date: April 30, 2025 08:46:21am File Path(s): \EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Final Plat.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

Kimley»Horn
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AUSTIN, TX 78744
PHONE: 512-418-1771
WWW.KIMLEY-HORN.COM
TX REGISTERED ENGINEERING FIRM F-928
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04/25/2025

| KHA PROJECT | |
|---|---|
| 063887221 | |
| DATE: | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

FINAL PLAT

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
2 OF 26

SP-2025-0116C.CC

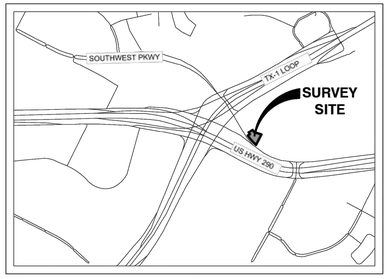
# ALTA/NSPS LAND TITLE SURVEY

## LEGAL DESCRIPTION

TRACT 1: LOT 1A, RESUBDIVISION OF GAINES SUBDIVISION SECTION 1A, A SUBDIVISION IN TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.

TRACT 2: NON-EXCLUSIVE EASEMENT AS CREATED AND DEFINED IN RECIPROCAL EASEMENT AGREEMENT FOR ACCESS, DRAINAGE AND UTILITIES DATED JUNE 17, 1991, RECORDED IN VOLUME 11471, PAGE 606 OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS AND BEING OVER AND ACROSS LOTS 1-5, BLOCK "A", POINTE AT GAINES RANCH SUBDIVISION, A SUBDIVISION IN TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 100, PAGES 301-302 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.

TRACT 3: NON EXCLUSIVE EASEMENTS AS CREATED AND DEFINED IN RESTATED AND AMENDED SHOPPING CENTER RECIPROCAL EASEMENT AND OPERATION AGREEMENT DATED JUNE 30, 1997, RECORDED IN VOLUME 12971, PAGE 11 OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS AND AS AMENDED UNDER DOCUMENT NO(S). 2001067363 AND 2012010750 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS, AND BEING OVER AND ACROSS LOTS 1-5, BLOCK "A", POINTE AT GAINES RANCH SUBDIVISION, A SUBDIVISION IN TRAVIS COUNTY, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN VOLUME 100, PAGES 301-302 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.




## LOCATION MAP

NOT TO SCALE

## PARKING SUMMARY

| |
|---|
| REGULAR SPACES = 82 |
| HANDICAPPED SPACES = 4 |
| TOTAL SPACES = 86 |

| DIMENSION RECORD TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE | RADIUS | DELTA | LENGTH | CHORD BEARING | CHORD |
| (C1) | (1204.24') | (12°41'34") | (266.77') | (N40°08'58"W) | (266.36') |

| CURVE TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE | RADIUS | DELTA | LENGTH | CHORD BEARING | CHORD |
| C1 | 1204.24' | 12°41'55" | 266.90' | N41°33'10"W | 266.36' |

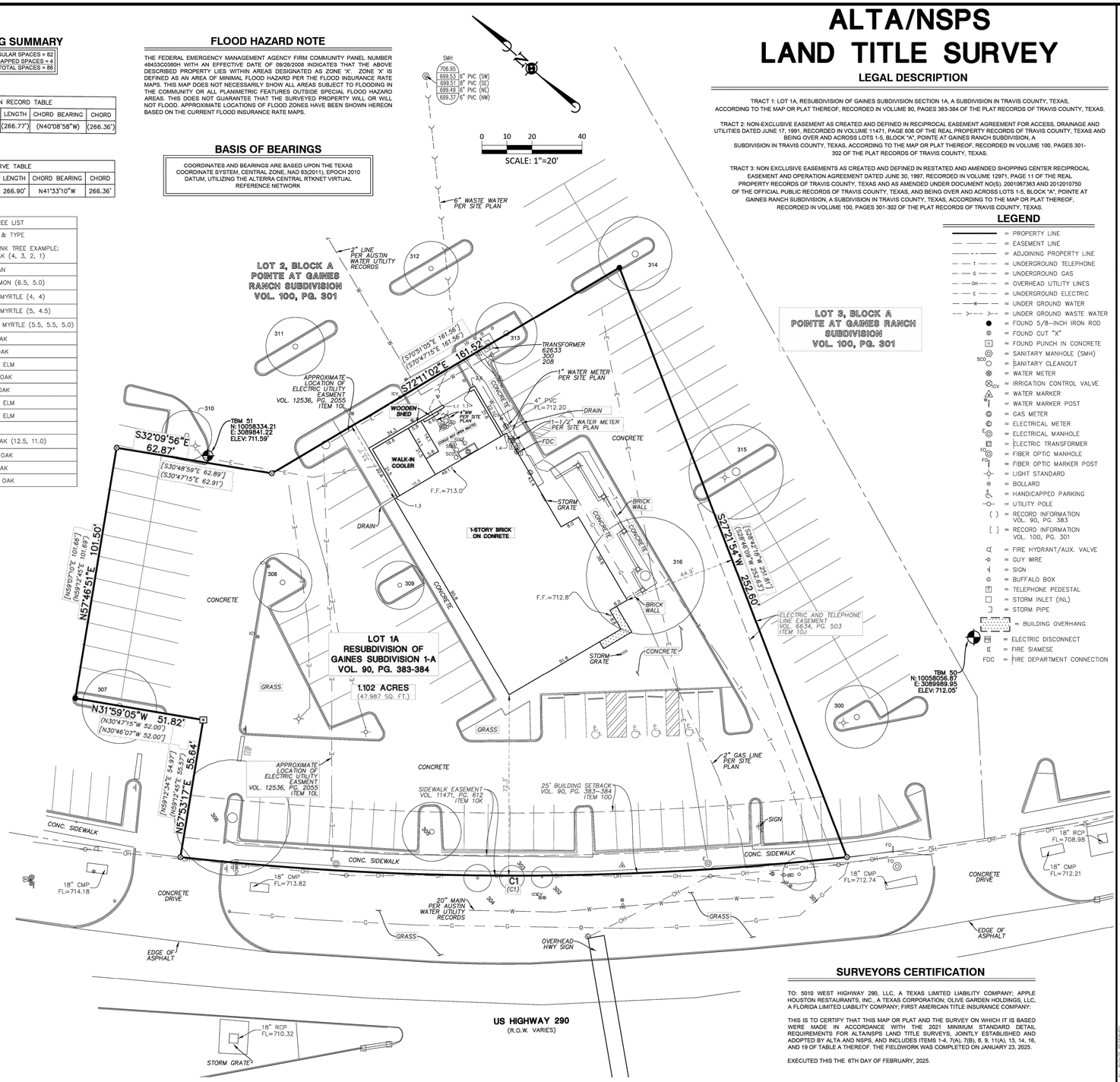
| TREE LIST | |
|---|---|
| TREE TAG# | TREE SIZE & TYPE<br>MULTI-TRUNK TREE EXAMPLE: 7" LIVE OAK (4, 3, 2, 1) |
| 300 | 12.5" PECAN |
| 301 | 9" PERSIMMON (6.5, 5.0) |
| 302 | 6" CRAPE MYRTLE (4, 4) |
| 303 | 7" CRAPE MYRTLE (5, 4.5) |
| 304 | 11" CRAPE MYRTLE (5.5, 5.5, 5.0) |
| 305 | 12" RED OAK |
| 306 | 23" LIVE OAK |
| 307 | 15" CEDAR ELM |
| 308 | 11.5" RED OAK |
| 309 | 9.5" RED OAK |
| 310 | 10" CEDAR ELM |
| 311 | 12" CEDAR ELM |
| 312 | 11" PECAN |
| 313 | 18" RED OAK (12.5, 11.0) |
| 314 | 14.5" RED OAK |
| 315 | 19" LIVE OAK |
| 316 | 23.5" LIVE OAK |

## FLOOD HAZARD NOTE

THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM COMMUNITY PANEL NUMBER 48453C0580H WITH AN EFFECTIVE DATE OF 09/26/2008 INDICATES THAT THE ABOVE DESCRIBED PROPERTY LIES WITHIN AREAS DESIGNATED AS ZONE "X". ZONE "X" IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD PER THE FLOOD INSURANCE RATE MAPS. THIS MAP DOES NOT NECESSARILY SHOW ALL AREAS SUBJECT TO FLOODING IN THE COMMUNITY OR ALL PLANIMETRIC FEATURES OUTSIDE SPECIAL FLOOD HAZARD AREAS. THIS DOES NOT GUARANTEE THAT THE SURVEYED PROPERTY WILL OR WILL NOT FLOOD. APPROXIMATE LOCATIONS OF FLOOD ZONES HAVE BEEN SHOWN HEREON BASED ON THE CURRENT FLOOD INSURANCE RATE MAPS.

## BASIS OF BEARINGS

COORDINATES AND BEARINGS ARE BASED UPON THE TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD 83(2011), EPOCH 2010 DATUM, UTILIZING THE ALTERRA CENTRAL RTKNET VIRTUAL REFERENCE NETWORK




## TITLE NOTES

IN REFERENCE TO FIRST AMERICAN TITLE INSURANCE COMPANY TITLE COMMITMENT G.F. NO. 245146 WITH AN EFFECTIVE DATE OF NOVEMBER 08, 2024 HAS BEEN REVIEWED IN CONJUNCTION WITH THE PREPARATION OF THIS SURVEY. THIS SURVEY MAY NOT REFLECT MATTERS OF TITLE THAT MAY BENEFIT OR BURDEN THE PROPERTY UNLESS THEY ARE EVIDENT FROM THE FIELD SURVEY OR THEY ARE CONTAINED IN THE ABOVE TITLE COMMITMENT. THE FOLLOWING NOTES ARE RELATED TO CERTAIN SURVEY-RELATED TITLE EXCEPTIONS CONTAINED IN THE ABOVE COMMITMENT.

TITLE ISSUES RAISED IN PRIOR TITLE COMMITMENTS MAY NOT BE SHOWN EXCEPT THAT PLOTTABLE EASEMENTS THAT THE SURVEYOR IS AWARE OF HAVE BEEN SHOWN.

PREVIOUSLY RAISED TITLE ISSUES, INSURED OVER OR OTHERWISE DISPOSED OF IN THE ABOVE TITLE COMMITMENT ARE NOT SHOWN HEREON.

PLOTTABLE EASEMENTS AND SETBACKS IDENTIFIED IN THE ABOVE TITLE COMMITMENT HAVE BEEN SHOWN HEREON. EASEMENTS AND SETBACKS THAT HAVE BEEN VACATED, INSURED OVER, OR OTHERWISE DISPOSED OF HAVE NOT BEEN SHOWN HEREON.

SCHEDULE B:

– THE FOLLOWING MATTERS AND ALL TERMS OF THE DOCUMENTS CREATING OR OFFERING EVIDENCE OF THE MATTERS:

10A. VOLUME 77, PAGE 394, VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS; VOLUME 6570, PAGE 841, VOLUME 12087, PAGE 29, OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS.
**–SUBJECT TO,**

10D. A 25 FOOT BUILDING SETBACK LINE ALONG THE FRONT PROPERTY LINE AS SET FORTH ON THE PLAT RECORDED IN VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.
**–SUBJECT TO, AS SHOWN HEREON**

10E. JOINT ACCESS SHALL BE PROVIDED FROM LOTS 1A AND 2A TO U.S. 290 WEST AS STATED ON PLAT RECORDED IN VOLUME 90, PAGES 383-384 OF THE PLAT RECORDS OF TRAVIS COUNTY, TEXAS.
**–SUBJECT TO, BLANKET TYPE/NOT PLOTTABLE**

10F. EASEMENT: TO: TEXAS POWER AND LIGHT COMPANY DATED: JULY 31, 1936 IN VOLUME 559, PAGE 606, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC TRANSMISSION AND/OR DISTRIBUTION LINE EASEMENT
**–SUBJECT TO, NOT PLOTTABLE**

10G. EASEMENT: TO: SOUTHWESTERN BELL TELEPHONE COMPANY RECORDED IN VOLUME 569, PAGE 248 AND VOLUME 2601, PAGE 293, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS.
PURPOSE: AS PROVIDED IN SAID INSTRUMENT
**–SUBJECT TO, NOT PLOTTABLE**

10H. EASEMENT: TO: TEXAS POWER AND LIGHT COMPANY DATED: MAY 6, 1939 IN VOLUME 614, PAGE 358, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC AND TELEPHONE LINE EASEMENT
**–SUBJECT TO, NOT PLOTTABLE**

10I. EASEMENT: TO: THE CITY OF AUSTIN RECORDED: NOVEMBER 03, 1964 IN VOLUME 2882, PAGE 468, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC AND TELEPHONE LINES AND SYSTEMS EASEMENT
**–SUBJECT TO, NOT PLOTTABLE**

10J. EASEMENT: TO: THE CITY OF AUSTIN DATED: JUNE 27, 1979 IN VOLUME 6634, PAGE 503, OF THE DEED RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC AND TELEPHONE LINES AND SYSTEMS EASEMENT
**–SUBJECT TO, AS SHOWN HEREON**

10K. EASEMENT: TO: THE CITY OF AUSTIN DATED: JUNE 17, 1991 IN VOLUME 11471, PAGE 612, OF THE REAL PROPERTY RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: SIDEWALK EASEMENT
**–SUBJECT TO, AS SHOWN HEREON**

10L. EASEMENT: TO: THE CITY OF AUSTIN DATED: SEPTEMBER 28, 1995 IN VOLUME 12536, PAGE 2055, OF THE REAL PROPERTY RECORDS, OF TRAVIS COUNTY, TEXAS. PURPOSE: ELECTRIC UTILITY EASEMENT
**–SUBJECT TO, APPROXIMATE LOCATION SHOWN/NO WIDTH SPECIFIED**

10M. ACCESS LIMITATIONS AS SET OUT IN DEED RECORDED IN VOLUME 8166, PAGE 518 OF THE REAL PROPERTY RECORDS OF TRAVIS COUNTY, TEXAS.
**SUBJECT TO, (TRACT HAS FULL ACCESS TO US 290)**

10P. TERMS, CONDITIONS AND STIPULATIONS IN THE AGREEMENT: DATED: JUNE 17, 1991 IN VOLUME 11471, PAGE 606, REAL PROPERTY RECORDS, TRAVIS COUNTY, TEXAS. TYPE: RECIPROCAL EASEMENT AGREEMENT FOR ACCESS, DRAINAGE AND UTILITIES
**–SUBJECT TO, BLANKET TYPE/NOT PLOTTABLE**

10Q. TERMS, CONDITIONS AND STIPULATIONS IN THE AGREEMENT: DATED: JUNE 30, 1997 IN VOLUME 12971, PAGE 11, REAL PROPERTY RECORDS, TRAVIS COUNTY, TEXAS AND FIRST AMENDMENT RECORDED UNDER DOCUMENT NO. 2001067363 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS, AND SECOND AMENDMENT RECORDED UNDER DOCUMENT NO. 2012010750 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS. TYPE: RESTATED AND AMENDED SHOPPING CENTER RECIPROCAL EASEMENT AND OPERATION AGREEMENT
**–SUBJECT TO, NO PLOTTABLE ITEMS**

## SURVEYOR'S NOTES

1. DISTANCES ARE MARKED IN FEET AND DECIMAL PLACES THEREOF. NO DIMENSION SHALL BE ASSUMED BY SCALE MEASUREMENT HEREON. DISTANCES AND/OR BEARINGS SHOWN IN PARENTHESIS (456.67') ARE RECORD OR DEED VALUES, NOT FIELD MEASURED.
2. COMPARE THIS PLAT, BENCHMARKS AND ALL SURVEY MONUMENTS BEFORE BUILDING, AND IMMEDIATELY REPORT ANY DISCREPANCIES TO THE SURVEYOR.
3. ONLY THE IMPROVEMENTS WHICH WERE VISIBLE FROM ABOVE GROUND AT THE TIME OF SURVEY AND THROUGH A NORMAL SEARCH AND WALK THROUGH OF THE SITE ARE SHOWN ON THE FACE OF THIS PLAT. LAWN SPRINKLER SYSTEMS, IF ANY, ARE NOT SHOWN ON THIS SURVEY.
4. THIS SURVEY MAY NOT REFLECT ALL UTILITIES, OR IMPROVEMENTS, IF SUCH ITEMS ARE HIDDEN BY LANDSCAPING OR ARE COVERED BY LEAVES OR OTHER OBSTRUCTIONS. THERE MAY BE ADDITIONAL UTILITIES OR IMPROVEMENTS THAT HAVE NOT BEEN SHOWN.
5. SYMBOLS SHOWN HEREON ARE NOT TO SCALE.
6. SURVEYOR IS NOT AWARE OF ANY PROPOSED RIGHT-OF-WAY CHANGES AFFECTING SUBJECT TRACT AT TIME OF SURVEY.
7. THIS TRACT HAS ACCESS TO US HWY 290, A DEDICATED PUBLIC RIGHT-OF-WAY.
8. NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED AT THE TIME OF SURVEY.
9. NO PROTRUSIONS OF IMPROVEMENT OVER BOUNDARY LINES WERE OBSERVED ON DATE OF SURVEY, EXCEPT AS SHOWN HEREON.
10. UNDERGROUND LINES/UTILITIES SHOWN HEREON ARE FIELD LOCATIONS OF MARKINGS MADE PURSUANT TO A TEXAS 811 UTILITY LOCATE REQUEST MADE BY SURVEYOR.

## LEGEND

- PROPERTY LINE
- EASEMENT LINE
- ADJOINING PROPERTY LINE
- UNDERGROUND TELEPHONE
- UNDERGROUND GAS
- OVERHEAD UTILITY LINES
- UNDERGROUND ELECTRIC
- UNDER GROUND WATER
- UNDER GROUND WASTE WATER
- FOUND 5/8-INCH IRON ROD
- FOUND CUT "X"
- FOUND PUNCH IN CONCRETE
- SANITARY MANHOLE (SMH)
- SANITARY CLEANOUT
- WATER METER
- IRRIGATION CONTROL VALVE
- WATER MARKER
- WATER MARKER POST
- GAS METER
- ELECTRICAL METER
- ELECTRICAL MANHOLE
- ELECTRIC TRANSFORMER
- FIBER OPTIC MANHOLE
- FIBER OPTIC MARKER POST
- LIGHT STANDARD
- BOLLARD
- HANDICAPPED PARKING
- UTILITY POLE
- ( ) = RECORD INFORMATION VOL. 90, PG. 383
- [ ] = RECORD INFORMATION VOL. 100, PG. 301
- FIRE HYDRANT/AUX. VALVE
- GUY WIRE
- SIGN
- BUFFALO BOX
- TELEPHONE PEDESTAL
- STORM INLET (INL)
- STORM PIPE
- BUILDING OVERHANG
- ELECTRIC DISCONNECT
- FIRE SIAMESE
- FDC = FIRE DEPARTMENT CONNECTION

## SURVEYORS CERTIFICATION

TO: 5010 WEST HIGHWAY 290, LLC, A TEXAS LIMITED LIABILITY COMPANY; APPLE HOUSTON RESTAURANTS, INC., A TEXAS CORPORATION; OLIVE GARDEN HOLDINGS, LLC, A FLORIDA LIMITED LIABILITY COMPANY; FIRST AMERICAN TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-4, 7(A), 7(B), 8, 9, 11(A), 13, 14, 16, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON JANUARY 23, 2025.

EXECUTED THIS THE 6TH DAY OF FEBRUARY, 2025.

ABRAM C. DASHNER
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 5901
MANHARD CONSULTING

## SURVEY PREPARED FOR

5010 WEST HIGHWAY 290, LLC

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| DATE | REVISIONS | DRAWN BY |
|---|---|---|
| 03/24/25 | ADDING CONTROL INFORMATION | TZ |
| 02/07/25 | ADDRESSING TITLE COMMITMENT | |

LOT 1A RESUBDIVISION OF GAINES SUBDIVISION SECTION 1-A
5010 W US HWY 290, TX 78735
ALTA/NSPS LAND TITLE

PROJ. MGR.: AD
DRAWN BY: AL
SURVEY DATE: 01/23/25
ISSUE DATE: 02/06/25
SCALE: 1"=20'

SHEET 1 OF 1
617.246001

Manhard CONSULTING
1501 S Capital of Texas Hwy, Bldg. I, Ste. 210, Austin, TX 78746 ph 512.244.3395 manhard.com
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Construction Managers | Environmental Scientists | Landscape Architects | Planners
Texas Board of Professional Engineers & Land Surveyors Reg. No. F-10964 (Civil) & F-10194 (Surv.)

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
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PHONE: 512-646-3942
WWW.KIMLEY-HORN.COM
TEXAS REGISTRATION NO. F-928 (ARCH) & F-10956 (ENG)
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

04/25/2025

| KHA PROJECT 063887221 | DATE: APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

ALTA SURVEY

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
3 OF 26

SP-2025-0116C.CC

Plotted By: Sheaffer, Ryan Date: April 30, 2025 08:46:30am File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Final Plat.dwg
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## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

### ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.

2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.

3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
   - THE NAME OF THE APPROVED PROJECT;
   - THE ACTUAL START DATE; AND
   - THE CONTACT INFORMATION OF THE PRIME CONTRACTOR.

4. ANY MODIFICATION TO THE ACTIVITIES DESCRIBED IN THE REFERENCED SCS APPLICATION FOLLOWING THE DATE OF APPROVAL MAY REQUIRE THE SUBMITTAL OF AN SCS APPLICATION TO MODIFY THIS APPROVAL, INCLUDING THE PAYMENT OF APPROPRIATE FEES AND ALL INFORMATION NECESSARY FOR ITS REVIEW AND APPROVAL.

5. PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY, ALL TEMPORARY EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS. THESE CONTROLS MUST REMAIN IN PLACE UNTIL THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

6. IF ANY SENSITIVE FEATURES ARE DISCOVERED DURING THE WASTEWATER LINE TRENCHING ACTIVITIES, ALL REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE APPLICANT MUST IMMEDIATELY NOTIFY THE APPROPRIATE REGIONAL OFFICE OF THE TCEQ OF THE FEATURE DISCOVERED. A GEOLOGIST'S ASSESSMENT OF THE LOCATION AND EXTENT OF THE FEATURE DISCOVERED MUST BE REPORTED TO THAT REGIONAL OFFICE IN WRITING AND THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF THE LINE.

7. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOODPLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL, OR THE SEWER LINES MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES.

8. BLASTING PROCEDURES FOR PROTECTION OF EXISTING SEWER LINES AND OTHER UTILITIES WILL BE IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION CRITERIA. SAND IS NOT ALLOWED AS BEDDING OR BACKFILL IN TRENCHES THAT HAVE BEEN BLASTED. IF ANY EXISTING SEWER LINES ARE DAMAGED, THE LINES MUST BE REPAIRED AND RETESTED.

9. ALL MANHOLES CONSTRUCTED OR REHABILITATED ON THIS PROJECT MUST HAVE WATERTIGHT SIZE ON SIZE RESILIENT CONNECTORS ALLOWING FOR DIFFERENTIAL SETTLEMENT. IF MANHOLES ARE CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, THE COVER MUST HAVE A GASKET AND BE BOLTED TO THE RING. WHERE GASKETED MANHOLE COVERS ARE REQUIRED FOR MORE THAN THREE MANHOLES IN SEQUENCE OR FOR MORE THAN 1500 FEET, ALTERNATE MEANS OF VENTING WILL BE PROVIDED. BRICKS ARE NOT AN ACCEPTABLE CONSTRUCTION MATERIAL FOR ANY PORTION OF THE MANHOLE.

   THE DIAMETER OF THE MANHOLES MUST BE A MINIMUM OF FOUR FEET AND THE MANHOLE FOR ENTRY MUST HAVE A MINIMUM CLEAR OPENING DIAMETER OF 30 INCHES. THESE DIMENSIONS AND OTHER DETAILS SHOWING COMPLIANCE WITH THE COMMISSION'S RULES CONCERNING MANHOLES AND SEWER LINE/MANHOLE INVERTS DESCRIBED IN 30 TAC §217.55 ARE INCLUDED ON PLAN SHEET __ OF __.

   IT IS SUGGESTED THAT ENTRANCE INTO MANHOLES IN EXCESS OF FOUR FEET DEEP BE ACCOMPLISHED BY MEANS OF A PORTABLE LADDER. THE INCLUSION OF STEPS IN A MANHOLE IS PROHIBITED.

10. WHERE WATER LINES AND NEW SEWER LINE ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) (PIPE DESIGN) AND 30 TAC §290.44(E) (WATER DISTRIBUTION).

11. WHERE SEWERS LINES DEVIATE FROM STRAIGHT ALIGNMENT AND UNIFORM GRADE ALL CURVATURE OF SEWER PIPE MUST BE ACHIEVED BY THE FOLLOWING PROCEDURE WHICH IS RECOMMENDED BY THE PIPE MANUFACTURER: _____

   IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE USED: _____

   SPECIFIC CARE MUST BE TAKEN TO ENSURE THAT THE JOINT IS PLACED IN THE CENTER OF THE TRENCH AND PROPERLY BEDDED IN ACCORDANCE WITH 30 TAC §217.54.

12. NEW SEWAGE COLLECTION SYSTEM LINES MUST BE CONSTRUCTED WITH STUB OUTS FOR THE CONNECTION OF ANTICIPATED EXTENSIONS. THE LOCATION OF SUCH STUB OUTS MUST BE MARKED ON THE GROUND SUCH THAT THEIR LOCATION CAN BE EASILY DETERMINED AT THE TIME OF CONNECTION OF THE EXTENSIONS. SUCH STUB OUTS MUST BE MANUFACTURED WYES OR TEES THAT ARE COMPATIBLE IN SIZE AND MATERIAL WITH BOTH THE SEWER LINE AND THE EXTENSION. AT THE TIME OF ORIGINAL CONSTRUCTION, NEW STUB-OUTS MUST BE CONSTRUCTED SUFFICIENTLY TO EXTEND BEYOND THE END OF THE STREET PAVEMENT. ALL STUB-OUTS MUST BE SEALED WITH A MANUFACTURED CAP TO PREVENT LEAKAGE. EXTENSIONS THAT WERE NOT ANTICIPATED AT THE TIME OF ORIGINAL CONSTRUCTION OR THAT ARE TO BE CONNECTED TO AN EXISTING SEWER LINE NOT FURNISHED WITH STUB OUTS MUST BE CONNECTED USING A MANUFACTURED SADDLE AND IN ACCORDANCE WITH ACCEPTED PLUMBING TECHNIQUES.

    IF NO STUB-OUT IS PRESENT AN ALTERNATE METHOD OF JOINING LATERALS IS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __. (FOR POTENTIAL FUTURE LATERALS).

    THE PRIVATE SERVICE LATERAL STUB-OUTS MUST BE INSTALLED AS SHOWN ON THE PLAN AND PROFILE SHEETS ON PLAN SHEET __ OF __ AND MARKED AFTER BACKFILLING AS SHOWN IN THE DETAIL ON PLAN SHEET __ OF __.

13. TRENCHING, BEDDING AND BACKFILL MUST CONFORM WITH 30 TAC §217.54. THE BEDDING AND BACKFILL FOR FLEXIBLE PIPE MUST COMPLY WITH THE STANDARDS OF ASTM D-2321, CLASSES IA, IB, II OR III. RIGID PIPE BEDDING MUST COMPLY WITH THE REQUIREMENTS OF ASTM C 12 (ANSI A 106.2) CLASSES A, B OR C.

14. SEWER LINES MUST BE TESTED FROM MANHOLE TO MANHOLE. WHEN A NEW SEWER LINE IS CONNECTED TO AN EXISTING STUB OR CLEAN-OUT, IT MUST BE TESTED FROM EXISTING MANHOLE TO NEW MANHOLE. IF A STUB OR CLEAN-OUT IS USED AT THE END OF THE PROPOSED SEWER LINE, NO PRIVATE SERVICE LATERAL MAY BE CONNECTED BETWEEN THE LAST MANHOLE AND THE CLEANOUT UNLESS IT CAN BE CERTIFIED AS CONFORMING WITH THE PROVISIONS OF 30 TAC §213.5(C)(3)(E).

15. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH 30 TAC §217.57. THE ENGINEER MUST RETAIN COPIES OF ALL TEST RESULTS WHICH MUST BE MADE AVAILABLE TO THE EXECUTIVE DIRECTOR UPON REQUEST. THE ENGINEER MUST CERTIFY IN WRITING THAT ALL WASTEWATER LINES HAVE PASSED ALL REQUIRED TESTING TO THE APPROPRIATE REGIONAL OFFICE WITHIN 30 DAYS OF TEST COMPLETION AND PRIOR TO USE OF THE NEW COLLECTION SYSTEM. TESTING METHOD WILL BE:

    15.1. FOR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW, THE DESIGN MUST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST CONFORM TO THE FOLLOWING REQUIREMENTS:

    *15.1.1. LOW PRESSURE AIR TEST.*

    15.1.1.1. A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH(B)(II) OF THIS PARAGRAPH.

    15.1.1.2. FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION.

    15.1.1.2.1. A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE.

    15.1.1.2.2. ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

    Equation C.3

$$T = \frac{0.085 \times D \times K}{Q}$$

    WHERE:

    T = TIME FOR PRESSURE TO DROP 1.0 POUND PER SQUARE INCH GAUGE IN SECONDS
    K = 0.000419 X D X L, BUT NOT LESS THAN 1.0
    D = AVERAGE INSIDE PIPE DIAMETER IN INCHES
    L = LENGTH OF LINE OF SAME SIZE BEING TESTED, IN FEET
    Q = RATE OF LOSS, 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE

### ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL CONSTRUCTION NOTES

15.1.1.3. SINCE A K VALUE OF LESS THAN 1.0 MAY NOT BE USED, THE MINIMUM TESTING TIME FOR EACH PIPE DIAMETER IS SHOWN IN THE FOLLOWING TABLE C.3:

| PIPE DIAMETER *(INCHES)* | MINIMUM TIME *(SECONDS)* | MAXIMUM LENGTH FOR MINIMUM TIME *(FEET)* | TIME FOR LONGER LENGTH *(SECONDS/FOOT)* |
|---|---|---|---|
| 6 | 340 | 398 | 0.855 |
| 8 | 454 | 298 | 1.520 |
| 10 | 567 | 239 | 2.374 |
| 12 | 680 | 199 | 3.419 |
| 15 | 850 | 159 | 5.342 |
| 18 | 1020 | 133 | 7.693 |
| 21 | 1190 | 114 | 10.471 |
| 24 | 1360 | 100 | 13.676 |
| 27 | 1530 | 88 | 17.309 |
| 30 | 1700 | 80 | 21.369 |
| 33 | 1870 | 72 | 25.856 |

15.1.1.4. AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.

15.1.1.5. IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.

15.1.1.6. WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE PROCEDURE OUTLINED IN THIS SECTION.

15.1.1.7. A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

*15.1.1.*

*15.1.2. INFILTRATION/EXFILTRATION TEST.*

15.1.2.1. THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF 2.0 FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE.

15.1.2.2. AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.

15.1.2.3. THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT EXCEED 50 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT A MINIMUM TEST HEAD OF TWO FEET ABOVE THE CROWN OF A PIPE AT AN UPSTREAM MANHOLE, OR AT LEAST TWO FEET ABOVE EXISTING GROUNDWATER LEVEL, WHICHEVER IS GREATER.

15.1.2.4. FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARAGRAPH (C) OF THIS PARAGRAPH.

15.1.2.5. IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION.

15.1.

15.2. IF A GRAVITY COLLECTION PIPE IS COMPOSED OF FLEXIBLE PIPE, DEFLECTION TESTING IS ALSO REQUIRED. THE FOLLOWING PROCEDURES MUST BE FOLLOWED:

15.2.1. FOR A COLLECTION PIPE WITH INSIDE DIAMETER LESS THAN 27 INCHES, DEFLECTION MEASUREMENT REQUIRES A RIGID MANDREL.

*15.2.1.1. MANDREL SIZING.*

15.2.1.1.1. A RIGID MANDREL MUST HAVE AN OUTSIDE DIAMETER (OD) NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER (ID) OR AVERAGE ID OF A PIPE, AS SPECIFIED IN THE APPROPRIATE STANDARD BY THE ASTMS, AMERICAN WATER WORKS ASSOCIATION, UNI-BELL, OR AMERICAN NATIONAL STANDARDS INSTITUTE, OR ANY RELATED APPENDIX.

15.2.1.1.2. IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD, THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE, THE ID OF THE PIPE, FOR THE PURPOSES OF DETERMINING THE OD OF THE MANDREL, MUST EQUAL BE THE AVERAGE OUTSIDE DIAMETER MINUS TWO MINIMUM WALL THICKNESSES FOR OD CONTROLLED PIPE AND THE AVERAGE INSIDE DIAMETER FOR ID CONTROLLED PIPE.

15.2.1.1.3. ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD.

*15.2.1.1.*

*15.2.1.2. MANDREL DESIGN.*

15.2.1.2.1. A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.

15.2.1.2.2. A MANDREL MUST HAVE NINE OR MORE ODD NUMBER OF RUNNERS OR LEGS.

15.2.1.2.3. A BARREL SECTION LENGTH MUST EQUAL AT LEAST 75% OF THE INSIDE DIAMETER OF A PIPE.

15.2.1.2.4. EACH SIZE MANDREL MUST USE A SEPARATE PROVING RING.

15.2.1.2.

*15.2.1.3. METHOD OPTIONS.*

15.2.1.3.1. AN ADJUSTABLE OR FLEXIBLE MANDREL IS PROHIBITED.

15.2.1.3.2. A TEST MAY NOT USE TELEVISION INSPECTION AS A SUBSTITUTE FOR A DEFLECTION TEST.

15.2.1.3.3. IF REQUESTED, THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A CASE-BY-CASE BASIS.

15.2.1.

15.2.2. FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER, OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL DEFLECTION.

15.2.3. A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

15.2.4. AN OWNER SHALL NOT CONDUCT A DEFLECTION TEST UNTIL AT LEAST 30 DAYS AFTER FINAL BACKFILL.

15.2.5. GRAVITY COLLECTION SYSTEM PIPE DEFLECTION MUST NOT EXCEED FIVE PERCENT (5%).

15.2.6. IF A PIPE SECTION FAILS A DEFLECTION TEST, AN OWNER SHALL CORRECT THE PROBLEM AND CONDUCT A SECOND TEST AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.

16. ALL MANHOLES MUST BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC §217.58.

16.1. ALL MANHOLES MUST PASS A LEAKAGE TEST.

16.2. AN OWNER SHALL TEST EACH MANHOLE (AFTER ASSEMBLY AND BACKFILLING) FOR LEAKAGE, SEPARATE AND INDEPENDENT OF THE COLLECTION SYSTEM PIPES, BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHOD APPROVED BY THE EXECUTIVE DIRECTOR.

16.2.1. HYDROSTATIC TESTING.

16.2.1.1. THE MAXIMUM LEAKAGE FOR HYDROSTATIC TESTING OR ANY ALTERNATIVE TEST METHODS IS 0.025 GALLONS PER FOOT DIAMETER PER FOOT OF MANHOLE DEPTH PER HOUR.

16.2.1.2. TO PERFORM A HYDROSTATIC EXFILTRATION TEST, AN OWNER SHALL SEAL ALL WASTEWATER PIPES COMING INTO A MANHOLE WITH AN INTERNAL PIPE PLUG, FILL THE MANHOLE WITH WATER, AND MAINTAIN THE TEST FOR AT LEAST ONE HOUR.

16.2.1.3. A TEST FOR CONCRETE MANHOLES MAY USE A 24-HOUR WETTING PERIOD BEFORE TESTING TO ALLOW SATURATION OF THE CONCRETE.

16.2.1.

16.2.2. VACUUM TESTING.

16.2.2.1. TO PERFORM A VACUUM TEST, AN OWNER SHALL PLUG ALL LIFT HOLES AND EXTERIOR JOINTS WITH A NON-SHRINK GROUT AND PLUG ALL PIPES ENTERING A MANHOLE.

16.2.2.2. NO GROUT MAY BE PLACED IN HORIZONTAL JOINTS BEFORE TESTING.

16.2.2.3. STUB-OUTS, MANHOLE BOOTS, AND PIPE PLUGS MUST BE SECURED TO PREVENT MOVEMENT WHILE A VACUUM IS DRAWN.

16.2.2.4. AN OWNER SHALL USE A MINIMUM 60 INCH-LB TORQUE WRENCH TO TIGHTEN THE EXTERNAL CLAMPS THAT SECURE A TEST COVER TO THE TOP OF A MANHOLE.

16.2.2.5. A TEST HEAD MUST BE PLACED AT THE INSIDE OF THE TOP OF A CONE SECTION, AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

16.2.2.6. THERE MUST BE A VACUUM OF 10 INCHES OF MERCURY INSIDE A MANHOLE TO PERFORM A VALID TEST.

16.2.2.7. A TEST DOES NOT BEGIN UNTIL AFTER THE VACUUM PUMP IS OFF.

16.2.2.8. A MANHOLE PASSES THE TEST IF AFTER 2.0 MINUTES AND WITH ALL VALVES CLOSED, THE VACUUM IS AT LEAST 9.0 INCHES OF MERCURY.

17. ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC §213.5(C)(3)(I). AFTER INSTALLATION OF AND, PRIOR TO COVERING AND CONNECTING A PRIVATE SERVICE LATERAL TO AN EXISTING ORGANIZED SEWAGE COLLECTION SYSTEM, A TEXAS LICENSED PROFESSIONAL ENGINEER, TEXAS REGISTERED SANITARIAN, OR APPROPRIATE CITY INSPECTOR MUST VISUALLY INSPECT THE PRIVATE SERVICE LATERAL AND THE CONNECTION TO THE SEWAGE COLLECTION SYSTEM, AND CERTIFY THAT IT IS CONSTRUCTED IN CONFORMITY WITH THE APPLICABLE PROVISIONS OF THIS SECTION. THE OWNER OF THE COLLECTION SYSTEM MUST MAINTAIN SUCH CERTIFICATIONS FOR FIVE YEARS AND FORWARD COPIES TO THE APPROPRIATE REGIONAL OFFICE UPON REQUEST. CONNECTIONS MAY ONLY BE MADE TO AN APPROVED SEWAGE COLLECTION SYSTEM.

| AUSTIN REGIONAL OFFICE | SAN ANTONIO REGIONAL OFFICE |
|---|---|
| 12100 PARK 35 CIRCLE, BUILDING A | 14250 JUDSON ROAD |
| AUSTIN, TEXAS 78753-1808 | SAN ANTONIO, TEXAS 78233-4480 |
| PHONE (512) 339-2929 | PHONE (210) 490-3096 |
| FAX (512) 339-3795 | FAX (210) 545-4329 |

**THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.**

## CITY OF AUSTIN STANDARD SITE PLAN NOTES

### SITE PLAN RELEASE NOTES

1. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE SITE PLAN AMENDMENT AND APPROVAL OF THE DEVELOPMENT SERVICES DEPARTMENT.
2. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING AND FIRE CODE APPROVAL NOR BUILDING PERMIT APPROVAL.
3. ALL SIGNS MUST COMPLY WITH REQUIREMENTS OF THE LAND DEVELOPMENT CODE (CHAPTER 25-10).
4. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
5. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN.
6. ALL EXISTING STRUCTURES SHOWN TO BE REMOVED WILL REQUIRE A DEMOLITION PERMIT FROM THE CITY OF AUSTIN DEVELOPMENT SERVICES DEPARTMENT.
7. FOR DRIVEWAY CONSTRUCTION: THE OWNER IS RESPONSIBLE FOR ALL COSTS FOR RELOCATION OF, OR DAMAGE TO UTILITIES.
8. FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A ROW EXCAVATION PERMIT IS REQUIRED.
9. NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OWNER OR OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE OF TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING CONDOMINIUMS.

### FIRE DEPARTMENT

1. THE AUSTIN FIRE DEPARTMENT REQUIRES FINAL ASPHALT OR CONCRETE PAVEMENT ON REQUIRED ACCESS ROADS PRIOR TO THE START OF COMBUSTIBLE CONSTRUCTION. ANY OTHER METHOD OF PROVIDING "ALL-WEATHER DRIVING CAPABILITIES" SHALL BE REQUIRED TO BE DOCUMENTED AND APPROVED AS AN ALTERNATIVE METHOD OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE RULES FOR TEMPORARY ROADS OUTLINED IN THE CITY OF AUSTIN FIRE PROTECTION CRITERIA MANUAL.
2. FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE FOUR (4) INCH OPENING (STEAMER) LOCATED AT LEAST 18 INCHES ABOVE FINISHED GRADE. THE STEAMER OPENING OF THE FIRE HYDRANTS SHALL FACE THE APPROVED FIRE ACCESS DRIVEWAY OR PUBLIC STREET AND SET BACK FROM THE CURB LINE(S) AN APPROVED DISTANCE, TYPICALLY THREE (3) TO SIX (6) FEET. THE AREA WITHIN THE THREE (3) FEET IN ALL DIRECTIONS FROM ANY FIRE HYDRANT SHALL BE FREE OF OBSTRUCTIONS, AND THE AREA BETWEEN THE STEAMER OPENING AN THE STREET OR DRIVEWAY GIVING EMERGENCY VEHICLE ACCESS SHALL BE FREE OF OBSTRUCTIONS.
3. TIMING OF INSTALLATION: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE CONTRACTOR, SUCH FACILITIES SHALL INCLUDE SURFACE ACCESS ROADS. EMERGENCY ACCESS ROADS OR DRIVES SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION. WHEN THE FIRE DEPARTMENT APPROVES AN ALTERNATE METHOD OF PROTECTION, THIS REQUIREMENT MAY BE MODIFIED AS DOCUMENTED IN THE APPROVAL OF THE ALTERNATE METHOD.
4. ALL EMERGENCY ACCESS ROADWAYS AND FIRE LANES, INCLUDING PERVIOUS/DECORATIVE PAVING, SHALL BE ENGINEERED AND INSTALLED AS REQUIRED TO SUPPORT THE AXLE LOADS OF EMERGENCY VEHICLES. A LOAD CAPACITY SUFFICIENT TO MEET THE REQUIREMENTS FOR HS-20 LOADING (19KIP/WHEEL) AND A TOTAL VEHICLE LIVE LOAD OF 80,000 POUNDS IS CONSIDERED COMPLIANT WITH THIS REQUIREMENT.
5. FIRE LANES DESIGNATED ON SITE PLAN SHALL BE REGISTERED WITH CITY OF AUSTIN FIRE DEPARTMENT AND INSPECTED FOR FINAL APPROVAL.
6. THE MINIMUM VERTICAL CLEARANCE REQUIRED FOR EMERGENCY VEHICLE ACCESS ROADS OR DRIVES IS 14 FEET FOR THE FULL WIDTH OF THE ROADWAY OR DRIVEWAY.
7. SIGNAGE: THE WORDS "FIRE ZONE/TOW-AWAY ZONE" IN WHITE LETTERS AT LEAST 3" HIGH AT 35 FOOT INTERVALS ALONG THE CURB. SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE AND AT INTERVALS OF 50 FEET OR LESS.

### GENERAL CONSTRUCTION NOTES

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
2. CONTRACTOR SHALL CALL TEXAS 811 (811 OR 1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.
3. CONTRACTOR SHALL NOTIFY THE CITY OF AUSTIN - SITE & SUBDIVISION DIVISION TO SUBMIT REQUIRED DOCUMENTATION, PAY CONSTRUCTION INSPECTION FEES, AND TO SCHEDULE THE REQUIRED SITE AND SUBDIVISION PRE-CONSTRUCTION MEETING. THIS MEETING MUST BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN THE R.O.W. OR PUBLIC EASEMENTS. PLEASE VISIT HTTP://AUSTINTEXAS.GOV/PAGE/COMMERCIAL-SITE-AND-SUBDIVISION-INSPECTIONS FOR A LIST OF SUBMITTAL REQUIREMENTS, INFORMATION CONCERNING FEES, AND CONTACT INFORMATION.
4. FOR SLOPES OR TRENCHES GREATER THAN FIVE FEET IN DEPTH, A NOTE MUST BE ADDED STATING: "ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION." (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN TEXAS.)
5. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.
6. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO THE FOLLOWING, THE ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DRAINAGE, FILTRATION AND DETENTION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS:
   - RELEASE OF THE CERTIFICATE OF OCCUPANCY BY THE DEVELOPMENT SERVICES DEPARTMENT (INSIDE THE CITY LIMITS); OR
   - INSTALLATION OF AN ELECTRIC OR WATER METER (IN THE FIVE-MILE ETJ)

### DEVELOPER INFORMATION

DARDEN RESTAURANTS, INC. (352)246-7938
OWNER PHONE #

801 W. 5TH STREET, SUITE 100, AUSTIN, TEXAS 78703
OWNER ADDRESS

JARED KRITENBRINK, KIMLEY-HORN AND ASSOCIATES, INC. (405)241-4540
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS PHONE #

DARDEN RESTAURANTS, INC. (352)246-7938
PERSON OR FIRM RESPONSIBLE FOR EROSION/ PHONE #
SEDIMENTATION CONTROL MAINTENANCE

DARDEN RESTAURANTS, INC. (352)246-7938
PERSON OR FIRM RESPONSIBLE FOR TREE/NATURAL PHONE #
AREA PROTECTION MAINTENANCE

### AMERICANS WITH DISABILITIES ACT

THE CITY OF AUSTIN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH CITY DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.

### TRANSPORTATION NOTES:

1. ALL ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED BY A SIGN, CENTERED AT THE HEAD OF THE TWO PARKING SPACES. SIGN TO INCLUDE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED OR EQUIVALENT LANGUAGE.
2. COMPACT PARKING SPACES MUST BE IDENTIFIED BY A SIGN STATING "SMALL CAR ONLY"
3. EACH PARKING SPACE SHALL HAVE A VERTICAL CLEARANCE AS SPECIFIED BY THE BUILDING CODE (MINIMUM 7 FEET)
4. RAISED CONCRETE CURBS SHALL BE PROVIDED AT THE END OF PARKING BAY SAND ALL LANDSCAPED ISLANDS UNLESS OTHERWISE NOTED.
5. ALL PARKING AISLES ARE DESIGNED FOR TWO-WAY TRAFFIC UNLESS OTHERWISE NOTED.
6. WAS

## KH GENERAL NOTES

**OVERALL:**

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY (OR TOWN) STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND, COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
2. THE CONTRACTOR SHALL COMPLY WITH CITY (OR TOWN) "GENERAL NOTES" FOR CONSTRUCTION, IF EXISTING AND REQUIRED BY THE CITY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY.
3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.
4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THESE BENCHMARKS.
6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER IMMEDIATELY.
7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW.
8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING.
9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL.
10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
13. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
15. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PRIOR CONSTRUCTION PLANS, AND MAY BE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED.
18. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION AND SERVICE TO THE PROPOSED DEVELOPMENT.
19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO MOVE, ADJUST, SUPPORT, SHORING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
20. BRACING OF UTILITY POLES MAY BE REQUIRED BY THE OWNER WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
21. CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
22. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
23. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
24. ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
25. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
26. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
27. CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
28. ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC…) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR.
29. THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
30. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
31. THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES, INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS NOT RELIEVED OF THEIR RESPONSIBILITY IF ANY CONFLICT BETWEEN THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC….) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY.
32. ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
33. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR AND FURNISH THE CERTIFICATIONS.
34. ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
35. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
36. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
37. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO AREAS OF ALL NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR.
38. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER.
39. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, THEIR C… TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
40. ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
41. THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC… THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
42. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTION AT ALL TIMES.
43. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
44. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
45. SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
46. THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
47. SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
48. CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
49. LIGHT POLES, SIGNS, AND OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN ACCESSIBLE ROUTES.
50. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
51. TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.
52. CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
53. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
54. CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
55. CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR VARIANCES FROM THE PLANS.
56. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.

**EROSION CONTROL:**

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE "TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000".
3. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE.
4. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT.
5. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
6. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
7. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
8. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.
9. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
10. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
11. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
13. CONTRACTOR SHALL INSPECT ALL DISTURBANCES, DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE, TO VERIFY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY.
14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT ALL TIMES FOR ALL INGRESS/EGRESS.
15. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY
16. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM, THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.
17. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP BMP.
18. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
19. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.
20. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE ASPHALT PAD WILL NEED TO BE REMOVED AND REPLACED. ANY DEBRIS FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
21. TEMPORARY SEEDING AND TEMPORARY VEGETATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
22. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS SOON AS POSSIBLE.
23. UPON COMPLETION OF FINE GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALK, PAVEMENT, OR ALL UNPAVED PERVIOUS AREAS HAVE ESTABLISHED A UNIFORM VEGETATIVE COVER.
24. AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH APPLICABLE REGULATIONS.

**STORM WATER DISCHARGE AUTHORIZATION:**

1. CONTRACTOR SHALL COMPLY WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS.
2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000.
3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL PRIOR TO COMMENCING CONSTRUCTION. ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) RECEIVING DISCHARGE FROM THE SITE.
4. CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ AND EPA (E.G. NOI).
5. ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE REQUIRED CONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP.
6. A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE RESPONSIBLE CONTRACTOR AT THE TIME OF CONSTRUCTION.
7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS, OR AFTER FINAL STABILIZATION AND TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

**DEMOLITION:**

1. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES THAT EXIST. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES.
3. THIS PLAN IS INTENDED AS A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. CONTRACTOR SHALL STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
   a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER,
   c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
   d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
5. CONTRACTOR SHALL CONTACT THE OWNER TO DETERMINE WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
7. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE REMOVED.
8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

**GRADING:**

1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL OBTAIN ANY REQUIRED GRADING PERMITS FROM THE CITY.
3. UNLESS OTHERWISE NOTED, FINISH GROUND ELEVATIONS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-IN

# GENERAL NOTES

ALL RESPONSIBILITY FOR THE ADEQUECY OF THESE PLANS REMAINS WITH THE ENGINEER. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN DOES NOT REMOVE THESE RESPONSIBILITIES.

"REVIEWED BY AUSTIN WATER" APPLIES ONLY TO AW PUBLIC INFRASTRUCTURE, ALL OTHER WATER AND WASTEWATER INFRASTRUCTURE INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICATION OF BUILDING INSPECTIONS.

USE OF ELECTRONIC FILES GENERAL DISCLAIMER: USE OF THE ATTACHED FILES IN ANY MANNER INDICATES YOUR ACCEPTANCE OF TERMS AND CONDITIONS AS SET FORTH BELOW. IF YOU DO NOT AGREE TO ALL OF THE TERMS AND CONDITIONS, PLEASE CONTACT AUSTIN WATER PIPELINE ENGINEERING, PROJECT COORDINATOR PRIOR TO USE OF THE REFERENCED INFORMATION. PLEASE BE ADVISED THAT THE ATTACHED FILES ARE IN A FORMAT THAT CAN BE ALTERED BY THE USER. DUE TO THIS FACT, ANY REUSE OF THE DATA WILL BE AT THE USER'S SOLE RISK WITHOUT LIABILITY OR LEGAL EXPOSURE TO THE CITY OF AUSTIN AND USER SHALL INDEMNIFY AND HOLD HARMLESS THE CITY OF AUSTIN FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING FROM USING THE DIGITAL FILE. IN ADDITION, IT IS THE RESPONSIBILITY OF THE USER TO COMPARE ALL DATA WITH THE PDF VERSION OF THIS DRAWING. IN THE EVENT THERE IS A CONFLICT BETWEEN THE PDF VERSION DRAWING AND THE ELECTRONIC FILE, THE PDF VERSION DRAWING SHALL PREVAIL.

AUTOMATED METERING INFRASTRUCTURE: EFFECTIVE MARCH 2022, NEW WATER METERS INSTALLED SHALL BE IN CONFORMANCE WITH AW'S AUTOMATED METERING INFRASTRUCTURE TECHNOLOGY, AND WITH THE APPLICABLE STANDARD PRODUCT LIST. APPLICANTS FILING A SITE PLAN OR SUBDIVISION PLAN WILL BE REQUIRED TO COORDINATE WITH THE AUSTIN WATER PLAN REVIEWER FOR DETAILS ON APPROVAL AND INSTALLATION.

PRIOR TO THE HANDLING AND DISPOSAL OF ASBESTOS PIPE, THE CONTRACTOR'S WORK PLAN WILL BE REVIEWED AND COORDINATED THROUGH COA BUILDING SERVICES DEPARTMENT - ASBESTOS, LEAD AND MOLD MANAGEMENT GROUP MANAGER WHO CAN BE REACHED AT 512-974-7137. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE A TRAINED, CERTIFIED AND LICENSED ASBESTOS ABATEMENT CONTRACTOR IN ACCORDANCE WITH THE FEDERAL, STATE AND LOCAL REGULATIONS.

MODIFICATIONS TO AUSTIN WATER SIGNED AND STAMPED SHEETS ARE NOT PERMITTED. ALL DESIGN MODIFICATIONS WILL NEED TO BE SUBMITTED VIA THE ABC PORTAL FOR A PLAN CORRECTION OR REVISION. ALL UNETHICAL ENGINEERING PRACTICES, INCLUDING MODIFYING CITY STAMPED PLAN SHEETS, SHALL BE REPORTED TO THE TEXAS BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS (PELS).
REFERENCE: TEXAS ENGINEERING PRACTICE ACT AND RULES, SUBCHAPTER C: PROFESSIONAL CONDUCT AND ETHICS

THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES, BELOW GROUND AND OVERHEAD, PRIOR TO STARTING ONSITE UTILITY WORK.

# INSPECTION NOTES

PLEASE CONTACT DEVELOPMENT SERVICES DEPARTMENT, SITE AND SUBDIVISION INSPECTION AT SITESUBINTAKE@AUSTINTEXAS.GOV FOR ARRANGEMENTS FOR PAYMENT OF INSPECTION FEES AND JOB ASSIGNEMENT FOR INSPECTION OF THE PUBLIC UTILITIES TO THIS SITE. INSPECTION FEES MUST BE PAID BEFORE ANY PRE-CONSTRUCTION MEETING CAN BE CALLED.

## AW INFRASTRUCTURE INFORMATION

| PROPOSED PRODUCT TYPE (TO BE INSTALLED) | LENGTH OF PIPE (L.F.) | SIZE OF PIPE (INCH) | NO. OF METERED SERVICES |
|---|---|---|---|
| WATER MAIN | NA | NA | |
| WASTEWATER MAIN | NA | NA | |
| RECLAIMED WATER MAIN | NA | NA | |
| WATER SERVICE | 250; 19; 17 | 6; 2; 2 | 2 |
| WASTEWATER SERVICE | NA | NA | |
| RECLAIMED WATER SERVICE | NA | NA | |

# STANDARD CONSTRUCTION NOTES REVISED FEBRUARY 7, 2025

1. THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIALS AND METHODS USED TO DO THIS WORK.
2. CONTRACTOR MUST OBTAIN A ROW PERMIT FROM AUSTIN TRANSPORTATION AND PUBLIC WORKS DEPARTMENT, RIGHT OF WAY MANAGEMENT DIVISION BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY. ACTIVITY WITHIN RIGHT-OF-WAY SHALL COMPLY WITH APPROVED TRAFFIC CONTROL PLAN (TCP).
3. AT LEAST 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION ACTIVITY IN PUBLIC ROW OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE CITY OF AUSTIN INSPECTION GROUP (AUSTIN TRANSPORTATION AND PUBLIC WORKS DEPARTMENT (TPW), OR DEVELOPMENT SERVICES). SEE CURRENT NOTIFICATION REQUIREMENTS AT WWW.AUSTINTEXAS.GOV.
4. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF AUSTIN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.
5. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
6. MINIMUM TRENCH SAFETY MEASURES SHALL BE PROVIDED, AS REQUIRED BY OSHA, CITY SPECIFICATION 509S, AND CITY/COUNTY CONSTRUCTION INSPECTORS.
7. PRESSURE TAPS WILL ONLY BE ALLOWED ON A CASE BY CASE BASIS, AS DETERMINED BY THE DIRECTOR'S DESIGNEE. NORMALLY PRESSURE TAPS 4 INCHES AND LARGER SHALL BE ALLOWED IN THE FOLLOWING CASES: A) A TEST SHUT OUT INDICATES AN ADEQUATE SHUT OUT TO PERFORM THE WORK IS NOT FEASIBLE B) MORE THAN 30 CUSTOMERS OR A SINGLE CRITICAL CUSTOMER (AS DEFINED BY AUSTIN WATER) WOULD BE IMPACTED BY THE SHUT OUT OR C) THE EXISTING WATER LINE WARRANTS IT.
8. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29). FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
9. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.
10. WHEN WATER SERVICES ARE DAMAGED AND THE SERVICE MATERIAL IS POLYETHYLENE (PE), THE LINE SHALL BE REPAIRED ONLY BY HEAT FUSION WELD, AT BRASS FITTINGS, OR THE FULL LENGTH SHALL BE REPLACED PER CURRENT STANDARD DETAIL(S). WHEN POLYBUTYLENE (PB) TUBING IS DAMAGED OR TAMPERED WITH IN ANY WAY, THE FULL LENGTH OF SERVICE LINE SHALL BE REPLACED. (NOTE: FULL LENGTH IS FROM THE CORPORATION STOP TO THE METER.) REPAIR COUPLINGS ARE NOT ALLOWED FOR ANY WATER OR WASTEWATER SERVICE LINE REPAIR, RECONNECT, OR REPLACEMENT.
11. WHEN AN EXISTING WATERLINE SHUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY AUSTIN WATER DISPATCH AND THE AFFECTED CUSTOMERS A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE.
12. THE INSPECTOR SHALL NOTIFY AUSTIN WATER AT 972-1000 AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS.
13. PROJECT-SPECIFIC SHOP DRAWINGS SHALL BE SUBMITTED FOR AW APPROVAL FOR PRE-CAST CIRCULAR VERTICAL MANHOLE SECTIONS LARGER THAN 48" DIAMETER. THE SHOP DRAWINGS SHALL INCLUDE THE FLOWLINE ELEVATION OF ALL CONNECTING PIPES; ELEVATIONS OF TRANSITIONS FROM LARGE DIAMETER SECTIONS TO 48" DIAMETER SECTIONS; TOP OF MANHOLE AND SURROUNDING GROUND ELEVATIONS; AND DETAILS OF SPECIAL CONSTRUCTION CONSIDERATIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
14. WHEN CONCRETE MANHOLES LARGER THAN 48 INCH DIAMETER ARE USED, DRAWINGS THAT ARE SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED FOR BASE SLABS, FLAT TOP LIDS (IF USED), AND FLAT TYPE CONCRETE PIECES USED TO TRANSITION FROM LARGER TO SMALLER DIAMETER MANHOLE SECTIONS.
15. ALL FIRE HYDRANTS AND VALVES THAT ARE TO BE ABANDONED SHALL BE REMOVED, SALVAGED AND RETURNED TO AUSTIN WATER. NOTICE SHOULD BE GIVEN 48 HOURS PRIOR, TO PIPELINE OPERATIONS DISTRIBUTION SYSTEM -VALVES AND HYDRANT SERVICES SUPERVISOR AT AWDSM-ASSET-RECOVERY@CITYOFAUSTIN.OMMSOFT.COM.
16. ALL EXISTING WATER METERS IDENTIFIED TO BE RELOCATED OR ABANDONED AT THE DEVELOPMENT SHALL BE REMOVED FROM THE METER BOX PRIOR TO CONSTRUCTION AND GIVEN IMMEDIATELY TO THE CITY OF AUSTIN INSPECTOR.
17. THE ENGINEER SHALL CALL OUT THE SIZE, TYPE AND USE (DOMESTIC, IRRIGATION OR RECLAIM) OF ALL EXISTING WATER METERS TO BE RELOCATED OR REPURPOSED. WATER METER NUMBERS WILL NOT BE REQUIRED TO BE PLACED ON THE PLAN SHEET. A SEPARATE UTILITY PERMITTING OFFICE FORM CAN BE USED TO PROVIDE RELEVANT DATA FOR THE EXISTING INFORMATION ON EXISTING METERS TO RECEIVE APPROPRIATE CREDITS. THIS FORM SHALL BE DIRECTLY SUBMITTED TO UTILITY PERMITTING OFFICE FOR REVIEW AND PROCESSING.
18. NO CONNECTION MAY BE MADE BETWEEN THE PRIVATE PLUMBING AND AUSTIN WATER INFRASTRUCTURE UNTIL A CITY APPROVED WATER METER HAS BEEN INSTALLED.
19. METER BOXES AND CLEAN OUTS SHALL NOT BE LOCATED WITHIN PAVED AREAS SUCH AS DRIVEWAYS AND SIDEWALKS.
20. NO SOIL COMPACTION EQUIPMENT SHALL COME WITHIN 24-INCHES FROM THE TOP OF THE WATER OR WASTEWATER PIPE. BETWEEN 24-36 INCHES FROM TOP OF THE PIPE, ONLY LIGHT SOIL COMPACTION EQUIPMENT (E.G., RAMMERS OR "WHACKER PACKERS", VIBRATING PLATE COMPACTORS, WALK-BEHIND HAND-GUIDED ROLLERS) OR SMOOTH ROLLER COMPACTION EQUIPMENT WEIGHING LESS THAN 5,000 LBS. WILL BE ALLOWED. WHERE SOIL COMPACTION EQUIPMENT WILL BE 36-INCHES OR GREATER FROM THE TOP OF THE PIPE, HS20 LOADS SHALL NOT BE EXCEEDED. PIPE DEPTHS SHALL BE VERIFIED THROUGH POTHOLING, LEVEL A SUE OR BY MH INVERT DATA.
21. THE DESIGN AND CONSTRUCTION OF RETAINING WALLS, BRIDGES, CULVERTS, HEADWALLS, JUNCTION STRUCTURES, SCREENING WALLS, AND STORMWATER DRAINAGE PIPE WITHIN THE VICINITY OF AW UTILITIES SHALL BE IN COMPLIANCE WITH SECTION 13 OF THE COA'S TRANSPORTATION CRITERIA MANUAL.
22. THRUST RESTRAINT SHALL BE IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 510.3(22) AND SPL WW-27A, WW-27A-01, WW-27A-02 AND WW-27F.
23. ALL WATERLINE BRANCH CONNECTIONS SHALL HAVE AN MJ GATE VALVE POSITIVELY RESTRAINED TO THE MJ TEE BY USING A SWIVEL TEE, FOSTER ADAPTOR, OR SWIVEL X SOLID HYDRANT ADAPTOR (WITH SWIVEL GLAND).

* ON CITY SPONSORED PROJECTS, WHERE CONFLICTS ARE IDENTIFIED BETWEEN THESE CONSTRUCTION NOTES AND THE PROJECT CONTRACT DOCUMENTS, THE CONTRACT DOCUMENTS WILL TAKE PRECEDENCE.

## UTILITY CRITERIA MANUAL WAIVER SUMMARY

| WAIVER # | LINE | SHEET # | STATION(S) | WAIVER FOR | UCM # | JUSTIFICATION | AW SIGNATURE | DATE APPROVED |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## BUILDING WATER METER SIZE TABLE

| BUILDING NUMBER | FIXTURE UNITS | FLOW (GPM) | METER SIZE (IN) |
|---|---|---|---|
| 1 | | | 1.5000 |
| 1 | | | 1 |
| | | | |
| | | | |
| | | | |
| | | | |

| BUILDING | WSFU | GPM |
|---|---|---|
| EXISTING | | |
| PROPOSED | | |
| TOTAL | | |

NOTE: PROVIDE SIZE OF EXISTING METER AND MAX GPM PER AWWA METER SIZING TABLE

## LUE Tracking Table

Project: OLIVE GARDEN - SOUTHWEST PARKWAY
Case #: _____
Water SER #: _____
WW SER #: _____
Total LUE Allowed by SER: _____
LUE Benchmark / Trigger: _____

| Phase Number/Name | LUE Count |
|---|---|
| -RESTAURANT | 32 |
| - | |
| - | |
| - | |
| - | |
| Cumulative (Total) LUE | 32 |

*Note: This table to be utilized when SER required infrastructure is distributed across multiple site plans and subdivisions. Please show cumulative LUE count for development phases that have been installed, under construction, or currently under review by AW.*

**METER NOTICE NOTES:**

1. CHECK APPROPRIATE BOXES AND COMPLETE THE INFORMATION FOR METERS THAT WILL BE REQUIRED BY THIS PROJECT DESIGN.
2. FOR "LOOPED" PRIVATE WATER SYSTEMS THAT ARE UTILIZING MULTIPLE METERS, SERVICE UNITS WILL BE ASSESSED FOR ONLY ONE METER. THE SERVICE UNITS ASSESSED WILL BE CALCULATED USING TOTAL DOMESTIC DEMAND. REFERENCE AUSTIN WATER'S METER SIZING CHART (AWWA OPERATING CHARACTERISTICS FOR COLD WATER METERS) FOR FURTHER INFORMATION.
3. FOR WATER METERS THAT WILL HAVE NO WASTEWATER SERVICE ASSOCIATED WITH THEM, SPECIFY THE METER TYPE WITH THE INTENDED USE AND "WATER ONLY" DESIGNATION. "WATER ONLY" METER MAY INCLUDE OUTDOOR DRINKING FOUNTAINS, DECORATIVE FOUNTAINS, SWIMMING POOLS, ETC.
4. ADDRESSING FOR METERS IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD. FOLLOW 911 ADDRESSING LETTER GUIDELINES. ACCURATE ADDRESS REQUIRED FOR EACH METER PURCHASED.

# PROJECT INFORMATION

## FIRE, DOMESTIC AND IRRIGATION DEMAND DATA

| | |
|---|---|
| AUSTIN WATER PRESSURE IN PSI | 60 PSI |
| STATIC PRESSURE AT HIGHEST LOT SERVED IN PSI | 60 PSI |
| STATIC PRESSURE AT LOWEST LOT SERVED IN PSI | 60 PSI |
| BUILDING SIZE IN SQUARE FEET (LARGEST BUILDING) | 6325 SQ.FT. |
| BUILDING TYPE PER IFC TABLE B105.1(2) | V-B |
| BUILDING HEIGHT (LARGEST BUILDING) | 26'-0" |
| AVAILABLE FIRE FLOW CALCS AT 20 PSI | 4789 GPM |
| REQUIRED BUILDING FIRE FLOW PER IFC TABLE B105.1(2) | 2,250 GPM |
| REDUCED BUILDING FIRE FLOW PER 75% FIRE SPRINKLER (REDUCTION PER IFC TABLE B105.2) | 562.5 GPM |
| MINIMUM FIRE FLOW (SEE NOTE 2 BELOW)* | 1,500 GPM |
| WATER FIXTURE UNITS (WSFU) --CIRCLE ONE-- FLUSH TANKS OR FLUSHOMETERS | ____ WSFU |
| DOMESTIC WATER DEMAND IN GPM | ____ GPM |
| MAXIMUM IRRIGATION DEMAND IN GPM OR WAIVER LETTER | ____ GPM |
| DOMESTIC LINE VELOCITY: 2" SIZE OF DOMESTIC LINE (ADDITIONAL LINES MAY BE ADDED AS NECESSARY) | ____ FPS / ____ GPM ** |
| FIRE LINE VELOCITY: 6" SIZE OF DOMESTIC LINE (ADDITIONAL LINES MAY BE ADDED AS NECESSARY) | 17.0 FPS / 1500 GPM *** |
| LIVING UNIT EQUIVALENTS (LUEs) | 32 LUEs |

*NOTE: LOTS WITH 65 PSI OR GREATER REQUIRE A PRV TO BE INSTALLED ON THE PROPERTY OWNERS SIDE OF THE DOMESTIC WATER METER.
1. WITH THE EXCEPTION OF PROVIDING THE REQUIRED INFORMATION, DO NOT REVISE THESE TABLES IN ANYWAY.
2. MINIMUM FIRE FLOW: DESIGN ENGINEER MUST INDICATE VALUES WHICH COMPLY WITH IFC TABLES B105.1(2) OR B105.2 (REQUIRED OR REDUCED FIRE FLOWS). MINIMUM FIRE FLOW VALUE SHALL BE NO LESS THAN 1000 GPM FOR NFPA 13 SYSTEMS OR 1500 GPM FOR NFPA 13 R SYSTEMS (FOOTNOTES a AND b FOR TABLE B105.2)
3. IF DEMAND, OTHER THAN MINIMUM FIRE FLOW, IS UTILIZED IN FIRE LINE VELOCITY DETERMINATION, ENGINEERING JUSTIFICATION SHALL BE SHOWN ON THIS SHEET WITH APPLICABLE DATA AND CALCULATIONS.

** GPM TOTAL OF ALL CONNECTIONS TO THE DOMESTIC LINE.
*** GPM TOTAL OF ALL CONNECTIONS TO THE FIRE LINE.

# METER NOTICE

## POTABLE METER(S)

☐ ADDRESS: 5010 W US 290 HIGHWAY SERVICE ROAD
SOURCE AND USE: **POTABLE DOMESTIC**
METER TYPE: POSITIVE DISPLACEMENT
SIZE: 1 ½" MAX GPM: 100
SERVICE UNITS: 5

☐ ADDRESS: 5010 W US 290 HIGHWAY SERVICE ROAD
SOURCE AND USE: **IRRIGATION METER**
METER TYPE: POSITIVE DISPLACEMENT
SIZE: 1" MAX GPM: 50
SERVICE UNITS: 2.5

~~METER TYPE: SIZE: MAX GPM: SERVICE UNITS:~~

~~☐ ADDRESS: SOURCE AND USE: METER TYPE: SIZE: MAX GPM: SERVICE UNITS:~~

## RECLAIMED METER(S)

☐ ADDRESS:
SOURCE AND USE: **RECLAIMED IRRIGATION**
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for reclaimed connections)

☐ ADDRESS:
SOURCE AND USE: **RECLAIMED DOMESTIC (Toilet flushing etc.)**
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for reclaimed connections)

☐ ADDRESS:
SOURCE AND USE:
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS:

## POTABLE BACKUP TO OWRS (NP METERS)

☐ ADDRESS:
SOURCE AND USE: **POTABLE BACK-UP NP METER**
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for OWRS connections)

☐ ADDRESS:
SOURCE AND USE:
METER TYPE:
SIZE: MAX GPM:
SERVICE UNITS: 0 (No service units assessed for reclaimed connections)

## ADDITIONAL REVIEW ACKNOWLEDGEMENT

ONSITE WATER REUSE & AW RECLAIMED INFORMATION

DOES THIS DEVELOPMENT HAVE A TOTAL GROSS FLOOR BUILDING AREA OF 250,000 SQ.FT. OR MORE.

☐ YES
☒ NO

DISTANCE TO NEAREST EXISTING AW RECLAIMED MAIN?

☐ 250' OR LESS
☐ 251' TO 500'
☒ GREATER THAN 500'

AUTOMATED METERING INFORMATION

IS THIS PROJECT WITHIN THE CURRENT SERVICE AREA OF AWs DATA COLLECTION UNIT (DCUs), (REFER TO AUTOMATED METERING INFRASTRUCTURE NOTE UNDER GENERAL NOTES, FOR CLARIFICATION)

☐ YES
☒ NO

DOES THIS PROJECT REQUIRE A DEDICATED EASEMENT FOR DCU INFRASTRUCTURE?

☐ YES
☒ NO

AULCC REQUIREMENT

DOES THIS PROJECT REQUIRE AULCC REVIEW? (>300 LF OF W/WW PIPING IN ROW)

☐ YES
☒ NO

IF YES, PLEASE PROVIDE UCC#_____

**AW EXPIRATION STAMP**

**THREE YEARS FROM THE DATE OF SIGN-OFF**

**AUSTIN WATER REVIEW BLOCK**

CITY OF AUSTIN
AUSTIN WATER
FEBRUARY 7, 2025

VERSION 2.0
STANDARD NO.
1 OF 2

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

# AUSTIN WATER GENERAL INFORMATION CONSTRUCTION NOTES FOR COMMERCIAL SITES AND SUBDIVISION PLANS


Kimley»Horn
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TX REGISTERED ENGINEERING FIRM F-928

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146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN |
|---|---|---|
| DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |

AWU GENERAL NOTES (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
6 OF 41

SP-2025-0116C.CC

Plotted By: Stiegffer, Ryan Date: May 01, 2025 05:14:30pm File Path: K:\TAU_Civil\063887221-Olive Garden Southwest Pkwy\C3D\PlanSheets\C - General Notes.dwg
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## SERVICE EXTENSION REQUESTS

### WATER SERVICE NO. ####

## FIRE FLOW TEST DATA

**AUSTIN FIRE DEPARTMENT**
FIRE PREVENTION DIVISION
6310 Wilhelmina Delco Dr., Austin, Texas 78752
afd.hydrants@austintexas.gov

### Hydrant Flow Test Report

| | | | | | |
|---|---|---|---|---|---|
| TEST DATE | 03/10/2025 | FIRE BOX | 5103 | COMPANY | PREVENTION |
| TIME | 751 HRS | MAP GRID ID | E19 | AFD STAFF | FIELDS, RONALD (MIKE) |

**RESIDUAL HYDRANT**

| | | | |
|---|---|---|---|
| RESIDUAL HYDRANT # | 172967 | MAIN SIZE (in.) | 20 |

| BLK # | DIRECTION | STREET NAME | TYPE |
|---|---|---|---|
| 5000 | W | US 290 | HWY |

| | | | |
|---|---|---|---|
| STATIC PRESSURE (PSI) | 60 | RESIDUAL PRESSURE (PSI) | 58 |

**FLOW HYDRANT**

| | | | |
|---|---|---|---|
| FLOW HYDRANT # | 174001 | MAIN SIZE (in.) | 20 |

| BLK # | DIRECTION | STREET NAME | TYPE |
|---|---|---|---|
| 4900 | W | US 290 | HWY |

| | | | |
|---|---|---|---|
| STATIC PRESSURE (PSI) | 66 | RESIDUAL PRESSURE (PSI) | 32 |

| | | |
|---|---|---|
| Comments | dc = discharge coefficient straight 2½" butt = 0.9 w/ 45° elbow = 0.75 | 0.9 |
| | FLOW RATE (GPM) = | 950 |

NOTE: This information represents the water supply characteristics in the immediate area on the date and time tested. The City of Austin does not guarantee this data will be representative of the water supply characteristics at any time in the future. It is the requesting party's responsibility to ensure that this test information is appropriate to the location of the project in question and that any differences in elevation between the two test location and project are accounted for and included in the hydraulic calculations.

HFTR #18473227

## TABLE 610.3/A103.1

Austin WATER — Reclaimed Water and Onsite Water Reuse System Meter Demand Sheet

**Site Plan Case Number:** _____ **Project Address:** _____

**Step 1. Fill out the Total Number of Fixtures column for your project and indicate the Water Supply Type in the table to get a total water supply fixture unit count by supply type (potable vs. non-potable).**

| Fixture Type | | Total Number of Fixtures | | Water Supply Fixture Units (WSFU) hot and cold | | Total WSFU | Water Supply Type |
|---|---|---|---|---|---|---|---|
| Bathtub or Combination Bath/Shower | | | x | 4.0 | = | 0.0 | Potable |
| Bathtub with 3/4" fill valve | | | x | 10.0 | = | 0.0 | Potable |
| Bidet | | | x | 1.0 | = | 0.0 | Potable |
| Clothes Washer | | | x | 4.0 | = | 0.0 | Non-potable |
| Dishwasher, domestic | | | x | 1.5 | = | 0.0 | Potable |
| Drinking Fountain or Water Cooler | | | x | 0.5 | = | 0.0 | Potable |
| Lavatory | | | x | 1.0 | = | 0.0 | Potable |
| Sinks | | | | | | | |
| Bar | Public | | x | 2.0 | = | 0.0 | Potable |
| | Private | | x | 1.0 | = | 0.0 | Potable |
| Kitchen, domestic | | | x | 1.5 | = | 0.0 | Potable |
| Laundry | | | x | 1.5 | = | 0.0 | Potable |
| Service or mop basin | Public | | x | 3.0 | = | 0.0 | Potable |
| | Private | | x | 1.5 | = | 0.0 | Potable |
| Washup basin | | | x | 2.0 | = | 0.0 | Potable |
| Shower, per head | | | x | 2.0 | = | 0.0 | Potable |
| Urinal, 1.0 GPF flushometer valve | | | x | 20,15.10,8.5 | = | 0.0 | Non-potable |
| Water Closet, 1.6 GPF | Flushometer Valve | | x | 40,30,20,15.10 | = | 0.0 | Non-potable |
| | Tank Type | | x | 2.5 | = | 0.0 | Non-potable |
| First Hose Bibb | | | x | 2.5 | = | 0.0 | Potable |
| Hose Bibb, each additional | | | x | 1.0 | = | 0.0 | Potable |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | x | | = | 0.0 | |
| | | | | Total Fixture Units (WSFU) | | 0.0 | Potable |
| | | | | Total Fixture Units (WSFU) | | 0.0 | Non-potable |

**Step 2. Convert WSFU to gpm for each supply type using Chart A 103.1 from the 2021 UPC.**

| | | | | |
|---|---|---|---|---|
| Potable WSFU | = | 0.0 | -> | gpm |
| Non-potable WSFU | = | 0.0 | -> | gpm |

**Step 3. Specify additional peak demands from water use by supply type (select Supply Type).**

| Additional Water Use | Peak Demand | Flow Rate | Supply Type |
|---|---|---|---|
| Process water or special use water | | gpm | Non-potable |
| Cooling tower makeup water | | gpm | Non-potable |
| Irrigation system | | gpm | Non-potable |

**Step 4. Select the type of non-potable water supply system to add the demands for each required meter (select Yes or No).**

Reclaimed Water System: _____ ***OR*** Onsite Water Reuse System Applying for OWRS fee in lieu: _____

| Required Meter Types | GPM |
|---|---|
| Domestic potable water meter | 0 |
| Domestic reclaimed water meter | 0 |
| Irrigation reclaimed water meter | 0 |

| Required Meter Types | GPM |
|---|---|
| Domestic potable water meter | 0 |
| Non-potable water backup meter | 0 |
| Reclaimed main size needed for OWRS fee in lieu | NA |

**Step 5. Please email complete sheet to AW_ONSITEREUSE@austintexas.gov for approval**
**Step 6. Determine the appropriate sized meters to meet the demands and add them to the Meter Notice Table on the AW Standard Notes sheet along with a printout of this sheet.**

**Austin Water Staff Review**
Signature: _____ Date: _____

Type of Service/Rate: _____ Type of Service/Rate: _____
(SP) O Mandatory O Non-mandatory
(SA) O Residential O Commercial O City of Austin O Parkland Fee in lieu $ NA

For Utility Permitting Office, reach out to AW_onsitereuse@austintexas.gov for SA and SP info at time of meter purchase

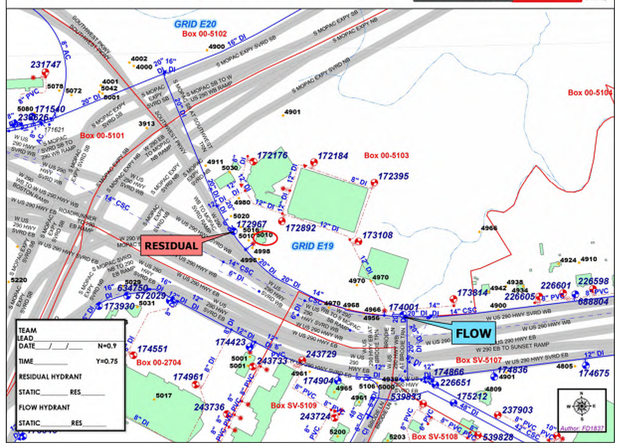
**OBTAIN COPY OF RECLAIMED WATER AND ONSITE WATER REUSE SYSTEM METER DEMAND SHEET TEMPLATE FROM PIPELINE ENGINEERING WEBSITE:**
**https://www.austintexas.gov/page/pipeline-engineering**
UNDER CHECKLISTS AND GENERAL CONSTRUCTION NOTES.

**PURPOSE:**
THIS SPREADSHEET IS REQUIRED TO BE FILLED OUT FOR SITE PLAN APPLICATIONS THAT ARE SUBJECT TO THE RECLAIMED WATER CONNECTION REQUIREMENTS AND ONSITE WATER REUSE SYSTEM REQUIREMENTS IN SECTION 25-9 OF THE LAND DEVELOPMENT CODE. WHILE NOT REQUIRED FOR OTHER PROJECTS, IT MAY BE FILLED OUT AND SUBMITTED WITH A SITE PLAN APPLICATION TO HELP CALCULATE WATER SUPPLY FIXTURE UNITS AND WATER DEMANDS FOR A PROJECT.

**NOTES:**
1. TABLE 610.3 MUST BE USED FOR PROJECTS WITH FEWER THAN 10 TOILETS/URINALS THAT HAVE FLUSHOMETER VALVES. PROJECTS WITH 10 OR MORE TOILETS/URINALS WITH FLUSHOMTER VALVES MAY USE EITHER 610.3 OR TABLE A 103.1.
2. THESE TABLE ARE FROM THE 2021 VERSION OF THE UNIFORM PLUMBING CODE, BUT HAVE BEEN MODIFIED SLIGHTLY FOR EASE OF USE.
3. THIS CALCULATOR ASSUMES PROJECTS USING NON-POTABLE WATER FOR CLOTHES WASHING WILL HAVE A SINGLE COLD NON-POTABLE SUPPLY LINE THAT BRANCHES OFF TO AN ON-DEMAND/TANKLESS WATER HEATER FOR EACH CLOTHES WASHER. HAVING A HOT POTABLE SUPPLY LINE ENTER THE WASHING MACHINE FROM A WATER HEATER SUPPLYING OTHER POTABLE FIXTURE CREATES A POTENTIAL FOR BACKFLOW AND CONTAMINATION OF A BUILDING'S POTABLE WATER SUPPLY. SEE THE SCHEMATIC BELOW OF A SINGLE NON-POTABLE SUPPLY LINE TO TOILETS AND CLOTHES WASHERS.

## FIRE FLOW MAP

5000 BLK W US HWY 290 ...BOX 5103 — REF# 18438401 — 03/03/2025




## OFFSITE UTILITY LETTER

Plotted By: Sheaffer, Ryan Date: May 01, 2025 05:14:35pm File Path: K:\Aus_Civil\063887216-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — General Notes.dwg
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CITY OF AUSTIN
AUSTIN WATER
FEBRUARY 7, 2025

VERSION 2.0
STANDARD NO.
2 OF 2

# AUSTIN WATER GENERAL INFORMATION ON CONSTRUCTION NOTES FOR COMMERCIAL SITES AND SUBDIVISION PLANS

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-416-9942
WWW.KIMLEY-HORN.COM
TX REGISTERED ENGINEERING FIRM F-928
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RYAN MCKAY 144618 LICENSED PROFESSIONAL ENGINEER
04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

AWU GENERAL NOTES (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
7 OF 41

SP-2025-0116C.CC

SECTION 02210 – SITE EARTHWORK

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of furnishing all labor, materials and equipment, and performing all operations required to complete the site preparation, earthwork and grading as shown on the Drawings and as specified herein. This work shall include, but not be limited to: site clearing and grubbing; root-raking; stripping; removal of muck and other unsuitable material; proof-rolling; earthwork for site grading, including dewatering, excavation, filling or backfilling, and compaction; supplying approved fill material; final site grading; and other related requirements.
B. The operations specified herein shall be performed within the limits indicated for site grading and other construction, as shown on the Drawings.
C. The Contractor shall provide adequate protection against construction activity for all existing structures and utilities, above the surface or underground, including trees that are to remain, and other construction activities concurrently occurring on the site.
D. Should damage occur to any structure, utility or other facility from these construction activities, repair or replacement to a condition equal to or better than the original shall be immediately made by the Contractor, at no cost to the Owner.
E. The Contractor must determine for himself the total volume of all fill materials required for the project site.
F. Definitions:
1. Open Areas: Open areas shall be those areas that do not include building sites, paved areas, and street right-of-way and parking areas.
2. Maximum Dry Density: Maximum dry soil unit weight in pounds per cubic foot at optimum moisture content of a specific material as determined by ASTM Test Designation D-1557 (Modified Proctor).
3. Optimum Moisture Content: Percentage of water in a specific soil material at maximum dry density.

1.02 RELATED WORK
A. Per local Transportation Standard Specifications for Highway and Bridge Construction, latest edition.

1.03 REFERENCE INFORMATION
A. The following pertinent geotechnical investigation report has been prepared. The Contractor shall perform his own site observations/investigations as necessary and obtain and review the contents of the referenced report to become familiar with the site subsurface soil and groundwater conditions. In the event of discrepancies, the geotechnical report shall prevail where discrepancies between the geotechnical report and the specifications exist.

1.04 QUALITY ASSURANCE
A. Testing of materials to be used for fill, determination of unsuitable soil limits, density testing to adequately confirm the specified compaction, proof-rolling and strip subgrade observations shall be made by a Geotechnical Consultant approved by the Owner, at the expense of the Owner, with reports thereform submitted to the Engineer documenting that the testing and compaction requirements as outlined in this specification have been satisfied. If initial density tests fail to meet the specifications, retesting shall be performed by the Owner's Geotechnical Consultant at the expense of the Contractor. Said tests shall be performed for each lift of fill, if more than one is required for the depth of fill, and shall be taken where directed by the Engineer. Should test results be unsatisfactory, the Contractor shall recompact the fill and provide supplemental tests for the area in question.
B. A sufficient time shall be allotted for the testing laboratory to perform all control tests necessary to determine that proper fill material is being used and compaction is being obtained. The Contractor shall schedule backfilling operations so as to permit the making of the necessary control tests for each layer prior to the placing of subsequent layers.

Part 2.00 Products

2.01 MATERIALS
A. Suitable materials for fills shall be classified as A-1, A-3, A-2-4, or A-2-6 in accordance with AASHTO Designation M-145 and shall be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Suitable materials for imported fills shall be classified as A-1 or A-3 in accordance with AASHTO Designation M-145 and shall consist of clean, granular soils and be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
B. Suitable Material To Be Placed In Water: Suitable material for fill to be placed in water shall be classified as A-1 or A-3 in accordance with AASHTO Designation M-145. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
C. Unsuitable materials are classified as A-2-5, A-2-7, A-4, A-5, A-6, A-7 and A-8 in accordance with AASHTO Designation M-145.

Part 3.00 Execution

3.01 PREPARATION
A. Clearing, Grubbing, and Stripping
1. Clearing, grubbing, and stripping shall be performed in the areas where required, including cuts, fills, borrow areas, areas to be excavated, areas to receive fills, and where any structures will be erected. It shall include the complete removal and satisfactory disposal of all timbers, brush, stumps, weeds, rubbish, root-laden topsoil, and all other obstructions resting on or protruding through the surface of the existing ground. Where excavation is to be performed within the areas to be cleared and grubbed, all stumps, roots and deleterious material thereby exposed, passing through or appearing on the surface of the completed excavation, shall be removed to a depth of two feet minimum below the excavated surface and replaced with suitable compacted backfill. Within all areas where clearing and grubbing is to be done, all stumps, roots, brush and other deleterious material projecting through or appearing on the surface of the ground shall be removed to a depth of one (1) foot below the surface. Cleared, grubbed and stripped areas shall be inspected and approved by the Owner's Geotechnical Consultant prior to any subsequent excavation or filling operations.
2. Discing shall be performed within the limits of construction. Designated discing areas shall be mowed and raked to remove cuttings prior to discing operations. The designated areas shall be disced two times such that the first pass is in a direction 90 degrees opposite the second pass and discing operations shall be completed to a depth of 12-inches. Surficial soils to be removed from the disced areas shall be placed only in non-structural or embankment/berm areas approved by the Engineer soils in disced areas to be filled shall be tested for organic or filling by the Owner's Geotechnical Consultant prior to any in, or filling. If the organic content exceeds 10 percent in areas to be paved, or 5 percent in building areas, the surficial disced soils shall be removed and placed in non-structural areas as indicated above.
3. Selective clearing shall be performed in areas shown on the Drawings or as required by the Owner, in order to save selected trees. The trees designated to be saved shall be protected from construction equipment by the Contractor in a manner as shown on the Drawings or as approved by the Engineer
4. Plants to be excavated or filled upon shall be stripped of grass, roots, and any unsuitable material, if present, shall be completely removed. Stripped materials suitable for topsoil shall be raked to remove materials larger than 2 inches in diameter and stockpiled on-site, as directed by the Owner.
5. Timber, stumps, roots, brush, rotten wood and other refuse and unsuitable materials from clearing, grubbing, and stripping operations shall be disposed of either by burning or removal to an approved legal dump area. Burning on-site is permitted provided the Contractor obtains all necessary permits and provides copies to the Owner. Burning, if permitted, shall be done at locations and at times as directed, in a manner that will avoid all hazards such as damage to existing structures, construction progress, trees and vegetation, and interference with traffic. Disposal by burning shall be kept under constant attendance until the fires have burned out or have been extinguished and shall be done in compliance with all State and local laws and regulations relative to the building of fires.

3.02 PERFORMANCE
A. Excavation
1. Excavation shall conform to the limits indicated on the Drawings or specified herein. This work shall include shaping and sloping and other work necessary in bringing the earthwork to the required grade, alignment and cross-section.
2. All suitable materials removed from excavation areas shall be used as far as practicable in future pavement or building areas, or in the formation of embankments, subgrades, boulders, building sites and other places as shown on the Drawings, or as directed by the Engineer. All suitable excavated material shall be considered property of the Owner and shall not be removed from the property without permission of the Owner. Excess excavated suitable material shall be stockpiled on-site at a location approved by the Owner and Engineer.
3. Suitable on-site excavated materials containing silty, and slightly clayey to clayey fine sands shall be sufficiently dried by surface spreading and discing if necessary, or by mixing with cleaner fine sands prior to reuse/placement in fill areas, as directed by the Owner's Geotechnical Consultant.
4. Existing or remaining silty and slightly clayey to clayey fine sand materials, as determined by the Owner's Geotechnical Consultant, at or below the area of the building slab or foundations shall be removed and replaced (if necessary) to a depth of 24-inches (minimum), as directed by the Owner's Geotechnical Consultant, with suitable compacted structural materials.

Muck, organic, silty and clayey sediments, or other unsuitable materials encountered under fill areas, structures, pavement areas, underground utilities and/or as shown on the drawings, shall be excavated and removed as directed by the Owner's Geotechnical Consultant. Removal of unsuitable material in areas where buildings are to be constructed shall include the area under the building and extend to a minimum of ten (10) feet beyond the building limits, or as directed by the Engineer. Removal of unsuitable material in areas where pavement is to be placed shall include the area under the surfacing and extend to a minimum of five (5) feet beyond the outside edges, or as directed by the Owner's Geotechnical Consultant. At locations where underground utilities (piping, etc.) are to be installed with a top (crown) elevation above the bottom surface of any unsuitable material, removal shall be completed to a minimum width of three (3) feet outside the utility alignment.

5. Muck, organic, silty and clayey sediments, and other unsuitable material excavated under the requirements of this Section shall be disposed of off-site, unless otherwise indicated on the Drawings or as directed by the Owner, at the Contractor's expense.

SECTION 02210 – SITE EARTHWORK – CONTINUED

D. Fills and Compaction
1. Suitable backfill or fill material shall be provided, placed and compacted where unsuitable material has been removed, and as required to perform construction and elevate the site to the finish grades, as shown on the Drawings. Materials to be used for fill shall be approved by the Owner's Geotechnical Consultant prior to their placement. If a suitable fill material source is available within the limits of the project, the Owner may allow the use thereof and shall designate the borrow site whereby the Contractor may acquire the fill. If a suitable fill material source is not available on the project site; the Contractor shall furnish the necessary additional suitable fill material to complete the work to the lines and grades indicated on the Drawings. Off-site fill sources shall be tested and approved by the Owner's Geotechnical Consultant prior to moving any material on-site.
2. Areas excavated to building and pavement subgrade elevations, and excavated areas required to be filled shall be leveled, compacted, and tested prior to placement of fill material. Compaction shall be by means of a vibrating drum roller or by other suitable methods capable of completing the work in an efficient manner. The vibratory drum roller shall have a- minimum static drum weight of 20,000 pounds and be capable of exerting a minimum impact energy of 36,000 pounds. Soft, pumping, disturbed, unsuitable soils encountered during subgrade compaction shall be brought to the attention of the Owner's Geotechnical Consultant to determine whether over-excavation and replacement, of any of these types of materials is required. A minimum of 10 overlapping passes in a perpendicular direction shall be made with the vibratory drum roller to initially compact the subject areas. Compaction shall continue until a minimum density equivalent to 95 percent of the Maximum Modified Proctor Density is achieved in accordance with ASTM D-1557. Compaction shall be tested for a minimum depth of three (3) foot below the excavated or stripped surface in pavement areas, and a minimum of three (3) feet below building areas.
3. The backfill and fill materials shall be placed and compacted as specified hereinafter. Fills shall be constructed of approved suitable material placed in successive lifts of not more than 12 successive uniform lifts of not more than twelve (12) inches in depth loose measure, and compacted by the use of a vibrating steel wheel roller as described above, or other suitable method(s). Thickness of layers may be increased (to no greater than 18 inches loose) provided the equipment and methods used are proven by field density testing to be capable of compacting thicker layers to specified densities. Layer thickness shall be decreased if equipment and methods used are proven to be incapable of compacting layers to specified densities. Where applicable, the first lift may be up to eighteen (18) inches above the groundwater table, if approved by the Owner a Geotechnical Consultant to serve as a working platform for the compaction equipment. The use of this procedure does not relieve the Contractor of the requirement to achieve the specified density for a 2 foot depth below the natural grade depending on the area.
4. Fills shall be compacted to a density of not less than 95 percent of its maximum Modified Proctor Density as determined by ASTM D-1557. The subgrade materials immediately below the building floor slab, footings, pavement base, subbase, and base shall be re-compacted to a minimum of 98 percent of ASTM D-1557 just prior to placing the floor slab, pavement, footing or pavement subbase construction. Should tests indicate unsatisfactory results, compaction procedures shall continue until subsequent tests indicate the stipulated requirements.
5. Backfill soils placed adjacent to footings or walls below grade shall be carefully compacted with a light rubber-tired roller or vibratory plate compactor to avoid damaging the footings or walls and shall be compacted to 98 percent of ASTM D-1557 soil lifts of 8 inches or less, and to 95 percent of ASTM D-1557 against below grade walls. Suitable sand fills placed in footing excavations above the bearing level, and in other areas where required to provide support or foundation embedment constraint (including all pipeline or utility excavations within the structure and pavement areas), shall be placed in loose lifts not exceeding 12 inches and shall be compacted to a minimum of 95 percent of the maximum density determined by ASTM (ASTMD-1557).
6. Suitable fill materials containing silty, slightly clayey to clayey fine sand materials which exhibit characteristics of high plasticity or wetness, spongy and/or unstable conditions, shall be sufficiently air-dried or adequately mixed with cleaner fine sands prior to use for fill. Placement of these materials in fill areas shall be directed by the Geotechnical Consultant on-site, and such fill materials shall be positioned within lower lift levels of high fill areas, with a top elevation of not less than four (4) feet below any finished surface or structural subgrade foundation or slab, unless otherwise approved by the Owner's Geotechnical Consultant.
7. Fine sands to slightly silty fine sands classified as suitable fill materials, as determined by the Owner's Geotechnical Consultant, excavated from on-site areas shall be placed in fill areas in lifts levels in all fill areas.
8. The engineered fill material placement and compaction shall be required within the specified areas, and to the depths described as follows:
a. Structures (foundations and slabs): Under the complete structure and to a dimension ten (10) feet outside the maximum perimeter of the structure, or to the property line, whichever is less, and to the depths specified as follows:
b. Pavement: The full area beneath the surfacing and to a dimension five (5) feet outside the outside edges thereof; from the surface of approved clean in-place soil up to the bottom elevation of the base or subbase course. Soil material within 18 inches of the bottom of the subbase course shall be dry or filled material in lifts not exceeding 8 inches in loose depth to a weight of material pass the U.S. No. 200 sieve.
c. Sidewalks: For a width of (3) feet beyond each side of the walk; from the surface of approved clean in-place soil to the finish grade.
d. Utilities (piping, etc.): For a width three (3) feet beyond each side of the utility; from the surface of approved clean in-place soil to the finish grade.
9. In areas of fill placement requiring greater than four feet or more of structural fill (where building structures or pavement are proposed), the Contractor shall be required to allow to settle for a period of not less than 60 days prior to construction of the building foundation construction or construction of the pavement base or subbase course. Settlement plates shall be installed by the Owner's Geotechnical Consultant for monitoring purposes to monitor fill areas.
10. The Contractor shall maintain the surface of the fill to prevent ponding or collection of surface runoff and subsequent saturation of compacted materials. When inclement weather can reasonably be expected during off-shift hours, any uncompacted layer shall be rolled to provide a surface seal. During periods of inclement weather, the Contractor shall control surface runoff in such a manner as to prevent erosion of the fill or slope surfaces.

11. Should suitable excavated material exceed the backfill and fill requirements, said excess suitable fill shall be hauled off site to a location approved by the Owner.
12. Some types of excavated suitable materials may be adequately mixed with suitable fill material and may be used in open areas of the project if approved in writing by the Owner's Geotechnical Consultant and Engineer. Unsuitable material to be mixed shall be raked to remove all materials larger than two (2) inches in diameter and shall be mixed with the suitable mixed material be used to fill under structures, pavements, sidewalks or utilities. The extent of mixing and suitability of the material to be mixed shall be approved by the Owner's Geotechnical Consultant and the Engineer.
13. Mixed fill material, as specified above, shall be placed in layers of not more than 12 inches in depth measured loose. When dry or as directed by the testing laboratory or Engineer, this layer shall be disced and harrowed to break up large pieces of the material. The above density requirements shall not apply to unsuitable material placed.

E. Grading
14. Grading shall be performed over the total construction area, as indicated on the Drawings. This work shall include all cutting and filling necessary in order to comply with the elevations shown on the Drawings.
15. The final finish grading shall provide a surface, which is within 0.1 foot of the required elevations shown on the Drawings, unless otherwise approved by the Engineer. Finished grades shall be uniform between final contours, and shall not include abrupt changes in grade, pothholes, or eroded areas. Where grading meets with the existing surface, a smooth interface shall be provided. Roundings shall be provided at the top and bottom of embankments, dikes or other breaks in grade. Around buildings and other structures, the finish grade shall slope away from walls in all directions at ¾-inch per foot minimum for at least ten (10) feet. Allowance shall be made in finish grading elevations for sodding or other surface treatment, as indicated on the Drawings.

END OF SECTION

SECTION 02220 – STRUCTURE EXCAVATION AND BACKFILL

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of furnishing all labor, materials and equipment, and performing all operations required to complete the site preparation, earthwork and grading as shown on the Drawings and as specified herein for construction of the storm drainage, sanitary sewer, and water distribution system structures. This work shall include, but not be limited to site clearing and grubbing; stripping; dewatering; removal of muck and other unsuitable material; earthwork for grading around structures; excavation; backfilling; compaction; supplying approved fill material; final site grading; and other related requirements.
B. The operations specified herein shall be performed within the limits indicated for site grading and other construction, as shown on the Drawings.
C. The Contractor shall provide adequate protection against construction activity for all existing structures and utilities, above the surface or underground, including trees that are to remain, and other construction activities concurrently occurring on the site.
D. Should damage occur to any structure, utility or other facility from these construction activities, repair or replacement to a condition equal or better than the original shall be immediately made by the Contractor, at no cost to the Owner.
E. Definitions:
1. Maximum Density: Maximum weight in pounds per cubic foot of a specific material as determined by ASTM Test Designation D–1557.
2. Optimum Moisture: Percentage of water in a specific material at maximum density.

1.02 RELATED WORK
A. Section 02210 – Site Earthwork
B. Section 02221– Trenching, Back–filling and Compaction for Utility and Drainage Systems
C. Section 2530 – Dewatering System

1.03 REFERENCE INFORMATION
A. If a geotechnical report pertaining to the site has been prepared, it may be obtained from the Engineer upon request.
B. Contractor may obtain copies of standard specifications from the City, at his own expense, for requirements of related standards.

SECTION 02220 – STRUCTURE EXCAVATION AND BACKFILL – CONTINUED

1.04 QUALITY ASSURANCE
A. Density tests to adequately confirm the specified compaction shall be made by a testing laboratory approved by the Owner, at the expense of the Owner, with reports therefrom submitted to the Owner documenting that the compaction requirements as outlined in this specification have been satisfied. If initial density tests fail to meet the specifications, retesting shall be done at the expense of the Contractor. Said tests shall be performed for each lift of fill, if more than one is required for the depth of fill, and shall be taken where directed by the Engineer. Should test results be unsatisfactory, the Contractor shall recompact the fill and provide supplemental tests for the area in question.
B. A sufficient time shall be allotted for the testing laboratory to perform all control tests necessary to determine that proper fill material is being used and compaction is being obtained. The Contractor shall schedule backfilling operations so as to permit the making of the necessary control tests for each layer prior to the placing of subsequent layers.

Part 2.00 Products

2.01 MATERIALS
A. Suitable materials for fills shall be classified as A-1, A-3, A-2-4, or A-2-6 in accordance , with AASHTO Designation M-145 and shall be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Suitable materials for imported fills shall be classified as A-1 or A-3 in accordance with AASHTO Designation M-145 and shall consist of clean, granular soils and be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
B. Suitable Material To Be Placed In Water: Suitable material for fill to be placed in water shall be classified as A–1 or A–3 in accordance with AASHTO Designation M–145. Not more than 15 percent by weight of fill material shall pass the U.S. No. 100 sieve.
C. Unsuitable materials are classified as A–2–5, A–2–7, A–4, A–5, A–6, A–7 and A–8 in accordance with AASHTO Designation M–145.
D. Graded Limerock: Material for backfill below precast structures shall be graded limerock equal to state DOT specifications.
E. Select Material: Select material shall be suitable material that does not contain any rock larger than that which will pass through a 3–inch diameter ring.

Part 3.00 Execution

3.01 PREPARATION
A. Clearing, Grubbing, and Stripping
Clearing, grubbing, and stripping shall be performed in the areas where required for proper installation of all piping and appurtenances at locations shown on the Drawings. It shall include the complete removal and satisfactory disposal of all timbers, brush, stumps, weeds, rubbish, topsoil, and all other obstructions resting on or protruding through the surface of the existing ground.
B. Selective clearing shall be performed in areas shown on the Drawings or as required by the Owner, in order to save plantings, shrubbery, trees, utility poles, or structures. The above items, where designated by the Owner or Engineer, shall be transplanted, relocated, braced, shored, or otherwise protected and preserved.

3.02 PERFORMANCE
A. Excavation:
1. The Contractor shall perform all excavation of every description and of whatever substances encountered, to the dimensions required for construction and as specified herein. All excavations shall be made by open cut.
2. Slopes of temporary excavations below 4 feet deep should be sloped at 1.5 horizontal (H) to 1 vertical (V) or flatter and be protected from seepage and erosion. Temporary excavations greater than 4 feet but not more than 10 feet deep shall have side slopes of 1H: 1V or flatter and be braced. Excavation areas shall be properly sheeted and braced if required to protect the safety of workmen, the general public, or other work or structures. Excavation for the structures shall be sufficient to provide a clearance between their outer surfaces and the face of the excavation, sheeting, or bracing, of not less than 2 feet. Materials encountered in the excavation which are unsuitable for backfill, such as roots, brush, rubbish, boulders, the banks, weaken the overlying strata, or are otherwise rendered unstable by the excavation operation shall be removed by shoring, stabilization, grading or other methods approved.
3. Excavation for the structures shall be carried to an elevation one (1) foot lower than the proposed outside bottom of the structure to provide space for the select backfill material. Any unsuitable material encountered below proposed structure bottom elevations shall be replaced with suitable material. Prior to placing the select backfill, the excavation shall be leveled so that it is reasonably uniform over the area to be occupied by the structure.
4. Excavation for structures shall be carried down to the bottom of the structure where dewatering methods are such that a dry excavation bottom is exposed and the naturally occurring material at this elevation level shall be left undisturbed to receive the structure.
5. Any water which accumulates in the excavations for structures shall be removed promptly by well point systems or other means satisfactory to the Engineer in such a manner as not to cause injury to public health, to public or private property, to work completed or in progress, to the surface of the streets, or cause any interference with the use of the same by the public. Pumps and engines for dewatering systems shall be operated with mufflers and at a minimum noise level suitable to a residential area. The Contractor shall be responsible for any nuisance created due to the disposal of water from his drainage system.
6. All excess suitable material shall be stockpiled on-site at a location approved by the Owner and Engineer. Muck, organic, silty and clayey sediments, or other unsuitable material shall be excavated under the requirements of this Section shall be disposed of offsite, unless otherwise indicated on the Drawings or as directed by the Owner, at the Contractor's expense.

B. Backfills and Compaction
1. The space between the proposed outside bottom of the structure and the bottom of the excavation shall be backfilled with graded limerock and leveled to receive the proposed structure.
2. Suitable backfill material shall be provided, placed and compacted around the structures as required to fill excavations and to provide the finish grades as shown on the Drawings. Materials to be used for fill shall be approved by the Engineer prior to their placement. If a suitable fill material source is available within the limits of the project, the Owner may allow the use thereof and shall designate the borrow site whereby the Contractor may acquire the fill. If a suitable fill material source is not available on the project site; the Contractor shall furnish the necessary additional suitable fill material to complete the work to the lines and grades indicated on the Drawings.
3. Excavated areas below proposed structures shall be leveled, compacted and tested prior to placement of the structure and any backfill material. Compaction shall be to a minimum density equivalent to 95 percent of the Maximum Modified Proctor Density in accordance with ASTM D-1557 and as tested for a minimum depth of two (2) feet below the bottom of structure slabs.
4. The backfill under and around structures shall be placed and compacted as specified hereinafter. Fills shall be constructed of suitable material placed in successive lifts of not more than 12 inches in depth loose measure, and compacted by the use of a vibrating steel wheel roller or other suitable method(s). Thickness of layers may be increased provided the equipment and methods used are proven by field density testing to be capable of compacting thicker layers to specified densities. Layer thickness shall be decreased if equipment and methods used are proven to be incapable of compacting layers to specified densities. Where applicable, the first lift may be up to eighteen (18) inches above the groundwater table, if approved by the Engineer, to serve as a working platform for the compaction equipment. The use of this procedure does not relieve the Contractor of the requirement to achieve the specified density for a minimum depth of one (1) foot below the natural grade.
5. Backfills shall be compacted to a density of not less than 95 percent of its Maximum Modified Proctor Density in accordance with ASTM D–1557. Should tests indicate unsatisfactory results, compaction procedures shall continue until subsequent tests indicate the stipulated requirements.

END OF SECTION

SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of furnishing all labor, materials and equipment, and performing all operations required to complete the site preparation, earthwork and grading as shown on the Drawings and as specified herein for construction of the utility and drainage systems consisting of piping and appurtenances. This work shall include, but not be limited to: site clearing and grubbing; stripping; dewatering; trenching; bed preparation; removal of muck and other unsuitable material; earthwork for grading above and around utility and drainage system improvements; excavation; backfilling; compaction; supplying approved fill material; final site grading; and other related requirements.
B. The operations specified herein shall be performed within the limits indicated for site grading and other construction, as shown on the Drawings.
C. The Contractor shall provide adequate protection against construction activity for all existing structures and utilities, above the surface or underground, including trees that are to remain, and other construction activities concurrently occurring on the site.
D. Should damage occur to any structure, utility or other facility from these construction activities, repair or replacement to a condition equal or better than the original shall be immediately made by the Contractor, at no cost to the Owner.
E. Definitions:
1. Maximum Density: Maximum weight in pounds per cubic foot of a specific material as determined by ASTM Test Designation D–1557.
2. Optimum Moisture: Percentage of water in a specific material at maximum density.

1.02 RELATED WORK
A. Section 02210 – Site Earthwork
B. Section 02220 – Structure Excavation and Backfill
C. Section 02530 – Dewatering System

1.03 REFERENCE, INFORMATION
A. Contractor may obtain the geotechnical report(s) pertaining to the site from the Owner.
B. Contractor may obtain a copy of standard specifications from the City, at his own expense, for requirements of related standards.

SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS – CONT'D.

1.04 QUALITY ASSURANCE
A. Density tests to adequately confirm the specified compaction shall be made by a testing laboratory approved by the Engineer, at the expense of the Owner, with reports therefrom submitted to the Engineer documenting that the compaction requirements as outlined in this specification have been satisfied. If initial density tests fail to meet the specifications, retesting shall be done at the expense of the Contractor. Said tests shall be performed for each lift of fill, if more than one is required for the depth of fill, and shall be taken where directed by the Engineer. Should test results be unsatisfactory, the Contractor shall recompact the fill and provide supplemental tests for the area in question.
B. A sufficient time shall be allotted for the testing laboratory to perform all control tests necessary to determine that proper fill material is being used and compaction is being obtained. The Contractor shall schedule backfilling operations so as to permit the making of the necessary control tests for each layer prior to the placing of subsequent layers.

Part 2.00 Products

2.01 MATERIALS
A. Suitable materials for fills shall be classified as A–1, A–3, A–2–4, or A–2–6 in accordance, with AASHTO Designation M–145 and shall be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Suitable materials for imported fills shall be classified as A–1 or A–3 in accordance with AASHTO Designation M–145 and shall consist of clean, granular soils and be free from vegetation, organic material, debris, trash, roots and similar deleterious material. Not more than 15 percent by weight of fill material shall pass the U.S. No. 200 sieve.
B. Suitable Material To Be Placed In Water: Suitable material for fill to be placed in water shall be classified as A–1 or A–3 in accordance with AASHTO Designation M–145. Not more than 15 percent by weight of fill material shall pass the U.S. No. 100 sieve.
C. Unsuitable materials are classified as A–2–5, A–2–7, A–4, A–5, A–6, A–7 and A–8 in accordance with AASHTO Designation M–145.
D. Granular Backfill Material: Material for backfill below precast structures shall be graded limerock equal to state DOT specifications.

Part 3.00 Execution

3.01 PREPARATION
A. Clearing, Grubbing, and Stripping
Clearing, grubbing, and stripping shall be performed in the areas where required for proper installation of all piping and appurtenances at locations shown on the Drawings. It shall include the complete removal and satisfactory disposal of all timbers, brush, stumps, weeds, rubbish, topsoil, and all other obstructions resting on or protruding through the surface of the existing ground.
B. Selective clearing shall be performed in areas shown on the Drawings or as required by the Owner, in order to save plantings, shrubbery, trees, utility poles, or structures. The above items, where designated by the Owner or Engineer, shall be transplanted, relocated, braced, shored, or otherwise protected and preserved.

3.02 PERFORMANCE
A. Excavation:
1. The Contractor shall perform all excavation of every description and of whatever substances encountered, to the dimensions and depth shown on the Drawings or as directed by the Engineer
All excavations shall be made, by open cut, unless otherwise specified on the Drawings. All existing structures such as pipes, poles and structures shall be carefully supported and protected from injury and damage by the Owner or Engineer, and shall be restored to the Owner's expense.
2. Where trench widths are limited by right–of–way and/or easement widths, property line restrictions, existing adjacent improvements, or other restrictions, trench walls shall be kept vertical, and, if required to protect the safety of workmen, the general public, this or other work or structures, or to maintain the minimum trench widths specified on the Drawings, shall be properly sheeted and braced. Where wood sheeting or certain designs of steel sheeting are used, the excavation shall be cut off at a level 2 feet above the top of the installed pipe and that portion below that level shall be left in place. If interlocking steel sheeting is used, it may be removed, providing removal can be accomplished without disturbing the bedding, the pipe or alignment of the pipe. Any damage to the pipe bedding or alignment of the constructed utility caused by removal of sheeting shall be cause for rejection of the unsuitable work and shall be removed and replaced. Not more than 100 feet of trench shall be opened ahead of pipe laying operations at one time unless a greater length of open trench is approved by the Engineer.
3. In areas where trench widths are not limited by right–of–way, and/or easement widths, property line restrictions, existing adjacent improvements, including pavements, structures and other utilities, or the maintenance of traffic, the trench sides may be sloped to the angle of repose of the excavated material. A substantially and safely constructed movable shield, "box" or "mole" may be used in place of sheeting when the trench is opened immediately ahead of the pipe laying operations and is moved only ahead of the pipe laying operations.
4. Ladders or steps shall be provided for and used by workmen to enter and leave trenches.
5. Pipe trenches for utility lines shall be excavated to a width within the limits of the top of the pipe and the trench bottom so as to provide a clearance on each side of the pipe barrel, measured to the face of the excavation or sheeting, if used, of 8 inches to 12 inches. Where pipe is laid in rock, sandy clay, clay sediments, silty or clayey fine sands, all pipe trenches shall be excavated to a level 8 inches below the outside bottom of the proposed pipe barrel.
6. Excavation for appurtenances shall be sufficient to provide a clearance between their outer surfaces and the face of the excavation or sheeting, if used, of not less than 12 inches. Manhole excavations shall be carried to sufficient depth to permit their construction on the undisturbed bottom of the excavation.
7. Material encountered in the trenches shall be stored and disposed of in such a manner that they will not interfere unduly with traffic on public streets and sidewalks and they shall not be placed on private property. In congested areas, such materials that cannot be stored adjacent to the trench shall be removed immediately as backfill, or shall be removed to a storage, as approved by the Engineer.
8. All materials suitable for use as backfill shall be hauled to and used in areas where not enough suitable material is available from the excavation.
9. All excess suitable material shall be disposed of as directed by the Engineer.
Material disposed of within the limits of the project shall be finish graded upon completion of the work. Material to be removed from the project shall be hauled away and disposed of at the Contractor's expense.
10. Trench Stabilization: No claim for extras, or additional payment will be considered for cost incurred in the stabilization of trench bottoms which are rendered soft or unstable as a result of construction methods, such as improper or inadequate
sheeting, dewatering or other causes. In no event shall pipe be installed when such conditions exist and the Contractor shall correct such conditions until the backfill has progressed to a sufficient depth over the pipe to prevent flotation or movement of the pipe in the trench and so that it is above the natural water table.
11. Water from trenches and excavation shall be disposed of in such a manner as will not cause injury to public health, to public or private property, to the work completed or in progress, to the surface of the streets, or cause any interference with the use of the same by the public. The Contractor shall submit his proposed methods of handling trench water and locations at which the water will be disposed of to the Engineer for approval and shall receive approval before starting the excavation. The Contractor shall obtain and pay for all additional required permits from state or local agencies for dewatering activities.
12. Pumps and engines for dewatering systems shall be operated with mufflers and at a minimum noise level suitable to a residential area. The Contractor shall be responsible for any nuisance created due to the disposal of water from his drainage system.

C. Pipe Bedding:
1. As described above, all pipe trenches shall be excavated to a level 8 inches below the outside bottom of the proposed pipe barrel for rigid pipe and up to 4 inches above crown for flexible (ADS or similar) pipe. The resulting excavation shall be backfilled with approved pipe bedding material, up to the level of the lower one–third of the proposed pipe barrel. This backfill shall be tamped and compacted to provide proper bedding for the pipe and shall then be shaped to receive the pipe. Bedding shall be provided under the branch of all fittings to furnish adequate support and bearing under the fitting. Bedding material for piping shall be pea rock, drainfield limerock, or similar materials as approved by the Engineer. Limerock screenings, sand or other suitable material from the excavation may be used for bedding material when pipe is installed above the natural water table.
2. Any excavation below the levels required for installation of the pipe bedding shall be backfilled with approved bedding material provided by the Contractor, tamped, compacted and shaped to provide proper support for the proposed pipe, at no additional cost to the Owner.

D. Backfills and Compaction
1. Backfilling of trenches shall not be allowed until the work has been approved by the Engineer, pressure tested if required, and the Engineer indicates that backfilling may proceed. Any work which is covered or concealed without the knowledge and consent of the Engineer shall be uncovered or exposed for inspection at no cost to the Owner. Partial backfill may be made to restrain the pipe during pressure testing.
2. Backfill material shall be suitable material as described herein. Backfill material placed within 1 foot of piping and appurtenances shall not contain any stones or rocks larger than 2 inches in diameter (1 inch for PVC pipe) and no stones or rocks larger than 6 inches in diameter will be permitted in any backfill.
3. If a sufficient quantity of suitable backfill material is not available from the trench or other excavations within the site of the work, the Contractor shall provide additional material suitable for this purpose. The additional material shall be installed as specified herein.
4. Suitable backfill material containing no stones or rocks larger than 2 inches shall be placed in 6–inch layers and thoroughly tamped to a depth of 12 inches over the top of the pipe. Particular attention and care shall be exercised in obtaining thorough support for the branch of all service connection fittings and compaction of the fill under the haunches of the pipe. Care shall be taken to preserve the alignment and gradient of the installed pipe.
5. After the backfill has been placed to a level 12 inches over the waterline or force main pipe, the remainder of the backfill shall be placed in layers, not to exceed 12 inches, and compacted with mechanical vibrators or other suitable equipment, to obtain a density of the backfilled material of not less than 98 percent of its maximum density as hereinafter defined.

SECTION 02221 – TRENCHING, BACKFILLING AND COMPACTION FOR UTILITY AND DRAINAGE SYSTEMS – CONT'D.

6. After selected backfill has been placed to a depth of 12 inches over the storm drainage and sanitary sewer pipe, backfilling shall proceed to a depth of 30 inches over the pipe by placing the backfill material in 9–inch layers and thoroughly compacting it with mechanical vibrators. Backfill in this portion of the work shall be compacted to 95 percent of maximum density of the material as hereinafter defined.
7. After the backfill has been placed to a level 30 inches over the storm drainage' and sanitary sewer pipe, the remainder of the backfill shall be placed in layers, not to exceed 12 inches, and compacted with mechanical vibrators or other suitable equipment to obtain a density of the backfilled material of not less than 98 percent of its maximum density as hereinafter defined.
8. For storm drainage and sanitary sewer pipe in unpaved areas outside the right–of–way, the backfill shall be placed to a level 36 inches above the crown of the pipe by placing the backfill material in 9 inch layers and compacted to a minimum density of 95 percent of its maximum density, as hereinafter defined. The remaining backfill shall be placed in layers of not more than 12 inches and compacted to a minimum density of 95 percent of its maximum density.
9. Within paved areas of trench excavation, the base and surfacing shall be reconstructed as specified under Section 02574 – Pavement Removal and Replacement (granular material all the way up).
10. No more than 800 feet of trench with pipe in place shall be partially backfilled at any time.

A. Additional Excavation and Backfill:
5. Where unsuitable material, such as organic soils, roots, muck, other vegetable matter, or other material which, in the opinion of the Geotechnical Engineer, will result in unsatisfactory foundation conditions, is encountered below the level of the proposed pipe bedding material, it shall be wholly or partially removed as directed by the Geotechnical Engineer and disposed of off–site at the Contractor's expense. Sheeting shall be installed, if necessary, to maintain pipe trenches within the specified limits. The resulting excavation shall be backfilled with suitable backfill material, placed in 6 inch layers, tamped and compacted up to the level of the bottom of the proposed pipe bedding material. Sufficient compaction of backfill material shall be performed to protect the proposed pipe against settlement. Construction shall then proceed in accordance with the provisions as specified above.
6. Additional excavation shall be performed only when ordered by the Engineer. Where organic or other unsuitable material is encountered in the excavation, the Contractor shall notify the consultant in the attention of the Engineer and obtain his determination as to whether or not the material will require removal, prior to preparing the pipe bedding.

F. Restoration of Surfaces: Paved and grassed areas disturbed by the operations required under this Section shall be restored to a condition equal to or better than the existing condition, or as indicated on the Drawings and/or specified herein.

3.03 COMPACTION AND DENSITIES
A. Number of control and testing of backfill construction to be employed in this work are:
1. Maximum density of the material in trenches shall be determined by ASTMD–1557.
B. Laboratory and field density tests, which, in the opinion of the Engineer, are necessary to establish compliance with the compaction requirements of these specifications, will be conducted at the Owner's expense. Tests will be made at depths and locations selected by the Engineer.
C. Trench backfill that does not comply with the specified density, as indicated by such tests, shall be reworked and recompacted until the required compaction is secured, at no additional cost to the Owner. The costs for retesting such work shall be paid for by the Contractor.

END OF SECTION

SECTION 02232 – GRANUL

## SECTION 02240 – STABILIZED SUBGRADE

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of a stabilized subgrade where indicated on the Drawings. Construction shall be to the uniformity, density and bearing ratio specified hereinafter. Roadways, streets, and parking areas shall be stabilized to the depths and dimensions indicated on the Drawings.
B. Definitions: The stabilizing shall be stone per state DOT or as described hereinafter. The required bearing ratio value shall be obtained either by constructing the subgrade of selected materials from the roadway and borrow areas, or by stabilizing the subgrade material by the addition and mixing in of suitable stabilizing material. Such work shall be done in accordance with these specifications, lines, grades, thicknesses and notes as shown on the Drawings.

1.02 RELATED WORK
A. Section 02210 – Site Earthwork

Part 2.00 Products

2.01 MATERIALS
A. General: The particular type of stabilizing material to be used shall be in accordance with Paragraph 2.01.E hereinafter and shall meet the following requirements:
B. Use of Materials from Existing Base:
1. When the utilization of materials from an existing base is called for, the Engineer will direct the locations, placing, and distribution of such materials, and this work shall be done prior to the spreading of any additional commercial or local materials. Removal of any section of existing base will not be required until the need for it in maintaining traffic is fulfilled.
2. The utilization of stone from an existing base may be called for in combination with the designated type of stabilizing.
C. Commercial Materials:
1. General: Materials that are designated as Commercial Materials that are to be used for stabilizing may be either commercial limerock, limerock overburden or crushed shell, or state DOT specified.
2. Limerock: For limerock and limerock overburden, the percentage of carbonates of calcium and magnesium shall be at least 70, and the plasticity index shall not exceed 10. The gradation of both commercial limerock and limerock overburden shall be such that 97 percent of these materials will pass a 1-inch sieve.
3. Crushed Shell: Crushed shell for this use shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina, etc.). Steamed shell will not be permitted. This shell shall meet the following requirements:
a. At least 97 percent by weight of the total material shall pass a 3–1/2 inch screen and at least 50 percent by weight of the total material shall be retained on the No. 4 sieve.
b. Not more than 20 percent by weight of the total material shall pass the No. 200 sieve. The determination of the percentage passing the No. 200 sieve shall be made by washing the material over the sieve.
c. In the event that the shell meets the above requirements without crushing, crushing will not be required.
D. Local Materials:
1. General: Local materials used for stabilizing may be high-bearing–value soils of sand–clay material. The material passing the 40–mesh sieve shall have a liquid limit not greater than 30 and a plasticity index not greater than 10.
2. Blending: No blending of materials to meet these requirements will be permitted unless authorized by the Engineer. When blending is permitted, the blended material shall be tested and approved before being spread on the roadway or parking area.
E. Type B Stabilization:
1. The type of materials, Commercial or Local, shall be at the Contractor's option.
2. No separate payment for stabilizing materials will be made.
3. Under this method, it shall be the Contractor's responsibility that the finished subgrade section meets the bearing value requirements, regardless of the quantity of stabilizing materials necessary to be added. Also under this method, full payment will be made for any areas where the existing sub–grade materials meet the design bearing value requirements without the addition of stabilizing additives, as well as areas where the Contractor may elect to place select high–bearing materials from other sources, within the limits of the stabilizing.
4. After the subgrade grading operations have been substantially completed, the Contractor shall make his own determination as to the quantity (if any) of additional stabilizing material, of the type selected by him, necessary for compliance with the bearing value requirements. The Contractor shall notify the Engineer of the approximate quantity to be added, and the spreading and mixing in of such quantity of materials shall meet the approval of the Engineer as to uniformity and effectiveness.

Part 3.00 Execution

3.01 PREPARATION
A. General:
1. Prior to the beginning of stabilizing operations, the area to be stabilized shall have been constructed to an elevation such that upon completion of stabilizing operations the completed stabilized subgrade will conform to the lines, grades and cross–sections shown in the plans. Prior to the spreading of any additive stabilizing material, the surface of the subgrade shall be brought to a plane approximately parallel to the plane of the proposed finished surface.
2. The subgrade to be stabilized may be processed in advance of the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction and other desired results, in which case, the Engineer will direct that the processing be done in more than one course.

3.02 APPLICATION
A. Stabilizing Material:
1. When additional stabilizing materials are required, the designated quantity shall be spread uniformly over the area to be stabilized.
2. When materials from an existing base are to be utilized in the stabilizing at a particular location, all of such materials shall be placed and spread prior to the addition of other stabilizing additives.
3. Commercial stabilizing material shall be spread by the use of mechanical material spreaders except that where use of such equipment is not practicable other means of spreading may be used, but only upon written approval by the Engineer of the proposed alternate method.
B. Mixing:
1. The mixing shall be done with rotary tillers, or other suitable equipment. The area to be stabilized shall be thoroughly mixed throughout the entire depth and width of the stabilizing limits.
2. The mixing operations, as specified, will be required regardless of whether the existing soil, or any select soils placed within the limits of the stabilized sections, have the required bearing value without the addition of stabilizing materials.
C. Maximum Particle Size of Mixed Materials: At the completion of mixing, all particles of material within the limits of the area to be stabilized shall pass a 3–1/2 inch ring. Any particles not meeting this requirement shall be removed from the stabilized area or shall be broken down so as to meet this requirement.
D. Compaction: After the mixing operations have been completed and requirements for bearing value, uniformity and particle size have been satisfied, the stabilized area shall be compacted, in accordance with Paragraph 3.03.B hereinafter. The materials shall be compacted at a moisture content permitting the specified compaction. If the moisture content of the material is improper for attaining the specified density, either water shall be added or the material shall be permitted to dry until the proper moisture content for the specified compaction is reached.
E. Finish Grading: The completed stabilized subgrade shall be shaped to conform with the finished lines, grades and cross–section indicated in the Drawings. The subgrade shall be checked by the use of elevation stakes, or other means approved by the Engineer.
F. Requirements for Condition of Completed Subgrade:
1. After the stabilizing and compacting operations have been completed, the subgrade shall be firm and substantially unyielding, to the extent that it will support construction equipment and will have the bearing value required by the Drawings.
2. All soft and yielding material, and any other portions of the subgrade that will not compact readily, shall be removed and replaced with suitable material and the whole subgrade brought to line and grade, with proper allowance for subsequent compaction.
G. Maintenance Of Completed Subgrade: After the subgrade has been completed as specified above, the Contractor shall maintain it free from ruts, depressions and any damage resulting from the hauling or handling of materials, equipment, tools, etc. It shall be the Contractor's responsibility to maintain the required density until the subsequent base or pavement is in place. Such responsibility shall include any repairs, replacement, etc., of curb and gutter, sidewalk, etc., which might become necessary in order to recompact the subgrade in the event of underwash or other damage occurring to the previously compacted subgrade. Any such work required for recompaction shall be at the Contractor's expense. Ditches and drains shall be constructed and maintained along the completed subgrade section to provide adequate drainage.

3.03 FIELD QUALITY CONTROL
A. Bearing Value Requirements:
1. General: Bearing value samples will be obtained and tested by the Engineer at completion of satisfactory mixing of the stabilized area. For any area where the bearing value obtained is deficient from the value indicated in the Drawings, in excess of the tolerances established herein, additional stabilizing material shall be spread and mixed in accordance with 3.02.B.1 & 2. This reprocessing shall be done for the full width of the roadway being stabilized and longitudinally for a distance of 50 feet beyond the limits of the area in which the bearing value is deficient. The Contractor shall make his own determination of the quantity of additional stabilizing material to be used in reprocessing.
B. Density Requirements:
1. General: Within the entire limits of the width and depth of the areas to be stabilized, the minimum density acceptable at any location will be 98 percent of the maximum density as determined by AASHTO T–180, Test Method D.
C. Testing: Tests for the subgrade bearing capacity and compaction shall be located no more than 300 feet apart and shall be staggered to the left, right, and on the centerline of roadways, and at a frequency of one test per 1,100 square yards of stabilized area in parking areas, at locations to be determined by the Engineer.

END OF SECTION

## SECTION 02276 – TEMPORARY EROSION AND SEDIMENTATION CONTROL

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of designing, providing, maintaining and removing temporary erosion and sedimentation controls as necessary.
B. Temporary erosion controls include, but are not limited to, grassing, mulching, seeding, watering and reseeding on–site surfaces and spoil and borrow area surfaces, and providing interceptor ditches of ends of berms, installing staked silt barriers or floating silt barriers at those locations which will ensure that erosion and pollution during construction will be prevented in accordance with state DOT Standard Specifications for Road and Bridge Construction.
C. Contractor is responsible for providing effective temporary erosion and sedimentation control measures during construction or until final controls become effective, so as to ensure that sedimentation and/or turbidity problems are not created in the receiving water bodies. The Contractor shall be responsible for the correction of any erosion, shoaling, or water quality problems that result from the construction or operation of the surface water management system.
D. Sufficient precautions shall be taken during construction to minimize the runoff of polluting substances such as silt, clay, fuels, oils, bitumens, calcium chloride, or other polluting materials harmful to humans, fish, or other life, into the supplies and surface waters of the State. Control measures must be adequate to assure that turbidity in the receiving water will not be increased in the receiving water more than 25 nephelometric turbidity units (NTU). Special precautions shall be taken in the use of construction equipment to prevent operations that promote erosion.
E. Temporary sedimentation controls include, but are not limited to, silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the Owner.
F. Temporary erosion and sediment control measures shall include effective means to maintain water quality prior to discharge from project site.

1.02 RELATED WORK
A. Section 02210– Site Earthwork
B. Section 02932 – Seeding and Mulching
C. Section 02934 – Sodding

1.03 SUBMITTALS
A. The Contractor shall be required to submit to state and local agencies (with copy to the Owner and Engineer) for review and approval the program for temporary erosion control to be implemented by the Contractor prior to commencing construction. All additional permits required by the agencies shall be obtained and paid for by the Contractor.
B. The approval by the state and local agency of the Contractor's program in no way relieves the Contractor from the responsibility to meet all applicable rules, regulations, and permitting conditions.

Part 2.00 Products

2.01 EROSION CONTROL
A. Materials to control erosion and sedimentation shall comply with Section 104 of FDOT Standard Specifications for Road and Bridge Construction and FDOT Roadway and Traffic Design Standards, Index No. 103.

2.02 SEDIMENTATION CONTROL
A. Install and maintain silt dams, traps, barriers, and other appurtenances as necessary. Hay bales, which deteriorate, and filter stone which dislodges, shall be replaced.

Part 3.00 Execution

3.01 PREPARATION
A. Minimum procedures for grassing are:
1. Scarify slopes to a depth of not less than six inches and remove large clods, rock, stumps, roots larger than ½–inch in diameter, and debris.
2. Sow seed within twenty–four (24) hours after the ground is scarified with either mechanical seed drills or rotary band seeders.
3. Apply mulch loosely and to a thickness of between ¼–inch and 1–1/2 inches.
4. Apply netting over mulched areas on sloped surfaces.
5. Roll and water seeded areas in a manner that will encourage sprouting of seeds and growing of grass. Reseed areas which exhibit unsatisfactory growth. Backfill and seed eroded areas.
B. Floating Silt Barriers:
1. This work shall consist of installing, maintaining and removal of floating silt barriers to contain turbidity that may occur as the result of dredging, filling, dewatering, or other construction activities in Waters of the State or any of the existing on–site lakes, ponds, or storm–water management systems.
2. The type of barrier used, the deployment and maintenance of the barrier shall be such as to minimize dispersion of turbid waters and will not cause an increase in the existing permitted turbidity from the construction site into the receiving waters.

3.02 PERFORMANCE
A. Should any of the temporary erosion and sedimentation control measures employed by the Contractor fail to produce results which comply with the requirements of this specification, the Contractor shall immediately take whatever steps necessary to correct the deficiency.

END OF SECTION

## SECTION 02285 – TERMITE CONTROL

Part 1.00 General

1.01 SECTION INCLUDES
A. Soil poisoning treatment.
B. Warranty

1.02 INTENT
A. To guard against termites and other common ground insects detrimental to wood construction. Materials mentioned in Part 2.00 of this Specification are suggested for use but shall not be used if disallowed by governing laws and/or ordinances.

1.03 QUALITY ASSURANCE
A. Applicator:
Company specializing in soil treatment for termite control with five years documented experience.
B. Materials:
Provide certification that toxicants conform to requirements.

1.04 REGULATORY AGENCY REQUIREMENTS
A. Conform to governing authority requirements for application licensing and authority to use toxicant chemicals.

1.05 SUBMITTALS
A. Product Data:
Submit per SUBMITTALS Section; indicate toxicants to be used, composition by percentage, dilution schedule, and intended application rate. Owner's acceptance is required prior to shipment.
B. Manufacturer's Installation Instructions: Submit per SUBMITTALS Section.

1.06 GUARANTEE
A. Bonded Guarantee which covers against invasion or propagation of subterranean termites, damage to building or building contents caused by termites; repairs to building or building contents so caused, for a period of five years after substantial completion; subject to annual renewal thereafter.

Part 2.00 Products

2.01 TOXICANT CHEMICAL(S)
A. Termidor, BASF – apply per manufacturer's recommendations.

2.02 MIXES
A. Dilute toxicant chemical to a percent solution specified by manufacturer.

Part 3.00 Execution

3.01 DELIVERY
A. Deliver materials in original unopened manufacturer's packaging with labels and seals identifying content.

3.02 INSPECTION
A. Verify exposed soil surfaces are unfrozen, sufficiently dry to absorb toxicant, ready to receive treatment. Beginning of application means acceptance means acceptance of soil conditions.

3.03 APPLICATION
A. Safety:
Apply materials in accord with recommended safety precautions for materials used.
B. Toxicant Chemicals:
Apply toxicant immediately prior to installation of vapor barrier under slab–on–grade or finish grading outside foundation walls. Apply extra treatment to structure penetrations, pipe, ducts, and other soil penetrations. Apply as a coarse spray to ensure uniform distribution. Coordinate soil treatment at foundation perimeter with finish grading and landscaping work to avoid disturbance of treated soil.

3.04 CLEAN–UP
A. Upon completion of work of this Section, remove related debris from premises.

END OF SECTION

## SECTION 02507 – PRIME AND TACK COATS

Part 1.00 General

1.01 WORK INCLUDED
A. The work specified in this Section consists of an application of bituminous material on previously prepared bases and on existing pavements surfaces in accordance with these specifications and in conformity with the lines, grades, dimensions and notes shown on the Drawings.

Part 2.00 Products

2.01 MATERIALS
A. Prime Coat: Unless otherwise indicated, the material used for the prime coat shall be cutback Asphalt Grade RC–70 or RC–250 and shall conform to the requirements specified in AASHTO Designation M–81. Unless otherwise indicated, the use of either RC–70 or RC–250 shall be at the Contractor's option.
B. Tack Coat: The material used for the tack coat shall be emulsified asphalt, Grade RS–2 and shall conform to the requirements specified in AASHTO Designation M–140.

2.02 EQUIPMENT
A. The pressure distributor used for placing the tack or prime coat shall be equipped with pneumatic tires having sufficient width of rubber in contact with the road surface to avoid breaking the bond of or forming a rut in the surface. The distance between the centers of openings of the outside nozzles of the spray bar shall be equal to the width of the application required, within an allowable variation of 2 inches. The outside nozzle at each end of the spray bar shall have an area of opening of not less than 25 percent, nor more than 75 percent in excess of the other nozzles which shall have uniform openings. When the application covers less than the full width, the normal opening of the end nozzle at the junction line may remain the same as those of the interior nozzles.

Part 3.00 Execution

3.01 PREPARATION
A. Before applying any bituminous material, all loose material, dust, dirt, and foreign material, which might prevent proper bond with the existing surface, shall be removed. Particular care shall be taken to clean the outer edges of the strip to be treated in order to ensure that the prime or tack coat will adhere.
B. When the prime or tack coat is applied adjacent to curb and gutter, or any other concrete surface (except where they are to be covered by a bituminous surface course), such concrete surfaces shall be protected by heavy paper or other protective material while the prime or tack coat is being applied. Any bituminous material deposited on such concrete surfaces shall be removed immediately.

3.02 WEATHER LIMITATIONS
A. No bituminous material shall be applied when the air temperature is less than 50°F in the shade, or when the weather conditions or the condition of the existing surface is unsuitable. In no case shall bituminous material be applied while rain is falling or when there is water on the surface to be covered.

3.03 APPLICATION OF PRIME COAT
A. After the base has been finished; the full width of surface shall be swept with a power broom supplemented with hand brooms and mechanical blowers prior to the application of the prime coat. Care shall be taken to remove all loose dust, dirt and objectionable matter. If deemed necessary, the base shall be lightly sprinkled with water immediately in advance of the prime coat. The prime coat shall be applied to the full width of the base.
B. The temperature of the prime material shall be such as to ensure uniform distribution. The material shall be applied with a pressure distributor at a specified rate. The prime coat applied shall be sufficient to coat the surface thoroughly and uniformly without any excess to form pools or to flow off the base. For limerock base, the rate of application shall not be less than 0.10 gallons per square yard; for shell base, the rate of application shall not be less than 0.15 gallons per square yard; for soil cement base, the rate of application shall not be less than 0.15 gallons per square yard.
C. If the roadway is to be opened for use following the application of the prime material, a light uniform application of clean sand shall be applied and rolled. The sand shall be applied immediately, shall be free from silt and rock particles and shall not contain any sticks, vegetation, grass, roots or organic matter. After the sand covering has been applied, the surface may be opened to traffic.

3.04 APPLICATION OF TACK COAT
A. In general, a tack coat will not be used on primed bases except in areas which have become excessively dirty and cannot be cleaned or where the prime has cured and lost all of its bonding effect.
B. No tack coat shall be applied until the primed base or leveling course has been cleaned and is free from sand, dust or other objectionable material.
C. The tack coat shall be applied with a pressure distributor as specified above. It shall be heated to a suitable consistency and applied in a thin uniform layer at the rate between 0.02 gallons and 0.08 gallons per square yard.
D. The tack coat shall be applied sufficiently in advance of the laying of the wearing surface to permit drying, but shall not be applied so far in advance or over such an area as to lose its adhesiveness as a result of being covered with dust or other foreign material. Suitable precautions shall be taken by the Contractor to protect the surface while the tack coat is drying and until the wearing surface is applied.

END OF SECTION

## SECTION 02512 – ASPHALTIC CONCRETE PAVING

Part 1.00 General

1.01 SCOPE OF WORK
A. The work specified in this Section consists of the construction of asphaltic concrete surface courses composed of a mixture of aggregates, mineral filler and asphalt cement properly laid upon a prepared base, or a newly constructed binder course, in accordance with these specifications and all requirements of State Department of Transportation Standard Specifications (latest edition) and in conformity with the lines, grades, thickness and typical cross section shown on the Drawings. Contractor shall furnish Types I, S–I or S–III asphaltic concrete as specified by the Drawings. Asphaltic concrete pavement around drain inlets and catch basins shall conform to the following provisions, except placing material may be by hand methods.

## SECTION 02512 – ASPHALTIC CONCRETE PAVING – CONTINUED

4. The fine aggregate, when tested by means of laboratory sieves, shall meet the following requirements:

| Passing Sieve | Retained on Sieve | Percent by Weight |
|---|---|---|
| No. 4 | | 90–100 |
| No. 4 | No. 10 | 0–15 |
| No. 10 | No. 40 | 15–50 |
| No. 40 | No. 80 | 25–60 |
| No. 80 | No. 200 | 8–40 |
| No. 200 | | 0–10 |

5. Fine aggregate containing more than 1.00 percent of phosphate shall not be used.
D. Mineral Filler:
1. Mineral filler shall consist of limerock dust, Portland cement, slag dust, hydrated lime or other inert mineral matter approved by the Engineer and conforming to the following gradation requirements:
Total Passing No. 30 Sieve ..... 100 Percent
Total Passing No. 80 Sieve ..... 95 Percent (Min.)
Total Passing No. 200 Sieve ..... 65 Percent (Min.)
2. The mineral filler shall be thoroughly dry and free from lumps consisting of aggregations of fine particles. Ground phosphate will not be allowed as a mineral filler.

2.02 GENERAL COMPOS–ON OF MIXTURE
A. The bituminous mixture shall be composed of a combination of aggregate (coarse, fine, or mixtures thereof), mineral filler, if required, and bituminous material. The several aggregate fractions shall be sized, uniformly graded and combined in such proportions that the resulting mixture will meet the grading and physical properties of the approved job mix formula
B. In all cases, the job mix formula shall be within the design ranges specified in the following table:

GRADATION DESIGN RANGE

| Sieve Size | Percent Passing by Weight Type S–I | Type S–II | Type I |
|---|---|---|---|
| 3/4 inch | 100 | | |
| 1/2 inch | 88–100 | 100 | 100 |
| 3/8 inch | 75–93 | 88–100 | 88–100 |
| No. 4 | 47–75 | 60–90 | 54–85 |
| No. 10 | 31–53 | 40–70 | 35–59 |
| No. 40 | 19–35 | 20–45 | 16–41 |
| No. 80 | 7–21 | 10–30 | 7–28 |
| No. 200 | 2–7 | 2–7 | 4–8 |

C. Asphalt cement (Bitumen) shall consist of 4–1/2 to 9 percent by weight of the total mix as determined by job mix formula. For highly absorptive aggregates, the upper limit may be raised.
D. Where bituminous placing and finishing is permitted for small and irregular areas, such as turnouts, crossovers, acceleration and deceleration lanes, etc., the portion of the Grade No. 16 coarse aggregate retained on a No. 4 sieve may be omitted from the mixture and the percent by weight of the coarse aggregate passing the No. 4 sieve and retained on the No. 10 sieve shall be within the range specified for the total coarse aggregate in the mix.
E. Proportions of Rubber and Local Materials: Not more than 25 percent by weight of the total aggregate used shall be silica sand or local materials. The silica sand shall conform to all requirements of specifications and the local materials shall meet the requirements of state DOT Standard Specifications for Road and Bridge Construction (latest edition).

2.03 FORMULA FOR JOB MIX
A. The general composition limits prescribed above are master ranges of tolerances to govern mixtures made from any materials meeting the specifications, and they are maximum and minimum for all cases. A closer control appropriate to the job materials will be required for the specific project in accordance with the job mix formula.
B No work shall be started until the Engineer has approved the job mix formula.
C. Materials that will be used to make up the approved job mix should be stockpiled in sufficient quantity to meet the demands for the entire project in progress. If this is not practicable, care must be taken to ensure adequate quality control of the materials used in each job mix. Should the source of supply for the materials used in the job mix be changed, or should the materials from the source vary appreciably from the materials used in the job mix formula, the job mix formula must be altered accordingly.
C. Combined dry aggregate gradation of the hot bins shall be within the following limits of the job mix formula:

| Sieve Size | Tolerance Percent One Test | Two Tests | Three Tests |
|---|---|---|---|
| 3/4 inch | 5.0 | 3.5 | 2.9 |
| 1/2 inch | 5.0 | 3.5 | 2.9 |
| 3/8 inch | 5.0 | 3.5 | 2.9 |
| No. 4 | 5.0 | 3.5 | 2.9 |
| No. 10 | 5.0 | 3.5 | 2.9 |
| No. 40 | 4.0 | 2.8 | 2.3 |
| No. 80 | 3.0 | 2.1 | 1.7 |
| No. 200 | 2.0 | 1.4 | 1.2 |

D. After the job mix formula is established, each mix for the project shall meet the approved formula within the following tolerances:

| Characteristic | Tolerance |
|---|---|
| Asphalt Content (Extraction) | ± 0.70% |
| Asphalt Content (Printout) | ± 0.30% |
| Passing No. 10 Sieve | ± 6.50% |
| Passing No. 200 Sieve | ± 2.00% |

E. In no case shall a job mix that is within the tolerances stated above be such that it falls out of the master range.
G. Samples of the mixture in use will be taken as many times daily as is necessary in the opinion of the Engineer. The mixtures shall be maintained uniformly throughout the project within the above tolerances.
F. Job materials found to have characteristics requiring a content of bituminous material less than is indicated in the formula prescribed above, will be rejected or adjusted to forma blend, which will produce a balanced mixture under the terms of the formula. Where job materials otherwise meeting specifications are found, on account of highly absorptive or other special characteristics, to produce an acceptable balanced mix only if the bituminous material content is increased over the amount specified, the mixture may be accepted provided that the job mix shall be adjusted to require the use of such additional bituminous material content.
G. The asphaltic content shall be such for the material used that when the mixture is tested, in accordance with ASTM Designation D 1559, the stability shall be at a maximum with an optimum asphalt cement content. Physical properties of the mix shall be as shown in the following table:

| Mix Type | Minimum Marshall Stability (lbs) | Flow (0.01 in) | Minimum Air VMA (%) | Voids (%) |
|---|---|---|---|---|
| S–I | 1500 | 8–14 | 14 | 3–5 |
| S–III | 1000 | 8–16 | 14 | 3–7 |
| I | 1000 | 8–14 | 14 | 3–5 |

Part 3.00 Execution

3.01PREPARATION OF ASPHALTIC CEMENT
A. The asphalt cement shall be delivered to the asphalt plant at a temperature not to exceed 350°F and shall be maintained within a range of 230°F to 350°F in advance of mixing operations. Heating within these limits shall be constant and wide fluctuations of temperature during a day's production will not be permitted.

3.02 PREPARATION OF AGGREGATES
A. Stockpiling coarse aggregate shall be done in such a manner so the aggregate will not segregate.
B. All aggregates to be blended or proportioned shall be placed in separate bins at the cold hopper and proportioned by means of calibrated gates or other approved devices. When two or more aggregates are blended, the use of two or more bins shall be employed for the blending of such material.
C. The aggregates shall be heated and dried at the paving plant before entering the mixer. The temperature of the aggregates shall be so controlled that the temperature of the completed mixture at the plant will fall within the permissible range allowed by these Specifications. Any dried aggregated contaminated with fuel oil shall be wasted.

3.03 PREPARATION OF MIXTURE.
A. Batch Mixing
1. The dried aggregate, prepared as described herein before and combined in batches to meet the job mix formula by weighing each separate bin size, shall be conveyed to the empty mixer.
2. The hot asphalt cement, accurately measured, shall then be introduced, and the mixing continued until the mixture is thoroughly uniform and homogeneous. The total mixing time in no case shall be less than 35 seconds. Each batch must be kept separate throughout the weighing and mixing operations.
B. Continuous Mixing: The dried aggregate, prepared as described herein before and proportioned to meet the job mix formula by volumetric measurement, shall be introduced into the mixer. The hot asphalt cement shall be introduced into the mixer in synchronization with the feeding of aggregate. The quantity shall be measured by volume. Mixing shall be sufficient to produce a thoroughly uniform and homogeneous mixture.
C. General: The ingredients of the mix shall be heated and combined in such a manner as to produce a mixture which shall beat a temperature, when discharged from the pugmill or surge bin, between the limits of 230°F and 310°F.

3.04 TRANSPORTATION OF MIXTURE
A. The mixture shall be transported in tight vehicles previously cleaned of all foreign material and, if necessary, each load shall be covered with a waterproof canvas cover of sufficient dimensions to protect it from weather conditions. The inside surface of the truck bodies may be thinly coated with soapy water, or a mixture of water with not more than five percent of lubricating oil, but no excess of either shall be used. After the truck bodies are coated and before any mixture is placed therein, they shall be raised so that all excess water will drain out. Kerosene, gasoline or similar products shall not be used to prevent adhesion.

## SECTION 02512 – ASPHALTIC CONCRETE PAVING – CONTINUED

3.05 LIMITATIONS FOR SPREADING
A. The mixture shall be spread only when the surface is properly prepared and is intact, firm, cured and dry. No mixture shall be spread when the air temperature is less than 40°F, or when the spreading cannot be finished and compacted during daylight hours. The temperature of the mix at the time of spreading shall not be less than 230°F.

3.06 PLACING MIXTURE
A. Upon arrival, the mixture shall be dumped into an approved mechanical spreader and immediately spread and struck off to the full width required and to such appropriate loose depth for each successive course that when the work is completed the required thickness or weight of mixture per square yard will be secured. An excess amount of mixture shall be carried ahead of the screed at all times. Hand raking shall be done behind the machine as required.
B. In limited areas, where, on account of irregularities or unavoidable obstacles, the use of mechanical spreading and finishing equipment is impracticable, the mixture may be spread by hand, when so authorized by the Engineer.
C. The mixture shall be laid only when the surface to be covered is dry and only when weather conditions are suitable. All defective areas in the foundation shall be replaced in advance of laying the mixture.
D. All structures which will be in actual contact with the asphaltic mixture, including the vertical faces of existing pavements, shall be painted with a uniform coating of asphalt material to provide a closely bonded, watertight joint.
E. When necessary, due to the traffic requirements, the mixture shall be laid in strips in such manner as to provide for a passage of traffic. When the road is closed to traffic, the mixture may be laid the full width of pavement, by machines traveling in echelon.
F. Before any rolling is started, the surface shall be checked, any inequalities adjusted, and the drippings, fat spots, or any accumulations from the screed, and fat spots from any source, shall be removed and replaced with satisfactory material.

3.07 COMPACTING MIXTURE
A. After the spreading, the mixture shall be rolled when it has set sufficiently or come to the proper condition to be rolled, and when the rolling does not cause undue displacement.
B. Rolling shall begin at the center and progress toward the outside, paralleling the centerline of the roadway, uniformly lapping at least one–half of the width of the roller.
C. The motion of the roller shall at all times be slow enough to avoid displacement of the mixture, and any displacement occasioned shall be corrected at once by the use of rakes and fresh mixture where required. The rolling shall include transverse, longitudinal, diagonal and, where practicable, crescent rolling, as may be necessary to obtain the specified density.
D. The seal rolling with steel–wheeled rollers weighing from 5 tons to 12 tons shall follow as close behind the spreader as is possible without picking up, displacing, or blistering the material. Rolling with the self–propelled pneumatic–tired rollers shall follow as soon as possible and as close behind the seal rolling as the heat of the mixture will permit. This rolling shall be done such that the self–propelled traffic roller shall cover every area of the surface with at least six passes. This final rolling shall be before the mixture has cooled to a temperature lower than 140°F, and shall be continued until all roller marks or tire marks are eliminated. Self–propelled, pneumatic–tired rollers shall be used for the rolling of patching and leveling courses. At the option of the Contractor, a steel–wheeled roller may be used to supplement the self–propelled pneumatic–tired rollers, but not more than one steel–wheeled roller may be used in conjunction with the necessary number of self–propelled pneumatic–tired rollers. Before the final compaction, the finished pavement shall at no point have a density less than 95 percent of the laboratory compacted density. Rolling with the self–propelled pneumatic–tired roller shall proceed at a speed from 6 to 10 miles per hour and the rate of rolling shall not exceed 3,000 square yards per hour per roller. A sufficient number of self–propelled pneumatic–tired rollers shall be used so that the rolling of the surface for the required number of passes is completed within this maximum rolling limit of time after placing of the placing operation, nor result in excessive cooling of the mixture before the rolling is complete. In the event the rolling of any course is not properly maintained to meet the above limits, the operation shall be discontinued until the rolling operations have caught up to the spreader(s).
E. In all places inaccessible to a roller, such as adjacent to curbs, headers, gutters, bridges, manholes, and other locations not readily accessible to rollers, depressions which may develop before the completion of the rolling shall be remedied by loosening the mixture laid and adding new material, which shall be compacted by tampers to a true surface.
F. Should any depressions remain after final compaction has been obtained the mixture shall be removed sufficiently and new material added to form a true and even surface.
G. The mixture, after rolling, shall be of the thickness shown on the Drawings. The surface, after compaction, at no place shall show an excess of asphalt, and any area showing such excess, or where the mixture shall be cut out and replaced with fresh mixture which shall be immediately compacted to conform with the surrounding area. Any mixture which becomes loose or broken, mixed or coated with dirt or in any way defective prior to laying the wearing course shall be removed and replaced with fresh mixture which shall be immediately compacted to conform with the surrounding area.
H. Gasoline or oil from rollers shall not be allowed to deposit on the pavement and any pavement damaged by such deposits shall be removed and replaced.
I. Any mixture remaining unbonded after rolling shall be removed and replaced.

3.08 JOINTS
A. Transverse Joints: At the end of each day's work, or whenever the laying is to be discontinued for such length of time as to allow the mixture to become chilled, transverse joints shall be formed either by laying a bump, equal in thickness to the compacted thickness of the pavement, across the width of strip being spread and rolling the mixture against the board, or by using paper or sand, provided in either case the asphalt is cut back to well bonded material of the required thickness before placing additional asphalt.
B. Longitudinal Joints: Where only a portion of the width of pavement is to be laid and opened to traffic, longitudinal joints shall be formed rolling the exposed edge of the strip first laid. When the adjacent strip is constructed, the edge of the mixture in place shall be trimmed back so as to expose an unsealed or granular vertical surface. When the strip first laid is closed to traffic, the edge shall not be sealed, but shall be left vertical and the adjacent strip placed against it without trimming.
C. General: The exposed edge of the transverse joints, trimmed or formed as provided above, shall be painted with a thin coat of hot asphalt cement just prior to the laying of fresh surface course mixture adjacent. The fresh mixture shall be raked against the joint and rolled.

3.09 FIELD QUALITY CONTROL
A. Surface Requirements:
4. For the purpose of testing the finished surface, a 15–foot straightedge and a standard template cut to the true cross section of the road shall at all times be available on the work site. The Contractor shall provide or designate some employee whose duty is to handle the straightedge and template in checking all rolled surfaces, under the direction of the Engineer.
5. The finished surface shall be such that it will not vary more than 1/4 inch from the template cut to the cross section of the road, not more than 3/16 inch from the 15foot straightedge applied parallel to the center line of the pavement. Any irregularity of the surface exceeding the above limits shall be corrected. Depressions that may develop after the initial rolling shall be remedied by loosening of surrounding the mixture and adding new material to bring the areas to a true surface. No skin patching shall be done. Such portions of the completed pavement that are defective in surface compaction or in composition, or that do not comply with all other requirements of these specifications, shall be taken up and replaced with suitable mixture, properly laid in accordance with these specifications and at the expense of the Contractor.
B. Removing and Replacing: If correction is made by removing and replacing the pavement, the removal must be for the full depth of the course and extend at least 50 feet on either side of the defective area, for the full width of the paving lane.
C. Overlaying: If correction is made by overlaying, the overlay shall cover the length of the defective area and taper uniformly to a featheredge thickness at a minimum distance of 50 feet on either side of the defective area. The overlay shall extend full width of the roadway. Care shall be taken to maintain the specified cross slope. The mix used for the overlay may be adjusted as necessary for this purpose by the Engineer. Overlaying will not be permitted, when the finished pavement surface is a friction course or abuts concrete curbs.
D. Other Methods: For courses which will not be the final pavement surface, correction of minor straightedge deficiencies by methods other than specified above may be approved by the Engineer.
E. Thickness Requirements: The thickness of the compacted asphaltic concrete surface course shall be determined by coring and shall be no less than that shown on the Drawings. Any surface course found to be less than the thickness shown on the Drawings by greater than ¾–inch shall be removed and replaced.
F. Protection of Pavement: After the completion of the pavement, no vehicular traffic of any kind shall be permitted on the pavement until it has set sufficiently to prevent rutting of fresh surface distortion.

3.10TESTING AND REPORTS
A. Testing for performance in accordance with these Specifications will be paid for by the Owner. The frequency of testing shall be a minimum of that specified below and at the locations as directed by the Engineer. However, any retesting necessary in areas not initially meeting these Specifications shall be paid for by the Contractor.
B. Prior to the start of the placing of the asphaltic concrete, the job mix formula prepared by a certified material–testing laboratory shall be submitted to and be approved by the Engineer. All job mix design formulas design shall be current within the last 12 months.
C. During construction of the asphaltic concrete wearing surface, the following tests must be completed and reports submitted to the Engineer before acceptance can be given:
1. Extraction stability and gradation of combined aggregate –1 test per day. Bitumen content, stability and gradation of aggregates to conform to intent of job mix formula.
2. Density and depth checks –1 test per 250 lineal feet of roadway (minimum 2 tests per street) and one test per 2,700 square yards of parking lot area. Minimum acceptable density for each course of asphaltic concrete material shall be 95 percent of the design unit weight in the job mix formula.

END OF SECTION

Plotted By: Sheaffer, Ryan Date: April 30, 2025 08:47:23am File Path: K:\EAU-Civil\05388721-Olive Garden Southwest Pkwy\Cad\PlanSheets\Cvr - Darden Civil Specifications.dwg
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| BY | DATE | REVISIONS |
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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT | 063887221 |
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| DATE | APRIL 2025 |
| SCALE | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

DARDEN CIVIL SPECIFICATIONS (2 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
9 OF 41

THIS SHEET PROVIDED FOR REFERENCE ONLY

CITY STANDARDS AND SPECIFICATIONS AS WELL AS NOTES PROVIDED IN THE CIVIL PLANS SUPERSEDE SPECIFICATIONS SHOWN HERE.

SP-2025-0116C.CC

SECTION 02528 – CONCRETE SIDEWALK; CURB AND GUTTER, AND TRAFFIC SEPARATOR

Part 1.00 General

1.01 WORK INCLUDED

A. The work included in this Section consists of furnishing all labor, material, equipment and transportation for the construction of the concrete sidewalks, curb and gutter, and traffic separator to the lines and grades as shown on the Drawings.

1.02 RELATED WORK

A. Section 02210 – Site Earthwork
B. Section 03000 – Concrete (Site Work)

1.03 SUBMITTALS

A. All materials specified shall be certified by the producer or manufacturer that the furnished material meets the specific requirements of the specifications.

Part 2.00 Products

2.01 MATERIALS

A. Concrete: Concrete shall be Class B that conforms to the requirements of Section 03000 – Concrete (Site Work).
B. All other necessary materials shall comply with those described in Article 2.01 of Section 03000 – Concrete (Site Work).

Part 3.00 Execution

3.01 PREPARATION

A. Subgrade Condition:
1. The finished subgrade shall be maintained in a smooth, compact condition and any areas that are disturbed prior to placing of the concrete shall be restored at the Contractor's expense. The subgrade shall be moist at the time the concrete is placed. . Water shall be uniformly applied ahead of the pouring operations. Depressions with standing water and other obstructions shall be removed to a minimum depth of 6 inches below the finished subgrade elevation, and the space shall be backfilled with sand, base course material or other suitable material, which shall be thoroughly compacted by rolling or tamping.
2. The subgrade shall be accurately trimmed to the required elevation with a ¼-inch tolerance. High areas shall be trimmed to proper elevation. Low areas may be filled with suitable material and compacted to the specified density or filled with concrete integrally with the placing of the pavement.

B. Setting Forms: The forms shall be accurately set to line and grade and such that they rest firmly, throughout their entire length upon the compacted subgrade surface. Forms shall be jointed neatly and tightly and braced to resist the pressure of the concrete and the finished operations. The alignment and grade of all forms shall be approved before and immediately prior to the placing of concrete.
C. Slipforming: The slipforming method will be allowed, provided that an acceptable finished product, true to line, grade, and cross-section is consistently produced.
D. Mixing Concrete: Concrete shall be mixed in accordance with the requirements of Section 03000 –Concrete (Site Work).

3.02 INSTALLATION

A. Placing Concrete:
1. The concrete shall be distributed on the subgrade to such depth that, when it is consolidated and finished, the thickness required by the Drawings will be obtained at all points and the surface will at no point be below the grade specified for the finished surface. The concrete shall be deposited on the subgrade in a manner that will require as little rehanding as possible. Placing of the concrete shall be continuous between transverse joints, without the use of intermediate bulkheads.
2. Reinforcement shall be placed as shown on the Drawings and shall be maintained at this location during the placing and finishing operations.
3. Concrete shall be thoroughly consolidated against and along the faces of all forms by means of vibrators. Vibrators shall not be permitted to come in contact with the subgrade or a side form. Vibration at any one location shall not continue so long as to produce segregation or accumulation of mortar or grout on the surface.
B. Striking-off, Consolidating and Finishing Concrete: Immediately after the placing, the concrete shall be struck off, consolidated and finished, to produce a finished product conforming to the cross-section, width and surface finish required by the Drawings and Specifications.
C. Straightedging and Surface Corrections:
1. After floating has been completed and the excess water removed, but while the concrete is still in a plastic state, the surface of the concrete shall be tested for trueness with an accurate 10-foot straightedge. The straightedge shall be furnished by the Contractor. The straightedge shall be held in successive positions parallel to the walk centerline, in contact with the surface, and the whole area shall be tested from one side of the slab to the other as necessary. The advance along the walk shall be in successive stages of not more than one-half the length of the straightedge. Any depressions shall be immediately filled with freshly mixed concrete and struck-off, consolidated and refinished. High areas shall be cut down and refinished. Straightedge testing and surface correction shall continue until the entire surface appears to conform to the required grade and cross-section. All surface irregularities exceeding 1/4 inch in 10 feet shall be corrected.
D. Final Finish: For sidewalks, as soon as the water sheen has disappeared and just before the concrete becomes nonplastic, all edges, including expansion joint edges, shall be finished with an edging tool having a radius of 1/4 inch and a light broom finish shall be given to the surface perpendicular to the form. For curbs, as soon as the water sheen has disappeared and just before the concrete becomes nonplastic, a light broom finish shall be given to the surface in the longitudinal direction of the curb.
E. Joints–Sidewalks:
1. Transverse Construction Joints: Transverse construction joints shall be conducted at the end of all pours and at other locations where the pouring operation are stopped for as long as 30 minutes. Construction joints, however, shall not be placed within five feet of any other transverse joint or at either end of a section of walk. If sufficient concrete has not been placed to form a slab at least five feet long, the excess concrete, back to the last preceding joint, shall be removed. The joints shall be formed by placing a wood or metal bulkhead accurately and securely in place, in a plane perpendicular to the profile and centerline of the walk. Construction joints shall have tooled edges with a 1/4–inch radius.
2. Transverse Contraction Joints: Transverse contraction joints shall be formed at fivefoot intervals, unless otherwise shown on the drawings, and shall consist of planes of weakness created by an edging tool. The cut in the fresh concrete shall be perpendicular to the surface of the walk, shall extend to a depth of 1–1/2 inches below the top surface and shall have 1/4–inch radius tooled edges.
3. Transverse Expansion Joints: One–half inch expansion joints shall be formed by placing preformed joint filler around all structures and at intervals not exceeding 100 feet, or as shown on the Drawings
C. Joints–Curb, Curb and Gutter, and Traffic Separator:
1. Transverse Construction Joints: Transverse construction joints shall be constructed at the end of all pours and at other locations where the pouring operations are stopped for as long as 30 minutes. Construction joints, however, shall not be placed within five feet of any other transverse joint or at either end of a section of curb. If sufficient concrete has not been placed to form a slab at least ten feet long, the excess concrete, back to the last preceding joint, shall be removed. The joints shall be formed by placing a wood or metal bulkhead accurately and securely in place, in a plane perpendicular to the profile and centerline of the pavement. Construction joints shall be keyed, in a manner similar to contraction joints, so that a groove will be formed for holding the joint sealing compound.
2. Transverse Contraction Joints: Transverse contraction joints shall be constructed at ten–foot intervals and shall consist of planes of weakness created by sawing the surface of the hardened concrete. The cut shall be perpendicular to the surface of the pavement, and shall extend to a depth of six inches below the top of the curb and one and one–half inches below the gutter.
a. It shall be the Contractor's responsibility to see that the sawing equipment does not damage the curb and to saw the transverse contraction joints as soon as the curb, and curb and gutter has hardened to the degree that tearing and raveling are not excessive and before uncontrolled shrinkage cracking begins. If, at any time, uncontrolled cracking occurs, the Contractor will be required to modify his methods.
3. Transverse Expansion Joints: One–half inch expansion joints shall be formed by placing preformed joint filler at the ends of each radius return, around all structures, and at intervals not exceeding 300 feet.
4. Cleaning and Sealing Joints: Joints in gutters which are to be sealed, shall be filled with joint sealing material before the roadway is opened to traffic and as soon after completion of the curing period as is feasible. Just prior to sealing, each joint shall be thoroughly cleaned of all foreign material (including any membrane curing compound) and the joint faces shall be clean and surface–dry when the sealer is applied.
a. The sealing material shall be applied to each joint to conform to the details shown on the Drawings and in accordance with the manufacturer's recommendation. The pouring shall be done in such manner that the material will not be spilled on the exposed surfaces of the concrete. Any excess material on the surface of the concrete gutter shall be removed immediately and the gutter surface cleaned.
b. All cracks occurring in the gutter prior to its acceptance shall be cleaned out and sealed as specified above, except that the cracks and fractures shall be completely filled with joint sealer and any excess filler material cut down level with the gutter surface.

D. Curing:
1. After the finishing operations have been completed and as soon as the concrete has hardened sufficiently that marring of the surface will not occur, the entire surface and the edges of the newly placed concrete shall be covered and cured with membrane curing compound.
2. Curing compound shall be uniformly applied to the surfaces to be cured, in a single coat, continuous film, at the rate of one gallon to not more than 200 square feet, by a mechanical sprayer.
3. Curing compound shall not be applied during periods of rainfall. Curing compound shall not be applied to the inside faces of joints to be sealed. Should the film become damaged from any cause within the required curing period, the damaged portion shall be repaired immediately with additional compound. Upon removal of side forms the sides of the slabs exposed shall immediately be coated to provide a curing treatment equal to that provided for the surface.
E. Form Removal: After the concrete has sufficiently set a minimum of 12 hours, the Contractor shall remove the forms and shall 196 fill the minimum on each side. The earth shall be compacted and graded in a satisfactory manner without damage to the concrete work. Honeycombed areas and spalled concrete surfaces shall not be allowed on the face of the walk or curb. Rejected work shall be removed and replaced at the expense of the Contractor.

END OF SECTION

SECTION 02530 – DEWATERING SYSTEM

Part 1.00 General

1.01 SCOPE OF WORK

A. In general, the work specified in this Section consists of supplying labor, materials and performing all work necessary to lower and control the groundwater levels and hydrostatic pressures to permit all excavations and construction specified under this Contract to be performed in the dry.

1.02 EXAMINATION OF THE SITE AND REFERENCE DOCUMENTS

A. The Contractor shall take all the steps that he considers necessary to familiarize himself with the site conditions, the ground conditions and the groundwater conditions.
B. The Contractor shall obtain permits as required by local, state, or other agencies having jurisdiction over dewatering activities.
C. The Contractor shall obtain the geotechnical report(s) pertaining to the site from the Owner.

Part 2.00 Products

Not used

Part 3.00 Execution

3.01 METHOD

A. The Contractor may use any dewatering method he deems feasible so long as it results in working in the dry and stable soil conditions.
B. The Contractor shall install the permanent site underdrain system during the early stages of construction to aid in controlling the groundwater during construction.
C. The Contractor shall conform and meet all conditions, obtain necessary permits and requirements of the regulatory agencies that have jurisdiction.
D. The exhaust system of gasoline and diesel engines for dewatering pumps shall be equipped with mufflers, subject to the approval of the Engineer, said mufflers so designed as to provide maximum noise suppression. In the event the Engineer considers the muffling of gasoline or diesel driven pumps unsatisfactory, the Contractor shall be required to use electrically driven dewatering pumps. If a portable generator is used, the exhaust gas system of said generator shall also be properly muffled and subject to the approval of the Engineer.

3.02 DEWATERING REQUIREMENTS

A. It is the intent of these specifications that an adequate dewatering system be installed to lower and control the groundwater in order to permit excavation, grading and the placement of fill materials, all to be performed under dry conditions. The dewatering system shall be adequate to pre-drain the water-bearing strata above and below the bottom of the excavation.
B. The contractor shall be solely responsible for the arrangement, location and depths of the dewatering system necessary to accomplish the work described under this section of the specifications. The dewatering shall be accomplished in a manner that will maintain the hydrostatic pressure below the excavation to the extent that the water level in the construction area are a minimum of two (2) feet below the prevailing excavation surface and any surface to be compacted; will prevent the loss of fines, seepage, boils, quick conditions, or softening of the foundation strata; will maintain stability of the sides and bottom of the excavation; and will result in all construction operations being performed in the dry.
C. The Contractor shall promptly dispose of all water removed from the excavations in such a manner as will not endanger public health, damage public or private property, or affect adversely any portion of the work under construction or completed by him or any other Contractor. Contractor shall obtain written permission from the Owner for any property, involved before digging ditches or constructing watercourses for the removal of water.
D. The disposal of water from the dewatering system shall be coordinated with applicable portions of Section 02276 entitled Temporary Erosion and Sedimentation Control and the requirements of all regulatory agencies having jurisdiction.
E. If the dewatering requirements are not satisfied due to inadequacy or failure of the dewatering system, then loosening of the foundation strata, or instability of the slopes, or damage to the foundations or structures may occur. The supply of all labor and materials, and the performance of all work necessary to carry out additional work for reinstatement of the structures of foundation soil resulting from such inadequacy or failure shall be undertaken by the Contractor subject to the approval of the Engineer, and at no additional expense to the Owner.

END OF SECTION

SECTION 02577 – PAVEMENT MARKING

Part 1.00 General

1.01 WORK INCLUDED

A. The work included in this Section consists of furnishing all labor, materials, transportation, equipment and incidentals required to provide painted reflectorized traffic stripes, including edge stripes and traffic guides as shown on the Drawings and specified herein.

1.02 SUBMITTAL

A. Certification of testing laboratory as to compliance with State DOT Standard Specifications for Highway and bridge Construction (latest edition).

Part 2.00 Products

2.01 MATERIALS

A. Traffic paint shall conform to the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).
B. Thermoplastic traffic stripes and markings shall conform with the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).
C. Glass spheres for reflective paint shall conform with the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).

Part 3.00 Execution

3.01 APPLICATION

A. Equipment used, alignment, application and protection shall be in accordance with the State DOT Standard Specifications for Highway and Bridge Construction (latest edition).

END OF SECTION

SECTION 02640 – VALVES AND APPURTENANCES

Part 1.00 General

1.01 SCOPE OF WORK

A. Furnish and install all valves and appurtenances as shown on the Drawings and as specified herein.
B. The equipment shall include, but not be limited to, the following:
1. Gate valves
2. Ball valves for PVC pipe
3. Check valves
4. Plug valves
5. Air and vacuum valves
6. Fire hydrants
7. Corporation stops
8. Expansion joints 9. Unions
9. Compression couplings
11. Hose bibbs
12. Hydraulic cushioned check valves
13. Pressure gauges

1.02 DESCRIPTION OF SYSTEMS

A. All of the equipment and materials specified herein are intended to be standard for use in controlling the flow of water, sewage, sludge, chemicals, etc., depending on the applications.
B. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will maintain this system. Contractor shall obtain a copy of the requirements from the agency.

1.03 QUALIFICATIONS

A. All of the types of valves and appurtenances shall be a product of well–established reputable firms who are fully experienced and qualified in the manufacture of the particular equipment to be furnished. The equipment shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these specifications as applicable.
B. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will maintain this system. Contractor shall obtain a copy of the requirements from the agency.

1.04 SUBMITTALS

A. Submit to the Engineer within 30 days after execution of the contract a list of materials to be furnished, the names of the suppliers and the date of delivery of materials to the site.
B. Complete shop drawings of all valves and appurtenances shall be submitted to the Engineer for approval.

1.05 TOOLS

A. Special tools required for normal operation and maintenance shall be supplied with the equipment.

Part 2.00 Products

2.01 MATERIALS AND EQUIPMENT

A. General:
1. All valves and appurtenances shall be of the size shown on the Drawings, and whenever possible, all equipment of the same type shall be from one manufacturer.
2. All valves and appurtenances shall have the name of the maker and the working pressure for which they are designed cast in raised letters upon some appropriate part of the body.

2.02 GATE VALVES

A. Gate valves for water shall meet the requirements of AWWA C509. Valves shall be rated for 150 psi working pressure and a minimum 300–psi test pressure. Valves shall be iron body, bronze–mounted, resilient seal double disc, parallel set, and non–rising stem type fitted with O–Ring seals. The operating nuts shall be 2 inches square. All valves shall open counter clockwise. Stuffing boxes shall be the O–Rings type. Gate valves shall be mechanical joint, ANSI/AWWA C111/A21.11, or flange joint, ANSI B16.1 Class 125, as shown on the Drawings.
B. All buried valves shall be fitted with cast iron three–piece adjustable valve boxes. The barrel shall be two–piece, screw type, having a 5–1/4 inch shaft. The upper section shall be provided with a heavy cast iron cover. Covers shall have "WATER" for water valves and "RECLAIM" for reclaim valves cast into the top. Valve boxes shall be provided with a concrete base as shown on the Drawings. Pour tee–bonded valve wrenches of suitable length shall be furnished to operate all valves within valve boxes.
C. Exposed valves shall be equipped with handwheels or chainwheels as shown on the Drawings. Handwheels shall be of ample size and shall have an ARROW and the word "OPEN" cast thereon to indicate the direction of opening.
D. Valves 12 Size or larger shall be provided with bevel or spur gears depending on the position of the valve as indicated on the Drawings. The gears shall be housed in a grease case of the extended yoke type to permit repacking the stuffing box of the valve without disassembly. Valves 16 inches or larger designed to lie horizontally shall be equipped with rollers to carry the weight of the wedge throughout its travel.
E. Valve wrenches and extension stems shall be provided by the manufacturer.

2.03 BALL VALVES FOR PVC PIPE

A. Ball valves for PVC pipe shall be of PVC Type 1 with union, socket, threaded or flanged ends as required. Ball valves shall be full port, full flow, all plastic construction, 150 psi rated with Teflon seat seals and T–handles.
B. All valves shall be mounted in such a position that valve position indicators are plainly visible when standing on the floor.

2.04 CHECK VALVES

A. Check valves for cast iron and ductile iron pipe shall be swing type and shall meet the material requirements of AWWA Specification C500. The valves shall be iron body, bronze mounted, single disc, 150 psi working water pressure, nonshock, and hydrostatically tested at 300 psi. Ends shall be 125 pound ANSI B16.1 flanges or 125 pound ANSI B2.1 threaded fittings depending upon location.
B. When there is no flow through the line, the disc shall hang lightly against its seat in practically a vertical position. When open, the disc shall swing clear of the waterway.
C. Check valves shall have bronze seat and body rings, stainless steel hinge pins and bronze nuts on the bolts of bolted covers.
D. Valves shall be so constructed that disc arid body seat may easily be removed and replaced without removing the valve from the line. Valves shall be fitted with an extended hinge arm with outside lever and spring or weight.
E. Check valves for small diameter PVC pipe shall be of PVC Type 1, Series BC with union, socket, threaded or flanged ends as required.

SECTION 02640 – VALVES AND APPURTENANCES – CONTINUED

2.05 PLUG VALVES

A. Plug valves for sewer piping shall be non–lubricated eccentric plug type with semi–steel bodies, resilient faced plugs, and welded nickel seats. Port areas shall be at least 80 percent of full pipe area. Valves shall be capable of drip–tight shutoff at pressure differentials up to the full rating of. the valve with pressure in either direction. All exposed nuts, bolts, springs, and washers shall be zinc plated, except exposed hardware for submerged valves shall be stainless steel. Valve bodies shall be furnished with 125/150–pound ANSI standard flanged ends, or mechanical joints, as shown on the Drawings.
B. All valves 20 inches or larger shall be equipped with gear actuators. All gearing shall be enclosed, suitable for running in oil, with seals provided on all shafts to prevent entry of dirt and water into the actuator. All shaft bearings shall be furnished with permanently lubricated torque bearing bushings. Actuator shall clearly indicate valve position and an adjustable stop shall be provided. Construction of actuator housing shall be semi–steel. Plug valves installed such that actuators are 6 feet or more above the floor, shall be provided with chainwheels and chains.
C. Where shown on the drawings, plug valves shall be installed with extended shafts and actuators. Actuator for extended shafts shall be mounted on floor stands where indicated on the Drawings or shall have removable handwheels where floor stands are not called for. Six–inch sleeves shall be provided for extended shafts in all floors, and covers shall be provided where necessary. Shafts shall be of adequate strength to operate the valve, and shall be 304 stainless steel where submerged and carbon steel elsewhere. Floor stands shall be equipped with valve position indicators and a lock for handwheel.
D. All buried valves shall be furnished with three–piece cast iron adjustable valve boxes. The barrel shall be two–piece, screw type, having a 5–1/4 inch shaft. The upper section shall be completed with cast iron cover. Covers shall have "SEWER" cast into the top. Valve boxes shall be provided with concrete base as shown on the Drawings
E. All plug valves shall be installed so that the direction of flow through the valve is in accordance with the manufacturer's recommendations.

2.06 AIR RELEASE VALVES – AIR AND VACUUM VALVES AND COMBINATION

A. The air release valves and air and vacuum release valves shall be suitable for sewage or water, rated for working pressure, and shall have a cast iron body and cover, stainless steel float and trim, and Buna–N seat. The fittings shall be threaded. Valves shall be furnished with backwash accessories. Valves shall meet AWWA C–507. Valves used in potable water service shall be certified to meet NSF/ANSI 61 Drinking Water System Components. Valve body and cover shall be constructed of ASTM A126 Class B cast iron for working water pressure of up to 300 psi.
B. Check assembly air and vacuum release valves shall be able to allow air or gas to escape during the liquid filling process and to permit air to enter when the system is drained, partially drained or the flow is stopped, causing the system pressure to drop below atmospheric pressure. The valves shall be of the large orifice, floating ball type. The body shall be of flanged gray cast iron construction with integral seat and ball retaining rolls. The ball shall be a hollow steel sphere with a smooth covering of nitril rubber. The valve shall be suitable for 150 psi working pressure and a temperature of 185 degrees F. Flanged end in the dry. an integral with body casting, flat faced and drilled to ANSI B16.1, Class 125 cast iron standard.

2.07 FIRE HYDRANTS

A. Fire hydrants shall be 5–1/4 inch minimum valve opening and shall comply with the current AWWA Standard Specification C502–05 with the fire hydrants for water service. Each hydrant shall have 6–inch mechanical joint ends with strapping lugs and shall open by turning counterclockwise. The hydrant shall be of compression type, 1–1/2 inch pentagon nut of bury, and be furnished with a safety flange and compression type main valve. It shall be provided with two 2–1/2 inch hose nozzles and one 4–1/2 inch pumper nozzle, all having National Standard threads. Hose nozzles shall be attached by means of chain to the hydrant. Operating nuts shall be AWWA Standard (pentagonal, measuring 1–/2 inch point to flat). Fire hydrants shall be supplied with ball–valving bonnet and "O–Ring" seals. All hydrants shall be painted in accordance with the specifications in a color to correspond to the present standard of the city having jurisdiction.
1. Hydrants shall be installed plumb and in true alignment with the connection pipes to the water main. They shall be securely braced against the end of the trench (undisturbed earth) by concrete blocks. The hydrant shall be set to proper depth for the drain sump, followed by backfilling, shall be carefully placed and compacted).
B. Prior to installation of cast couplings, the pipe ends shall be cleaned thoroughly for a distance of 8 inches. Use pipe manufacturer pipe lubricant that does not support bacterial growth and is non–toxic, water soluble, imparts neither taste or odor to the conveyed water and is ANS/NSF approved as a gasket lubricant. A follower and gasket, in that order, shall be slipped over each pipe to a distance of about 6 inches from the end, and the middle ring shall be placed on the already laid pipe and until it is properly centered over the joint. The other pipe end shall be inserted into the middle ring and brought to proper position in relation to the pipe already laid. The gaskets and followers shall then be pressed evenly and firmly in the middle ring flares. After the bolts have been inserted and all nuts have been made up finger–tight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joint, preferably by use of a torque wrench of the appropriate size and torque for the bolts.

2.08 CORPORATION STOPS AND CURB STOPS

A. Corporation stops and curb stops shall be oil brass and bronze suitable for 150 psi operating water pressure and conforming with connections compatible with connecting service pipe type, threaded in accordance with AWWA C800–05, and shall be of size required and/or noted on the Drawings.

2.09 EXPANSION JOINTS

A. Joints in the arch type with the number of arches dependent on movement, as shown on Drawings. They shall be constructed of multiple plies of woven fabric, impregnated with viton and reinforced with welded steel rings imbedded in the body. They shall have flanges integral with the body of Neoprene/Hypalon rubber, with ANSI 125 pound drilling, and a Hypalon coating applied at the factory for protection from ozone–and weathering. Each end flange with the backup ring shall be furnished with 3/8" thick–neoprene gasket. Joints shall be installed in accordance with manufacturer's recommendations.
B. Control units (restraining rods) shall be installed if adequate anchoring is not practical, in accordance with the manufacturer's standard installation instructions. Rods and plates should be steel, and rubber grommets should be used to isolate the rods from the plates.

2.10 COMPRESSION COUPLINGS

A. Compression couplings and compression fittings for piping 2 inches in diameter and smaller shall conform to ASA specifications for 150 psi rated fittings. Coupling bodies shall be seamless steel, and fitting bodies shall be malleable iron. Retainer rings shall be steel. Fittings for copper tubing shall be constructed of brass. When pipe movement will occur, and rubber grommets should be used to isolate the rods from the plates.
B. Copper Pipe: Copper pipe or tubing for underground installation shall be Type K and conform to the requirements of AWWA C901/ASTM D 2737, and shall have a minimum pressure class of 160 with DR 9. Polyethylene materials shall be PE 3406 and shall conform, to ASTM D 3350.
E. Polyethylene Pressure Pipe: Polyethylene pressure pipe for service lines shall be iron pipe sized and approved for potable water use by the National Sanitation Foundation. Pipe shall bear the NSF seal and conform to the requirements of AWWA C901/ASTM D 2239, and shall have a minimum pressure class of 160 with IDR 7. Polyethylene materials shall be PE 3406 and shall conform to ASTM D 3350.

Part 3.00 Execution

3.01 PREPARATION

A. Clearing: The Contractor shall perform all necessary clearing operations for the installation of the water pipe and appurtenances as specified in Section 02221Trenching, Backfilling and Compaction for Utility Systems.
B. Cleanliness: The interior of the pipes shall be thoroughly cleaned of all foreign matter before being lowered into the trench and shall be kept clean during laying operations by means of plugs approved by the Engineer.

3.02 PERFORMANCE

A. The Contractor shall perform all necessary operations, such as excavation, dewatering, foundation preparation, pipe bedding, backfilling, backfill compaction, etc, for the proper installation of the water pipe as specified in Section 02221– Trenching, Backfilling and Compaction for Utility Systems.
B. Water in Excavation: Water shall not be allowed in the trenches while the pipes are being laid and/or tested. The Contractor shall not open more trench than the available pumping facilities are able to dewater. The Contractor shall assume responsibility for disposing of all water so as not to injure or interfere with the normal drainage of the area. The Contractor shall not cause damage to existing structures. In no case shall the pipelines being installed be used as drains for such water, and the ends of the pipe shall be kept properly and adequately blocked during construction by the use of stoppers approved by the Engineer. All necessary precautions shall be taken to prevent the entrance of dirt, mud, or other objectionable material into the pipelines.
C. Clean up: During the progress of work, the Contractor shall clean up the work area as each section of pipe is completed and backfilled completed. Upon completion of the work, all trash, debris and excess material must be hauled away and disposed of to the satisfaction of the Engineer. The completed work shall be cleared and graded to a condition at least equal to that existing before the start of construction.

3.03 INSTALLATION

A. Pipe:
1. Gradient: Lines shall be laid straight and to grade, as indicated on the Drawings, with a minimum of 36 inches of cover or deeper if required by local frost depth, maintained with respect to finish grade.
2. Pipe Joint Deflection: Whenever it is desirable to deflect pipe, the amount of deflection shall not exceed the maximum limits as shown in AWWA Standard C600 for ductile iron pipe and the maximum limits as established by the manufacturer of PVC pipe.
3. Rejects: Any pipe found defective shall be immediately removed and replaced with sound pipe at the Contractor's expense.
4. Anchors: Concrete thrust blocks shall be placed at all bends, tees, plugs and other fittings to provide lateral support, except when restrained joints are specified. Thrust blocks shall conform to the details shown on the Drawings and shall be of Class C concrete.

B. Ductile Iron Pipe Joints:
1. Mechanical Joints: All types of mechanical joint pipes shall be laid and jointed in full conformance with manufacturer's recommendations, which shall be submitted to the Engineer for review and approval before work is begun,
2. Push–on Joints: Push–on joints shall be made in strict, complete compliance with the manufacturer's recommendations. Lubricant, if required, shall be an inert, nontoxic, water–soluble compound incapable of harboring, supporting, or culturing bacterial life. Lubricant is as specified by ANSI/NSF61.

C. Concrete Encasement:
1. Concrete encasement shall be constructed in accordance with details shown on the Drawings and shall be constructed of Class C concrete.
2. The points of beginning and ending of pipe encasement shall be not more than 6 inches from a pipe joint to protect the pipe from cracking due to uneven settlement of its foundation or the effects of superimposed live loadings.

D. Service Connections:
1. Service connections of the size and type called for on the Drawings shall be provided per local utility standards.
2. Connections to water mains 4 inches and larger shall be made by drilling the appropriate size holes and installing service saddles. Service to smaller pipe sizes shall be accomplished by in–line fittings.
3. On curbed streets, the exact location for each service connection shall be marked by etching or cutting a "W" in the concrete curb. Where no curb exists or is planned, locations shall be marked by a method approved by the Engineer.

E. Roadway Crossing:
1. Roadway crossings which require jacking and boring, as identified on the Drawings, shall use steel casing and jacking procedures conforming to the requirements of the State Department of Transportation having jurisdiction as outlined in Utility Accommodation Policy and any supplements thereto. Right–of–way property and surface conditions shall be restored at least equal to their original condition.
2. The casing shall maintain a minimum 30–inch clearance under the roadway surface. Plastic skids for slipping the carrier pipe through the casing shall be spaced per the manufacturer's recommendations and the skids shall be permanently banded to the carrier pipe. After the carrier pipe has been tested for leakage the ends shall be sealed with an 8–inch course of brick masonry with a weep hole installed near the bottom of each wall. A vent shall be installed as indicated on the Drawings.

F. Connection to Existing System:
1. All connections to existing mains shall be made after complete disinfection of the proposed system and shall be made under the direction of the owners of the existing system. Valves separating the mains being installed from existing mains shall be operated by or under the direction of said owner's representative. The cost of the work in making the connections shall be paid for by the Contractor.
2. In the event any existing users will be without water while a connection is being made, the Contractor shall notify them when the water will be turned off and when he estimates service will be resumed. In some instances, these connections may have to be made at night. No user shall be without water service for more than two hours or as allowed by the local water utility.

SECTION 02660 – WATER DISTRIBUTION SYSTEM

Part 1.00 General

1.01 WORK INCLUDED

A. The work included under this Section consists of furnishing all material, equipment, transportation, tools and labor to install water mains, valves, fittings, specials, and other appurtenances, as shown on the Drawings or specified herein, including flushing, testing and sterilizing for a complete job ready to operate.

1.02 RELATED WORK

A. Section 02210 – Site Earthwork
B. Section 02221– Trenching, Backfilling and Compaction for Utility Systems
C. Section 02530 – Dewatering System
D. Section 02640 – Valves and Appurtenances
E. Section 03000 – Concrete

1.03 QUALITY ASSURANCE

A. Design Requirements:
1. PVC water mains 4 inches and larger in diameter shall be constructed with cast or ductile iron fittings.
2. PVC pipe shall not be used for water mains larger than 12 inches in diameter.
3. Water mains 4 inches to 12 inches in diameter shall be PVC or ductile iron as shown on the Drawings.
4. Water mains larger than 12 inches in diameter shall be ductile iron, unless otherwise noted on the Drawings.

B. Storage: All pipe shall be stored on level ground, preferably turf or sand, free of sharp objects which could damage the pipe. Stacking of pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes. Where necessary, due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.
C. Pipe Inspection: The Contractor shall obtain from the pipe manufacturers a certificate of inspection to the effect that the pipe and fittings supplied have been inspected at the plant and that they meet the requirements of these Specifications. All pipe will be inspected upon delivery and that which does not conform to the requirements of these Specifications shall be rejected and must be immediately removed from the site by the Contractor.
D. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will own and maintain this system. Contractor shall obtain a copy of the requirements form the agency.

1.04 SUBMITTALS

A. Shop Drawings: In general, six (6) copies of the following shop drawings shall be submitted to the Engineer for approval prior to construction:
1. Mill test certificates and reports on the pipe and fittings.
2. Details of restrained and flexible joints
3. Hydrants
4. Meter vaults and boxes
5. Valves and valve boxes
6. Service pipe connection assemblies
7. Joint lubricant
8. Restrained Joints

Part 2.00 Products

2.01 MATERIALS

A. Ductile Iron Pipe and Fittings:
1. Ductile Iron Pipe: Ductile iron pipe shall conform to the requirements of ANSI Standard A21.51/ C151. A minimum of Class 50 pipe shall be supplied.
2. Fittings:
a. All ductile iron fittings shall be mechanical joint or single gasket push–on type with a minimum pressure rating of 350 psi and shall conform to the requirements of ANSI/AWWA A21.53/C153.
b. Mechanical joint and/or single gasket push–on type fittings shall be cement lined, seal coated and outside coated as specified above for ductile iron pipe.

3. Joints: Mechanical joints consisting of bell, socket, gland, gasket, bolts and nuts shall conform to ANSI/AWWA A21.11/C111. Bolts shall be high strength, annealed cast iron or low alloy steel, T–head type having hexagonal nuts. Bolts and nuts shall be machined true and nuts shall be tapped at right angles to a smooth bearing surface. Single seal gasket push on type joints shall conform to the requirements of ANSI A21.11. Flanged joints shall conform to ANSI Standard B16.1–125 LB.
3. Restrained Joints: Restrained joints may be of the types fabricated by the various manufacturers, upon approval by the Engineer of details submitted by the Contractor. Restrained joints that require field welding will not be acceptable. The thickness of the socket portion of the pipe barrel remaining at grooves shall be not less than that required for the design wall thickness. Joints using set screws will not be acceptable. Restrained joints shall be furnished for 24 inches and larger pipe at changes in direction of the water main.
4. Gaskets: Gaskets shall be of vulcanized synthetic rubber compound, chloride plastisol. Gaskets shall have plain tips unless otherwise specified. Gaskets shall meet ANSI/AWWA C111/A21.11.

B. Polyvinyl Chloride Pipe:
1. Pipe:
a. PVC Pipe (4 inches to 12 inches in diameter) shall be manufactured from polyvinyl chloride resin conforming to ASTM Designation D1784. Pipe of this material shall conform to AWWA C900. The pipe shall bear the National Sanitation Foundation (NSF) seal for potable water pipe. Pipe shall have a minimum dimension ratio number of 18 and shall be supplied in standard lengths of 20 feet.
b. PVC Pipe (14 inches to 36 inches in diameter) shall be manufactured from polyvinyl chloride resin conforming to ASTM Designation D1784. Pipe of this material shall conform to AWWA C905. The pipe shall bear the National Sanitation Foundation (NSF) seal for potable water pipe. Pipe shall have a dimension ratio number of 25 and a pressure class rating of 165. Pressure class 235 shall meet DR18 and shall be supplied in standard lengths of 20 feet.

2. Joints:
a. All joints for PVC pipe 2 inches and larger shall be push–on type– joints. Joints shall conform to the requirements of ASTM Designation D 3139 and provide for the pressure rating of the pipe.
b. Joints in PVC pipe smaller than 2 inches shall be solvent welded in accordance with the recommendations of the pipe manufacturer.

A. Prestressed Concrete Pipe (PCP): Pipe, fittings and specials shall conform to AWWA Standard C301, "Prestressed Concrete Pressure Pipe, Steel Cylinder Type, for Water and Other Liquids." Fittings and specials shall be Type "B". The pipe interior shall receive a bituminous seal coat as specified in AWWA C104, unless other special protective linings are specified. Gaskets shall be of a material composition suitable for the specific service application. Pipe design shall be in accordance with AWWA C301, for the maximum operational internal pressure and external loading. The Contractor shall submit said design calculations from the manufacturer to the Engineer.
B. Copper Pipe: Copper pipe or tubing for underground installation shall be Type K and conform to the requirements of ASTM Designation B 251. Fittings shall be brass with approved compression or flare type connections.
C. Galvanized Steel Pipe:
1. Pipe Material: Galvanized steel pipe shall be Schedule 40 and conform to the requirements of ASTM Designation A 120.
2. Fittings: Fittings for galvanized steel pipe shall be galvanized malleable iron pipe, 150 pound, Type U, conforming to Federal Specification WW–P–521.
3. Joints: Joints shall be standard screw thread type.

F. Polyethylene Tubing: Polyethylene tubing for service lines shall be municipal service copper tube sized and approved for potable water use by the National Sanitation Foundation. Tubing shall bear the NSF seal and conform to the requirements of AWWA C901/ASTM D 2737, and shall have a minimum pressure class of 160 with DR 9. Polyethylene materials shall be PE 3406 and shall conform, to ASTM D 3350.
E. Polyethylene Pressure Pipe: Polyethylene pressure pipe for service lines shall be iron pipe sized and approved for potable water use by the National Sanitation Foundation. Pipe shall bear the NSF seal and conform to the requirements of AWWA C901/ASTM D 2239, and shall have a minimum pressure class of 160 with IDR 7. Polyethylene materials shall be PE 3406 and shall conform to ASTM D 3350.

Part 3.00 Execution

3.01 PREPARATION

A. Clearing: The Contractor shall perform all necessary clearing operations for the installation of the water pipe and appurtenances as specified in Section 02221Trenching, Backfilling and Compaction for Utility Systems.
B. Cleanliness: The interior of the pipes shall be thoroughly cleaned of all foreign matter before being lowered into the trench and shall be kept clean during laying operations by means of plugs approved by the Engineer.

3.02 PERFORMANCE

A. The Contractor shall perform all necessary operations, such as excavation, dewatering, foundation preparation, pipe bedding, backfilling, backfill compaction, etc, for the proper installation of the water pipe as specified in Section 02221– Trenching, Backfilling and Compaction for Utility Systems.
B. Water in Excavation: Water shall not be allowed in the trenches while the pipes are being laid and/or tested. The Contractor shall not open more trench than the available pumping facilities are able to dewater. The Contractor shall assume responsibility for disposing of all water so as not to injure or interfere with the normal drainage of the area. The Contractor shall not cause damage to existing structures. In no case shall the pipelines being installed be used as drains for such water, and the ends of the pipe shall be kept properly and adequately blocked during construction by the use of stoppers approved by the Engineer. All necessary precautions shall be taken to prevent the entrance of dirt, mud, or other objectionable material into the pipelines.
C. Clean up: During the progress of work, the Contractor shall clean up the work area as each section of pipe is completed and backfilled completed. Upon completion of the work, all trash, debris

SECTION 02720 –STORM DRAINAGE STRUCTURES, PIPES AND FITTINGS – CONTINUED

Part 3.00 Execution

3.01 PREPARATION

A. Clearing: The Contractor shall perform all necessary clearing operations for the installation of the storm drainage structures, pipe and fittings as specified in Section 02210 – Site Earthwork, Section 02220 – Structure Excavation and Backfill, and Section 02221– Trenching, Backfilling and Compaction for Utility and Drainage Systems.

3.02 PERFORMANCE

A. The Contractor shall perform all necessary operations, such as excavation, dewatering, foundation preparation for structures, pipe bedding, backfilling, backfill compaction, etc., for the proper installation of the storm drainage structures, pipe and fittings as specified in Section 02220–Structure Excavation and Backfill, and Section 02221–Trenching, Backfilling, and Compaction for Utility and Drainage Systems.

B. Installation

1. Laying Concrete Pipe:
   a. All pipe shall be carefully laid true to the line and grade shown on the Drawings. Any deviation from true alignment or grade which would result in a displacement from the normal position of the gasket of as much as 1/4 inch, or which would produce a gap exceeding 1/2 inch between sections or pipe for more than 1/3 of the circumference of the inside of the pipe, will not be acceptable and where such occurs, the pipe shall be relaid without additional compensation. No mortar, joint compound, or other filler which would tend to restrict the flexibility of the gasket joint shall be applied to the gap. Pipes having defects that have not caused their rejection are to be so laid that these defects will be in the upper half of the pipe.
   b. Before installation of the pipe gasket, the gasket and the surface of the pipe joint, including the gasket recess shall be clean and free from grit, dirt, or other foreign matter at the time the joints are made. In order to facilitate closure of the joint, application of an approved vegetable soap lubricant immediately prior to closing of the joint will be permitted.
   c. All pipes shall be laid with bells or grooves uphill. As the pipes are laid throughout the work, they must be thoroughly cleaned and protected from dirt and water. No length of pipe shall be laid until the two preceding lengths have been thoroughly embedded in place so as to prevent any movement or disturbance of the finished joint. No walking on or working over the pipes after they are laid, except as may be necessary in tamping earth and refilling, will be permitted until they are covered to a depth of one foot. Fill placed around the pipe shall be deposited on both sides simultaneously to approximately the same elevation and uniformly compacted. Whenever the pipe laying is discontinued, as at night, the unfinished end is to be securely protected from displacement due to caving of the banks or from other injury and a suitable stopper is to be inserted therein.
2. Laying Corrugated Pipe:
   a. All corrugated pipe shall be carefully laid, true to the line and grade shown on the Drawings. The pipe gasket and coupling band shall be. centered over the joint with the coupling bank bolts securely tightened without cutting the gasket.
   b. Fill placed around the pipe shall be deposited on both sides simultaneously to, approximately the same elevation and uniformly compacted. Whenever the pipe laying is discontinued, as at night, the unfinished end is to be securely protected from displacement due to caving of the banks or from other injury and a suitable stopper is to be inserted therein.
3. Drainage Structures
   c. Concrete inlets or other structures shall be constructed in conformity with the Drawings. Forms shall be designed and constructed so that they may be removed without injury to the concrete and shall be left in place for at least 24 hours after concrete is poured. Concrete shall be thoroughly tamped and shall be cured for at least 5 days after removal of forms. Honeycomb places shall be thoroughly cleaned, saturated with water and pointed up with mortar.
   d. Precast inlets or other structures may be used in lieu of cast–in–place structures. Grates are to be set in place in mortar to the proper line and grade.

3.03 TESTING STRUCTURES

A. Leakage: The watertightness of manholes and inlets (except for bottomless types) may be tested, at the Engineer's option, at the time the structure is completed and backfilled. The test procedure is as follows:
1. Fill the structures with water to an elevation 1 foot below the start of the cone section with a minimum depth of 4 feet and a maximum depth of 20 feet.
2. Plug all inlets and outlets with approved stoppers or plugs.
3. Record the water surface drop during a 15–minute period. The maximum allowable drop in water surface is 1/2 inch for each 15–minute period. If the leakage exceeds this rate, the Contractor shall repair or replace the structure so as to provide a structure which will meet the required watertightness standards.

END OF SECTION

SECTION 02730 – SANITARY SEWAGE SYSTEM

Part 1.00 General

1.01 WORK INCLUDED

A. The work included in this Section consists of furnishing all labor, equipment and materials necessary for the construction of gravity sanitary sewer lines, manholes, laterals, sewer connections and oppurtenances as shown on the Drawings and specified herein.

1.02 RELATED WORK

A. Section 02210 – Site Earthwork.
B. Section 02220 – Structure Excavation and Backfill.
C. Section 02221 – Trenching, Backfilling and Compaction.
D. Section 02530 – Dewatering System.
E. Section 03000 – Concrete (Site Work).

1.03 QUALITY ASSURANCE

A. Details and shop drawings of the manholes, proposed to be furnished for this work, are submitted to and approved by the Engineer prior to the manufacture of the units. Manholes which are not manufactured in strict compliance with the approved shop drawings and these specifications will be rejected.
B. The Contractor shall furnish shop drawings on all pipe, fittings and other appurtenances to show conformity with plans and specifications.
C. Tests: Certified records of the tests made by the manufacturer, or by a reliable commercial laboratory, or both, shall be submitted with each shipment of pipe. All pipe will be inspected upon delivery and that which does not conform to the requirements of these specifications shall be rejected and must be immediately removed by the Contractor. The Contractor shall furnish and provide samples of pipe for the performance of such additional tests, as the Owner may deem necessary.
D. Each length of pipe shall bear the name or trademark of the manufacturer, the location of the manufacturing plant, and the class or strength classification of the pipe. The markings shall be plainly visible on the pipe barrel. Pipe, which is not marked, clearly is subject to rejection. All rejected pipe shall be promptly removed from the project site by the Contractor.
E. For precast manhole structures, the date of manufacture and the name or trademark of the manufacturer shall be clearly marked on each precast section.
F. All materials and manufacturers of said materials shall meet the requirements of the utility agency that will maintain this system. Contractor shall obtain a copy of the requirements from the agency.

1.04 SUBMITTALS

A. Shop Drawings:
1. Shop drawings shall be submitted to the Engineer for approval prior to construction. Where applicable, the following information shall be submitted:
   a. Precast manholes.
   b. Manufacturer's certification of conformance to ASTM requirements for precast structures.
   c. Manhole frames, covers and other castings.
   d. Manufacturer's certification of conformance to ASTM requirements for castings.
   e. Pipe joint and fittings.
   f. Mill Test Certificates on ductile iron pipe.
   g. Certified test records for polyvinyl chloride pipe.
   h. Pipe adapters.

B. Record Information: The Contractor shall submit to the Engineer the stations and left or right offsets of all services (terminal ends) as measured from the nearest downstream manhole along the centerline of the sewer, along with the elevations of the manhole covers and inverts of all pipes in the manholes.

Part 2.00 Products

2.01 MATERIALS

A. Pipe used in gravity sewer construction shall be polyvinyl chloride pipe (PVC) or ductile iron pipe (DIP).
B. Polyvinyl Chloride Pipe (PVC):
1. PVC pipe and fittings for gravity sewer lines shall be manufactured from polyvinyl chloride resin conforming to ASTM Designation D–1784.
2. PVC pipe and fittings, 4–inches to 15–inches in diameter, shall conform to the requirements of ASTM Designation D–3034, and shall have a Standard Dimension Ratio (SDR) of not more than thirty–five (35). PVC pipe and fittings, 18–inches to 27 inches in diameter, shall conform to the requirements of ASTM Designation F–679, and shall have a Standard Dimension Ratio (SDR) of not more than thirty–five (35).
3. All PVC pipe shall bear the NSF–DW seal. The minimum standard length of pipe shall be 13 feet.
4. PVC pipe joints shall be integral bell elastomeric gasket joints manufactured in accordance with ASTM D–3212 and ASTM F–477. Rubber sealing rings shall be factory installed.
5. Minimum pipe stiffness (F/ΔY) at 5 percent deflection shall be 46 psi for all sizes tested in accordance with ASTM Method of Test D–2412.
6. Polyvinyl chloride pipe shall be stored on level ground, preferably turf or sand, free of sharp objects which could damage the pipe. Stacking of the polyvinyl chloride pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes. Where necessary, due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.
7. All PVC pipe, fittings, and specials shall be manufactured by J–M Manufacturing Company, CertainTeed or approved equal.

C. Ductile Iron Pipe:
1. Ductile iron pipe shall conform to the requirements of ANSI/AWWA A21.51/C151, with a class thickness in conformance with the requirements of ANSI/AWWA A21.50/C150. The pipe shall be furnished in minimum standard lengths of 18 feet.
2. Fittings shall conform to ANSI Standard A21.10,150 psi minimum pressure rating. Fittings shall have the same lining as adjacent piping.
3. Joints shall be mechanical type or "push–on" type conforming to ANSI Standard A21.11.
4. Coatings and Linings: Interior and exterior of ductile iron pipe shall be polyethylene lined. The lining shall extend from the plain end of the pipe to the gasket set of the bell socket. Not less than five (5) percent of the pipe shall be checked from dry mil thickness, with compliance certification submitted to the Engineer.
   a. Bituminous exterior coating, when polyethylene lining is not required, shall have a dry thickness coating a minimum of 20 mils (0.02 inches) and shall be Koppers Bitumastic 300–M, or approved equal.
   b. Polyethylene interior lining shall comply with AWWA C116 and shall be compounded with enough carbon black during manufacture to resist ultraviolet rays during above ground storage. The polyethylene lining shall be fused to the interior of the pipe by heat, forming a tightly bonded lining, with minimum 40 mils dry thickness. The polyethylene lining system shall be "Polybond", as manufactured by the American Cast Iron Pipe Co., or approved equal.

D. Casing Pipe: Casing pipe shall be steel pipe that conforms to the requirements of ASTM Designation A–139 Grade B and have a yield strength of 35,000 psi. Joints for steel casing shall be single–butt weld and shall conform to AWWA Standard C–206. Casing pipe wall thickness for roadway crossings shall not be less than that listed in the following schedule:

| Nominal Outside Diameter (inches) | *Nominal Thickness (inches) |
|---|---|
| 18 or less | 0.250 |
| 20 | 0.281 |
| 24 | 0.344 |
| 26 | 0.375 |
| 28 or 30 | 0.406 |

SECTION 02730 – SANITARY SEWAGE SYSTEM – CONTINUED

C. Pipe Adapters:
1. Donut pipe adapters shall be manufactured from virgin polyvinyl chloride (PVC) or polyurethane adaptable to similar or dissimilar pipes of the same or different sizes. Donuts shall be as manufactured by Femco Joint Sealer Company, Dickey Company or approved equal.
2. Flexible couplings shall be manufactured from virgin polyvinyl chloride (PVC) or polyurethane adaptable to similar or dissimilar pipes of the same or different sizes. The flexible coupling shall be as manufactured by Femco Joint Sealer Company, Can–Tex or approved equal and supplied with No. 304 stainless steel bands.
3. Connection of gravity sewer lines to precast manholes and wetwells shall be made by using a watertight resilient connector conforming to the requirements of ASTM Designation C–923.

F. Pipe Fittings: Unless otherwise specified, wye branches shall be provided in the gravity sewer main for service lateral connections. Wyes shall be 6 inches inside diameter, unless otherwise indicated on the Drawings. All fittings shall be of the same material as the pipe. Plugs for stubouts shall be of the same material as the pipe and gasketed with the same gasket material as the pipe joint. The plug shall be secured to withstand system test pressures.

G. Concrete and Reinforcing Steel: Concrete and reinforcing steel shall conform to the requirements of Section 03000 – Concrete (Site Work). Concrete classes for the various purposes shall be as follows:
1. Manhole bottoms, Class A
2. Precast manholes, Class B (minimum)
3. Pipe and miscellaneous cement, Class C

H. Protective slabs, Class C

Castings: Gray iron castings for manhole frames, covers and other items shall conform to the ASTM Designation A–48, Class 30. Castings shall be true to pattern in form and dimensions, free from cold or defective flaws and other defects in positions which would impair their strength or otherwise make them unfit for the service intended. The seating surfaces between frames and covers shall be machined to fit true. No plugging or filling will be allowed. Lifting or "pick" holes shall be provided, but shall not penetrate the cover. Casting patterns shall conform to those shown or indicated on the Drawings. The words SANITARY SEWER shall be cast in all manhole covers. All manhole frames and covers shall be furnished bearing to meet AASHTO H–20 loadings. Frames shall be suitable for the future addition of a cast iron ring for upward adjustment of the top elevation.

I. Bricks: Brick for manhole construction shall be dense, hard burned, shale or clay brick conforming toASTM Designation C–216, Grade SW, Size 31/2 inch (W) x 8 inches (L) X 21/4 inch (H).

J. Cement Mortar: Cement mortar for manhole construction shall comply with ASTM Designation C–270, Type M, except that the cement shall be Portland Type I or II only. No mortars that have stood for more than one hour shall be used.

K. Coal Tar Epoxy: Coal tar epoxy shall be Koppers Bitumastic No. 300M, Tnemec TnemeTar No. 46–413 or approved equal.

L. Joint Sealer: Joint sealer material for precast manhole structures shall be cold adhesive preformedflexible plastic gaskets conforming with FOOT Standard Specifications for Road and Bridge Construction (latest edition), Section 942–2. The joint sealer material shall be "Ram–Nek, as manufactured by, K.T. Snyder Co., Inc., or approved equal.

M. Non–Shrink Mortar: Non–shrink mortar for filling annular spaces between precast manhole walls and pipe coupling adapters shall be Embeco No. 167 Mortar or approved equal.

Part 3.00 Execution

3.01 PREPARATION

N. Bedding:
1. Pipe Cradle: Upon satisfactory installation of the pipe bedding, as specified in Section 02221– Trenching, Backfilling and Compacting for Utility and Drainage Systems, a continuous trough for the pipe barrel shall be formed. Recesses for the pipe bells or couplings shall be excavated by hand digging. When the pipe is laid in the prepared trench, true to line and grade, the full bed of the barrel of the pipe shall provide uniform support and no pressure shall be exerted on the pipe joints from the trench bottom.
2. Cleanliness: The interior of all pipe shall be thoroughly cleaned of all foreign material before being lowered in the trench and shall be kept clean during laying operations by means of plugs, or other approved methods. During suspension of work for any reason at any time, a suitable stopper shall be placed in the end of the pipe laid to prevent mud or other foreign material from entering the pipe.

3.02 INSTALLATION

A. Pipe:
1. Pipe laying shall proceed upgrade with spigot ends pointing in the direction of flow. Before pipe is joined, gaskets shall be cleaned of all dirt and stones and other foreign material. The spigot ends of the pipe and/or pipe gaskets shall be lubricated lightly with a lubricant as specified by the pipe manufacturer and approved by the Engineer. Sufficient pressure shall be applied to the pipe so to properly seat the socket into the bell of the pipe. All pipe shall be laid straight, true to the lines and grades shown on the Drawings. Variance from established line and grade, at any point along the length of the pipe, shall not be greater than 1/32 of an inch per inch of pipe diameter and not to exceed 1/2 inch, provided that any such variation does not result in a level or reverse sloping invert.
2. Any pipe which is disturbed or found to be defective after laying shall be taken up and relaid or replaced at the Contractor's expense.
3. Polyvinyl Chloride Pipe:
   a. Transportation: Care shall be taken during transportation of the pipe that it is not cut, kinked or otherwise damaged.
   b. Handling Pipe Lengths: Ropes, fabric or rubber protected slings and straps shall be used when handling pipes. Chains, cables or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe. Pipe or fittings shall not be dropped onto rocky or unprepared ground.
   c. Handling Pipeline: The pipeline shall be assembled in a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Sections of the pipes with deep cuts and gouges shall be removed.
   d. Lowering Pipe into Trench: Care shall be exercised when lowering pipe into the trench to prevent damage to or twisting of the pipe.
   e. Special Provisions: Polyvinyl chloride pipe connected to heavy fittings, manholes and rigid structures shall be supported in such a manner that no subsequent relative movement between the pipe and the joint with the rigid structures is possible.

B. Service Connections:
1. Service connections, of the size and type called for on the Drawings, shall be provided in accordance with the details therefore as shown or indicated on the Drawings.
2. Sewer pipe shall be extended to the street right–of–way line and plugged with an approved removable plastic plug (unless otherwise indicated on the Drawings). All connections and changes of direction shall be made using standard fittings designed for the purpose.
3. In order to provide and insure economic service connection where septic tanks are to be abandoned and the house or building sewer connected to the new collection system, the Contractor shall, with the Engineer or his representative, locate and determine the elevation of the septic tank influent line or house sewer before locating or installing the wye or other fitting in the street sewer. The Engineer or his representative shall approve all such wye or other fitting locations after giving due consideration to lengths, obstructions and such other conditions affecting the location.
4. On curbed streets, the exact location for each service connection shall be marked by etching or cutting an 'S' in the concrete curb. Where no curb exists or is planned, locations shall be marked by a method approved by the Engineer.

C. Concrete Encasement:
1. Class C concrete encasement shall be constructed so as to provide a minimum of 6 inches of concrete on all sides of the sewer pipe. Encasement shall be constructed where:
   a. The sewer or service pipe shall have less than 30 inches of cover between the top of the pipe and the final top of pavement or ground line.
   b. The Engineer shall order the line encased.
   *c. The PVC sewer or service pipe is installed over, or at a depth which provides less than 18 inches clear distance between pipes when crossing under water mains. Encasement shall extend a minimum of 10 feet on each side of the point of crossing.
   *d. The lateral separation of the PVC sewer pipe and potable water piping is less than 10 feet.

*The installation of pressure–tight joint ductile iron pipe for the same dimensions may be substituted for the concrete encasement.

2. If, through failure to provide suitable trench sheeting, or other causes, the maximum width for trench excavations, as specified elsewhere in these specifications, is exceeded, the Contractor shall construct concrete encasement around the pipe for the length of the excessive excavation. No payment will be made for the concrete encasement required due to excessive trench widths.
3. The points of beginning and end of sewer or service pipe encasement shall not be more than 6 inches from a pipe joint to protect the pipe from cracking due to uneven settlement of its foundation or the effects of superimposed live loads.

A. Manholes/Concrete Structures:
1. Structures shall be leak–tight and constructed of precast units conforming to the requirements of. ASTM Designation C–478 with reinforcement of Grade 40 bars and the following modifications thereto:
   a. The minimum shell thickness shall be 8 inches.
   b. Concrete to be used in precast manholes shall be Type II.
   c. Lift rings shall be provided for handling precast structure sections. Only non–penetrating lift holes shall be permitted. Such holes shall be filled with non\expndtwO shrink grout after installation of the structure sections.
   d. The design of the structure shall include a precast base' of not less than 8 inches in thickness poured monolithically with the bottom section of the structure walls.
   e. All openings and joints shall be sealed watertight with approved gaskets meeting ASTM C–443.
   f. The structure barrel, top and base sections shall have tongue and groove joints.
   g. Precast structure tops, if used, shall terminate at such elevations as will permit concrete grade rings set in bitumastic sealer under the structure frame to make allowance for future street grade adjustments.
   h. Drop connections, where required on precast structures, shall be manufactured with the structure elements at the casting yard. The manufacturer shall submit for approval the method of drop construction.
2. The interior and exterior walls shall be coasted with two applications of .coal tar epoxy applied as recommended by the coating manufacturer. Interior surfaces shall be coated with a minimum dry mil thickness of 16 mils, and exterior surfaces shall be coated with a minimum dry mil thickness of 9 mils.
3. Shallow structures may substitute an eight–inch precast reinforced slab on the top in lieu of the cone section. Slabs shall be laid in a full bed of mortar and pointed to form a dense joint.
4. Structure top slabs or cone sections shall be set between 3 inches and 12 inches below bottom of structure cover frame. When shown on the Drawings the Contractor shall provide a minimum of 3 inches to accommodate future grade changes without disturbing structure. Where distance between bottom of structure cover frame and top of cone is greater than 18 inches, riser units shall be sawed to bring top of cone to within limits specified. Precast leveling rings for setting cast iron frames over structures shall be a minimum of 2 inches thick and have one No. 2 continuous reinforcing steel bar. Leveling rings shall not be used for more than 18 inches of vertical adjustment.
5. Structure castings shall be fully bedded in mortar with adjustment brick courses placed between the frame and structure. The top of structure castings located in pavement, shoulder areas, and sidewalks shall be set flush with grade. The top of structure castings located outside these areas shall be set 2 inches above grade unless otherwise shown on the Drawings.
6. Precast structures that are installed in conjunction with PVC pipe shall utilize approved coupling adapters set in the concrete wall, as specified herein before and indicated on the Drawings.
7. The invert channels shall be smooth and accurately shaped to a semicircular bottom conforming to the inside of the adjacent sewer section. Steep slopes outside the invert channels shall be avoided. Changes in size and grade shall be made gradually and evenly. Changes in the direction of the sewer or entering branch shall be a smooth curve with radius as long as practicable. Invert channels shall also be formed for pipe stub–outs.
8. All annular spaces between structure or wetwell walls and pipe coupling adapters shall be thoroughly plugged with Embeco No. 167 Mortar or approved equal, nonshrink mortar, applied and cured in strict conformance with the manufacturer's recommendations so there will be no leakage around the pipe. The mortar shall be finished smooth and flush with the adjoining interior and exterior structure or wetwell wall surfaces.

E. Connections to Existing Structures and Sewers:
1. Various sewer lines shall be connected to existing manholes and structures. Provisions have been made in some of the existing structures for future connections and may require only the removal of a plug and the connection of the proposed line, while other connections will require cutting into the existing structure. The Contractor shall exercise care in cutting into the existing structure and any damage done to the structure shall be repaired as required by the Engineer and at the Contractor's expense. Drop connections to existing manholes shall be installed as detailed on the Drawings for new construction.
2. The drop connection for existing manhole shall be constructed of SDR 35 polyvinyl chloride (PVC) pipe. Anchor straps, shall be not less than 3/16 inch by 1 1/2 inches and constructed of ANSI 304 stainless steel. Wall anchor bolts shall not be less than 5/8 inch and constructed of corrosion resistant metal.
3. Flows through existing lines shall be maintained during construction with existing structures.
4. The invert channels of the existing structure shall be reshaped to accommodate the existing line and proposed line as specified herein before for manhole constructions.

SECTION 02730 – SANITARY SEWAGE SYSTEM – CONTINUED

F. Roadway Crossing:
2. New gravity sewer lines to be installed under existing roadways shall be installed in a casing to be bored and jacked under the pavement orby open–cut as shown on the plans. The steel casing and jacking procedures shall conform to the requirements of the specifications and the local and state authority and any supplements thereto.
3. The Contractor shall maintain traffic on the roadway and shall keep all workmen and equipment clear of the pavement during the work. All safety regulations of the Department of Transportation shall be complied with.
4. The top of the casing shall maintain a minimum 30–inch clearance under the roadway surface. Wood skids for sliding the carrier pipe through the casing shall be pressure treated with creosote and the skids shall be permanently bonded to the carrier pipe. After the carrier pipe has been tested for leakage the ends shall be blocked with an 8–inch wall of brick masonry with a weep hole installed near bottom of each wall. A vent shall be installed as indicated on the Drawings. The carrier pipe of the crossing shall be ductile iron.
5. If installed by open–cut, the line shall be bedded and backfilled as shown on the plans. Existing pavement and base shall be replaced with the new pavement better than or equal to existing. Contractor is responsible for repairing any settlement. No extra compensation will be made for such repairs.

G. Additional Work: Additional items of construction such as cleanouts, terminal lamp holes, special manholes and other items necessary for the complete installation of the system shall conform to specific details on the Drawings and shall be constructed of first–class materials conforming to the applicable portions of these specifications.

3.03 FIELD QUALITY CONTROL

A. Tests, Inspections and Acceptance of Materials and Workmanship:
1. Workmanship: It is imperative that all sewers and appurtenances be built practically watertight and that the Contractor adheres rigidly to the specifications for materials and workmanship. Upon completion, the sewers, or sections thereof, will be tested and gauged and if leakage is above the allowable limits specified, the sewer will be rejected.
2. Inspection:
   a. On completion of each block or section of sewer, or such other times as the Engineer may direct, the block or section of sewer shall be cleaned, tested and inspected. Each section of the sewer shall show, on examination from either end, a full circle of light between manholes.
   b. Each manhole or other appurtenance to the system shall be of the specified size and form, be watertight, neatly and substantially constructed, with the top set permanently to the position and grade indicated on the Drawings. All repairs shown necessary by the inspection shall be made at the Contractor's expense, broken or cracked pipe replaced; all deposits removed and the sewer left clean, true to line and grade and ready for use.
   c. Written notice shall be given to the Engineer and to the agency that will operate the system, if different from the Owner, a minimum of 48 hours (excluding weekends) prior to any test for acceptance being run. A representative of the Engineer shall be present during all tests for acceptance. The Contractor should determine that the sections to be tested have been cleaned, tested and inspected. Failure in providing the above notice to the Engineer. If any section fails to pass the tests for acceptance, the Contractor shall make all repairs needed for the section to pass and retest the section including notification as above. The Contractor shall bear all costs incurred by the Owner and/or the Engineer for the retests.
   d. All newly constructed manholes shall be cleaned of any accumulation of silt, debris, or foreign matter of any kind, and shall be flushed with fresh water. Care shall be taken not to flood any downstream sewer system.
3. Closed Circuit Television Inspection:
   a. Each sewer line 21 inches in diameter and smaller shall be inspected between manholes by a closed circuit television camera especially designed for and adapted for this purpose. The Contractor shall employ a reputable testing agency for this inspection, which shall be subject to the Engineer's approval. The type of equipment employed shall be sufficient to give adequate detail on the reviewing screen as may be determined by the Engineer. The Engineer will provide a representative to be present to view the screen when the inspection is in progress. The Contractor shall provide suitable methods of measuring the distance along the lines and shall enter such data in a log. Lines found defective shall be corrected as directed by the Engineer and the repaired lines shall be reinspected until the lines are acceptable.
   b. The Contractor shall provide all labor, equipment and materials and shall conduct the closed circuit television inspection as required. No separate payment will be made for this work and the cost thereof shall be included in the unit prices listed in the proposal.
   c. Inspection of sewer lines over 21 inches in diameter will be made by the Engineer and the Contractor shall assist the Engineer in making these inspections, if necessary. Service connections need not be inspected by the television camera method.

B. Limits of Infiltration, Exfiltration and Testing:
1. The allowable limits of infiltration, exfiltration or leakage for the entire system or any portion thereof, including house service lines, shall not exceed a rate of 0.1 gallon per foot of pipe per 24 hours for all sizes of pipe throughout the system. The allowable limits of infiltration or exfiltration of manholes shall not exceed a rate of four gallons pr manhole pr 24 hours.
2. Infiltration, if taken between any two adjacent manholes, shall not exceed 0.1 gallon per 24 hours per foot of pipe for all sizes and all locations. This testing of lines between manholes is required except in cases where it is to localize the position of a leak in a portion of the system that exceeds the allowable leakage limit, or as directed by the Engineer.
3. Any part or all of the system may be tested for infiltration or exfiltration, as directed by the Engineer. Prior to testing for infiltration, the system shall be pumped out so that normal infiltration conditions exist at the time of testing. The amounts of infiltration or exfiltration shall be determined by pumping into or out of calibrated drums, or by other approved methods.
4. The exfiltration test will be conducted by filling the portion of the system being tested with water to a level which will provide: a minimum head on a service lateral connected to the test portion of 2 feet; or in the event there are no service laterals in the test portion, a minimum difference in elevation of 5 feet between the crown of the highest portion of the sewer and the test level.
5. Tests shall be conducted on portions of the system not 'exceeding three manhole runs or more than 1,000 feet of main sewer, or as otherwise directed by the Engineer. Tests shall be run continuously for three hours. Where infiltration or exfiltration exceeds the allowable limits also specified herein, the defective pipe, joints, or other faulty construction shall be located and repaired by the Contractor. If the defective portions cannot be located, the Contractor shall remove and reconstruct as much of the work as is necessary in order to conform to the specified allowable limits. Testing shall be performed as the job progresses and shall be started after 2,000 feet of pipe are laid.
6. The Contractor shall provide all labor, equipment and materials and shall conduct all testing required, under the direction of the Engineer. No separate payment will be made for this work and the cost for this work shall be included in the unit price quoted in the proposal for the applicable item of work.
7. Specifications for Sanitary Sewer Main Low Pressure Air Test Revised March 2006
   a. Scope: This specification governs the testing of sanitary sewer mains by the low pressure air test (time pressure drop method).
   b. General Requirement
   b.1. Sanitary sewer mains less than 18 inch diameter shall be low–pressure air tested for leaks upon the completion of the backfill and compaction operation. Sanitary sewer mains less than 8 inch and greater than 18 inch diameter will be tested for leaks per test method determined/specified by RWU.
   b.1.a. The sanitary sewer manholes must passed the manhole vacuum testing process and all sanitary sewer services must be complete with ends capped but are connected to said mains prior to the low–pressure air test.
   b.1.b. The low–pressure air test method shall be in accordance with ASTM F1417–92 (Reapproved 2005), except as specified otherwise herein.
   b.1.c. The Contractor shall remove all debris, soil and rocks from the sanitary sewer mains and manholes prior to the low–pressure air test by a cleaning ball, high velocity jet, cleaning mandrel or other means.
   b.1.d. The Contractor shall furnish all equipment and labor required, including necessary piping/hoses, pneumatic plugs, compression pump, pressure–regulator valve, 9 psi pressure–relief valve, control valves, pressure gauges and second timer or stop watch. The test pressure gauge shall have a maximum range of 0–10 pounds per square inch (psi) and the pressure gauge figure intervals shall be a maximum of 0.25 psi increments.
   b.1.e. The required low–pressure air test time shall be based upon the total length and diameter of sanitary sewer main from manhole to manhole (sewer service lines are not included). The minimum low–pressure air test period is 7 minutes and 34 seconds.
   b.2. The low–pressure air test shall be performed by the Contractor and witnessed by the Engineer and the RWU personnel. The Engineer shall furnish low–pressure air test reports of sanitary sewer mains to the Contractor and RWU.
   b.2.a. The low–pressure air test may be stopped (passed) if no pressure drop/loss has occurred during the first 50 percent of the test period as calculated from the 0.5 psi pressure drop table (not less than the minimum low–pressure air test period of 7 minutes and 34 seconds).
   c. Safety Precautions
   c.1. This low–pressure air test may be dangerous to personnel if, through lack of understanding or carelessness, a line is over pressurized or plugs/caps are installed or restrained improperly. The axial force on an 8 inch plug at the start of a properly conducted test is over 200 pounds. Restraint systems must be designed to handle these forces with adequate safety factors.
   c.2. No one shall be allowed in the manholes or near a capped pipe during testing. All gauges, piping manifolds and control valves shall be located above ground.
   c.3. When sanitary sewer mains are tested, it is mandatory that all caps and plugs be braced as an added safety factor.
   c.4. Do not over pressurize the sanitary sewer main. Do not exceed 9.0 psi.
   d. Test Procedures
   d.1. After cleaning the interior surface of the sanitary sewer main, the Contractor shall place and inflate pneumatic plugs in the sanitary sewer main pipe at both connecting manholes. One of the plugs must have an inlet tap, or other provision for connecting a hose to a portable air control source.
   d.2. Connect the air hose to the inlet tap and the portable air control source. The air equipment shall consist of necessary valves and pressure gauges to control an oil–free air source and the rate at which airflow into the test section.
   d.3. Add air slowly to the test section until the pressure inside the sewer pipe reaches 4.0 psi. After the pressure of 4.0 psi is obtained, regulate the air supply so that the pressure is maintained between 3.5 psi to 4.0 psi for at least two minutes to stabilize air/ground temperature conditions.
   d.4. Close the air supply valve; release the pressure in the pipe test section to 3.5 psi and the test period is started. Observe the time required for the pressure to drop from 3.5 psi to 2.5 psi. The minimum test time/period is determined from the following 1.0 psi pressure drop table.
   d.5. All pneumatic plugs shall be removed from both connecting manholes after the test.
   e. Failure of Low–Pressure Air Test
   Any sanitary sewer main/services that fails the low–pressure air test must be repaired. Upon completion of the repairs and the backfill/compaction operation, the sanitary sewer main shall be retested as described in the above test procedures. The Engineer must witness the sewer main repair and backfill operation. The cost of the repair and backfill is incidental to the cost of the project.
   f. Acceptance
   The sanitary sewer main shall have passed the low–pressure air test if the pipe test section does not drop below 2.5 psi during the specified test period.

Minimum Specified Time Required for a 1.0 PSI Pressure Drop
For Sizes and Length of Pipe indicated for Q=0.0015

| Specification Time for Length (L) Shown, Minutes: Seconds | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe Dia. (in.) | Minimum Time (Min.) | Length for Minimum Time (Feet) | Time for Longer Length (Sec.) | 100 Ft. | 150 Ft. | 200 Ft. | 250 Ft. | 300 Ft. | 350 Ft. | 400 Ft. | 450 Ft. |
| 8 | 7:34 | 298 | 1.520 L | 7:34 | 7:34 | 7:34 | 7:34 | 7:36 | 8:52 | 10:08 | 11:24 |
| 10 | 9:26 | 239 | 2.374 L | 9:26 | 9:26 | 9:26 | 9:53 | 11:52 | 13:51 | 15:49 | 17:48 |
| 12 | 11:20 | 199 | 3.418 L | 11:20 | 11:20 | 11:24 | 14:15 | 17:05 | 19:56 | 22:47 | 25:38 |
| 15 | 14:10 | 159 | 5.342 L | 14:10 | 14:10 | 17:48 | 22:15 | 26:42 | 31:09 | 35:36 | 40:04 |
| 16 | 15:10 | 149 | 6.282 L | 15:10 | 15:42 | 20:56 | 26:10 | 31:25 | 36:39 | 41:53 | 47:07 |
| 18 | 17:00 | 133 | 7.692 L | 17:00 | 19:13 | 25:38 | 32:03 | 38:27 | 44:52 | 51:16 | 57:41 |

SECTION 02730 – SANITARY SEWAGE SYSTEM – CONTINUED

8. Vacuum Testing (ASTM C1244)
   a. Scope:
   a.1. This test method covers procedures for testing precast concrete manhole sections when using the vacuum test method to demonstrate the integrity of the installed materials and the construction procedures. This test method is used for testing concrete manhole sections utilizing mortar or mastic joints.
   a.2. This test method is intended to be used as a preliminary test to enable the installer to demonstrate the condition of the concrete manholes prior to backfill. It may also be used to test manholes after backfilling; however, testing should be correlated with the connector supplier.
   a.3. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.
   a.4. The values stated in this method is the companion to metric Test Method C 1244M; therefore, no SI equivalents are shown in this test method.
   b. References, ASTM Standards:
   b.1. C 822 Terminology Relating to Concrete Pipe and Related Products.
   b.2. C 924 Practice for Testing Concrete Pipe Sewer Lines by Low–Pressure Air Test Method.
   b.3. C 969 Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines.
   c. Terminology
   For definitions of terms relating to manholes, see Terminology C 822.
   d. Summary of Practice
   All lift holes and any pipes entering the manhole are to be plugged. A vacuum will be drawn and the vacuum drop over a specified time period is used to determine the acceptability of the manhole.
   e. Significance and Use
   This is not a routine test. The values recorded are applicable only to the manhole being tested and at the time of testing.
   f. Preparation of the Manhole
   f.1. All lift holes shall be plugged.
   f.2. All pipes entering the manhole shall be temporarily plugged, taking care to securely brace the pipes and plugs to prevent them from being drawn into the manhole.
   g. Procedure
   g.1. The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
   g.2. A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 inches of mercury.
   g.3. The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds the values indicated in the table below.
   g.4. Vacuum test time shall be a minimum of one minute.
   g.5. If the manhole fails the initial test, necessary repairs shall be made by an approved method. Themanhole shall then be retested until a satisfactory test is obtained.
   g.6. Upon a failure of this vacuum test shall precede acceptance by appropriate water infiltration or exfiltration testing, (see Practice C 969), or other means.
   h. Precision and Bias
   No justifiable statement can be made either on the precision or bias of this procedure, since the testsuit merely states whether there is conformance to the criteria for the success specified.

Minimum Test Times for Various Manhole Diameters

| Depth (ft) | Diameter (inches) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 30 | 33 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 |
| 2 | 3 | 3 | 4 | 4 | 5 | 6 | 7 | 7 | 8 |
| 3 | 4 | 5 | 5 | 6 | 7 | 9 | 10 | 11 | 12 |
| 4 | 6 | 6 | 7 | 9 | 10 | 12 | 13 | 15 | 16 |
| 5 | 7 | 8 | 9 | 11 | 12 | 14 | 16 | 18 | 20 |
| 6 | 8 | 10 | 11 | 13 | 15 | 17 | 20 | 22 | 24 |
| 7 | 10 | 11 | 12 | 15 | 17 | 20 | 23 | 26 | 28 |
| 8 | 11 | 12 | 14 | 17 | 20 | 23 | 26 | 29 | 33 |
| 10 | 14 | 15 | 18 | 21 | 25 | 29 | 33 | 36 | 41 |
| 12 | 17 | 18 | 21 | 25 | 30 | 35 | 39 

SECTION 02847 – TRAFFIC SIGNALS

Part 1.00 General

1.01 SCOPE OF WORK
A. The work included IN this Section consists of furnishing and erecting traffic signs as shown on the Drawings.

1.02 QUALITY ASSURANCE
A. The Contractor shall furnish manufacturer's certification that all signs furnished conform to these specifications and shall replace or repair, without additional cost to the Owner, all signs that fail to meet this requirement.

1.03 SUBMITTALS
A. Contractor shall submit the Manufacturer's certification that the signs furnished conform to these specifications.

Part 2.00 Products

2.01 GENERAL
A. Traffic regulating signs conforming to the colors, dimensions and requirements of the Manual on Uniform Traffic Control Devices for Streets and Highways and IDOT Standard Highway Signs Manual and displaying the lettering and symbols shown on the Drawings shall be furnished and installed at the locations and in the manner indicated and herein specified.
B. If not indicated on the Drawings, the Contractor shall provide the standard size sign as shown in the Standard Highway Signs Manual.

2.02 MATERIALS
A. Materials for traffic signs and the construction thereof shall be in accordance with State DOT Standard Specifications for Highway and bridge Construction (latest edition).

2.03 FABRICATION OF SIGNS
A. Preparation of sign blanks and fabrication of reflectorized sign faces shall conform to the applicable requirements of State DOT Standard Specifications for Highway and bridge Construction (latest edition).

Part 3.00 Execution

3.01 ERECTION OF SIGNS AND SIGN SUPPORTS
A. Signs and sign supports shall be erected in accordance with the details shown on the Drawings and shall be set plumb unless otherwise indicated. All structural support members shall conform to the dimensions indicated.

END OF SECTION

SECTION 03000 – CONCRETE (SITE WORK)

Part 1.00 General

1.01 SCOPE OF WORK
A. The work included in this Section consists of furnishing all materials, forms, transportation and equipment, and performing all necessary labor to do all the plain and reinforced concrete work shown on the Drawings, or incidental to the proper execution of the work, or as herein specified.
B. Composition: Concrete shall be composed of cement, fine aggregate, coarse aggregate, and water, so proportioned and mixed as to produce a plastic workable mixture in accordance with all requirements under this Section suitable to the specific conditions of placement.

1.02 SUBMITTALS
A. All materials specified shall be certified by the producer or manufacturer that the furnished material meets the specific requirements of the specifications.

Part 2.00 Products

2.01 MATERIALS
A. Cement:
1. Cement: Cement for all concrete shall be domestic Portland cement that conforms to the requirements of ASTM Designation C–150, Type I, Type II, unless noted otherwise on the structural drawings, or Type III cement, for high early strength concrete, shall be used only for special locations and only with the sewer manholes, wet wells and pump stations.
2. Only one brand of cement shall be used in any individual structure unless approved by the engineer. Cement which has become damaged, partially set, lumpy or caked shall not be used, and the entire contents of the sack or container which contains such cement will be rejected for use. No salvaged or reclaimed cement shall be used.
B. Fine Aggregate:Fine aggregate shall conform to the requirements of ASTM C–33.
C. Coarse Aggregate:Coarse aggregate shall conform to the requirements of ASTM C–33.
D. Water: Water shall be taken from a potable water supply and shall be fresh, clean and free of oil, acid, alkali, organic matter, and other deleterious substances.
E. Admixtures: No admixtures shall be used except by specific approval of the Engineer. When approved admixtures shall met the following minimum standards.
1. Air entraining agent: ASTM C–260.
2. Water Reducing and Retarding Admixture: ASTM C–494, Type D and free of chlorides.
F. Membrane Curing Compound: Membrane curing compound shall conform to the requirements of ASSHTO Designation M–148, Type 1–clear, or Type 2–white pigmented.
G. Expansion Joint Filler:
1. Preformed expansion joint filler shall be of the non–extruding and resilient bituminous type and shall conform to the requirements of AASHTO Designation M–213.
2. Expansion joint filler shall be gray neoprene sponge rubber that conforms to AASHTO Designation M–153, Type I.
H. Separation Board: Separation board shall be closed cell, non–extruding, PVC foam Grade No. 327 as manufactured by AC Horn, Inc., with a 20 psi maximum compressive strength to compress to 75 percent of thickness.
I. Membrane: Membrane shall be a 6–mil polyethylene film.
J. Reinforcing Steel:
1. Reinforcing steel shall conform to the requirements of ASTM Designation A–615, Deformed Grade 60, except where otherwise indicated.
a. The name of the manufacturer of the reinforcing steel shall be called out in the shop drawings together with a sketch showing the pattern of the deformation, including the mill mark.
b. Bar reinforcement shall be accurately fabricated in accordance with the test CRSI Manual of Standard Practice. The Contractor shall prepare and submit the necessary shop drawings and bar lists to the Engineer.
2. Welded wire fabric for concrete reinforcement shall conform to the requirements of ASTM Designation A–185 and shall be formed with smooth cold–drawn wire.
3. Cold–drawn wire for spirals shall be plain and shall conform to the requirements of ASTM Designation A–82 with a minimum yield strength of 70,000 psi.
4. Bar supports:
a. Bar supports for reinforcing steel shall conform to the requirements of CRSI Manual of Standard Practice, Chapter 3 and shall be of a eight to furnish the concrete cover called for on Drawings. High chairs shall be furnished for bent or top bars in solid slabs. Bar supports to be in contact with exterior surfaces of concrete shall be class C with plastic caps at least 1 inch in length on the leg tips, or Class E with stainless steel legs. Bar supports shall be spaced not more than 100 times the diameter of the bars to be supported, with not more than 1/4 spacing from the end of the supported bars to the first chair.
b. Bar supports for slabs on grade shall be plain concrete blocks, 3 inches high by 4 inches square with tie wires embedded in support. Concrete strength shall be at 3,000 psi at time of use.
K. Forms: Forms shall be of wood, metal or other approved materials. The sheeting for all exposed surfaces shall be 5–ply plywood, unless otherwise specifically authorized. Forms of like character shall be used for concrete from 1 foot below finished exterior grade to top of structure shall be carefully fabricated so as to provide a smooth finish without defects. The type, size, shape, quality and strength of all materials of which the forms are made shall be subject to the approval of the engineer. If it is his opinion that the interior surfaces of the forms are too irregular to produce the specified finish, they shall be lined with smooth, dense, moisture resistant hardboard or other material of which he approves.
L. Nonshrink Grout: Nonshrink grout shall be nonmetallic, pre–mixed type and shall be Saureisen F–100 Level fill, Master Builders Masterflow 713 Burke Non–Ferrous – Nonshrink Grout or approved equal.

2.02 CLASSIFICATION AND STRENGTH OF CONCRETE
A. Class and minimum strength requirements for concrete shall be as tabulated below. Unless otherwise specified, Class B concrete shall be used.

B. Strength Requirements: Concrete class and strength shall meet the minimum compressive strength requirements at the age of 7 and 28 days as shown in the following table. The compressive strengths shall be a determined by standard laboratory cylinder tests in accordance with the procedure set forth in ASTM Designation C–31 and C–39. (See article 3.03 of this Section for quantity and testing of cylinders.)

COMPREHENSIVE STRENGTH IN POUNDS PER SQUARE INCH

| Class | For Design Purposes | 3 Consecutive Cylinder Average | | Lower Cylinder | |
|---|---|---|---|---|---|
| | | 7 Days | 3 Days | 7 Days | 3 Days |
| A | 4000 | 2950 | 4250 | 2600 | 3750 |
| B | 3000 | 2100 | 3200 | 1850 | 2800 |
| C | 2500 | 1800 | 2700 | 1550 | 2300 |

SECTION 03000 – CONCRETE (SITE WORK) – CONTINUED

2.03 PROPERTIES AND DESIGN OF CONCRETE MIX
A. Tests and Design Mix:
1. The Contractor, 30 days before the beginning of concrete work, shall advise the engineer of the proposed sources of the materials, or ready–mixed concrete, which the contractor intends to use in the work. A design mix which has been used by the concrete supplier before, may be submitted for approval provided the proportions and strengths meet the requirements of this specification.
2. The source and manufacturer of material after once having been approved shall not be changed by the Contractor, except as approved by the Engineer, and additional laboratory tests may be required by the Engineer to prove conformance with specification requirements.
3. If during the progress of the work, tests indicate that concrete is not being produced in accordance with these Specifications, the Engineer may order changes in the materials or the proportions so as to secure as specified.
B. Slump: Slumps shall be as low possible consistent with proper placing. Low slump concrete shall be used for footing and slabs on grade. Medium slump concrete shall be used for walls, columns and suspended slabs. Concrete shall conform to the limits specified in the following schedule:

| Class of Concrete | Medium Slump | Lower Slump |
|---|---|---|
| A | 4 to 5 in. | 2 to 3 in. |
| B | 4 to 5 in. | 2 to 3 in. |
| C | 5 to 6 in. | 3 to 4 in. |

Part 3.00 Execution

3.01 PREPARATION
A. Concrete Mixing:
1. Equipment: The concrete shall be ready–mixed and the equipment shall conform to the applicable requirements of ASTM Designation C–94.
2. Measurement: Equipment necessary to positively determine and control the actual amounts of all materials entering the concrete shall be provided by the Contractor or the concrete manufacturer. All materials shall be measured by weight, except that water may be measured by volume. A bag of cement weighs 94 pounds.

3.02 INSTALLATION
A. Forms:
1. Construction:
a. Forms shall be built true to line and grade, and shall be mortar tight and sufficiently rigid to prevent displacement or sagging between supports. The Contractor shall give particular attention to the adequacy of supports and shoring. The surfaces of forms used or permanently exposed surfaces shall be smooth and free from irregularities, dents, sags, or holes. Forms or surfaces to receive stucco finish shall be suitable for is application. Bolts and rods used for internal ties shall be so arranged that, when the forms are removed, all metal is at least 1 – 1/2 inch from any concrete surface. Form ties shall be removed immediately after removal of forms, and holes shall be thoroughly plugged with grout within 24 hours after form removal and kept damp for 4 days to prevent shrinking.
b. Wire ties will not be permitted. All forms shall be so constructed that they can be removed without hammering against the concrete. Unless otherwise indicated, suitable moldings shall be placed to bevel or round exposed edges at expansion joints or at any other corners that are to remain. Beams below grade shall have forms at both sides.
2. Coating: Prior to the placing of steel reinforcement or concrete, forms for exposed surfaces shall be coated with a non–staining paraffin base oil or mineral oil. Forms for unexposed surfaces may be thoroughly wetted in lieu of oiling, immediately before the placing of concrete.
3. Removal: Forms and/or form supports shall not be removed from any concrete until it has obtained sufficient strength to support itself and any live loads that may be subjected to.
B. Reinforcing Steel: When placed in the forms, reinforcement shall be clean and free of all rust, scale, dust, dirt, paint, oil or other foreign material and shall be accurately and securely positioned in the forms as shown on the Drawings before the placing of concrete. Reinforcing steel shall be wired or otherwise fastened at intersections and shall be supported by concrete or metal supports, spacers or hangers. Bar supports, where adjacent to the ground, shall be set on precast concrete pads compressed into the reinforcing steel at intersections by welding methods.
1. Splicing of reinforcement shall be held to a minimum and shall be placed at points of minimum stress. Bars shall be lapped splices a minimum of 36 bar diameters unless otherwise shown on the Drawings or directed by the Engineer, and shall be rigidly wired or clamped.
2. Wire fabric shall be straightened before placing and shall overlap one full space of mesh at ends and edges and shall be securely fastened. Fabric shall be supported so as to occupy its proper location in the concrete as shown on the Drawings. Fabric shall not cross any expansion joints.
C. Embedded Items: In addition to steel reinforcement, pipes, inserts and other metal objects as shown, specified or ordered shall be built into, set in, or attached to, the concrete. All necessary precautions shall be taken to prevent these objects from being displaced or deformed. Before concrete is placed, care shall be taken to determine that all embedded parts are firmly and securely fastened in place as indicated. They shall be thoroughly clean and free from paint or other coating, rust, scale, oil, or any foreign matter. No wood shall be embedded in concrete. The concrete shall be packed tightly around pipes and other metal work to prevent leakage and to secure perfect adhesion. Drains shall be adequately protected from intrusion of concrete.
D. Concrete:
1. General: Reinforcement shall be secured in position, inspected and approved before placing concrete. Runways for transporting concrete shall not rest on reinforcing steel. Concrete not placed within 90 minutes from the time mixing is started will be rejected and shall be removed from the job by the Contractor. Concrete shall be deposited as nearly as practicable in final position. Concrete shall not be allowed to drop freely more than six feet. All concrete shall be placed in daylight and (excepting seal concrete) shall be placed in the dry unless otherwise authorized by the Engineer.
2. Slab Placed on Subgrade: Slab concrete placed on earth or fill subgrade shall be separated from direct contact with the subgrade by 6 mil polyethylene film or other approved material, unless noted otherwise on structural drawings. Sidewalks and walkways will not require a separation sheet. Polyethylene film shall be lapped 4 inches on sides and12 inches on ends.
3. Compaction: Concrete shall be compacted by internal vibrating equipment, supplemented by hand rodding and tamping as required. Vibrators shall in no case be used to move the concrete laterally inside the forms. Internal vibrators shall be used to maintain a speed of at least 5000 impulses per minute when submerged in concrete. (at least one spare vibrator, in working condition, shall be maintained at the site during concrete placing operations.) Duration of vibration shall be limited to the time necessary to produce satisfactory consolidation without causing segregation. Vibrator shall be moved constantly and placed in each specific spot only once.
4. Bonding:Before depositing new concrete on or against concrete that has set, the surfaces of the set concrete shall be thoroughly cleaned so as to expose the coarse aggregate and be free of coatings, foreign matter and loose particles. The cleaned surfaces shall be dampened, but not saturated, and then thoroughly covered with a coat of cement grout of similar proportions to the mortar in the concrete. The grout shall be as thick as possible on vertical surfaces and at least ½ inch thick on horizontal surfaces. The fresh concrete shall be placed before the grout has obtained its initial set.
5. Protection: Rainwater shall not be allowed to increase the ratio of mixing water, nor to damage the surface finish. Concrete shall be protected from disfigurement, damage, vibration, internal fractures and construction overloads.
E. Curing:
1. All concrete, including gunite, shall be water cured by covering with a double thickness of clean burlap, cotton mats, or other approved material kept thoroughly saturated with water. The forms shall be kept wet until removed and upon removal, the curing specified herein shall be started immediately. Concrete shall be cured for a period of 7 days for normal Portland cement or 4 days for high early strength cement. Concrete poured in the dry shall not be submerged until it has attained sufficient strength to adequately sustain the stress involved, nor shall it be subjected to flowing water across its surface until it has cured 4 days. Curing of gunite shall be started as soon as possible without damaging surface and not later than 2 hours after placing.
2. In lieu of wet burlap or cotton mats as specified above, concrete slabs may be covered with wet sand and kept moist for the specified curing period. The initial curing period of not less than 24 hours shall consist of the wet burlap or cotton mat method, then the wet sand method may be utilized until the end of the curing period.
3. Concrete surfaces which will not be coated, painted, plastered, stuccoed, covered with tile or floor covering or requiring a bonding surface may be cured by means of a membrane curing compound in lieu of the wet cure method. The curing compound shall be applied immediately after a satisfactory surface finish has been completed or forms have been removed. The uniform application of membrane curing compound shall be at least one gallon to every 200 square feet of exposed surface to be cured. The membrane curing compound and impervious covering shall be continuous and without defects and shall retain the required moisture in the concrete. Membrane curing compound that becomes damaged by rain, foot traffic or other conditions within 5 days of application shall be reapplied.
F. Finishes:
1. As soon as forms can safely be removed, all irregular projections shall be chipped off flush with the concrete surfaces. All voids produced by spacers or any honeycombing shall be pointed up with grout and troweled flush with the concrete surface immediately after removal of forms and water cured to prevent shrinkage. Honeycombing shall be cut out to expose a sound concrete surface prior to pointing. The use of mortar pointing or patching shall be confined to the repair of small defects in relatively green concrete. Where in the opinion of the Engineer substantial repairs are required, the defective concrete shall be cut out to sound concrete and repaired with gunite or the concrete shall be removed and reconstructed as directed.
2. Floor slabs shall be brought to a true and even finish by power or hand floating in a manner that will not bring excess fines to the surface. The consistency of the concrete shall be such that water does not accumulate at the surface. Unless otherwise shown on the Drawings, the surface shall be floated with a wood float and shall be steel troweled to a smooth finish. Troweling shall be the minimum to obtain a smooth, dense surface and shall not be done until the mortar has hardened sufficiently to prevent excess fine material from being worked into the surface. If so directed, the surface shall be brushed lightly with a push broom so as to produce a non–slip surface.
3. Concrete surfaces that are not exposed in the completed work will require no special finish other than such pointing up and rubbing as is necessary to leave them smooth and impervious.
4. Other surfaces which will be exposed in the completed work shall be finished by being rubbed smooth and dense, without pits, irregularities, blow holes or bubbles.
G. Grout:
1. Grout for pointing and patching shall consist of cement and fine aggregate mixed in the proportions used in the concrete and a minimum amount of water to produce a workable grout.
2. Material for grouting manhole or drainage inlet openings, column base places, anchor bolts, reinforcing bars, pipe sleeves and pump base plates shall be of non–shrink type and shall be mixed and placed as recommended by the manufacturer. Machinery set on grout pads shall not be operated until the grout has cured for at least 24 hours.

3.03 FIELD QUALITY CONTROL
A. General: The quality of the concrete as to conformance to the specifications is the entire responsibility of the Contractor until it is accepted in place in the structure and verified by the final cylinder tests made by the laboratory. Arrangements for field testing shall be made by the Contractor with the laboratory as selected by the Owner.
B. Compressive Tests: Standard laboratory compressive test cylinders will be obtained by the laboratory when concrete is discharged from the mixer at the site of the work. A set of 6 cylinders will be obtained for each 60 cubic yards or fraction thereof placed each day, for each type of concrete. The cylinders will be cured under laboratory condition and will be tested in two groups of three at 7 and 28 days of age, respectively.
C. Slump Tests: The laboratory of the Owner or their representative will make slump tests of Class A and Class B concrete as it is discharged from the mixer at the site of the work. Slump tests may be made on any batch and failure to meet specified slump requirements will be sufficient cause for rejection of that batch.
D. Reports: Proper reports of all tests performed by the laboratory will be prepared by the laboratory and submitted promptly to the Engineer and Owner. Such reports shall be properly labeled so as to identify the portions of the project into which the materials have been placed.

END OF SECTION

SECTION 03100 – CONCRETE FORMWORK

Part 1.00 General

1.01 SCOPE OF WORK
A. Furnish labor, materials, services, equipment and appliances required for concrete formwork indicated on the Drawings and specified herein.

1.02 REFERENCE STANDARDS
A. Material Standards: American Society for Testing Materials (ASTM)
B. Concrete Standards: American Concrete Institute (ACI)

Part 2.00 Products

2.01 MANUFACTURER
A. The Drawings were prepared and this Specification written on the basis of using the products of specific manufacturers. Such is intended to establish minimum quality standards, not to limit competitive bidding. Products with equal or superior characteristics by other manufacturers are acceptable under conditions of the Specifications.

2.02 FORM MATERIALS
A. Wood:
No. 2, or better, southern pine dressed lumber, white pine or Douglas fir, non–stress grades.
B. Plywood:
DFPA Plyform, Exterior B–B, edge sealed.
C. Plastic Fiber:
Special forms of molded fiber, if required.
D. Cardboard:
Beam void forms "VOIDCO" or equal, as required under pier supported grade beams.
E. Metal:
Commercial standard, or as noted on drawings.

2.03 FORM ACCESSORIES
A. Gateway, Superior or equal, catalog items selected for minimum 350 psf form loadings.

2.04 FORM OIL
A. Non–staining mineral oil of viscosity 250/100 F.

Part 3.00 Execution

3.01 FORM CONSTRUCTION
A. General: Design, construct and maintain forms so as to insure that after removal, finished concrete members will have true surfaces, be free of waves or bulges, and conform accurately to indicated shapes, dimensions, lines and positions of concrete members shown. Place, align and fit forms in successive units to ensure smooth continuous completed surfaces free from form marks and irregularities. Provide temporary openings in forms as required to facilitate cleanings and inspection. Forms shall be readily removable without impact, shock or damage to concrete. Clean form surfaces before each use.
B. Deflection and Leakage:Space waters, ties, bracing, etc. to prevent form deflection. Construct form joints sufficiently tight to prevent leakage of grout and cement paste during placing.
C. Exposed Surfaces:Give special care to formwork, ties, bracing, etc. for retaining walls or other surfaces to be left exposed to permanent view. Waves, bulges, form marks, staining, joint marks or irregularities will not be acceptable.

3.02 CURING CONCRETE WITHIN FORMS
A. If surfaces are to be cured within forms, accomplish by keeping forms continuously wet. If forms are removed before end of curing period, continue curing as specified in CAST–IN–PLACE CONCRETE.

3.03 REMOVAL OF FORMS
A. Timing: Remove forms after concrete has adequately hardened; not earlier than two days after concrete is placed.
B. Method:Remove forms as a hand operation, take care to avoid damage to finished concrete surfaces or reinforcing passing through forms being removed.

3.04 CLEAN–UP
A. Upon completion of work of this Section, remove related debris from the premises.

END OF SECTION

SECTION 0300 CAST–IN–PLACE CONCRETE

Part 1.00 General

1.01 SCOPE OF WORK
A. Furnish labor, materials, services, equipment and appliances required for Cast–in–Place concrete work indicated on the Drawings and specified herein.

1.02 INTENT
A. Concrete shall be ready–mixed, or transit mixed, obtained from a plant; ASTM C94. Use job–mixed concrete only where and if authorized by Owner.

1.03 MILL TESTS
A. Submit certified copies of reports to Owner, if requested.

1.04 REFERENCE STANDARDS

A. American Society for Testing Materials (ASTM)
B. American Concrete Institute (ACI)
C. Federal Specifications (FS)

1.05 SUBMITTALS
A. Shop Drawings:
Submit drawings of reinforcement for acceptance prior to start of fabrication. List reinforcing and accessories quantities, sizes, bends, dimensions and notes required for fabrication and placement. Draw placing plans, elevations, details and sequence of placement. Member marks on shop drawings; same as on structural drawings.
B. Testing Laboratory Reports:
Submit three copies to Owner.

Part 2.00 Products

2.01 MANUFACTURER
A. The Drawings were prepared and this Specification written on the basis of using the products of specific manufacturers. Such is intended to establish minimum quality standards, not to limit competitive bidding. Products with equal or superior characteristics by other manufacturers are acceptable under conditions of the Specifications.

2.02 BASIC MATERIALS
A. Concrete:
1. Portland Cement
ASTM C150, Type I, unless noted otherwise on structural drawings.
2. Aggregates
a. Fine Aggregates:
Washed sand; ASTM C33
b. Coarse Aggregates:
Crushed stone; ASTM C33
i. Members to 8 inches in section – Table II, Size 67.
ii. All other concrete – Table II, Size 467.
3. Water
Local tap water.
B. Reinforced Steel:
1. Bars
ASTM A615, grade 60 or as shown on the Drawings.
2. Wire Fabric
ASTM A185.

SECTION 0300 CAST–IN–PLACE CONCRETE

Part 1.00 General

1.01 SCOPE OF WORK
A. Furnish labor, materials, services, equipment and appliances required for Cast–in–Place concrete work indicated on the Drawings and specified herein.

1.02 INTENT
A. Concrete shall be ready–mixed, or transit mixed, obtained from a plant; ASTM C94. Use job–mixed concrete only where and if authorized by Owner.

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Submit three copies to Owner.

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A. The Drawings were prepared and this Specification written on the basis of using the products of specific manufacturers. Such is intended to establish minimum quality standards, not to limit competitive bidding. Products with equal or superior characteristics by other manufacturers are acceptable under conditions of the Specifications.

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A. Concrete:
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ASTM C150, Type I, unless noted otherwise on structural drawings.
2. Aggregates
a. Fine Aggregates:
Washed sand; ASTM C33
b. Coarse Aggregates:
Crushed stone; ASTM C33
i. Members to 8 inches in section – Table II, Size 67.
ii. All other concrete – Table II, Size 467.
3. Water
Local tap water.
B. Reinforced Steel:
1. Bars
ASTM A615, grade 60 or as shown on the Drawings.
2. Wire Fabric
ASTM A185.

SECTION 0300 CAST–IN–PLACE CONCRETE – CONTINUED

3.06 CURING CONCRETE
A. Requirements:
Cure concrete not less than 7 days by protecting it against moisture loss, rapid temperature change, mechanical injury, and injury from weather, rain, or flowing water. Contractor's choice:
1. Compound
Apply in accord with manufacturer's instructions. Protect compound–formed membrane on slabs with 1 inch of sand. Compound must be completely removed once concrete has achieved specified set. Remove per manufacturer's written instructions with a mechanical scrubber and water soluble stripper.
2. Plastic Sheet
Cover surface with membrane, edges lapped 4 inches or more and sealed with tape.
3. Moisture
Keep surfaces continuously wet or moist during curing period, by covering surfaces with wet sand, wet burlap, or moist curing mats.
4. Surface Within Forms
Keep forms continuously wet. If forms are removed before end of curing period, continue for full curing period as for unformed surfaces.

3.07 SEALING CONCRETE
A. Where shown on the Drawings, apply to slab in accord with manufacturer's instructions. Apply during later stages of construction.

3.08 TESTING
A. Independent Testing Laboratory:
Contractor employs and pays for services of an Owner–acceptable independent testing laboratory to perform concrete cylinder testing. Test cylinders shall be taken and cured by Contractor and tested by laboratory for each different class of concrete placed in any one day. Take cylinders in accord with ASTM C31, and cure and test in accord with ASTM C39. One set of three cylinders is required for each 50 cu yds of concrete or less, placed in any one day. Test one cylinder at seven days, one at 28 days, and hold one as a spare from each set of three.
B. Contractor Tests:
Slump Tests
Contractor take slump tests when cylinders are taken; maximum slump 5 inches and minimum slump 3 inches.
2. Air Entrainment
Air content by volume: 3 to 5 percent based on measurements made in concrete mixture at point of discharge at job site at time slump tests are made. Air content by volume; ASTM C231.
C. Special Testing:
1. Owner may direct core tests; ASTM C42, or load tests; Section 202 of ACI 318 be made of portions of structure under provisions of Article 7 of the GENERAL CONDITIONS.

3.09 CLEANING CONCRETE
A. At completion of concrete work, clean surfaces exposed to view with water and fiber bristle brushes. Completely strip all curing compounds before installation of floor finishes.

3.10 CLEAN–UP
A. Upon completion of work of this Section, remove related debris from premises.

END OF SECTION

SECTION 0300 CAST–IN–PLACE CONCRETE – CONTINUED

3.02 VAPOR BARRIER INSTALLATION
A. Install in accord with manufacturer's instructions over prepared granular or non–expansive fill; seams lapped 6 inches minimum.

3.03 PLACING REINFORCING
A. General:
Place accurately and securely saddle–tie at intersection with 16 gage black, annealed wire. Support bars rigidly in place with chairs or spacers permitted by ACI–315. Inches of concrete protection at reinforcement shall be in accord with "ACI Building Code", unless shown otherwise on Drawings.
B. Shop Drawings and Splicing:
Place bars and wire fabric in accord with accepted shop drawings and schedules on structural Drawings. Splice wire fabric by lapping both directions not less than distance between wires, and tying two transverse wires. Splice bars as shown on Drawings.
C. Inspection Before Coverings:
Owner's acceptance of inserts and reinforcing in place is required before concrete is placed; do not conceal until inspected and authorized to proceed. Prior to Owner's inspection, remove water, clean, tighten supports, close openings and coat forms with form oil.

3.04 PLACING CONCRETE
A. General:
Deposit concrete as nearly as practical to final position to avoid segregation due to re–handling or flowing. Deposit concrete at rate that it stays plastic and flows readily into spaces between inserts and reinforcing and completely fills forms. Temperature of concrete at time of placing; between 50 and 90 Degrees F.
B. Discharge and Layering:
Control concrete discharge so that concrete may be effectively placed in horizontal layers not more than 8 inches thick. Stacking or piling concrete in one place and then removing it any appreciable distance into position with hoes, rakes, shovels, and/or compactors is prohibited.

C. Tremies and Chutes:
Use tremies and chutes when placing concrete in piers, high narrow retaining walls, etc., so that concrete will not vertical drop more than 3 feet.
D. Compacting:
Compact each layer of concrete using SPUD–type mechanical internal vibrators, supplemented with hand tampers. Maintain vibrator speed of not less than 5000 cycles while submerged in concrete. Maintain at least one spare vibrator at hand.
E. Bonding:
Before depositing fresh concrete on previously placed concrete which has partially or fully hardened, scrape surfaces of hardened concrete, hammer, or wire–brush while hosing with water under pressure, until large aggregate is exposed and scraping, laitance and dust removed. Tighten forms, wet concrete surfaces, slush with neat cement grout, and deposit new concrete before grout attains initial set. Slushing grout; not less than 1/8 inch in thickness.
F. Jointing:
Locate and make construction joints in accord with the Drawings. Construction joints will not be permitted at other locations without Owner's acceptance.
G. Anchor Bolts:
Set anchor bolts, furnished by and/or for the work of other trades, in freshly placed concrete. Set bolts plumb and true and in accord with accepted shop drawings and the Drawings.

3.05 FINISHING CONCRETE
A. Smooth Finish Slabs:
1. Tamping
While placing concrete, tamp to force coarse aggregate away from surface. Screed with straight edges to bring surface to finish level required.
2. Floating
Wood float to true plane with no coarse aggregate showing while concrete is still green but sufficiently hard to bear a man's weight without imprint. Float level or slope to drains as required. Use sufficient pressure while floating to bring moisture to surface.
3. Troweling
Steel trowel not less than two passes. Begin with power trowel as soon as little or no cement sticks to blades. Do not dust with dry cement or aggregate to absorb moisture or to stiffen mix. Hand steel trowel third pass to remove slight imperfections and produce smooth impervious face. Continue hand troweling until ringing sound is heard as trowel burnishes surface.
4. Tolerance
Slabs to receive applied finishes, special finishes, or to be sealed shall be level with tolerance of 1/8 inch in 10 feet, when tested with 10 foot straight edge at 3 foot intervals in both directions.
B. Depressed Slabs:
Finish depressed slabs, if shown on the Drawings, to receive waterproofing, topping, fill or mortar beds for tile, etc., as for smooth finish slabs but only through wood floating.
C. Surfaces Other Than Slabs:
1. Exposed Vertical Surfaces
Fill bolt and tie rod holes with same mix as placed concrete, except without course aggregate. Fill holes passing through concrete members from inside face. Stone rub to uniform finish.
2. Patching and Repairs
Remove honeycomb voids, cracks, and irregularities. Where repair is required, cut back defects not less than 1/2 inch with square edges, brush out, drench with water and fill with same mix as placed concrete, except without coarse aggregate. When cut–outs have been filled, trowel surface smooth, remove excess grout. After set, grind slightly to uniform color and appearance using neat Portland Cement applied with a power grinder wheel.
3. Topping and Fills
Screed, float and finish same as slabs.

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:47:38am File Path:K:\EAU_Civil\08388721B–Olive Garden Southwest Pkwy\Civil\Sheets\C– Darden Civil Specifications.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

THIS SHEET PROVIDED FOR REFERENCE ONLY

CITY STANDARDS AND SPECIFICATIONS AS WELL AS NOTES PROVIDED IN THE CIVIL PLANS SUPERSEDE SPECIFICATIONS SHOWN HERE.

RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

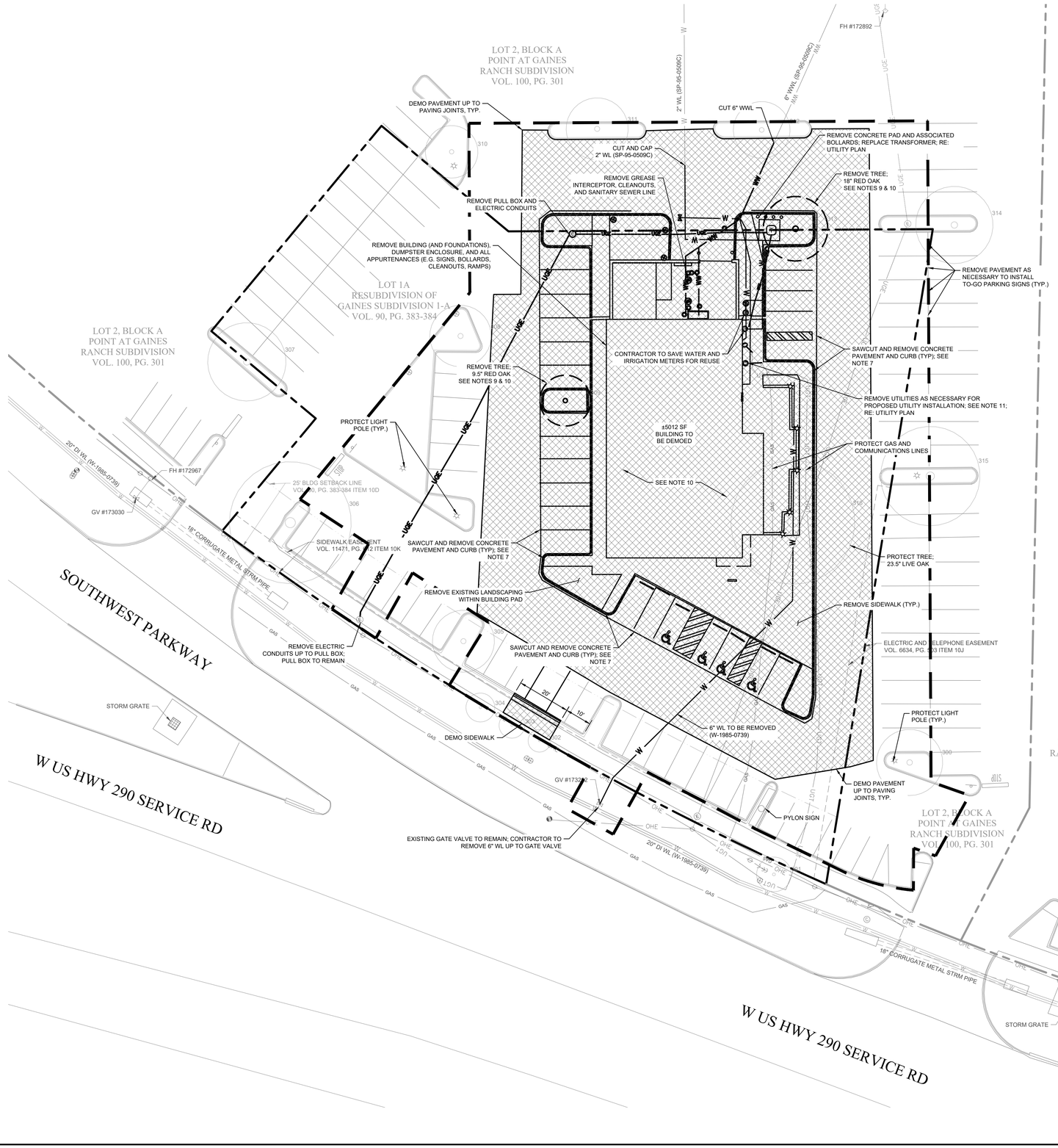
KHA PROJECT: 063887221
DATE: APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

DARDEN CIVIL SPECIFICATIONS (5 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
12 OF 41

SP-2025-0116C.CC



0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- W — WATER LINE
- WW — WASTEWATER LINE
- STORM SEWER LINE
- GAS — GAS
- GUARD RAIL
- OHE — OVERHEAR ELECTRIC
- BENCHMARK
- FIRE HYDRANT
- WATER METER
- WATER MANHOLE
- WATER VAULT
- WATER VALVE
- IRRIGATION VALVE
- WASTEWATER CLEANOUT
- WASTEWATER MANHOLE
- STORM SEWER GRATE INLET
- STORM SEWER MANHOLE
- GAS METER
- GAS SIGN
- GAS VALVE
- TELEPHONE BOX
- TELEPHONE MANHOLE
- ELECTRIC BOX
- ELECTRIC METER
- ELECTRIC MANHOLE
- UTILITY POLE
- GUY ANCHOR
- TRAFFIC SIGNAL
- SIGN
- DEMOLITION AREA: ITEMS TO BE REMOVED AS NOTED
- LIMITS OF CONSTRUCTION AREA
- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED

### DEMOLITION NOTES

1. THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIAL FROM THE PROJECT SITE.
2. CONTRACTOR SHALL PROTECT ALL PUBLIC AND FRANCHISE UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.
3. ALL UTILITY STRUCTURES SHALL BE ADJUSTED TO PROPER LINE AND GRADE BEFORE FINAL ACCEPTANCE.
4. ALL PROPER EROSION CONTROL SHALL BE IN PLACE PRIOR TO THE DISTURBANCE OF ANY EXISTING SURFACE.
5. NO TRAFFIC LANE OR SIDEWALK ALONG ANY PUBLIC STREET IS TO BE CLOSED WITHOUT FIRST OBTAINING THE APPROPRIATE PERMIT FROM THE AUTHORITY HAVING JURISDICTION.
6. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
7. WHERE SAWCUT IS LESS THAN 5' FROM CONCRETE PAVEMENT JOINT, REMOVE PAVEMENT TO THAT JOINT. DIMENSIONS SHOWN ON THE PLAN ARE MINIMUMS.
8. AT LOCATIONS WHERE WHEEL STOPS ARE BEING REMOVED FROM PAVEMENT THAT IS TO REMAIN IN PLACE, CONTRACTOR SHALL FILL ASSOCIATED WHEEL STOP ANCHOR HOLES WITH EPOXY.
9. REMOVE/RELOCATE IRRIGATION SYSTEM AS NECESSARY FOR SITE AND LANDSCAPING IMPROVEMENTS. REFERENCE IRRIGATION PLANS.
10. REFERENCE GEOTECH REPORT BY INTERTEK PSI DATED DECEMBER 20, 2024 FOR DEMOLITION OF EXISTING PAVING/STRUCTURES, AND PROCEDURES FOR ABANDONING OLD UTILITY LINES AND REMOVING TREES.
11. EXISTING UTILITIES NOT LOCATED ON SURVEY. EXISTING UTILITY LINES WERE DRAWN USING AS-BUILT DRAWINGS AND RECORDS FROM THE CITY OF AUSTIN. CONTRACTOR TO VERIFY UTILITY LOCATIONS.

### BENCHMARKS

TBM 50:
N: 10058056.87
E: 3089989.95
ELEVATION=712.05'

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# EXISTING CONDITIONS AND DEMO PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
13 OF 41

SP-2025-0116C.CC

Plotted By:Shoaffer, Ryan Date:May 01, 2025 05:26:42pm File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Existing Conditions and Demo Plan.dwg
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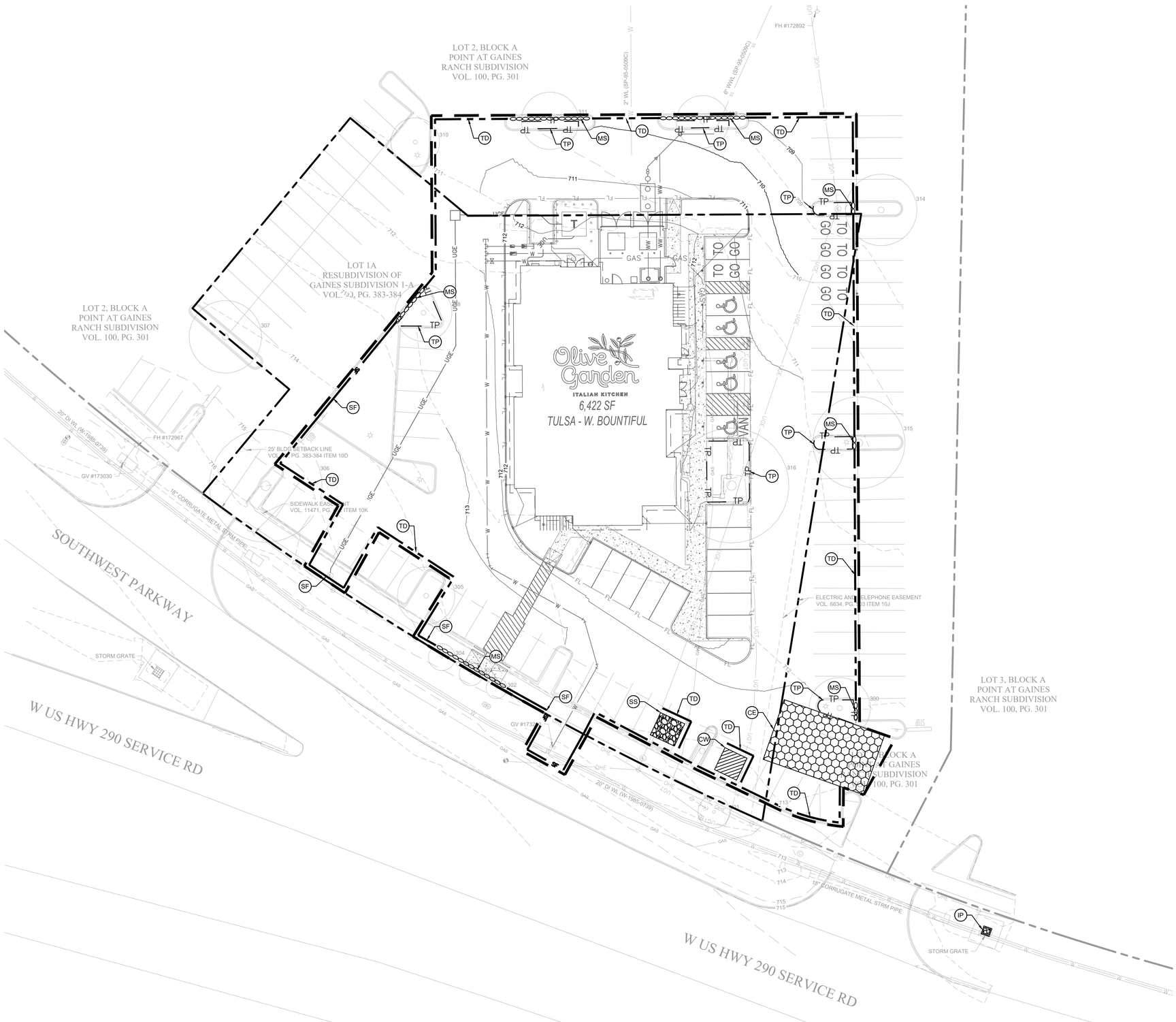

0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

| | |
|---|---|
| TD | TRIANGULAR FILTER DIKE |
| SF | SILT FENCE |
| TP | TREE PROTECTION |
| IP | PROPOSED INLET PROTECTION |
| CE | CONSTRUCTION ENTRANCE |
| SS | STAGING AND SPOILS |
| CW | CONCRETE WASHOUT |
| MS | MULCH SOCK |
| 450 | EXISTING CONTOURS |
| 450 | PROPOSED CONTOURS |
| | LIMITS OF CONSTRUCTION AREA |
| | TREE TO REMAIN |

## NOTES

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED CONTROLS ONLY.
2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) DIRECTLY ON THE SITE MAP.
3. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY RULES AND REGULATIONS
4. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURE DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECM 1.4.5(D) OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
5. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE, AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
6. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
7. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS MAY BE REQUIRED BY THE CITY DURING CONSTRUCTION.
8. REFERENCE EROSION CONTROL NOTES AND DETAILS ON SHEET 26.
9. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING [ECM 1.4.4.B.3, SECTION 5, I.]. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY [ECM 1.4.4.D.4].
10. ALL DISTURBED AREAS TO BE RE-VEGETATED PER CITY OF AUSTIN STANDARDS.
11. SEE LANDSCAPE ARCHITECT PLANS FOR TREE PRESERVATION PLAN AND TREE LIST.
12. THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION IF ANY ADDITIONAL INFORMATION ON THE CONSTRUCTION SEQUENCE IS NECESSARY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.

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| | |
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| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# EROSION CONTROL PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
14 OF 41

SP-2025-0116C.CC

Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:36:36pm File Path:K:\AU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Erosion Control Plan.dwg
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| PARKING TABLE | | | |
|---|---|---|---|
| TO-GO PARKING PROVIDED | REGULAR PARKING PROVIDED | ADA PARKING PROVIDED | TOTAL PARKING PROVIDED |
| 6 | 69 | 5 | 80 |

| ACCESSIBLE PARKING TABLE | | |
|---|---|---|
| | REQUIRED PARKING | PROVIDED PARKING |
| ACCESSIBLE PARKING | 4 | 5 |
| NOTES:<br>1. ACCESSIBLE PARKING IS CALCULATED PER ADA NATIONAL NETWORK<br>2. ONE VAN SPACE IS REQUIRED | | |

| BICYCLE PARKING TABLE | | |
|---|---|---|
| | REQUIRED | PROVIDED |
| SHORT-TERM PARKING | 8 | 10 |
| LONG-TERM PARKING | 0 | 0 |
| TOTAL BICYCLE PARKING | 8 | 10 |
| PER LDC 25-6-477(C)(1), MINIMUM OF 2 SPACES OR 10% OF PROPOSED MOTOR VEHICLE PARKING, WHICHEVER IS GREATER. COMMERCIAL USE REQUIRES 70%-100% SHORT TERM AND 0%-30% LONG TERM PARKING PER TCM TABLE 9-6 | | |

| SITE CALCULATIONS | | |
|---|---|---|
| | EXISTING | PROPOSED |
| GROSS SITE AREA (SF) | 47,987 | 47,987 |
| GROSS SITE AREA (AC) | 1.102 | 1.102 |
| BUILDING COVERAGE (SF) | 5,098 | 6,325 |
| BUILDING COVERAGE (%) | 11% | 13% |
| IMPERVIOUS COVER (SF) | 43,986 | 42,893 |
| IMPERVIOUS COVER (%) | 91.66% | 89.38% |
| LAND USE | RESTAURANT | RESTAURANT |

N E S W

0 20' 40'
GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- PROPOSED FIRE HYDRANT
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE
- ADA ROUTE
- LIGHT DUTY PAVEMENT PER GEOTECH
- HEAVY DUTY PAVEMENT PER GEOTECH
- DUMPSTER PAVEMENT PER GEOTECH
- STRUCTURAL CONCRETE PAVEMENT (RE: STRUCTURAL PLANS)

## NOTES

1. TREES AND TOPOGRAPHY BASED UPON SURVEY BY MANHARD CONSULTING ON FEBRUARY 06, 2025. NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THEIR ACCURACY.
2. ALL FIRE DEPARTMENT ACCESS DRIVES/ROADS TO HAVE A MINIMUM 14' VERTICAL CLEARANCE.
3. ESTABLISH FIRE ZONES AS SHOWN ON SITE BY PAINTING CURB RED. STENCIL THE WORDS, "FIRE ZONE/TOW-AWAY ZONE", IN WHITE LETTERS AT LEAST 3 INCHES HIGH AT 35-FOOT INTERVALS ALONG THE CURB. ALSO, SIGNS SHALL BE POSTED AT BOTH ENDS OF A FIRE ZONE. ALTERNATE MARKING OF THE FIRE LANES MAY BE APPROVED BY THE FIRE CHIEF PROVIDED THE FIRE LANES ARE CLEARLY IDENTIFIED AT BOTH ENDS AND AT INTERVALS NOT TO EXCEED 35 FEET. SEC. 901.4.2.
4. ALL PARKING SPACES SHALL HAVE MINIMUM 7'-0" VERTICAL CLEARANCE.
5. WARNING SIGNS ARE REQUIRED TO BE PLACED UNDER THE OVERHEAD ELECTRIC LINES TO MAKE ALL PERSONNEL AWARE OF THE ELECTRIC HAZARD.
6. EVERY HANDICAP ACCESSIBLE PARKING SPACE SHALL BE IDENTIFIED BY A SIGN CENTERED 5 FEET ABOVE THE PARKING SURFACE, AT THE HEAD OF THE PARKING SPACE. THE SIGN MUST INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND STATE RESERVED, OR EQUIVALENT LANGUAGE. SUCH SIGNS SHALL NOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE AND SHALL MEET THE CRITERIA SET FORTH IN UBC, 3108(c) AND ANSI A1171-1986-4.6.2.
7. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
8. CAUTION: DO NOT PLACE THE STAGING AREA IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES.
9. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
10. ALL RADII TO BE 5' OR 10' UNLESS OTHERWISE NOTED. ALL SIDEWALK RADII TO BE 2' UNLESS OTHERWISE NOTED.
11. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
12. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN.
13. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
14. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.
15. COMPLIANCE WITH THE UNIVERSAL RECYCLING ORDINANCE IS MANDATORY FOR COMMERCIAL BUSINESSES (AUSTIN CITY CODE, SEC. 15-6-91).
16. REFER TO CITY OF AUSTIN ELECTRICAL DEPARTMENT FOR CONSTRUCTION PLANS AND DETAILS.
17. ADEQUATE BARRIERS BETWEEN ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, SUCH AS A 6" CONCRETE CURB ARE REQUIRED. IF A STANDARD 6" CURB AND GUTTER ARE NOT PROVIDED FOR ALL VEHICULAR USE AREAS AND ADJACENT LANDSCAPE AREAS, COMPLY WITH ECM. SECTION 2.4.7, "PROTECTION OF LANDSCAPE AREAS".
18. ALL FDC's TO BE TWO 2½" SIAMESE CONNECTIONS.
19. ALL TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE ADOPTED VERSION OF MUTCD. ALL PAVEMENT STRIPING SHALL BE 4" WIDE AND WHITE UNLESS OTHERWISE NOTED.
20. REFER TO ARCHITECT PLANS FOR EXACT BUILDING DIMENSIONS.
21. REFER TO LANDSCAPE AND IRRIGATION PLANS PRIOR TO PLACING PAVEMENT.

## SUBCHAPTER E NOTES

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5. ALL SITE LIGHTING TO BE LOCATED ON THE BUILDING WILL BE IN COMPLIANCE WITH SUBCHAPTER E 2.5, AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E.
2. ALL INTERNAL UTILITIES WILL BE LOCATED IN THE DRIVE AISLES AND NOT IN THE PARKING AREAS.
3. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.

| KEYNOTE LEGEND | |
|---|---|
| 1 | ACCESSIBLE PARKING SPACE (TYP); SEE NOTE 6; RE: ARCHITECTURAL PLANS |
| 2 | ACCESSIBLE PARKING SIGN (TYP); RE: ARCHITECTURAL PLANS |
| 3 | DUMPSTER AREA; RE: ARCHITECTURAL PLANS |
| 4 | CURB RAMP (TYP); RE: 23 |
| 5 | SIDEWALK (TYP); RE: 23 |
| 6 | BENCH (TYP); RE: ARCHITECTURAL PLANS FOR BENCH LAYOUT |
| 7 | SANITARY CLEANOUT (TYP); RE: 22 |
| 8 | GREASE INTERCEPTOR AND SAMPLE WELL; RE: 22 |
| 9 | CONCRETE CURB AND GUTTER (TYP); RE: 23 |
| 10 | TRAFFIC-RATED ELECTRIC PULL BOX; RE: 22 |
| 11 | CONCRETE WALK-OFF CURB AND GUTTER; RE: 24 |
| 12 | TO-GO PARKING SPACE (TYP); SEE NOTE 19; RE: ARCHITECTURAL PLANS |
| 13 | TO-GO PARKING SIGN (TYP); RE: ARCHITECTURAL PLANS |
| 14 | TRANSFORMER; RE: 22 |
| 15 | BACKFLOW PREVENTER; RE: 22 |
| 16 | GAS METER; RE: 22 |
| 17 | FIRE DEPARTMENT CONNECTION; RE: 22 |
| 18 | COMMUNICATIONS VAULT; RE: 22 |
| 19 | BIKE RACK (TYP); ANOVA LBR3PSURF, 1 LOOP, 3 BIKE CAPACITY; INSTALL PER MANUFACTURER'S INSTRUCTIONS; COORDINATE WITH OWNER FOR COLOR; RE: 23 |
| 20 | WATER METERS; RE: 22 |


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KHA PROJECT 063887221
DATE APRIL 2025
SCALE AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# OVERALL SITE PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
15 OF 41

SP-2025-0116C.CC


Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:36:53pm File Path:K:\EAU_Civil\063887216-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Overall Site Plan.dwg
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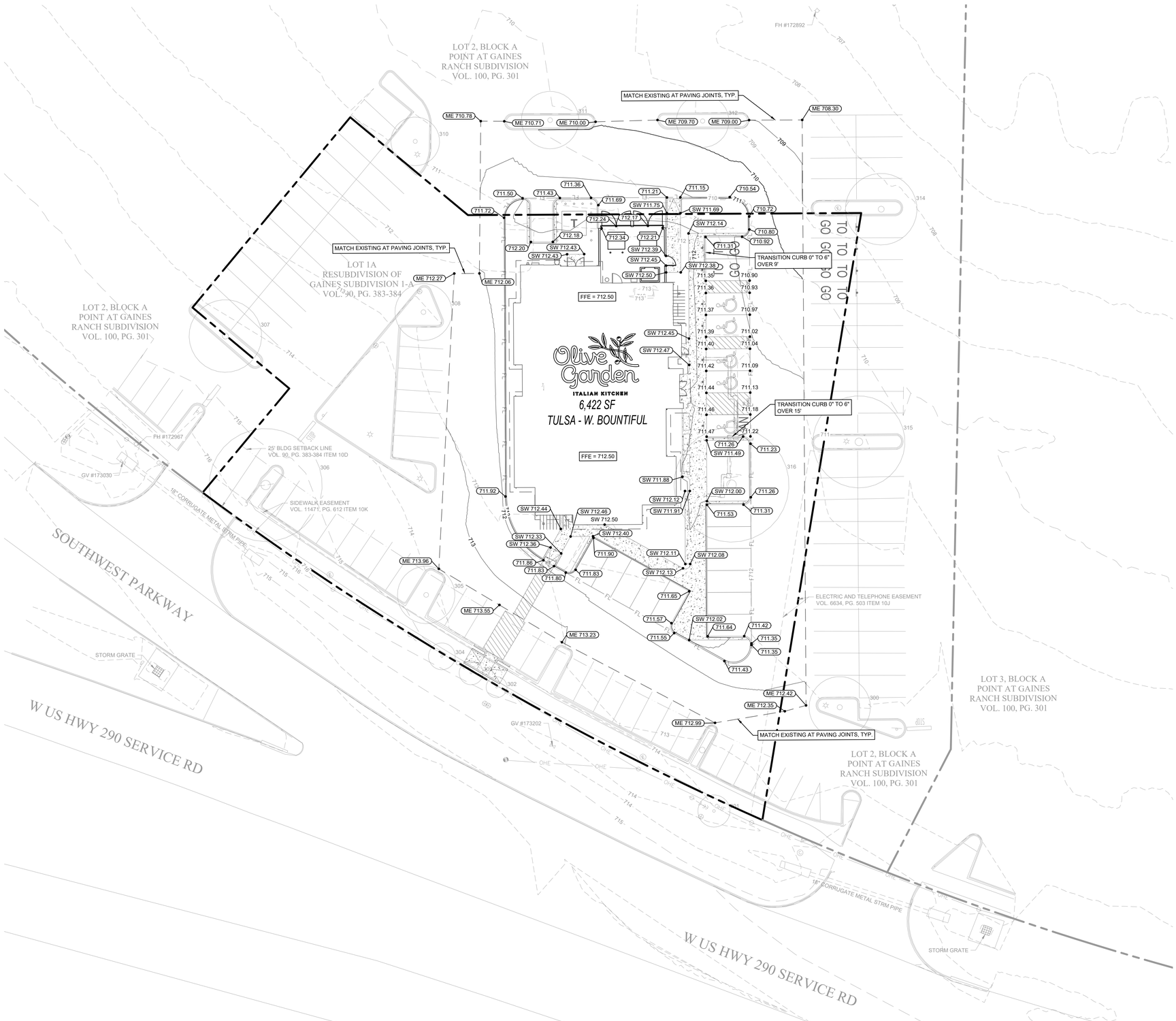


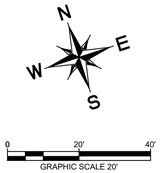


## LEGEND

| | |
|---|---|
| | PROPERTY LINE |
| FFE=XXX.XX | PROPOSED FINISHED FLOOR ELEVATION |
| XXX.X | PROPOSED TOP OF PAVEMENT ELEVATION |
| EX XXX.X | EXISTING TOP OF PAVEMENT ELEVATION |
| ME XXX.X | MATCH PROPOSED GRADE TO EXISTING |
| TW XXX.X | PROPOSED GRADE AT TOP OF WALL |
| BW XXX.X | PROPOSED GRADE AT BOTTOM OF WALL |
| EW XXX.X | PROPOSED GRADE AT END OF WALL |
| SW XXX.X | PROPOSED GRADE AT SIDEWALK |
| | PROPOSED SWALE |
| HP | HIGH POINT |
| | FLOW DIRECTION |
| | PROPOSED RETAINING WALL |
| 555 | PROPOSED CONTOUR |
| 555 | EXISTING CONTOUR |
| | EXISTING TREE TO REMAIN |

## NOTES

1. ALL PROPOSED ELEVATIONS ARE TOP OF PAVEMENT OR NATURAL GROUND UNLESS OTHERWISE NOTED.
2. ALL TOP OF WALL ELEVATIONS ARE TO TOP OF GRADE AT WALL.
3. ALL BOTTOM OF WALL ELEVATIONS ARE TO BOTTOM OF GRADE AT WALL.
4. CONTRACTOR TO VERIFY A.D.A. COMPLIANCE FOR GRADES IN ALL SIDEWALK ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSINGS, SHALL CONFORM TO ALL APPLICABLE A.D.A. STANDARDS: NOT EXCEED 5.0% ALONG TRAVEL PATH WITH NOT MORE THAN 2.0% CROSS SLOPE AND NOT EXCEED 2.0% IN ANY DIRECTION IN ACCESSIBLE PARKING AREAS.
5. MAINTAIN EXISTING GRADE IN TREE WELLS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO AREA INLETS.
6. CONTRACTOR SHALL SOD/SEED OR LANDSCAPE ALL DISTURBED AREAS WHICH ARE NOT PAVED. REFER TO LANDSCAPE PLANS.
7. ON TURN, MINIMUM SLOPES SHALL BE 1% AND MAXIMUM SLOPES SHALL NOT EXCEED 3H:1V, UNLESS OTHERWISE NOTED.
8. FINISHED GRADES DIRECTLY ADJACENT TO THE BUILDING THAT ARE NOT PAVED SHALL BE 6" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
9. FINISHED GRADES ADJACENT TO THE BUILDING SHALL BE SLOPED AT A MINIMUM OF 1% AWAY FROM THE BUILDING FOR PAVED SURFACES AND 2% AWAY FROM THE BUILDING FOR LANDSCAPED AREAS UNLESS OTHERWISE NOTED.
10. CONTRACTOR TO ENSURE THAT PONDING OF STORM WATER DOES NOT OCCUR AROUND BUILDING OR WITHIN PAVES ARES WHERE WORK IS PERFORMED.

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| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

GRADING PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
17 OF 41

SP-2025-0116C.CC


Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:37:27pm File Path:K:\TAU_Civil\063887216-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Grading Plan.dwg
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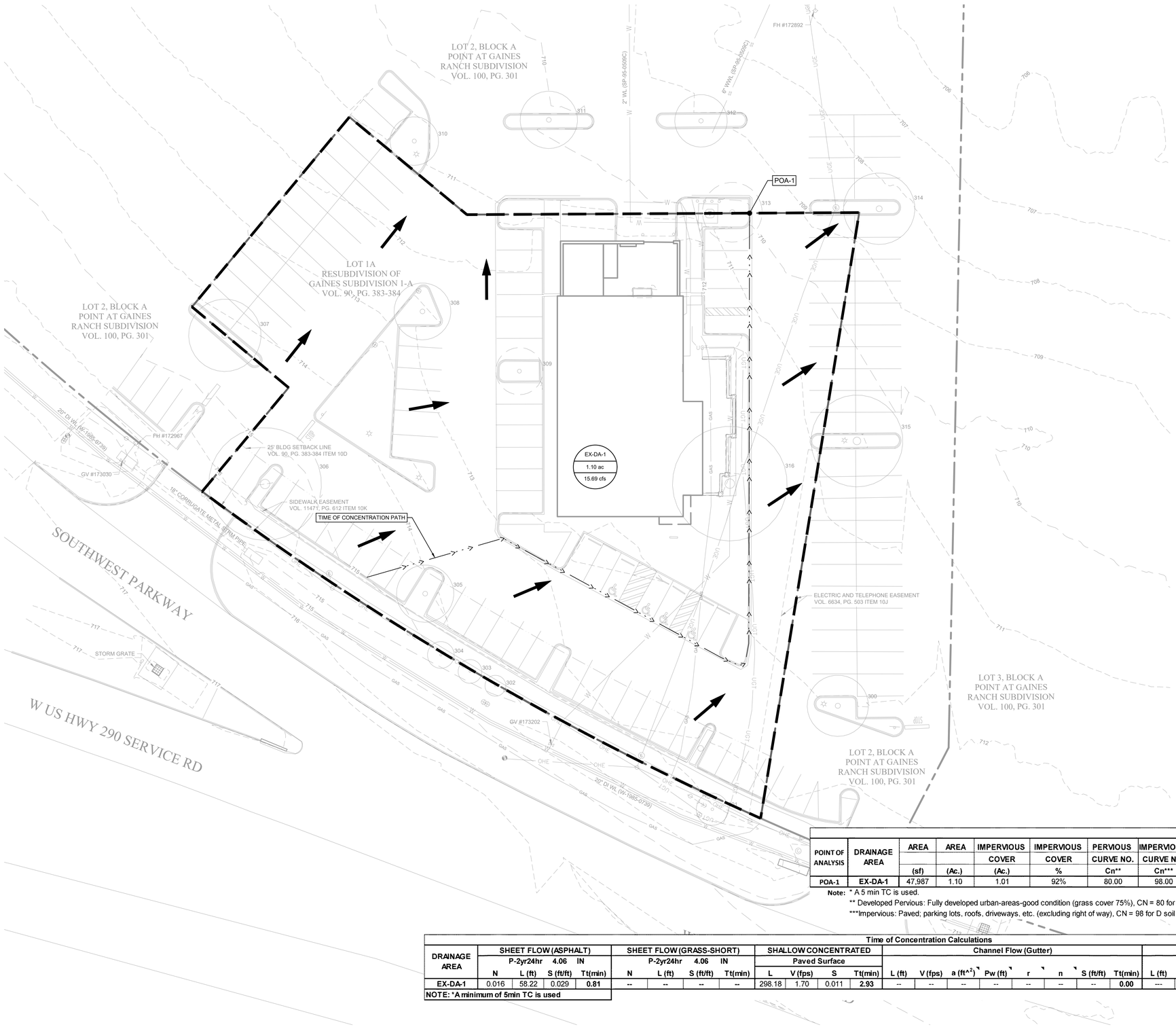


## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| | PROPERTY LINE |
| | EXISTING STORM DRAIN LINE |
| | EXISTING DRAINAGE DIVIDE |
| | EXISTING STORM DRAIN INLET |
| | EXISTING STORM DRAIN MANHOLE |
| | EXISTING STORM DRAIN HEADWALL |
| | EXISTING FLOW DIRECTION |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | EX-DA-1 | 47,987 | 1.10 | 1.01 | 92% | 80.00 | 98.00 | 96.50 | **5.00** | 4.92 | 8.32 | 10.85 | 15.69 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHALLOW CONCENTRATED Paved Surface L | V (fps) | S | Tt(min) | Channel Flow (Gutter) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Channel Flow (Pipe) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX-DA-1 | 0.016 | 58.22 | 0.029 | **0.81** | -- | -- | -- | -- | 298.18 | 1.70 | 0.011 | **2.93** | -- | -- | -- | -- | -- | -- | **0.00** | --- | --- | --- | --- | --- | --- | --- | **0.00** | **5.00** |

NOTE: *A minimum of 5min TC is used

Posted By:Sheaffer, Ryan Date:April 30, 2025 08:49:07am File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Existing Drainage Area Map.dwg
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| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

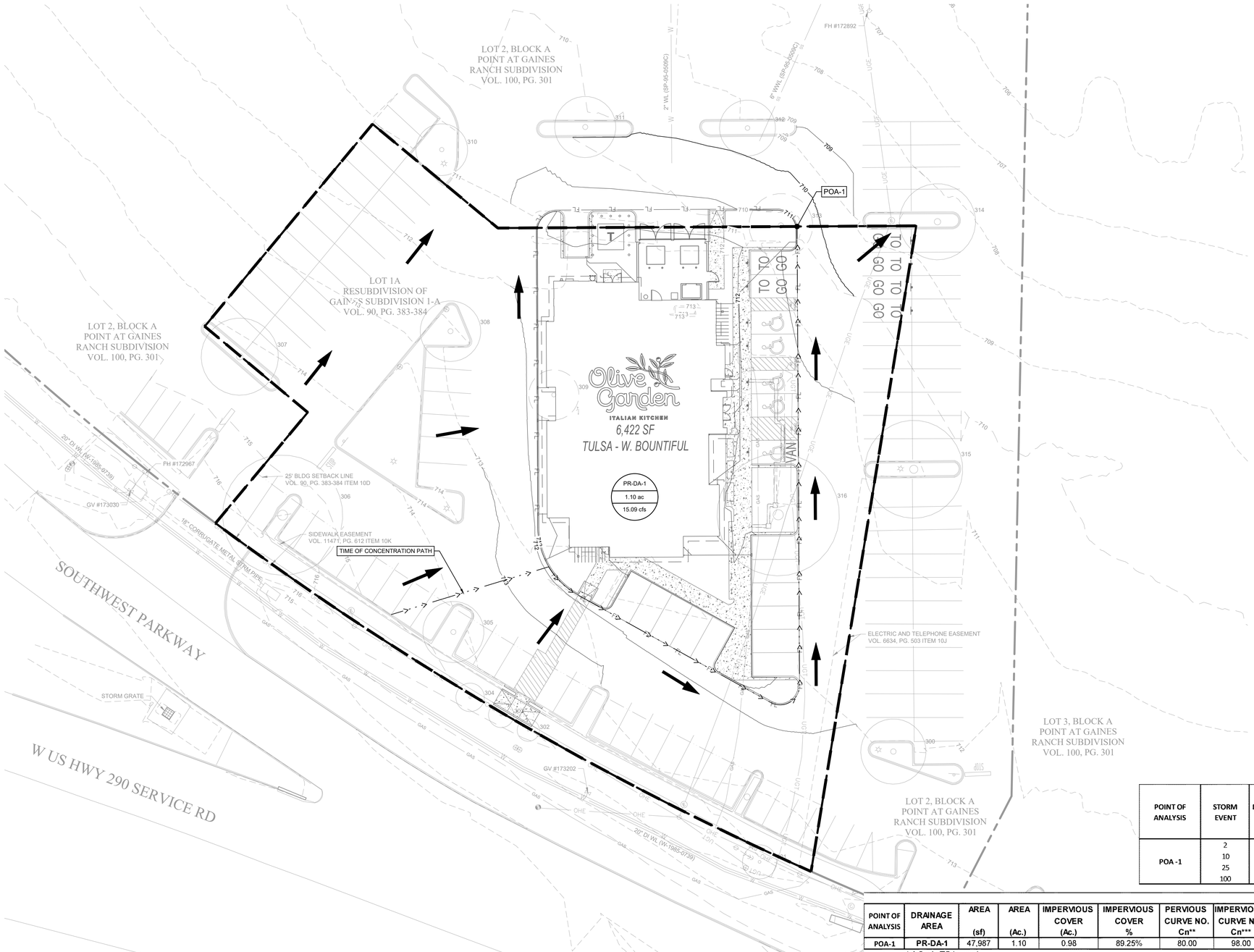
# EXISTING DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
18 OF 41

SP-2025-0116C.CC



0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| A-1 | INLET NUMBER |
| | PROPERTY LINE |
| | PROPOSED STORM DRAIN LINE |
| | EXISTING STORM DRAIN LINE |
| | PROPOSED DRAINAGE DIVIDE |
| | PROPOSED STORM DRAIN INLET |
| | PROPOSED STORM DRAIN MANHOLE |
| | PROPOSED STORM DRAIN HEADWALL |
| | PROPOSED FLOW DIRECTION |
| 555 | PROPOSED CONTOUR |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | STORM EVENT | EXISTING RUNOFF (CFS) | DEVELOPED RUNOFF (CFS) | RUNOFF DIFFERENCE AT POINT OF ANALYSIS (CFS) | IS DEVELOPED LESS THAN EXISTING |
|---|---|---|---|---|---|
| POA -1 | 2 | 4.92 | 4.73 | -0.19 | YES |
| | 10 | 8.32 | 8.00 | -0.32 | YES |
| | 25 | 10.85 | 10.43 | -0.41 | YES |
| | 100 | 15.69 | 15.09 | -0.59 | YES |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn* | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | PR-DA-1 | 47,987 | 1.10 | 0.98 | 89.25% | 80.00 | 98.00 | 96.07 | 5.44 | 4.73 | 8.00 | 10.43 | 15.09 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN | | | | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN | | | | SHALLOW CONCENTRATED Paved Surface | | | | Channel Flow (Gutter) | | | | | | | | Channel Flow (Pipe) | | | | | | | | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | L (ft) | S (ft/ft) | Tt(min) | N | L (ft) | S (ft/ft) | Tt(min) | L | V (fps) | S | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | |
| PR-DA-1 | 0.016 | 63.49 | 0.052 | 0.69 | -- | -- | -- | -- | 293.86 | 1.03 | 0.004 | 4.75 | -- | -- | -- | -- | -- | -- | -- | 0.00 | --- | --- | --- | --- | --- | --- | --- | 0.00 | 5.44 |
| NOTE: *A minimum of 5min TC is used | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:55:03pm File Path:K:\FAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Proposed Drainage Area Map.dwg
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DRAWN BY: RPS
CHECKED BY: RJM

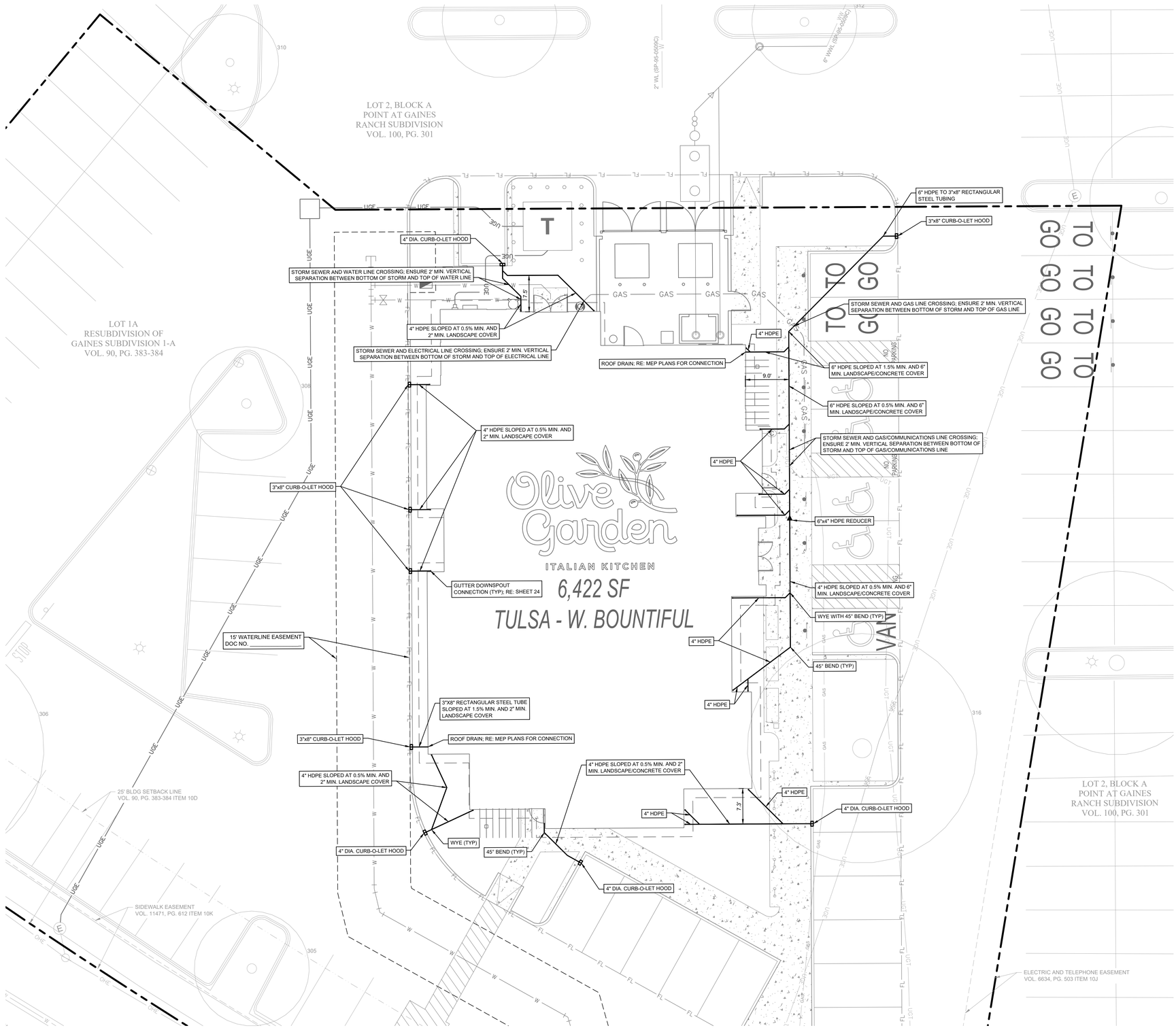
# PROPOSED DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
19 OF 41

SP-2025-0116C.CC




0 10' 20'
GRAPHIC SCALE 10'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED FIRE HYDRANT
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WASTEWATER MANHOLE

## STORM NOTES

1. STORM (STM) PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   A) RCP - ASTM C76 CLASS III - REQUIRED IN PUBLIC RIGHT OF WAY, PUBLIC DRAINAGE EASEMENTS, AND AT CONNECTION POINTS TO PUBLIC STORM SEWER.
   B) DUCTILE IRON PIPE - ASTM A746
   C) HDPE - AASHTO M252 TYPE S , M294 TYPE S R ASTM F 2306 SMOOTH WALL
   D) PVC - ASTM D 3034 SDR35
2. CONNECT DOWNSPOUT TO 3"x8" RECTANGULAR STEEL PIPE. CONNECT STEEL PIPE TO 3"x8" CURB-O-LET HOOD WITHIN THE CURB. INSTALL RECTANGULAR STEEL BENDS AS NECESSARY TO TIE DOWNSPOUT INTO CURB-O-LET HOOD. AT LEAST 2" OF CONCRETE OR LANDSCAPING SHALL BE PLACE ABOVE THE RECTANGULAR STEEL PIPE. INSTALL RECTANGULAR STEEL PIPE AND CURB-O-LET HOOD IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. CONNECT DOWNSPOUT TO 4" HDPE PIPE. CONNECT HDPE PIPE TO 4" CURB-O-LET HOOD WITHIN THE CURB. INSTALL HDPE BENDS AS NECESSARY TO THE DOWNSPOUT INTO CURB-O-LET HOOD. AT LEAST 2" OF CONCRETE OR LANDSCAPING SHALL BE PLACE ABOVE THE 4" HDPE PIPE AND AT LEAST 6" OF CONCRETE OR LANDSCAPING ABOVE THE 6" HDPE PIPE. INSTALL HDPE PIPE AND CURB-O-LET HOOD IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

## CLASS IV RCP NOTE

1. ALL STORM PIPE WITH LESS THAN 3' OF COVER LOCATED UNDER VEHICULAR PAVEMENT SHALL BE CLASS IV RCP.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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TBPE Firm No. 928
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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

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| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# OVERALL STORM PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
20 OF 41

SP-2025-0116C.CC

Plotted By: Sheaffer, Ryan Date: May 01, 2025 05:55:17pm File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C- Overall Storm Plan.dwg
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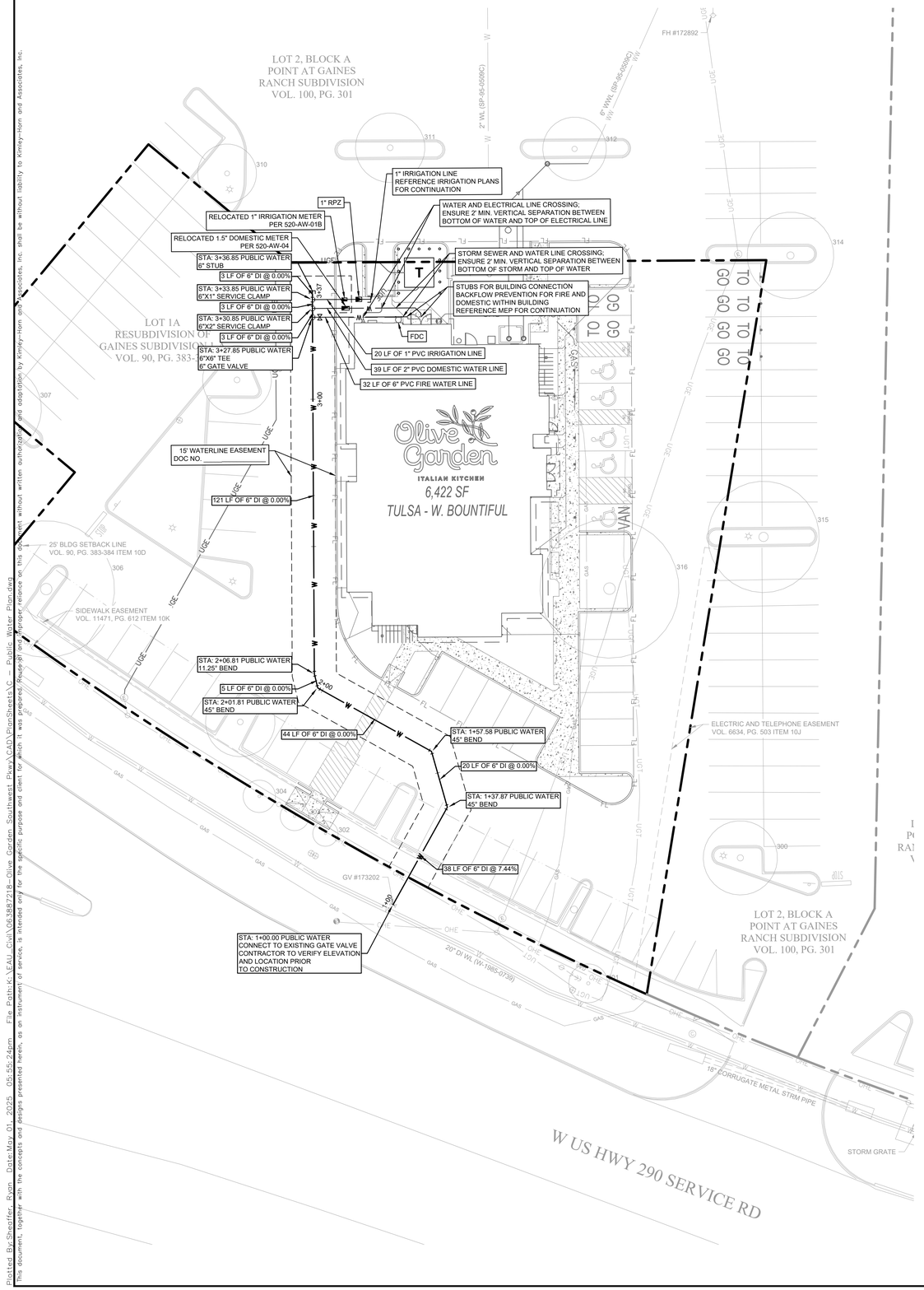


NOTES:

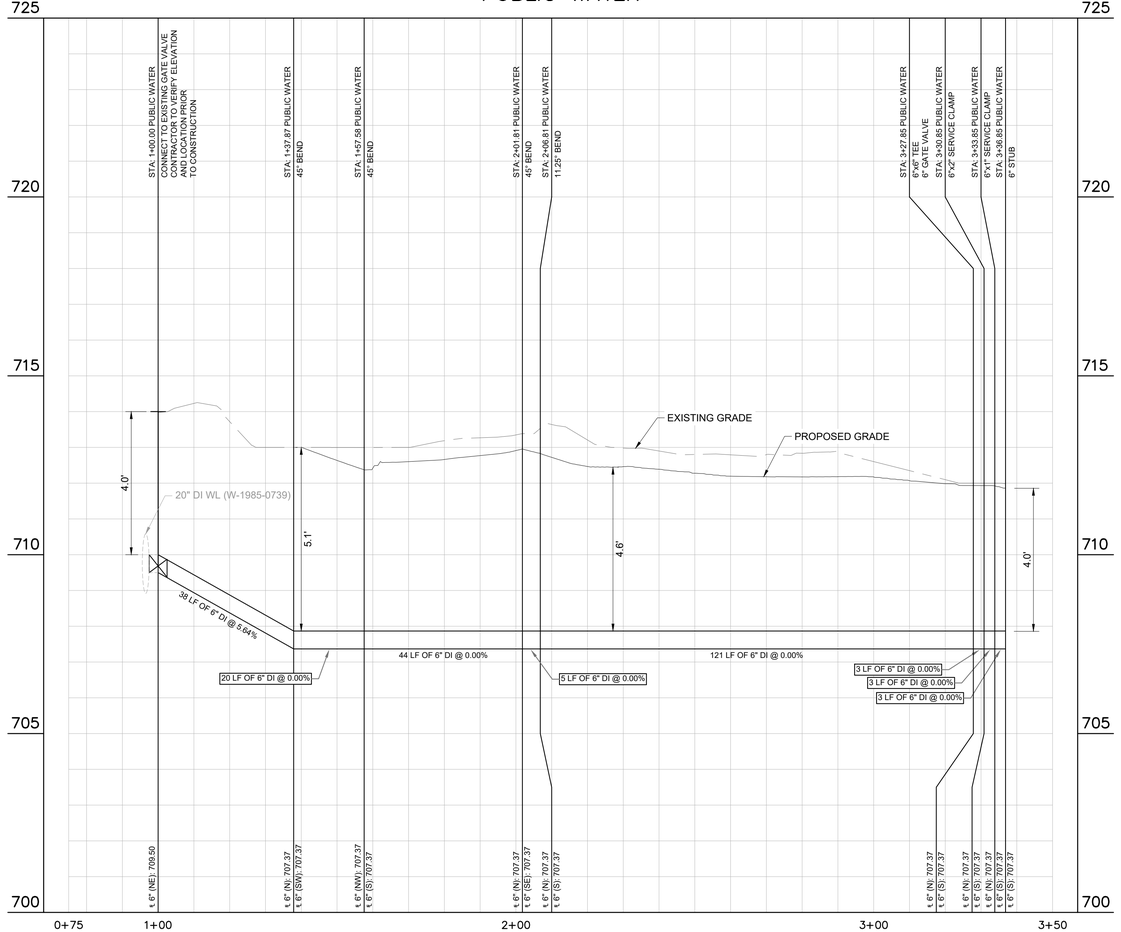
1. DOMESTIC WATER LINES UNDER 4 INCHES IN SIZE SHALL BE SCHEDULE 40 PVC, IN ACCORDANCE WITH ASTM D 1785. FITTINGS SHALL BE SCHEDULE 40 PVC (SOCKET TYPE) IN ACCORDANCE WITH ASTM D 2466. SOLVENT CEMENT SHALL BE IN ACCORDANCE WITH ASTM D 2564 (PRIMER IN ACCORDANCE WITH ASTM F 656). INSTALL WATER SERVICE PIPING PER MANUFACTURER'S INSTRUCTIONS.
2. ALL CONSTRUCTION AND MATERIALS FOR WATER LINES 4 INCHES IN SIZE AND LARGER SHALL BE IN ACCORDANCE WITH CITY STANDARD DETAILS AND SPECIFICATIONS.
3. THE SIZE OF THE FIRE SUPPRESSION LINE SHOWN ON THESE PLANS IS PRELIMINARY. THE CONTRACTOR SHALL COORDINATE THE FINAL SIZE OF THE FIRE SUPPRESSION LINE WITH THE FINAL DESIGN OF THE FIRE SPRINKLER SYSTEM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
4. CONTRACTOR SHALL CONSTRUCT A CLAY PLUG 4 FEET BEYOND THE EXTERIOR OF THE BUILDING EDGE FOR ALL UTILITY TRENCHES.
5. TOPS OF EXISTING STRUCTURES AND APPURTENANCES SHALL BE RAISED/LOWERED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS OR TO BE 6 INCHES ABOVE THE FINISHED GRADE ELEVATIONS IN NON-PAVED AREAS.

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN INLET
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WASTEWATER MANHOLE

PROFILE SCALE
1"=20' HORIZONTAL
1"=2' VERTICAL

## PUBLIC WATER

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PROFESSIONAL ENGINEER
04/25/2025

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| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# PUBLIC WATER PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
21 OF 41

SP-2025-0116C.CC

Plotted By:Shoaffer, Ryan Date:May 01, 2025 09:55:24pm File Path:K:\AU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\Plan Sheets\C - Public Water Plan.dwg
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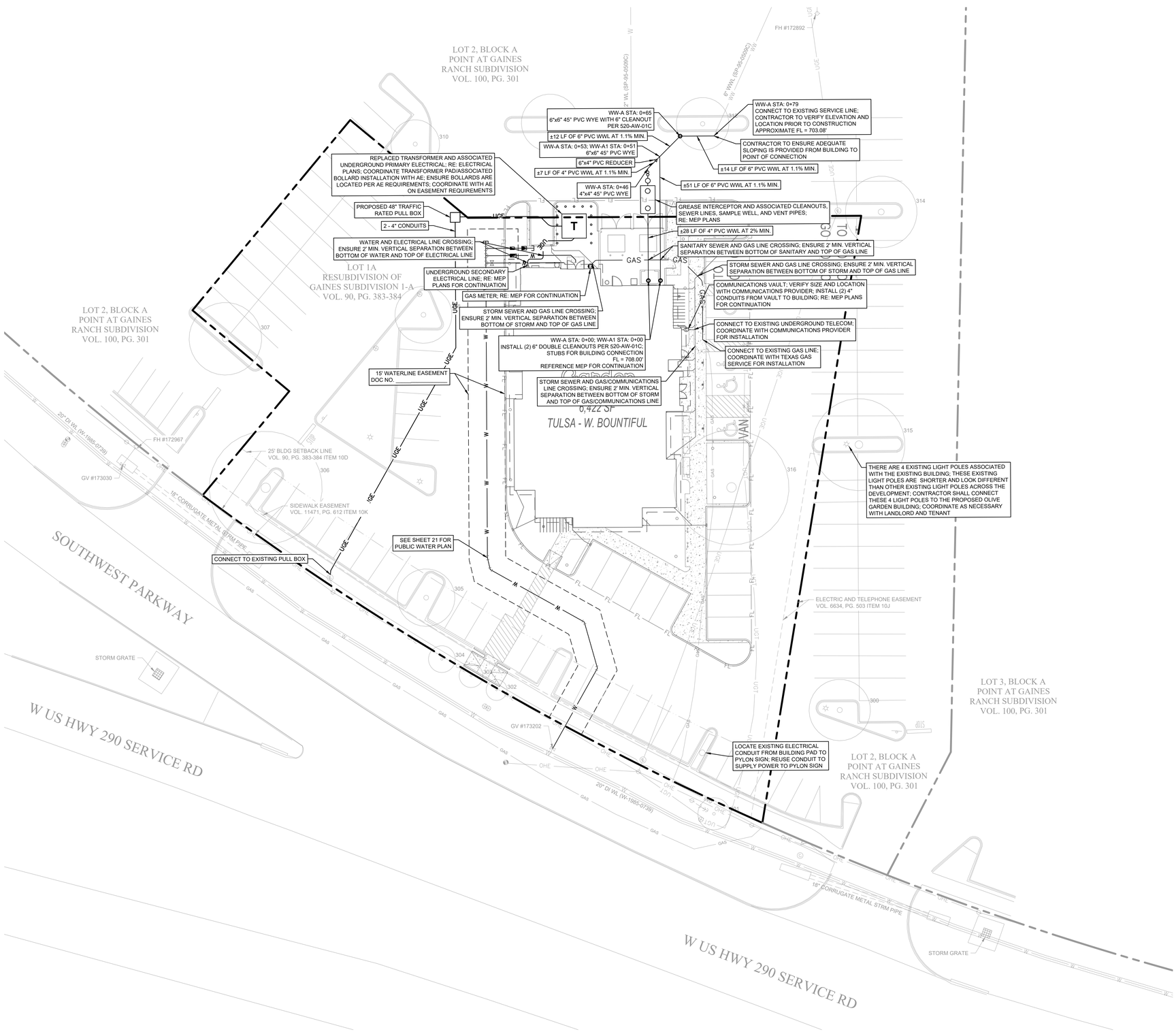


N
W E
S

0 20' 40'
GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- EXISTING WATER METER
- EXISTING GATE VALVE
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING IRRIGATION VALVE
- EXISTING WASTEWATER MANHOLE

NOTES:

1. ANY RELOCATION OF ELECTRIC FACILITIES SHALL BE AT LANDOWNER'S / DEVELOPER'S EXPENSE.
2. ALL UTILITY SERVICE LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE.
3. CONTRACTOR SHALL COORDINATE WITH ALL PRIVATE UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS, SPECIFICATIONS, AND SCHEDULING OF INSTALLATION.
4. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR TEMPORARY UTILITY SERVICES TO THE PROJECT SITE.
5. SANITARY SEWER SERVICE PIPING SHALL BE SDR 35, PVC TYPE PSM SEWER PIPE WITH BELL-AND-SPIGOT ENDS FOR GASKETED JOINTS IN ACCORDANCE WITH ASTM D 3034. FITTINGS SHALL BE PVC WITH BELL ENDS IN ACCORDANCE WITH ASTM D 3034. GASKETS SHALL BE ELASTOMERIC SEALS IN ACCORDANCE WITH ASTM F 477. INSTALL SANITARY SEWER SERVICE PIPING PER MANUFACTURER'S INSTRUCTIONS.
6. CONTRACTOR SHALL CONSTRUCT A CLAY PLUG 4 FEET BEYOND THE EXTERIOR OF THE BUILDING EDGE FOR ALL UTILITY TRENCHES.
7. TOPS OF EXISTING STRUCTURES AND APPURTENANCES SHALL BE RAISED/LOWERED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS OR TO BE 6 INCHES ABOVE THE FINISHED GRADE ELEVATIONS IN NON-PAVED AREAS.
8. REFER TO ELECTRICAL PLANS FOR ELECTRICAL SERVICE LINES, COMMUNICATION LINES, AND TRANSFORMER.
9. SEE SHEET 34 (REFERENCE SHEET) FOR THE PUBLIC WASTEWATER CONNECTION POINT.

| No. | REVISIONS | DATE | BY |
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| DRAWN BY: | RPS |
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# UTILITY PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
22 OF 41

SP-2025-0116C.CC

Plotted By:Shoffer, Ryan Date:May 08, 2025 11:53:56pm File Path:K:\AEAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C_ Utility Plan.dwg
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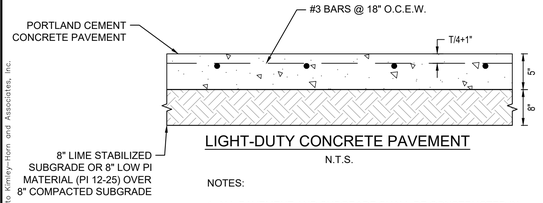


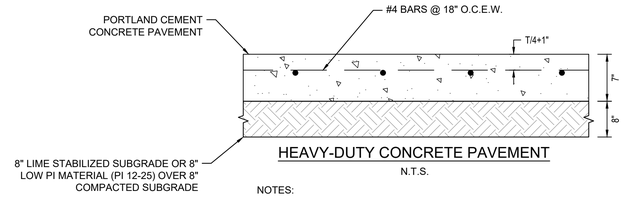

## LIGHT-DUTY CONCRETE PAVEMENT

N.T.S.

NOTES:

1. ALL PAVEMENT AND SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.

2. REFER TO PAVEMENT JOINTING NOTES FOR CONCRETE PANEL SIZES AND REINFORCING REQUIREMENTS.



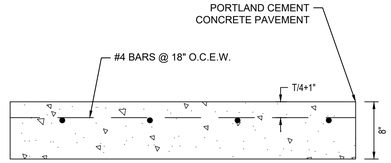

## HEAVY-DUTY CONCRETE PAVEMENT

N.T.S.

NOTES:

1. ALL PAVEMENT AND SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.

2. REFER TO PAVEMENT JOINTING NOTES FOR CONCRETE PANEL SIZES AND REINFORCING REQUIREMENTS.



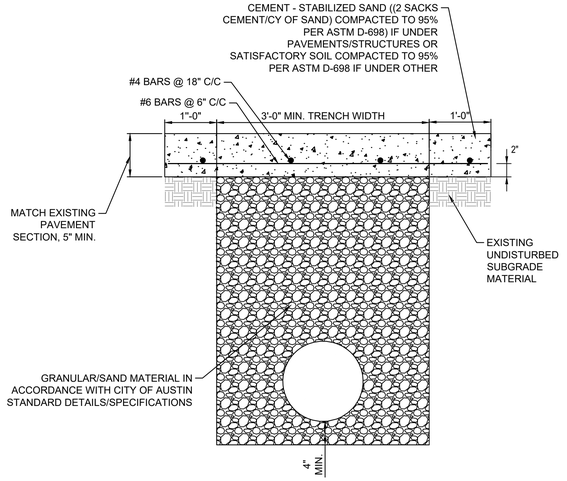

## DUMPSTER CONCRETE PAVEMENT

N.T.S.

NOTES:

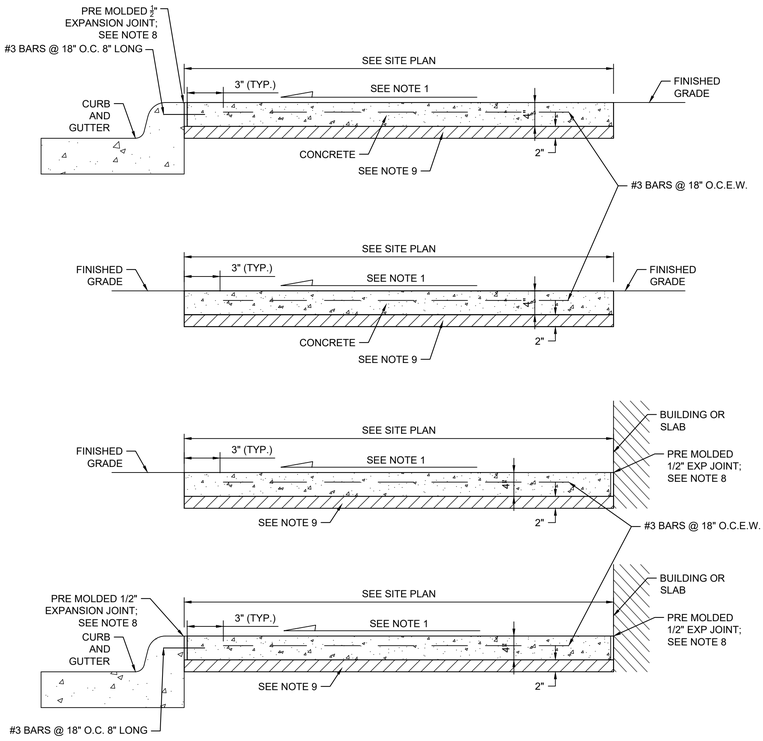
1. ALL PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.

2. REFER TO PAVEMENT JOINTING NOTES FOR CONCRETE PANEL SIZES AND REINFORCING REQUIREMENTS.




## CONCRETE REPAIR DETAIL

N.T.S.




## CONCRETE SIDEWALK DETAILS

N.T.S.

SIDEWALK NOTES:

1. A MAX CROSS SLOPE OF 2% AND RUNNING SLOPE OF 5% SHALL BE PROVIDED AND SHALL SLOPE TOWARDS THE DIRECTION OF POSITIVE DRAINAGE IN THE AREA.
2. CONCRETE WALKS SHALL BE GROOVED TRANSVERSELY TO A DEPTH OF 1 1/2" AT INTERVALS MATCHING SIDEWALK WIDTH UP TO 7'. IF SIDEWALK WIDTH IS GREATER THAN 7', CONTRACTION JOINTS SHALL BE SAWCUT LONGITUDINALLY AND TRANSVERSELY AT DISTANCES EQUAL TO 1/2 OF SIDEWALK WIDTH. NO PANEL SIZE TO EXCEED 7'X7'.
3. CONTRACTION JOINTS MAXIMUM DISTANCE = 7'. GROOVE 1 1/2" DEEP AND FILL WITH SEALANT. SAWCUT JOINTS WITHIN 24 HOURS.
4. EXPANSION JOINTS MAXIMUM DISTANCE = 100'. USE 1/2" PREMOLDED EXPANSION MATERIAL. TRANSVERSE SIDEWALK EXPANSION JOINT SHALL BE DOWELED PER JOINTING DETAILS ON C7.2.
5. USE 1/2" PREMOLDED EXPANSION JOINT AT CURB.
6. 1/2" EXPANSION JOINTS SHALL BE INSTALLED TO SURROUND OR TO SEPARATE ALL STRUCTURES OR FEATURES WHICH PROJECT THROUGH OR AGAINST SIDEWALK SLAB. 36" OF CLEAR TRAVEL SPACE MUST BE MAINTAINED AT ALL TIMES ALONG LENGTH OF SIDEWALK.
7. ALL JOINTS TO BE SEALED. PREMOLDED EXPANSION MATERIAL TO BE REMOVED TO A DEPTH OF 1/2" PRIOR TO APPLYING SEALANT.
8. AT DOORWAYS AND WHERE SIDEWALK ABUTS PAVEMENT, EXPANSION JOINTS SHALL BE DOWELED PER JOINTING DETAILS ON SHEET 24. WHERE SIDEWALK ABUTS CURB, BUILDING, OR OTHER STRUCTURES, DOWELED EXPANSION JOINTS ARE NOT REQUIRED.
9. 2" SAND CUSHION UNLESS SPECIFIED DIFFERENTLY IN GEOTECHNICAL REPORT. PREPARE SUBGRADE IN ACCORDANCE WITH INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.
10. WHERE CONSTRUCTION OF SIDEWALK BEGINS AND ENDS EACH DAY, INSTALL A DOWELED EXPANSION JOINT WITH THICKENED EDGE IN ACCORDANCE WITH SHEET 24.
11. PORTLAND CEMENT CONCRETE MATERIAL FOR SIDEWALKS SHALL BE IDENTICAL TO CONCRETE PAVEMENT (IN ACCORDANCE WITH GEOTECHNICAL REPORT).

ANOVA

**Contact Us:**
800.231.1327
specify@anovafurnishings.com

**LBR3PSURF — Streetside 1-Loop Bike Rack with 3-Bike Capacity, Powder Coated Finish and Surface Mount**

**One-loop steel tubular bike rack with three-bike capacity, powder coated finish and surface mount**

**Material**
The bike rack is 14.63" wide and can accommodate three bicycles. A bicycle can be parked within the loop plus on the outside of each leg. The rack is made from 2.38" O.D. x 11-gauge wall steel tubing. Each leg features a 5" diameter mounting plate with predrilled holes for easy surface mounting. Mounting hardware is not included.

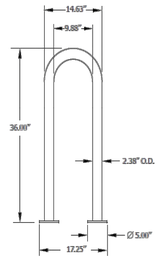
**Finish**
Fade-resistant, powder coated steel tubing features a state-of-the-art primer proven to prevent rusting. Treated components exceed the industry by 34% in testing by independent sources.

**Color**
See website or sales representative for color choices.

**Assembly**
Bike rack requires no assembly except for the surface mounting.

**Maintenance**
The product is virtually maintenance-free and requires only periodic cleaning with a sponge and a solution of mild detergent and water to remove surface dirt. Do not clean with solvent or petroleum base products.

**Warranty**
20-year limited structural warranty with 7-year finish warranty against fading; 3-year finish warranty on powder coated metal components against rusting, peeling, chipping, cracking, mold, mildew and defects in materials and/or workmanship. See full details on multi-year warranties for components at https://www.anovafurnishings.com/warranty

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## BIKE RACK DETAIL

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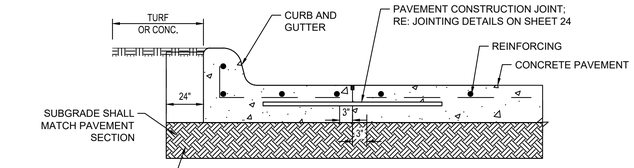
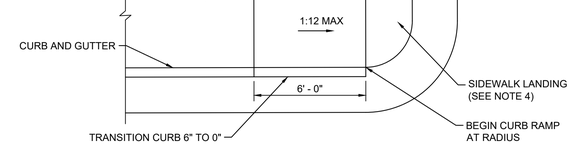


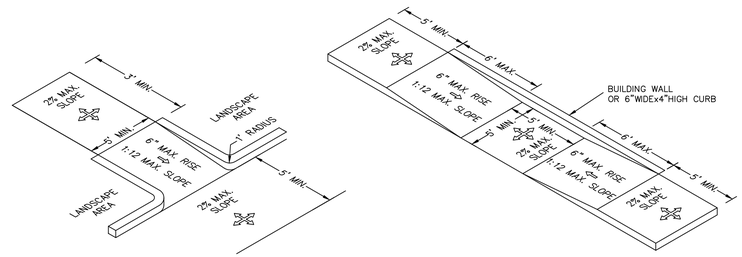

## CONCRETE PAVING WITH CURB AND GUTTER

N.T.S.

NOTES:

1. ALL PAVEMENT AND SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INTERTEK PSI GEOTECHNICAL REPORT DATED DECEMBER 20, 2024.
2. REFER TO SHEET 24 FOR JOINTING DETAILS AND NOTES.




## ACCESSIBLE RAMPS DETAIL

N.T.S.

NOTES:

1. ALL ACCESSIBLE COMPONENTS CONSTRUCTED AS PART OF THESE PLANS SHALL COMPLY WITH ADA AND TAS STANDARDS.
2. ACCESSIBLE ROUTE TO ACCESSIBLE SPACES, BUILDING ENTRANCES, AND PUBLIC STREETS SHALL NOT EXCEED 5% RUNNING SLOPE AND 2% CROSS SLOPE.
3. UNLESS OTHERWISE SHOWN ON THE PLANS, THE MINIMUM CLEAR ROUTE SHALL BE 36" WIDE WITH A 60" X 60" PASSING SPACE EVERY 200 FEET.
4. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE RAMP LEADING TO THE LANDING. THE LANDING CLEAR LENGTH SHALL BE 3 FEET LONG MINIMUM. THE LANDING SLOPE SHALL NOT BE GREATER THAN 2% IN ANY DIRECTION.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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LICENSED PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT | 063887221 |
|---|---|
| DATE | APRIL 2025 |
| SCALE | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

PAVING DETAILS (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
23 OF 41

SP-2025-0116C.CC

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:50:20am File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\Cad\PlanSheets\C - Paving Details.dwg
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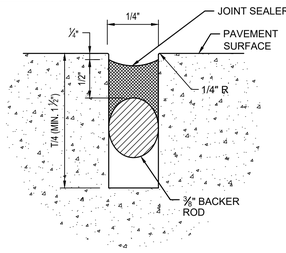
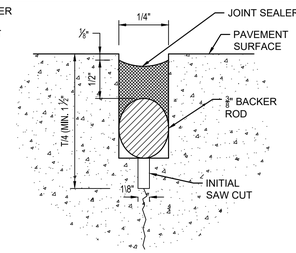



GROOVED JOINT

N.T.S.




SAWCUT JOINT

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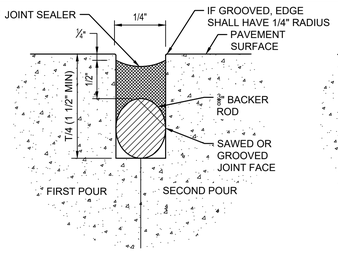
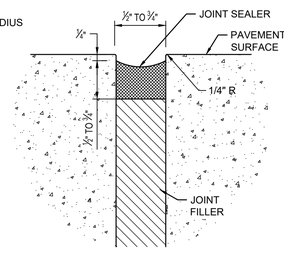
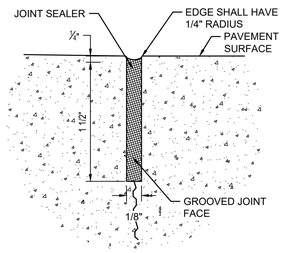



PAVEMENT CONSTRUCTION JOINT DETAIL




PAVEMENT/SIDEWALK EXPANSION JOINT DETAIL

N.T.S.




SIDEWALK CONTRACTION JOINT DETAIL

N.T.S.

## PAVEMENT CONTRACTION JOINT DETAIL

N.T.S.

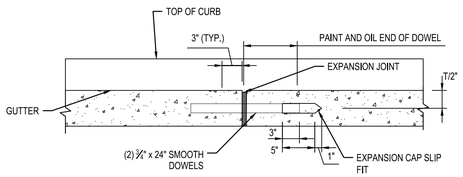
PAVEMENT JOINTING NOTES:

1. JOINT SPACING FOR CONCRETE PAVEMENT SHALL BE PROVIDED SUCH THAT NO PANEL EXCEEDS THE 1.25L:1.00W RATIO. MAXIMUM PANEL SIZE FOR 5-INCH SHALL BE 10 FEET X 12.5 FEET AND FOR 7-INCH/8-INCH CONCRETE SHALL BE 12 FEET X 15 FEET. JOINTS SHOULD BE CUT AS SOON AS CONCRETE WILL SUPPORT MACHINARY(WITHIN 6 TO 12 HOURS OF CONCRETE PLACEMENT).
2. JOINTS MUST INTERSECT PAVEMENT-FREE EDGE AT A 90-DEGREE ANGLE TO THE PAVEMENT EDGE AND MUST EXTEND STRAIGHT FOR A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE UNLESS OTHERWISE NOTED.
3. EXPANSION JOINTS SHOULD BE INSTALLED TO SURROUND OR TO SEPARATE ALL STRUCTURES OR FEATURES WHICH PROJECT THROUGH OR AGAINST CONCRETE PAVEMENT.
4. JOINT SEALANT SHALL BE COLD-APPLIED, SINGLE COMPONENT, SELF-LEVELING, SILICONE THAT IS IN ACCORDANCE WITH ASTM D-5893 (TYPE SL.).

SIDEWALK PAVEMENT NOTES:

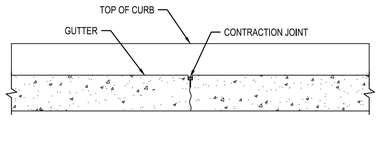
1. REFERENCE SIDEWALK DETAIL FOR SIDEWALK JOINTING NOTES.

2. JOINT SEALANT SHALL BE COLD-APPLIED, SINGLE COMPONENT, SELF-LEVELING, SILICONE THAT IS IN ACCORDANCE WITH ASTM D-5893 (TYPE SL).




CURB AND GUTTER EXPANSION JOINT

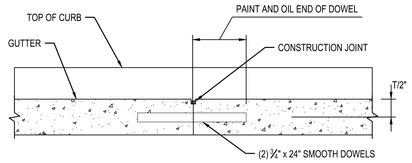
N.T.S.




CURB AND GUTTER CONTRACTION JOINT

N.T.S.

CURB AND GUTTER JOINTS




CURB AND GUTTER CONSTRUCTION JOINT

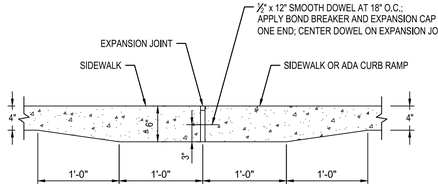
N.T.S.

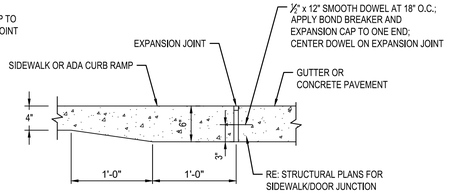
CURB AND GUTTER JOINT NOTES:

1. CONTRACTION JOINTS SHALL BE PROVIDED AT INTERVALS NOT LESS THAN 5 FEET AND NOT GREATER THAN 15 FEET. CONTRACTION JOINT SHALL EXTEND TO A DEPTH OF 6 INCHES BELOW TOP OF CURB AND 1 1/2 INCHES BELOW TOP OF GUTTER. FOR INTEGRAL CURB AND GUTTER, CONTRACTION JOINTS SHALL MATCH PAVEMENT JOINTS.

2. EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT LESS THAN 30 FEET AND NOT GREATER THAN 500 FEET. FOR INTEGRAL CURB AND GUTTER, EXPANSION JOINTS SHALL MATCH PAVEMENT JOINTS.

3. JOINT SEALANT SHALL BE COLD-APPLIED, SINGLE COMPONENT, SELF-LEVELING, SILICONE THAT IS IN ACCORDANCE WITH ASTM D-5893 (TYPE SL).



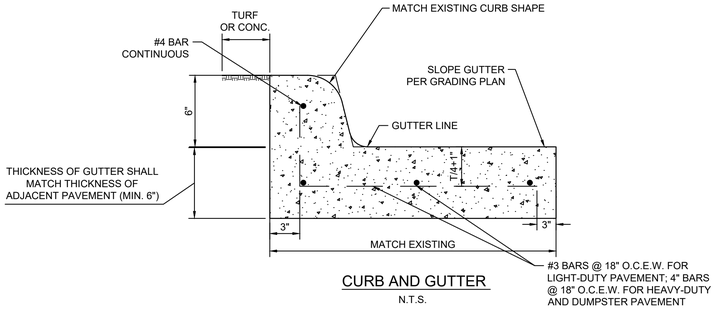




DOWELED SIDEWALK EXPANSION JOINT

N.T.S.

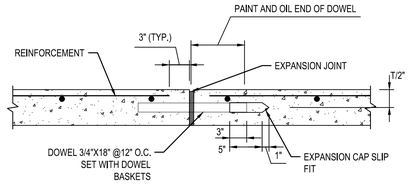
NOTES:

1. REFERENCE SIDEWALK DETAIL FOR SIDEWALK JOINTING NOTES.




CURB AND GUTTER

N.T.S.



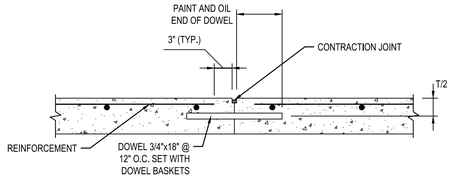

PAVEMENT CONTRACTION JOINTS

N.T.S.



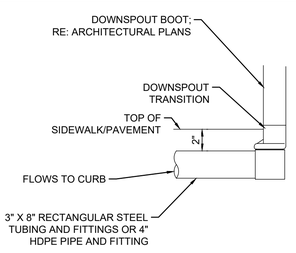

PAVEMENT EXPANSION JOINT

N.T.S.



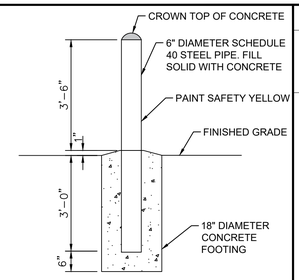

PAVEMENT CONSTRUCTION JOINT

N.T.S.



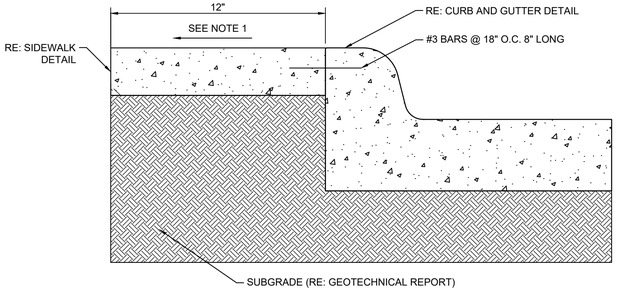

ROOF DRAIN/DOWNSPOUT CONNECTION DETAIL

N.T.S.




BOLLARD DETAIL

N.T.S.

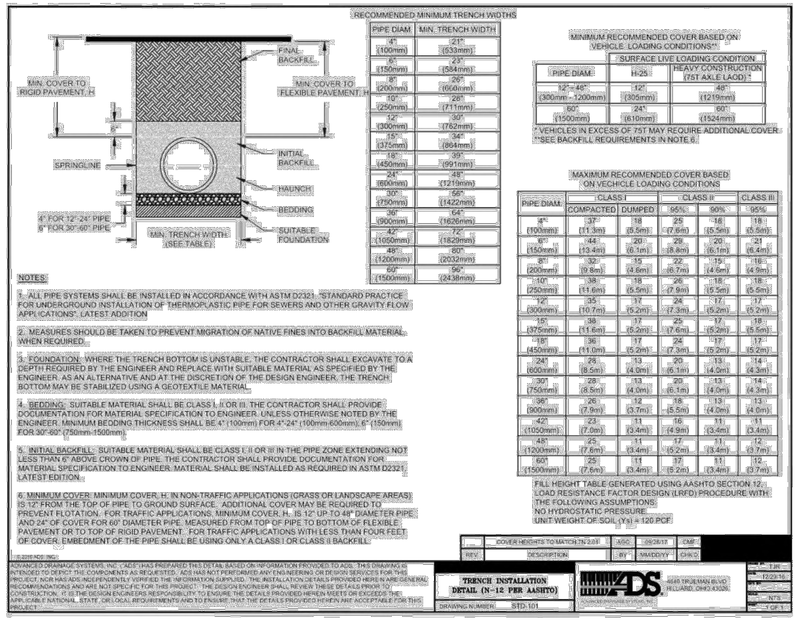



WALK-OFF CURB DETAIL

N.T.S.

NOTES:

1. A MAX CROSS SLOPE OF 2% AND RUNNING SLOPE OF 5% SHALL BE PROVIDED TOWARDS THE DIRECTION OF POSITIVE DRAINAGE IN THE AREA UNLESS OTHERWISE NOTED.




HDPE TRENCH DETAIL

N.T.S.

NOTES:

1. ALL INITIAL BACKFILL AND BEDDING SHALL BE CLASS I MATERIAL COMPACTED TO 95% PER ASTM D-698.

2. FINAL BACKFILL UNDER PAVEMENT SHALL BE CLASS I MATERIAL COMPACTED TO 95% PER ASTM D-698.

3. FINAL BACKFILL UNDER NON-PAVED AREAS AND SIDEWALKS SHALL BE SATISFACTORY SOIL COMPACTED TO 95% PER ASTM D-698.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|


Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-418-9942
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TX REGISTERED ENGINEERING FIRM F-928


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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE | AS SHOWN |
| DESIGNED BY | RJM |
| DRAWN BY | RPS |
| CHECKED BY | RJM |

PAVING DETAILS (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY

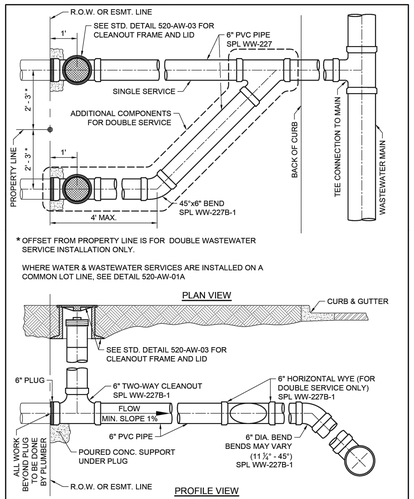
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER

24 OF 41

SP-2025-0116C.CC

Plotted By: Streiffer, Ryan Date: April 30, 2025 08:50:25am File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Paving Details.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



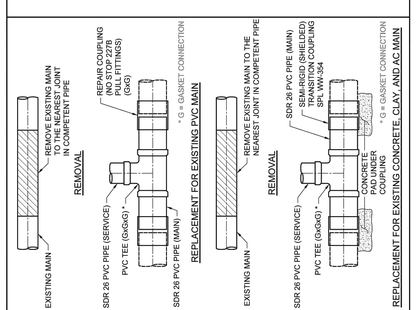

* OFFSET FROM PROPERTY LINE IS FOR DOUBLE WASTEWATER SERVICE INSTALLATION ONLY.

WHERE WATER & WASTEWATER SERVICES ARE INSTALLED ON A COMMON LOT LINE, SEE DETAIL 520-AW-01A

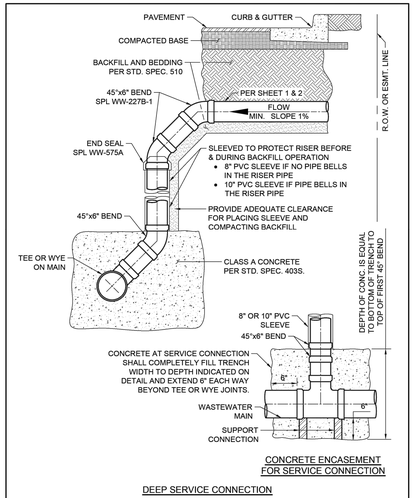
| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>1 OF 4 |

NOTES:

1. DURING SUBDIVISION CONSTRUCTION, UTILITY CONTRACTOR INSTALLS WASTEWATER TEE CONNECTION TO MAIN, 6" STUB, HORIZONTAL WYE FOR DOUBLE SERVICES, 6" SERVICE BRANCH WITH TWO-WAY CLEANOUT(S) AND RISER, FRAME, AND COVER. CLEANOUT(S) TO BE PLUGGED AT PROPERTY LINE OR EASEMENT LINE END. ALL WASTEWATER PIPING SHALL HAVE ELASTOMERIC GASKET TYPE JOINTS AND SLOPE DOWNWARD TO MAIN 1% MIN. TO 45° MAX. DEPTH OF SERVICE AT PROPERTY LINE WILL BE SHOWN ON PLANS BY ENGINEER IF GREATER THAN 4', OTHERWISE THE INSTALLED DEPTH WILL BE 4' MIN. AND 6' MAX. AT PROPERTY LINE. IF WASTEWATER SERVICE LINE TO MAIN REQUIRES DEFLECTION EXCEEDING 45°, SEE SHEET 3 OF 4.
2. PIPING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY CITY OF AUSTIN STANDARD SPECIFICATION 510.3 (14); MATERIALS SHALL BE AS SPECIFIED IN 510.2 (2)(A) AND (3)(B); BACKFILL ABOVE THE GRANULAR BEDDING SHALL BE AS REQUIRED BY SECTION 510.3 (25). SERVICE LINES IN THESE AREAS SHALL HAVE A MIN. COVER BELOW FINAL STREET GRADE OF 42".
3. PLUMBER SHALL REMOVE PLUG AND CONNECT TO TWO-WAY CLEANOUT. NO CONNECTION TO CLEANOUT STACK IS ALLOWED.

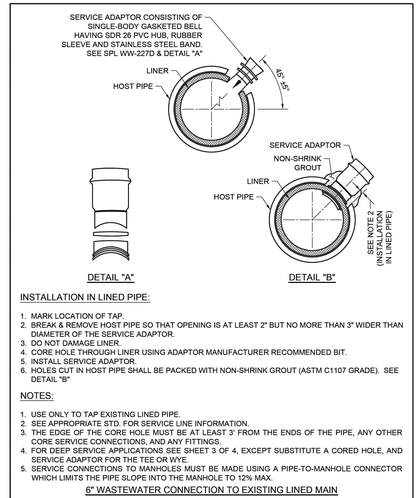



| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>2 OF 4 |




DEEP SERVICE CONNECTION

| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>3 OF 4 |




INSTALLATION IN LINED PIPE:

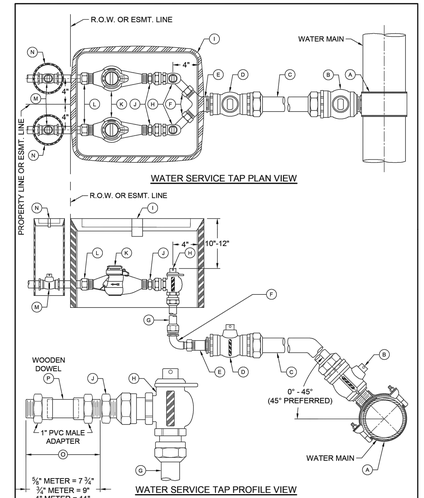
1. MARK LOCATION OF TAP.
2. BREAK & REMOVE HOST PIPE SO THAT OPENING IS AT LEAST 2" BUT NO MORE THAN 3" WIDER THAN DIAMETER OF THE SERVICE ADAPTOR.
3. DO NOT DAMAGE LINER.
4. CORE HOLE THROUGH LINER USING ADAPTOR MANUFACTURER RECOMMENDED BIT.
5. INSTALL SERVICE ADAPTOR.
6. HOLES CUT IN HOST PIPE SHALL BE PACKED WITH NON-SHRINK GROUT (ASTM C1107 GRADE). SEE DETAIL "B"

NOTES:

1. USE ONLY TO TAP EXISTING LINED PIPE.
2. SEE APPROPRIATE STD. FOR SERVICE LINE INFORMATION.
3. THE EDGE OF THE CORE HOLE MUST BE AT LEAST 3" FROM THE ENDS OF THE PIPE, ANY OTHER CORE SERVICE CONNECTIONS, AND ANY FITTINGS.
4. FOR DEEP SERVICE APPLICATIONS SEE SHEET 3 OF 4, EXCEPT SUBSTITUTE A CORED HOLE, AND SERVICE ADAPTOR FOR THE TEE OR WYE.
5. SERVICE CONNECTIONS TO MANHOLES MUST BE MADE USING A PIPE-TO-MANHOLE CONNECTOR WHICH LIMITS THE PIPE SLOPE INTO THE MANHOLE TO 12% MAX.

6" WASTEWATER CONNECTION TO EXISTING LINED MAIN

| CITY OF AUSTIN<br>AUSTIN WATER | SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION | |
|---|---|---|
| *RECORD COPY SIGNED*<br>*JEFF A. KYLE* 11/07/2018<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-01C<br>4 OF 4 |




| CITY OF AUSTIN<br>AUSTIN WATER | WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS | |
|---|---|---|
| *JEFF A. KYLE* 08/16/2019<br>ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO.<br>520-AW-01B<br>1 OF 2 |

MATERIALS LIST:

A. 2" SERVICE CLAMP, SPL WW-264
B. 2" CORPORATION STOP, SPL WW-68
C. 2" HDPE WATER SERVICE TUBING, SPL WW-65
D. 2" BALL VALVE, SPL WW-68
E. SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
F. 1" SWIVEL NUT x 1" COMPRESSION 90° BEND, SPL WW-68
G. 1" HDPE WATER SERVICE TUBING, SPL WW-65
H. 1" ANGLE METER STOP, SPL WW-68
I. METER BOX AND LID, SPL WW-145A; FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

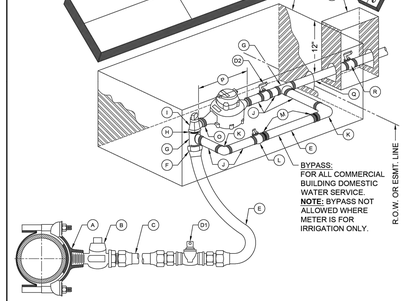
MATERIALS TO BE INSTALLED BY PLUMBER:

J. BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER
K. WATER METER PURCHASED FROM AUSTIN WATER
L. BRASS WATER METER COUPLING MALE IPT x SWIVEL COUPLING NUT:
⅝" AND ¾" METERS: 8 ½" LONG x ¾" DIA.
1" METERS: 8 ½" LONG x 1" DIA.
M. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276
N. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID
O. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
P. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

NOTES:

1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.
7. METER SIZES TO BE SHOWN ON PLANS.
8. METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
9. INSTALL METALLIC TRACER TAPE, SPL WW-597, MINIMUM 1' ABOVE TUBING FROM SERVICE CLAMP "A" TO BALL VALVE "D".
10. TUBING SHALL BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM 2' DEPTH OF COVER.
11. 1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT SECTION OF TUBING.
12. SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE COMPRESSION FITTING USED.
13. FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE **"RECLAIMED WATER"** CAST INTO THEM, SPL WW-145A.

| CITY OF AUSTIN<br>AUSTIN WATER | WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS | |
|---|---|---|
| *JEFF A. KYLE* 08/16/2019<br>ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO.<br>520-AW-01B<br>2 OF 2 |




| CITY OF AUSTIN<br>AUSTIN WATER | 1 ½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS | |
|---|---|---|
| *RECORD COPY SIGNED BY KATHI L FLOWERS* 05/18/2016<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-04<br>1 OF 2 |

MATERIALS LIST:

A. 2" SERVICE CLAMP
B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
C. 2" COPPER WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
D1. 2" BALL VALVE, SPL WW-275
D2. 2" BALL VALVE, SPL WW-275
E. 2" COPPER SERVICE TUBING
F. 2" BRASS COUPLING - COMPRESSION TO MALE IPT
G. 2" BRASS TEE
H. 2" BRASS CLOSE-NIPPLE
I. 2" ANGLE METER STOP; SERVICE TUBING INLET x FLANGED OUTLET
J. 2" BRASS NIPPLE
K. 2" BRASS ELBOW
L. 2" LOCKABLE CURB STOP - FEMALE IPT INLET BY COMPRESSION OUTLET
M. 2" BRASS COUPLING - SERVICE TUBING TO MALE IPT
N. RECTANGULAR METER BOX AND COVER, SPL WW-145A
O. BRASS ADAPTER (2" x 1 ½") FOR 1 ½" METER ONLY
P. WATER METER. LENGTH 13". (PURCHASED FROM AUSTIN WATER)
Q. 2" COPPER SERVICE TUBING (PRIVATE PLUMBING PER CODE)
R. CUSTOMER CUT-OFF VALVE
S. CUSTOMER VALVE BOX AND LID

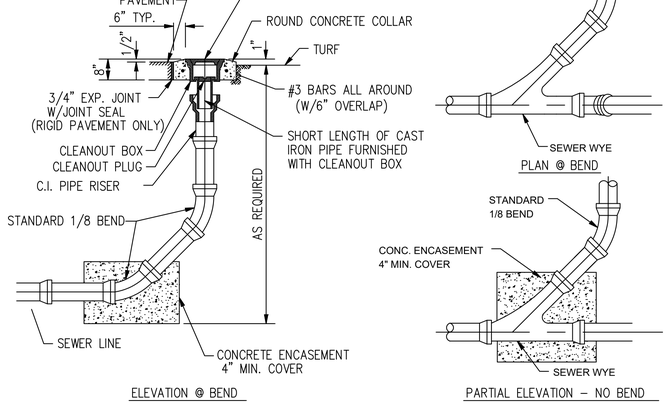
NOTES:

1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF BOXES SHOULD BE 1" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D1" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 24" HORIZONTALLY FROM METER BOX OR 36" BELOW FINAL GRADE.
7. COPPER SERVICE SHALL BE COPPER TUBING SIZE ANNEALED SEAMLESS TYPE "K" MEETING ASTM B88 WITH NO SWEAT OR SOLDERED JOINTS.

**RECLAIMED WATER:**

FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED PURPLE TUBING. ALL OTHER TUBING AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL TUBING AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE **"RECLAIMED WATER"** CAST INTO THEM.

| CITY OF AUSTIN<br>AUSTIN WATER | 1 ½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS | |
|---|---|---|
| *RECORD COPY SIGNED BY KATHI L FLOWERS* 05/18/2016<br>ADOPTED | THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED. | STANDARD NO.<br>520-AW-04<br>2 OF 2 |




## STORM SEWER CLEAN OUT

N.T.S

NOTES:

1. WHERE A CLEANOUT IS LOCATED ON A WYE LARGER THAN 6 INCHES, A 4-INCH OR 6-INCH PVC REDUCER SHALL BE USED TO TRANSITION FROM THE STORM SEWER PIPE TO THE CLEANOUT.

2. WHEN LOCATED WITHIN PAVEMENT, A HEAVY-DUTY, TRAFFIC-RATED COVER/CLEANOUT BOX SHALL BE USED.

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:50:42am File Path:K:\EAU_Civil\065887218-Olive Garden Southwest Pkwy\Cad\PlanSheets\C – Utility Details.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512-416-9942
WWW.KIMLEY-HORN.COM
TEXAS REGISTERED ENGINEERING FIRM F-928
TBPE Firm No. 928

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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

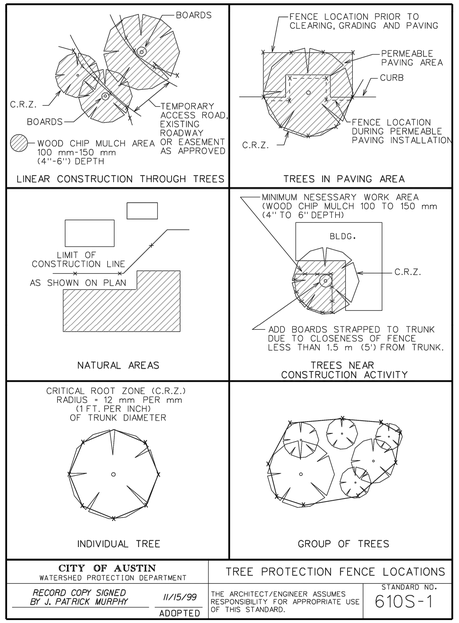
| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

UTILITY DETAILS

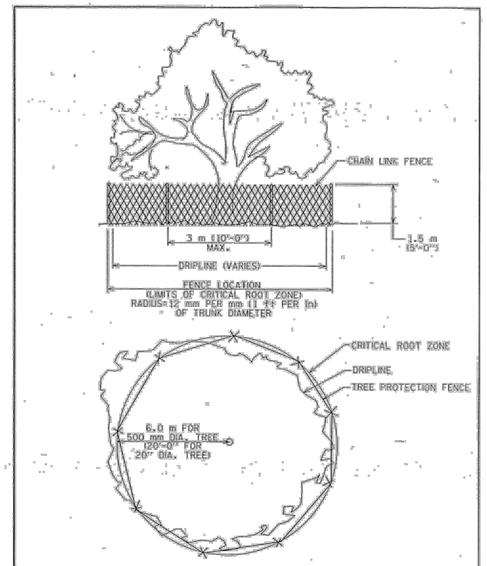
OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
25 OF 41

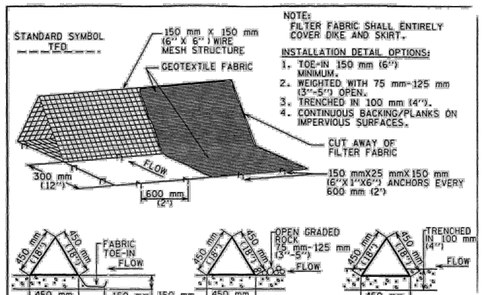
SP-2025-0116C.CC




| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | TREE PROTECTION FENCE LOCATIONS | |
|---|---|---|
| RECORD COPY SIGNED BY J. PATRICK MURPHY 11/15/99 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 610S-1 |




| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | TREE PROPTECTION FENCE TYPE A - CHAIN LINK | |
|---|---|---|
| 11/15/99 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 610S-2 |

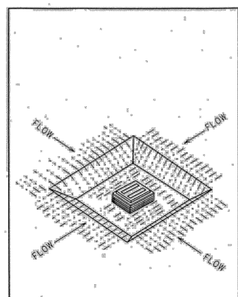



NOTE:
FILTER FABRIC SHALL ENTIRELY COVER DIKE AND SKIRT.

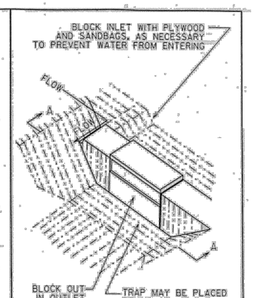
INSTALLATION DETAIL OPTIONS:
1. TOE-IN 150 mm (6") MINIMUM.
2. WEIGHTED WITH 75 mm-125 mm (3"-5") OPEN.
3. TRENCHED IN 100 mm (4").
4. CONTINUOUS BACKING/PLANKS ON IMPERVIOUS SURFACES.

GENERAL NOTES
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 75-125 mm (3-5") OPEN GRADED ROCK OR TOED-IN 150 mm (6") WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 100 mm (4").
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 150 mm (6") WIRE STAPLES ON 600 mm (2') CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 10M (⅜") DIAMETER RE-BAR WITH TEE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 150 mm (6") TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE MW40-150 mmX150 mm (6 GA. 6"X6") WIRE MESH, 450 mm (18") ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6") AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETLY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | TRIANGULAR SEDIMENT FILTER DIKE | |
|---|---|---|
| 3-27-00 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 628S |



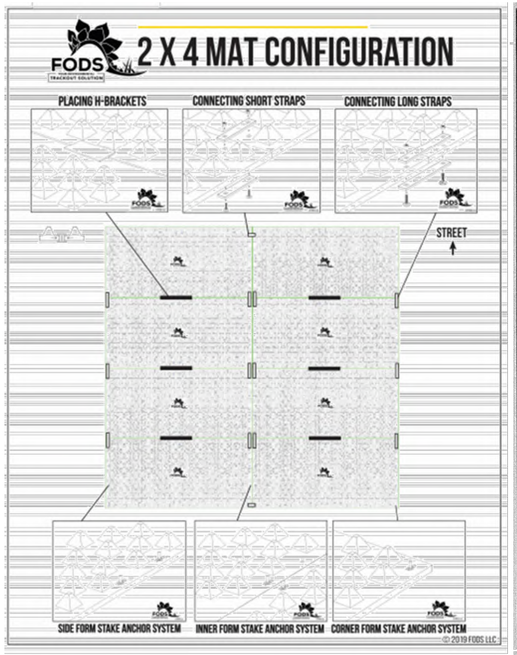

CROSS SECTION YARD DRAIN

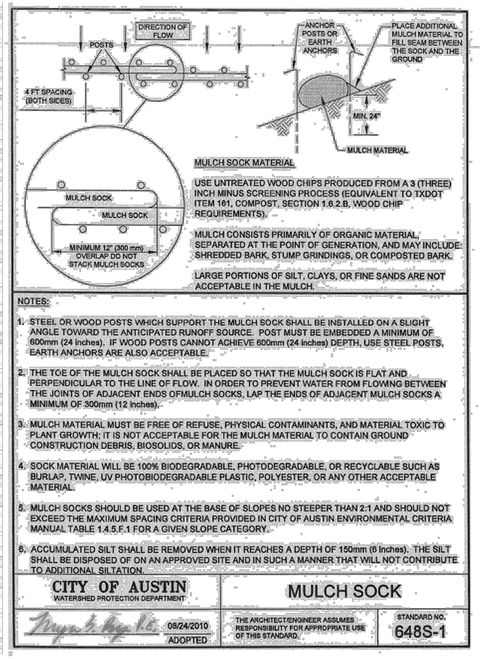



SECTION A-A CURB DRAIN

NOTE:
WHERE CURB IS IN PLACE, PROVIDE A 300 mm (1') WIDE OPENING IN THE CURB, OR USE A SANDBAG TO DAM TO FORCE WATER OVER THE CURB TO THE TRAP.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | STORM INLET SEDIMENT TRAP | |
|---|---|---|
| 3-27-00 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 632S-1 |




USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:
1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS, EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWNG BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

| CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT | MULCH SOCK | |
|---|---|---|
| 08/24/2010 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 648S-1 |

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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RYAN MCKAY
146418
LICENSED PROFESSIONAL ENGINEER
04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# EROSION CONTROL DETAILS

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
26 OF 41

SP-2025-0116C.CC

Plotted By:Sheaffer, Ryan Date:April 30, 2025 08:50:57am File Path:K:\CAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Erosion Control Details.dwg
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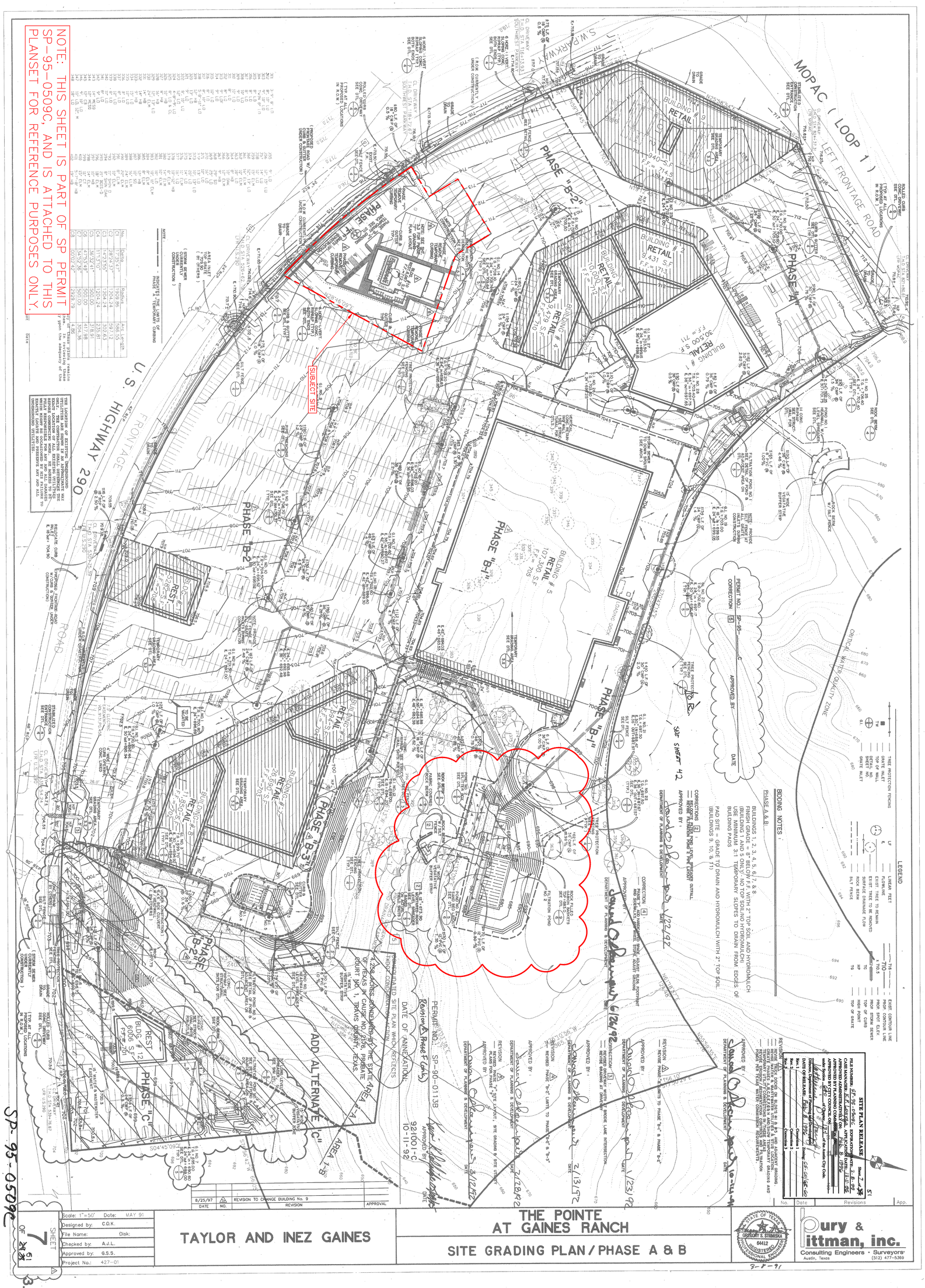


| No. | Date | Revisions | App. |
|---|---|---|---|
| 1 | 8/25/97 | REVISION TO CHANGE BUILDING No. 9 | |

| | |
|---|---|
| Scale: | 1"=50' Date: MAY 91 |
| Designed by: | C.Q.K. |
| File Name: | Disk: |
| Checked by: | A.J.L. |
| Approved by: | G.S.S. |
| Project No.: | 427-01 |

TAYLOR AND INEZ GAINES

THE POINTE AT GAINES RANCH

SITE GRADING PLAN / PHASE A & B

Kury & Littman, inc.
Consulting Engineers · Surveyors
Austin, Texas (512) 477-5369

SHEET 7 OF 61



| | |
|---|---|
| SHEET NUMBER | 31 OF 41 |
| OLIVE GARDEN - SOUTHWEST PARKWAY | CITY OF AUSTIN, TRAVIS COUNTY, TEXAS |
| R1-GRADING PLAN | |
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |
| 04/25/2025 | |

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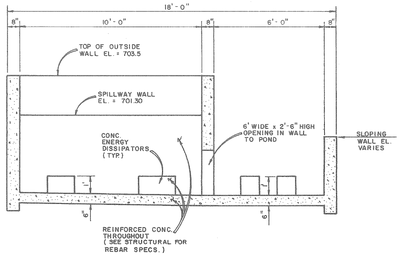
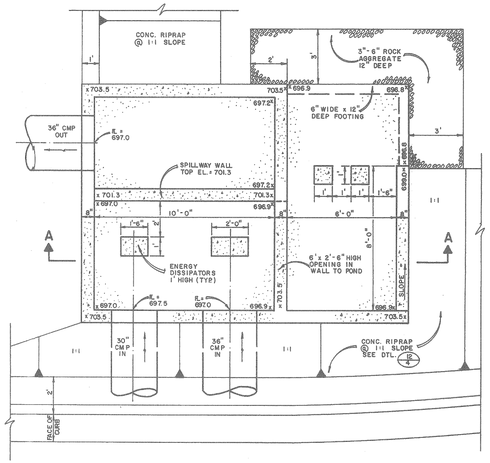
TBPE Firm No. 928

| No. | REVISIONS | DATE | BY |
|---|---|---|---|




SECTION A-A

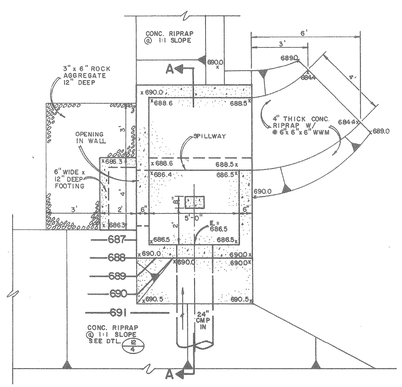



1 POND NO. 1 SPLITTER BOX

SCALE: 1" = 3'




SECTION A-A



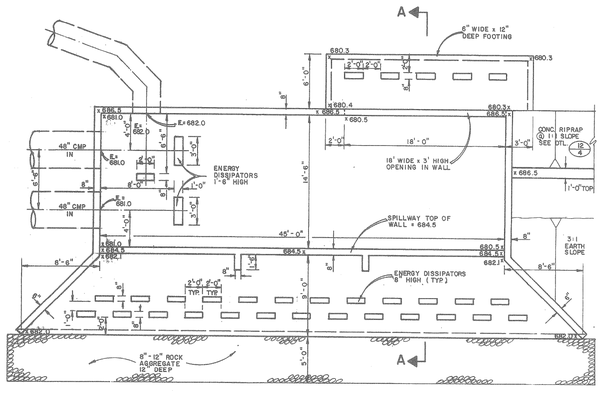

6 POND NO. 4 SPLITTER BOX

SCALE: 1" = 3'



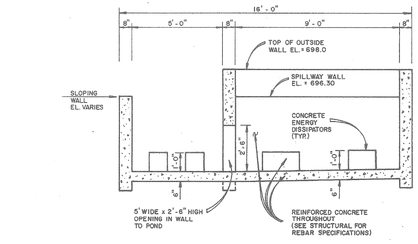

SECTION A-A

SCALE: 1" = 6'

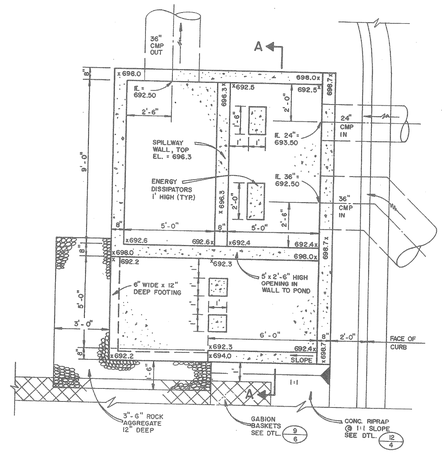



2 POND NO. 2 SPLITTER BOX

SCALE: 1" = 6'

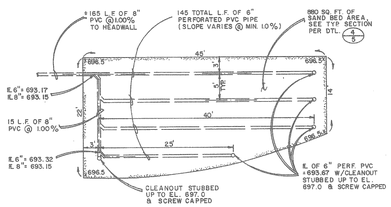



SECTION A-A



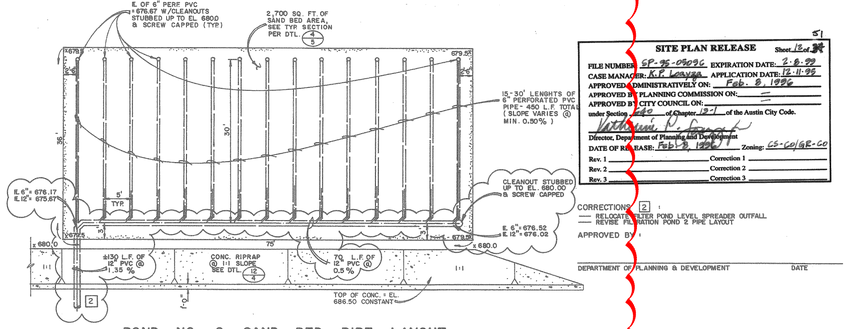

3 POND NO. 3 SPLITTER BOX

SCALE: 1" = 6'



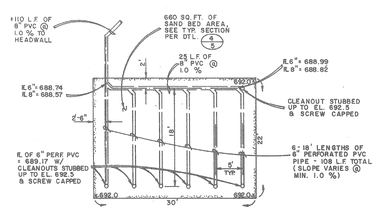

4 POND NO. 1 SAND BED PIPE LAYOUT

SCALE: 1" = 10'



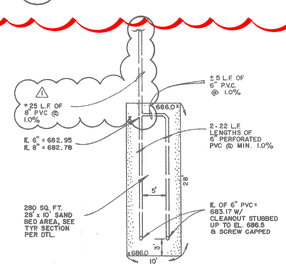

5 POND NO. 2 SAND BED PIPE LAYOUT

SCALE: 1" = 10'




7 POND NO. 3 SAND BED PIPE LAYOUT

SCALE: 1" = 10'




8 POND NO. 4 SAND BED PIPE LAYOUT

SCALE: 1" = 10'

9 GABION

NOT TO SCALE

**SITE PLAN RELEASE** Sheet 12 of 29

FILE NUMBER: SP-95-0509C EXPIRATION DATE: 2-8-97
CASE MANAGER: Kit Lanyon APPLICATION DATE: 12-11-95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 646 of Chapter 13-1 of the Austin City Code.

Director, Department of Planning and Development

DATE OF RELEASE: Feb 13, 1996 Zoning: CS-CO/GR-CO

Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

CORRECTIONS: 2
— RELOCATE FILTER POND LEVEL SPREADER OUTFALL.
— REVISE FILTRATION POND 2 PIPE LAYOUT

APPROVED BY:

DEPARTMENT OF PLANNING & DEVELOPMENT DATE

REVISION 1
— REVISE TRAFFIC BLOCKS A-1, BLOCK A-1 & B-1, AND ADJACENT GRADING
— REVISE NUMBER OF PARTITIONED DRAINAGE AREAS WITHIN LOCATION
— CREATE PHASES A,B,C,D,E,F,G & H AND SHOW TEMPORARY GRADING AND TEMPORARY UTILITY CONNECTIONS IN THESE AREAS
— REVISE EROSION / SEDIMENTATION CONTROLS AND FILTRATION PONDS PER TEXAS WATER COMMISSION REQUIREMENTS.

APPROVED BY: 10-14-91
DEPARTMENT OF PLANNING & DEVELOPMENT DATE

All responsibility for the adequacy of these plans remains with the engineer who prepared them. In reviewing these plans, the City of Austin must rely upon the adequacy of the work of the design engineer.

Reviewed By: 6-28-91
Department of Planning & Development Date

NOTE: THIS SHEET IS PART OF SP PERMIT SP-95-0509C, AND IS ATTACHED TO THIS PLANSET FOR REFERENCE PURPOSES ONLY.

SP-95-0509C

SP-2025-0116C.CC

Plotted By: Sheaffer, Ryan Date: April 30, 2025 09:02:54am File Path: K:\TEAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\FinalSheets\C - Pond Reference Sheets.dwg

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Pury & Pittman, inc.
Consulting Engineers • Surveyors
Austin, Texas (512) 477-3389

| No. | Date | Revisions | App. |
|---|---|---|---|
| | | | |

3-8-91

| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |

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04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

THE POINTE AT GAINES RANCH

SITE GRADING DETAILS

TAYLOR & INEZ GAINES

| Scale: AS SHOWN | Date: MAR. 1991 |
|---|---|
| Designed by: C.O.K. | |
| Drawn by: D.B.K. | |
| Checked by: G.S.S. | |
| Approved by: G.S.S. | |
| Project No. 427 - 02.00 | |

SHEET 12 OF 29 31

R2-WQ POND PLAN (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
32 OF 41

Plotted By: Streiffer, Ryan Date: April 30, 2025 09:03:06am File Path: K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\SC - Pond Reference Sheets.dwg
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TRAVIS COUNTY CONSTRUCTION NOTES FOR STREETS AND DRAINAGE

1. STREET AND DRAINAGE CONSTRUCTION STANDARDS SHALL BE IN ACCORDANCE WITH THE REQUIREMENT OF TRAVIS COUNTY AS DETAILED IN COUNTY ORDER NO. 8596, AD ADOPTED BY THE COMMISSIONERS COURT ON JANUARY 4, 1984, UNLESS OTHERWISE SPECIFIED AND APPROVED BY TRAVIS COUNTY PUBLIC IMPROVEMENTS AND TRANSPORTATION DEPARTMENT (PITD).
2. PRIOR TO BEGINNING ANY CONSTRUCTION, A TRAVIS COUNTY BASIC DEVELOPMENT PERMIT SHALL BE POSTED ON JOB SITE.
3. PRIOR TO BEGINNING ANY CONSTRUCTION, THE TEMPORARY EROSION CONTROL ITEMS SHALL BE IN PLACE.
4. A TRAFFIC CONTROL PLAN SHALL BE PROVIDED BY THE ENGINEER AND REVIEWED BY TRAVIS COUNTY PRIOR TO BEGINNING CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY TRAVIS COUNTY AT 472-7483 (CONSTRUCTION/INSPECTION DIVISION) AND THE CITY OF AUSTIN INSPECTOR TO ARRANGE FOR A JOINT INSPECTION ON ITEMS NOTED AS "CONTACT TRAVIS COUNTY."
6. DENSITY CONTROL SHALL BE COMPLETED AND SUBMITTED TO THE TRAVIS COUNTY PITD FOR APPROVAL BY AN APPROVED SOILS TESTING LABORATORY. THE CONTROL TO MEET 95% COMPACTION AS PER SDHPT TEST METHOD TEX 114-C FOR SUBGRADE. EACH LIFT OF BASE AND HMAC TO MEET 95% COMPACTION AS PER SDHPT TEST METHOD TEX 113-C.
7. STREET SIGNS SHALL BE INSTALLED BY THE DEVELOPER PRIOR TO ACCEPTANCE OF ANY STREETS FOR MAINTENANCE BY TRAVIS COUNTY.
8. CONTOUR DATA SOURCE: INTERNATIONAL AERIAL MAPPING
9. SOIL DATA SOURCE: U.S. DEPARTMENT OF AGRICULTURE
10. CONTRACTOR SHALL NOT STOCKPILE MATERIAL WITHIN THE 100 YEAR FLOOD PLAIN.
11. CONTRACTOR SHALL NOT BE INSTALLED IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS FOR PUBLIC WORK CONSTRUCTION.
12. WITHIN TRAVIS COUNTY RIGHT-OF-WAY, RESIDENTIAL DRIVEWAYS ARE TO HAVE A 10% MAXIMUM GRADE. NON-RESIDENTIAL DRIVEWAYS ARE TO HAVE A 3% MAXIMUM GRADE FOR THE FIRST THIRTY (30) FEET OFF THE EDGE OF THE PAVEMENT.
13. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, TRAVIS COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

NOTE: THIS SHEET IS PART OF SP PERMIT SP-95-0509C, AND IS ATTACHED TO THIS PLANSET FOR REFERENCE PURPOSES ONLY.

## GENERAL CONSTRUCTION NOTES

1. All responsibility for the adequacy of these plans remains with the engineer who prepared them. In reviewing these plans, the City of Austin must rely upon the adequacy of the work of the design engineer.
2. Reviewed By:

Department of Planning & Development — Date: 6-25-91

SP-90-0113D
Development Permit Number

3. Contractor shall call the One Call Center (472-2822) for utility locations prior to any work in City easements or street right-of-way.
4. The Contractor shall notify the Transportation and Public Services Department at 499-7161 at least 24 hours prior to the installation of any drainage facility within a drainage easement or street right-of-way.
5. Contractor shall notify the State Department of Highways and Public Transportation at least 48 hours prior to starting work in the state right-of-way.
6. All construction operations shall be accomplished in accordance with applicable regulations of the U.S. Occupational Health and Safety Administration. Copies of OSHA Standards may be purchased from the U.S. Government Printing Office. Information and related reference materials may be purchased from OSHA, 611 E. 6th Street, Austin, Texas.
7. Temporary Erosion/Sedimentation Control and Tree/Natural Area Protection Measures:
   - The contractor shall install erosion/sedimentation controls and tree/natural area protective fencing prior to any site preparation work (clearing, grubbing, grading or excavation).
   - The placement of erosion/sedimentation controls shall be in accordance with the Environmental Criteria Manual.
   - The placement of tree/natural area protective fencing shall be in accordance with City of Austin Standard Notes for Tree and Natural Area Protection and the approved Grading/Tree and Natural Area Plan.
   - A pre-construction conference shall be held subsequent to installation of the initial phase of the erosion and sedimentation controls and prior to beginning construction. This conference should take place on the site to demonstrate compliance with the erosion and sedimentation control manual and the approved plans, and to present a plan including future erosion and sedimentation controls, tree protection, and drainage utility and street layouts. Contractor shall arrange a meeting date with Dave Fowler, Supervisor of Environmental Inspection, Department of Environmental Protection, at 499-2278 at least three days prior to the meeting time. The design engineer and/or the permit applicant shall also be present at this meeting.
   - Any significant variation in materials or locations of controls or fences from that which is shown on the approved plans must be approved by the planning specialist or arborist, as appropriate.
   - The Contractor is to inspect the controls and fences at weekly intervals and after every significant rainfall to insure that they have not been substantially disturbed. The person(s) or firm(s) responsible for maintenance of controls and fences shall be immediately directed to make any necessary repairs.
   - Any sediment build-up occurring after a significant rain shall be removed and placed in the designated spoil disposal site.
8. Off-site disposal: The Contractor shall not dispose of surplus excavated material from the site without notifying the Supervisor of Environmental Inspection at 499-2278 at least 48 hours prior to the removal. This notification shall include the disposal location and a copy of the permit issued to receive the material.
9. Permanent Erosion Control:
   - All disturbed areas shall be restored as noted below (for specifics, reference the City of Austin Standard Specifications-- Series 600, Environmental Criteria Manual).
   - A minimum of 4" of topsoil shall be placed in all drainage channels (except rock) and between the curb and right-of-way line.
   - The Contractor shall hydromulch or sod all exposed cuts and fills upon completion of construction except where cuts are made in solid rock.
   - The seeding for erosion control shall be applied over areas disturbed by construction as follows: From September 15 to March 1, seeding shall be with a combination of 1 pound per 1,000 square feet of unhulled Bermuda and 7 pounds per 1,000 square feet of germination. From March 2 to September 14, seeding shall be with hulled Bermuda grass (Cynodon dactylon) at a rate of 1 pound per 1,000 square feet with a purity of 95% with 85% germination.
   - Fertilizer shall have an analysis of 20-20-10 and shall be applied at the rate of 500 pounds per acre.
   - The planted area shall be irrigated or sprinkled in a manner that will not erode the topsoil, but will sufficiently soak the soil to a depth of 6 inches. The irrigation shall occur at 10-day intervals during the first two months. Rainfall occurrences of 1/2 inch or greater shall postpone the water schedule on week.
   - Restoration shall be acceptable when the grass has grown at least 1-1/2" high with 95% coverage, provided that no bare spots larger than 10 square feet exist.
   - Use of fertilizers and pesticides is restricted in the vegetative buffer strips, & Filter Ponds.
10. Upon completion of the proposed site improvements and prior to:
    - the release of the Certificate of Occupancy by the Planning Department (inside the City limits), or
    - the installation of the electric or water meter (in the 5 mile ETJ),

    the design engineer shall certify in writing that the proposed detention facility was constructed in substantial conformity to the approved plans.
11. The name and phone number of the designated representative for the owner/engineer who will have the authority to make appropriate changes to the sedimentation/erosion control plan, if it is discovered to be inadequate:

Bury & Pittman, Inc. — 512/477-5369
Engineer — Phone #

12. The identity of the person or firm who will be responsible for the maintenance of each sedimentation/erosion control scheme being used on the project:

Trammell Crow Co. — 512/474-9900
Firm Name — Phone #

13. Sequence of Construction:
    a. Install tree protection.
    b. Install erosion and sedimentation control.
    c. Rough cut filtration pond. Place rock berm at outfall to filtration pond to serve as a temporary sedimentation trap.
    d. Construct paving and building pads.
    e. Grade site.
    f. Remove temporary sedimentation trap and complete the filtration pond.
    g. Landscape and restore disturbed areas.
    h. Remove erosion/sedimentation controls and tree protection.
14. Owner's Name and Address:
    State Street Bank & Trust Company of Connecticut
    750 Main St. # 1114
    Hartford, Connecticut
15. Engineer's Name, Address and Telephone Number:
    Bury & Pittman, Inc.
    1601 Rio Grande, Suite 300
    Austin, Texas 78701
    512/577-5369
16. Legal Description: 120.50 acre portion of the James Trammell Survey No. 4 in Travis County, Texas, as conveyed to Taylor and Inez Gaines by deed in Volume 2133, Page 264 of the Deed Records of Travis County, Texas. (5)
17. Site Address: 4980 Highway 290 West
18. This project is located in the Barton Creek Watershed.
19. This site will comply with the Comprehensive Watershed Ordinance.
20. Flood Plain Note: The 100 year flood plain is contained within the drainage easements shown hereon. A portion of this tract is within the boundaries of the 100 year flood plain of a waterway that is within the limits of study of the Federal Flood Insurance Administration Firm Panel No. 481026 0255B, dated April 1, 1982, and Panel No. 481026 0210B, dated April 1, 1982, for the unincorporated areas of Travis County, Texas.
21. All berms and backfill in channels, filtration ponds, detention ponds, etc. shall be placed in 8-inch lifts and compacted to a density of 95% as determined in accordance with the SDHPT Test Method Tex 114-E within +/- 3% of the optimum moisture content.

PERMIT NO.: SP-95-____C
CORRECTION 5 — APPROVED BY — DATE

## DRAINAGE CALCULATIONS

POND 1 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 696.5 | 880 | 0 | 0 |
| 696.8 | 1,280 | 324 | 324 |
| 697.0 | 1,480 | 276 | 600 |
| 698.0 | 1,720 | 1,600 | 2,200 |
| 699.0 | 1,960 | 1,840 | 4,040 |
| 700.0 | 2,200 | 2,080 | 6,120 |
| 701.0 | 2,440 | 2,320 | 8,440 |
| 701.3 | 2,500 | 741 | 9,181 |

POND 2 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 679.5 | 2,625 | 0 | 0 |
| 680.0 | 4,000 | 1,656 | 1,656 |
| 681.0 | 5,750 | 4,879 | 6,531 |
| 682.0 | 6,563 | 6,156 | 12,687 |
| 683.0 | 7,325 | 6,944 | 19,631 |
| 684.0 | 8,087 | 7,706 | 27,337 |
| 684.5 | 8,468 | 4,138 | 31,475 |

POND 3 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 692.0 | 660 | 0 | 0 |
| 692.2 | 1,040 | 170 | 170 |
| 693.0 | 1,280 | 928 | 1,098 |
| 694.0 | 1,600 | 1,440 | 2,538 |
| 695.0 | 1,920 | 1,760 | 4,298 |
| 696.0 | 2,240 | 2,080 | 6,378 |
| 696.3 | 2,400 | 696 | 7,074 |

POND 4 STORAGE VOLUME

| ELEV. | SQ. FT. | CU. FT. VOLUME | ACCUMULATED TOTAL CU. FT. |
|---|---|---|---|
| $\mathbb{E}$ = 686.0 | 280 | 0 | 0 |
| 686.5 | 1,080 | 340 | 340 |
| 687.0 | 1,160 | 560 | 900 |
| 688.0 | 1,320 | 1,240 | 2,140 |
| 688.5 | 1,480 | 700 | 2,840 |

Filtration Volumes

POND 1
Volume = 4.80 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 8,712 cu. ft.

POND 2
Volume = 14.60 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 26,499 cu. ft.

POND 3
Volume = 3.60 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 6,534 cu. ft.

POND 4
Volume = 1.53 acres x (43,560 SF/acres) x 0.5 in x (1 ft./12 in.) = 2,776 cu. ft.

Total Filter Volume Required = 44,521 C.F.
Total Filter Volume Provided = 50,570 C.F.

SEE SHEETS 42 AND 45 FOR RETENTION/RE-IRRIGATION POND CALCULATIONS AND DETAILS

10 R

12

MODIFICATIONS TO RETENTION/REIRRIGATION POND DRAINAGE AREA AND CALCULATIONS - 4-24-95

| POND | FILTRATION POND SAND BED AREA | SEDIMENTATION POND VOLUME |
|---|---|---|
| 1 | $A_f = A_D$ H / 10 | $V_s$ Required = 1,742 CF (20%) |
| | $= A_D$ (.042)/10 | |
| | = 4.80 (.042)/10 | |
| | = 878 SF | $V_s$ Actual = 2,050 CF (23.5%) |
| 2 | $A_f = A_D$ (0.042)/10 | $V_s$ Required = 5,300 CF (20%) |
| | = 14.60 (.042)/10 | |
| | = 2,671 SF | $V_s$ Actual = 7,125 CF (26.88%) |
| 3 | $A_f = A_D$ (0.042)/10 | $V_s$ Required = 1,307 CF (20%) |
| | = 3.60 (.042)/10 | |
| | = 659 SF | $V_s$ Actual = 1,416 CF (21.67%) |
| 4 | $A_f = A_D$ (0.042)/10 | $V_s$ Required = 550 CF (20%) |
| | = 1.53 (.042)/10 | |
| | = 280 SF | $V_s$ Actual = 603 CF (21.7%) |

Total Sedimentation Volume Required = 8,899 C.F.
Total Sedimentation Volume Provided = 11,194 C.F.

51
SITE PLAN RELEASE — Sheet 12 of 29
FILE NUMBER: SP-95-0509C — EXPIRATION DATE: 2-8-97
CASE MANAGER: K.P. Lovell — APPLICATION DATE: 12-11-95
APPROVED ADMINISTRATIVELY ON: Feb. 8, 1996
APPROVED BY PLANNING COMMISSION ON: —
APPROVED BY CITY COUNCIL ON: —
under Section 640 of Chapter 13-1 of the Austin City Code.
Director, Department of Planning and Development
DATE OF RELEASE: Feb. 8, 1996 — Zoning: GR-CO / GR-CO
Rev. #1 4-24-95 SP — Correction 1 —
Rev. #2 10-23-95 SP — Correction 2 —
Rev. 3 — Correction 3 —

| No. | Date | Revisions | App. |
|---|---|---|---|
| | | | |

Bury & Pittman, inc. — Consulting Engineers • Surveyors — Austin, Texas — (512) 477-5369

GREGORY S. STRNADKA — 64412 — LICENSED PROFESSIONAL ENGINEER — STATE OF TEXAS
3-7-91

THE POINTE AT GAINES RANCH
SITE GRADING DETAILS
TAYLOR & INEZ GAINES

Scale: NONE — Date: MAR. 1991
Designed by: G.S.S.
Drawn by: D.B.K.
Checked by: G.S.S.
Approved by: G.S.S.
Project No. 427-02.00

SHEET 13 OF 41

| No. | Date | REVISIONS | BY |
|---|---|---|---|
| | | | |

Kimley»Horn
6800 BURLESON ROAD, BUILDING 310, SUITE 150
AUSTIN, TX 78744
PHONE: 512/418-1771
FAX: 512/418-1791
WWW.KIMLEY-HORN.COM
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
TBPE Firm No. 928

04/25/2025

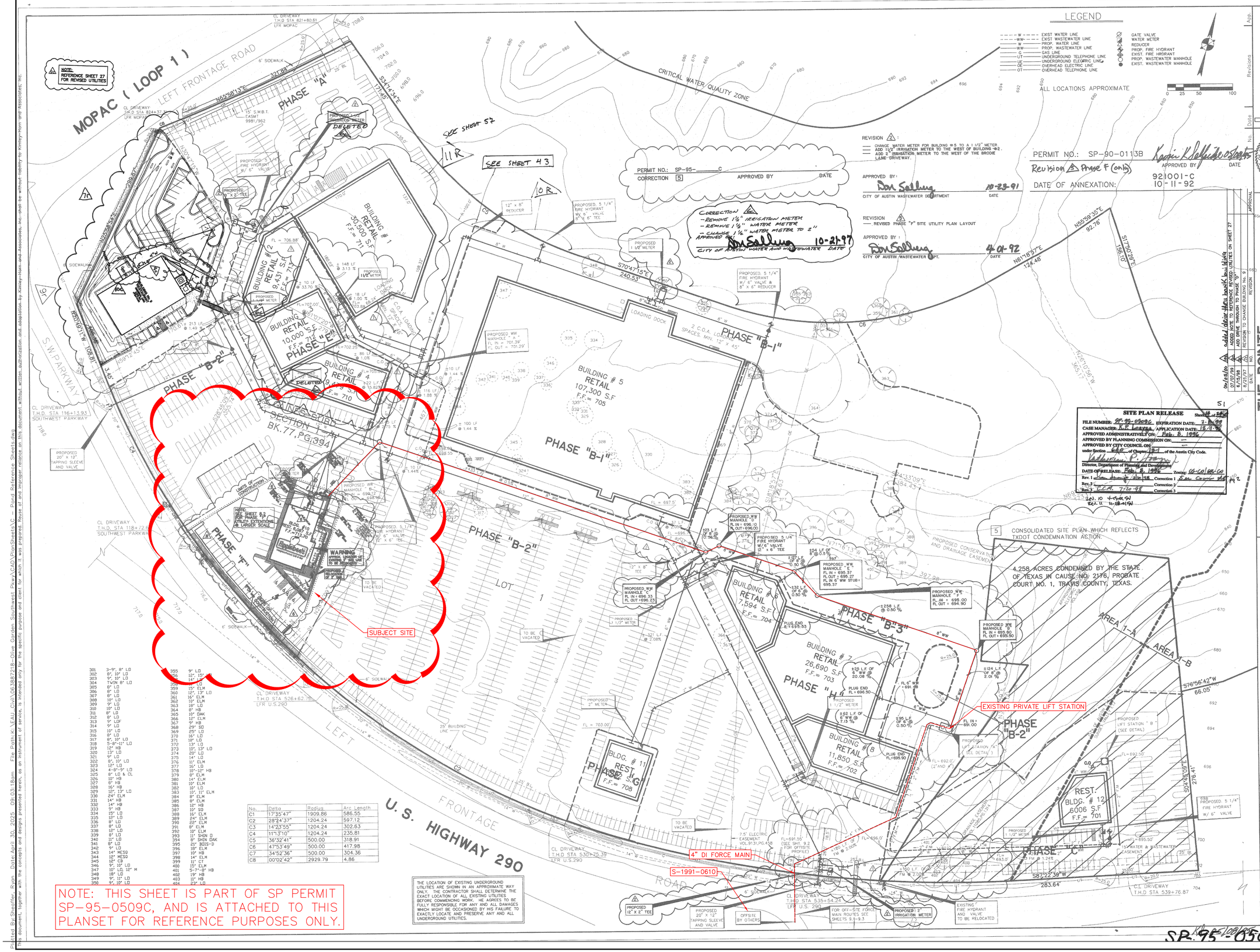
KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

R3-WQ POND PLAN (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER 33 OF 41

SP-2025-0116C.CC


MOPAC ( LOOP 1 )
LEFT FRONTAGE ROAD
NOTE: REFERENCE SHEET 27 FOR REVISED UTILITIES
PHASE "A"
PROPOSED 1" IRRIGATION METER DELETED
SEE SHEET 52
SEE SHEET 43
PERMIT NO.: SP-95-____C
CORRECTION 5 APPROVED BY DATE
CORRECTION 6
-REMOVE 1½" IRRIGATION METER
-REMOVE 1½" WATER METER
-CHANGE 1½" WATER METER TO 2"
APPROVED BY Don Sellung 10-21-97
CITY OF AUSTIN WATER AND WASTEWATER DATE
REVISION 4
— CHANGE WATER METER FOR BUILDING #5 TO A 1 1/2" METER.
— ADD 1½" IRRIGATION METER TO THE WEST OF BUILDING #2.
— ADD 2" IRRIGATION METER TO THE WEST OF THE BRODIE LANE DRIVEWAY.
APPROVED BY: Don Sellung 10-23-91
CITY OF AUSTIN WASTEWATER DEPARTMENT DATE
REVISION 5
— REVISED PHASE "F" SITE UTILITY PLAN LAYOUT
APPROVED BY: Don Sellung 4-01-92
CITY OF AUSTIN WASTEWATER DEPT. DATE
PERMIT NO.: SP-90-0113B
Revision 5 Phase F (only)
DATE OF ANNEXATION:
APPROVED BY
9210001-C
10-11-92
DATE
LEGEND
EXIST WATER LINE
EXIST WASTEWATER LINE
PROP. WATER LINE
PROP. WASTEWATER LINE
GAS LINE
UNDERGROUND TELEPHONE LINE
UNDERGROUND ELECTRIC LINE
OVERHEAD ELECTRIC LINE
OVERHEAD TELEPHONE LINE
GATE VALVE
WATER METER
REDUCER
PROP. FIRE HYDRANT
EXIST. FIRE HYDRANT
PROP. WASTEWATER MANHOLE
EXIST. WASTEWATER MANHOLE
ALL LOCATIONS APPROXIMATE
0 25 50 100
CRITICAL WATER QUALITY ZONE
BUILDING RETAIL #1 30,500 S.F. F.F.= 717
BUILDING RETAIL #2 9,431 S.F. F.F.= 712
BUILDING RETAIL 10,000 S.F. F.F.= 712
PHASE "E"
BUILDING # 4 RETAIL 9,419 S.F. F.F.= 710
BUILDING # 5 RETAIL 107,300 S.F. F.F.= 705
PHASE "B-1"
PHASE "B-2"
PHASE "B-3"
PHASE "H"
BUILDING # 6 RETAIL 7,594 S.F. F.F.= 704
BUILDING # 7 RETAIL 26,690 S.F. F.F.= 703
BUILDING #8 RETAIL 11,850 S.F. F.F.= 702
BLDG. # 10 REST. 6,086 S.F. F.F.= 710
BLDG. # 11 REST. 6,086 S.F. F.F.= 708
REST. BLDG. # 12 6006 S.F. F.F.= 701
PHASE "C"
PHASE "F"
PHASE "B-2"
PHASE "B-1"
LOT 1
SUBJECT SITE
EXISTING PRIVATE LIFT STATION
4.258 ACRES CONDEMNED BY THE STATE OF TEXAS IN CAUSE NO. 2176, PROBATE COURT NO. 1, TRAVIS COUNTY, TEXAS.
5 CONSOLIDATED SITE PLAN WHICH REFLECTS TXDOT CONDEMNATION ACTION.
AREA 1-A
AREA 1-B
U.S. HIGHWAY 290
FRONTAGE ROAD
CL DRIVEWAY T.H.D STA 821+80.61 LFR MOPAC
CL DRIVEWAY T.H.D STA 824+37.7 LFR MOPAC
CL DRIVEWAY T.H.D STA 116+13.93 SOUTHWEST PARKWAY
CL DRIVEWAY T.H.D STA 118+72.8 SOUTHWEST PARKWAY
CL DRIVEWAY T.H.D STA 526+62.76 LFR U.S.290
CL DRIVEWAY T.H.D STA 539+54.24 LFR U.S. 290
CL DRIVEWAY T.H.D STA 539+76.87
S.W.PARKWAY
PROPOSED 20" x 12" TAPPING SLEEVE AND VALVE
PROPOSED 12" x 2" TEE
PROPOSED 5 1/4" FIRE HYDRANT W/ 6" VALVE
PROPOSED 5 1/4" FIRE HYDRANT W/ 6" VALVE & 8" x 6" REDUCER
PROPOSED 1½" METER
PROPOSED 2" METER
PROPOSED WW MANHOLE "A" FL IN = 701.39' FL OUT = 701.29'
PROPOSED WW MANHOLE "B" FL IN = 696.10 FL OUT= 696.00
PROPOSED WW MANHOLE "C" FL IN = 696.53 FL OUT =696.23
PROPOSED WW MANHOLE "D" FL IN = 695.50 FL OUT = 694.90
PROPOSED WW MANHOLE "E" FL IN = 695.37 FL OUT = 695.27 FL IN 6" WW STUB = 695.37
PROPOSED WW MANHOLE "F" FL IN = 693.50 FL OUT = 693.50
PROPOSED LIFT STATION "A" (SEE DETAIL)
PROPOSED LIFT STATION "B" (SEE DETAIL)
PROPOSED 12" x 8" REDUCER
PROPOSED 12" x 8" TEE
PROPOSED 20" x 12" TAPPING SLEEVE AND VALVE
OFFSITE BY OTHERS
FOR OFF-SITE FORCE MAIN ROUTES SEE SHEETS 9.1-9.3
PROPOSED 2" IRRIGATION METER
EXISTING FIRE HYDRANT AND VALVE TO BE RELOCATED
4" DI FORCE MAIN
S-1991-0610
7.5' ELECTRIC EASEMENT VOL.9130,PG.458
DRAINAGE EASEMENT (DOC.2001...)
PROPOSED CONSERVATION AND DRAINAGE EASEMENT
TO BE VACATED
LIMITS OF CONSTRUCTION
NOTE: SEE SHEET 9.2 FOR PHASE "F" UTILITY EXTENTIONS & LARGER SCALE
WARNING APPROX. LOCATION OF EXISTING 4" FORCE MAIN TO BE RELOCATED
PROPOSED 6" x 2" TEE
PROPOSED 6" x 4" REDUCER
PROPOSED 6" x 6" TEE
PROPOSED 6" x 6" CROSS
PROPOSED 6" x 6" VALVE
PROPOSED 6" x 4" REDUCER
PROPOSED 6" x 6" VALVE
PROPOSED 6" x 6" TEE
PROPOSED 6" x 6" CROSS

**GEOTECHNICAL ENGINEERING REPORT**

**Proposed Olive Garden Building**
**5010 W. Highway 290 Service Road**
**Austin, Texas 78735**

**PSI Project No. 03031928**

**PREPARED FOR:**

**Darden Restaurants, Inc.**
**1000 Darden Center Drive**
**Orlando, Florida 32809**

**December 20, 2024**

**BY:**

**PROFESSIONAL SERVICE INDUSTRIES, INC.**
**2600 McHale Court, Suite 125**
**Austin, Texas 78758**
**Phone: (512) 491–0200**
**Fax: (512) 491–0221**

intertek psi

GEOTECHNICAL, CONSTRUCTION MATERIALS TESTING, & ENVIRONMENTAL SERVICES

Professional Service Industries, Inc.
2600 McHale Court, Suite 125
Austin, TX 78758
Office - 512.491.0200

December 20, 2024

**Darden Restaurants, Inc.**
1000 Darden Center Drive
Orlando, Florida 32809

Attn: Mr. Chris Zalapi

**RE: GEOTECHNICAL ENGINEERING REPORT**
**PROPOSED OLIVE GARDEN BUILDING**
**5010 W. HIGHWAY 290 SERVICE ROAD**
**AUSITN, TEXAS 78735**
**PSI Project No. 03031928**

Dear Mr. Zalapi:

Professional Service Industries, Inc. (PSI), an Intertek company, is pleased to submit this Geotechnical Engineering Report for the above-referenced project. This report includes the results from the field and laboratory investigation along with recommendations for use in preparation of the appropriate design and construction documents for this project.

PSI appreciates the opportunity to provide this Geotechnical Engineering Report and looks forward to continuing participation during the design and construction phases of this project. If there are questions pertaining to this report, or if PSI may be of further service, please contact us at your convenience.

PSI also has great interest in providing materials testing and inspection services during the construction of this project.

Respectfully submitted,

***PROFESSIONAL SERVICE INDUSTRIES, INC.***
*Texas Board of Professional Engineers Certificate of Registration # F003307*

Zaid Al-Omary
Project Engineer
zaid.alomary@intertek.com

Philip L. Johnson, P.E.
Senior Geotechnical Engineer
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STATE OF TEXAS
PHILIP LOUIS JOHNSON
69142
LICENSED
PROFESSIONAL ENGINEER

Getu (Getahun) Shawile, P.E., P.Eng.
Geotechnical Department Manager
getahun.shawile@intertek.com

**12/20/2024**



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## 1.0 PROJECT INFORMATION

### 1.1 PROJECT AUTHORIZATION

Professional Service Industries, Inc. (PSI), an Intertek company, has completed a field exploration and geotechnical evaluation for the proposed Olive Garden project. Mr. Chris Zalapi, representing Darden Restaurants, Inc., authorized PSI's services on November 18, 2024, by signing the Project Authorization Form (PAF) for PSI Proposal No. 0303-436320. Reference to Master Services Agreement for Environmental, Industrial Hygiene, Geotechnical, Construction Materials Testing, Nondestructive Examination, Facilities Consulting & Other Assurance, Testing, Inspection and Certification Services dated January 21, 2021, between GMRI, Inc. and PSI.

### 1.2 PROJECT DESCRIPTION

Based on information provided by the Client, and the results of this geotechnical investigation, a summary of the proposed project is provided below in the following table.

**TABLE 1.1: GENERAL PROJECT DESCRIPTION**

| | |
|---|---|
| Project Description | One (1) 6,292 square feet, single-story building, with associated parking spaces and driveways |
| Building Construction Type | Unknown. It is anticipated to be wood-frame and masonry veneer building |
| Existing Grade Change within Building Pad | ± 3 Feet (Google Earth Estimate) |
| Existing Grade Change within Project Site | ± 3 Feet (Google Earth Estimate) |
| Finished Floor Elevations | Not available at this time. It is anticipated be within 2 feet ± of current grade |
| Requested or Anticipated Foundation Types | Monolithic Stiffened Beam or Spread Footings and Slab-on-Grade |
| Maximum Design Column Loads | 100 kips |
| Maximum Design Wall Loads | 4 kips per Lineal Foot |
| Pavement for Parking and Drives | Flexible Asphalt (HMAC) and/or Rigid Concrete Pavement |

The geotechnical recommendations presented in this report are based on the available project information, structure locations, and the subsurface materials encountered during the field investigation. If the noted information or assumptions are incorrect, please inform PSI so that the recommendations presented in this report can be amended as necessary. PSI will not be responsible for the implementation of provided recommendations if not notified of changes in the project.

### 1.3 PURPOSE AND SCOPE OF SERVICES

The purpose of this study is to evaluate the subsurface conditions at the site and develop geotechnical engineering recommendations and guidelines for use in preparing the design and other related construction documents for the proposed project. The scope of services included drilling borings, performing laboratory testing, and preparing this geotechnical engineering report.



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04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

GEOTECHNICAL REPORT (1 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
35 OF 41

SP-2025-0116C.CC

This report briefly outlines the available project information, describes the site and subsurface conditions, and presents the recommendations regarding the following:

- General site development and subgrade preparation;
- Estimated potential soil movements associated with shrinking and swelling soils and methods to reduce these movements to acceptable levels;
- Recommendations for site excavation, fill compaction, and the use of on-site and imported fill material under pavements and the structure;
- Recommendations for building pad preparation for ground-supported slabs having a maximum movement potential, due to heave or settlement, of 1-inch;
- Recommendations for the design of foundations for supporting the proposed structure, which may include Wire Reinforcing Institute (WRI) and Post-Tensioning Institute (PTI) design criteria for slab-on-grade foundations designed for a 1" potential vertical movement;
- Seismic design site classification per the 2018 International Building Code; and
- Recommendations for the design of flexible asphaltic and rigid concrete pavement systems for the proposed parking and drive areas.

The scope of services for this geotechnical exploration did not include an environmental, mold nor detailed seismic/fault assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.





## 2.0 SITE AND SUBSURFACE CONDITIONS

### 2.1 SITE DESCRIPTION

The following table provides a generalized description of the existing site conditions based on visual observations during the field activities, as well as other available information.

**TABLE 2.1: SITE DESCRIPTION**

| | |
|---|---|
| Site Location | Address: 5010 W. US Hwy 290 Service Rd., Austin, TX 78735<br>GPS Coordinates: Lat.: 30.2352°; Long.: -97.821243° |
| Site History | Previously developed and consists of a building along with a paved area |
| Existing Site Ground Cover | Pavement & Foundations |
| Existing Site Features | Relatively Flat |
| Existing Grade/Elevation Changes | General Incline to the NE |
| Site Geology (Geologic Atlas of Texas) | High gravel deposits |
| Site Soils (USDA) | Crawford clay, 1 to 3 percent slopes, San Saba clay, 1 to 2 percent slopes |
| Site Boundaries | North: CraigO's Pizza and Pastaria & Buildings<br>East: Southwest Pkwy. & Paved Parking Lots<br>South: W Texas HWY 71 Service Road<br>West: Spec's Wines, Spirits & Finer Foods |
| Ground Support Capability or Access Issues | Firm enough for field equipment |

### 2.2 FIELD EXPLORATION

Field exploration for the project consisted of drilling a total of six (6) borings. The boring design element, boring labels, and approximate depths are provided in the following table.

**TABLE 2.2: FIELD EXPLORATION SUMMARY**

| Design Element | Boring Label | Boring Location | Approx. Depth of Boring (Feet) |
|---|---|---|---|
| Building | B-1 | Lat: 30.2352°, Long: -97.8211° | 20 |
| | B-2 | Lat: 30.2353°, Long: -97.8209° | 20 |
| | B-3 | Lat: 30.2351°, Long: -97.8208° | 20 |
| | B-4 | Lat: 30.2350°, Long: -97.8212° | 20 |
| | B-5 | Lat: 30.2349°, Long: -97.8209° | 20 |
| Pavement | P-1 | Lat: 30.2351°, Long: -97.8211° | 6 |

The boring locations were selected by PSI personnel and located in the field using a recreational-grade GPS system. Elevations of the ground surface at the boring locations were not provided and should be surveyed by others prior to construction. The references to elevations of various subsurface strata are based on depths





below existing grade at the time of drilling. The approximate boring locations are depicted on the Boring Location Plan provided in the Appendix.

**TABLE 2.3: FIELD EXPLORATION DESCRIPTION**

| | |
|---|---|
| Drilling Equipment | Truck-Mounted Drilling Equipment |
| Drilling Method | Continuous Flight Augers, Air Rotary |
| Drilling Procedure | Applicable ASTM and PSI Safety Manual |
| Field Testing | Hand Penetrometer, Standard Penetration Test (ASTM D1586) |
| Sampling Procedure | ASTM D1587/1586 |
| Sampling Frequency | Continuously to a Depth of 10 Feet and at 5-foot Intervals Thereafter |
| Frequency of Groundwater Level Measurements | During and After Drilling |
| Boring Backfill Procedures | Soil Cuttings, Bentonite Pellets, Grouting |

During field activities, the encountered subsurface conditions were observed, logged, and visually classified (in general accordance with ASTM D2487). Field notes were maintained to summarize soil types and descriptions, water levels, changes in subsurface conditions, and drilling conditions.

### 2.3 LABORATORY TESTING PROGRAM

PSI supplemented the field exploration with a laboratory testing program to determine additional engineering characteristics of the subsurface soils encountered. The laboratory testing program included:

- Visual Classification (ASTM D2488),
- Moisture Content Tests (ASTM D2216),
- Atterberg Limits (ASTM D4318), and
- Material Finer than No. 200 (ASTM D1140).

The laboratory testing program was conducted in general accordance with applicable ASTM Test Methods. The results of the laboratory tests are provided on the Boring Logs in the Appendix. Portions of samples not altered or consumed by laboratory testing will be discarded 60 days from the date shown on this report.

### 2.4 SITE GEOLOGY

As shown on the Geologic Map of the Austin Area, Texas, reprinted in 1981, the site is located in an area where the **High Gravel Deposits (Qhg)** formation is present at or near the ground surface, and underlain by the **Fredericksburg Group (Kfr)**. The High Gravel Deposits (Qhg) formation is generally composed of an upper silty clay unit good for crop production and a lower coarse unit that yields some water. The Fredericksburg Group (Kfr) consists of Edwards Limestone, Comanche Peak Limestone, Keys Valley Marl, Cedar Park Limestone, and Bee Cave.





### 2.5 SUBSURFACE CONDITIONS

The results of the field and laboratory investigation have been used to generalize a subsurface profile at the project site. The following subsurface descriptions provide a highlighted generalization of the major subsurface stratification features and material characteristics.

**TABLE 2.4: GENERALIZED SOIL PROFILE**

| Layer | Depth of Layer (ft) Top | Bottom | Soil Type | ω (%) | LL (%) | PI | % Pass. #200 |
|---|---|---|---|---|---|---|---|
| — | 0 | 0.5 to 1 | Concrete with Base | — | — | — | — |
| I | 0.5 to 1 | 6 to 13.5 | Fat Clay with Varying Sand Content | 10 to 26 | 60 to 68 | 40 to 49 | 68 to 95 |
| IA | 0 to 2 | 6 to 13.5 | Lean Clay with Sand | 12 to 18 | 34 to 43 | 21 to 29 | 82 to 85 |
| IB | 2 | 6 to 8.5 | Clayey Gravel with Sand | 8 to 16 | 45 to 74 | 31 to 55 | 38 to 40 |
| II | 13.5 | 20 | Marl or Fat Clay | 10 to 20 | 63 | 74 | 55 |

*Note:*
1. *w = Moisture Content (%)*
2. *LL= Liquid limit (%)*
3. *PI = Plasticity Index*
4. *-#200 Sieve = % Passing the #200 Sieve*

The material properties for the marl were obtained by laboratory testing, however, these tests were typically performed on grab samples from cuttings where the rock and rock-like materials had been broken down to its finer constituent materials. Therefore, the reported properties reflect the nature of broken-down rock or rock-like material, which was considered in the analysis and recommendations provided in this report.

The boring logs included in the Appendix should be reviewed for specific information at individual boring locations. The boring logs include soil descriptions, stratifications, locations of the samples, and field and laboratory test data. The descriptions provided in the logs only represent the conditions at that actual boring location; the stratifications represent the approximate boundaries between subsurface materials. The actual transitions between strata may be more gradual and less distinct. Variations will occur and should be expected across the site.

#### *2.5.1 GROUNDWATER INFORMATION*

Water level measurements were performed during drilling and after completion of drilling. Specific information concerning groundwater is noted on each boring log presented in the Appendix of this report. Groundwater **was not** encountered during the field investigation of this site.

Groundwater levels fluctuate seasonally as a function of rainfall, proximity to creeks, rivers and lakes, the infiltration rate of the soil, seasonal and climatic variations and land usage. In relatively pervious soils, such as sandy soils, the indicated depths are a relatively reliable indicator of groundwater levels. In relatively impervious soils, water levels observed in the borings may not provide a reliable indication of groundwater elevations, even after several days. If a detailed water level evaluation is required, observation wells or piezometers can be installed at the site to monitor water levels.





The groundwater levels presented in this report were measured at the time of PSI field activities. The contractor should determine the actual groundwater levels at the site before construction activities.





## 3.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

### 3.1 GEOTECHNICAL DISCUSSION

Based upon the information gathered from the soil borings and laboratory testing, the clay soils encountered at this site within the seasonally active zone have a **high** potential for expansion. PSI recommends the expansive potential (i.e. "Potential Vertical Movement" or PVM) of these soils be addressed in the design and construction of this project to reduce the potential for foundation movements and foundation distress.

Based on the subsurface conditions. It is anticipated that the additional building will be 1-story wood frame structures. For this type of structure, a shallow foundation system with soil-supported stiffened-beam and slab-on-grade or similar post-tensioned type foundation (Waffle Slab) may be considered support for the proposed building.

An improved foundation pad must be constructed under soil-supported floor slab and foundation elements due to the presence of expansive foundation soils. Several methods are available to reduce the PVM of the foundation soil beneath a grade-supported foundation or floor slab. PSI recommends excavating and moisture conditioning onsite or imported general fill for use as density and moisture controlled engineered fill (Reconditioning Method).

The following design recommendations have been developed based on the previously described project characteristics and subsurface conditions encountered. If there are changes in the project criteria, PSI should be retained to determine if modifications in the recommendations will be required. The findings of such a review would be presented in a supplemental report. Once final design plans and specifications are available, a general review by PSI is recommended to observe that the conditions assumed in the project description are correct and verify that the earthwork and foundation recommendations are properly interpreted and implemented within the construction documents.

### 3.2 POTENTIAL VERTICAL MOVEMENT OF EXPANSIVE SOILS

The soils encountered at the soil boring locations exhibit a **high** potential for volumetric changes, due to fluctuations in soil moisture content. PSI has conducted laboratory testing on the soils to estimate the expansive soil potential with soil moisture variations. These soil moisture variations are based on historical climate change data for a particular site detailed in the Thornthwaite Moisture Index Maps. Determining the soil potential for shrinking and swelling, combined with historical climate variation, aids the engineer in quantifying the soil movement potential of the soils supporting the floor slab and shallow foundations. Various shrink/swell movement procedures, and two soil modeling systems, the Post Tensioning Institute's (PTI) "Design of Post-Tensioned Slabs-on-Ground, 3rd Edition" and Texas Department of Transportation (TxDOT) method TEX-124-E, were used to approximate the Potential Vertical Movement (PVM) for this location.

#### *3.2.1 SHRINK/SWELL MOVEMENT (PVM) ESTIMATE*

Based on laboratory testing results, and the TEX-124-E and the PTI methods, the potential vertical movement within the proposed project area was estimated to be approximately **4½ inches.**

It is not possible to accurately quantify actual soil moisture changes and resulting shrink/swell movements. The PVM and referenced structural movements values provided should not be considered absolute values



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KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

GEOTECHNICAL REPORT (2 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
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TRAVIS COUNTY, TEXAS

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that could occur in the field but approximate values based on industry standard practice and experience. Extreme soil moisture variations could occur due to unusual drought severity, leaking water or sewer lines, poor drainage (possibly due to landscape changes after construction), irrigation line breaks, perched groundwater infiltration, springs, soil desiccation from large trees located adjacent to the building or previously underneath the building, downspouts directing roof discharge under the foundation, etc. Therefore, because of these unknown factors, the shrink/swell potential of soils in Texas can often be significantly underestimated using the previously mentioned methods of evaluating PVM.

The unknown factors previously mentioned cannot be determined at the time of the geotechnical study. Therefore, estimated shrink/swell movements are calculated only in consideration of historical climate data related to soil moisture variations for a particular area. Movements in excess of these assumed variations should be anticipated and regular maintenance should be provided to address these issues throughout the life of the structure.

#### *3.2.2 Design PVM Considerations*

Grade-supported floor slabs and foundations should be expected to undergo some vertical movements, including differential, due to the action of expansive soils and possible soil settlement. In this general area, most owners, architects, structural and geotechnical engineers consider a value of one inch or less to be within acceptable movement tolerances for grade-supported floor slabs or foundations. This generally accepted tolerance for movement has been used by PSI in developing the recommendations for preparing the foundation pad for this project.

The amount of structural movement associated with a PVM magnitude of 1-inch may not be considered acceptable per "operational" or "aesthetic" performance criteria, which often occur at less movement than the magnitude of the PVM which is based on "structural" considerations. Cracking in the foundation and walls and sticking doors, which requires periodic maintenance, will likely occur for foundations designed using an allowable 1-inch PVM. This should be understood by the Owner and Design Team.

PSI recommends that the Owner discuss allowable movement tolerances with the structural engineer, architect, and all other members of the Design Team prior to commencement of the final design to make certain that appropriate movement tolerances are developed and used for this project. If design PVM values other than 1-inch is desired, PSI should be contacted to review and revise the recommendations presented in this report as necessary to meet the project requirements.

If the risk of grade-supported foundation and floor slab movements is not acceptable, or if the required foundation pad preparation costs for a soil-supported foundation are determined to be excessive, it is our opinion that a drilled pier foundation with a structurally suspended floor slab should be used. We would be pleased to provide geotechnical recommendations for this foundation type if desired.

### 3.3 Foundation Discussion

Based on information provided to PSI, information obtained during the field operations, results of the laboratory testing, and PSI's experience with similar projects, recommendations for a stiffened beam and slab-on-grade (Waffle Slab) type foundation are presented in this report. If an alternative foundation type is desired, PSI can provide alternative recommendations in a supplemental letter upon request.





#### *3.3.2 Compaction and Testing Recommendations for Foundation Pad Areas*

The following table outlines foundation pad compaction recommendations in consideration of appropriate vertical movement reduction method.

**Table 3.2: Compaction Recommendations Reconditioning Method**

| Location | Material | Density Test Method | Plasticity Index | Percent Compaction | Optimum Moisture Content | Testing Frequency |
|---|---|---|---|---|---|---|
| Foundation Pad Areas | Subgrade, Reconditioned Fill, Structural Common Fill | ASTM D 698 | PI ≥ 25 | 94% to 98% | ≥ +2% | 1 per 5,000 SF; min. 3 per lift |
| | | | PI < 25 | ≥ 95% | 0 to +4% | |
| | Select Fill (Item 247 or Pit Run) | ASTM D 698 | PI ≤ 20 | ≥ 95% | -1 to +3% | |

### 3.4 Design Measures to Reduce Changes in Soil Moisture

The following recommended measures can reduce possible moisture fluctuations of the soils under the floor slab. Movements of the foundation soil can be effectively reduced by providing horizontal and/or vertical moisture barriers around the edge of the slab. Typically, the moisture barriers would consist of concrete flatwork or asphalt or concrete pavement placed adjacent to the edge of the building, a clay cap over poly, and/or a deepened perimeter grade beam or vertical trench filled with flowable fill.

Although subgrade modification is recommended to reduce potential soil-related foundation movements, the design and construction of a grade-supported foundation should also include the following elements:

- Roof drainage should be controlled by gutters and carried well away from the structure.
- The ground surface adjacent to the building perimeter should be sloped and maintained a minimum of 5% grade away from the building for 10 feet to result in positive surface flow or drainage away from the building perimeter. In areas adjacent to the building controlled by ADA, concrete flatwork slopes should not be more than 2% within 10 feet of the building.
- Hose bibs, sprinkler heads, and other external water connections should be placed well away from the foundation perimeter such that surface leakage cannot readily infiltrate into the subsurface or compacted fills placed under the proposed foundations and slabs.
- No trees or other vegetation over 6 feet in height shall be planted within 15 feet of the structure unless specifically accounted for in the foundation design.
- Utility bedding should not include gravel near the perimeter of the foundation. Compacted clay or flowable fill trench backfill should be used in lieu of permeable bedding materials between 2 feet inside the building to 4 feet beyond the exterior of the building edge to reduce the potential for water to infiltrate within utility bedding and backfill material.





A potential for vertical movement greater than 1-inch is above the value considered acceptable by most structural and geotechnical engineers in this area. Therefore, foundation pad improvement is recommended to reduce the PVM to an acceptable value for the grade-supported floor slabs and shallow foundations proposed for this project.

#### *3.3.1 Slab-on-Grade Earthwork Recommendations*

Foundation pad improvement should consist of removing the upper soils to the recommended minimum over-excavation depth, compacting the exposed subgrade, placement and compaction of moisture conditioned common fill in areas between the top of the compacted subgrade up to the bottom of the select fill, and finally compaction of the select fill to finish floor grade. This procedure is outlined in the following sections.

##### 3.3.1.1 *Reconditioning Method*

The following illustration and table provide general requirements for the installation of a foundation pad that should provide a PVM magnitude of 1 inch or less using the *Reconditioning Method*.

**Table 3.1: Reconditioning Method Recommendations**

| | |
|---|---|
| Application | Stiffened Beam and Soil-Supported Floor Slab (Waffle Slab) |
| Site Stripping Removal | Upper 6 inches of organics and deleterious material including debris to expose clean subgrade |
| Foundation Improvement Method | Remove and replace existing soils with moisture conditioned soil and select fill |
| Improved Site Condition PVM | Approximately 1 inch |
| Minimum Over-Excavation | **5 feet**<br><br>If the new building will be adjacent to an existing building, then the undercut against the existing building should be excavated at no steeper than a ½H:1V slope so as to not undermine the existing foundation. |
| Horizontal Undercut Extent | Below all slab areas and at least 5 feet beyond the slab perimeter and extending the full width of flatwork that may be sensitive to movement |
| Subgrade Proof-Rolling | Proof-roll subgrade with rubber tired 20-ton (loaded) construction equipment<br>Alternate Equipment can be used with Geotechnical Engineer Approval<br>Remove rutting or excessively deflecting soils<br>Replace failing soils with compacted select fill material |
| Exposed Subgrade Treatment (Zone 3) | Proof-roll then scarify, moisture condition, and compact 9 inches subgrade below base of undercut |
| Select Fill Thickness Minimum Thickness (Zone 1) | **2 feet + as required to achieve bottom of slab elevation** |





| | |
|---|---|
| Select Fill Material<br>(Other low plasticity materials may be used pending review and approval from PSI) | Pit Run<br>Free of organics, trash, or other deleterious material<br>Liquid Limit <40%<br>Plasticity Index 7 to 20<br>Max Particle Size < 3"<br>Percent Material Passing 200 Sieve > 35% |
| Select Fill Material Alternative | TxDOT Item 247 (Crushed Limestone Material)<br>Type A or B<br>Grade 1-2 or 3 |
| Reconditioned Fill Minimum Thickness (Zone 2) | **3 feet** |
| Reconditioned Fill (Zone 2) | On site or imported materials having:<br>Allowable PI from 12 to 50<br>Percent Passing No. 200 Sieve > 35%<br>Max Particle Size < 3" |
| Structural Common Fill (Zone 4) | Clean on-site materials having:<br>Allowable PI from 12 to 50<br>Percent Passing No. 200 Sieve > 35%<br>Max Particle Size < 3" |
| Vapor Retarder Material | Approved by Architect and Structural Engineer |
| Maximum Loose Lift Thickness | 8 inches |
| Time Between Reconditioned Fill and Select Fill Placement | Less than 4 days |

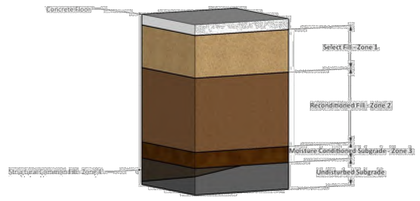


**Figure 3.1: Reconditioning Method Pad Improvement**





- Paved areas around the structure are helpful in maintaining soil moisture equilibrium. It will be very beneficial to have pavement, sidewalks or other flatwork located immediately adjacent to the building to both reduce intrusion of surface water into the more permeable select fill and to reduce soil moisture changes along the exterior portion of the floor due to soil moisture changes from drought, excessive rainfall or irrigation, etc. The use of a clay cap over poly sheeting (horizontal barrier) or impervious geosynthetic liner or concrete (vertical barrier) is recommended in those areas not covered with asphalt or concrete pavement or flatwork.
- Flower beds and planter boxes should be piped or watertight to prevent water infiltration under the building.
- Experience indicates that landscape irrigation is a common source of foundation movement problems and pavement distress. Repairing irrigation lines as soon as possible after leakage commences will benefit foundation performance greatly.
- Foundation pad and pavement subgrade should be protected and covered within 48 hours to reduce changes in the natural moisture regime from rainfall events or excessive drying from heat and wind.

### 3.5 Foundation Design Recommendations

#### *3.5.1 Monolithic Stiffened Slab-on-Grade Foundation Recommendations*

The proposed building can be supported on a monolithic, steel reinforced stiffened slab-on-grade foundation system (i.e., a waffle type grade beam configuration) designed using Post-Tensioning Institute (PTI) or Wire Reinforcement Institute (WRI) guidelines. The foundation system can be designed provided that some amount of differential movement can be tolerated and provided the recommended subgrade preparation activities are performed.

The intent of a monolithic, steel reinforced stiffened slab-on-grade foundation system is to allow the structure and foundation to move with soil movements while providing sufficient stiffness to limit differential movements within the superstructure to an acceptable magnitude.

The foundation may be designed using the Design of Slab-On-Ground Foundations published by the Wire Reinforcement Institute, Inc. (August 1981, updated March 1996). Alternately, the foundation may be designed using the 3rd Edition of the Design of Post-Tensioned Slabs-on-Ground published by the Post-Tensioning Institute (PTI DC10.1-08). The following table is applicable for a conventionally reinforced "Waffle Slab" with subgrade prepared in accordance with Section 3.3, which details foundation pad preparation and construction recommendations.

**Table 3.3: WRI Design Parameters**

| | |
|---|---|
| Effective Plasticity Index | 28 |
| Soil/Climatic Rating Factor (1–C) | 0.14 |
| Allowable Bearing Pressure for Grade Beams | 2,500 psf |
| Bearing Stratum at Bottom of Grade Beams | Compacted Reconditioned Soil or Select Fill |
| Penetration of Perimeter Beams Below Final Exterior Grade | At least 24 inches |





PSI is providing PTI design values for the Structural Engineer's consideration and possible use. These design values are estimated from the "Volflo" computer program in consideration of the soil conditions in the building area, an improved foundation pad for a 1 inch PVM and local experience. The following table is applicable for a post-tensioned slab-on-grade with subgrade prepared in accordance with Section 3.3, which details foundation pad preparation and construction recommendations.

**Table 3.4: PTI Design Parameters**

| | |
|---|---|
| **Edge Moisture Variation Distance** | |
| Center Lift, $e_m$ | 8.3 feet |
| Edge Lift, $e_m$ | 4.2 feet |
| **Differential Soil Movement** | |
| Center Lift, $y_m$ | -0.92 inches |
| Edge Lift, $y_m$ | 1.17 inches |
| Allowable Bearing Pressure for Grade Beams | 2,500 psf |
| Bearing Stratum at Bottom of Grade Beams | Compacted Reconditioned Soil or Select Fill |
| Penetration of Perimeter Beams Below Final Exterior Grade | At least 24 inches |

Utilities that project through slab and grade beam foundations should be designed either with some degree of flexibility or with sleeves in order to prevent damage to these lines as a result of vertical movement. Contraction, control or expansion joints should be designed and placed in various portions of the structure to minimize and control wall cracking as a result of foundation movements. Properly planned placement of these joints will assist in controlling the degree and location of material cracking which normally occurs due to material shrinkage, thermal affects, soil movements and other related structural conditions.

### 3.6 Sidewalks and Flatwork

For sidewalks or other flatwork located adjacent to grade-supported foundations, the undercutting and select fill placement operations for the building should extend beyond the perimeter of the building and pavements to at least the width of the adjacent sidewalk or flatwork.

Any other sidewalks or flatwork not adjacent to buildings should be placed on an improved subgrade meeting or exceeding the pavement subgrade improvement methods previously recommended. If the sidewalk subgrade consists of material with a plasticity index of 25 or greater, a 12-inch-thick layer of material satisfying the requirements of select fill provided in Section 3.3.1 must be placed below the sidewalk. The material should be compacted to 95% or greater than the maximum dry unit weight and contain a moisture content between -1 and +3% optimum moisture content.

Proper drainage around grade-supported sidewalks and flatwork is also very important to reduce potential movements. Elevating the sidewalks where possible and providing rapid, positive drainage away from them will reduce moisture variations within the underlying soils and will therefore provide valuable benefit in reducing the full magnitude of potential movements from being realized.

### 3.7 Site Seismic Design Recommendations

For the purposes of seismic design, based on the encountered site conditions and local geology, PSI interpreted the subsurface conditions to satisfy the **Site Class D** criteria for use at this site as defined by the



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KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# GEOTECHNICAL REPORT (3 OF 5)

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
37 OF 41

SP-2025-0116C.CC

International Building Code (IBC). The site class is based on the subsurface conditions encountered at the soil borings, the results of field and laboratory testing, experience with similar projects in this area, and considering the site prepared as recommended herein. The table below provides recommended seismic parameters for the project based on the 2018 edition of the IBC.

**TABLE 3.5: RECOMMENDED DESIGN SEISMIC PARAMETERS**

| Project/Structure Centroid Coordinates (WGS84 - Decimal Degree) | 30.2351°, -97.8210° |
|---|---|
| **Seismic Parameter** | **IBC 2018/ASCE 7-16** |
| Site Class | D |
| Risk Category | II |
| 0.2 sec ($S_s$) | 0.052g |
| 1.0 sec ($S_1$) | 0.03g |
| Site Coefficient 0.2sec, $F_a$ | 1.6 |
| Site Coefficient 1.0 sec, $F_v$ | 2.4 |
| 0.2 sec ($S_{DS}$) | 0.055g |
| 1.0 sec ($S_{D1}$) | 0.048g |





## 4.0 PAVEMENT DESIGN RECOMMENDATIONS

### 4.1 PAVEMENT DESIGN PARAMETERS

PSI understands that flexible and rigid pavements will be considered for this project. Therefore, pavement design recommendations for several levels of traffic loading were developed based on assumptions of potential traffic, drive paths or patterns and anticipated soil support characteristics of pavement subgrades. PSI utilized the "AASHTO Guide for Design of Pavement Structures" published by the American Association of State Highway and Transportation Officials to evaluate the pavement thickness recommendations in this report. This method of design considers pavement performance, traffic, roadbed soil, pavement materials, environment, drainage and reliability. Each of these items is incorporated into the design methodology. *PSI is available to provide laboratory testing and engineering evaluation to refine the site specific design parameters and sections, upon request.*

Specific design traffic types and volumes for this project were not available to PSI at the issuance of this report. This traffic information is typically used to determine the number of 18-kip Equivalent Single Axle Loads (ESAL) that is applied to the pavement over its design life. Furthermore, the scope of services for this project did not include California Bearing Ratio (CBR) testing. In lieu of project specific design parameters, general traffic and subgrade parameter assumptions were used for this design. Based on this information, PSI has provided recommended pavement sections for "light duty", and "heavy duty" pavements constructed on stable and properly prepared/compacted subgrades. Flexible pavement options with and without geogrid options are also provided for consideration. Details regarding the basis for this design are presented in the table below.

**TABLE 4.1: PAVEMENT DESIGN PARAMETERS AND ASSUMPTIONS (RIGID AND FLEXIBLE)**

| | |
|---|---|
| **Reliability, percent** | 75 |
| **Initial Serviceability Index, Flexible Pavement** | 4.2 |
| **Initial Serviceability Index, Rigid Pavement** | 4.5 |
| **Terminal Serviceability Index** | 2.0 |
| **Traffic Load for Light Duty Pavement** | 15,000 equivalent single axle loads (ESALs) |
| **Traffic Load for Heavy Duty Pavement** | 150,000 equivalent single axle loads (ESALs) |
| **Standard Deviation, Flexible Pavement** | 0.45 |
| **Standard Deviation, Rigid Pavement** | 0.35 |
| **Concrete Compressive Strength** | 3,500 psi |
| **Subgrade California Bearing Ratio (CBR)** | 2.0 for high plasticity clay subgrade |
| **Subgrade Modulus of Subgrade Reaction, k in pci** | 75 for high plasticity clay subgrade |

Asphaltic concrete pavements founded on top of expansive soils will be subjected to PVM soil movements estimated and presented in this report. These potential soil movements are typically activated to some degree during the life of the pavement. Consequently, pavements can be expected to crack and require periodic maintenance to reduce damage to the pavement structure.

Light duty areas include parking and drive lanes that are subjected to passenger vehicle traffic only and exclude entrance aprons and general and single access roadway drives to the parking lot area. Heavy duty





areas include areas subjected to 18-wheel tractor trailers, including loading and unloading areas, and areas where truck turning and maneuvering may occur.

Eight-inch thick concrete pavement is recommended for dumpster pad areas and that area leading up to the dumpster pad.

During the paving life, maintenance to seal surface cracks within concrete or asphalt paving and to reseal joints within concrete pavement should be undertaken to achieve the desired paving life. Perimeter drainage should be controlled to prevent or retard influx of surface water from areas surrounding the paving. Water penetration leads to paving degradation. Water penetration into base or subgrade materials, sometimes due to irrigation or surface water infiltration leads to pre-mature paving degradation. Curbs should be used in conjunction with asphalt paving to reduce potential for infiltration of moisture into the base course. Curbs should extend the full depth of the base course and should extend at least 3 inches into the underlying clayey subgrade. The base layer should be tied into the area inlets to drain water that may collect in the base.

Material specifications, construction considerations, and section requirements are presented in following sections.

The presented recommended pavement sections are based on the field and laboratory test results for the project, local pavement design practice, design assumptions presented herein and previous experience with similar projects. The project Civil Engineer should verify that the ESAL and other design values are appropriate for the expected traffic and design life of the project. PSI should be notified in writing if the assumptions or design parameters are incorrect or require modification.

### 4.2 PAVEMENT SECTION RECOMMENDATIONS

PSI anticipated that the roadways and parking areas will be used primarily by passenger vehicles and delivery vehicles. PSI is providing parking and drive area sections based on experience with similar facilities constructed on similar soil conditions for the design traffic loading anticipated.

#### *4.2.1 FLEXIBLE PAVEMENT*

The proposed roadways and parking areas for this project may be constructed with flexible asphaltic concrete pavement. Recommendations for flexible asphaltic concrete pavement for roadways and parking areas are provided below.

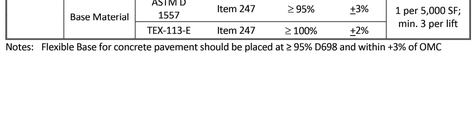


**FIGURE 4.1: OPTION 1 FLEXIBLE PAVEMENT TYPICAL SECTION**








**FIGURE 4.2: OPTION 2 FLEXIBLE PAVEMENT TYPICAL SECTION**

**TABLE 4.2: FLEXIBLE PAVEMENT SECTION OPTIONS**

| Material | Option 1 | | Option 2 | |
|---|---|---|---|---|
| Traffic Type | Light | Heavy | Light | Heavy |
| Hot Mix Asphaltic Concrete | 2" | 3" | 2" | 3" |
| Import Flexible Base | 7" | 10" | 7" | 10" |
| Lime Stabilized Subgrade | 8" | | No | |
| Geogrid | No | | Yes | |
| Compacted Subgrade | — | | 8" | |

#### *4.2.2 RIGID PAVEMENT*

The proposed roadways and parking areas for this project may also be constructed with rigid concrete pavement. Recommendations for rigid concrete pavement for roadways and parking areas are provided below.




**FIGURE 4.3: OPTION 1 RIGID PAVEMENT TYPICAL SECTION**








**FIGURE 4.4: OPTION 2 RIGID PAVEMENT TYPICAL SECTION**

**TABLE 4.3: RIGID PAVEMENT SECTION OPTIONS**

| Material | Option 1 | | Option 2 | |
|---|---|---|---|---|
| Traffic Type | Light | Heavy | Light | Heavy |
| Portland Cement Concrete | 5" | 7" | 5" | 7" |
| Low PI Material | – | – | 8" | 8" |
| Lime Stabilized Subgrade | 8" | | – | |
| Compacted Subgrade | – | | 8" | |

#### *4.2.3 GENERAL PAVEMENT DESIGN AND CONSTRUCTION RECOMMENDATIONS*

**TABLE 4.4: PAVEMENT DESIGN AND CONSTRUCTION RECOMMENDATIONS**

| | |
|---|---|
| Minimum Undercut Depth | 6 inches or as needed to remove roots |
| Reuse Excavated Soils | Must be free of roots and debris and meet material requirements of intended use |
| Undercut Extent | 2 feet beyond the paving limits |
| Exposed Subgrade Treatment | Proof-roll subgrade with rubber tired 20-ton (loaded) construction equipment<br>Alternate Equipment can be used with Geotechnical Engineer Approval |
| Proof-Rolled Pumping and Rutting Areas | Excavate to firmer materials and replace with compacted general or select fill under direction of a representative of the Geotechnical Engineer |
| General Fill | Materials free of roots, debris, and other deleterious materials with a maximum rock size of 4 inches with a CBR greater than 3 |
| Minimum General Fill Thickness | As required to achieve grade |
| Maximum General Fill Loose Lift Thickness | 9 Inches |
| Lime Stabilization | Performed in general accordance with TxDOT Item 260. Upper 8 inches of subgrade stabilized with lime to achieve pH of 12.4 or greater. Sulfate testing should be conducted before placement of lime. |





| | |
|---|---|
| Low PI Material<br>(Other low plasticity materials may be used pending review and approval from PSI) | On-Site or Imported<br>Free of organics, trash, or other deleterious material<br>Plasticity Index 12 to 25<br>Max Particle Size < 3"<br>% passing #200 sieve > 35% |
| Geogrid | Geogrid must meet TxDOT Item DMS - 6240.<br>Subgrade should be leveled and smoothed prior to geogrid placement on compacted subgrade. |
| Imported Flexible Base | TxDOT Item 247, Type A, Grade 1 or 2 |
| Maximum Flexible Base Loose Lift Thickness | 9 Inches |
| Hot Mix Asphaltic Concrete | TxDOT Item 340, Type D |
| Concrete Minimum Recommended Strength | 3,500 psi (avg. 28-day comp. strength) |
| Concrete Contraction Joint Min. Reinforcement<br>(Intended to assist in countering cracking and swelling soil pressures) | No. 3 bars at 18-inch on center each way<br>Located in top half of concrete section<br>Minimum 2 inches cover |
| Concrete Construction Joint Min. Reinforcement | 12" On Center Spaced, 14" Long, ¾" Diameter Dowels |
| Contraction Joint Spacing<br>(In General Accordance with ACI 330) | Maximum joint spacing should be less than 30 times the thickness of the concrete pavement or 15 feet, whichever is smaller. |

**TABLE 4.5: COMPACTION AND TESTING RECOMMENDATIONS FOR PAVEMENT AREAS**

| Location | Material | Density Test Method | Soil Type | Percent Compaction | Optimum Moisture Content | Testing Frequency |
|---|---|---|---|---|---|---|
| Pavement Areas | Subgrade<br>General Fill Soil<br>Low PI Material | ASTM D 698 | PI ≥ 25 | 94% to 98% | 0 to +4% | 1 per 10,000 SF; min. 3 tests |
| | | | PI < 25 | ≥ 95% | 0 to +4% | |
| | Base Material | ASTM D 1557 | Item 247 | ≥ 95% | ±3% | 1 per 5,000 SF; min. 3 per lift |
| | | TEX-113-E | Item 247 | ≥ 100% | ±2% | |

Notes: Flexible Base for concrete pavement should be placed at ≥ 95% D698 and within +3% of OMC



Plotted By: Sheaffer, Ryan Date: April 30, 2025 08:54:01am File Path: K:\FAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Geotechnical Report.dwg
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KHA PROJECT 063887221
DATE APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

GEOTECHNICAL REPORT (4 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
38 OF 41

SP-2025-0116C.CC

## 5.0 CONSTRUCTION CONSIDERATIONS

**Geotechnical Engineer Involvement at the Time of Construction** – Foundation pad preparation requirements on expansive clay sites depend on the soil moisture condition due to the prevailing climate at the time of construction in addition to the expansive properties of the clay. It is recommended that the foundation pad recommendations presented in this report be confirmed immediately prior to construction by a Geotechnical Engineer. Wetter climate conditions near the time of construction can lead to a significant reduction in pad preparation requirements which are often a substantial percentage of site development cost.

Having a Geotechnical Engineer retained to review the earthwork recommendations in the Contract Documents and be an active participant in team meetings near the time of construction can often result in project cost savings. Therefore, PSI recommends that an AASHTO accredited 3rd party laboratory with qualified professional engineers who specialize in geotechnical engineering be retained to provide observation and testing of construction activities involved in the foundations, earthwork, pavements and related activities of this project. As the Geotechnical Engineer of Record, PSI's services can be retained as the 3rd party laboratory. PSI's participation would be advantageous to project flow and value engineering during construction.

**The geotechnical engineer can assess soil conditions at the time of construction more accurately by knowing the location of the building, surrounding flatwork, pavements, planned landscaping, and drainage features often resulting in less risk and project cost savings.**

PSI cannot accept responsibility for conditions which deviate from those described in this report, nor for the performance of the foundations or pavements if not engaged to also provide construction observation and materials testing for this project. The PSI geotechnical engineer of record must also be engaged by the Design Team, even if periodic on-call testing is contracted with PSI Construction Services.

### 5.1 Initial Site Preparation Considerations

#### *5.1.1 Subgrade Preparation for Site Work Outside Building Pad and Pavement Areas*

Grade adjustments outside of the foundation pad and pavement areas can be made using select or general fill materials. The clean excavated onsite soils may also be reused in areas not sensitive to movement.

**Table 5.1: Subgrade Preparation for Non-Structural - General Fill**

| | |
|---|---|
| Minimum Undercut Depth | 4 inches or as needed to remove roots, organic and/or deleterious materials |
| Exposed Subgrade Treatment | Proof-roll subgrade with rubber tired 20-ton (loaded) construction equipment<br>Alternate Equipment can be used with Geotechnical Engineer Approval |
| Proof-Rolled Pumping and Rutting Areas | Excavate to firmer materials and replace with compacted general or select fill under direction of a representative of the Geotechnical Engineer |
| General Fill Type | Any clean material free of roots, debris and other deleterious material with a maximum particle size of 4 inches |





| | |
|---|---|
| Maximum General Fill Loose Lift Thickness | 8 inches |

**Table 5.2: Fill Compaction Recommendations Outside of Building and Pavement Areas**

| Location | Material | Test Method for Density Determination | Plasticity Index | Percent Compaction | Optimum Moisture Content | Testing Frequency |
|---|---|---|---|---|---|---|
| **Outside of Structure / Pavement Areas** | General Fill | ASTM D 698 | PI ≥ 25 | 94% to 98% | 0 to +4% | 1 per 10,000 SF; min. 3 per lift |
| | | | PI < 25 | ≥ 95% | 0 to +4% | |

#### *5.1.2 Existing Site Conditions*

The following table outlines construction considerations in consideration of demolition of existing structures, demolition of existing paving, procedures for abandoning old utility lines and removing trees.

**Table 5.3: Considerations for Demolition**

| | |
|---|---|
| **Existing Structures** | |
| Foundations of former structure(s) located below new structure | Impact of foundation of former structures should be evaluated on a case by case basis |
| Foundations for former structure(s) located below new paving | Cut off at least 3 feet below finished paving grade |
| **Existing Pavement** | |
| Former paving located within footing of proposed structure(s) | Remove concrete and/or HMAC surface course and base entirely or review impact on case by case basis |
| Former paving located within footprint of proposed new paving | Remove concrete and/or HMAC surface course and evaluate if base can be reused |
| **Abandoned Utilities** | |
| Utilities of former structure(s) located within new foundation pad/footprint of proposed structure | Remove pipe, bedding and backfill and then replace with select fill placed using controlled compaction |
| Utilities of former structure(s) located outside of foundation pad footprint | Abandon in place using a grout plug |
| **Tree Removal** | |
| Trees located within proposed building footprint; roadways, parking, and sidewalk areas; and 5 feet of building area | Remove root system for full vertical and lateral extent and extend removal for at least 3 feet beyond presence of root fragments and replace void with compacted general fill or flowable fill |

### 5.2 Moisture Sensitive Soils/Weather Related Concerns

Soils are sensitive to disturbances caused by construction traffic and changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support capabilities. In addition, soils which become wet may be slow to dry and thus





significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork, foundation, and construction activities during dry weather. A relatively all-weather compacted crushed limestone cap having a thickness of at least 6 inches should be provided as a working surface.

### 5.3 Excavation Observations

Excavations should be observed by a representative of PSI prior to continuing construction activities in those areas. PSI needs to assess the encountered materials and confirm that site conditions are consistent with those discussed in this report. This is especially important to identify the condition and acceptability of the exposed subgrades under foundations and other structures that are sensitive to movement. Soft or loose soil zones encountered at the bottom of the excavations should be removed to the level of competent soils as directed by the Geotechnical Engineer or their representative. Cavities formed as a result of excavation of soft or loose soil zones should be backfilled with compacted select fill or lean concrete.

After opening, excavations should be observed and concrete should be placed as quickly as possible to avoid exposure to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. Excavations left open for an extended period of time (greater than 24 hours) should be protected to reduce evaporation or entry of moisture.

### 5.4 Drainage Considerations

Water should not be allowed to collect in foundation excavations, on foundation surfaces, or on prepared subgrades within the construction area during or after construction. Proper drainage around grade-supported sidewalks and flatwork is important to reduce potential movements. Excavated areas should be sloped toward one corner to facilitate removal of collected rainwater, groundwater, or surface runoff. Providing rapid, positive drainage away from the building reduces moisture variations within the underlying soils and will aid in reducing the magnitude of potential movements.

### 5.5 Excavations and Trenches

Excavation equipment capabilities and field conditions may vary. Geologic processes are erratic and large variations can occur in small vertical and/or lateral distances. Details regarding "means and methods" to accomplish the work (such as excavation equipment and technique selection) are the sole responsibility of the project contractor. The comments contained in this report are based on small diameter borehole observations. The performance of large excavations may differ as a result of the differences in excavation sizes.

**The Marl Stratum encountered in the borings is hard. Excavations penetrating the marl and marl removal as part of site grading will likely require high-powered, heavy-duty rock excavation equipment.**

The Occupational Safety and Health Administration (OSHA) Safety and Health Standards (29 CFR Part 1926, Revised October 1989), require that excavations be constructed in accordance with the current OSHA guidelines. Furthermore, the State of Texas requires that detailed plans and specifications meeting OSHA standards be prepared for trench and excavation retention systems used during construction. PSI understands that these regulations are being strictly enforced, and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.





The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and Federal safety regulations.

PSI is providing this information as a service to the client. PSI does not assume responsibility for construction site safety or the contractor's or other parties' compliance with local, state, and Federal safety or other regulations. A trench safety plan was beyond the scope of our services for this project.





## 6.0 REPORT LIMITATIONS

The recommendations submitted in this report are based on the available subsurface information obtained by PSI and design details furnished by the client for the proposed project. If there are revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not notified of such changes, PSI will not be responsible for the impact of those changes on the project.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional Geotechnical Engineering practices in the local area. No other warranties are implied or expressed. This report may not be copied without the expressed written permission of PSI.

After the plans and specifications are more complete, the Geotechnical Engineer should be retained and provided the opportunity to review the final design plans and specifications to check that the engineering recommendations have been properly incorporated in the design documents. At this time, it may be necessary to submit supplementary recommendations. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project.

This report has been prepared for the exclusive use of Darden Restaurants, Inc., its subsidiaries and affiliates may rely upon the report under the same terms as if it was originally prepared for them for specific application to the proposed Olive Garden to be constructed at 5010 W. Highway 290 Service Road in Austin, Texas.



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|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

GEOTECHNICAL REPORT (5 OF 5)

OLIVE GARDEN - SOUTHWEST PARKWAY
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TRAVIS COUNTY, TEXAS

SHEET NUMBER
39 OF 41

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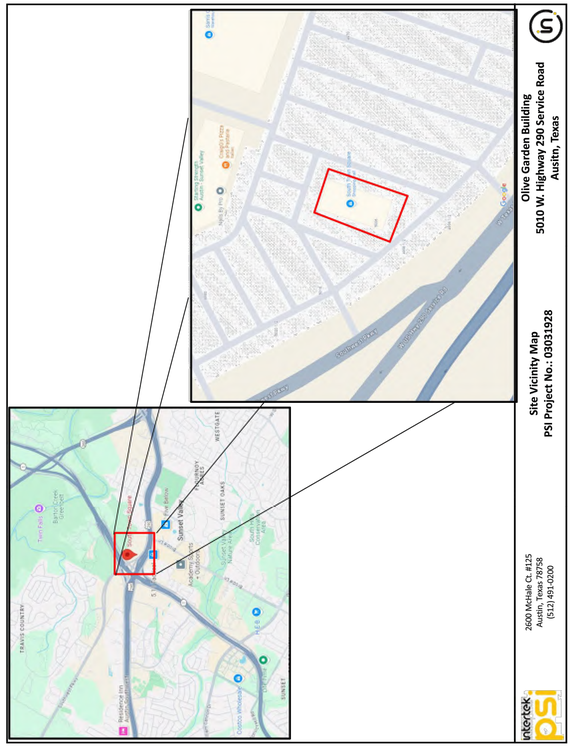


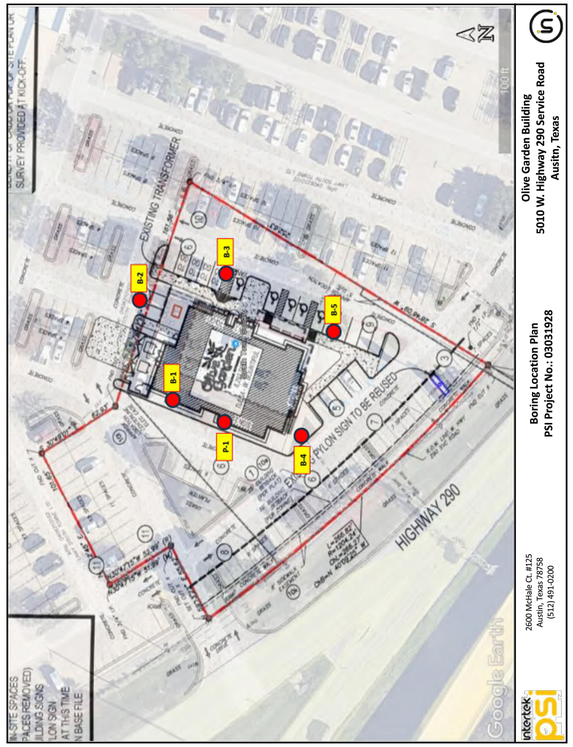


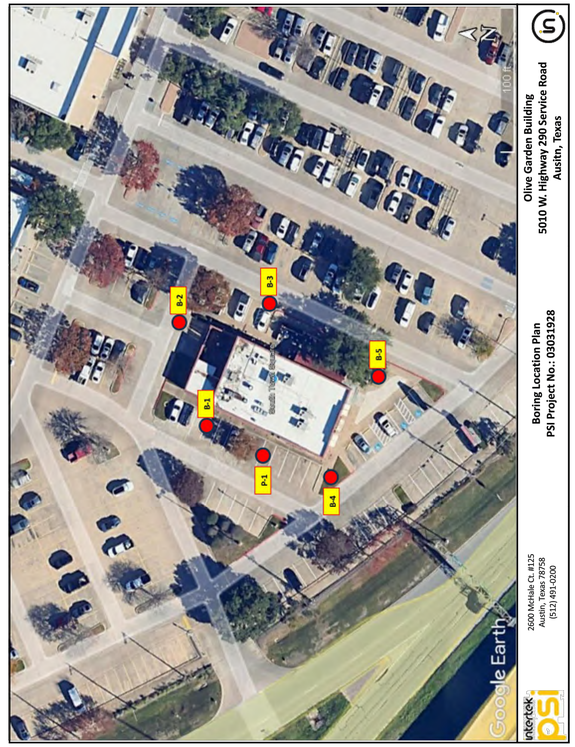


Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

BORING B-1

LOCATION: Lat: 30.2352°, Long: -97.8211°

Elevation: 712.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4 inches Concrete, 3 inches Base | | | | | | | | | |
| | FAT CLAY (CH), stiff to very stiff, dark brown | 26 | | | | | | | | |
| | | 25 | 4 | 89 | | | | 64 | 22 | 42 |
| 5 | | 10 | | | 18 | | | | | |
| | | 15 | | | 22 | | | | | |
| | - calcareous from 6 ft to 8 ft | | | | | | | | | |
| 10 | | 15 | 0 | 95 | 17 | | | 60 | 20 | 40 |
| | MARL, hard, light brown | 10 | | | 50/3 | | | | | |
| 15 | | | | | | | | | | |
| | | 11 | | | 50/4.5 | | | | | |
| | Boring terminated at approximately 20 ft | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF)
2.0 4.0 6.0
PL WC LL
20 40 60

UNCONF. COMP. (TSF)

UNIT DRY WT. (LB/CU.FT.)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

BORING B-2

LOCATION: Lat: 30.2353°, Long: -97.8209°

Elevation: 710.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|
| | 6 inches Concrete, 1 inch Base | | | | | | | | | |
| | CLAYEY GRAVEL with SAND (GC), dense, brown | 26 | | | | | | | | |
| | | 14 | | | 48 | | | | | |
| 5 | | 8 | | | 36 | | | | | |
| | LEAN CLAY with SAND (CL), very stiff, brown | 12 | 3 | 82 | 28 | | | 35 | 12 | 23 |
| | - calcareous from 6 ft to 7.5 ft | | | | | | | | | |
| 10 | | 16 | 2 | 83 | 25 | | | 43 | 14 | 29 |
| | FAT CLAY with SAND (CH), very stiff, brown | 21 | | | 19 | | | | | |
| 15 | | | | | | | | | | |
| | | 15 | | | 25 | | | | | |
| | Boring terminated at approximately 20 ft | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF)
2.0 4.0 6.0
PL WC LL
20 40 60

UNCONF. COMP. (TSF)

UNIT DRY WT. (LB/CU.FT.)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

BORING B-3

LOCATION: Lat: 30.2351°, Long: -97.8208°

Elevation: 712.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4.5 inches Concrete | | | | | | | | | |
| | FAT CLAY with SAND (CH), hard, dark brown | 20 | | | | | | | | |
| | | 19 | | | 33 | | | | | |
| 5 | CLAYEY GRAVEL with SAND (GC), very dense, brown | 8 | 29 | 38 | 52 | | | 74 | 19 | 55 |
| | LEAN CLAY with SAND (CL), stiff to very stiff, brown | 12 | 2 | 85 | 26 | | | 34 | 13 | 21 |
| | - calcareous from 6 ft to 7.5 ft | | | | | | | | | |
| 10 | | 18 | | | 13 | | | | | |
| | FAT CLAY with SAND (CH), hard, brown-gray | 20 | | | | | | | | |
| 15 | | | | | | | | | | |
| | | 14 | | | | | | | | |
| | Boring terminated at approximately 20 ft | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF)
2.0 4.0 6.0
PL WC LL
20 40 60

UNCONF. COMP. (TSF)

UNIT DRY WT. (LB/CU.FT.)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Plotted By: Stauffer, Ryan Date: April 30, 2025 08:54:15am File Path: K:\FAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Geotechnical Report.dwg
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TBPE Firm No. 928

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

04/25/2025

KHA PROJECT 063887221
DATE: APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

BORING LOGS (1 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
40 OF 41

SP-2025-0116C.CC

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

## BORING B-4

LOCATION: Lat: 30.2350°, Long: -97.8212°

Elevation: 714.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|
| 0 | SANDY FAT CLAY (CH), stiff to hard, dark brown | 13 | 7 | 68 | | | | 65 | 17 |
| 2 | | 18 | | | 14 | | | | |
| 4 | | 15 | | | 29 | | | | |
| 6 | - marly from 6 ft to 8 ft | 11 | | | 50/5 | | | | |
| 8 | CLAYEY GRAVEL with SAND (GC), dense, brown | 9 | 33 | 40 | 39 | | | 45 | 14 |
| 10 | MARL, hard, brown | 16 | | | 50/5 | | | | |
| 12 | | | | | | | | | |
| 14 | | | | | | | | | |
| 16 | | | | | | | | | |
| 18 | | 13 | | | 50/0.5 | | | | |
| 20 | Boring terminated at approximately 20 ft | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF) — 2.0 4.0 6.0; PI 20 — WC 40 — LL 60

UNCONF. COMP. (TSF) | UNIT DRY WT. (LBS/CU FT)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

## BORING B-5

LOCATION: Lat: 30.2349°, Long: -97.8209°

Elevation: 713.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 inches Concrete | | | | | | | | |
| 2 | FAT CLAY (CH), stiff to hard, dark brown | 19 | | | 11 | | | | |
| 4 | | 20 | 1 | 93 | 13 | | | 66 | 18 |
| 6 | CLAYEY GRAVEL with SAND (GC), dense to very dense, brown | 16 | | | 43 | | | | |
| 8 | | 10 | | | 86 | | | | |
| 10 | MARL, hard, brown | 15 | 20 | 63 | 50/5 | | | 74 | 19 |
| 12 | | 12 | | | 50/5.5 | | | | |
| 14 | | | | | | | | | |
| 16 | | | | | | | | | |
| 18 | - with weathered limestone lenses at 18.5 ft | 15 | | | 50/0.5 | | | | |
| 20 | Boring terminated at approximately 20 ft | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF) — 2.0 4.0 6.0; PI 20 — WC 40 — LL 60

UNCONF. COMP. (TSF) | UNIT DRY WT. (LBS/CU FT)

COMPLETION DEPTH: 20.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

Olive Garden Building
5010 W US Hwy 290 Service Road, Austin, Texas 78735
Project No. 03031928

## BORING P-1

LOCATION: Lat: 30.2351°, Long: -97.8211°

Elevation: 713.00

| DEPTH, FT. | SOIL DESCRIPTION | MOISTURE CONTENT | % RETAINED #4 | % PASSING #200 | SPT (N) & TCP (T) VALUES | % REC | %RQD | LIQUID LIMIT | PLASTICITY INDEX |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 7 inches Concrete, 3 inches Base | | | | | | | | |
| 2 | FAT CLAY (CH), firm to very stiff, brown | 26 | | | 7 | | | | |
| 4 | | 26 | 1 | 94 | | | | 68 | 19 |
| 6 | | 22 | | | 26 | | | | |
| 8 | Boring terminated at approximately 6 ft | | | | | | | | |

HAND PEN (TSF) ● UNC CMP (TSF) — 2.0 4.0 6.0; PI 20 — WC 40 — LL 60

UNCONF. COMP. (TSF) | UNIT DRY WT. (LBS/CU FT)

COMPLETION DEPTH: 6.0 Feet
DATE: 12/5/24-12/5/24

DEPTH TO GROUND WATER
SEEPAGE (ft.): Not encountered
END OF DRILLING (ft.): Not encountered
DELAYED WATER LEVEL (FT): N/A

## KEY TO TERMS AND SYMBOLS USED ON LOGS

### ROCK CLASSIFICATION

### RECOVERY

| DESCRIPTION OF RECOVERY | % CORE RECOVERY |
|---|---|
| Incompetent | < 40 |
| Competent | 40 TO 70 |
| Fairly Continuous | 70 TO 90 |
| Continuous | 90 TO 100 |

### ROCK QUALITY DESIGNATION (RQD)

| DESCRIPTION OF ROCK QUALITY | RQD |
|---|---|
| Very Poor (VPo) | 0 TO 25 |
| Poor (Po) | 25 TO 50 |
| Fair (F) | 50 TO 75 |
| Good (Gd) | 75 TO 90 |
| Excellent (Exlnt) | 90 TO 100 |

### CONSISTENCY OF COHESIVE SOILS

| CONSISTENCY | N-VALUE (Blows/Foot) | SHEAR STRENGTH (tsf) | HAND PEN VALUE (tsf) |
|---|---|---|---|
| Very Soft | 0 TO 2 | 0 TO 0.125 | 0 TO 0.25 |
| Soft | 2 TO 4 | 0.125 TO 0.25 | 0.25 TO 0.5 |
| Firm | 4 TO 8 | 0.25 TO 0.5 | 0.5 TO 1.0 |
| Stiff | 8 TO 15 | 0.5 TO 1.0 | 1.0 TO 2.0 |
| Very Stiff | 15 TO 30 | 1.0 TO 2.0 | 2.0 TO 4.0 |
| Hard | >30 | >2.0 OR 2.0+ | >4.0 OR 4.0+ |

### SOIL DENSITY OR CONSISTENCY

| DENSITY (GRANULAR) | CONSISTENCY (COHESIVE) | THD (BLOWS/FT.) | FIELD IDENTIFICATION |
|---|---|---|---|
| Very Loose (VLo) | Very Soft (VSo) | 0 TO 8 | Core (height twice diameter) sags under own weight |
| Loose (Lo) | Soft (So) | 8 TO 20 | Core can be pinched or imprinted easily with finger |
| Slightly Compact (SlCmpt) | Stiff (St) | 20 TO 40 | Core can be imprinted with considerable pressure |
| Compact (Cmpt) | Very Stiff (VSt) | 40 TO 80 | Core can only be imprinted slightly with fingers |
| Dense (De) | Hard (H) | 80 TO 5"/100 | Core cannot be imprinted with fingers but can be penetrated with pencil |
| Very Dense (VDe) | Very Hard (VH) | 5"/100 to 0"/100 | Core cannot be penetrated with pencil |

### DEGREE OF PLASTICITY OF COHESIVE SOILS

| DEGREE OF PLASTICITY | PLASTICITY INDEX (PI) | SWELL POTENTIAL |
|---|---|---|
| None or Slight | 0 to 4 | None |
| Low | 4 to 20 | Low |
| Medium | 20 to 30 | Medium |
| High | 30 to 40 | High |
| Very High | >40 | Very High |

### BEDROCK HARDNESS

| MORHS' SCALE | CHARACTERISTICS | EXAMPLES | APPROXIMATE THD PEN TEST | |
|---|---|---|---|---|
| 5.5 to 10 | Rock will scratch knife | Sandstone, Chert, Schist, Granite, Gneiss, some Limestone | Very Hard (VH) | 0" to 2"/100 |
| 3 to 5.5 | Rock can be scratched with knife blade | Siltstone, Shale, Iron Deposits, most Limestone | Hard (H) | 1" to 5"/100 |
| 1 to 3 | Rock can be scratched with fingernail | Gypsum, Calcite, Evaporites, Chalk, some Shale | Soft (So) | 4" to 6"/100 |

### MOISTURE CONDITION OF COHESIVE SOILS

| DESCRIPTION | CONDITION |
|---|---|
| Absence of moisture, dusty, dry to touch | DRY |
| Damp but no visible water | MOIST |
| Visible free water | WET |

### RELATIVE DENSITY FOR GRANULAR SOILS

| APPARENT DEINITY | SPT (BLOWS/FT) | CALIFORNIA SAMPLER (BLOWS/FT) | MODIFIED CA SMAPLER (BLOWS/FT) | RELATIVE DENSITY (%) |
|---|---|---|---|---|
| Very Loose | 0 to 4 | 0 to 5 | 0 to 4 | 0 to 15 |
| Loose | 4 to 10 | 5 to 15 | 5 to 12 | 15 to 35 |
| Medium Dense | 10 to 30 | 15 to 40 | 12 to 35 | 35 to 65 |
| Dense | 30 to 50 | 40 to 70 | 35 to 60 | 65 to 85 |
| Very Dense | >50 | >70 | >60 | 85 to 100 |

### SAMPLER TYPES

NO SAMPLE; TXDOT CONE; SHELBY TUBE; NO RECOVERY; ROCK CORE; SPLIT SPOON; AUGER SAMPLE

### SOIL TYPES

CLAY (CL); CLAY (CH); SILT; LIMESTONE; SHALE; SANDSTONE; SAND; GRAVEL; FILL; ASPHALT; CONCRETE; CHALK

### ABBREVIATIONS

PL – Plastic Limit
LL – Liquid Limit
WC – Percent Moisture

$Q_p$ – Hand Penetrometer
$Q_u$ – Unconfined Compression Test
UU – Unconsolidated Undrained Triaxial

Note: Plot Indicates Shear Strength as Obtained By Above Tests

WATER SEEPAGE
WATER LEVEL AT END OF DRILLING

### CLASSIFICATION OF GRANULAR SOILS

U.S. STANDARD SIEVE SIZE(S)

| 6" | 3" | 3/4" | 4 | 10 | 40 | 200 | |
|---|---|---|---|---|---|---|---|
| BOULDERS | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY / CLAY |
| | | COARSE | FINE | COARSE | MEDIUM | FINE | |
| 152 | 76.2 | 19.1 | 4.76 | 2.0 | 0.42 | 0.074 | 0.002 |


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04/25/2025

KHA PROJECT 063887221
DATE: APRIL 2025
SCALE: AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

BORING LOGS (2 OF 2)

OLIVE GARDEN - SOUTHWEST PARKWAY
CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
41 OF 41

SP-2025-0116C.CC


Plotted By: Stauffer, Ryan Date: April 30, 2025 08:54:23am File Path: K:\AUS_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C - Geotechnical Report.dwg
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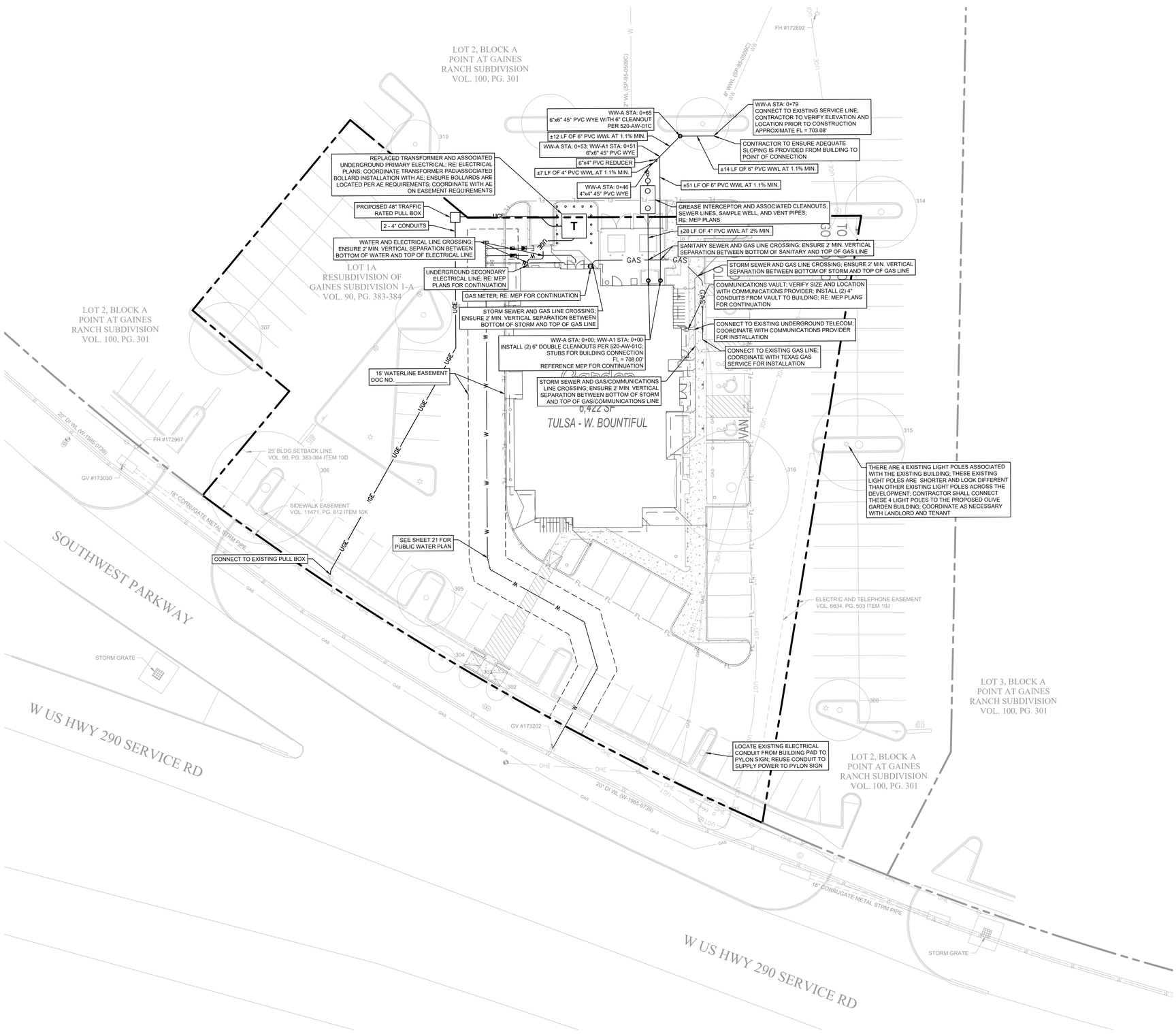
# *Attachment F*
# *Final Plan and Profile Sheets*




N
W E
S

0 20' 40'
GRAPHIC SCALE 20'

## LEGEND

- PROPERTY LINE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER CLEANOUT
- WASTEWATER FLOW DIRECTION
- PROPOSED FIRE HYDRANT
- PROPOSED TAPPING SLEEVE & VALVE
- EXISTING WATER METER
- EXISTING GATE VALVE
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM SEWER LINE
- EXISTING POWER POLE
- EXISTING FIRE HYDRANT
- EXISTING IRRIGATION VALVE
- EXISTING WASTEWATER MANHOLE

NOTES:

1. ANY RELOCATION OF ELECTRIC FACILITIES SHALL BE AT LANDOWNER'S / DEVELOPER'S EXPENSE.
2. ALL UTILITY SERVICE LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE.
3. CONTRACTOR SHALL COORDINATE WITH ALL PRIVATE UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS, SPECIFICATIONS, AND SCHEDULING OF INSTALLATION.
4. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR TEMPORARY UTILITY SERVICES TO THE PROJECT SITE.
5. SANITARY SEWER SERVICE PIPING SHALL BE SDR 35, PVC TYPE PSM SEWER PIPE WITH BELL-AND-SPIGOT ENDS FOR GASKETED JOINTS IN ACCORDANCE WITH ASTM D 3034. FITTINGS SHALL BE PVC WITH BELL ENDS IN ACCORDANCE WITH ASTM D 3034. GASKETS SHALL BE ELASTOMERIC SEALS IN ACCORDANCE WITH ASTM F 477. INSTALL SANITARY SEWER SERVICE PIPING PER MANUFACTURER'S INSTRUCTIONS.
6. CONTRACTOR SHALL CONSTRUCT A CLAY PLUG 4 FEET BEYOND THE EXTERIOR OF THE BUILDING EDGE FOR ALL UTILITY TRENCHES.
7. TOPS OF EXISTING STRUCTURES AND APPURTENANCES SHALL BE RAISED/LOWERED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS OR TO BE 6 INCHES ABOVE THE FINISHED GRADE ELEVATIONS IN NON-PAVED AREAS.
8. REFER TO ELECTRICAL PLANS FOR ELECTRICAL SERVICE LINES, COMMUNICATION LINES, AND TRANSFORMER.
9. SEE SHEET 34 (REFERENCE SHEET) FOR THE PUBLIC WASTEWATER CONNECTION POINT.

| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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RYAN MCKAY
146418
LICENSED
PROFESSIONAL ENGINEER
04/25/2025

| | |
|---|---|
| KHA PROJECT | 063887221 |
| DATE | APRIL 2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RJM |
| DRAWN BY: | RPS |
| CHECKED BY: | RJM |

# UTILITY PLAN

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
22 OF 41

SP-2025-0116C.CC

Plotted By:Shoffer, Ryan Date:May 08, 2025 11:53:56pm File Path:K:\AEAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C_ Utility Plan.dwg
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# SECTION 6: TEMPORARY STORMWATER SECTION

# Temporary Stormwater Section

Texas Commission on Environmental Quality

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

*To ensure that the application is administratively complete, confirm that all fields in the form are complete, verify that all requested information is provided, consistently reference the same site and contact person in all forms in the application, and ensure forms are signed by the appropriate party.*

*Note: Including all the information requested in the form and attachments contributes to more streamlined technical reviews.*

## Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This Temporary Stormwater Section is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Print Name of Customer/Agent: Ryan McKay, P.E.

Date: 06/02/2025

Signature of Customer/Agent:

Regulated Entity Name: The Pointe at Gaines Ranch

## Project Information

## Potential Sources of Contamination

*Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.*

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☐ The following fuels and/or hazardous substances will be stored on the site:

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.
   ☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ Attachment A - Spill Response Actions. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ Attachment B - Potential Sources of Contamination. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

## *Sequence of Construction*

5. ☒ Attachment C - Sequence of Major Activities. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Gaines Creek

## *Temporary Best Management Practices (TBMPs)*

*Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. All structural BMPs must be shown on the site plan.*

7. ☒ Attachment D – Temporary Best Management Practices and Measures. TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information is attached:

   ☐ A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

☒ A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

☒ A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

☐ A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. ☒ The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

☐ Attachment E - Request to Temporarily Seal a Feature. A request to temporarily seal a feature is attached. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

☒ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. ☒ Attachment F - Structural Practices. A description of the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site is attached. Placement of structural practices in floodplains has been avoided.

10. ☒ Attachment G - Drainage Area Map. A drainage area map supporting the following requirements is attached:

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

☐ For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

☐ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

☒ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. Erosion and sediment controls other than sediment basins or sediment traps within each disturbed drainage area will be used.

11. ☐ Attachment H - Temporary Sediment Pond(s) Plans and Calculations. Temporary sediment pond or basin construction plans and design calculations for a proposed

temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ Attachment I - Inspection and Maintenance for BMPs. A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.
13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.
14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.
16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

## *Soil Stabilization Practices*

*Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.*

17. ☒ Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices. A schedule of the interim and permanent soil stabilization practices for the site is attached.
18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.
19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

## *Administrative Information*

20. ☒ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

# *Attachment A*
# *Spill Response Actions*

# Spill Response Actions

If there is an accidental spill on site, the contractor shall respond with appropriate action. The contractor will be required to contact the owner and in turn the owner will contact the TCEQ in the event of a spill on site. In addition to the following guidance, reference the latest version of TCEQ's Technical Guidance Manual (TGM) RG-348 Section 1.4.16.

## Cleanup

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

## Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
  - Contain the spread of the spill.
  - Recover spilled materials.
  - Clean the contaminated area and properly dispose of contaminated materials.

## Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

- Contain spread of the spill.
- Notify the project foreman immediately.
- If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
- If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

## Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- Notify the TCEQ by telephone as soon as possible and within 24 hours at (512)339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

- For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- Notification should first be made by telephone and followed up with a written report.
- The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
- Other agencies which may need to be consulted include, but not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

TCEQ Reportable Quantities Link:

https://www.tceq.texas.gov/response/spills

# *Attachment B*

# *Potential Sources of Contamination*

# Potential Sources of Contamination

Potential Source: Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle dripping.

Preventative Measures: Vehicle maintenance will be performed within the construction staging area or a local maintenance shop.

Potential Source: Miscellaneous trash and litter from construction workers and material wrappings.

Preventative Measures: Trash containers will be placed throughout the site to encourage proper disposal of trash.

Potential Source: Construction Debris.

Preventative Measures: Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.

Potential Source: Soil and Mud from Construction Vehicle tires as they leave the site.

Preventative Measures: A stabilized construction exit shall be utilized as vehicles leave the site. Any soil, mud, etc. carried from the project onto public roads shall be cleaned up within 24 hours.

Potential Source: Silt leaving the site; Sediment from soil, sand, gravel and excavated materials stock piled on site.

Preventative Measures: Silt fence shall be installed on the down gradient side of the stock piled materials.. Contractor will install all temporary best management practices prior to start of construction including the stabilized construction entrance to prevent tracking onto adjoining streets.

# *Attachment C*

# *Sequence of Major Activities*

# Sequence of Major Activities

The installation of erosion and sedimentation controls shall occur prior to any excavation of materials or major disturbances on the site. The sequence of major construction activities will be as follows. Approximate acreage to be disturbed is listed in parentheses next to each activity.

## Intended Schedule or Sequence of Major Activities:

1. Construct Access (1.160 acres).
2. Installation of Temporary BMPs (up to 1.160 acres)
3. Wet and Dry Utility Construction (up to 1.160 acres )
4. Final Subgrade Preparation (up to 1.160 acres)
5. Installation of Base Materials (0.629 acres)
6. Concrete (foundations, curbs, flatwork) (0.629 acres)
7. Building Construction (0.145 acres)
8. Topsoil, Irrigation, and Landscaping (up to 1.160 Acres)
9. Site Cleanup and Removal of Temporary BMPs (up to 1.160 Acres)

The maximum total construction time is not expected to exceed 12 months.

# *Attachment D*

# *Temporary Best Management Practices and Measures*

# Temporary Best Management Practices and Measures

Temporary BMPs will be installed prior to soil distributing and construction activity:

A. Sediment Control Fence – This BMP prevents the transport of sediment from going off-site during storm events. This BMP is used in grass areas and will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area.
B. Triangular Filter Dike – This BMP prevents the transport of sediment from going off-site during storm events. This BMP is used on paved areas and will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area.
C. Temporary Seeding – This BMP stabilizes the soil from being washed away in a storm event
D. Offsite Vehicle Tracking Controls – This BMP removes excess dirt/mud on road daily, haul roads dampened for dust control, loaded haul trucks to be covered with tarpaulin, stabilized construction entrance.
E. Concrete Washout Pit – This BMP will be used to collect all excess concrete during construction.
F. Practices may also be implemented on site for interim and permanent stabilization. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, and other similar measures.

# *Attachment E*
# *Request to Temporarily Seal a Feature*

# *Request to Temporarily Seal a Feature*

This attachment is not applicable. There are no features located near the limits of construction.

# *Attachment F*
# *Structural Practices*

# Structural Practices

Structural BMPs will be used to limit runoff discharge of pollutants from exposed areas of the site. BMPs will be installed prior to soil disturbing construction activity. Silt fencing will be placed along the down-gradient sides of the property to prevent silt from escaping the construction area. A temporary construction entrance will be placed at the site entry/exit point to reduce tracking onto adjoining streets. A construction staging area will be used onsite to perform all vehicle maintenance and for equipment and material storage. A concrete truck washout pit will be placed on site to provide containment and easier cleanup of waste from concrete operations. The location of all structural temporary BMP's are shown on the erosion control plan sheet and details and specifications are provided on the erosion control details sheet which can be found at the end of this report under Section 9.

## Description of Temporary BMPs

### Sediment Removal Mat Construction Entrance/Exit

A sediment removal mat is an alternative to a temporary gravel construction entrance. The purpose of sediment removal mat construction entrance is to provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A sediment removal mat has pyramid-like shapes jutting out of the mat that causes loose sediment to fall off the tires. A sediment removal mat is ideal for laying on existing concrete because the bottom of the mat is flat. Stabilized construction entrances should be located at any point traffic will be entering or leaving the construction site from a public right-of-way, street, alley, sidewalk or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking or flowing of sediment onto public rights-of-way. This practice should be used at all points of construction ingress and egress.

Excessive amounts of mud can also present a safety hazard to roadway users. To minimize the amount of sediment loss to nearby roads, access to the construction site should be limited to as few points as possible and vegetation around the perimeter should be protected were access is not necessary. A mat stabilized construction entrance should be used at all designated access points.

### Silt Fence

The purpose of a silt fence is to intercept and detain water-borne sediment on pervious areas from unprotected areas of a limited extent. Silt fence is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Silt fence should not be used where there is a concentration of water in a channel or drainage way.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

### Triangular Filter Dike

The purpose of a triangular filter dike is to intercept and detain water-borne sediment on impervious areas from unprotected areas of a limited extent. Triangular filter dike is used during the period of construction near the perimeter of a disturbed area to intercept sediment while allowing water to percolate through. This fence should remain in place until the disturbed area is permanently stabilized. Triangular filter dike should not be used where there is a concentration of water in a channel or drainage way.

Silt fencing within the site may be temporarily moved during the day to allow construction activity provided it is replaced and properly anchored to the ground at the end of the day. Silt fences on the perimeter of the site or around drainage ways should not be moved at any time.

## Concrete Washout Area

The purpose of concrete washout areas is to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite, performing onsite washout in a designated area, and training employees and subcontractors.
The following steps will help reduce stormwater pollution from concrete wastes:

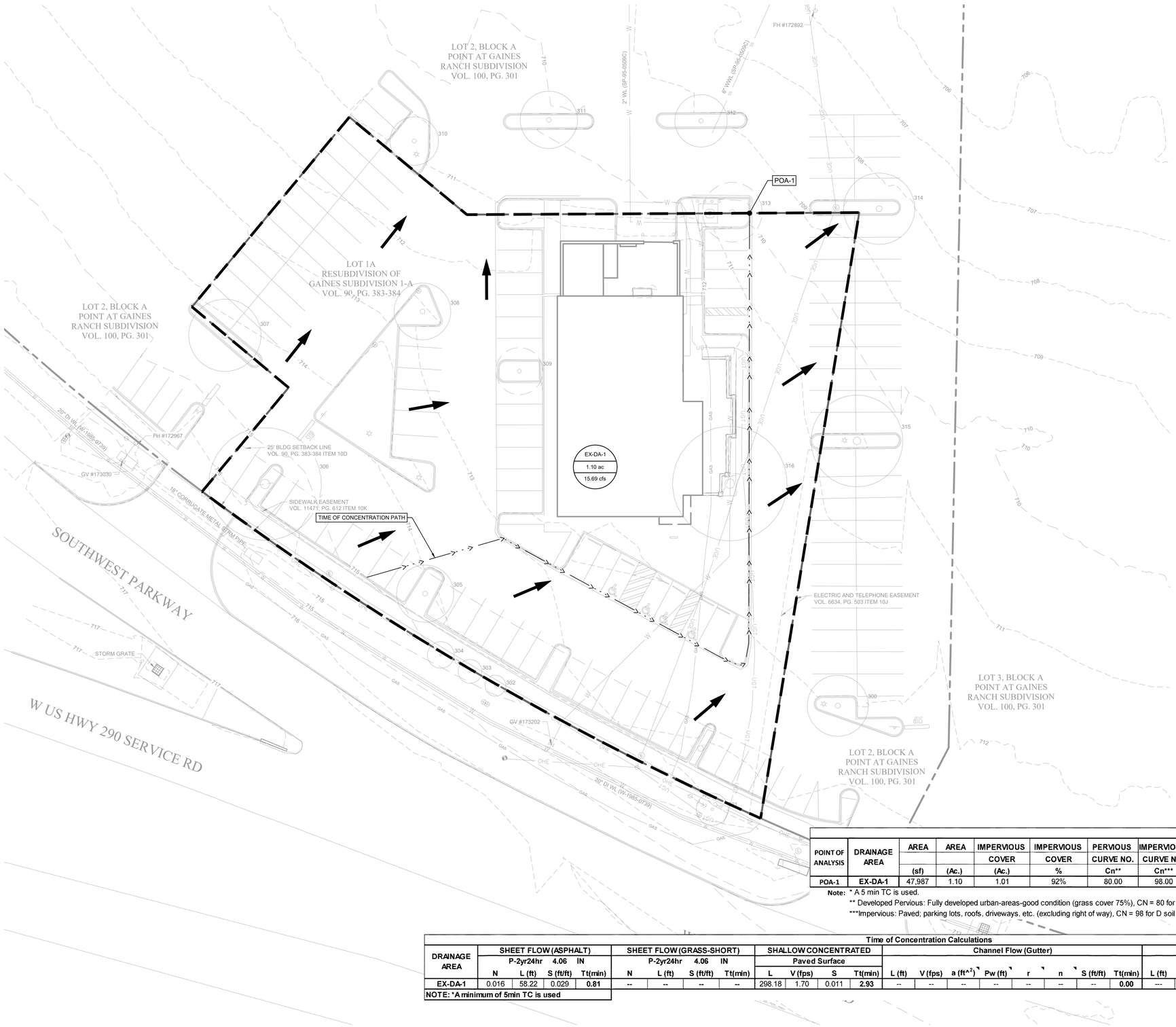
- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Below grade concrete washout facilities are typical. These consist of a lined excavation sufficiently large to hold expected volume of washout material. Above grade facilities are used if excavation is not practical. Temporary concrete washout facility (type above grade) should be constructed with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

# *Attachment G*

# *Drainage Area Map*




## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| | PROPERTY LINE |
| | EXISTING STORM DRAIN LINE |
| | EXISTING DRAINAGE DIVIDE |
| | EXISTING STORM DRAIN INLET |
| | EXISTING STORM DRAIN MANHOLE |
| | EXISTING STORM DRAIN HEADWALL |
| | EXISTING FLOW DIRECTION |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | EX-DA-1 | 47,987 | 1.10 | 1.01 | 92% | 80.00 | 98.00 | 96.50 | **5.00** | 4.92 | 8.32 | 10.85 | 15.69 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN N | L (ft) | S (ft/ft) | Tt(min) | SHALLOW CONCENTRATED Paved Surface L | V (fps) | S | Tt(min) | Channel Flow (Gutter) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Channel Flow (Pipe) L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EX-DA-1 | 0.016 | 58.22 | 0.029 | **0.81** | -- | -- | -- | -- | 298.18 | 1.70 | 0.011 | **2.93** | -- | -- | -- | -- | -- | -- | **0.00** | --- | --- | --- | --- | --- | --- | --- | **0.00** | **5.00** |

NOTE: *A minimum of 5min TC is used

Posted By:Sheaffer, Ryan Date:April 30, 2025 08:49:07am File Path:K:\EAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Existing Drainage Area Map.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|

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PROFESSIONAL ENGINEER
04/25/2025

| KHA PROJECT 063887221 | DATE APRIL 2025 | SCALE: AS SHOWN | DESIGNED BY: RJM | DRAWN BY: RPS | CHECKED BY: RJM |
|---|---|---|---|---|---|

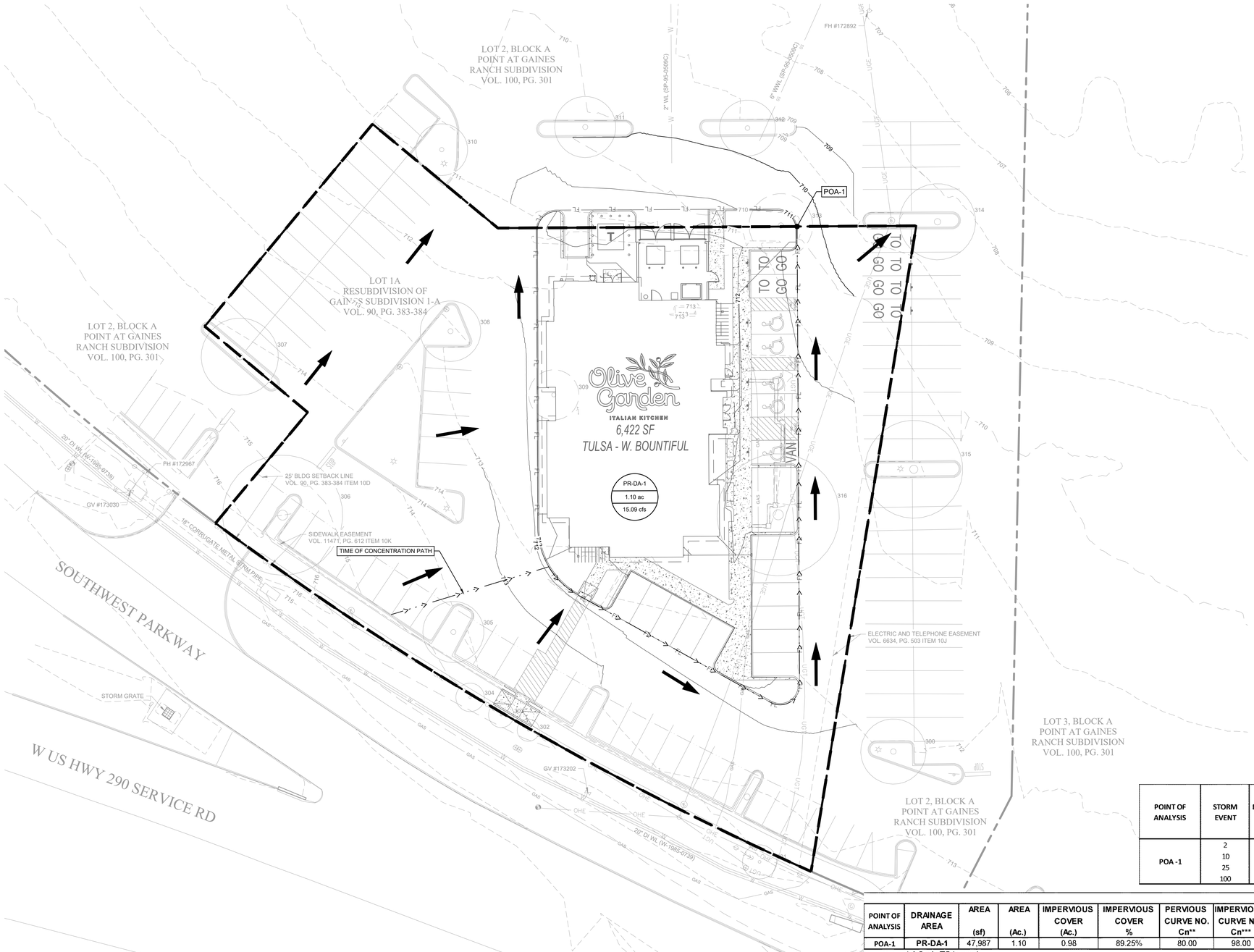
# EXISTING DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
18 OF 41

SP-2025-0116C.CC



0 20' 40'

GRAPHIC SCALE 20'

## LEGEND

| | |
|---|---|
| X-1 / 9.9 ac / 5.5 cfs | AREA DESIGNATOR / AREA IN ACRES / Q100 FLOW IN CFS |
| A-1 | INLET NUMBER |
| | PROPERTY LINE |
| | PROPOSED STORM DRAIN LINE |
| | EXISTING STORM DRAIN LINE |
| | PROPOSED DRAINAGE DIVIDE |
| | PROPOSED STORM DRAIN INLET |
| | PROPOSED STORM DRAIN MANHOLE |
| | PROPOSED STORM DRAIN HEADWALL |
| | PROPOSED FLOW DIRECTION |
| 555 | PROPOSED CONTOUR |
| 555 | EXISTING CONTOUR |

| POINT OF ANALYSIS | STORM EVENT | EXISTING RUNOFF (CFS) | DEVELOPED RUNOFF (CFS) | RUNOFF DIFFERENCE AT POINT OF ANALYSIS (CFS) | IS DEVELOPED LESS THAN EXISTING |
|---|---|---|---|---|---|
| POA -1 | 2 | 4.92 | 4.73 | -0.19 | YES |
| | 10 | 8.32 | 8.00 | -0.32 | YES |
| | 25 | 10.85 | 10.43 | -0.41 | YES |
| | 100 | 15.69 | 15.09 | -0.59 | YES |

| POINT OF ANALYSIS | DRAINAGE AREA | AREA (sf) | AREA (Ac.) | IMPERVIOUS COVER (Ac.) | IMPERVIOUS COVER % | PERVIOUS CURVE NO. Cn** | IMPERVIOUS CURVE NO. Cn*** | WEIGHTED CURVE NO. Cn* | TOTAL Tc* (min) | W/O DETENTION Q 2-Year | Q 10-Year | Q 25-Year | Q 100-Year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POA-1 | PR-DA-1 | 47,987 | 1.10 | 0.98 | 89.25% | 80.00 | 98.00 | 96.07 | 5.44 | 4.73 | 8.00 | 10.43 | 15.09 |

Note: * A 5 min TC is used.
** Developed Pervious: Fully developed urban-areas-good condition (grass cover 75%), CN = 80 for D soil group
***Impervious: Paved; parking lots, roofs, driveways, etc. (excluding right of way), CN = 98 for D soil group

**Time of Concentration Calculations**

| DRAINAGE AREA | SHEET FLOW (ASPHALT) P-2yr24hr 4.06 IN | | | | SHEET FLOW (GRASS-SHORT) P-2yr24hr 4.06 IN | | | | SHALLOW CONCENTRATED Paved Surface | | | | Channel Flow (Gutter) | | | | | | | | Channel Flow (Pipe) | | | | | | | | Tc* (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | L (ft) | S (ft/ft) | Tt(min) | N | L (ft) | S (ft/ft) | Tt(min) | L | V (fps) | S | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | L (ft) | V (fps) | a (ft^2) | Pw (ft) | r | n | S (ft/ft) | Tt(min) | |
| PR-DA-1 | 0.016 | 63.49 | 0.052 | 0.69 | -- | -- | -- | -- | 293.86 | 1.03 | 0.004 | 4.75 | -- | -- | -- | -- | -- | -- | -- | 0.00 | --- | --- | --- | --- | --- | --- | --- | 0.00 | 5.44 |
| NOTE: *A minimum of 5min TC is used | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Plotted By:Sheaffer, Ryan Date:May 01, 2025 05:55:03pm File Path:K:\FAU_Civil\063887218-Olive Garden Southwest Pkwy\CAD\PlanSheets\C — Proposed Drainage Area Map.dwg
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| No. | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |

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04/25/2025

KHA PROJECT 063887221
DATE APRIL 2025
SCALE AS SHOWN
DESIGNED BY: RJM
DRAWN BY: RPS
CHECKED BY: RJM

# PROPOSED DRAINAGE AREA MAP

# OLIVE GARDEN - SOUTHWEST PARKWAY

CITY OF AUSTIN
TRAVIS COUNTY, TEXAS

SHEET NUMBER
19 OF 41

SP-2025-0116C.CC

# *Attachment H*

# *Temporary Sediment Pond(s) Plans and Calculations*

# Temporary Sediment Pond(s) Plans and Calculations

This attachment is not applicable. There will be no temporary sediment pond or basin provided on site.

# *Attachment I*

# *Inspection and Maintenance for BMPs*

# Inspection and Maintenance for BMPs

## Personnel Responsible for Inspections

The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification. Documentation of the inspector's qualifications is to be included in the attached Inspector Qualifications Log.

## Inspection Schedule

The primary operator is required to choose one of the two inspections listed below.

☐ Option 1: Once every seven calendar days. If this alternative schedule is developed, then the inspection must occur regardless of whether or not there has been a rainfall event since the previous inspection.

☐ Option 2: Once every 14 calendar days and within 24 hours of the end of a storm event of two inches or greater.

The inspections may occur on either schedule provided that documentation reflects the current schedule and that any changes to the schedule are conducted in accordance with the following provisions: the schedule may be changed a maximum of one time each month, the schedule change must be implemented at the beginning of a calendar month, and the reason for the schedule change must be documented (e.g., end of “dry” season and beginning of “wet” season).

If option 2 is the chosen frequency of inspections a rain gauge must be properly maintained on site or the storm event information from a weather station that is representative of the site location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, proper documentation of the total rainfall measured for that day must be recorded.
Personnel provided by the permittee must inspect:

- disturbed areas of the construction site that have not been finally stabilized;
- areas used for storage of materials that are exposed to precipitation;
- structural controls (for evidence of, or the potential for, pollutants entering the drainage system);
- sediment and erosion control measures identified in the SWP3 (to ensure they are operating correctly); and
- locations where vehicles enter or exit the site (for evidence of off-site sediment tracking).

## Reductions in Inspection Frequency

Where sites have been finally or temporarily stabilized or where runoff is unlikely due to winter conditions (e.g. site is covered with snow, ice, or frozen ground exists), inspections must be conducted at least once every month. In arid, semi-arid, or drought-stricken areas, inspections must be conducted at least once every month and within 24 hours after the end of a storm event of 0.5 inches or greater. A record of the total rainfall measured, as well as the approximate beginning and ending dates of winter or drought conditions resulting in monthly frequency of inspections in the attached Rain Gauge Log.

In the event of flooding or other uncontrollable situations which prohibit access to the inspection sites, inspections must be conducted as soon as access is practicable.

## Inspection Report Forms

Use the Inspection Report Forms given as a checklist to ensure that all required areas of the construction site are addressed. There is space to document the inspector’s name as well as when the inspections regularly take place. The tables will document that the required area was inspected. (If there were any areas of concern, briefly describe them in this space with a more detailed description in the narrative section. Use the last table to document any discharges found during the inspections).

Describe how effective the installed BMPs are performing. Describe any BMP failures that were noted during the investigation and describe any maintenance required due to the failure. If new BMPs are needed as the construction site changes, the inspector can use the space at the bottom of the section to list BMPs to be implemented before the next inspection.

Describe the inspector's qualifications, how the inspection was conducted, and describe any areas of non-compliance in detail. If an inspection report does not identify any incidents of non-compliance, then it must contain a certifying signature stating that the facility or site is in compliance. The report must be signed by a person and in a manner required by 30 TAC 305.128. There is space at the end of the form to allow for this certifying signature.

Whenever an inspection shows that BMP modifications are needed to better control pollutants in runoff, the changes must be completed within seven calendar days following the inspection. If existing BMPs are modified or if additional BMPs are needed, you must describe your implementation schedule, and wherever possible, make the required BMP changes before the next storm event.

The Inspection Report Form functions as the required report and must be signed in accordance with TCEQ rules at 30 TAC 305.128.

## *Corrective Action*

### Personnel Responsible for Corrective Actions

Both Primary and Secondary Operators are responsible for maintaining all necessary Corrective Actions. If an individual is specifically identified as the responsible party for modifying the contact information for that individual should be documented in the attached Inspector Qualifications Log.

### Corrective Action Forms

The Temporary BMPs must be modified based on the results of inspections, as necessary, to better control pollutants in runoff. Revisions must be completed within seven (7) calendar days following the inspection. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule must be described in the attached forms and wherever possible those changes implemented before the next storm event. If implementation before the next anticipated storm event is impracticable, these changes must be implemented as soon as practicable. Actions taken as a result of inspections must be properly documented by completing the corrective action forms given.

## *Maintenance*

Below are some maintenance practices to be used to maintain erosion and sediment controls:

- All measures will be maintained in good working order. The operator should correct any damage or deficiencies as soon as practicable after the inspection, but in no case later than seven (7) calendar days after the inspection.
- Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily). See Attachment A: Spill Response Actions.
- BMP Maintenance (as applicable)
- For perimeter controls such as silt fences, berms, etc., the trapped sediment must be removed before it reaches 50% of the above-ground height.
- Silt fence will be inspected for depth of sediment, tears, to see of the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- If sediment escapes the site, accumulations must be removed at a frequency that minimizes off-site impacts, and prior to the next rain event, if feasible. If the permittee does not own or operate

the off-site conveyance, then the permittee must to work with the owner or operator of the property to remove the sediment.

- Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.

To maintain the above practices, the following will be performed:

- Maintenance and repairs will be conducted before the next anticipated storm event or as necessary to maintain the continued effectiveness of storm water controls. Following an inspection, deficiencies should be corrected no later than seven (7) calendar days after the inspection.

## *BMP-Specific Inspection and Maintenance Schedules*

### Temporary Seeding

- Temporary Seeding should be inspected weekly and after each rain event to locate and repair any erosion.
- Erosion from storms or other damage should be repaired as soon as practical by regrading the area and applying new seed.
- If the vegetated cover is less than 80%, the area should be reseeded.

### Offsite Vehicle Tracking Controls

- The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
- All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
- When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
- When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
- All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

### Sediment Control Fence

- Inspect all fencing weekly, and after any rainfall.
- Remove sediment when buildup reaches 6 inches.
- Replace any torn fabric or install a second line of fencing parallel to the torn section.
- Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
- When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

## Concrete Washout

- Inspect all washout facilities daily and after significant rainfall event to check for leaks and assess the condition of plastic linings and sidewalls.
- Any damage to the washout container should be repaired promptly to ensure its effectiveness.

# Inspector Qualifications Log*

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

---

Inspector Name: _____

Qualifications (Check as appropriate and provide description):

□ Training Course _____

□ Supervised Experience _____

□ Other _____

** The agent that performs the inspections should be knowledgeable of this general permit, familiar with the construction site, and knowledgeable of the SWPPP for the site. The contractor is to provide an inspector with a CPESC, CESSWI, or CISEC certification.*

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## *Amendment Log*

| No. | Description of the Amendment | Date of Amendment | Amendment Prepared by [Name(s) and Title] |
|---|---|---|---|
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# *Construction Activity Sequence Log*

| Name of Operator | Projected dates Month/year | Activity Disturbing Soil clearing, excavation, etc. | Location on-site where activity will be conducted | Acreage being disturbed |
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*Construction activity sequences for linear projects may be conducted on a rolling basis. As a result, construction activities may be at different stages at different locations in the project area. The Contractor is required to complete and update the schedule and adjust as necessary.

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# *Stormwater Control Installation and Removal Log*

| Stormwater Control | Location On-Site | Installation Date | Removal Date |
|---|---|---|---|
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# *Stabilization Activities Log*

| Date Activity Initiated | Description of Activity | Description of Stabilization Measure and Location | Date Activity Ceased (Indicate Temporary or Permanent) | Date When Stabilization Measures Initiated |
|---|---|---|---|---|
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Stabilization and erosion control practices may include, but are not limited to: establishing temporary or permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, and protecting existing trees and vegetation. List practices used where they are located, when they will be implemented, and whether they are temporary (interim) or permanent.

## *Inspection Frequency Log*

| Date | Frequency Schedule and Reason for Change |
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## *Rain Gauge Log*

| Date | Location of Rain Gauge | Gauge Reading |
|---|---|---|
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| General Information | | | | | |
|---|---|---|---|---|---|
| **Name of Project** | | **Tracking No.** | | **Inspection Date** | |
| Inspector Name, Title & Contact Information | | | | | |
| Present Phase of Construction | | | | | |
| Inspection Location (if multiple inspections are required, specify location where this inspection is being conducted) | | | | | |

Inspection Frequency

Standard Frequency: ☐ Weekly ☐ Every 14 days and within 24 hours of a 0.25" rain

Increased Frequency: ☐ Every 7 days and within 24 hours of a 0.25" rain

Reduced Frequency:

- ☐ Once per month (for stabilized areas)
- ☐ Once per month and within 24 hours of a 0.25" rain (for arid, semi-arid, or drought-stricken areas during seasonally dry periods or during drought)
- ☐ Once per month (for frozen conditions where earth-disturbing activities are being conducted)

Was this inspection triggered by a 0.25" storm event? ☐ Yes ☐ No

If yes, how did you determined whether a 0.25" storm event has occurred?

☐ Rain gauge on site ☐ Weather station representative of site. Specify weather station source:

Total rainfall amount that triggered the inspection (in inches):

Unsafe Conditions for Inspection

Did you determine that any portion of your site was unsafe for inspection? ☐ Yes ☐ No

If "yes", complete the following:

- Describe the conditions that prevented you from conducting the inspection in this location:

- Location(s) where conditions were found:

| Condition and Effectiveness of Erosion and Sediment (E&S) Controls | | | | |
|---|---|---|---|---|
| Type/Location of E&S Control | Repairs or Other Maintenance Needed? | Corrective Action Required? | Date on Which Maintenance or Corrective Action First Identified? | Notes |
| 1. | ☐Yes ☐No | ☐Yes ☐No | | |
| 2. | ☐Yes ☐No | ☐Yes ☐No | | |
| 3. | ☐Yes ☐No | ☐Yes ☐No | | |
| 4. | ☐Yes ☐No | ☐Yes ☐No | | |
| 5. | ☐Yes ☐No | ☐Yes ☐No | | |
| 6. | ☐Yes ☐No | ☐Yes ☐No | | |
| 7. | ☐Yes ☐No | ☐Yes ☐No | | |
| 8. | ☐Yes ☐No | ☐Yes ☐No | | |
| 9. | ☐Yes ☐No | ☐Yes ☐No | | |
| 10. | ☐Yes ☐No | ☐Yes ☐No | | |

| Condition and Effectiveness of Pollution Prevention (P2) Practices | | | | |
|---|---|---|---|---|
| Type/Location of P2 Practices | Repairs or Other Maintenance Needed? | Corrective Action Required? | Identification Date | Notes |
| 1. | ☐Yes ☐No | ☐Yes ☐No | | |
| 2. | ☐Yes ☐No | ☐Yes ☐No | | |
| 3. | ☐Yes ☐No | ☐Yes ☐No | | |
| 4. | ☐Yes ☐No | ☐Yes ☐No | | |
| 5. | ☐Yes ☐No | ☐Yes ☐No | | |
| 6. | ☐Yes ☐No | ☐Yes ☐No | | |
| 7. | ☐Yes ☐No | ☐Yes ☐No | | |
| 8. | ☐Yes ☐No | ☐Yes ☐No | | |
| 9. | ☐Yes ☐No | ☐Yes ☐No | | |
| 10. | ☐Yes ☐No | ☐Yes ☐No | | |

| Stabilization of Exposed Soil | | | |
|---|---|---|---|
| Stabilization Area | Stabilization Method | Have You Initiated Stabilization? | Notes |
| 1. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 2. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 3. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 4. | | ☐ YES ☐ NO<br>If yes, provide date: | |
| 5. | | ☐ YES ☐ NO<br>If yes, provide date: | |

| Description of Discharges | |
|---|---|
| Was a stormwater discharge or other discharge occurring from any part of your site at the time of the inspection? ☐ Yes ☐ No<br>If "yes", provide the following information for each point of discharge: | |
| Discharge Location | Observations |
| 1. | Describe the discharge:<br><br>At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No<br>If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue: |
| 2. | Describe the discharge:<br><br>At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No<br>If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue: |
| 3. | Describe the discharge:<br><br>At points of discharge and the channels and banks of surface waters in the immediate vicinity, are there any visible signs of erosion and/or sediment accumulation that can be attributed to your discharge? ☐ Yes ☐ No<br>If yes, describe what you see, specify the location(s) where these conditions were found, and indicate whether modification, maintenance, or corrective action is needed to resolve the issue: |

| Contractor or Subcontractor Certification and Signature |
| --- |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Contractor or Subcontractor: _____ Date:<br><br>Printed Name and Affiliation: _____ |
| Certification and Signature by Permittee |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Permittee or<br>"Duly Authorized Representative": _____ Date:<br><br>Printed Name and Affiliation: _____ |

| Section A – Initial Report<br>(Complete this section within 24 hours of discovering the condition that triggered corrective action) | | | | | |
|---|---|---|---|---|---|
| Name of Project | | Tracking No. | | Today's Date | |
| Date Problem First Discovered | | | Time Problem First Discovered | | |
| Name and Contact Information of Individual Completing this Form | | | | | |

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (*Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day)*:

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

| Section B – Corrective Action Progress<br>(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action) | |
|---|---|
| Section B.1 – Why the Problem Occurred | |
| Cause(s) of Problem (Add an additional sheet if necessary) | How This Was Determined and the Date You Determined the Cause |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

| Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem | | | |
|---|---|---|---|
| List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary) | Completion Date | SWPPP Update Necessary? | Notes |
| 1. | | ☐Yes ☐No Date: | |
| 2. | | ☐Yes ☐No Date: | |
| 3. | | ☐Yes ☐No Date: | |

| Section A – Initial Report<br>(Complete this section within 24 hours of discovering the condition that triggered corrective action) | | | | | |
|---|---|---|---|---|---|
| Name of Project | | Tracking No. | | Today's Date | |
| Date Problem First Discovered | | | Time Problem First Discovered | | |
| Name and Contact Information of Individual Completing this Form | | | | | |

What site conditions triggered the requirement to conduct corrective action:

☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3

☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards

☐ A prohibited discharge has occurred or is occurring

Provide a description of the problem:

Deadline for completing corrective action (*Enter date that is either: (1) no more than 7 calendar days after the date you discovered the problem, or (2) if it is infeasible to complete work within the first 7 days, enter the date that is as soon as practicable following the 7th day)*:

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

| Section B – Corrective Action Progress<br>(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action) | |
|---|---|
| Section B.1 – Why the Problem Occurred | |
| Cause(s) of Problem (Add an additional sheet if necessary) | How This Was Determined and the Date You Determined the Cause |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |

| Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem | | | |
|---|---|---|---|
| List of Stormwater Control Modification(s) Needed to Correct Problem (Add an additional sheet if necessary) | Completion Date | SWPPP Update Necessary? | Notes |
| 1. | | ☐Yes ☐No Date: | |
| 2. | | ☐Yes ☐No Date: | |
| 3. | | ☐Yes ☐No Date: | |

| Contractor or Subcontractor Certification and Signature |
| --- |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Contractor or Subcontractor: _____ Date:<br><br>Printed Name and Affiliation: _____ |
| Certification and Signature by Permittee |
| "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."<br><br>Signature of Permittee or<br>"Duly Authorized Representative": _____ Date:<br><br>Printed Name and Affiliation: _____ |

# *Attachment J*

# *Schedule of Interim and Permanent Soil Stabilization Practices*

# Schedule of Interim and Permanent Soil Stabilization

Construction practices shall disturb the minimal amount of existing ground cover as required for land clearing, grading, and construction activity for the shortest amount of time possible to minimize the potential of erosion and sedimentation from the site. Existing vegetation shall be maintained and left in place until it is necessary to disturb for construction activity.

Records of the following shall be maintained:

a) The dates when major grading activities occur;
b) The dates when construction activities temporarily or permanently cease on a portion of the site; and
c) The dates when stabilization measures are initiated.

Stabilization measures must be initiated as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, and except as provided in the following, must be initiated no more that fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased:

Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practical.

Where construction activity on a portion of the site is temporarily ceased and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of the site.

In arid areas (areas with an average rainfall of 0-10 inches), semiarid areas (areas with an average annual rainfall of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practical.

# SECTION 7:
# ADDITIONAL FORMS

**Agent Authorization Form**
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Harvey Finn,
Print Name

Agent A/M for 5010 West Hwy 290, LLC,
Title - Owner/President/Other

of _____,
Corporation/Partnership/Entity Name

have authorized Ryan McKay, P.E.
Print Name of Agent/Engineer

of Kimley-Horn and Associates, Inc.
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Authorized Agent for
Applicant's Signature
5010 West Highway 290, LLC

4-14-2025
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Harvey Zinn known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 14th day of April, 2025.

NOTARY PUBLIC

Sean Laughlin
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 2.25.2026

SEAN LAUGHLIN
Notary Public, State of Texas
Comm. Expires 02-25-2026
Notary ID 133612606

# Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: The Pointe at Gaines Ranch
Regulated Entity Location: Loop 1 & W US 290 Hwy, Austin, TX
Name of Customer: 5010 W Highway 290, LLC
Contact Person: Tricia Bragg Phone: 512-633-2825 ext. 718
Customer Reference Number (if issued): N/A
Regulated Entity Reference Number (if issued): RN102670221
Austin Regional Office (3373)

☐ Hays ☒ Travis ☐ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Travis ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the Texas Commission on Environmental Quality. Your canceled check will serve as your receipt. This form must be submitted with your fee payment. This payment is being submitted to:

☒ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

| *Type of Plan* | *Size* | *Fee Due* |
|---|---|---|
| Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential | Acres | $ |
| Sewage Collection System | 218 L.F. | $ 650 |
| Lift Stations without sewer lines | Acres | $ |
| Underground or Aboveground Storage Tank Facility | Tanks | $ |
| Piping System(s)(only) | Each | $ |
| Exception | Each | $ |
| Extension of Time | Each | $ |

Signature: _____ Date: 06/02/2025

Kimley»Horn

# *Application Fee Schedule*

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

## Water Pollution Abatement Plans and Modifications
## Contributing Zone Plans and Modifications

| *Project* | *Project Area in Acres* | *Fee* |
|---|---|---|
| One Single Family Residential Dwelling | < 5 | $650 |
| Multiple Single Family Residential and Parks | < 5<br>5 < 10<br>10 < 40<br>40 < 100<br>100 < 500<br>≥ 500 | $1,500<br>$3,000<br>$4,000<br>$6,500<br>$8,000<br>$10,000 |
| Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur) | < 1<br>1 < 5<br>5 < 10<br>10 < 40<br>40 < 100<br>≥ 100 | $3,000<br>$4,000<br>$5,000<br>$6,500<br>$8,000<br>$10,000 |

## Organized Sewage Collection Systems and Modifications

| *Project* | *Cost per Linear Foot* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Sewage Collection Systems | $0.50 | $650 - $6,500 |

## Underground and Aboveground Storage Tank System Facility Plans and Modifications

| *Project* | *Cost per Tank or Piping System* | *Minimum Fee-Maximum Fee* |
|---|---|---|
| Underground and Aboveground Storage Tank Facility | $650 | $650 - $6,500 |

## Exception Requests

| *Project* | *Fee* |
|---|---|
| Exception Request | $500 |

## Extension of Time Requests

| *Project* | *Fee* |
|---|---|
| Extension of Time Request | $150 |

TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

## SECTION I: General Information

**1. Reason for Submission** *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

| 2. Customer Reference Number *(if issued)* | Follow this link to search for CN or RN numbers in Central Registry** | 3. Regulated Entity Reference Number *(if issued)* |
|---|---|---|
| CN | | RN 1026702 |

## SECTION II: Customer Information

**4. General Customer Information** | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy) 6/2/2025

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

***The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).***

**6. Customer Legal Name** *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

5010 West Highway 290, LLC

| 7. TX SOS/CPA Filing Number | 8. TX State Tax ID (11 digits) | 9. Federal Tax ID (9 digits) | 10. DUNS Number *(if applicable)* |
|---|---|---|---|
| 802613198 | | | |

**11. Type of Customer:** ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

**12. Number of Employees**
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

**13. Independently Owned and Operated?**
☐ Yes ☐ No

**14. Customer Role** (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

**15. Mailing Address:**

PO Box 162304

| City | Austin | State | TX | ZIP | 78714 | ZIP + 4 | |
|---|---|---|---|---|---|---|---|

| 16. Country Mailing Information *(if outside USA)* | 17. E-Mail Address *(if applicable)* |
|---|---|
| | tricia@z3realestate.us |

| 18. Telephone Number | 19. Extension or Code | 20. Fax Number *(if applicable)* |
|---|---|---|
| ( 512 ) 348-9688 | | ( ) - |

## SECTION III: Regulated Entity Information

**21. General Regulated Entity Information** *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

***The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).***

**22. Regulated Entity Name** *(Enter name of the site where the regulated action is taking place.)*

The Pointe at Gaines Ranch

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **23. Street Address of the Regulated Entity:** *(No PO Boxes)* | | | | | | | |
| **City** | | **State** | | **ZIP** | | **ZIP + 4** | |
| **24. County** | Travis | | | | | | |

**If no Street Address is provided, fields 25-28 are required.**

| | | | | | |
|---|---|---|---|---|---|
| **25. Description to Physical Location:** | LOOP 1 & US 290 W | | | | |
| **26. Nearest City** | | | **State** | | **Nearest ZIP Code** |
| Austin | | | TX | | 78735 |

***Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).***

| | | | | | |
|---|---|---|---|---|---|
| **27. Latitude (N) In Decimal:** | 30.235333 | | **28. Longitude (W) In Decimal:** | -97.819960 | |
| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| 30 | 14 | 7.2 | 97 | 49 | 11.9 |

| 29. Primary SIC Code (4 digits) | 30. Secondary SIC Code (4 digits) | 31. Primary NAICS Code (5 or 6 digits) | 32. Secondary NAICS Code (5 or 6 digits) |
|---|---|---|---|
| 1623 | | 237110 | |

**33. What is the Primary Business of this entity?** *(Do not repeat the SIC or NAICS description.)*

Commercial

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **34. Mailing Address:** | | | | | | | |
| **City** | | **State** | | **ZIP** | | **ZIP + 4** | |
| **35. E-Mail Address:** | | | | | | | |

| 36. Telephone Number | 37. Extension or Code | 38. Fax Number *(if applicable)* |
|---|---|---|
| ( ) - | | ( ) - |

**39. TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

| | | | | |
|---|---|---|---|---|
| ☐ Dam Safety | ☐ Districts | ☐ Edwards Aquifer | ☐ Emissions Inventory Air | ☐ Industrial Hazardous Waste |
| | | | | |
| ☐ Municipal Solid Waste | ☐ New Source Review Air | ☐ OSSF | ☐ Petroleum Storage Tank | ☐ PWS |
| | | | | |
| ☐ Sludge | ☐ Storm Water | ☐ Title V Air | ☐ Tires | ☐ Used Oil |
| | | | | |
| ☐ Voluntary Cleanup | ☐ Wastewater | ☐ Wastewater Agriculture | ☐ Water Rights | ☐ Other: |
| | | | | |

## SECTION IV: Preparer Information

| | | | |
|---|---|---|---|
| **40. Name:** | Ryan McKay, P.E. | **41. Title:** | Project Manager |
| **42. Telephone Number** | **43. Ext./Code** | **44. Fax Number** | **45. E-Mail Address** |
| ( 512 ) 518-4875 | | (  )  - | ryan.mckay@kimley-horn.com |

## SECTION V: Authorized Signature

**46.** By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

| | | | |
|---|---|---|---|
| **Company:** | Z3 Real Estate | **Job Title:** | CEO |
| **Name** *(In Print)*: | Harvey Zinn | **Phone:** | 512 348 9688 |
| **Signature:** | | **Date:** | 6.3.2025 |