WATER POLLUTION ABATEMENT PLAN

FOR

PERSONAL WAREHOUSE
GEORGETOWN, TEXAS
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

TCEQ PROJECT NO.: TBD

PREPARED FOR:

GTOWNPW, LLC.
7200 WEST ALTON WAY, SUITE B220
CENTENNIAL, CO 80112

PREPARED BY:

HERE CIVIL CONSULTANTS, LLC.
PHONE: 336-554-2424
ENGINEER CONTACT: RAVIN NANPATEE, P.E
HCC PROJECT NUMBER: PW-017

Water Pollution Abatement Plan Checklist

✓ **Edwards Aquifer Application Cover Page (TCEQ-20705)**

✓ **General Information Form (TCEQ-0587)**

- ✓ Attachment A - Road Map
- ✓ Attachment B - USGS / Edwards Recharge Zone Map
- ✓ Attachment C - Project Description

✓ **Geologic Assessment Form (TCEQ-0585)**

- ✓ Attachment A - Geologic Assessment Table (TCEQ-0585-Table)
- ✓ Attachment B - Stratigraphic Column
- ✓ Attachment C - Site Geology
- ✓ Attachment D - Site Geologic Map(s)

✓ **Water Pollution Abatement Plan Application Form (TCEQ-0584)**

- ✓ Attachment A - Factors Affecting Surface Water Quality
- ✓ Attachment B - Volume and Character of Stormwater
- N/A Attachment C - Suitability Letter from Authorized Agent (if OSSF is proposed)
- N/A Attachment D - Exception to the Required Geologic Assessment (if requested)
- ✓ Site Plan

✓ **Temporary Stormwater Section (TCEQ-0602)**

- ✓ Attachment A - Spill Response Actions
- ✓ Attachment B - Potential Sources of Contamination
- ✓ Attachment C - Sequence of Major Activities
- ✓ Attachment D - Temporary Best Management Practices and Measures
- ✓ Attachment E - Request to Temporarily Seal a Feature (if requested)
- ✓ Attachment F - Structural Practices
- ✓ Attachment G - Drainage Area Map
- ✓ Attachment H - Temporary Sediment Pond(s) Plans and Calculations
- ✓ Attachment I - Inspection and Maintenance for BMPs
- ✓ Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices

✓ **Permanent Stormwater Section (TCEQ-0600)**

- N/A Attachment A - 20% or Less Impervious Cover Waiver (if requested for multi-family, school, or small business site)
- ✓ Attachment B - BMPs for Upgradient Stormwater
- ✓ Attachment C - BMPs for On-site Stormwater
- N/A Attachment D - BMPs for Surface Streams
- N/A Attachment E - Request to Seal Features (if sealing a feature)
- ✓ Attachment F - Construction Plans
- ✓ Attachment G - Inspection, Maintenance, Repair and Retrofit Plan
- N/A Attachment H - Pilot-Scale Field Testing Plan (if proposed)
- N/A Attachment I -Measures for Minimizing Surface Stream Contamination

- ✓ Agent Authorization Form (TCEQ-0599), if application submitted by agent
- ✓ Application Fee Form (TCEQ-0574)
- ✓ Check Payable to the "Texas Commission on Environmental Quality"
- ✓ Core Data Form (TCEQ-10400)

EDWARDS AQUIFER APPLICATION COVER PAGE

TCEQ FORM : TCEQ-20705

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 will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **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:

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- 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 denied/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 affected 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 Comal, 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: Personal Warehouse Georgetown						**2. Regulated Entity No.:**			
3. Customer Name: GTOWNPW DEVELOPMENT, LLC.						**4. Customer No.:**			
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):**			5.004
9. Application Fee:	$5,650		**10. Permanent BMP(s):**			Retention / Irrigation Basin			
11. SCS (Linear Ft.):	662		**12. AST/UST (No. Tanks):**			N/A , No AST or UST proposed			
13. County:	Williamson		**14. Watershed:**			Granger Lake-San Gabriel River			

** per TX Parks and Wildlife Watershed Viewer*

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.)	__	__	__
Region (1 req.)	__	__	__
County(ies)	__	__	__
Groundwater Conservation District(s)	__Edwards Aquifer Authority __Barton Springs/ Edwards Aquifer __Hays Trinity __Plum Creek	__Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	__Austin __Buda __Dripping Springs __Kyle __Mountain City __San Marcos __Wimberley __Woodcreek	__Austin __Bee Cave __Pflugerville __Rollingwood __Round Rock __Sunset Valley __West Lake Hills	__Austin __Cedar Park __Florence __Georgetown __Jerrell __Leander __Liberty Hill __Pflugerville __Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	__	__	__	__	__
Region (1 req.)	__	__	__	__	__
County(ies)	__	__	__	__	__
Groundwater Conservation District(s)	__ Edwards Aquifer Authority __Trinity-Glen Rose	__Edwards Aquifer Authority	__Kinney	__EAA __Medina	__EAA __Uvalde
City(ies) Jurisdiction	__Castle Hills __Fair Oaks Ranch __Helotes __Hill Country Village __Hollywood Park __San Antonio (SAWS) __Shavano Park	__Bulverde __Fair Oaks Ranch __Garden Ridge __New Braunfels __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.
Ravin Nanpatee Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent 5/12/2025 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):	

GENERAL INFORMATION FORM

TCEQ FORM : TCEQ-0587

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.

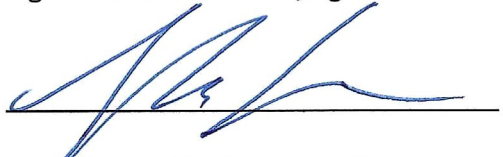
Signature

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: Ravin Nanpatee, P.E.

Date: 6/2/2025

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Personal Warehouse Georgetown
2. County: Williamson
3. Stream Basin: Brazos River Basin ; San Gabriel (River Sub Basin)
4. Groundwater Conservation District (If applicable): n/a
5. Edwards Aquifer Zone:

   ☒ Recharge Zone
   ☐ Transition Zone

6. Plan Type:

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

7. Customer (Applicant):

   Contact Person: Steve Garrison
   Entity: GTOWNPW DEVELOPMENT, LLC.
   Mailing Address: 7200 West Alton Way, Suite B220
   City, State: Centennial, Colorado Zip: 80112
   Telephone: (303) 222-0768 FAX: n/a
   Email Address: steve@personalwarehouse.com

8. Agent/Representative (If any):

   Contact Person: Ravin Nanpatee
   Entity: Project Manager
   Mailing Address: 64 Curling Creek Drive
   City, State: Clayton, North Carolina Zip: 27527
   Telephone: (336) 554-2424 FAX: n/a
   Email Address: rnanpatee@herecc.com

9. Project Location:

   ☒ The project site is located inside the city limits of Georgetown, Texas.
   ☐ 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.

    The existing property is located approximately 0.33-miles to the northwest from the Lakeway Drive and Northwest Boulevard intersection. The property is bound to the east by the Georgetown Executive Airport and is included in the Haven Airport Commercial Subdivision on Lot 2B, Block B

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: 6/12/2025

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, Comal, Kinney, Medina, and Uvalde Counties)

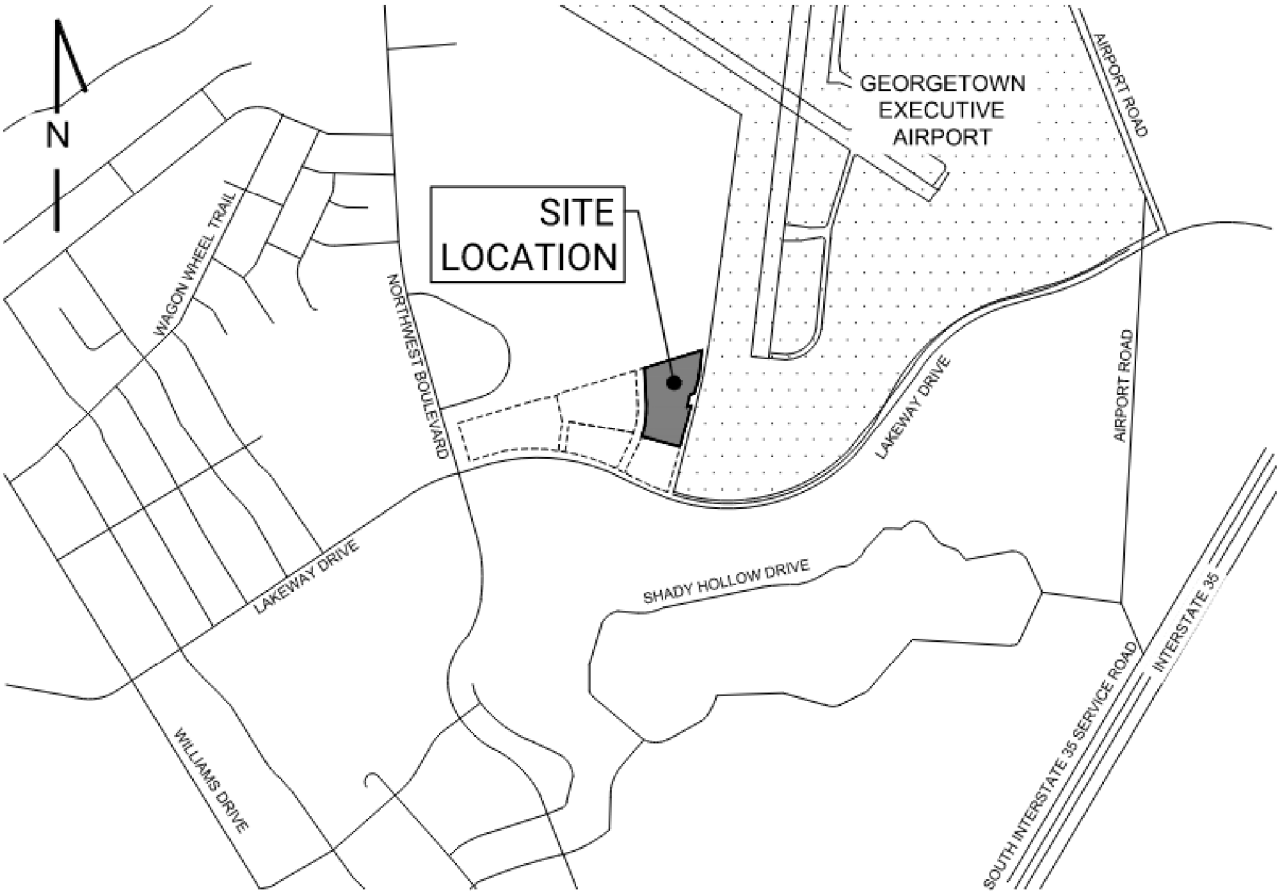
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

GENERAL INFORMATION FORM

ATTACHMENT A

ROAD MAP



VICINITY MAP

GENERAL INFORMATION FORM

ATTACHMENT B

USGS / EDWARDS RECHARGE ZONE MAP

Edwards Aquifer Viewer Custom Print

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USGS QUAD NUMBER = 30097F6

1:4,999

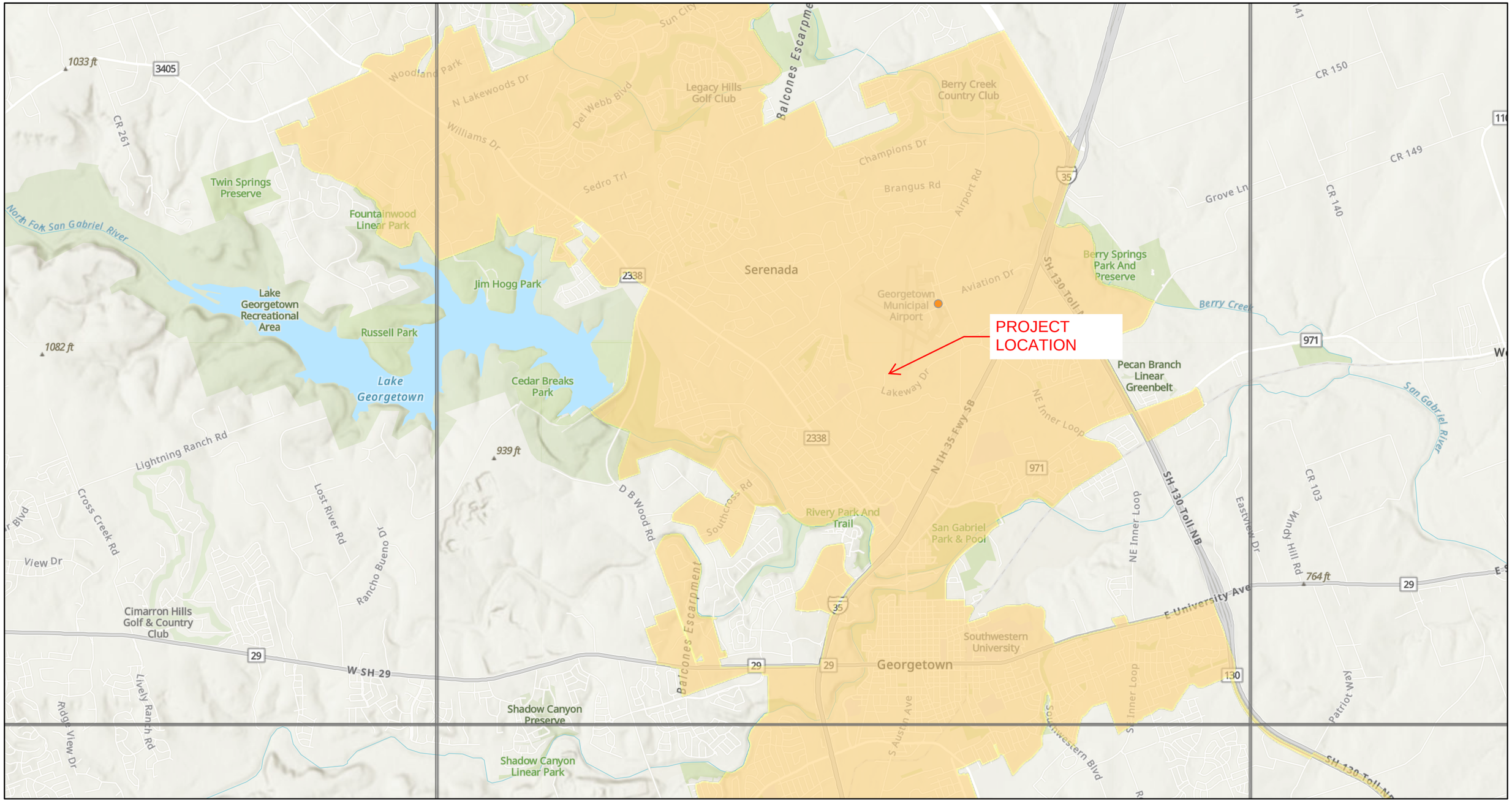
0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

- TCEQ_EDWARDS_OFFICIAL_MAPS
- 7.5 Minute Quad Grid
- TX Counties
- City/Place
- Edwards Aquifer Label
- World_Hillshade

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, TCEQ, Sources: Esri, Maxar, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA,

Edwards Aquifer Viewer Custom Print



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1:64,293

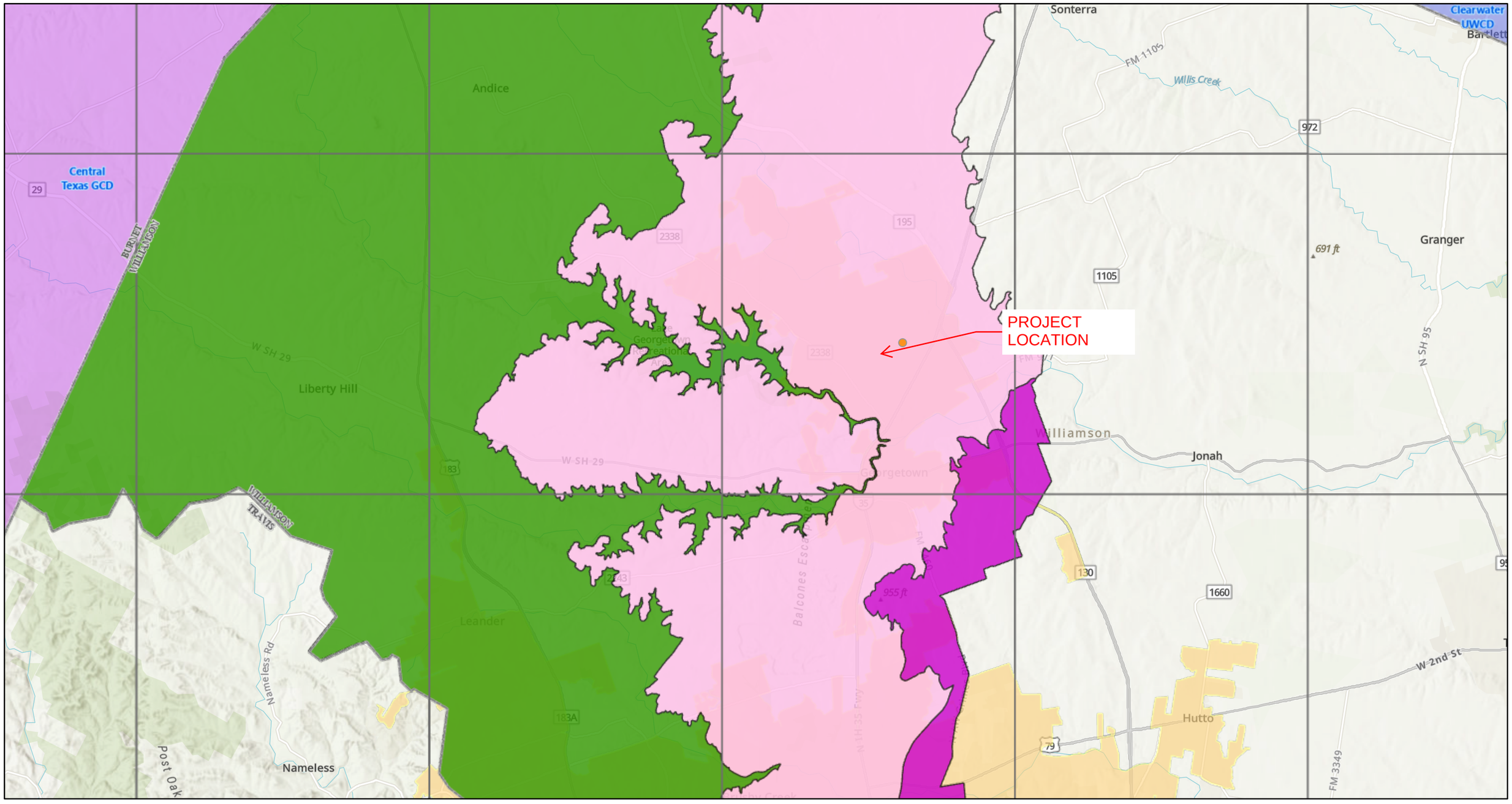
- ArcGIS World Geocoding Service
- TCEQ_EDWARDS_OFFICIAL_MAPS
- 7.5 Minute Quad Grid
- TX Counties
- City/Place
- World_Hillshade

USGS QUAD NUMBER = 30097F6

0 0.5 1 2 mi
0 1 2 4 km

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, TCEQ

Edwards Aquifer Viewer Custom Print



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- ArcGIS World Geocoding Service
- TCEQ_EDWARDS_OFFICIAL_MAPS
- 7.5 Minute Quad Grid
- TX Counties

Edwards Aquifer
- Recharge Zone
- Transition Zone
- Contributing Zone

Groundwater Conservation Districts
- Central Texas GCD
- Clearwater UWCD
- City/Place

World_Hillshade

USGS QUAD NUMBER = 30097F6

0 2 4 8 mi
0 3 6 12 km

GENERAL INFORMATION FORM

ATTACHMENT C

PROJECT DESCRIPTION

General Information Form – Project Description

The project will take place on a 5.004-acre lot within the Havins Airport Commercial subdivision located in Georgetown, TX. The existing property is located approximately 0.33-miles to the northwest from the Lakeway Drive and Northwest Boulevard intersection and does not have any historical significance. The future address of this property will be 1004 Clear Skies Way, Georgetown , TX 78628. The existing site is a vacant lot that does not have any evidence of any disturbance or previous development(s). There are no proposed demolitions of existing buildings, roads, pavement areas, etc.

The proposed project will include the construction of 4 industrial buildings of varying dimensions with sidewalks, parking lots, landscaping, etc. These buildings will have individual units that will be sold to future owners looking to grow their small business, collection space, etc. Automotive sales, mechanical work, etc. is strictly prohibited from this development and will be enforced by the HOA covenants.

A Permanent BMP proposed on this site is a retention/irrigation pond that will capture and treat stormwater from the proposed site. The stormwater will be conveyed to this pond via a proposed storm sewer network. Another permanent BMP are drainage swales that will capture runoff and direct it to the proposed storm sewer network.

Offsite drainage areas are proposed with this project and consist solely of landscape areas used to tie back into existing grade. The post-development runoff rates do no exceed pre-development runoff rates.

The impervious cover proposed with this project are as follows :

SITE UTILIZATION TABLE			
	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
BUILDING/ROOF AREA	48,272.60	1.108	22.15%
HARDSCAPE COVERAGE	92,605.02	2.126	42.48%
LANDSCAPE/OPEN SPACE	77,106.38	1.770	35.37%
TOTAL SITE AREA	217,984.00	5.004	100.00%

IMPERVIOUS PERCENTAGE BREAKDOWN			
	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
ASPHALT	82,225.27	1.888	88.79%
CONCRETE	10,379.75	0.238	11.21%
TOTAL IMPERVIOUS AREA	92,605.02	2.126	

GEOLOGIC ASSESSMENT FORM

TCEQ FORM : TCEQ-0585

Horizon™
Environmental Services, Inc.

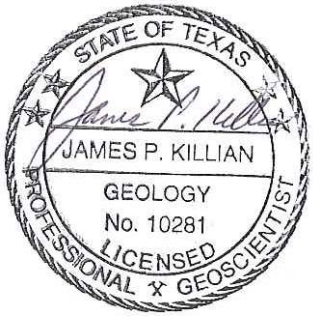
GEOLOGIC ASSESSMENT
22-ACRE LAKEWAY IN GEORGETOWN TRACT
LAKEWAY DRIVE
GEORGETOWN, WILLIAMSON COUNTY, TEXAS
HJN 180130 GA

PREPARED FOR:

CONFIDO PRIMUS, LLC
PHOENIX, ARIZONA

PREPARED BY:

HORIZON ENVIRONMENTAL SERVICES, INC.
TBPG FIRM REGISTRATION NO. 50488



JUNE 2018

CORPORATE HEADQUARTERS
1507 S Interstate 35 ★ Austin, TX 78741-2502 ★ (512) 328-2430 ★ www.horizon-esi.com
An LJA Company

Horizon
Environmental Services, Inc.

TABLE OF CONTENTS

Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), 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

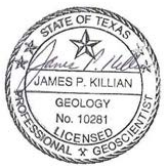
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Print Name of Geologist: James Killian Telephone: 512 328-2430

Date: 18 June 2018 Fax: 512 328-1804

Representing: Horizon Environmental Services, Inc. and TBPG Firm Registration No. 50488
(Name of Company and TBPG or TBPE registration number)

Signature of Geologist:



Regulated Entity Name: 22-acre Lakeway in Georgetown Tract, Lakeway Drive, Georgetown, Williamson County, Texas

Project Information

1. Date(s) Geologic Assessment was performed: 30 May 2018
2. Type of Project:
   - ☒ WPAP
   - ☒ SCS
   - ☐ AST
   - ☐ UST
3. Location of Project:
   - ☒ Recharge Zone
   - ☐ Transition Zone
   - ☐ Contributing Zone within the Transition Zone

4. ☒ **Attachment A - Geologic Assessment Table**. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.

5. ☒ Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
Crawford clay, 1-3% slopes (CfB)	D	1 to 2
Exckrant extremely stony clay, 0-3% slopes (EeB)	D	0 to 1
Georgetown silty clay loam, 1-3% slopes (GsB)	D	2 to 4

Soil Name	Group*	Thickness(feet)

** Soil Group Definitions (Abbreviated)*

A. *Soils having a high infiltration rate when thoroughly wetted.*
B. *Soils having a moderate infiltration rate when thoroughly wetted.*
C. *Soils having a slow infiltration rate when thoroughly wetted.*
D. *Soils having a very slow infiltration rate when thoroughly wetted.*

6. ☒ **Attachment B – Stratigraphic Column**. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.

7. ☒ **Attachment C – Site Geology**. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.

8. ☒ **Attachment D – Site Geologic Map(s)**. The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

   Applicant's Site Plan Scale: 1" = 60'
   Site Geologic Map Scale: 1" = 60'
   Site Soils Map Scale (if more than 1 soil type): 1" = 300'

9. Method of collecting positional data:

☒ Global Positioning System (GPS) technology.
☐ Other method(s). Please describe method of data collection: _____

10. ☒ The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
11. ☒ Surface geologic units are shown and labeled on the Site Geologic Map.
12. ☒ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

    ☐ Geologic or manmade features were not discovered on the project site during the field investigation.

13. ☒ The Recharge Zone boundary is shown and labeled, if appropriate.
14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.

    ☐ 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 Chapter 76.

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

Administrative Information

15. ☒ 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.

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ATTACHMENT A

GEOLOGIC ASSESSMENT TABLE

GEOLOGIC ASSESSMENT TABLE

PROJECT NAME: Lakeway in Georgetown Tract; Lakeway Dr, Georgetown, Williamson Co. Tx

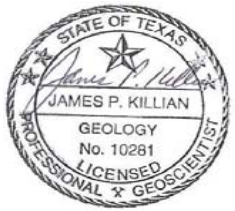
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
M-1	30.67066	-97.6833	MB	30	Ked	3	3	--	--	0	--	--	X	5	35	X		X		Hillside

* DATUM:_____

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Man-made feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials: **steel casing/conctrete**

12 TOPOGRAPHY
Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed



I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field.

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date : 18 June 2018

Sheet ___1___ of __1____

TCEQ-0585-Table (Rev. 10-01-04)

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ATTACHMENT B

STRATIGRAPHIC COLUMN

180130 - Lakway in Georgetown\Graphics\180130GA_06A_Strat.mxd | TED | 06-19-2018

Geologic Unit	Hydrologic Unit	Approx. Thickness at Project Site (ft)	Elevation (ft msl)	Depth (ft)
			755	0
Edwards Formation (Ked)	Edwards Aquifer	100	655	100
Comanche Peak Limestone (Kc)		70	585	170
Walnut Formation (Kwa)	Confining Unit	175	410	345

Note: Unit elevations and thicknesses given with respect to a ground surface elevation of 755 ft msl on the western boundary of the project site (Lakeway in Georgetown).

Horizon Environmental Services, Inc.

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

ATTACHMENT B

STRATIGRAPHIC COLUMN
LAKEWAY IN GEORGETOWN
LAKEWAY DRIVE
GEORGETOWN,
WILLIAMSON COUNTY, TEXAS

Horizon
Environmental Services, Inc.

ATTACHMENT C

DESCRIPTION OF SITE GEOLOGY

Geologic information for the subject site obtained via literature review is provided in Attachment E, Supporting Information.

A geologic assessment of the approximately 22-acre Lakeway in Georgetown tract was conducted pursuant to Texas rules for regulated activities on the Edwards Aquifer Recharge Zone (EARZ) (30 TAC 213). The subject site consists of undeveloped rangeland located northeast of the intersection of Lakeway Drive and Northwest Boulevard in Georgetown, Williamson County, Texas. Assessment findings were used to develop recommendations for site construction measures intended to be protective of water resources at the subject site and adjacent areas.

The entire subject site is located within the Edwards Aquifer Recharge Zone (EARZ), as defined by the Texas Commission on Environmental Quality (TCEQ). The EARZ occurs where surface water enters the subsurface through exposed limestone bedrock containing faults, fractures, sinkholes, and caves.

The subject site is predominantly underlain by the undifferentiated Edwards Limestone Formation (Ked) (UT-BEG, 1995) with an estimated maximum thickness of about 100 feet.

No geologic feature features and 1 man-made feature (M-1) were identified at the subject site. Further information pertaining to the man-made feature is presented in Attachments D, E, and F. Photographs of the subject site and the man-made feature are presented in Attachment G.

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ATTACHMENT D

SITE GEOLOGIC MAP

Horizon Environmental Services, Inc.

Date:	05/29/2018
Drawn:	TED
HJN NO:	180130 GA
Source:	USDA, 2016; UT-BEG, 1995

Legend

- Man-made Feature
- Edwards Limestone (Ked)
- Subject Site

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10281
LICENSED
PROFESSIONAL GEOSCIENTIST

Attachment D

Site Geologic Map
Lakeway in Georgetown
Lakeway Drive
Georgetown, Williamson County, Texas

0 50 100
Feet

180130 - Lakway in Georgetown\Graphics\180130GA_02A_ SGM.mxd

Horizon
Environmental Services, Inc.

ATTACHMENT E

SUPPORTING INFORMATION

1.0 INTRODUCTION AND METHODOLOGY

This report and any proposed abatement measures are intended to fulfill Texas Commission on Environmental Quality (TCEQ) reporting requirements (TCEQ, 1999). This geologic assessment includes a review of the subject site for potential aquifer recharge and documentation of general geologic characteristics for the subject site. Horizon Environmental Services, Inc. (Horizon) conducted the necessary field and literature studies according to TCEQ *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones* (TCEQ, 2004).

Horizon walked transects spaced less than 50 feet apart, mapped the locations of features using a sub-foot accurate Trimble Geo HX handheld GPS or handheld GPS, and posted processed data utilizing GPS Pathfinder Office software, topographic maps, and aerial photographs. Horizon also searched the area around any potential recharge features encountered to look for additional features. When necessary, Horizon removed loose rocks and soil (by hand) to preliminarily assess each feature's subsurface extent while walking transects. However, labor-intensive excavation was not conducted during this assessment. Features that did not meet the TCEQ definition of a potential recharge feature (per TCEQ, 2004), such as surface weathering, karren, or animal burrows, were evaluated in the field and omitted from this report.

The results of this survey do not preclude the possibility of encountering subsurface voids or abandoned test or water wells during the clearing or construction phases of the proposed project. If a subsurface void is encountered during any phase of the project, work should be halted until the TCEQ (or appropriate agency) is contacted and a geologist can investigate the feature.

2.0 ENVIRONMENTAL SETTING

2.1 LOCATION AND GENERAL DESCRIPTION

The subject site is located northeast of the intersection of Lakeway Drive and Northwest Boulevard in Georgetown, Williamson County, Texas. It consists of approximately 22 acres of undeveloped rangeland (Attachment F, Figure 1). The City of Georgetown operates a small airport located immediately east of the subject site.

2.2 LAND USE

The subject site is vacant with no apparent current use. Surrounding lands are generally used for single-family residential and industrial (City airport) purposes.

2.3 TOPOGRAPHY AND SURFACE WATER

The subject site is situated on gently sloping terrain that is located within the San Gabriel River watershed (Attachment F, Figures 2 and 3). Surface elevations on the subject site vary from a minimum of approximately 735 feet above mean sea level (amsl) near the eastern site boundary, to a maximum of approximately 755 feet amsl near the western property boundary (USGS, 1988). Drainage on the site occurs primarily by overland sheet flow from west to east. In

addition, an unnamed tributary of Pecan Branch bisects the center of the site and drains from north to south.

2.4 EDWARDS AQUIFER ZONE

The entire subject site is located within the Edwards Aquifer Recharge Zone (EARZ) (TCEQ, 2018) (Attachment F, Figure 2). The Recharge Zone is described as an area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer.

2.5 SURFACE SOILS

Three soil units are mapped within the subject site (NRCS, 2018; Werchan and Coker, 1983) (Attachment F, Figure 4). This soil units are described in further detail below.

Crawford clay, 1 to 3% slopes (CfB): This gently sloping soil is on mesas, foot slopes, and at the head of drainage ways on uplands. Typically, the uppermost layer is neutral clay about 27 inches thick. It is brown in the upper 6 inches and dark reddish brown below that. The underlying material is whitish, fractured hard limestone. This soil is well-drained, and the available water capacity is low. When the soil is dry and cracked, permeability is rapid; but when the soil is wet and the cracks are closed, permeability is very slow. Runoff is medium.

Eckrant extremely stony clay, 0 to 3% slopes (EeB): Typically, this soil has an extremely stony, very dark gray, clay surface layer about 11 inches thick. The underlying material is indurated limestone. About 25% of the surface is covered with fragments of limestone; most are about 6 inches across, but range from 3 inches to 3 feet across and are as much as 10 inches thick. The soil is calcareous, moderately alkaline, and well-drained. Permeability is moderately slow, and surface runoff is rapid. The fragments of limestone on the surface help to prevent erosion. The available water capacity is very low because of the shallowness of the soil and stones in the soil.

Georgetown stony clay loam, 1 to 3% slopes (GsB): This a gently sloping soil that occurs within central upland areas of the subject site. Typically, this soil has a slightly acidic, brown, stony clay loam surface layer about 7 inches thick and few stones on or near the surface. The subsoil, which extends down to a depth of about 35 inches, is neutral, reddish-brown clay in the upper part and slightly acidic, reddish-brown, cobbly clay in the lower part. The underlying material is indurated, fractured limestone that has clay loam in crevices and fractures. This soil is well-drained. Permeability is slow, and surface runoff is medium. The available water capacity is low. Reaction is neutral to slightly acidic. The erosion hazard ranges to slight.

2.6 WATER WELLS

A review of TCEQ and Texas Water Development Board (TWDB) records revealed no water wells on the subject site and approximately 24 wells within 0.5 miles of the subject site

(TCEQ, 2018; TWDB, 2018). The majority of these wells are reportedly completed within the Edwards Aquifer at total depths ranging from 175 to 200 feet below surface grade. A few wells are reportedly completed within the Trinity Aquifer at total depths of over 900 feet below surface grade.

The results of this assessment do not preclude the existence of undocumented or abandoned wells on the site. If a water well or casing is encountered during construction, work should be halted near the object until the TCEQ is contacted. If any on-site wells are not intended for future use, they should be capped or properly abandoned according to the Administrative Rules of the Texas Department of Licensing and Regulation (TDLR), 16 Texas Administrative Code (TAC), Chapter 76. A plugging report must be submitted by a licensed water well driller to the TDLR Water Well Driller's Program, Austin, Texas. TCEQ publication RG-347, "Landowner's Guide to Plugging Abandoned Water Wells," provides specific guidance. If a well is intended for use, it must comply with 16 TAC §76.

2.7 GEOLOGY

Literature Review

A review of existing literature shows the subject site is predominantly underlain by the undifferentiated Edwards Limestone Formation (Ked) (UT-BEG, 1995) with an estimated maximum thickness of about 100 feet. The Edwards Limestone Formation consists mostly of gray to light brownish-gray, thin to medium-bedded dolomite, dolomitic limestone, and limestone.

The subject site is located within the Balcones Fault Zone, and available geologic reports indicate the nearest mapped fault is located about 1.5 miles to the south/southeast. In general, the rock strata beneath the site dip to the east-southeast at about 10 to 30 feet per mile (less than 1°). The site Stratigraphic Column is provided as Attachment B, and the Site Geologic Map is Attachment D.

Field Assessment

A field survey of the subject site was conducted by a licensed Horizon geologist on 30 May 2018. Horizon identified no apparent geologic features and 1 man-made feature (M-1) on the subject site that meets the TCEQ definition of a potential recharge feature. Man-made feature M-1 is a manhole cover for a sanitary sewer line operated and maintained by the City of Georgetown. Horizon observed no natural springs and 1 stream (an ephemeral tributary of Pecan Branch) at the subject site.

The man-made feature was evaluated for its potential to be a significant pathway for fluid movement into the Edwards Aquifer. The Geologic Assessment Table (Attachment A) summarizes this evaluation and assigns each feature's sensitivity a total point value. Those with a point value of 40 or higher are deemed to be sensitive groundwater recharge features and should be protected during site development pursuant to TCEQ rules for protection of the Edwards Aquifer (30 TAC 213).

3.0 CONCLUSIONS AND RECOMMENDATIONS

No geologic features and 1 man-made feature (M-1) were identified at the subject site. The man-made feature has been evaluated as non-sensitive for groundwater recharge capability and would therefore not require a TCEQ protective setback buffer.

The site generally appears well-suited to development prospectuses. It should be noted that soil and drainage erosion would increase with ground disturbance. Native grasses and the cobbly content of the soil aid to prevent erosion. Soil and sedimentation fencing should be placed in all appropriate areas prior to any site-disturbing activities.

Because the subject site is located over the Edwards Aquifer Recharge Zone, it is possible that subsurface voids underlie the site. If any subsurface voids are encountered during site development, work should halt immediately so that a geologist may assess the potential for the void(s) to provide meaningful contribution to the Edwards Aquifer.

4.0 REFERENCES

(COA) City of Austin. *GIS/Map Downloads,* 2012 2-foot Contours. <ftp://ftp.ci.austin.tx.us/GIS-Data/Regional/coa_gis.html>. 8 November 2012.

(NRCS) Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed 18 June 2018.

(OSM) OpenStreetMap contributors. Open Street Map, <http://www.openstreetmap.org>. Available under the Open Database License (www.opendatacommons.org/ licenses/odbl). Accessed 15 June 2018.

(TCEQ) *Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones*. Revised October 2004.

_____. Complying with the Edwards Aquifer Rules: Administrative Guidance, Revised August 1999.

_____. Edwards Aquifer Protection Program, Chapter 213 Rules – Recharge Zone, Transition Zone, Contributing Zone, and Contributing Zone within the Transition Zone. Vector digital data. Available at <https://www.tceq.texas.gov/gis/download-tceq-gis-data>. Accessed 15 June 2018.

_____. Edwards Aquifer Protection Program. Edwards Aquifer Viewer, <http://www.tceq.state. tx.us/field/eapp/viewer.html>. Accessed 15 June 2018.

(TWDB) Texas Water Development Board. Water Information Integration and Dissemination System. TWDB Groundwater Database, <https://www2.twdb.texas.gov/apps/ waterdatainteractive/groundwaterdataviewer>. Accessed 18 June 2018.

(USDA) US Department of Agriculture. Digital orthophoto quarter-quadrangle, Georgetown, Texas. National Agriculture Imagery Program, Farm Service Agency, Aerial Photography Field Office. 2016

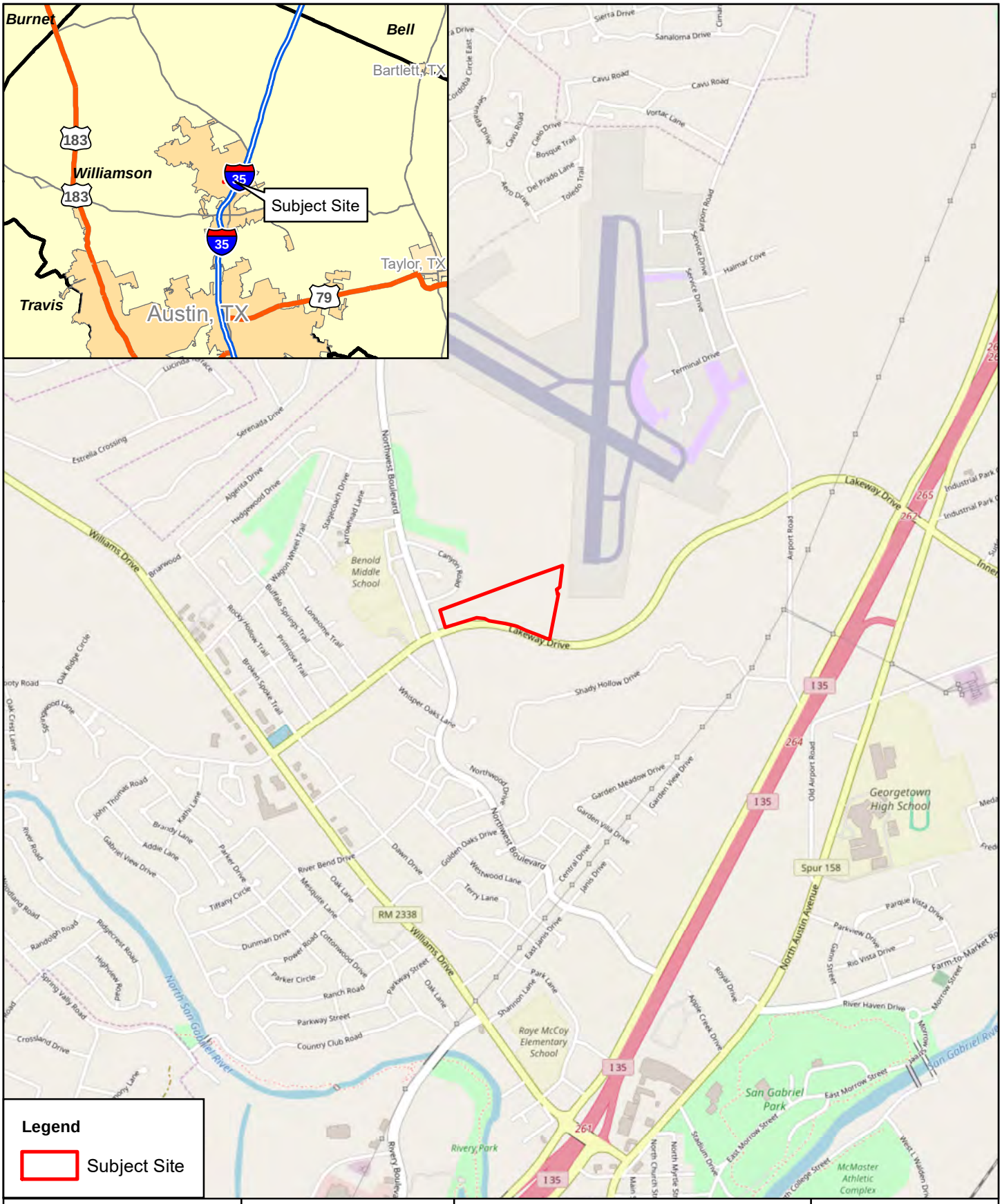
(USGS) US Geological Survey. 7.5-minute series topographic maps, Georgetown, Texas quadrangle, 1988.

(UT-BEG) The University of Texas at Austin Bureau of Economic Geology, V.E. Barnes. *Geologic Atlas of Texas*, Austin Sheet. Virgil Everett Barnes Edition. 1995.

Werchan, L. E., and John L. Coker. *Soil Survey of Williamson County, Texas*. US Department of Agriculture, Natural Resources Conservation Service (formerly Soil Conservation Service), in cooperation with the Texas Agricultural Experiment Station. 1983.

ATTACHMENT F

ADDITIONAL SITE MAPS



Date:	05/29/2018
Drawn:	TED
HJN NO:	180130 GA
Source:	OSM, 2018

Horizon Environmental Services, Inc.

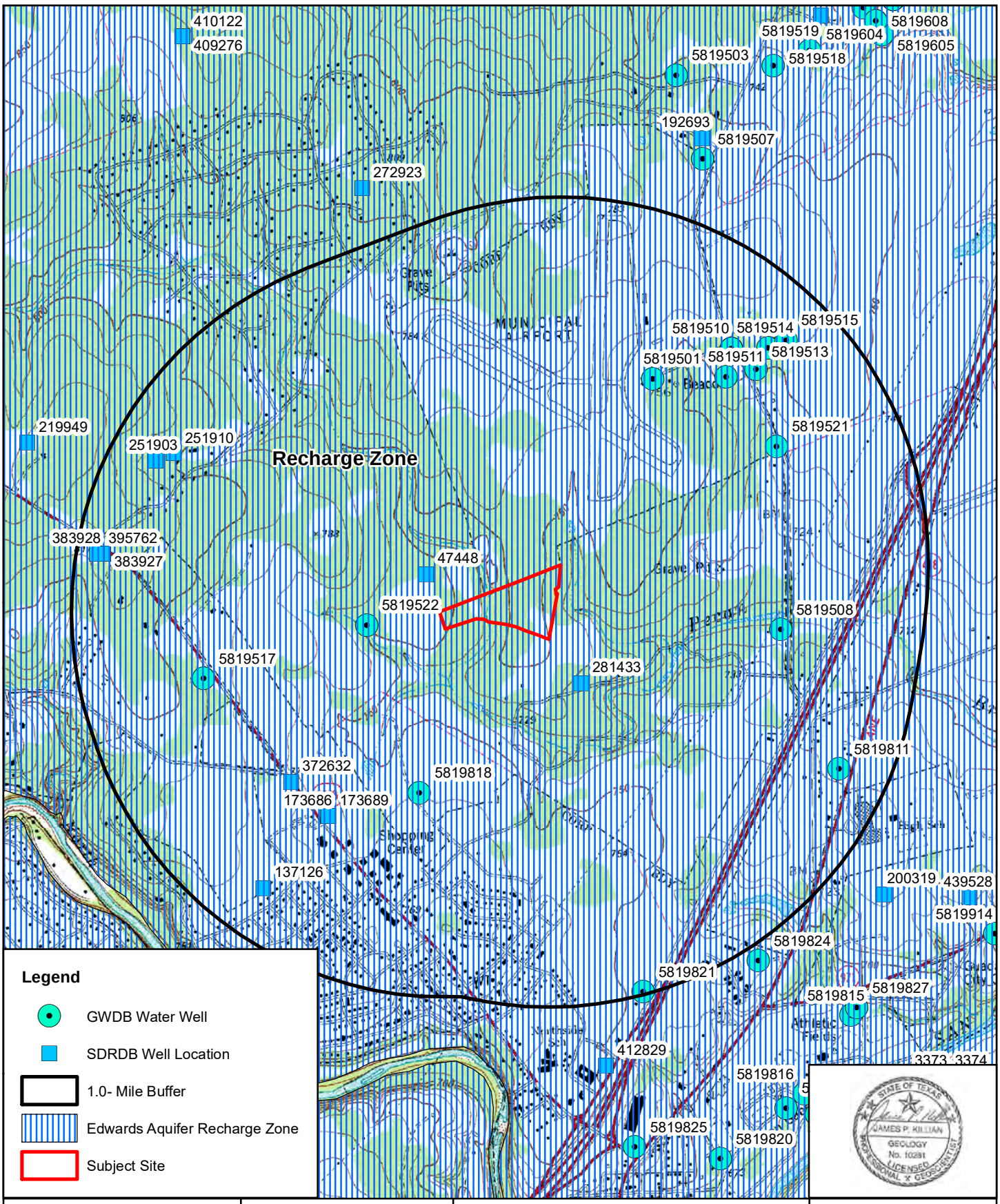
Attachment F, Figure 1

Vicinity Map
Lakeway in Georgetown
Lakeway Drive
Georgetown, Williamson County, Texas

N

0 1,000 2,000
Feet

180130 - Lakway in Georgetown\Graphics\180130GA_01A_Vic.mxd



180130 - Lakway in Georgetown\Graphics\180130GA_03A_Topo_Hydro.mxd

Legend

10-foot Contours

Subject Site

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon Environmental Services, Inc.

Date:	05/21/2018
Drawn:	TED
HJN NO:	180114 GA
Source:	COA, 2012; USDA, 2016

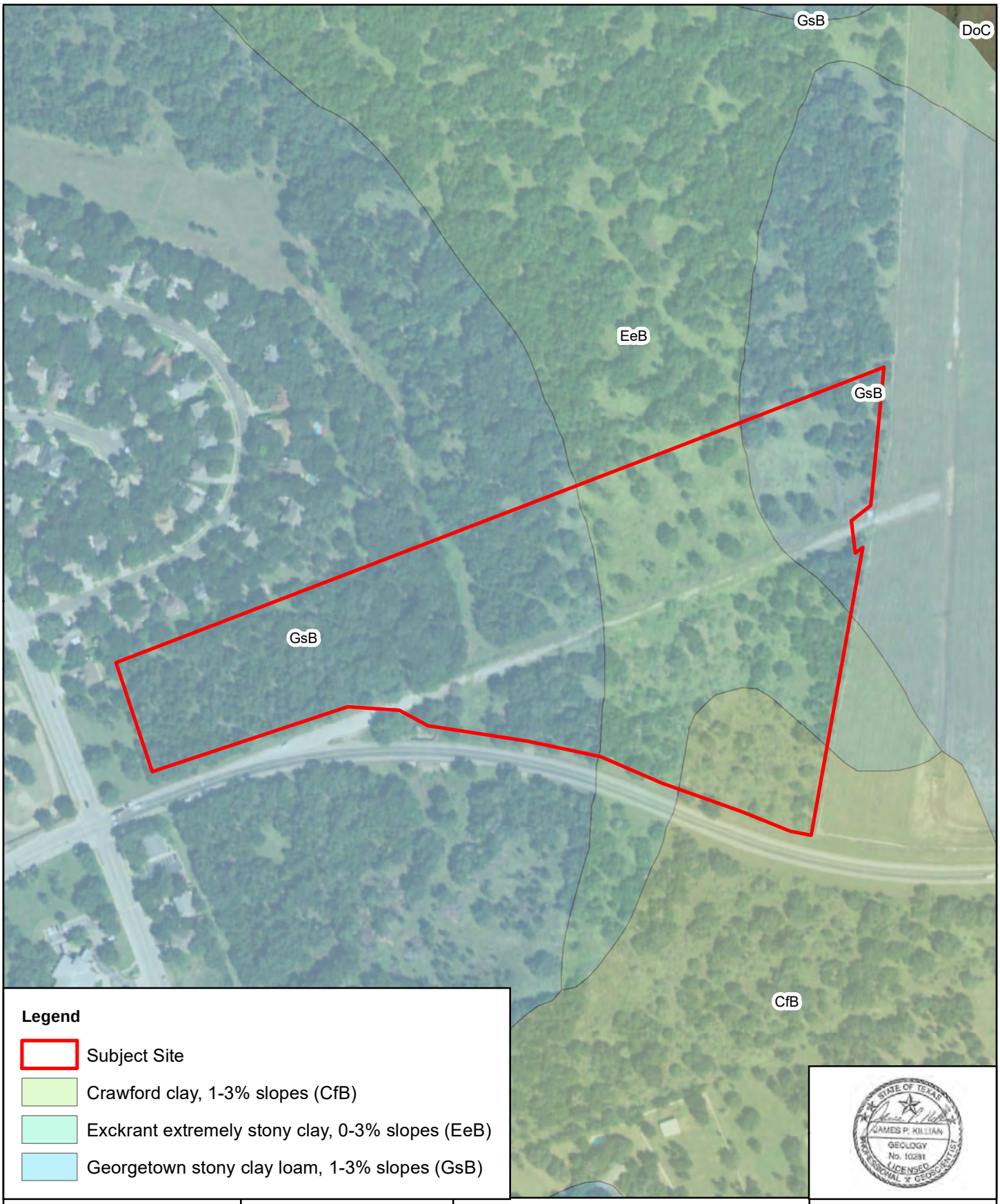
Attachment F, Figure 3

Site Topography Map
Lakeway in Georgetown
Lakeway Drive
Georgetown, Williamson County, Texas

N

0 150 300
Feet

180130 - Lakway in Georgetown\Graphics\180130GA_04A_Topo.mxd



Legend

- Subject Site
- Crawford clay, 1-3% slopes (CfB)
- Exckrant extremely stony clay, 0-3% slopes (EeB)
- Georgetown stony clay loam, 1-3% slopes (GsB)

STATE OF TEXAS
JAMES P. KILLIAN
GEOLOGY
No. 10291
LICENSED
PROFESSIONAL GEOSCIENTIST

Horizon Environmental Services, Inc.

Date:	05/29/2018
Drawn:	TED
HJN NO:	180130 GA
Source:	NRCS, 2018; USDA, 2016

Attachment F, Figure 4
Site Soil Map
Lakeway in Georgetown
Lakeway Drive
Georgetown, Williamson County, Texas

N

0 150 300
Feet

180130 - Lakway in Georgetown\Graphics\180130GA_05A_Soil.mxd

Horizon
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ATTACHMENT G

SITE PHOTOGRAPHS

Horizon
Environmental Services, Inc.

PHOTO 1
View of old roadway and entrance gate located inside subject site near Lakeway Drive, facing southwest

PHOTO 2
Opposite view of old roadway within site, facing northeast

PHOTO 3
View of man-made feature M-1 (sanitary sewer manhole), facing north

PHOTO 4
Upstream view of unnamed tributary of Berry Creek at crossing below old roadway, facing north

WATER POLLUTION ABATEMENT PLAN APPLICATION FORM

TCEQ FORM : TCEQ-0584

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: Ravin Nanpatee, P.E

Date: 6/2/2025

Signature of Customer/Agent:

Regulated Entity Name: Personal Warehouse Georgetown

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):5.004

3. Estimated projected population:80

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	48,272.60	÷ 43,560 =	1.108
Parking	28,255.00	÷ 43,560 =	0.649
Other paved surfaces	64,350.02	÷ 43,560 =	1.477
Total Impervious Cover	140,877.62	÷ 43,560 =	3.23

Total Impervious Cover 3.23 **÷ Total Acreage** 5.004 **X 100 =** 64.55**% 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:

_____% Domestic	_____Gallons/day
100% Industrial	12,729.6Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day 12,729.6	

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 Georgetown Water Treatment Plant (PB) (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" = 40'.

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): _____

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.

WATER POLLUTION ABATEMENT PLAN APPLICATION

ATTACHMENT A

FACTORS AFFECTING SURFACE WATER QUALITY

Water Pollution Abatement Plan Application – Factors Affecting Surface Water Quality

Here are some potential factors that can affect the surface water quality from the proposed development.

Pesticides

It is anticipated that regular pest control will be scheduled to be completed around these buildings to avoid any pests or rodents from entering the units. These types of unwanted wildlife can cause significant damage and losses to the tenants with food production facilities. However, these pesticides can be washed to the storm sewers and into the pond.

Fertilizers

There is proposed landscaping associated with this project, and it is understood that areas with grass may be fertilized as a part of the maintenance. This fertilizer can be washed into the storm sewer and pond via irrigation as well as storms.

Parking Lots / Daily Vehicle Traffic

Daily vehicle traffic will be expected in the proposed development. Vehicle fluids such as gasoline, oil, coolant, etc. may spill and/or leak from these vehicles and could be washed into the storm sewer and retention pond if not cleaned up responsibly.

Stormwater Travel

Drainage swales and storm sewer are proposed with this project. It is understood that these drainage features, when designed with shallow slopes, can help reduce the contaminants entering the pond surface water

WATER POLLUTION ABATEMENT PLAN APPLICATION

ATTACHMENT B

STORMWATER VOLUMES AND CHARACTERISTICS

Water Pollution Abatement Plan Application – Stormwater Volume and Characteristics

Here is a summary of the pre-development and post-development stormwater volumes for the 5.004-acre site. Note, the rainfall data used to model the different storm event were taken from the Georgetown, Texas Drainage Criteria Manual. Per this manual the 2, 10, 25 and 100-year rainfall events were required to be modeled. The SCS TR-55 method is used to determine the stormwater volumes.

Pre-Development Conditions

Characteristic

The existing site is considered to be a short grass prairie with trees and shrubs. The Manning's Roughness Coefficient (n) is 0.15 and was used to calculate the time of concentration. The Curve Number for the entire existing area is 72 which is used for Soil Group D in a Woods, Fair condition.

Pre-Development Stormwater Volumes

2-Year = 16,977.99 cubic-feet = 0.390 acre-feet

10-Year = 33,513.33 cubic-feet = 0.769 acre-feet

25-Year = 43,015.23 cubic-feet = 0.987 acre-feet

100-Year = 52,860.33 cubic-feet = 1.21 acre-feet

Post-Development Conditions

Characteristic

The proposed site conditions include roof area, impervious pavement such as asphalt and concrete and pervious landscape area. The Manning's Roughness Coefficient (n) is 0.30 and was used to calculate the time of concentration. The weighted curve number for the proposed site is 92.08. This was calculated using a curve number of 98 for 3.288-acres of Paved Parking & Roof areas and a curve number of 80 for 1.716-acres of greater than 75% grass cover in good condition.

Post-Development Stormwater Volumes

2-Year = 29,569.44 cubic-feet = 0.678 acre-feet

10-Year = 46,365.61 cubic-feet = 1.064 acre-feet

25-Year = 54,185.77 cubic-feet = 1.243 acre-feet

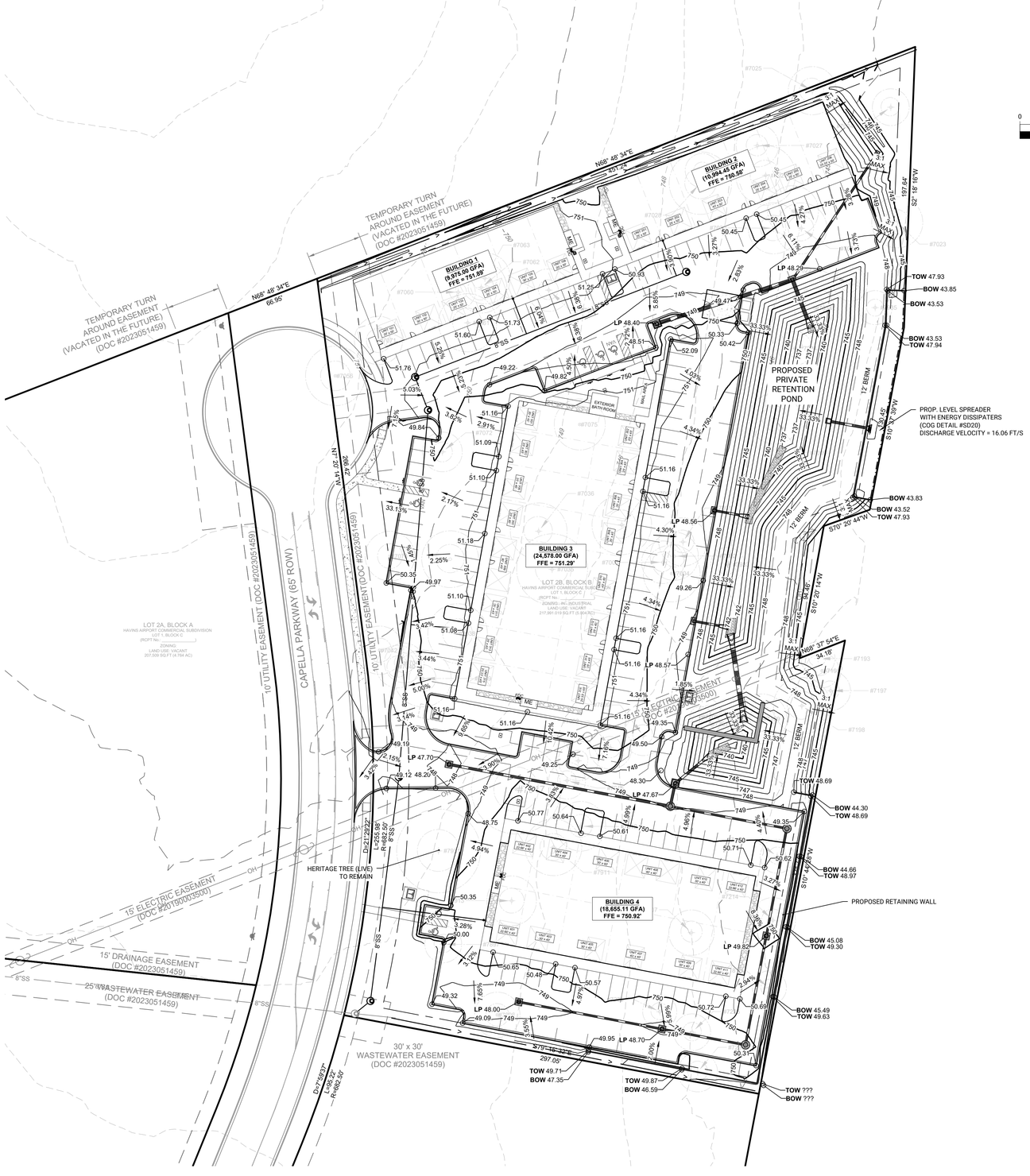
100-Year = 67,525.17 cubic-feet = 1.55 acre-feet

WATER POLLUTION ABATEMENT PLAN APPLICATION

ATTACHMENT C

SITE PLAN

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

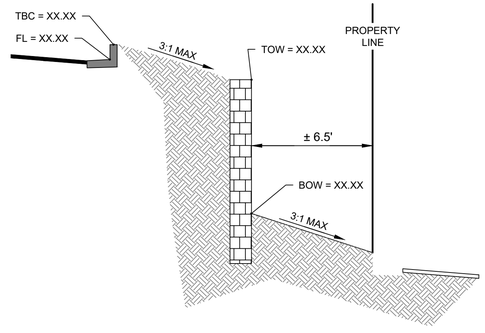
5280	PROPOSED MAJOR CONTOUR
5279	PROPOSED MINOR CONTOUR
5280	EXISTING MAJOR CONTOUR
5279	EXISTING MINOR CONTOUR
	DIRECTIONAL FLOW ARROW
5150	SPOT ELEVATION
	RIGHT OF WAY (R.O.W.)
	CENTERLINE
	PROJECT BOUNDARY
	STORM MANHOLES
	STORM INLETS

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 12/11/2023. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

ABBREVIATIONS:

FL = FLOW LINE
FG = FINISHED GRADE
ME = MATCH EXISTING
TBC = TOP BACK OF CURB
HP = HIGH POINT
OG = ON GRADE
LP = LOW POINT
TOW = TOP OF WALL
BOW = BOTTOM OF WALL
FFE = FINISHED FLOOR ELEVATION
SF = SQUARE FEET



CMU RETAINING WALL DETAIL
N.T.S.

NOTES

1. RETAINING WALLS, SECTIONS OF RETAINING WALLS 4-FEET IN HEIGHT OR HIGHER OR TIERED WALLS MUST BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF TEXAS AND MUST RECEIVE A BUILDING PERMIT FROM THE TOWN OF GEORGETOWN PRIOR TO THE ISSUANCE OF THE PUBLIC WORKS PERMIT.
2. TOP OF WALL (TOW) AND BOTTOM OF WALL (BOW) INDICATE THE FINISHED GRADE ADJACENT TO THE WALL. REFER TO STRUCTURAL PLANS FOR WALL DESIGN.

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL GRADING PLAN

SHEET 6 OF 22

DESIGNED BY R.J.N. DRAWN BY R.J.N. CHECKED BY R.J.N.

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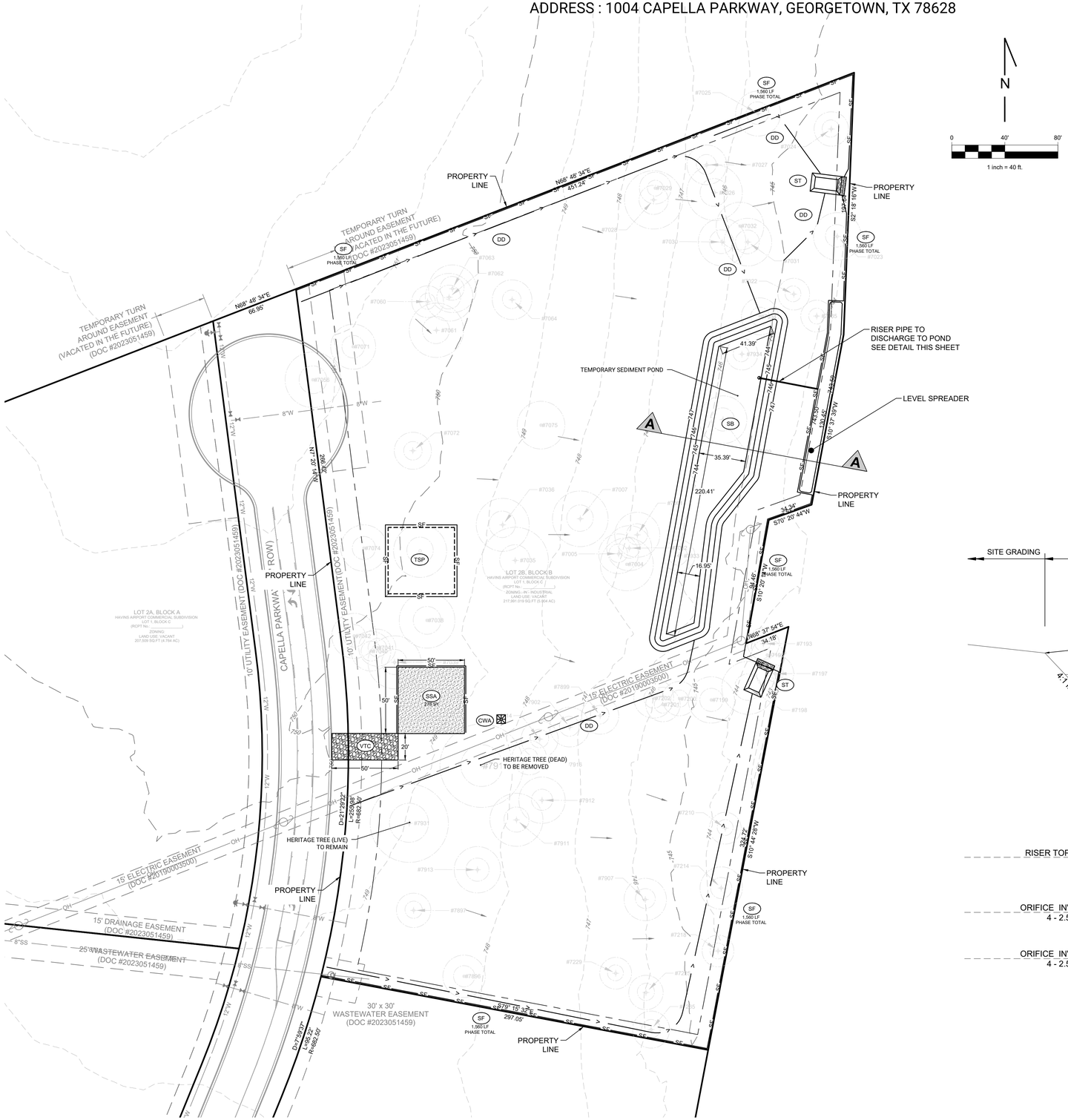
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

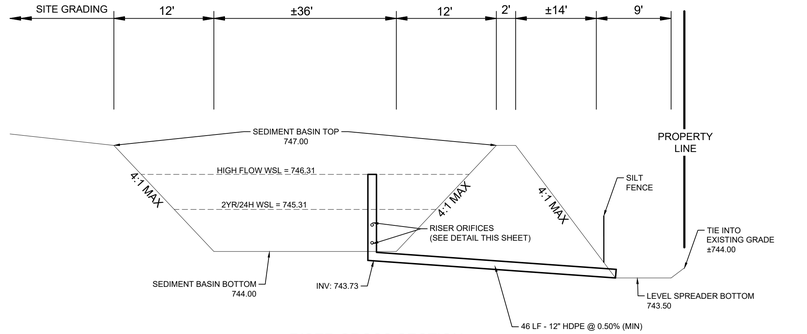


PROJECT INFORMATION

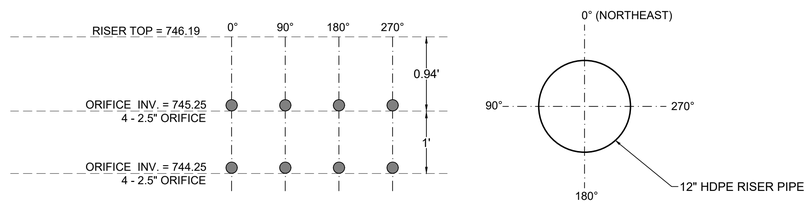
- PROPOSED USES : OFFICE/WAREHOUSE; RESEARCH, TESTING AND DEVELOPMENT LAB; MANUFACTURING, PROCESSING AND ASSEMBLY (GENERAL)
- ZONING = IN (INDUSTRIAL)
- TOTAL ACREAGE = 5.004 ACRES
- TOTAL IMPERVIOUS COVER = 3.233 ACRES
- LEGAL DESCRIPTION = S13268 - HAVINS AIRPORT COMMERCIAL (BLK C LT 1 REPLAT)

LEGEND

5280	PROPOSED MAJOR CONTOUR
5279	PROPOSED MINOR CONTOUR
5280	EXISTING MAJOR CONTOUR
5279	EXISTING MINOR CONTOUR
	PHASE BOUNDARY
CF	CONSTRUCTION FENCE
CM	CONSTRUCTION MARKER
CWA	CONCRETE WASHOUT AREA
ECB	EROSION CONTROL BLANKET
DD	DIVERSION DITCH
IP	INLET PROTECTION
LOC	LIMITS OF CONSTRUCTION
OP	OUTLET PROTECTION
SB	SEDIMENT BASIN
SCL	SEDIMENT CONTROL LOG
SM	SEEDING AND MULCHING
SF	SILT FENCE
SP	STOCK PILE
SSA	STABILIZED STAGING AREA
SR	SURFACE ROUGHENING
ST	SEDIMENT TRAP
VTC	VEHICLE TRACKING CONTROL
TSP	TEMPORARY STOCKPILE



RISER CROSS SECTION



RISER PIPE DETAIL

PERSONAL WAREHOUSE
WORK · STORE · PLAY

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HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

STATE OF TEXAS
5/22/2025
REGISTERED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INITIAL EROSION CONTROL PLAN

SHEET 2 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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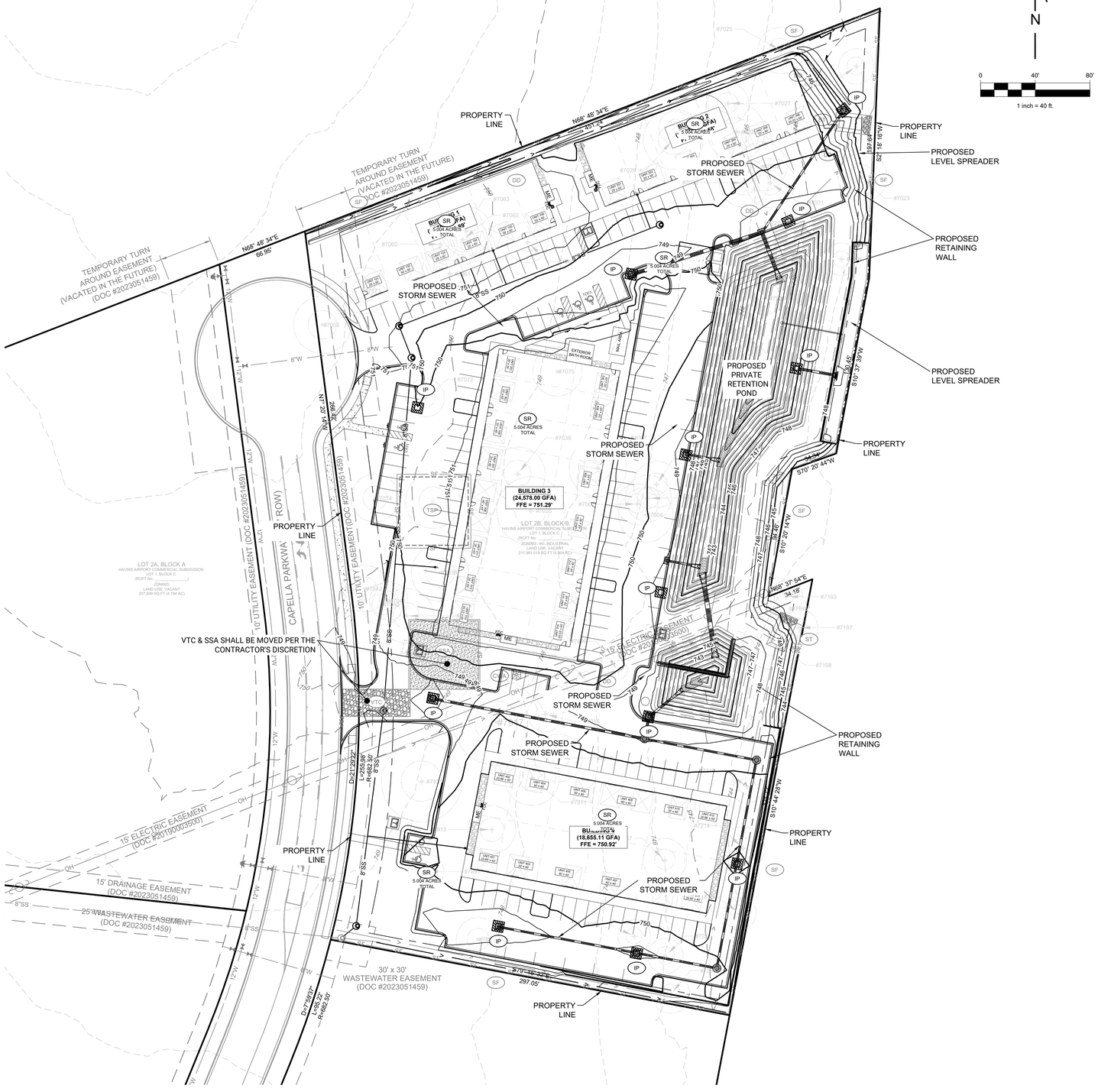
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

5280		PROPOSED MAJOR CONTOUR
5279		PROPOSED MINOR CONTOUR
5280		EXISTING MAJOR CONTOUR
5279		EXISTING MINOR CONTOUR
		PHASE BOUNDARY
CF	CF	CONSTRUCTION FENCE
	CM	CONSTRUCTION MARKER
CWA	CWA	CONCRETE WASHOUT AREA
ECB	ECB	EROSION CONTROL BLANKET
<	DD	DIVERSION DITCH
IP	IP	INLET PROTECTION
LOC	LOC	LIMITS OF CONSTRUCTION
OP	OP	OUTLET PROTECTION
SB	SB	SEDIMENT BASIN
SCL	SCL	SEDIMENT CONTROL LOG
SM	SM	SEEDING AND MULCHING
SF	SF	SILT FENCE
SP	SP	STOCK PILE
SSA	SSA	STABILIZED STAGING AREA
SR	SR	SURFACE ROUGHENING
ST	ST	SEDIMENT TRAP
VTC	VTC	VEHICLE TRACKING CONTROL
TSP	TSP	TEMPORARY STOCKPILE

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INTERIM EROSION CONTROL PLAN

SHEET 3 OF 22

DESIGNED BY: R.J.N. | DRAWN BY: R.J.N. | CHECKED BY: R.J.N.

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CONSTRUCTION DOCUMENTS
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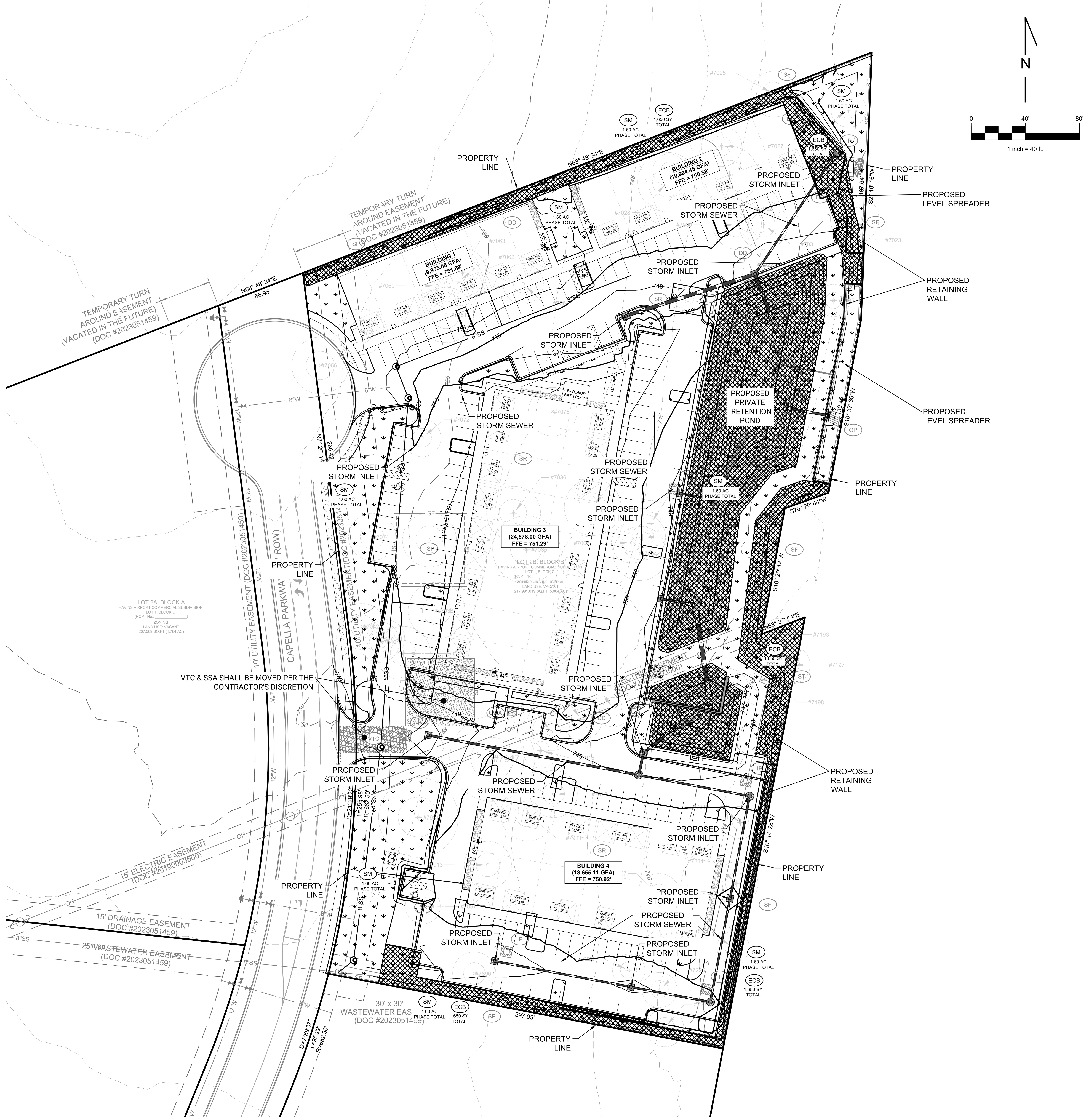
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

- 5280 — PROPOSED MAJOR CONTOUR
- 5279 — PROPOSED MINOR CONTOUR
- 5280 — EXISTING MAJOR CONTOUR
- 5279 — EXISTING MINOR CONTOUR
- PHASE BOUNDARY
- CF — CONSTRUCTION FENCE
- CM — CONSTRUCTION MARKER
- CWA — CONCRETE WASHOUT AREA
- ECB — EROSION CONTROL BLANKET
- DD — DIVERSION DITCH
- IP — INLET PROTECTION
- LOC — LIMITS OF CONSTRUCTION
- OP — OUTLET PROTECTION
- SB — SEDIMENT BASIN
- SCL — SEDIMENT CONTROL LOG
- SM — SEEDING AND MULCHING
- SF — SILT FENCE
- SP — STOCK PILE
- SSA — STABILIZED STAGING AREA
- SR — SURFACE ROUGHENING
- ST — SEDIMENT TRAP
- VTC — VEHICLE TRACKING CONTROL
- TSP — TEMPORARY STOCKPILE

PERSONAL WAREHOUSE WORK · STORE · PLAY

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No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

SHEET TITLE
FINAL EROSION CONTROL PLAN

SHEET 4 OF 22

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

EROSION CONTROL DETAILS

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

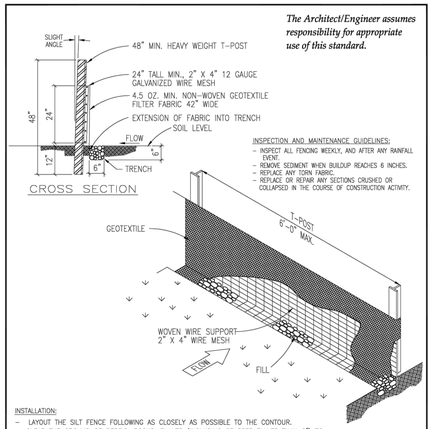
ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES
EC01

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100#/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 80% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS - RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95.# COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING). IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES
EC01A

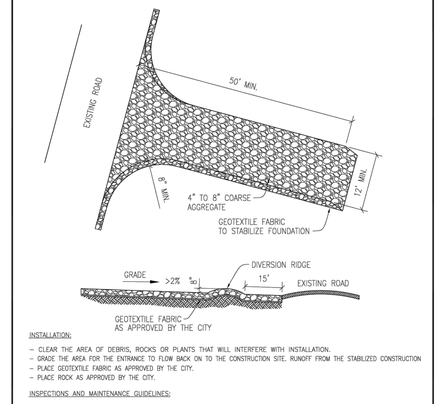


The Architect/Engineer assumes responsibility for appropriate use of this standard.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL
EC02

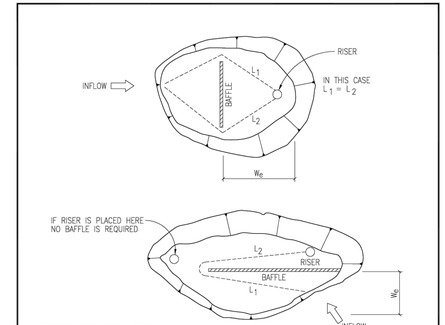


INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- 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 ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-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.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE
EC06

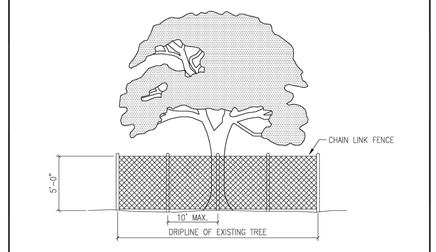


SEDIMENT BASIN BAFFLE DESIGN
$W_e = A / (L_1 + L_2)$
W_e = EFFECTIVE WIDTH OF BASIN
A = SURFACE AREA OF BASIN WHEN FILLED TO RISER CREST
L_1, L_2 = SHORTEST TRAVEL DISTANCE AROUND THE BAFFLE FROM INLET TO OUTLET

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 1/2 OF ITS ORIGINAL STORAGE CAPACITY.
- THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SEDIMENT BASIN BAFFLE DESIGN
EC08

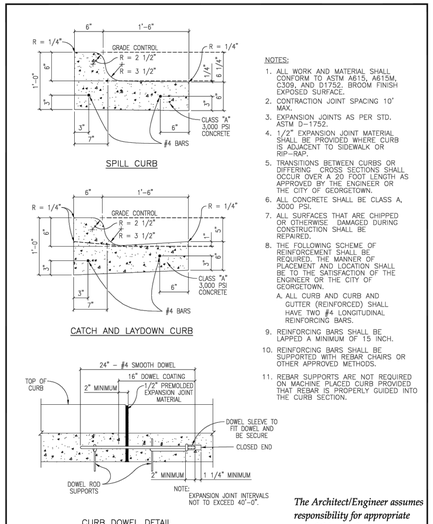


NOTES:
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – CHAIN LINK FENCE
EC09

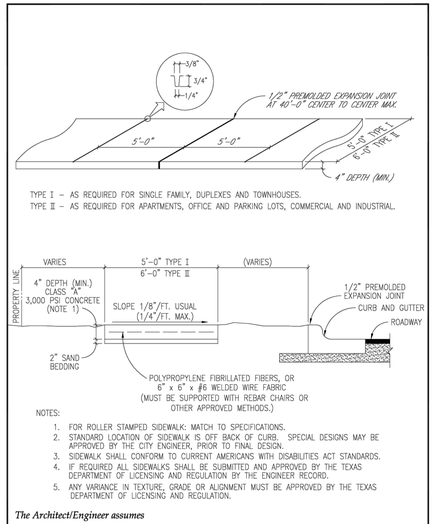
SITE DETAILS



NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D-1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. THE FOLLOWING SCHEME OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. ALL CURB AND CURB AND GUTTER (REINFORCED) SHALL HAVE TWO #4 LONGITUDINAL REINFORCING BARS.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB AND GUTTER DETAILS
SD06

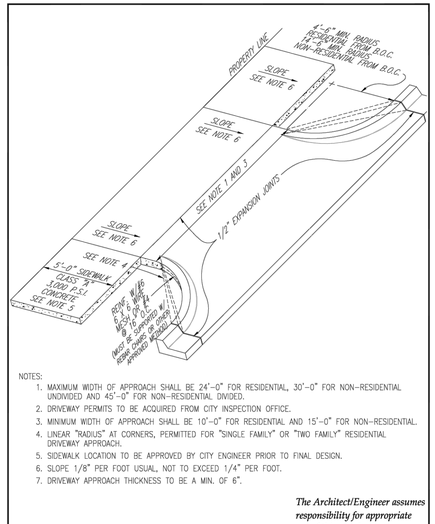


TYPE I – AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES.
TYPE II – AS REQUIRED FOR APARTMENTS, OFFICE AND PARKING LOTS, COMMERCIAL AND INDUSTRIAL.

NOTES:
1. FOR ROLLER STAMPED SIDEWALK: MATCH TO SPECIFICATIONS.
2. STANDARD LOCATION OF SIDEWALK IS OFF BACK OF CURB. SPECIAL DESIGNS MAY BE APPROVED BY THE CITY ENGINEER, PRIOR TO FINAL DESIGN.
3. SIDEWALK SHALL CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
4. IF REQUIRED ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION BY THE ENGINEER RECORD.
5. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT MUST BE APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK SECTION AND JOINT DETAIL
SD14

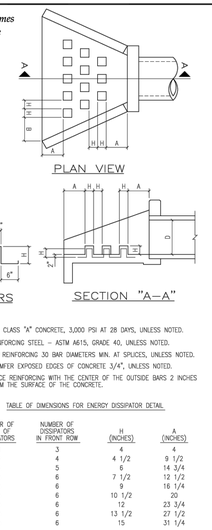


NOTES:
1. MAXIMUM WIDTH OF APPROACH SHALL BE 24'-0" FOR RESIDENTIAL, 30'-0" FOR NON-RESIDENTIAL UNDIVIDED AND 45'-0" FOR NON-RESIDENTIAL DIVIDED.
2. DRIVEWAY PERMITS TO BE ACQUIRED FROM CITY INSPECTION OFFICE.
3. MINIMUM WIDTH OF APPROACH SHALL BE 10'-0" FOR RESIDENTIAL AND 15'-0" FOR NON-RESIDENTIAL.
4. LINEAR "RADIUS" AT CORNERS, PERMITTED FOR "SINGLE FAMILY" OR "TWO FAMILY" RESIDENTIAL DRIVEWAY APPROACH.
5. SIDEWALK LOCATION TO BE APPROVED BY CITY ENGINEER PRIOR TO FINAL DESIGN.
6. SLOPE 1/8" PER FOOT USUAL, NOT TO EXCEED 1/4" PER FOOT.
7. DRIVEWAY APPROACH THICKNESS TO BE A MIN. OF 6".

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE DRIVEWAY APPROACH TYPICAL
SD15

The Architect/Engineer assumes responsibility for appropriate use of this standard.



NOTES:
1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL – ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	18 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATOR DETAIL
SD20

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

PERSONAL WAREHOUSE
WORK · STORE · PLAY

CALL 811 BEFORE YOU DIG

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
DETAILS

SHEET
18 OF 22

DESIGNED BY RJN DRAWN BY RJN CHECKED BY RJN

6/2/2025 9:42 PM F:\PROJECTS_PERSONAL WAREHOUSE\PW-017 - GEORGETOWN TX\CIVIL\CAD\PLANS\SITE DEVELOPMENT PLAN\0 - COVER.DWG

ORGANIZED SEWAGE COLLECTION SYSTEM APPLICATION

TCEQ FORM : TCEQ-0582

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: Personal Warehouse Georgetown

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: Steve Garrison
   Entity: GTOWNPW DEVELOPMENT, LLC.
   Mailing Address: 7200 South Alton Way
   City, State: Centennial, Colorado Zip: 80112
   Telephone: 720-341-7918 Fax: _____
   Email Address: steve@personalwarehouse.com
   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: Ravin Nanpatee
   Texas Licensed Professional Engineer's Number: 147661
   Entity: Here Civil Consultants, LLC
   Mailing Address: 64 Curling Creek Drive
   City, State:Clayton, NC Zip: 27527
   Telephone:336-554-2424 Fax:_____
   Email Address:rnanpatee@herecc.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:

_____% Domestic	_____ gallons/day
100% Industrial	12,729.6 gallons/day
_____% Commingled	_____ gallons/day

Total gallons/day: 12,729.6

6. Existing and anticipated infiltration/inflow is 3,753 gallons/day. This will be addressed by: 3,753.

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 _____. A copy of the approval letter is attached.
☒ The WPAP application for this development was submitted to the TCEQ on concurrent, 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)*
8	661.41	PVC SDR 26	ASTM D3034

Total Linear Feet: 661.41

(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 Georgetown Water Treatment Plant (PB) (name) Treatment Plant. The treatment facility is:

   ☒ Existing
   ☐ Proposed

10. All components of this sewage collection system will comply with:

   ☒ The City of Georgetown, Texas 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.

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?*
MAIN	9 Of 22	7+61.60	MANHOLE
	Of		
	Of		
	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" = 40'.

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*
MAIN	2+98.41	CROSSING	N/A	3.35'
MAIN	5+44.59	CROSSING	N/A	2.50'
MAIN	6+93.14	CROSSING	N/A	4.96'
MAIN	6+98.19	CROSSING	N/A	5.32'
MAIN	7+22.12	CROSSING	N/A	4.62'
MAIN	7+27.15	CROSSING	N/A	4.07'

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
Manhole, showing inverts comply with 30 TAC §217.55(l)(2) **[Required]**	20 of 22
Alternate method of joining lateral to existing SCS line for potential future connections **[Required]**	N/A of
Typical trench cross-sections **[Required]**	20 of 22
Bolted manholes **[Required]**	N/A of
Sewer Service lateral standard details **[Required]**	20 of 22
Clean-out at end of line **[Required, if used]**	N/A of
Baffles or concrete encasement for shock/erosion protection **[Required, if flow velocity of any section of pipe >10 fps]**	N/A of
Detail showing Wastewater Line/Water Line Crossing **[Required, if crossings are proposed]**	8,9,10 of 22
Mandrel detail or specifications showing compliance with 30 TAC §217.57(b) and (c) **[Required, if Flexible Pipe is used]**	N/A of

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

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.

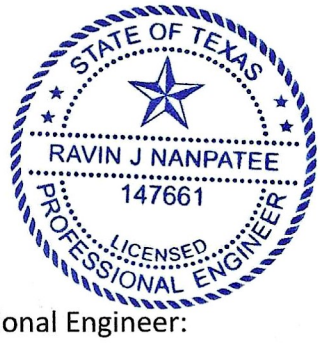
Signature

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:

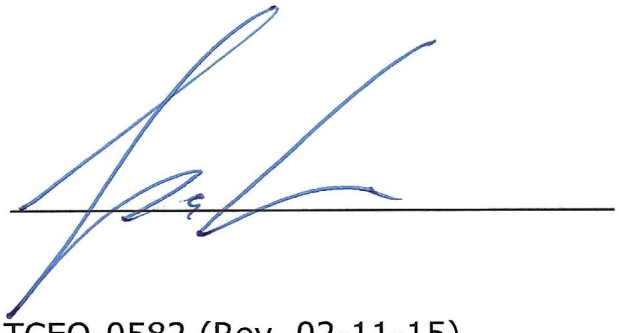
Print Name of Licensed Professional Engineer: Ravin Nanpatee

Date: 6/2/2025

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)

ORGANIZED SEWAGE COLLECTION SYSTEM APPLICATION

ATTACHMENT A

SCS ENGINEERING DESIGN REPORT

Sewage Collection System (SCS) Engineering Design Report

Intent

The intent of this document is to accompany the Organized Sewage Collection System Application for a complete submittal. Per the application's requirements, this Engineer's report will refer to sections of the 30 TAC Chapter 217, as applicable, and provide any necessary calculations mentioned in that section.

Project Summary

The proposed project will take place in Georgetown, Texas on a 5.004 – acre lot within a commercial subdivision and will have a future Industrial land use. The existing property is vacant land that is covered with native grasses, shrubs and trees. The proposed improvements include paved drive isles and parking stalls, sidewalks, landscaping and four proposed buildings with a total of 64,202.56 square-feet of gross-floor area. In addition, a retention-irrigation pond is located on the proposed site and will accept stormwater runoff from the proposed site. This project is located within the Edwards Aquifer Recharge Zone and will require a TSS removal rate of 85% per Georgetown, TX criteria. Proposed utilities include an 8-inch sanitary sewer main that will connect to an existing sanitary sewer network that was constructed to serve the commercial subdivision. In addition, an 8-inch water main will look through the site to provide fire service, domestic service as well as to serve fire hydrants. The site can be accessed from Clear Skies Parkway which originates from Lakeway Drive.

The proposed site is not located within a 100-year floodplain per the FEMA FIRM Map 48491C0291F.

No geological features exist on site.

TCEQ Chapter 217.10 – Subchapter A

Items 217.10.(a) – (e) : These items are understood and noted. No variances are requested with this application.

Items 217.10.f.(1) – (2) : Site, Grading and Utility plan sheets are included with this application that show the proposed service area and topographic information. No future expansion is proposed to this site.

Item 217.10.f.(3) : To determine the wastewater flow from the proposed industrial buildings, a Living Unit Equivalent (LUE) must be calculated using a conversion rate of 1 LUE per 7,000 square-feet of gross floor area for low water usage. Note, 1 LUE represents 3.5 people living at a residence.

64,202.56 square-feet / 7,000 square-feet = 9.17 LUEs

9.17 LUE * 3.5 (people/LUE) = 32.10 people

Average Dry-Weather Flow = 70 (gal/person/day) * [32.10/1440] = 1.56 GPM

Peak Flow Factor = [18+(0.0206*1.56)^(0.50)] / [4+(0.0206*1.56)^(0.50)] = 18.18 / 4.18 = 4.35 = 4

Peak Dry Weather Flow = 1.56 * 4 = 6.24 GPM

Inflow/Infiltration = 750 gallons/day/acre = 750 * 5.004 = 3,753 gallons/day = 2.60 GPM

Peak Wet Weather Flow = 6.24 + 2.60 = 8.84 GPM

Items 217.10.f.(4) - (5) : Minimum and Maximum slopes for the proposed sewer main was selected using Appendix A of the Organized Sewage Collection System Application. A consistent slope of 0.80% provided a minimum flow rate of at least 2 ft/s, but did not exceed 10 ft/s.

Items 217.10.f.(6) : The proposed sewer main will connect to an existing sanitary manhole at the southeastern corner of the property. This existing manhole is a part of a sanitary sewer network that was constructed for this commercial sub-division. It is anticipated that this project will not negatively affect the downstream infrastructure.

Items 217.10.f.(7) : Per the Criteria, the inflow and infiltration is calculated to be 3,753 gallons/day. It is anticipated that this will not negatively affect the existing downstream infrastructure.

Items 217.10.f.(8) : The proposed sewer main will connect to an existing sanitary manhole at the southeastern corner of the property. This existing manhole is a part of a sanitary sewer network that was constructed for this commercial sub-division. No lift stations are proposed with this project

Items 217.10.f.(9) : It can be assumed that the existing treatment plant has capacity for this project as well as the entire commercial subdivision as the existing sanitary main network was approved by the City of Georgetown.

Items 217.10.f.(10) : The proposed design conforms to the City of Georgetown's as well as TCEQ's criteria.

Items 217.10.f.(11) : No future expansion is proposed with this project nor will other properties be able to use the proposed main.

Items 217.10.f.(12) – (13) : No lift stations are proposed with this project

Items 217.10.(g) : A wastewater treatment plant if not proposed with this project.

TCEQ Chapter 217 - Subchapter C

Item 217.51 : The project will conform to the City of Georgetown's Construction Specifications. Details are provided in the Construction Documents

Item 217.52 : The project is located in the Edwards Aquifer Recharge Zone and will meet the TCEQ Criteria.

Item 217.53

(a) The proposed collection system has sufficient design to convey all peak flows. Flow calculations can be found under "Item 217.10.f.(3)" of this report

(b) Gravity Sewer Pipe shall follow Georgetown's Construction Specifications and shall be PVC SDR 26, ASTM D3034.

(c) The pipe shall be have a bell and spigot push on joints per ASTM F477. Manufacturer recommendations shall also be followed.

(d) The proposed separation distances (vertical and horizontal) meet or exceed the minimum requirements of the TCEQ and the City of Georgetown.

Sanitary collection is located below the proposed water system and exceeds nine feet horizontal collection. No casing required

Two feet of vertical clearance is provided at water and sanitary crossings with sanitary being the lower utility in all cases. No casing required

(e) A wye connection is provided at each lateral location. The Georgetown sewer service connection detail shall be followed during construction

(f) No bores or tunnels will be required for this project

(g) PVC pipes are unaffected by fluids and gases generated by domestic wastewater flow. In addition, PVC is unaffected by corrosive soils.

(h) It is not anticipated that odor will be an issue for the proposed design as the system is deep and will be properly sealed.

(i) No geologic faults are present

(j) The 8-inch gravity sewer is designed at 0.80% and has a max capacity of 638.63 gpm which far exceeds the anticipated peak flows.

(k) The components that make up the proposed system are expected to exceed the 50-year minimum. The depth of the proposed system will not experience live loads frequently

(l) Minimum and Maximum slopes for the proposed sewer main was selected using Appendix A of the Organized Sewage Collection System Application. A consistent slope of 0.80% provided a minimum flow rate of at least 2 ft/s, but did not exceed 10 ft/s.

(m) The proposed alignment of the collection system meets TCEQ and Georgetown criteria

(n) No proposed invert siphons or sag pipes are proposed

(o) No bridge sections are proposed

Item 217.54 : Pipe laying shall meet the City of Georgetown's Construction Specifications and Details

Item 217.55 : Manhole construction as well as it's components shall meet the City of Georgetown's Construction Specifications and Details

Item 217.56 : It is not anticipated that trenchless pipe installation will be utilized for this project

Item 217.57 : All testing of the gravity sewer shall be in conformance with the City of Georgetown's Construction Specifications

Item 217.58 : All testing of the proposed manholes shall be in conformance with the City of Georgetown's Construction Specifications

Items 217.59 – 217.71 : No lift stations, force mains, reclaimed water facilities, storage tanks proposed with this project.

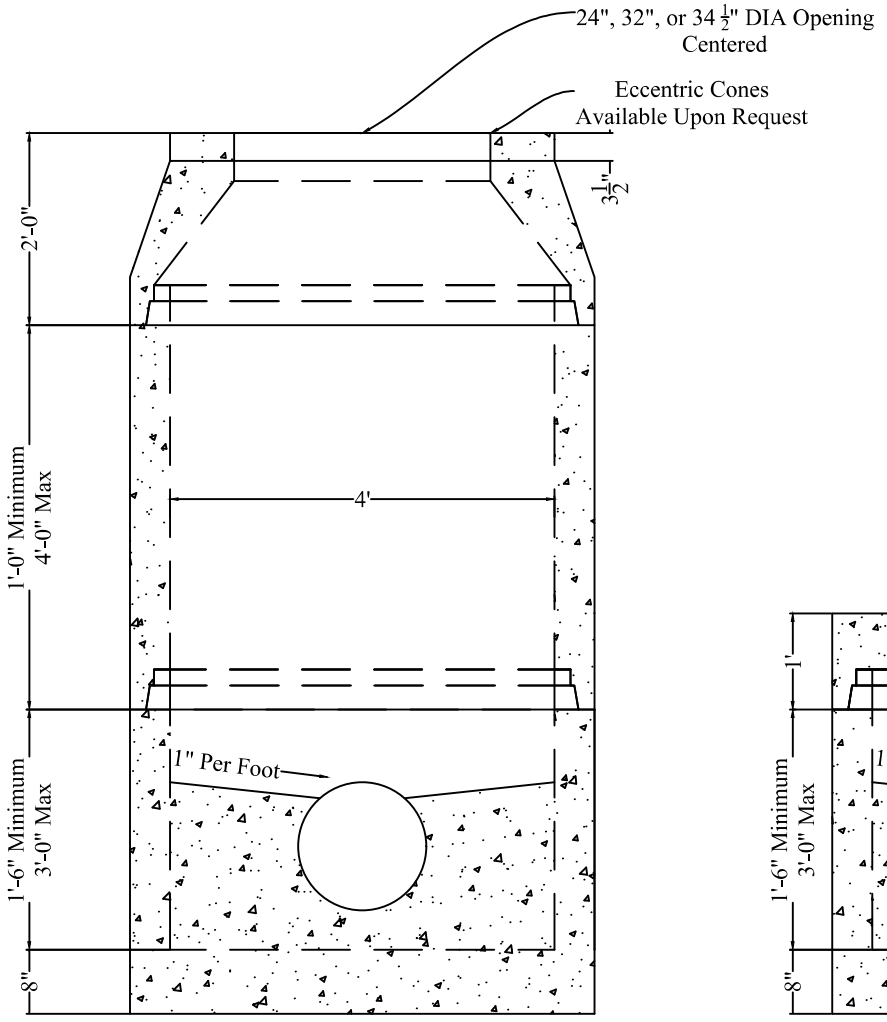
TCEQ Chapter 217 - Subchapter D

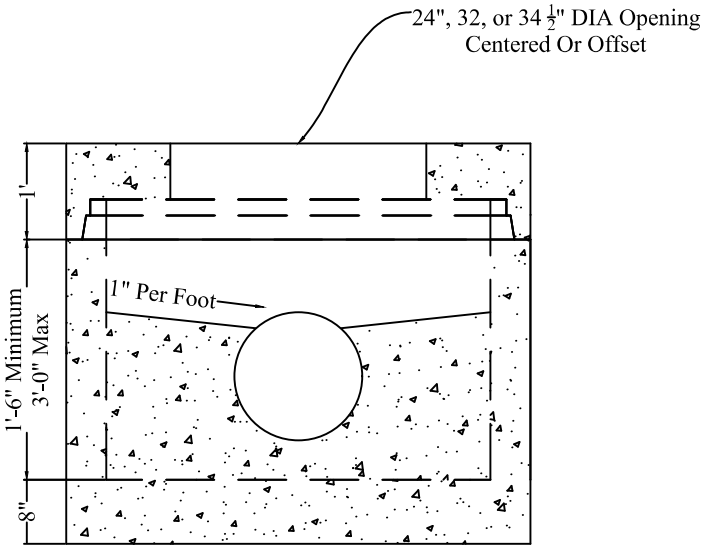
No alternative methods of collection are proposed with this project.

ORGANIZED SEWAGE COLLECTION SYSTEM APPLICATION

SEWER MANHOLE SPECIFICATIONS

Manholes





48" Manhole - Straight Base With Reducing Cone

48" Manhole - Flat Top Illustration

1. Water Tight Gaskets At All Pipe Connections
2. Average Weight of 24" Depth Base
   W/ 8" Inverting = 5000#
   - Riser Weight = 800#/VTF
3. Manufactured to Your Specifications
4. Invert Depth Shall be Equal To The Largest Pipe Diameter
5. Meets Or Exceeds ASTM C478-15
6. Concrete- 5000 PSI @ 28 Days
7. Inside Height = 30'-0" MAX
8. 0'-0" - 2'-0" Soil Cover Over Top Slab
9. Rated For HS-20 Loading

TURNER
P.O. Box 885
Rhome, TX 76078

DRAWN BY:	JOB NO:	DATE:	WEIGHT:	Revision Number	Sheet 1 of 1
TSH		06/12/18	*Varies*	R1	

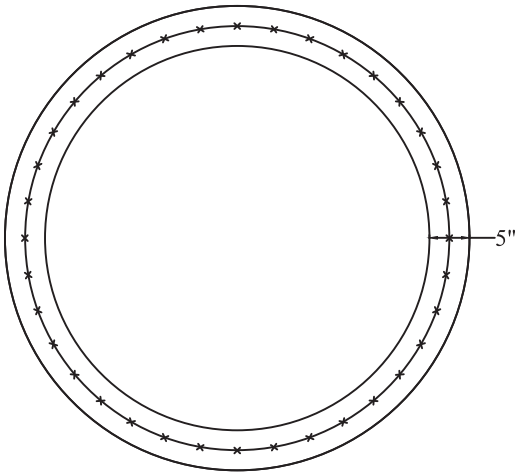
CUSTOMER & PRODUCT
48" Manhole Straight Base Section View

JOB NAME

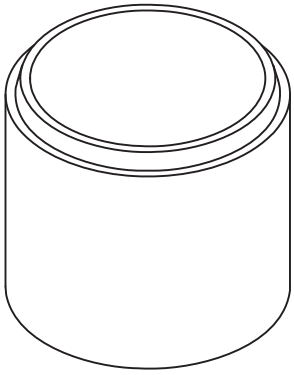
BOM

Marker	Size	Amount	Type/Item Number	Length
	.25	See Table	Hoop	Ø 53"
	WWF 3X8 W3XW2.5	1	Round	Ø53" X 6"
	Lifter	2	MP105-1	N/A
	Chairs	As Needed	1" Wheel	N/A

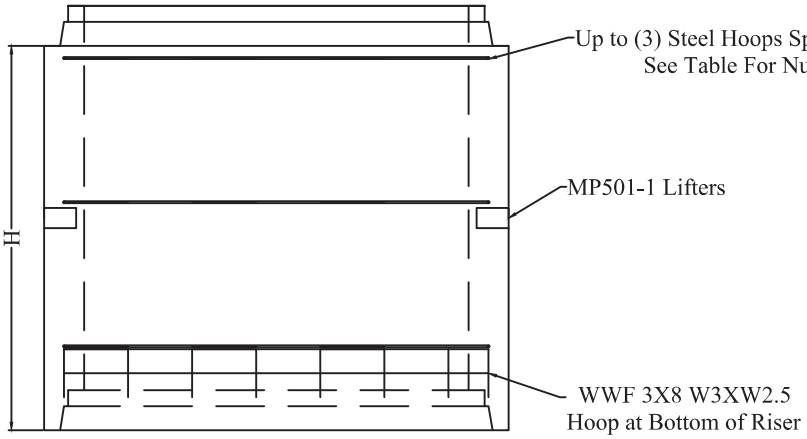
Type	Length	Weight
.25	See Table	2.18 # Each
WWF 3X8 W3XW2.5	7.42 Sqft	4.15 #
Cage Weight		See Table Below



PLAN VIEW



ISOMETRIC VIEW



ELEVATION VIEW

Riser BOM

Product Code	Height (H)	Number of Hoops	Cage Weight	Product Weight
48X1R	12"	0	4.15 #	875 #
48X1RCOAT	12"	0	4.15 #	875 #
48X1R-CON	12"	0	4.15 #	875 #
48X18DOG	18"	1	6.33 #	
48X18DOG-CON	18"	1	6.33 #	
48X18R	18"	1	6.33 #	1500 #
48X18R-CON	18"	1	6.33 #	1500 #
48X2R	24"	1	6.33 #	1800 #
48X2R-CON	24"	1	6.33 #	1800 #
48X30R	30"	2	8.51 #	2250 #
48X30R-CON	30"	2	8.51 #	2250 #
48X30DOG	30"	2	8.51 #	
48X30DOG-CON	30"	2	8.51 #	
48X3R	36"	2	8.51 #	2750 #
48X3R-CON	36"	2	8.51 #	2750 #
48X3DOG	36"	2	8.51 #	
48X3DOG-CON	36"	2	8.51 #	
48X4R	48"	3	10.69 #	3500 #
48X4R-CON	48"	3	10.69 #	3500 #
48X4DOG	48"	3	10.69 #	
48X4DOG-CON	48"	3	10.69 #	

TURNER
P.O. Box 885
Rhome, TX 76078

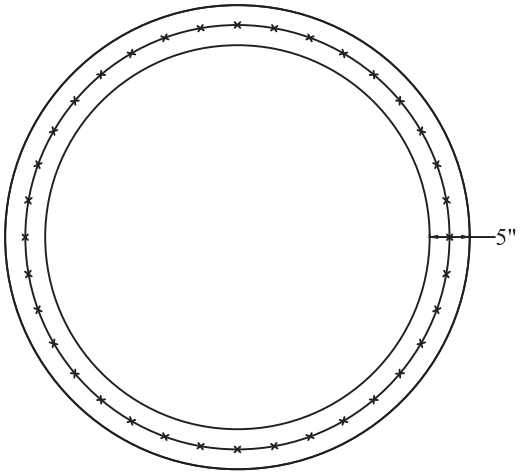
DRAWN BY:	JOB NO:	DATE:	WEIGHT:	Revision Number	Sheet 1 of 1
TSH		11/07/2017	See DWG	R1	

CUSTOMER & PRODUCT

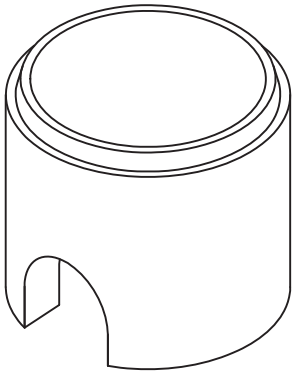
48" Manhole Risers

JOB NAME

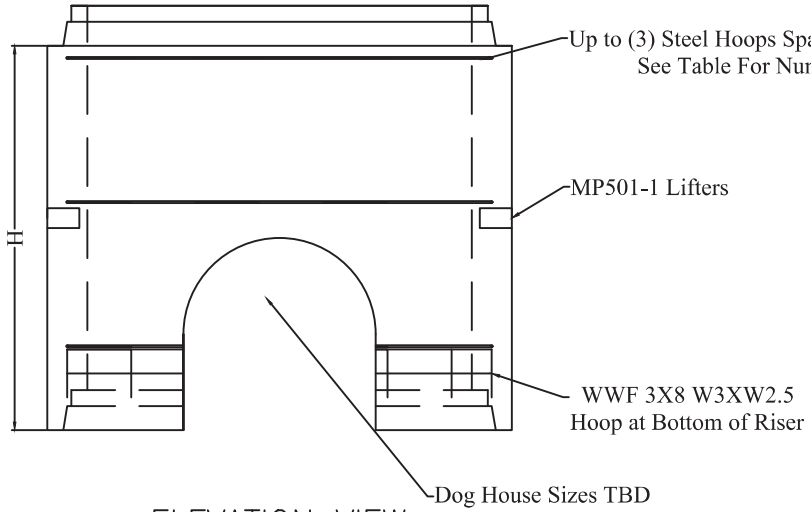
BOM				
Marker	Size	Amount	Type/Item Number	Length
	.25	See Table	Hoop	Ø 53"
	WWF 3X8 W3XW2.5	1	Round	Ø53" X 6"
	Lifter	2	MP105-1	N/A
	Chairs	As Needed	1" Wheel	N/A
Type		Length	Weight	
.25		See Table	2.18 # Each	
WWF 3X8 W3XW2.5		7.42 Sqft	4.15 #	
Cage Weight			See Table Below	



PLAN VIEW



ISOMETRIC VIEW



ELEVATION VIEW

Riser BOM				
Product Code	Height (H)	Number of Hoops	Cage Weight	Product Weight
48X18DOG	18"	1	6.33 #	1500 #
48X18DOG-CON	18"	1	6.33 #	1500 #
48X2DOG	24"	1	6.33 #	1800 #
48X2DOG-CON	24"	1	6.33 #	1800 #
48X30DOG	30"	2	8.51 #	2250 #
48X30DOG-CON	30"	2	8.51 #	2250 #
48X3DOG	36"	2	8.51 #	2750 #
48X3DOG-CON	36"	2	8.51 #	2750 #
48X4DOG	48"	3	10.69 #	3500 #
48X4DOG-CON	48"	3	10.69 #	3500 #

TURNER
P.O. Box 885
Rhome, TX 76078

DRAWN BY:	JOB NO:	DATE:	WEIGHT:	Revision Number	Sheet 1 of 1
TSH		11/08/2017	See DWG	R1	

CUSTOMER & PRODUCT
48" Manhole Risers

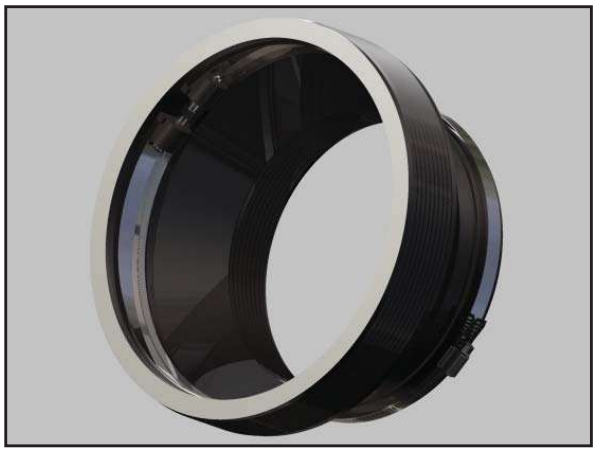
JOB NAME

PSX: DIRECT DRIVE

HIGH-PERFORMANCE PIPE-TO-MANHOLE CONNECTOR

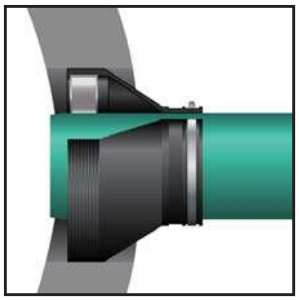
What It Is

PSX: Direct Drive is a high-performance flexible pipe-to-manhole connector that offers easy installation and long-term performance in one convenient product. Whether you core or cast your holes, **PSX: Direct Drive** fits right into your production methods, ready to seal your toughest applications every time.



Why It's Better

- Installs quickly and easily from outside the manhole.
- Requires no retightening or adjustment.
- All stainless-steel components. Containing no welds or rivets.
- Accurately compensates for hole size variation.
- Available for pipes from 1.7"- 44" OD (43 - 1118 mm).
- Additional torque and multiple adjusters on larger diameters.
- Use in manholes, wet wells, pump and lift stations, stormwater structures, on-site treatment structures, grease interceptors, or any application requiring a flexible watertight connector.



How It Works

- Specially developed synthetic rubber is continuously tested and lab-certified to ASTM C-923.
- Power Sleeve made from tempered Series 304 stainless steel.
- Installation Mechanism made from Series 300 stainless steel.
- Installation Mechanism is infinitely adjustable.
- Installation tools are calibrated and certified.
- Take-up clamps made from Series 304 stainless steel with quick-adjusting screws.

How It Performs

PSX: Direct Drive *meets or exceeds all requirements of the following Specifications and/or Test Methods:*

ASTM C 923
ASTM C 1244
ASTM C 1478
ASTM F 2510

Press-Seal Corporation is the only boot style connector manufacturer that uses multiple mechanisms under 56" as a standard.

Protected by one or more of the following patents: 6805359, 7146689, 7263746

Phone: 800-348-7325
Fax: (260) 436-1908

PRESS-SEAL CORPORATION
Protecting Our Planet's Clean Water Supply
ISO 9001:2008 Registered • ISO/IEC 17025 Accredited

Email: sales@press-seal.com
Web: www.press-seal.com

VERSION 9-16

Submittal Specification

Pipe-to-Manhole and Structure Connector Specification for Sanitary and Storm Sewer Applications:

1. All pipe-to-manhole and structure connections shall meet and or exceed ASTM C-923, Standard Specification for Resilient Connectors Between Reinforced Concrete Manholes, Structures, Pipes and laterals.

2. All mechanical devices, including castings, bolt assemblies, adjusters shall use non-magnetic 300 series stainless steel with no welds or rivets in its assemblies.

3. Connector sizes less than 28" shall employ one adjuster, 28" - 34" two adjusters and 36" and larger three adjusters.

4. If thermal plastic internal expansion rings are used, they must be heavy duty automotive grade material molded in one piece with an expansion installation mechanism made of a stainless steel threaded insert (not steel to plastic threads) and embedded as part of the expansion mechanism. Multiple plastic parts as part of the expansion mechanism are not allowed.

5. The installation of the connector shall be accomplished at one time and shall require no additional adjustments or installation at a later time to insure a watertight seal.

6. Take up clamps shall use non-magnetic 304 series stainless steel and be installed in the field using a T-Handle Torque wrench set to 60 inch-pounds and installation shall follow manufacturer's instructions.

7. The connector shall be PSX: Direct Drive and PSX: Nylo Drive as manufactured by Press-Seal Corporation of Fort Wayne, IN or approved equal.

Dial Indicator Development: Why You Should Specify Boot Connector Systems With Multiple Adjusters

During the development of the PSX: Direct Drive, Press-Seal designed a specialized testing instrument that allowed us to gauge the rubber deformation points around the entire boot during installation. The point furthest from the adjuster mechanism, as shown in Figure 1, created the least amount of rubber deformation against the concrete hole. The reduced deformation of rubber at that point indicates that the sealing force of the boot is weakest at the area furthest from the adjuster. This was supported by an external hydrostatic test. When pressurized beyond standard specification levels, the boot would begin to move out of the hole starting at the low deformation point. These tests led to the adoption of additional adjusters in larger hole sizes to improve the sealing functionality of the Direct Drive boot and equalize sealing force around the entire circumference of the boot.

We are now able to far improve the sealing performance on larger sizes of a connector system by adding multiple mechanisms to dramatically reduce the sealing distance from each adjuster. Our adjuster bolt design with both right and left handed nuts allow for less installation friction; therefore, greater torque is applied against the rubber than competitive systems that use a long bolt with multiple wedge style components. In addition, we employ no welds or rivets in our bands or adjuster assemblies. Multiple mechanisms provide for a longer product life.

FIG. 1

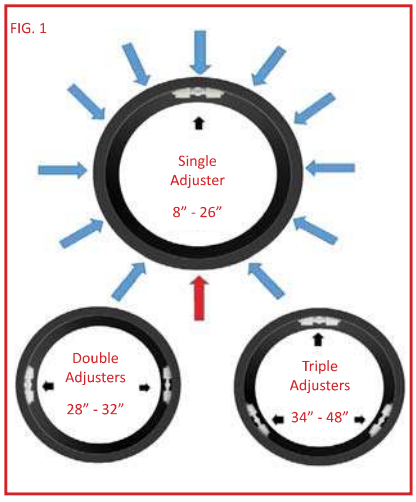


FIG. 2

Protected by one or more of the following patents: 6805359, 7146689, 7263746

Phone: 800-348-7325
Fax: (260) 436-1908

PRESS-SEAL CORPORATION
Protecting Our Planet's Clean Water Supply
ISO 9001:2008 Registered • ISO/IEC 17025 Accredited

Email: sales@press-seal.com
Web: www.press-seal.com

VERSION 9-16

EZ-WRAP PAK

PRECUT BUTYL RUBBER JOINT WRAP with SPRAY ADHESIVE

What It Is

EZ-WRAP PAK is a package of precut sections of 6” wide EZ-WRAP Plastic Joint Wrap. Each package contains sections of wrap cut perfectly for 48”, 60”, or 72” manhole joints, and enough spray adhesive primer for all joints.

EZ-WRAP is an extruded Butyl adhesive tape designed to provide high strength, watertight seals on properly primed concrete surfaces and concrete structure joints of any kind. The Butyl compound is soft, tacky and is bonded to a plastic backing. The tape is wound in rolls on a release liner for easy application.

EZ WRAP-PAKS (6” wide Plastic)			
Manhole Size	Roll Length	No. Rolls	Part No.
48” ID X 5”	16 feet	6	276.616
60” ID X 6”	20 feet	5	276.620
72” ID X 7”	24 feet	4	276.624

Why It’s Better

- Precut sections of EZ-WRAP save time and money
- Easy-to-use spray adhesive gives great bond
- No cutting means less loss and waste
- High quality butyl rubber base
- Supplied in 6” width with HDPE Plastic backing
- All-weather performance
- Good adhesion to dry concrete, commonly specified concrete coatings, steel, glass, or painted surfaces
- Coated release paper for easy installation
- Long service life

How It Performs

EZ-WRAP PAK BUTYL JOINT WRAP *meets or exceeds all requirements of the following Standards, Specifications and/or Test Methods:*

ASTM C 877 (Type III) - *Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections*

SUBMITTAL SPECIFICATION for BUTYL JOINT WRAP WITH PLASTIC BACKING

The joints and/or joining surfaces of the structures shall be sealed with a butyl-rubber-based tape. The material shall be EZ-WRAP Plastic as supplied by PRESS-SEAL GASKET CORPORATIOn, Fort Wayne, Indiana, or approved equal. The butyl component of the tape shall consist of 50% (min.) butyl rubber, shall contain 2% or less volatile matter, and shall be .050” thick. The backing component shall be high-density polyethylene film. A release paper may be utilized.

The tape width shall be 6” wide. The tape shall be overlapped at least twice its width. The tape shall not be stretched during application. Primer and/or adhesive as recommended by the tape supplier shall be employed for adverse, critical, or other applications.

Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier.

PRESS-SEAL GASKET CORPORATION
Protecting Our Planet’s Clean Water Supply
Press-Seal Gasket is an ISO 9001:2008 and ISO 14001:2004 Registered Company
800-348-7325 Fax (260) 436-1908
email: sales @press-seal.com
web: www.press-seal.com
Made in USA

ORGANIZED SEWAGE COLLECTION SYSTEM APPLICATION

CONSTRUCTION DOCUMENTS

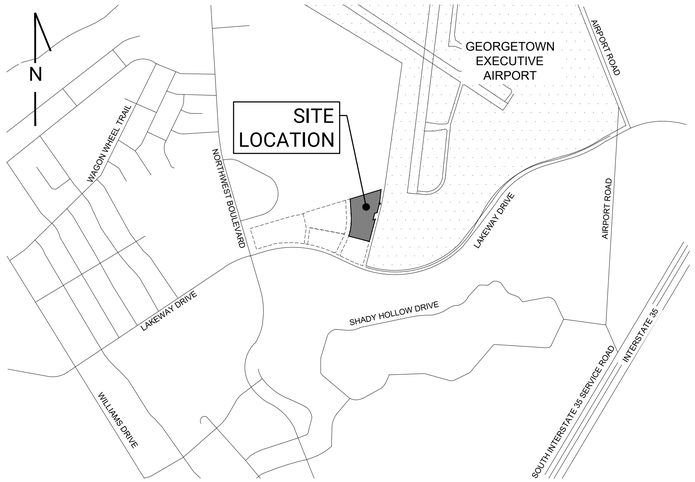
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

GEORGETOWN GENERAL NOTES

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO ENSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
2. THIS DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORMWATER REQUIREMENTS.
4. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN.
5. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC.
6. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
7. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.04 OF THE UDC.
8. SCREENING OF MECHANICAL EQUIPMENT, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
9. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLANT MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
10. ALL MAINTENANCE OF REQUIRED LANDSCAPE SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
11. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.
12. FIRE FLOW REQUIREMENTS OF 1,000 GALLONS PER MINUTE ARE BEING MET BY THIS PLAN. PLEASE SEE THE FIRE FLOW INFORMATION BLOCKS PROVIDED ON THIS SHEET
13. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.
14. THE CONSTRUCTION PORTION OF THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
15. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
16. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
17. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.

PROJECT NOTES

- THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
- A GEOLOGIC ASSESSMENT, PERFORMED BY HORIZON ENVIRONMENTAL SERVICES, INC. DATED JUNE 2018, IN ACCORDANCE WITH GEORGETOWN CRITERIA WAS PERFORMED FOR THIS PROPERTY AND CONCLUDED THAT NO GEOLOGIC FEATURES AND 1 MAN-MADE FEATURE (M-1) WERE IDENTIFIED AT THE SUBJECT SITE. THE MAN-MADE FEATURE HAS BEEN EVALUATED AS NON-SENSITIVE FOR GROUNDWATER RECHARGE CAPABILITY AND WOULD THEREFORE NOT REQUIRE A TCEQ PROTECTIVE SETBACK BUFFER



VICINITY MAP
1" = 1000'

PROJECT INFORMATION

- PROPOSED USES : OFFICE/WAREHOUSE; RESEARCH, TESTING AND DEVELOPMENT LAB; MANUFACTURING, PROCESSING AND ASSEMBLY (GENERAL)
- ZONING = IN (INDUSTRIAL)
- TOTAL ACREAGE = 5.004 ACRES
- TOTAL IMPERVIOUS COVER = 3.233 ACRES
- LEGAL DESCRIPTION = S13268 - HAVINS AIRPORT COMMERCIAL (BLK C LT 1 REPLAT)

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 12/11/2023. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

			AVERAGE DAILY TRIPS	
ITE CODE	LAND UES	SIZE	RATE	TOTAL
110	LIGHT INDUSTRIAL	24.136	4.96	120
710	OFFICE	24.136	9.74	235

SHEET INDEX

BUILDING A FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 7,500 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

BUILDING B FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 8,266.50 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

BUILDING C FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 18,479.70 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

BUILDING D FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 14,026.40 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

OWNER (S)

GTOWNPW, LLC.
7200 WEST ALTON WAY, SUITE B220
CENTENNIAL, CO 80112
CONTACT : ERIC GREVEN (303-222-0768)

ENGINEER

HERE CIVIL CONSULTANTS, LLC.
20 PUBLIX DRIVE SUITE 104 #129
CLAYTON, NORTH CAROLINA 27527
CONTACT: RAVIN NANPATEE (336) 554-2424

ARCHITECT

HOVER ARCHITECTURE
383 INVERNESS PARKWAY, SUITE 175
ENGLEWOOD, CO 80112
CONTACT: ANDREA MORTON (720-893-2527)

LANDSCAPE ARCHITECT

GREEN EYE STUDIO
CONTACT: STACIE HOLT (512) 484-11.05

CITY OF GEORGETOWN
PLANNING DEPARTMENT
809 MARTIN LUTHER KING JR ST.
GEORGETOWN, TEXAS 78626
(512) 930-3575

CITY OF GEORGETOWN
GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVE.
GEORGETOWN, TX 78626
(512) 930-36401

CITY APPROVAL BLOCK

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
COVER SHEET

SHEET 1 OF 22

DESIGNED BY R.J.N DRAWN BY R.J.N CHECKED BY R.J.N

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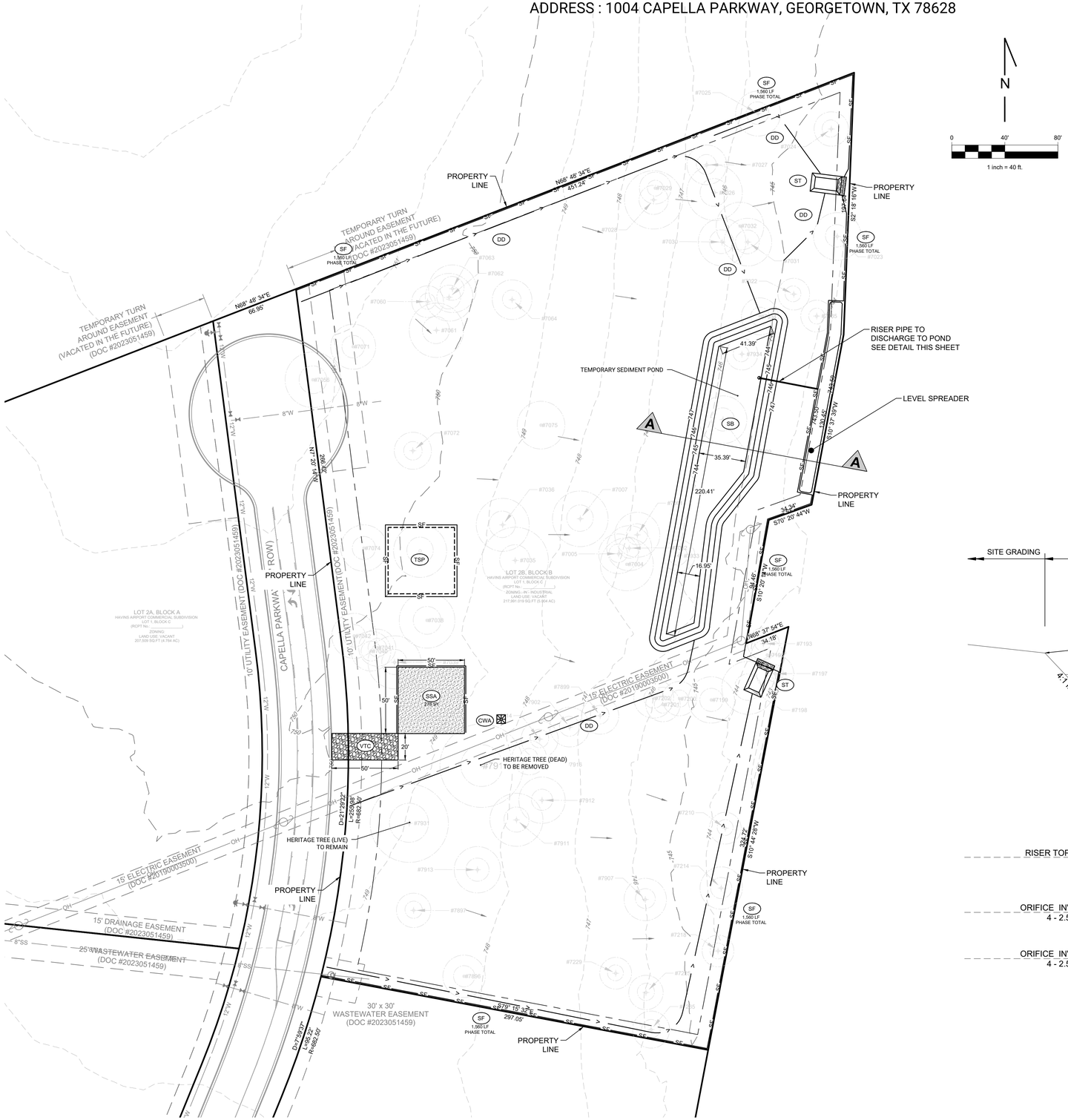
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

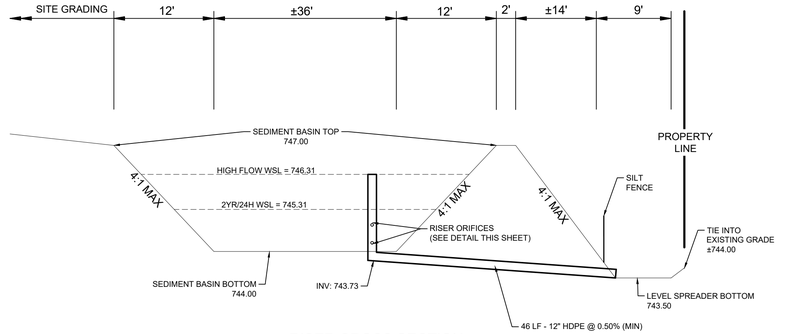


PROJECT INFORMATION

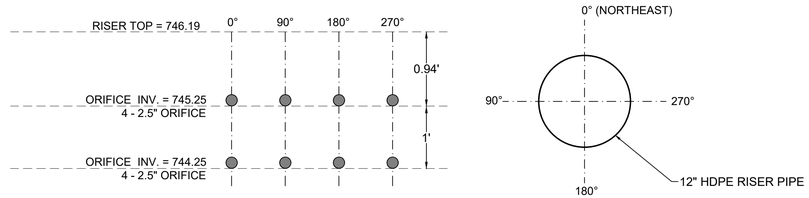
- PROPOSED USES : OFFICE/WAREHOUSE; RESEARCH, TESTING AND DEVELOPMENT LAB; MANUFACTURING, PROCESSING AND ASSEMBLY (GENERAL)
- ZONING = IN (INDUSTRIAL)
- TOTAL ACREAGE = 5.004 ACRES
- TOTAL IMPERVIOUS COVER = 3.233 ACRES
- LEGAL DESCRIPTION = S13268 - HAVINS AIRPORT COMMERCIAL (BLK C LT 1 REPLAT)

LEGEND

5280	PROPOSED MAJOR CONTOUR
5279	PROPOSED MINOR CONTOUR
5280	EXISTING MAJOR CONTOUR
5279	EXISTING MINOR CONTOUR
	PHASE BOUNDARY
CF	CONSTRUCTION FENCE
CM	CONSTRUCTION MARKER
CWA	CONCRETE WASHOUT AREA
ECB	EROSION CONTROL BLANKET
DD	DIVERSION DITCH
IP	INLET PROTECTION
LOC	LIMITS OF CONSTRUCTION
OP	OUTLET PROTECTION
SB	SEDIMENT BASIN
SCL	SEDIMENT CONTROL LOG
SM	SEEDING AND MULCHING
SF	SILT FENCE
SP	STOCK PILE
SSA	STABILIZED STAGING AREA
SR	SURFACE ROUGHENING
ST	SEDIMENT TRAP
VTC	VEHICLE TRACKING CONTROL
TSP	TEMPORARY STOCKPILE



RISER CROSS SECTION



RISER PIPE DETAIL

PERSONAL WAREHOUSE
WORK · STORE · PLAY

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PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@GHERECC.COM
HERE CC PROJECT No. : PW-017

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No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

STATE OF TEXAS — RYAN J. NANPATEE — 5/22/2025 — LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INITIAL EROSION CONTROL PLAN

SHEET 2 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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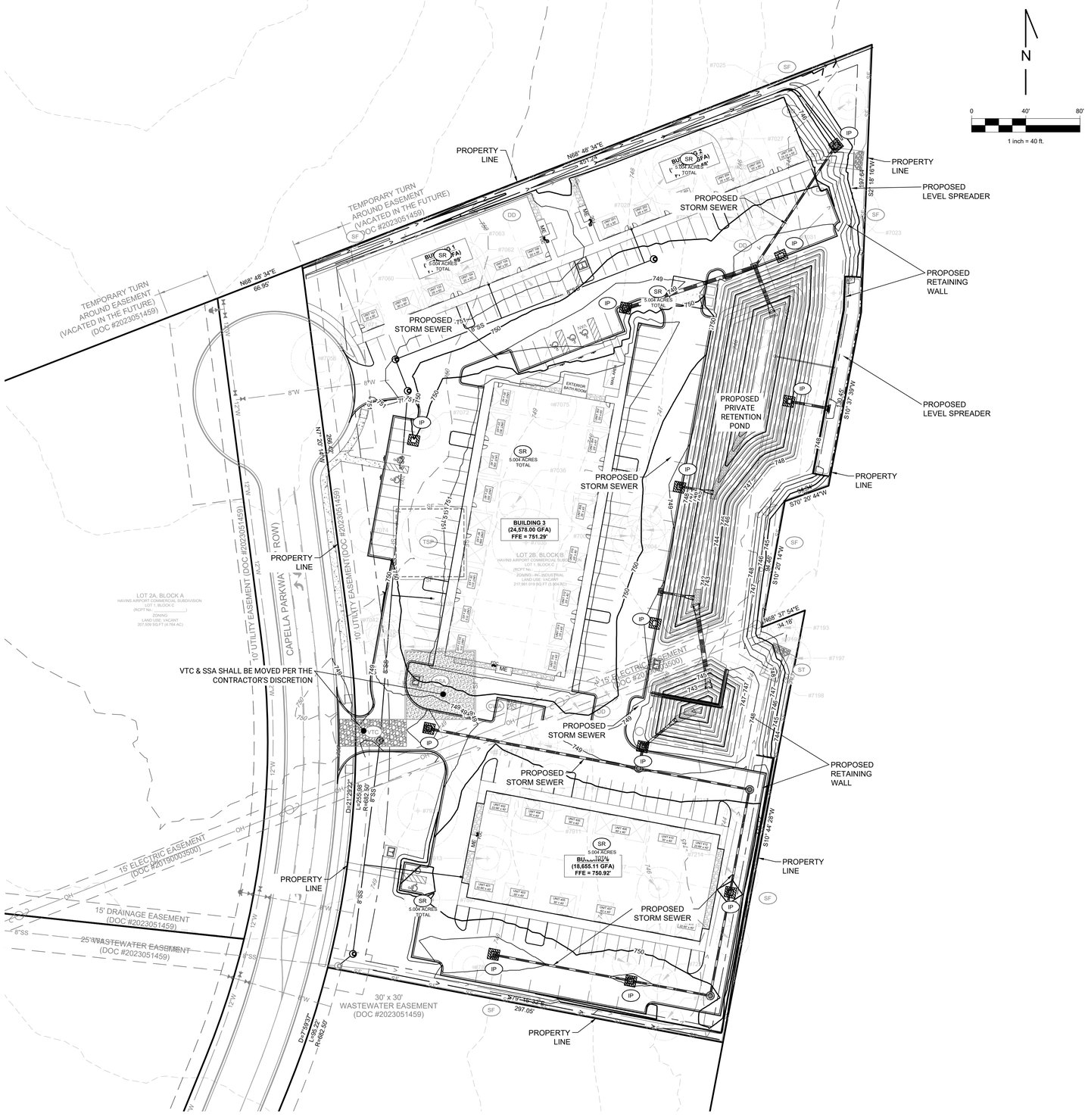
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

5280		PROPOSED MAJOR CONTOUR
5279		PROPOSED MINOR CONTOUR
5280		EXISTING MAJOR CONTOUR
5279		EXISTING MINOR CONTOUR
		PHASE BOUNDARY
CF	CF	CONSTRUCTION FENCE
	CM	CONSTRUCTION MARKER
CWA	CWA	CONCRETE WASHOUT AREA
ECB	ECB	EROSION CONTROL BLANKET
<	DD	DIVERSION DITCH
IP	IP	INLET PROTECTION
LOC	LOC	LIMITS OF CONSTRUCTION
OP	OP	OUTLET PROTECTION
SB	SB	SEDIMENT BASIN
SCL	SCL	SEDIMENT CONTROL LOG
SM	SM	SEEDING AND MULCHING
SF	SF	SILT FENCE
SP	SP	STOCK PILE
SSA	SSA	STABILIZED STAGING AREA
SR	SR	SURFACE ROUGHENING
ST	ST	SEDIMENT TRAP
VTC	VTC	VEHICLE TRACKING CONTROL
TSP	TSP	TEMPORARY STOCKPILE

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

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CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INTERIM EROSION CONTROL PLAN

SHEET 3 OF 22

DESIGNED BY: R.J.N. DRAWN BY: R.J.N. CHECKED BY: R.J.N.

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CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
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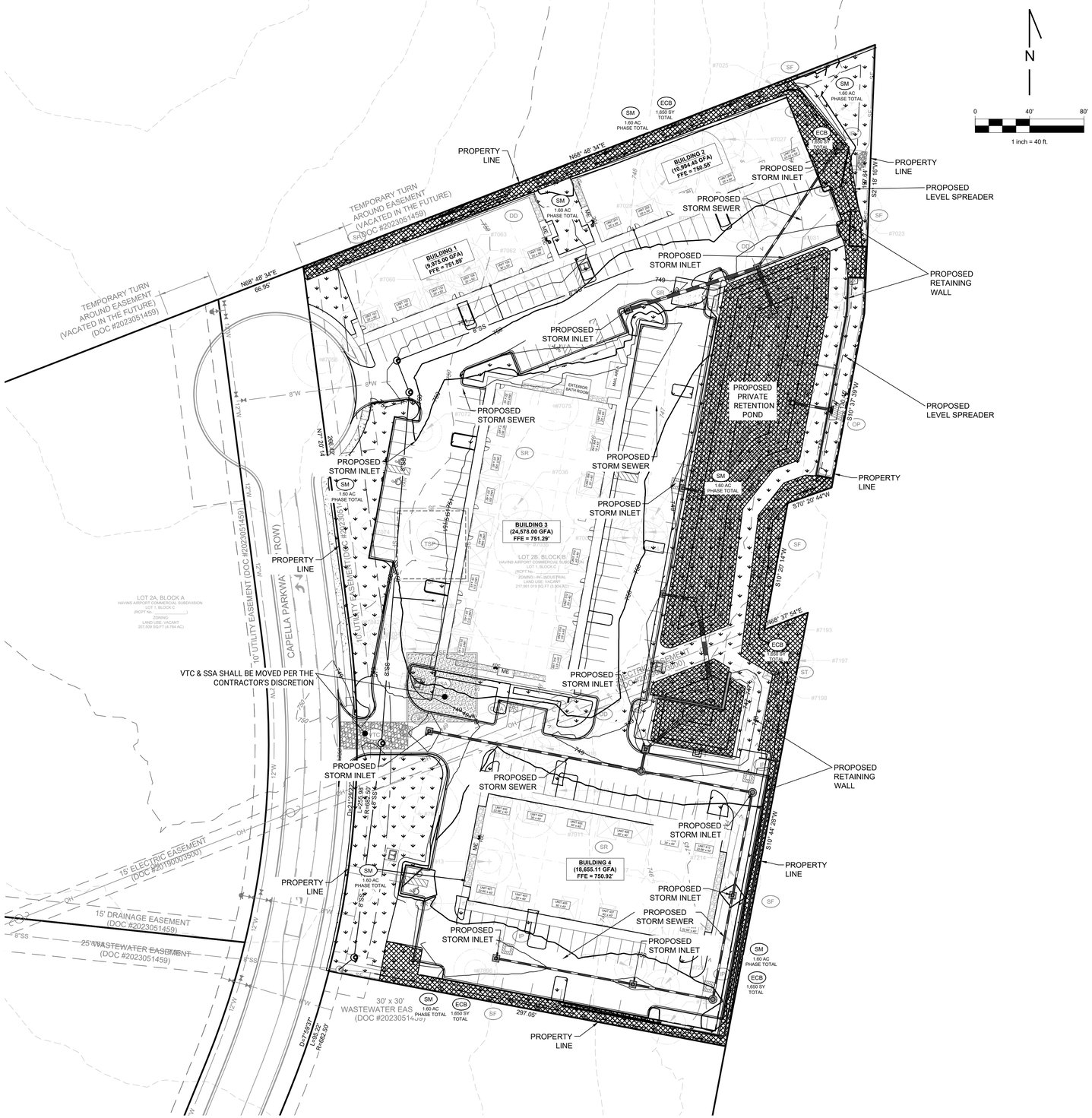
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

5280		PROPOSED MAJOR CONTOUR
5279		PROPOSED MINOR CONTOUR
5280		EXISTING MAJOR CONTOUR
5279		EXISTING MINOR CONTOUR
		PHASE BOUNDARY
CF	CF	CONSTRUCTION FENCE
	CM	CONSTRUCTION MARKER
	CWA	CONCRETE WASHOUT AREA
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	OP	OUTLET PROTECTION
	SB	SEDIMENT BASIN
	SCL	SEDIMENT CONTROL LOG
	SM	SEEDING AND MULCHING
SF	SF	SILT FENCE
	SP	STOCK PILE
	SSA	STABILIZED STAGING AREA
	SR	SURFACE ROUGHENING
	ST	SEDIMENT TRAP
	VTC	VEHICLE TRACKING CONTROL
	TSP	TEMPORARY STOCKPILE

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EMAIL : RNANPATEE@GHERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
FINAL EROSION CONTROL PLAN

SHEET 4 OF 22

DESIGNED BY RJN DRAWN BY RJN CHECKED BY RJN

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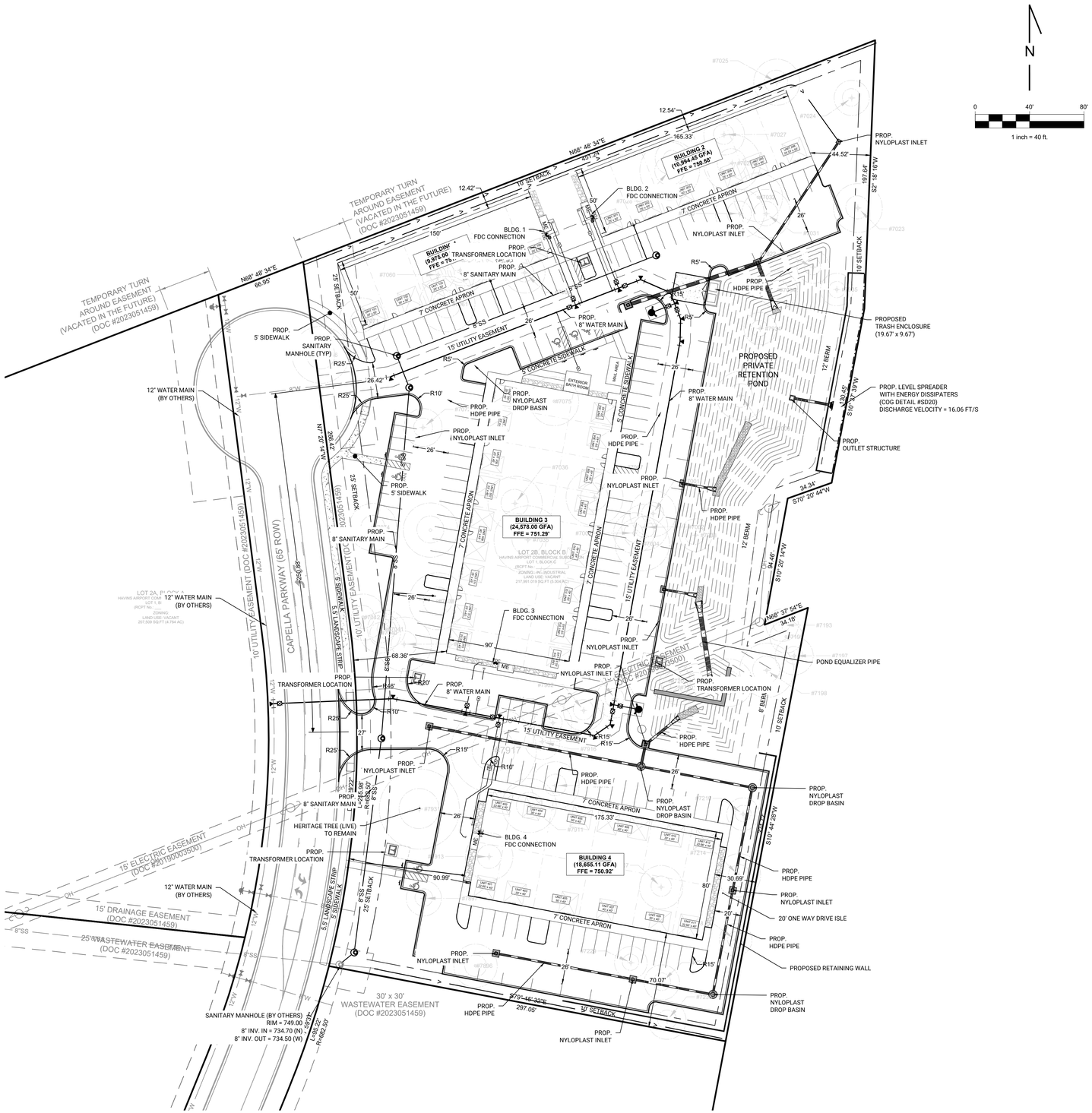
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



DIMENSIONAL SITE PLAN NOTES

- ALL LIGHTING FIXTURES SHALL BE DESIGNED TO COMPLETELY CONCEAL AND FULLY SHIELD, WITHIN AN OPAQUE HOUSING, THE LIGHT SOURCE FROM VISIBILITY FROM ANY STREET RIGHT-OF-WAY. THE CONE OF LIGHT SHALL NOT CROSS ANY ADJACENT PROPERTY LINE. THE ILLUMINATION SHALL NOT EXCEED 2 FOOT CANDLES AT A HEIGHT OF THREE FEET AT THE PROPERTY LINE. ONLY INCANDESCENT, FLUORESCENT, COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE MAY BE USED. ALL VEHICLE OR PEDESTRIAN ACCESS SHALL BE SUFFICIENTLY LIGHTED TO ENSURE SECURITY OF PROPERTY AND PERSONS.
- ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL EQUIPMENT MUST BE SCREENED IN ACCORDANCE WITH CHAPTER 8 OF THE UDC. IF ROOF AND WALL MOUNTED EQUIPMENT OF ANY TYPE INCLUDING DUCT WORK AND LARGE VENTS IS PROPOSED IT SHALL BE SHOWN ON THE SITE PLAN AND SCREENING IDENTIFIED. SCREENING OF MECHANICAL EQUIPMENT SHALL RESULT IN THE MECHANICAL EQUIPMENT BLENDING IN WITH THE PRIMARY BUILDING AND NOT APPEARING SEPARATE FROM THE BUILDING AND SHALL BE SCREENED FROM VIEW OF ANY RIGHTS-OF-WAY OR ADJOINING PROPERTIES.
- PER CHAPTER 8, THE DUMPSTER ENCLOSURES MUST BE ONE (1) FOOT ABOVE THE HEIGHT OF THE WASTE CONTAINER. USE PROTECTIVE POLES IN CORNERS AND AT IMPACT AREAS. FENCE POSTS SHALL BE OF OF RUST PROTECTED METAL OR CONCRETE. A MINIMUM 6" SLAB IS REQUIRED AND MUST BE SLOPED TO DRAIN; THE ENCLOSURE MUST HAVE STEEL FRAMED GATES WITH SPRING LOADED HINGES AND FASTENERS TO KEEP CLOSED. SCREENING MUST BE ON ALL FOUR SIDES BY MASONRY WALL OR APPROVED FENCE OR SCREENING WITH OPAQUE GATES.

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 3/13/2025. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

LEGEND

- EASEMENT
- RIGHT OF WAY (R.O.W.)
- CENTERLINE
- PROJECT BOUNDARY
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- STREET LIGHT POLES
- STREET SIGNS
- ADA PATH

SITE UTILIZATION TABLE

	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
BUILDING/ROOF AREA	48,272.60	1.108	22.15%
HARDSCAPE COVERAGE	92,605.02	2.126	42.48%
LANDSCAPE/OPEN SPACE	77,106.38	1.770	35.37%
TOTAL SITE AREA	217,984.00	5.004	100.00%

IMPERVIOUS PERCETNAGE BREAKDOWN

	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
ASPHALT	82,225.27	1.888	88.79%
CONCRETE	10,379.75	0.238	11.21%
TOTAL IMPERVIOUS AREA	92,605.02	2.126	

TOTAL GROSS FLOOR AREA (GFA)

	GFA (SQ.FT.)
BUILDING 100	9,975.00
BUILDING 200	10,994.45
BUILDING 300	24,578.00
BUILDING 400	18,655.11
TOTAL SITE GFA	64,202.56

IMPERVIOUS PERCETNAGE BREAKDOWN

	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
ASPHALT	82,225.27	1.888	88.79%
CONCRETE	10,379.75	0.238	11.21%
TOTAL IMPERVIOUS AREA	92,605.02	2.126	

PARKING DATA

TOTAL PROPOSED GROSS SQUARE FOOTAGE =		64,203
PROFESSIONAL AND BUSINESS OFFICES		
ALL OTHER OFFICES AND SERVICES	REQUIRED =	81
1 SPACE PER 400 SQ. FT. OF GFA	PROVIDED =	100
(50% TOTAL DEVELOPMENT) (32,102 SQ.FT)		
INDUSTRIAL MANUFACTURING AND WAREHOUSING USES		
ALL OTHER INDUSTRIAL MANUFACTURING AND WAREHOUSING		
1 SPACE PER 500 SQ. FT. OF GFA OF INDOOR FACILITY	REQUIRED =	65
(50% TOTAL DEVELOPMENT) (16,051 SQ.FT)	PROVIDED =	118
NOTE: NO UNIT EXCEEDS 2,500 SQUARE FEET OR HAS OUTDOOR OR OUTDOOR STORAGE AREA		
ADA PARKING STALLS	REQUIRED =	5 + 2 VAN
7 STALLS (2 VAN) FOR 201 - 300 PROVIDED PARKING STALLS	PROVIDED =	5 + 2 VAN
TOTAL PARKING PROVIDED =		218

PERSONAL WAREHOUSE
WORK · STORE · PLAY
HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

CALL 811 BEFORE YOU DIG

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

STATE OF TEXAS — RAVIN J NANPATEE — 147661 — LICENSED PROFESSIONAL ENGINEER — 5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL SITE PLAN

SHEET 5 OF 22

DESIGNED BY RJN, DRAWN BY RJN, CHECKED BY RJN

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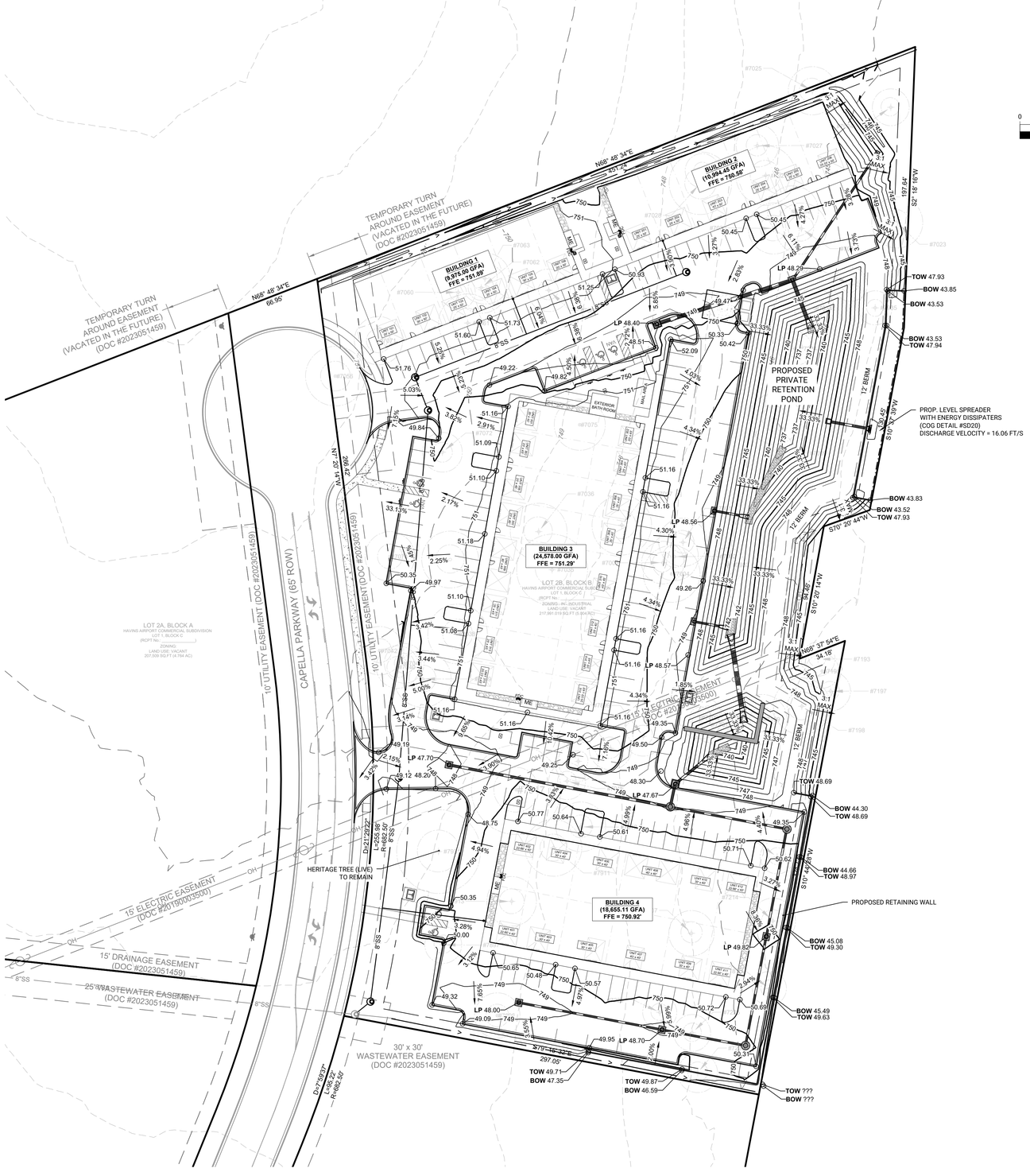
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

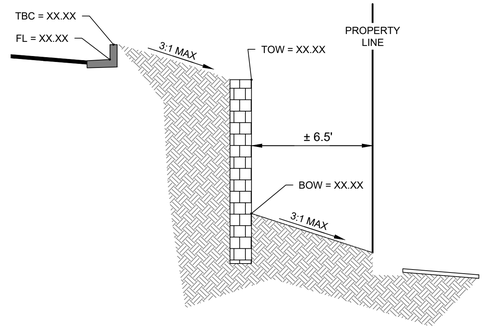
- 5280 — PROPOSED MAJOR CONTOUR
- 5279 — PROPOSED MINOR CONTOUR
- 5280 — EXISTING MAJOR CONTOUR
- 5279 — EXISTING MINOR CONTOUR
- DIRECTIONAL FLOW ARROW
- 5150 — SPOT ELEVATION
- RIGHT OF WAY (R.O.W.)
- CENTERLINE
- PROJECT BOUNDARY
- STORM MANHOLES
- STORM INLETS

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 12/11/2023. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

ABBREVIATIONS:

FL = FLOW LINE
FG = FINISHED GRADE
ME = MATCH EXISTING
TBC = TOP BACK OF CURB
HP = HIGH POINT
OG = ON GRADE
LP = LOW POINT
TOW = TOP OF WALL
BOW = BOTTOM OF WALL
FFE = FINISHED FLOOR ELEVATION
SF = SQUARE FEET



CMU RETAINING WALL DETAIL
N.T.S.

NOTES

1. RETAINING WALLS, SECTIONS OF RETAINING WALLS 4-FEET IN HEIGHT OR HIGHER OR TIERED WALLS MUST BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF TEXAS AND MUST RECEIVE A BUILDING PERMIT FROM THE TOWN OF GEORGETOWN PRIOR TO THE ISSUANCE OF THE PUBLIC WORKS PERMIT.
2. TOP OF WALL (TOW) AND BOTTOM OF WALL (BOW) INDICATE THE FINISHED GRADE ADJACENT TO THE WALL. REFER TO STRUCTURAL PLANS FOR WALL DESIGN.

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL GRADING PLAN

SHEET 6 OF 22

DESIGNED BY R.J.N. DRAWN BY R.J.N. CHECKED BY R.J.N.

6/2/2025 9:30 PM F:\PROJECTS_PERSONAL WAREHOUSE\PW-017 - GEORGETOWN TX\CIVIL\CAD\PLANS\RETENTION POND REDESIGN\6 - RET - GRADING PLAN.DWG

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CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

LEGEND

- EASEMENT
- RIGHT OF WAY (R.O.W.)
- CENTERLINE
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- SS — EXISTING SANITARY & STUB OUT
- W — EXISTING WATER & STUB OUT
- IRR — FUTURE IRRIGATION & STUB OUT
- SS — FUTURE SANITARY & STUB OUT
- SANITARY SERVICE
- W — WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES
- E — EXISTING ELECTRIC
- T — EXISTING TELEPHONE
- FO — EXISTING FIBER OPTIC
- G — EXISTING GAS
- OH — EXISTING OVER HEAD ELECTRIC

GEORGETOWN GENERAL UTILITY NOTES

1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
19. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEAR IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE ON MYLAR OR ON TIFF OR PDF DISK (300DPI). IF A DISK IS SUBMITTED, A BOND SET SHALL BE INCLUDED WITH THE DISK.
22. PER STANDARD CITY DETAILS, WHEN CONNECTING TO EXISTING MANHOLES, THE MANHOLE SHALL BE RE-EPOXYSEALED AFTER CORING/CONNECTION.

PRIVATE FIRE LINE UTILITY NOTES

1. PRIVATE FIRE HYDRANTS MUST FOLLOW CITY OF GEORGETOWN CODE OF ORDINANCES
2. FIRE DEPARTMENT CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE TO THE CITY OF GEORGETOWN ORDINANCES AND REQUIREMENTS
3. BUILDING CODE = INTERNATIONAL BUILDING CODE, 2021 EDITION
3. FIRE CODE = INTERNATIONAL FIRE CODE, 2021 EDITION
4. CITY OF GEORGETOWN SEC. 8.04.430. - SECTION 507.2.1, PRIVATE FIRE SERVICE MAINS. PRIVATE FIRE SERVICE MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24. THE INSTALLATION OF ALL PRIVATE FIRE LINES SHALL BE BY A SPRINKLER CONTRACTOR REGISTRATION UNDERGROUND (SGR-U) LICENSED COMPANY.
5. REFER TO BUILDING MEP PLANS FOR BACKFLOW PREVENTION DEVICE INFORMATION

UTILITY CROSSING NOTE

1. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND (SEE CLAUSE (V) OF THIS SUBPARAGRAPH) FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.

WORKING PRESSURE STATEMENT

1. WORKING PRESSURES FOR THIS PROJECT ARE OBTAINED FROM THE 16" LINE WITHIN THE LAKEWAY DRIVE RIGHT OF WAY. PRESSURES ARE 866' - 906'
2. FIRE HYDRANT FLOW TEST RESULT SUMMARY :

   STATIC : 60.11 PSI
   RESIDUAL : 52.11
   FLOW AT RESIDUAL : 1960 GPM

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 7/26/2024. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

PERSONAL WAREHOUSE
WORK · STORE · PLAY

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

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5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL UTILITY PLAN

SHEET 7 OF 22

DESIGNED BY RJN DRAWN BY RJN CHECKED BY RJN

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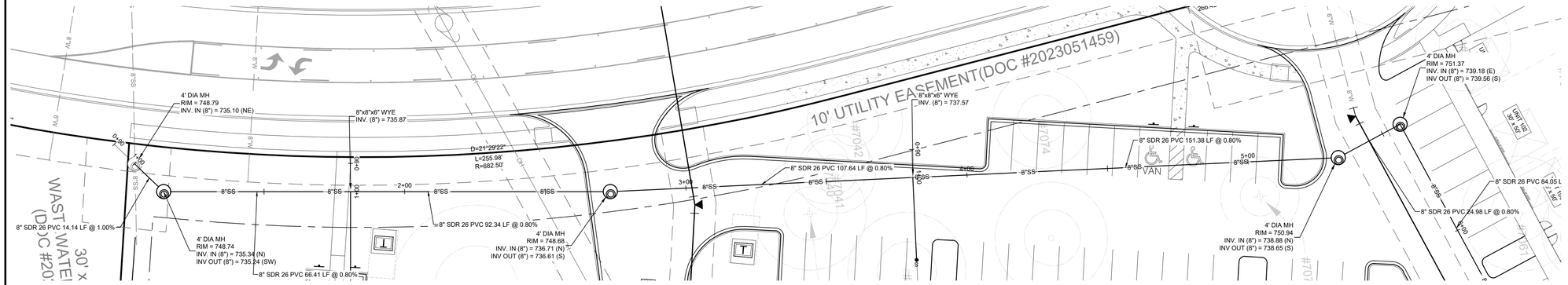
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

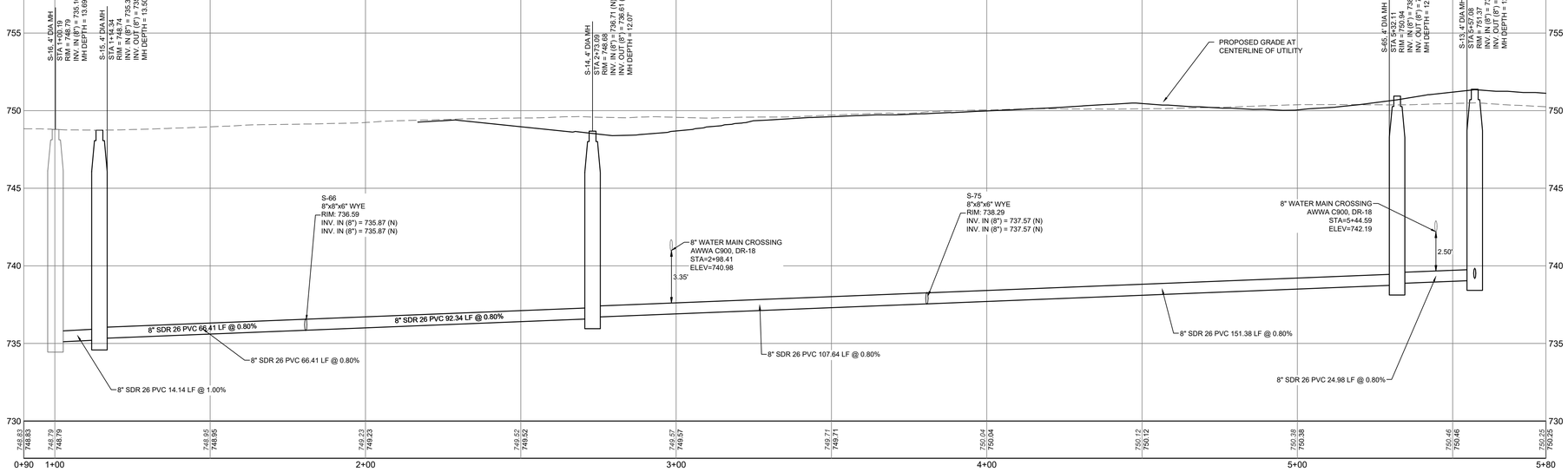
- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
- EXISTING WATER & STUB OUT
- SANITARY SERVICE
- WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES

N

0 20' 40'

1 inch = 20 ft.

SANITARY MAIN
(0+90-5+80)



PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

PERSONAL WAREHOUSE
WORK · STORE · PLAY

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1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
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SHEET TITLE
SANITARY PLAN & PROFILE

SHEET 8 OF 22

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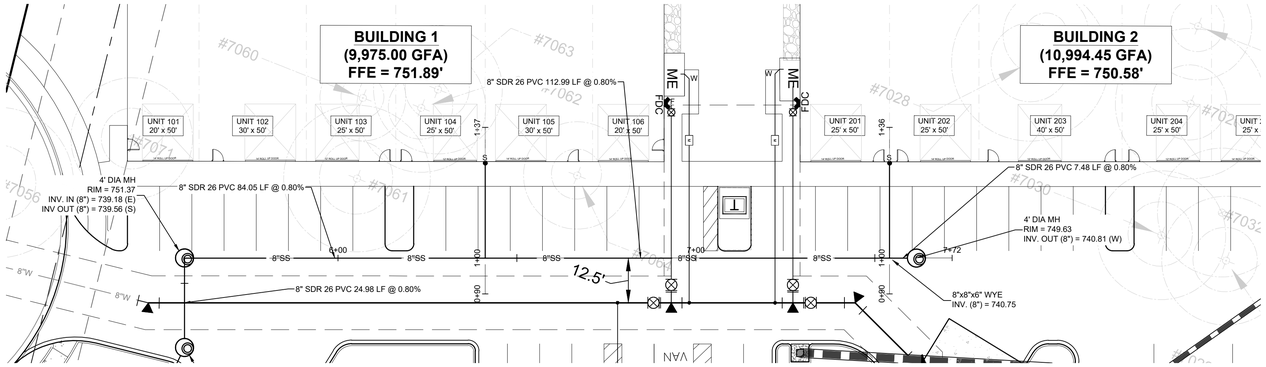
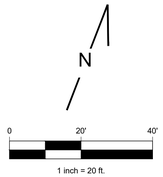
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628





LEGEND

- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
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- BEND AND THRUST BLOCK
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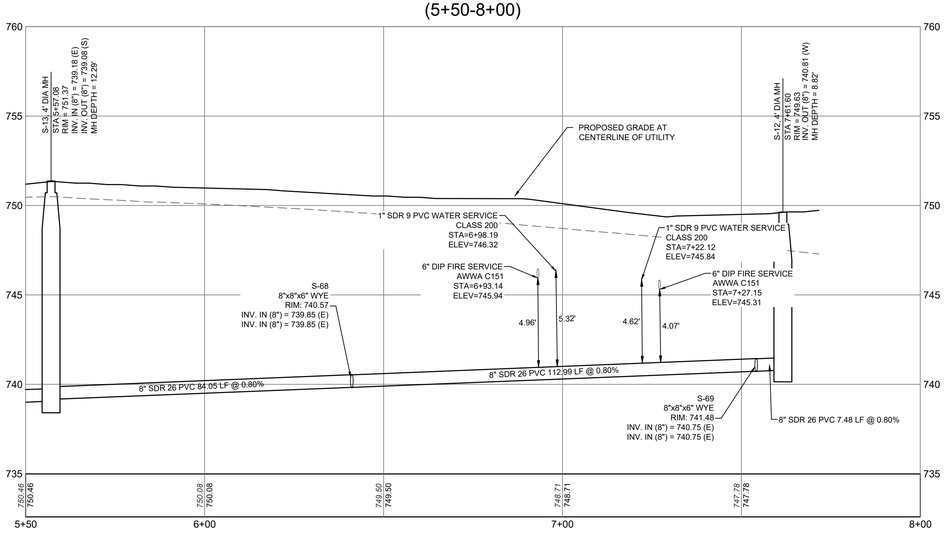
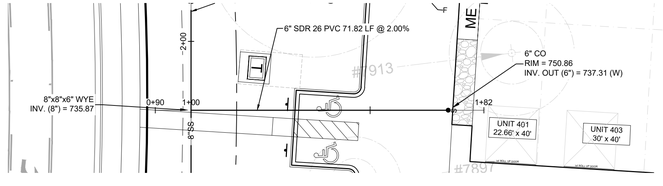
- STORM MANHOLES

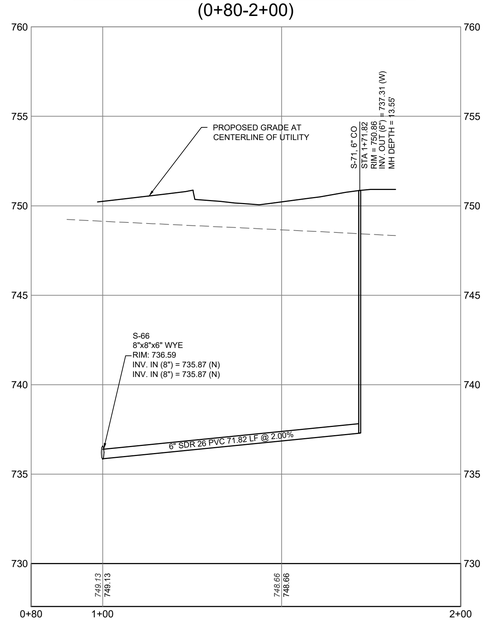
SANITARY MAIN
(5+50-8+00)



PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'



BUILDING 400 SAN SERV
(0+80-2+00)



PROFILE
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VERT: 1" = 5'

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LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
SANITARY PLAN & PROFILE

SHEET 9 OF 22

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LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

LEGEND

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- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
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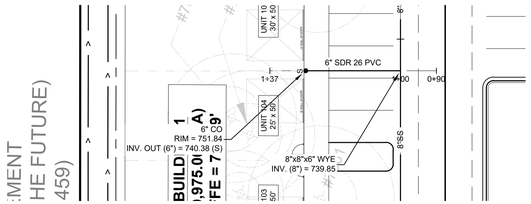

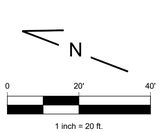

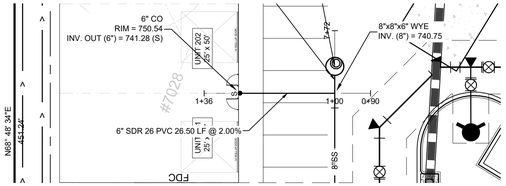

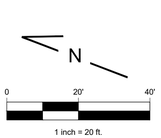

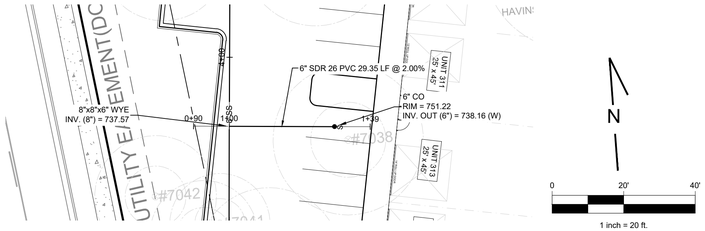

BUILDING 100 SAN SERV
(0+80-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

BUILDING 200 SAN SERV
(0+80-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

BUILDING 300 SAN SERV
(0+80-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

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LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
SANITARY PLAN & PROFILE

SHEET 10 OF 22

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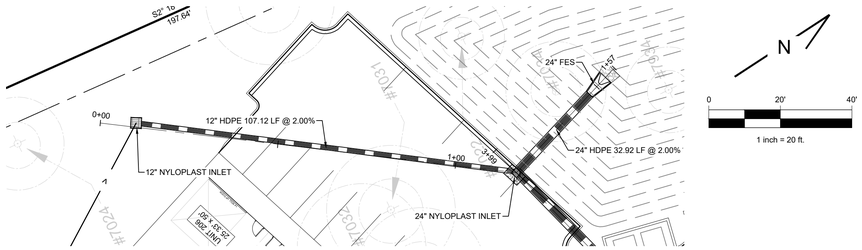

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LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

RET - STORM SEWER - SOUTH POND
(0+50-1+80)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

RET - STORM SEWER - LINE A
(-0+10-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

RET - STORM SEWER - LINE B
(0+50-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

LEGEND

EASEMENT
PROPOSED STORM & STUB OUT
PROPOSED WATER & STUB OUT
EXISTING STORM & STUB OUT
EXISTING SANITARY & STUB OUT
EXISTING WATER & STUB OUT
SANITARY SERVICE
WATER SERVICE
STREET LIGHT POLES
POWER POLES
SANITARY MANHOLES
WATER VALVES
BEND AND THRUST BLOCK
FIRE HYDRANTS
STORM MANHOLES

PERSONAL WAREHOUSE
WORK ▪ STORE ▪ PLAY

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SHEET TITLE
STORM PLAN & PROFILE

SHEET
11 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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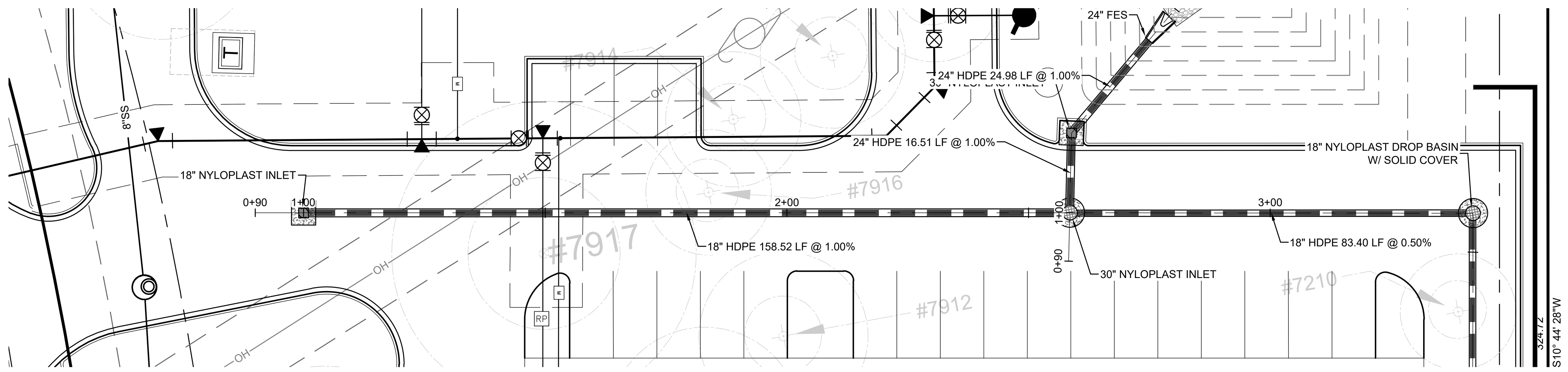
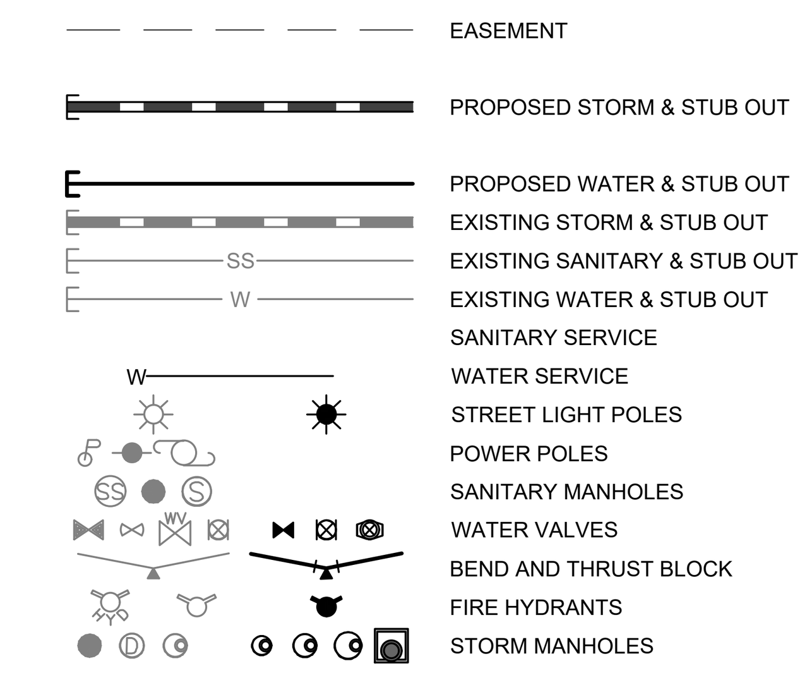
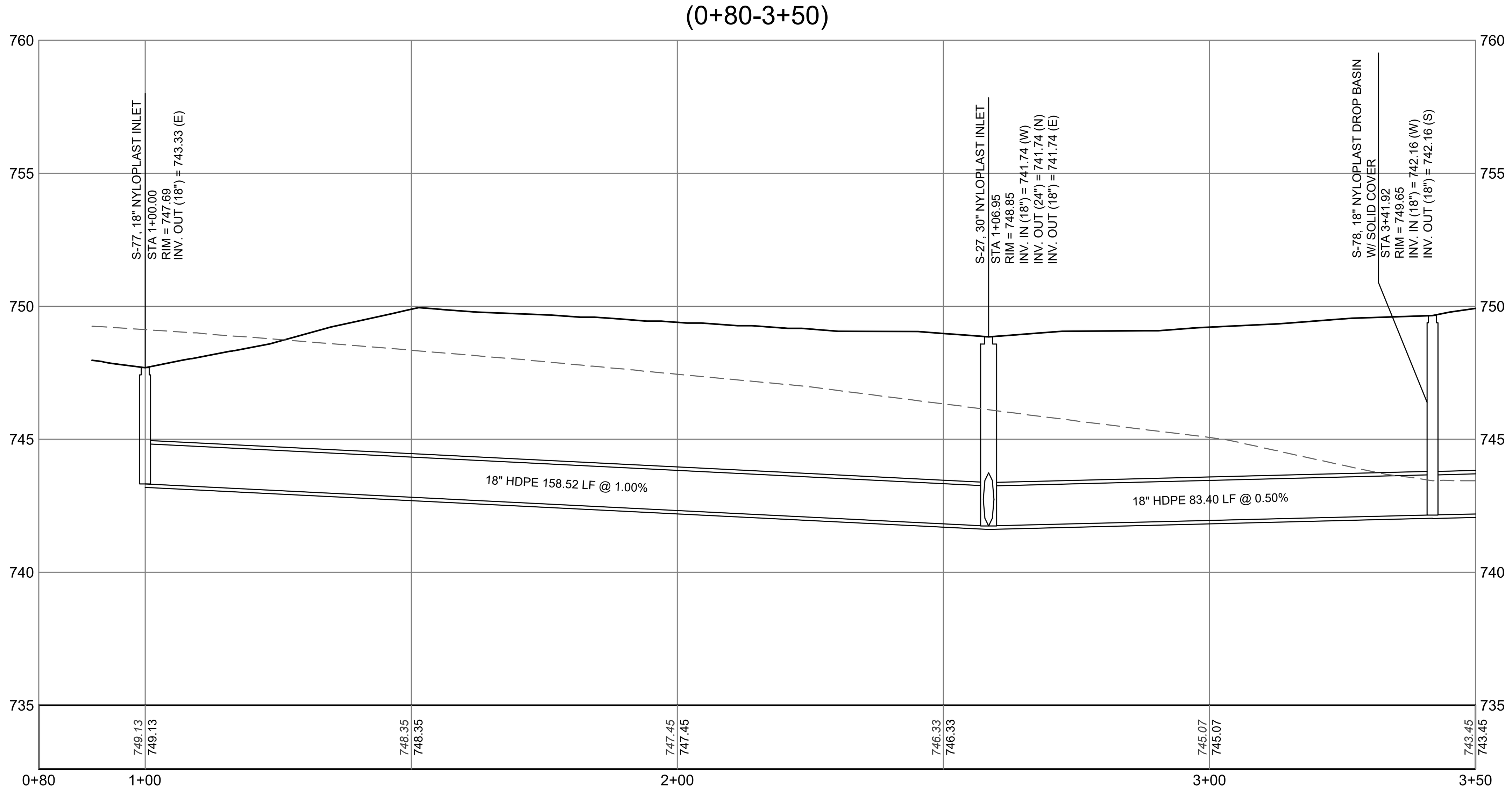


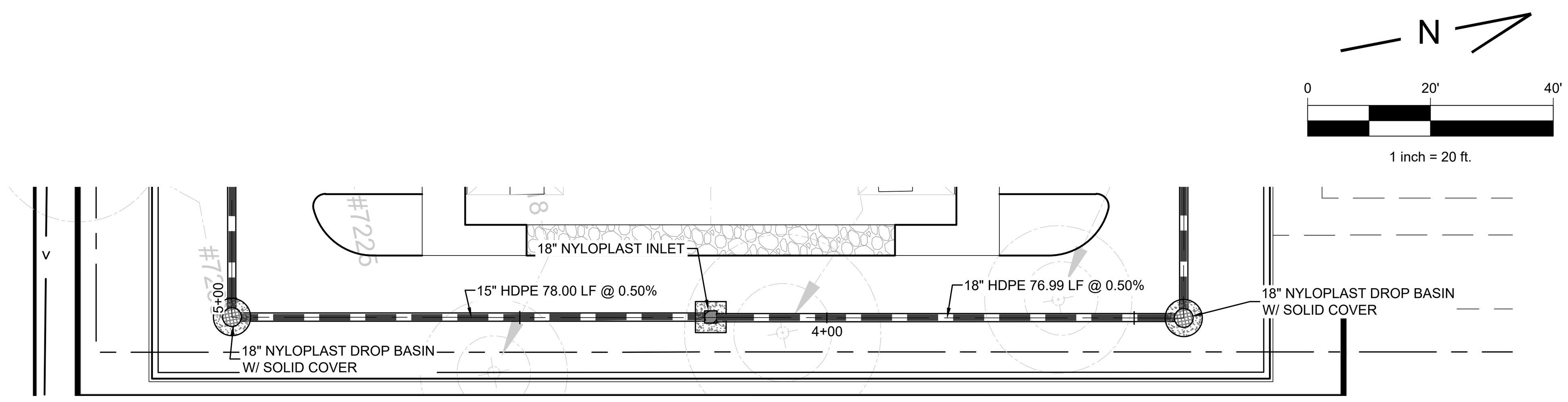


RET - STORM SEWER - LINE E

(0+80-3+50)

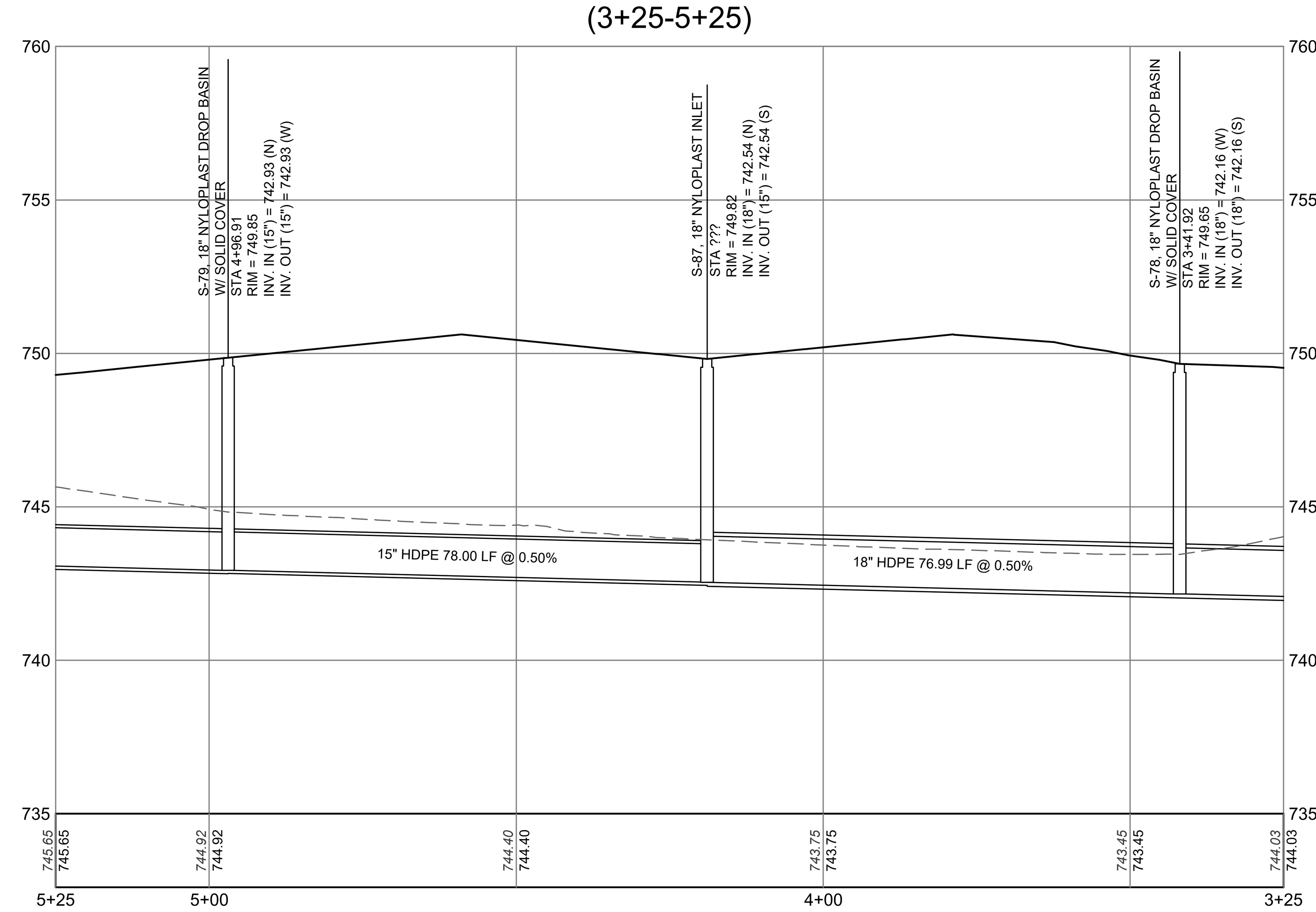


PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'



RET - STORM SEWER - LINE E

(3+25-5+25)



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DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

SHEET TITLE
STORM PLAN & PROFILE

SHEET
12 OF 22

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN

LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

LEGEND

- EASEMENT
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- PROPOSED WATER & STUB OUT
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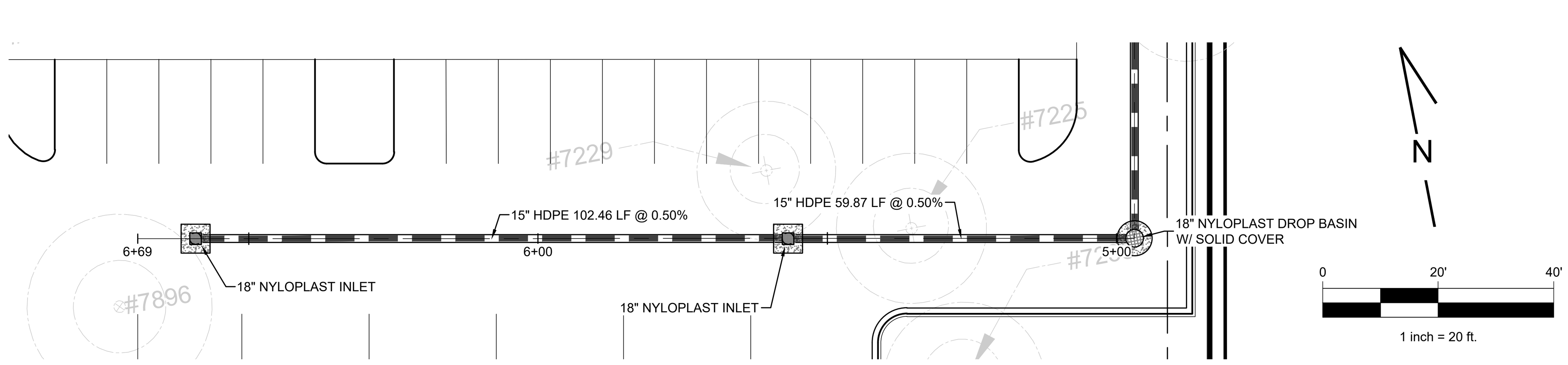
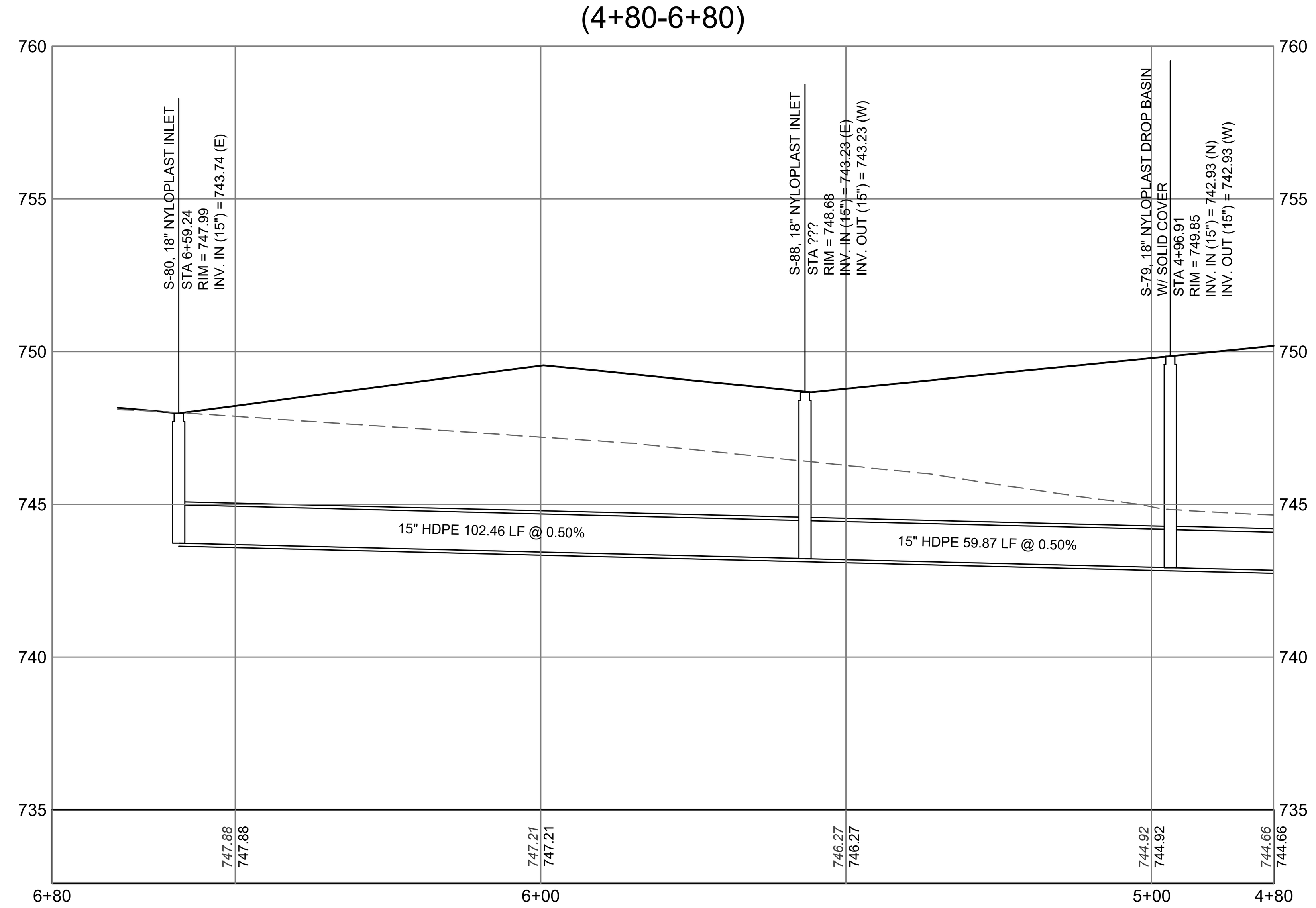
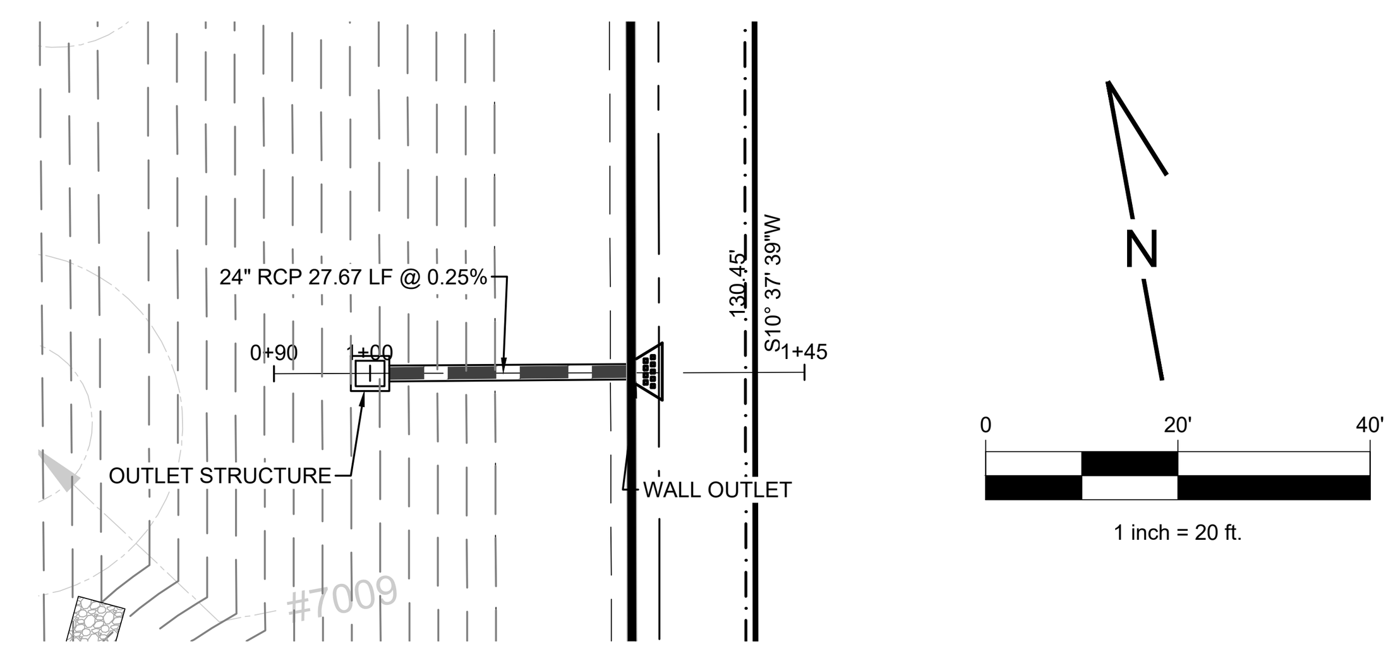
- STORM MANHOLES



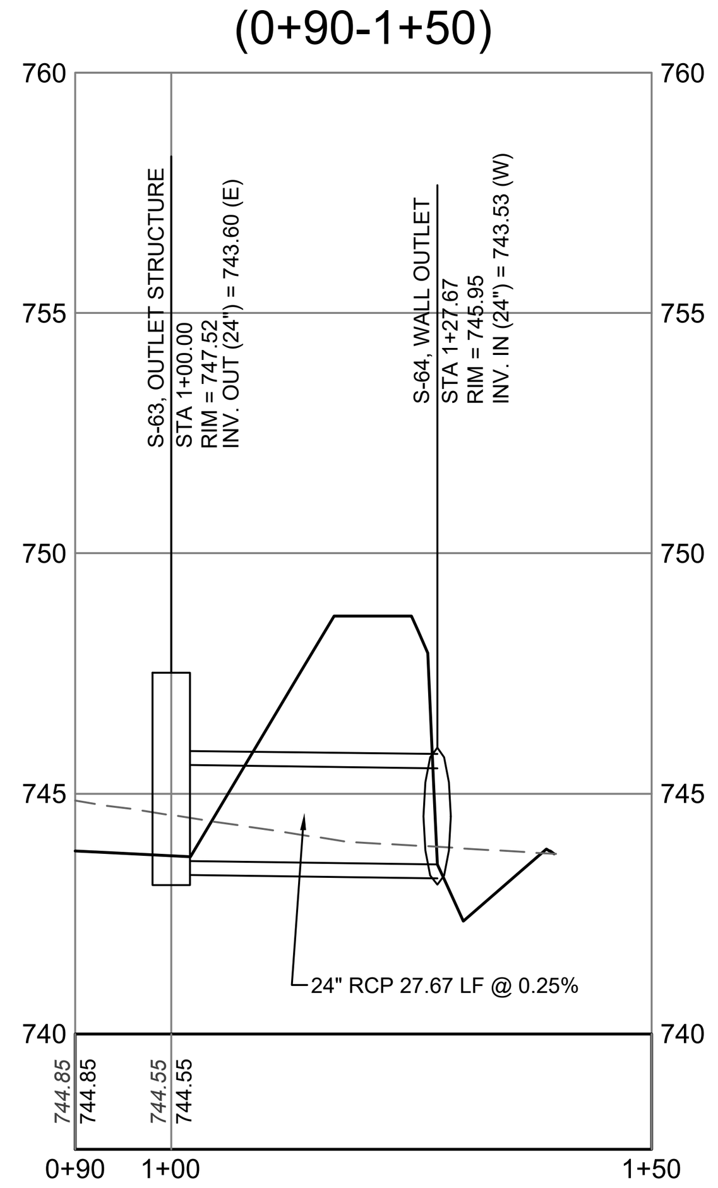
RET - STORM SEWER - LINE E
(4+80-6+80)



PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'



POND OUTLET
(0+90-1+50)



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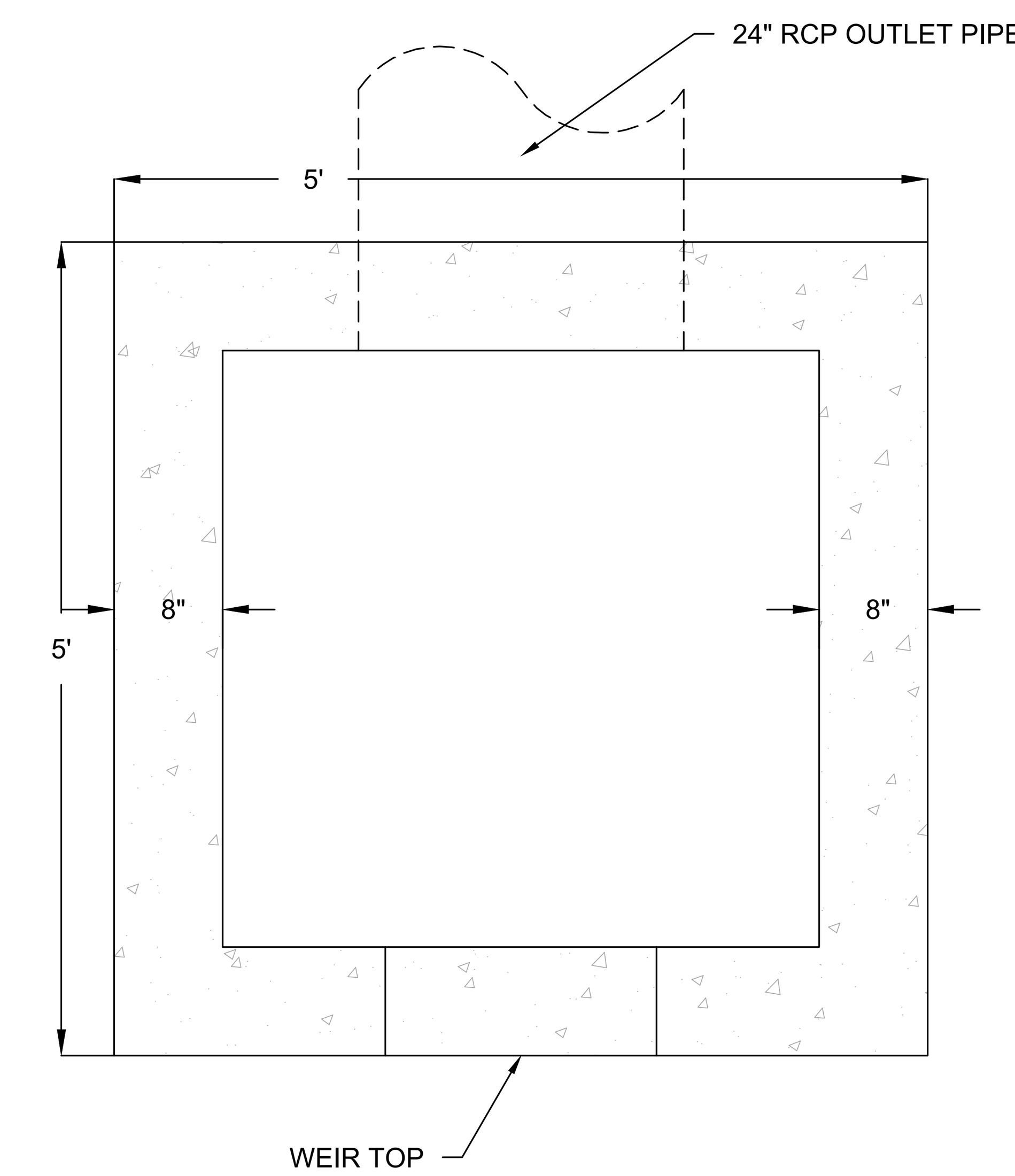

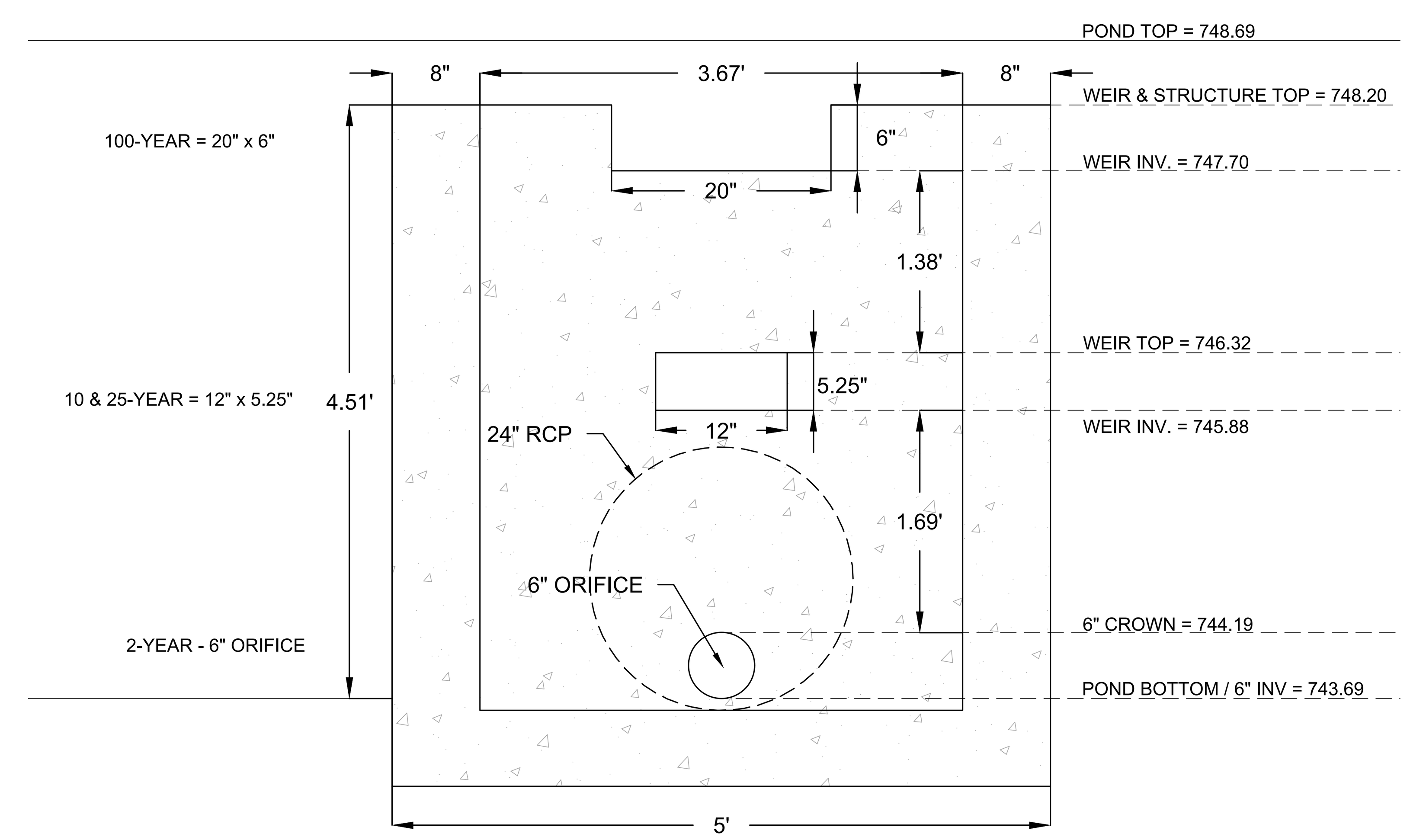

OUTLET STRUCTURE DETAIL
N.T.S

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PERSONAL WAREHOUSE WORK · STORE · PLAY
HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

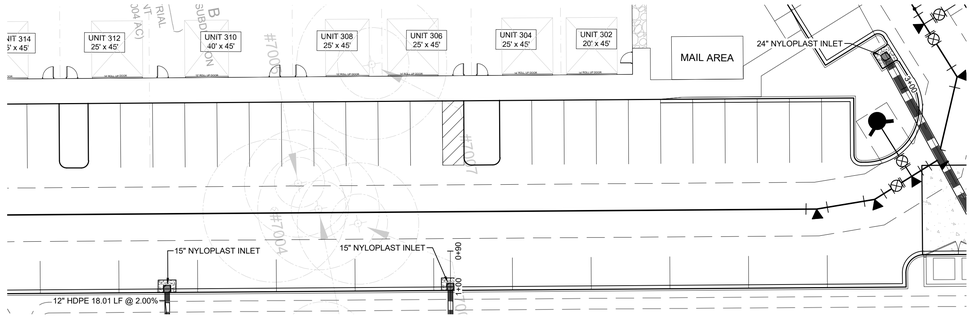
No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

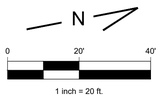
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

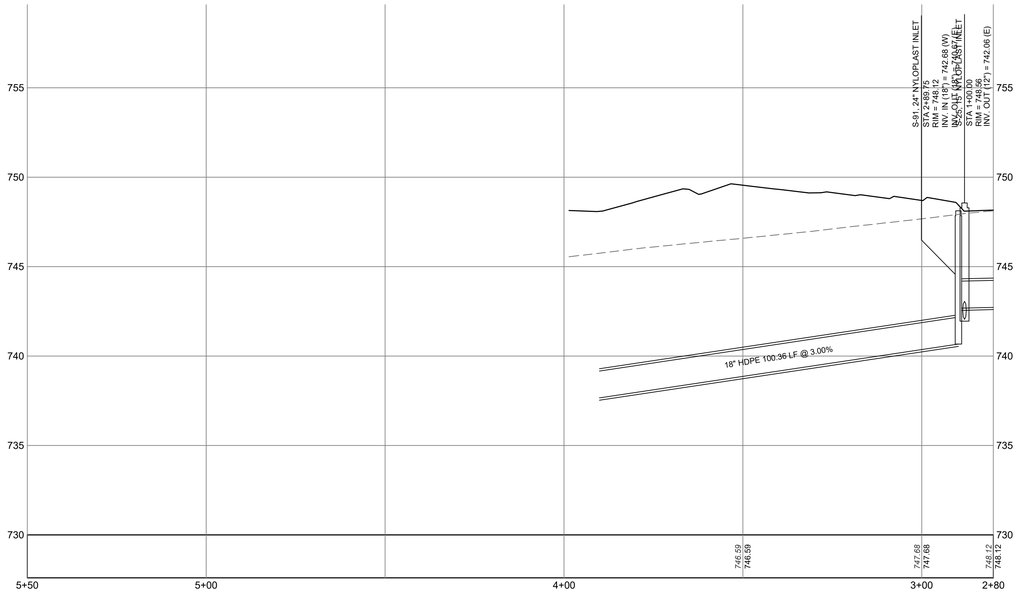
SHEET TITLE
STORM PLAN & PROFILE

SHEET 13 OF 22

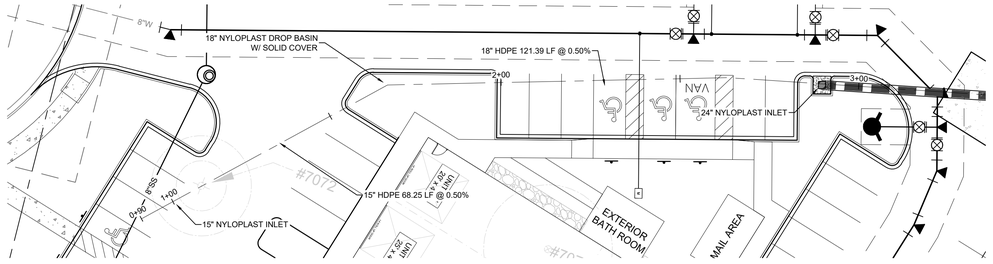
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

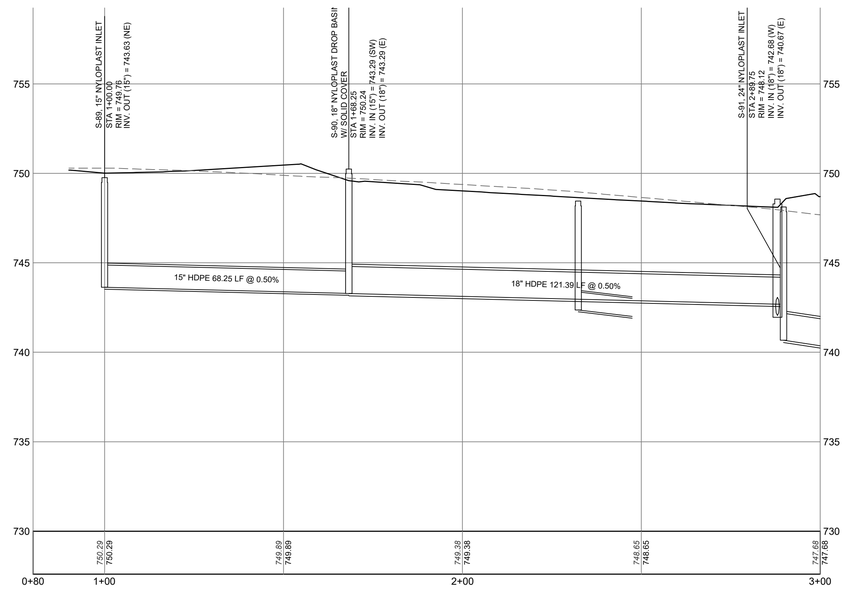






PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'





PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

LEGEND

- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
- EXISTING WATER & STUB OUT
- SANITARY SERVICE
- WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES

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5/22/2025

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1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
STORM PLAN & PROFILE

SHEET
14 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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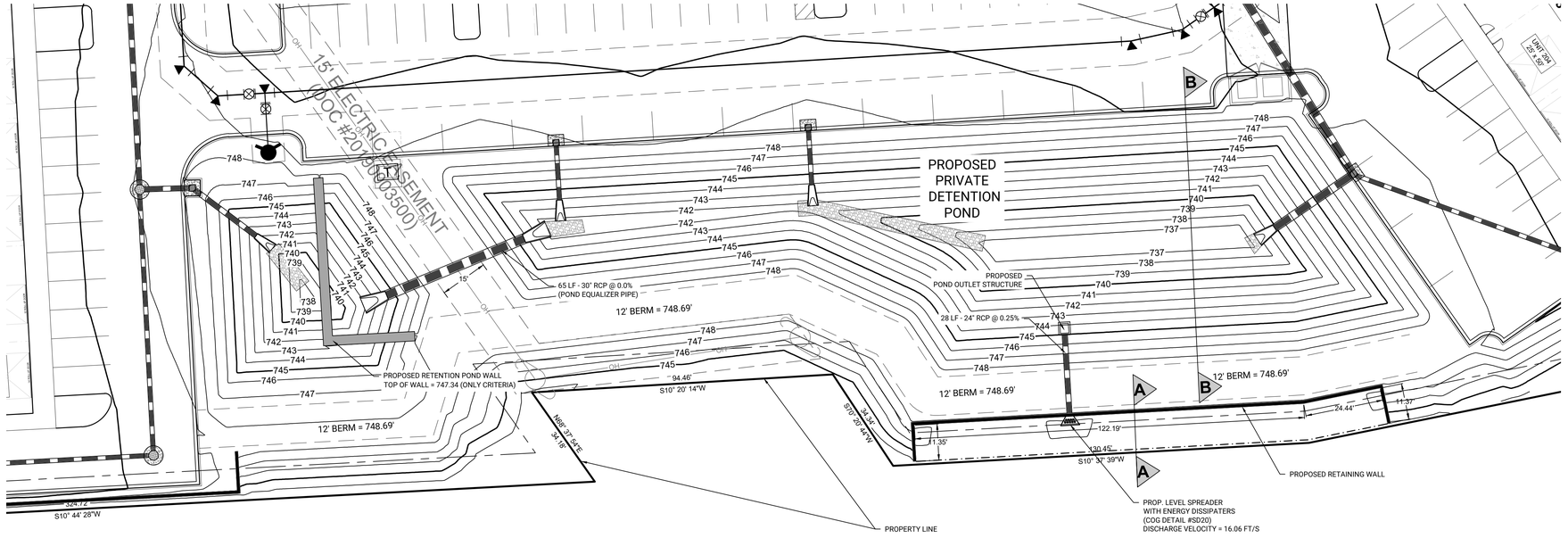
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 11/25/2024. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.



N

0 20' 40'

1 inch = 20 ft.

LEGEND

- 5280 — PROPOSED MAJOR CONTOUR
- 5279 — PROPOSED MINOR CONTOUR
- 5280 — EXISTING MAJOR CONTOUR
- 5279 — EXISTING MINOR CONTOUR
- DIRECTIONAL FLOW ARROW
- 5150 — SPOT ELEVATION
- RIGHT OF WAY (R.O.W.)
- CENTERLINE
- PROJECT BOUNDARY
- STORM MANHOLES
- STORM INLETS

ABBREVIATIONS:

FL = FLOW LINE
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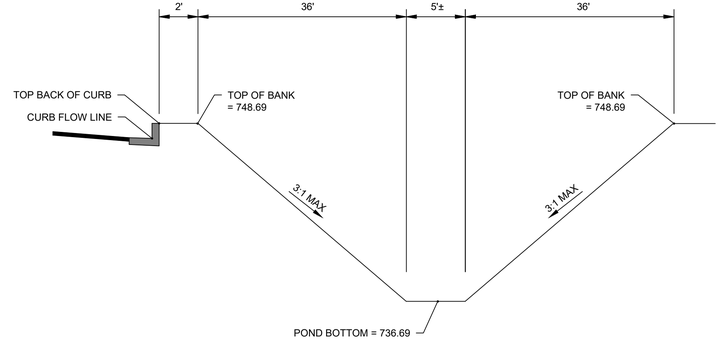
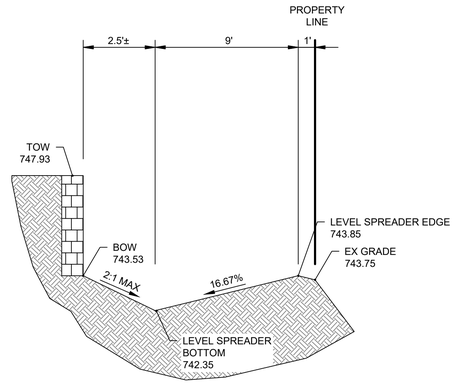


SECTION B-B
POND CROSS SECTION
N.T.S



SECTION A-A
LEVEL SPREADER DETAIL
N.T.S

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STATE OF TEXAS — RAVIN J NANPATEE — 147661 — PROFESSIONAL ENGINEER
5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL POND PLAN

SHEET 15 OF 22

DESIGNED BY R.J.N. DRAWN BY R.J.N. CHECKED BY R.J.N.

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
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PERSONAL WAREHOUSE — WORK · STORE · PLAY

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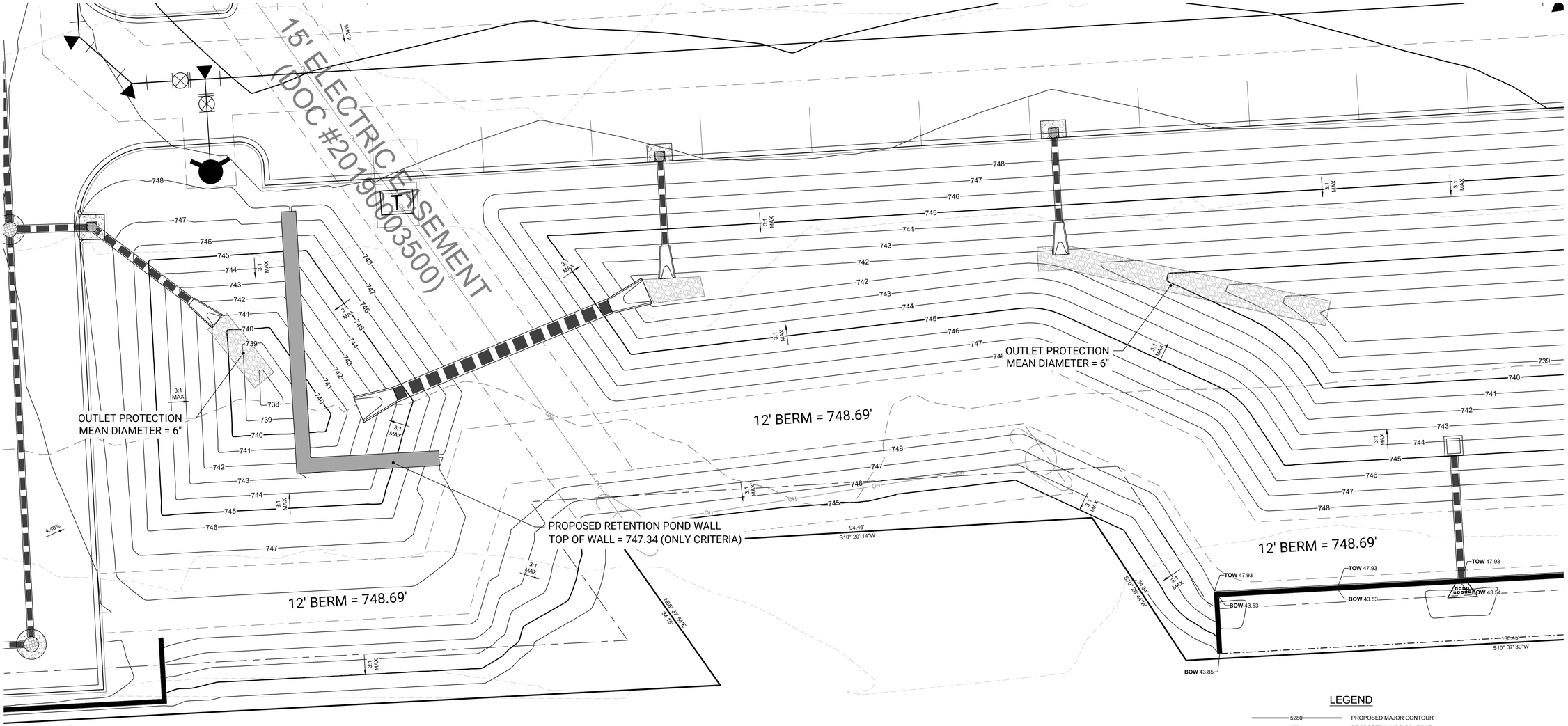

N

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PERSONAL WAREHOUSE
WORK · STORE · PLAY

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STATE OF TEXAS · RAVIN J NANPATEE · 147661 · PROFESSIONAL ENGINEER
5/22/2025

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1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
POND DETAILS

SHEET
16 OF 22

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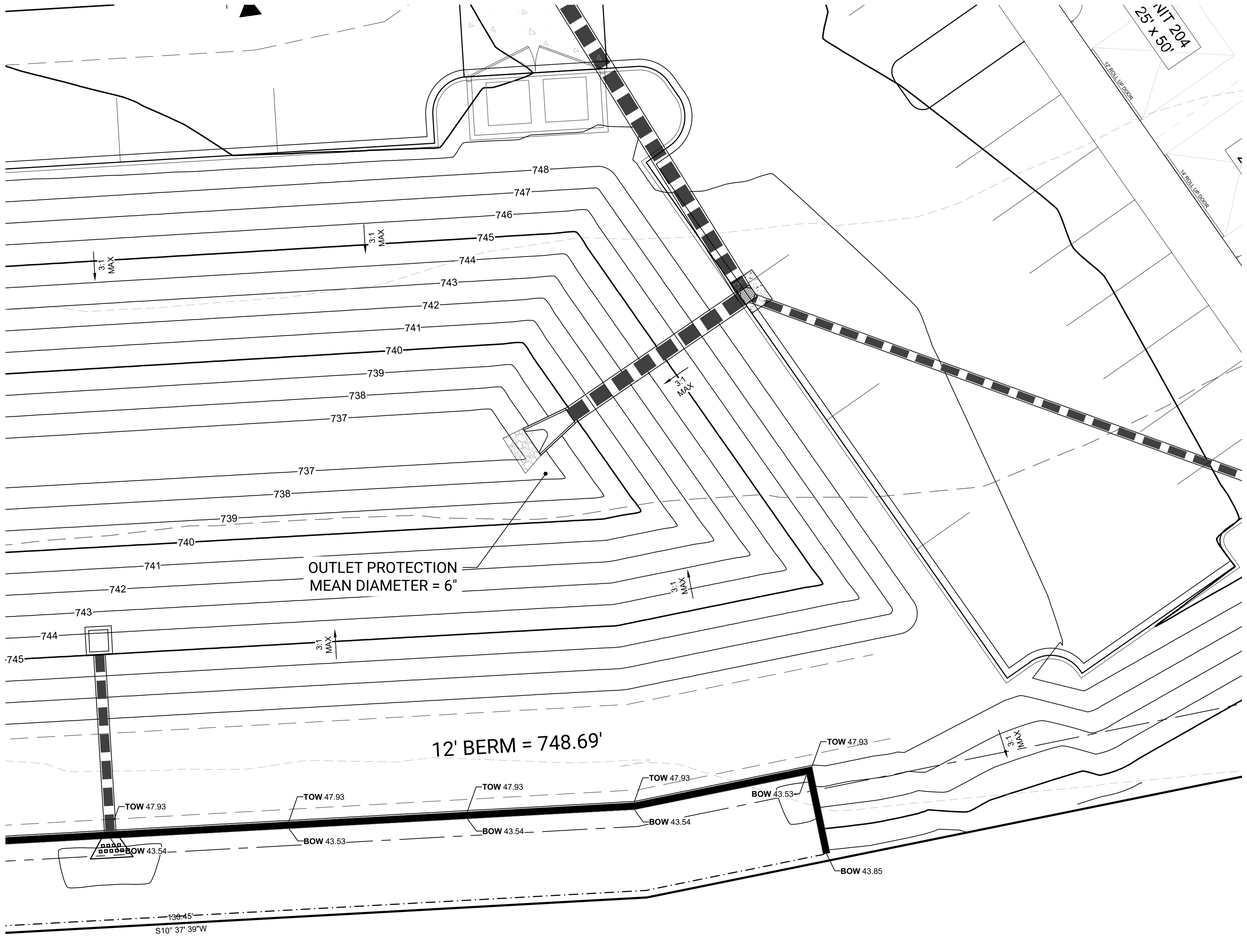
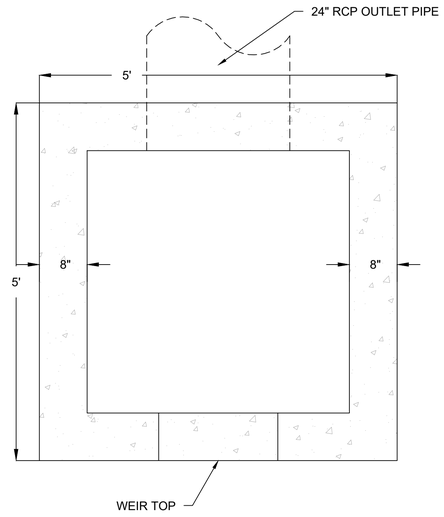
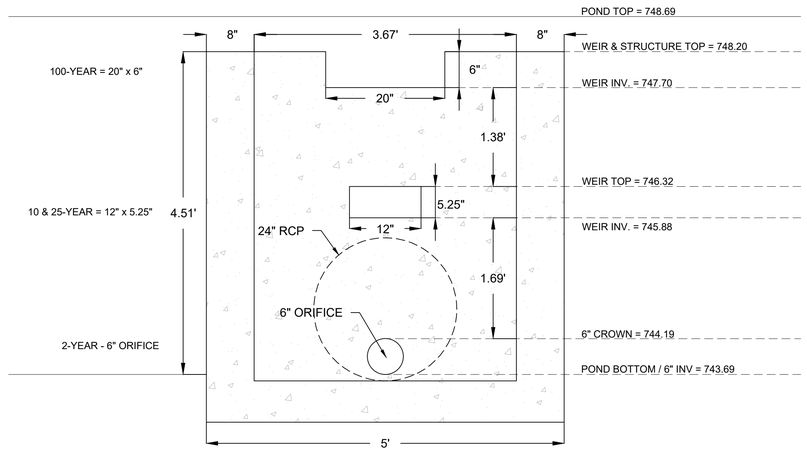




OUTLET STRUCTURE DETAIL - TOP
N.T.S



OUTLET STRUCTURE DETAIL
N.T.S

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LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
POND DETAILS

SHEET 17 OF 22

DESIGNED BY RJN | DRAWN BY RJN | CHECKED BY RJN

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ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

EROSION CONTROL DETAILS

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

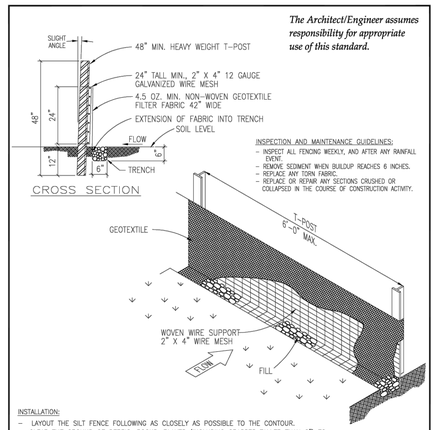
ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES
EC01

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100#/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 80% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS - RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95.# COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING). IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES
EC01A



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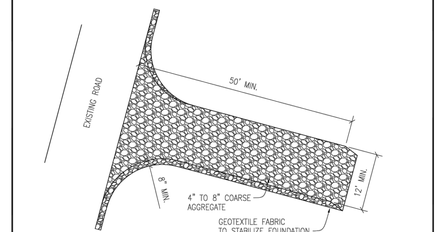
INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL
EC02

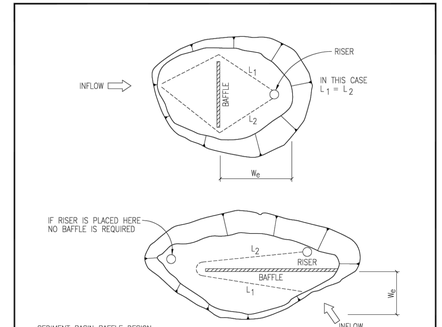


INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- 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 ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-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.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE
EC06

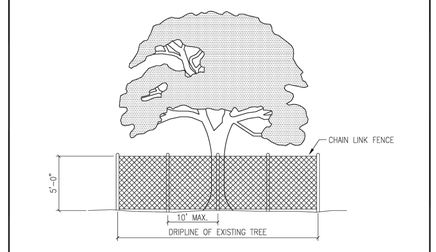


SEDIMENT BASIN BAFFLE DESIGN
$W_e = A / (L_1 + L_2)$
W_e = EFFECTIVE WIDTH OF BASIN
A = SURFACE AREA OF BASIN WHEN FILLED TO RISER CREST
L_1, L_2 = SHORTEST TRAVEL DISTANCE AROUND THE BAFFLE FROM INLET TO OUTLET

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 1/2 OF ITS ORIGINAL STORAGE CAPACITY.
- THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SEDIMENT BASIN BAFFLE DESIGN
EC08

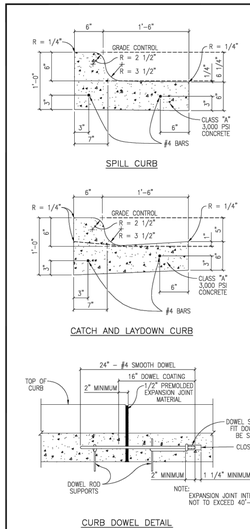


NOTES:
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – CHAIN LINK FENCE
EC09

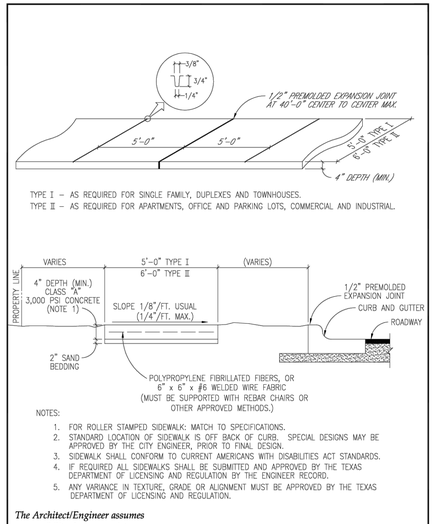
SITE DETAILS



NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D-1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. THE FOLLOWING SCHEME OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. ALL CURB AND CURB AND GUTTER (REINFORCED) SHALL HAVE TWO #4 LONGITUDINAL REINFORCING BARS.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB AND GUTTER DETAILS
SD06

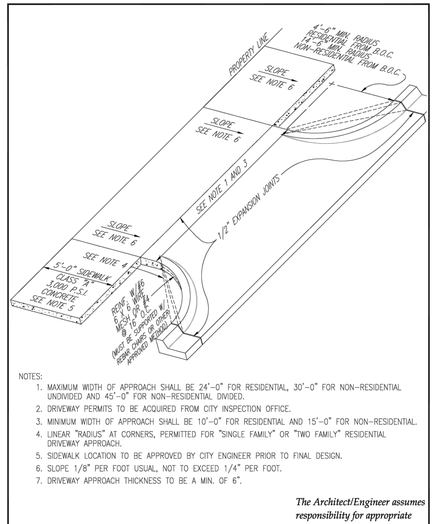


TYPE I – AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES.
TYPE II – AS REQUIRED FOR APARTMENTS, OFFICE AND PARKING LOTS, COMMERCIAL AND INDUSTRIAL.

NOTES:
1. FOR ROLLER STAMPED SIDEWALK: MATCH TO SPECIFICATIONS.
2. STANDARD LOCATION OF SIDEWALK IS OFF BACK OF CURB. SPECIAL DESIGNS MAY BE APPROVED BY THE CITY ENGINEER, PRIOR TO FINAL DESIGN.
3. SIDEWALK SHALL CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
4. IF REQUIRED ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION BY THE ENGINEER RECORD.
5. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT MUST BE APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK SECTION AND JOINT DETAIL
SD14

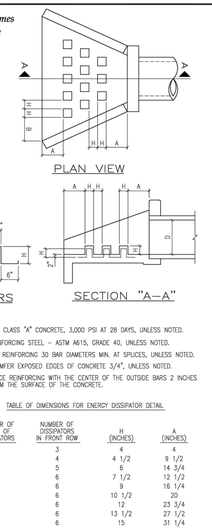


NOTES:
1. MAXIMUM WIDTH OF APPROACH SHALL BE 24'-0" FOR RESIDENTIAL, 30'-0" FOR NON-RESIDENTIAL UNDIVIDED AND 45'-0" FOR NON-RESIDENTIAL DIVIDED.
2. DRIVEWAY PERMITS TO BE ACQUIRED FROM CITY INSPECTION OFFICE.
3. MINIMUM WIDTH OF APPROACH SHALL BE 10'-0" FOR RESIDENTIAL AND 15'-0" FOR NON-RESIDENTIAL.
4. LINEAR "RADIUS" AT CORNERS, PERMITTED FOR "SINGLE FAMILY" OR "TWO FAMILY" RESIDENTIAL DRIVEWAY APPROACH.
5. SIDEWALK LOCATION TO BE APPROVED BY CITY ENGINEER PRIOR TO FINAL DESIGN.
6. SLOPE 1/8" PER FOOT USUAL, NOT TO EXCEED 1/4" PER FOOT.
7. DRIVEWAY APPROACH THICKNESS TO BE A MIN. OF 6".

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE DRIVEWAY APPROACH TYPICAL
SD15

The Architect/Engineer assumes responsibility for appropriate use of this standard.



NOTES:
1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL – ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	18 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATOR DETAIL
SD20

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HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
DETAILS

SHEET
18 OF 22

DESIGNED BY RJN DRAWN BY RJN CHECKED BY RJN

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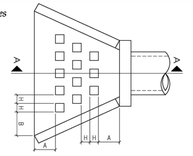
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

SITE DETAILS

The Architect/Engineer assumes responsibility for appropriate use of this standard.

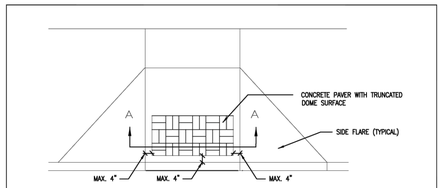


NOTES:
1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL – ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	16 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATOR DETAIL
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD20
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



TRUNCATED DOME PATTERN CURB RAMP

GENERAL NOTES

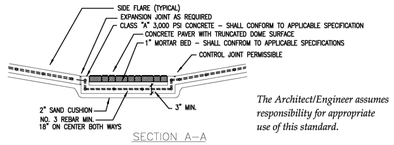
CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-936, C-33, AND SHALL BE LAID IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN

CONCRETE PAVER UNIT SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS.

CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR TO THE ADJACENT SURFACES. THE COLOR OF THE CONCRETE PAVER UNITS SHALL BE SHOWN ELSEWHERE IN THE PLANS. (ADJACENT SURFACES INCLUDE SIDE FLARES).

CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY AND ANY CUT UNIT SHALL BE NOT LESS THAN 25 PERCENT OF A FULL UNIT.

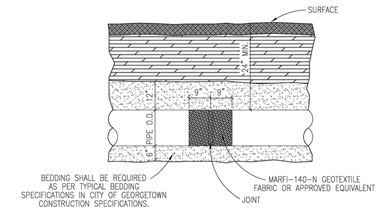
CONCRETE PAVER WITH TRUNCATED DOME SURFACE



SECTION A–A

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB RAMP TEXTURES TYPE A
REVISION NOTE: REVISED 3/14/2014 WBD
REVISION NOTE: ADOPTED 6/21/2006 TRB
DRAWING NAME: SD37
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS/AP | APPROVED BY: TRB

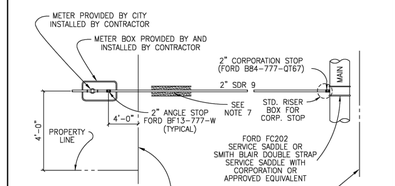


NOTES
1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MARFI-140-N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. EACH JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC CENTERED ON THE JOINT.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD42
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

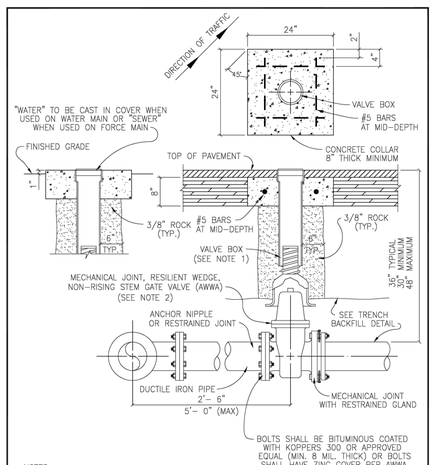
WATER DETAILS



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

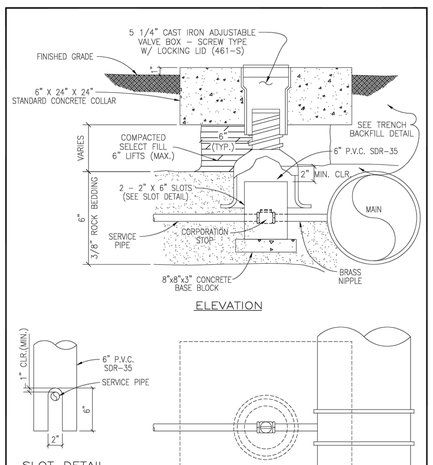
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SINGLE WATER SERVICE PLAN
REVISION NOTE: ADOPTED 01/23/2013
DRAWING NAME: W04
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL VALVE SETTING
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W07
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



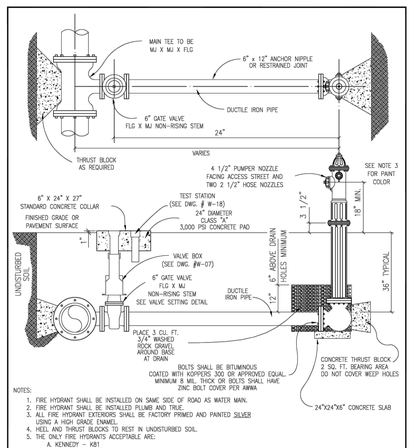
ELEVATION

SLOT DETAIL

PLAN

The Architect/Engineer assumes responsibility for appropriate use of this standard.

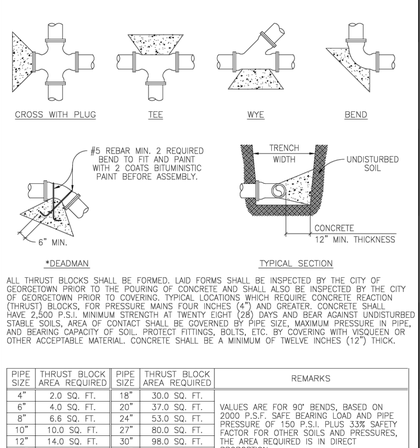
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD RISER BOX FOR CORPORATION STOP
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W08
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HELL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
   A. KENNEDY – K81
   B. AMERICAN DARLING – B84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "HYS-U1ES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHELENE FILM.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL FIRE HYDRANT INSTALLATION
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W10
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



*DEADMAN

TYPICAL SECTION

ALL THRUST BLOCKS SHALL BE FORMED, LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKING FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER. CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS. AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W11
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

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EMAIL : RNANPATEE@GHERECC.COM
HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
DETAILS

SHEET
19 OF 22

DESIGNED BY R.N | DRAWN BY R.N | CHECKED BY R.N

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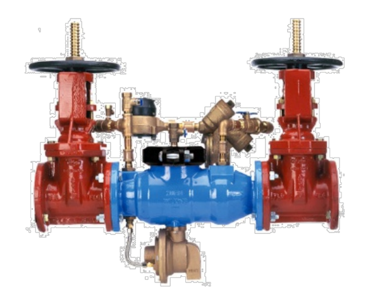
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

WATER DETAILS

ZURN **Model 375DA**
Reduced Pressure Detector Assembly

Application
Designed for installation on water lines in fire protection systems to protect against both backsiphonage and backpressure of contaminated water into the potable water supply. The Model 375DA shall provide protection where a potential health hazard exists. Incorporates metered by-pass to detect leaks and unauthorized water use.



Standards Compliance
(Unless otherwise noted, applies to sizes 2 1/2" thru 10")
- ASSE® Listed 1047
- UL® Classified
- AWWA Compliant C550
- CSA® Certified B64.4 (4" & 6")
- C-UL® Classified
- FM® Approved
- NYC MEA 218-01-M VOL 3
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California
- Meets the requirements of NSF/ANSI/CAN 61*

*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

By-Pass Backflow Assembly 3/4" Model 975XLD

Materials

Main valve body	Ductile Iron ASTM A 536
Access covers	Ductile Iron ASTM A 536
Coatings	NSF Approved fusion epoxy finish
Internals	Stainless steel, 300 Series NORYL™
Fasteners	Stainless Steel, 300 Series
Elastomers	EPDM (FDA approved) Buna Nitrile (FDA approved)
Polymers	NORYL™
Springs	Stainless steel, 300 series
Sensing line	Stainless steel, braided hose

Options (Suffixes can be combined)
- ☐ - with OS & Y gate valves (standard)
- ☐ L - less shut-off valves (flanged body connections)
- ☐ LM - less water meter
- ☐ - with gpm meter (standard)
- ☐ CFM - with cu ft/min meter
- ☐ G - with groove end gate valves
- ☐ FG - with flanged inlet gate connection and grooved outlet gate connection
- ☐ PI - with Post Indicator Gate Valve
- ☐ GF - with flanged inlet connection and grooved outlet connection
- ☐ BG - with grooved end butterfly valves with integral monitor switches (2 1/2" - 10")

Accessories
- ☐ Air gap (Model AG)
- ☐ Repair kit (rubber only)
- ☐ Thermal expansion tank (Model XT)
- ☐ OS & Y Gate valve tamper switch (OSY-40)
- ☐ QT-SET Quick Test Fitting Set

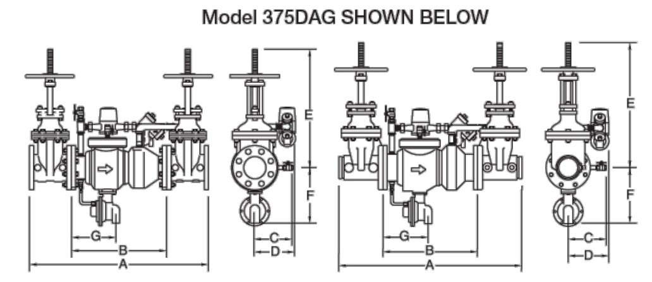
Attention:
Model 375DA (flange body) and Model 375ADA (grooved body) have different lay lengths.

Relief Valve discharge port:
2 1/2" - 6" - 2.75 sq. in.
8" - 10" - 3.69 sq. in.

Features
Sizes: 2 1/2", 3", 4", 6", 8", 10"

Maximum working water pressure	175 PSI
Maximum working water temperature	140°F
Hydrostatic test pressure	350 PSI
End connections (Grooved for steel pipe)	AWWA C606
(Flanged bolt pattern)	ASME B16.42 Class 150

Model 375DAG SHOWN BELOW



Dimensions & Weights (do not include pkg.)

MODEL 375DA SIZE		DIMENSION (approximate)																				WEIGHT							
		A		A WITH BUTTERFLY VALVES		B LESS GATE VALVES		C		D		E OS&Y OPEN		E OS&Y CLOSED		E WITH BUTTERFLY VALVES		F		G		LESS SHUT-OFF VALVES		OS&Y GATE VALVES FLANGED		OS&Y GATE VALVES GROOVED		BUTTERFLY VALVES GROOVED	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
2 1/2	65	31	787	28	711	15 7/8	403	7 1/4	184	9	229	17 3/4	451	15 3/8	391	13 3/4	349	9 1/2	241	8 3/8	213	75	34	185	84	167	76	147	67
3	80	32	813	28 1/2	724	15 7/8	403	7 1/4	184	9	229	20 1/4	514	17	432	13 3/4	349	9 1/2	241	8 3/8	213	78	35	208	94	160	73	130	59
4	100	37 5/8	956	32 8/9	835	19 1/2	495	8	203	9	229	22 1/2	572	18 1/4	464	17	432	11	279	9 1/4	235	116	53	306	139	292	132	200	91
6	150	44 5/8	1133	37 5/8	956	23 1/2	597	10	254	10 1/2	267	30 1/2	775	24 1/4	616	17 1/2	445	12 3/8	314	9 1/4	235	194	88	494	224	468	212	312	142
8	200	60 7/8	1546	53 7/8	1369	37 3/4	959	11	279	15 1/2	394	37	940	28 1/2	724	16 15/16	430	15 3/8	391	16 3/4	426	382	173	858	389	810	367	556	252
10	250	63 7/8	1622	57 7/8	1470	37 3/4	959	11	279	15 1/2	394	45 5/8	1159	34 3/4	883	16 15/16	430	15 3/8	391	16 3/4	426	412	187	1230	558	1164	528	800	363

Zurn Industries, LLC | **Wilkins**
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766
In Canada | **Zurn Industries Limited**
7900 Goreway Drive, Unit 10, Brampton, Ontario L6T 5W6, 877-892-5216
www.zurn.com

Rev. P
Date: 08/20
Document No. BF-375DA
Product No. Model 375DA
Patent zurn.com/patents

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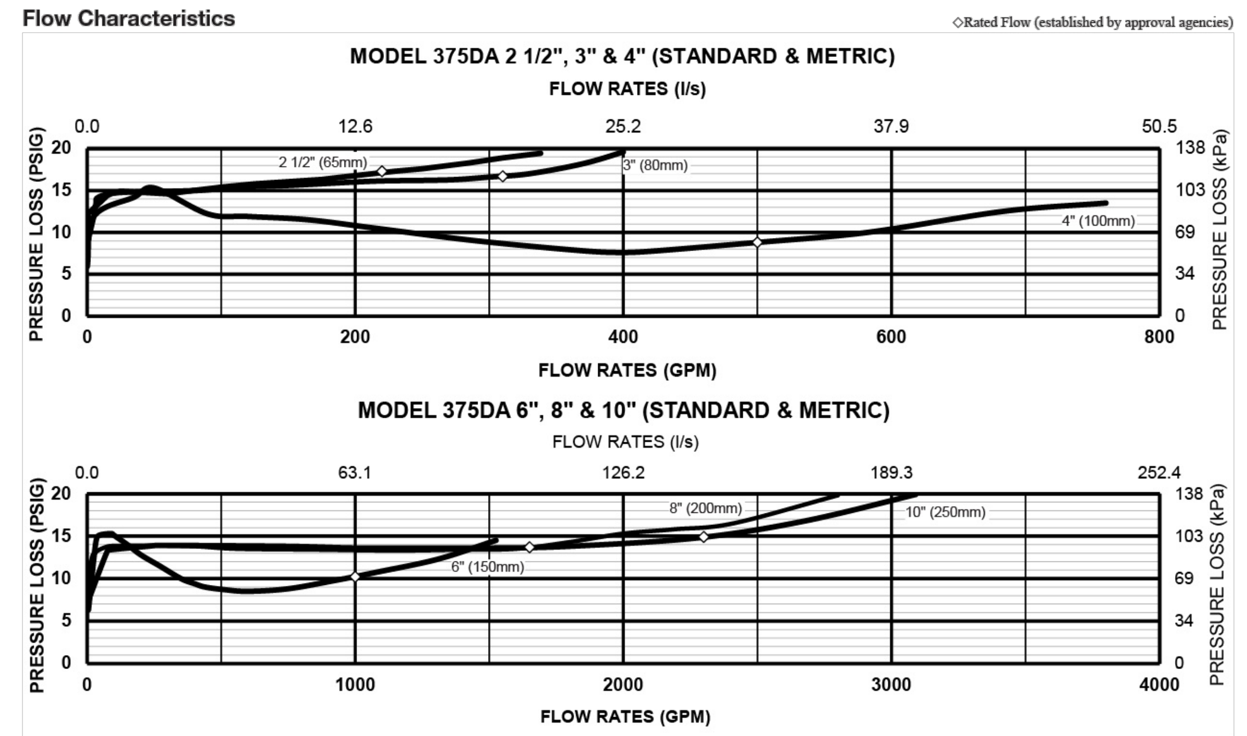
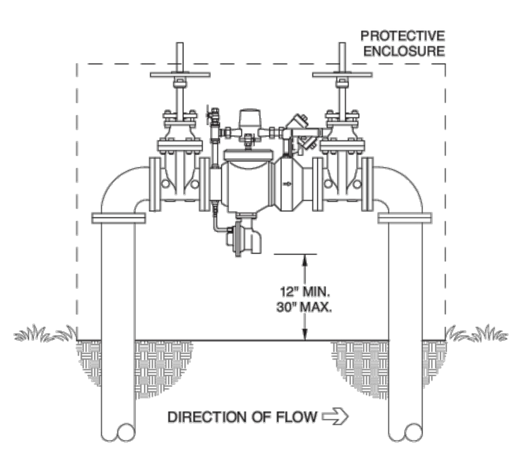
Flow Characteristics

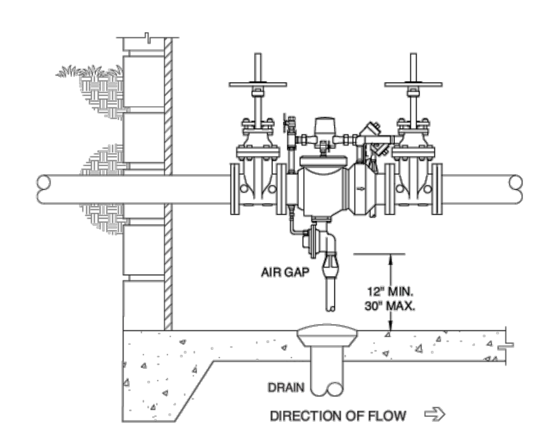


Typical Installation
Local codes shall govern installation requirements. To be installed in accordance with the manufacturer's instructions and the latest edition of the Uniform Plumbing Code. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.

Capacity thru Schedule 40 Pipe (GPM)				
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec
2 1/2"	75	112	149	224
3"	115	173	230	346
4"	198	298	397	595
6"	450	675	900	1351
8"	780	1169	1559	2339
10"	1229	1843	2458	3687
12"	1763	2644	3525	5288



OUTDOOR INSTALLATION



INDOOR INSTALLATION

Specifications
The Reduced Pressure Detector Backflow Prevention Assembly shall be certified to NSF/ANSI/CAN 61, ASSE® Listed 1047, and supplied with full port OS & Y gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536), the seat ring and check valve shall be NORYL™, the stem shall be stainless steel (ASTM A 276) and the seat disc elastomers shall be EPDM. The checks and the relief valve shall be accessible for maintenance without removing the device from the line. The Reduced Pressure Detector Backflow Prevention Assembly shall be a ZURN WILKINS Model 375DA.

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1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766
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www.zurn.com

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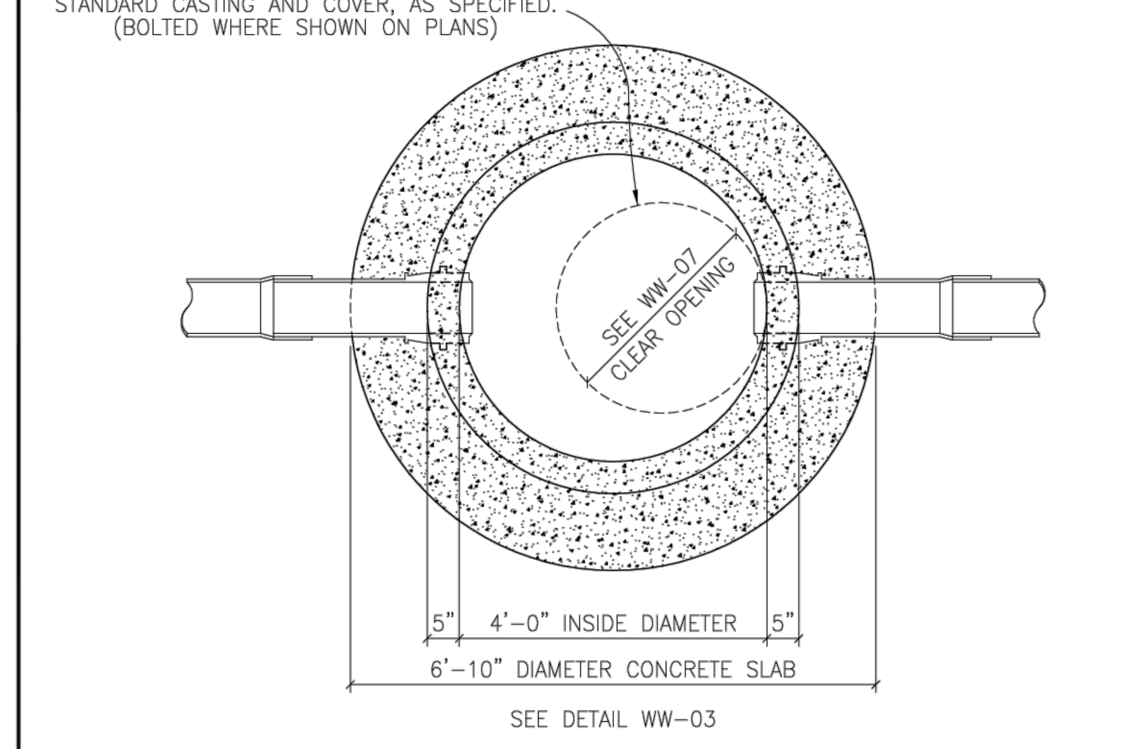
WASTEWATER DETAILS



MANHOLE PLAN

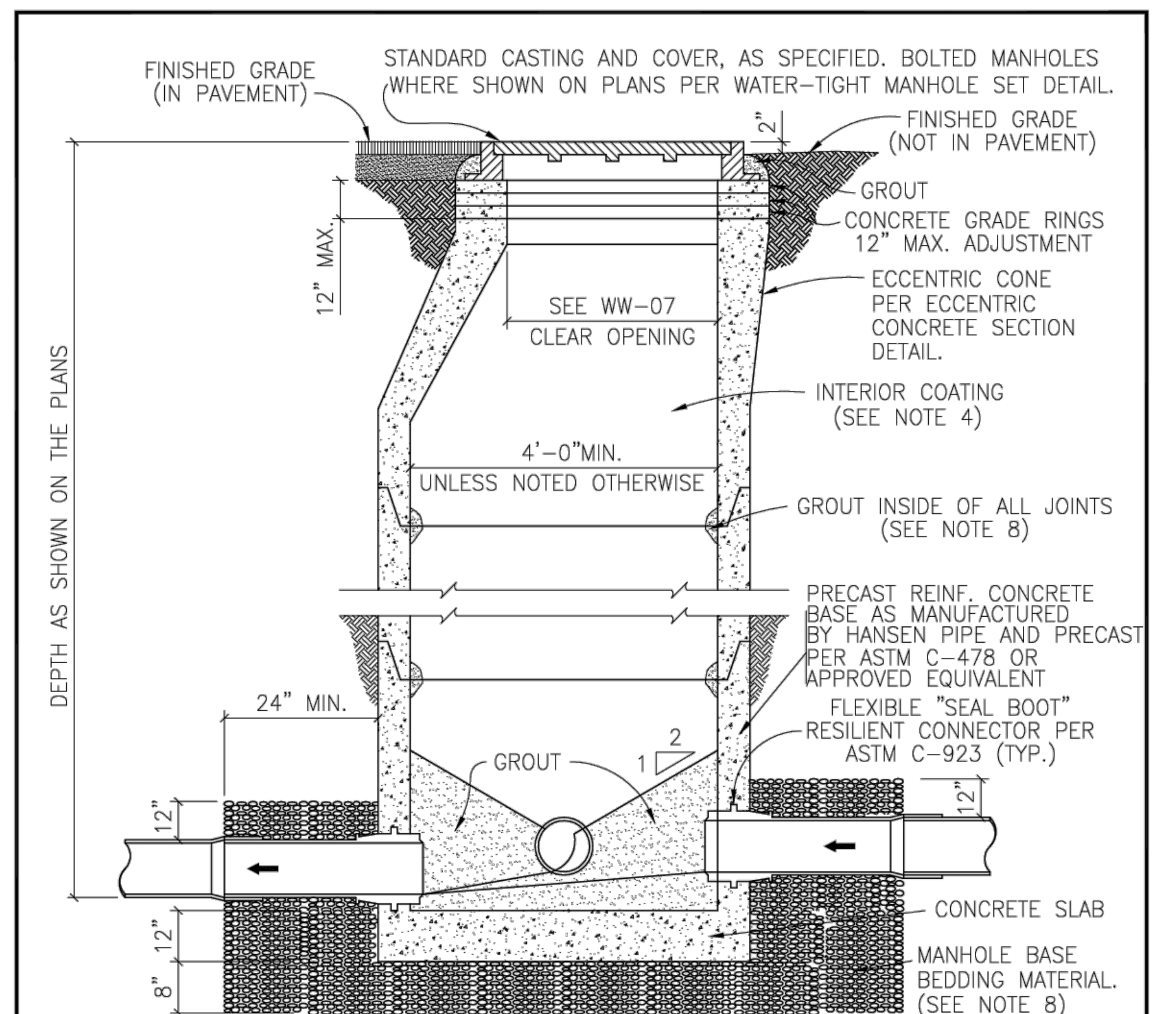
CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW-07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD MANHOLE – PLAN	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW02 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF-SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETTED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL:
   SIEVE SIZE 2", PERCENT (%) RETAINED 0
   SIEVE SIZE 1 1/2", % RETAINED 0-10
   SIEVE SIZE 1", % RETAINED 45-80
   SIEVE SIZE 3/4", % RETAINED 85-100
   SIEVE SIZE 3/8", % RETAINED 95-100

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD MANHOLE – SECTION	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW03 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

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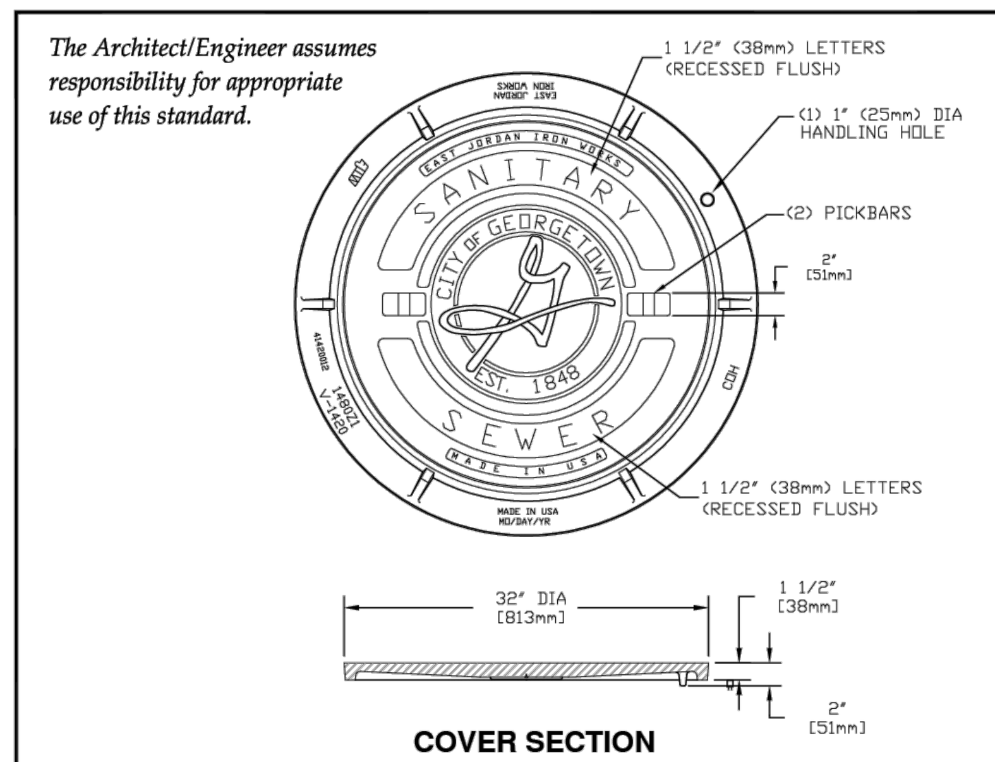
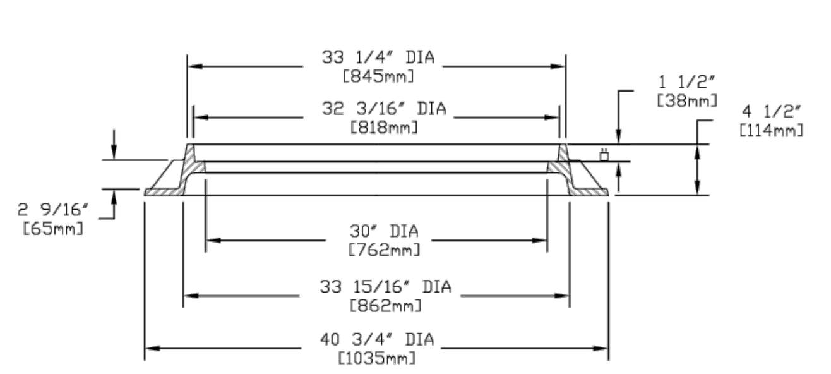


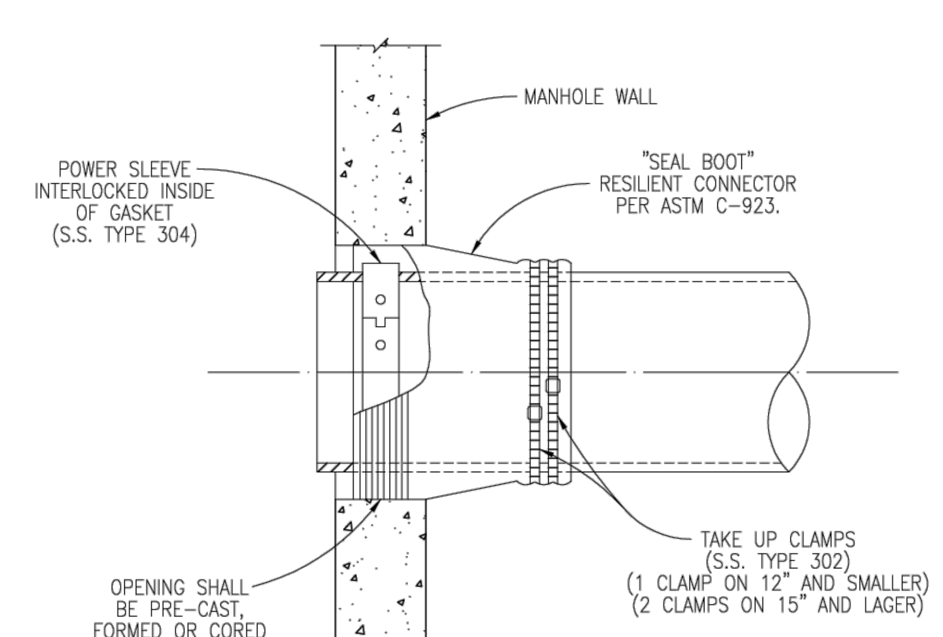
COVER SECTION



FRAME SECTION

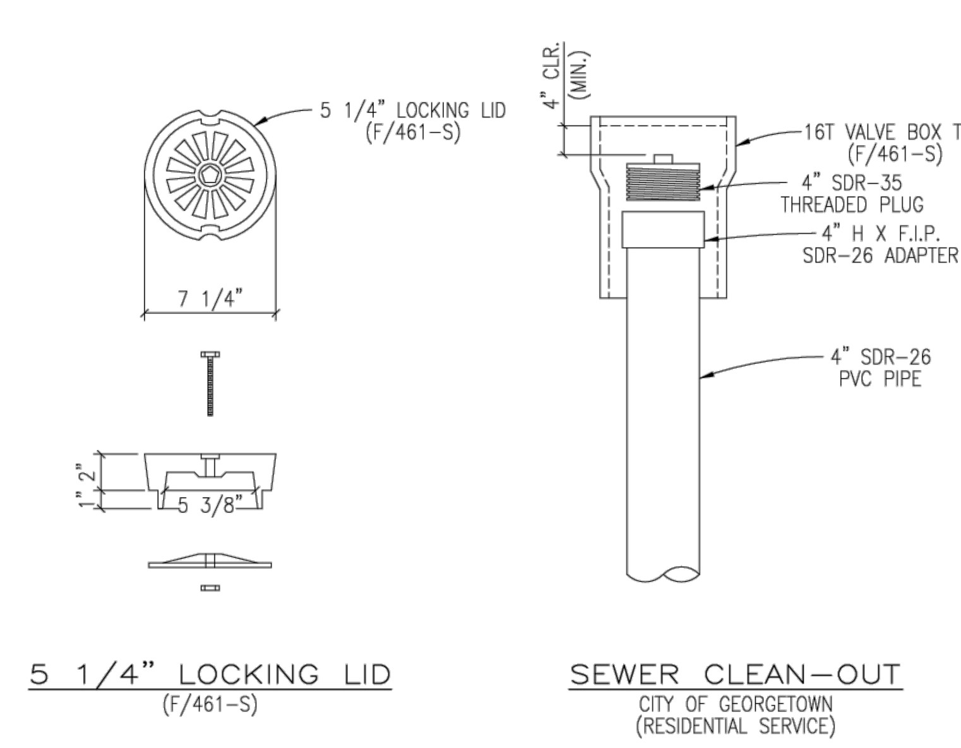
NOTES:
1. STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V-1420/1480Z1, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. STANDARD WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00148390.
4. FOR BOLTED WASTEWATER MANHOLE SET REFER TO DETAIL WW07A.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD WASTEWATER MANHOLE SET	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW07 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS FLEXIBLE "SEAL BOOT" CONNECTOR	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW10 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

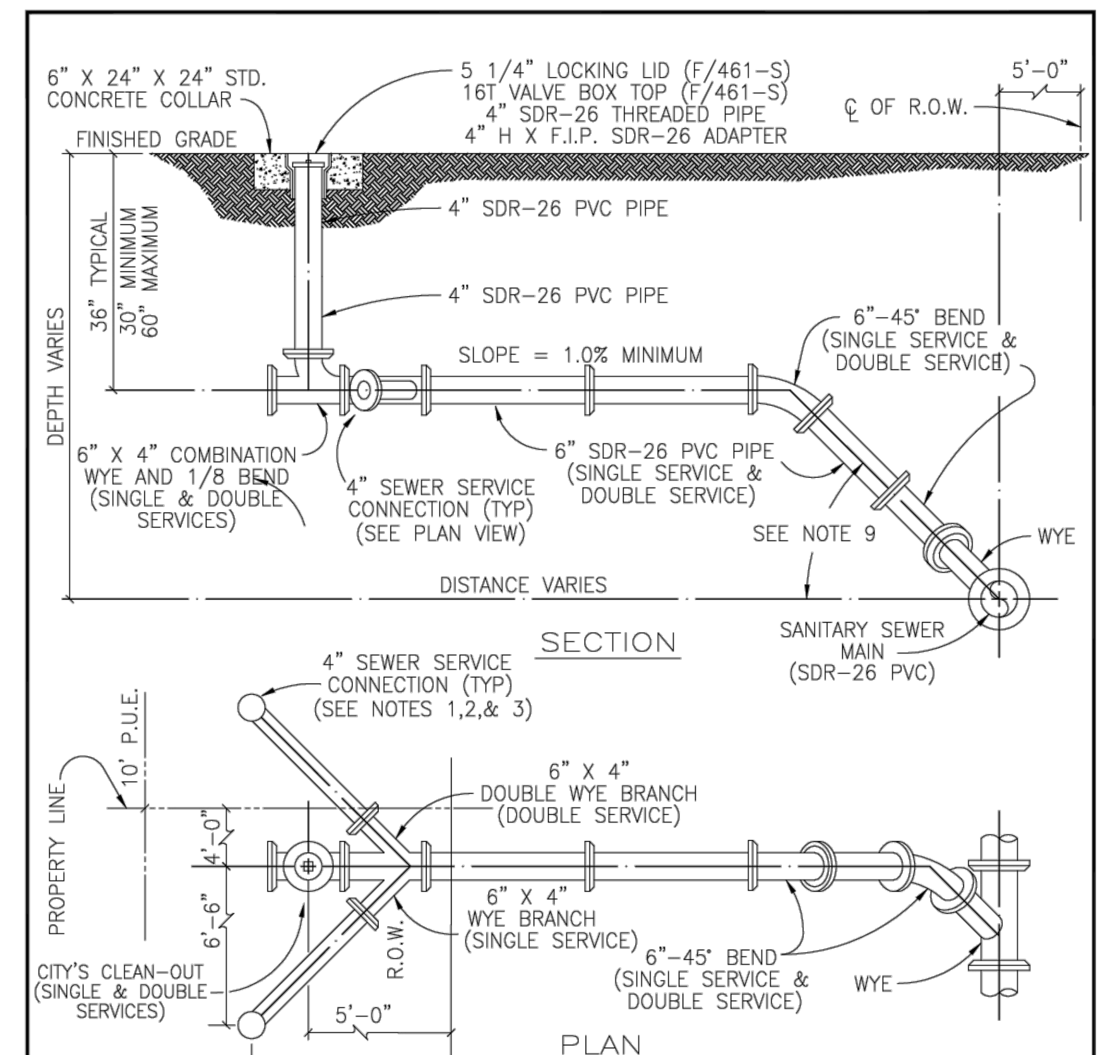


5 1/4" LOCKING LID (F/461-S)

SEWER CLEAN-OUT (CITY OF GEORGETOWN (RESIDENTIAL SERVICE)

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SEWER CLEAN-OUT DETAIL	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW12 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

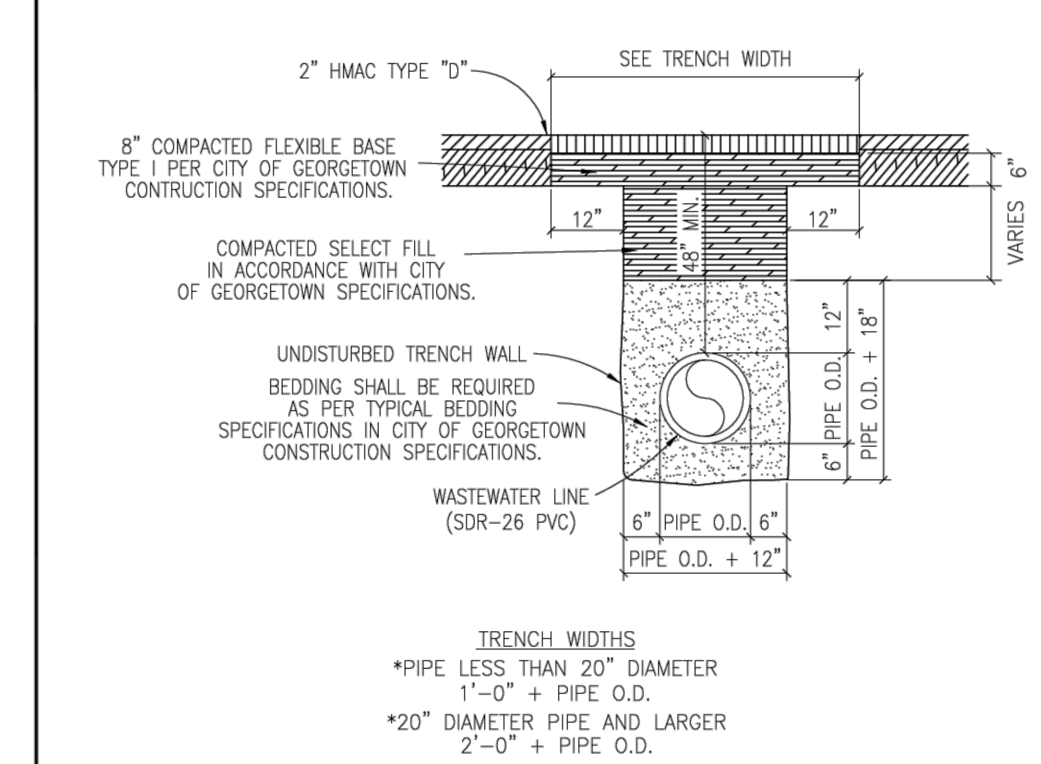


PLAN

NOTES:
1. SERVICE CONNECTION RISERS SHALL TERMINATE 8' INSIDE THE PROPETY LINE.
2. THE END OF EACH SERVICE CONNECTION RISER SHALL BE EXTENDED 12" ABOVE FINISH GRADE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATER-TIGHT WITH AN APPROVED CAP OR PLUG.
4. FOR P.V.C. INSTALLATIONS, CONNECT TO EXISTING "BELL END" AND CONNECT OPPSITE END WITH P.V.C. TO P.V.C. KNOCK ON SLEEVE.
5. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT (1'-0") ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED TO THE SAME SPECIFICATIONS AS SHOWN ON PAVEMENT REPLACEMENT DETAIL.
6. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.
7. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY THE CITY OF GEORGETOWN ENGINEERING DEPARTMENT.
8. SERVICE LINE MATERIAL SHALL BE P.V.C., SDR-26.
9. SEWER SERVICE SLOPE TO BE 45° OFF CENTERLINE OF MAIN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SEWER SERVICE CONNECTIONS	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW13 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE PLACED IN MULTIPLE LIFTS NOT TO EXCEED 6". EACH LAYER SHALL BE THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW17 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

PERSONAL WAREHOUSE
WORK • STORE • PLAY

HERE CIVIL CONSULTANTS
PHONE: (336) 554-2424
EMAIL: RNANPATE@HERECC.COM
HERE CC PROJECT No.: PW-017

CALL 811 BEFORE YOU DIG

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
DETAILS

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN

LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

TCEQ WPAP GENERAL COSTRUCTION NOTES

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the 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 activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

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 approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

7. Sediment must be removed from the sediment traps or sedimentation basins not later than

when it occupies 50% of the basin's design capacity.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

11. The following records shall be maintained and made available to the TCEQ upon request:
   - 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.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

   A. any 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;

   B. any 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;

   C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

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.

TCEQ ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL COSTRUCTION NOTES

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

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 activity 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 attachments 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:
   (a) 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:
      (1) *Low Pressure Air Test.*
         (A) 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.
         (B) 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.
            (i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
            (ii) 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

         (C) 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

         (D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
         (E) 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.
         (F) 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.
         (G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.
      (2) *Infiltration/Exfiltration Test.*
         (A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of 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.
         (B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
         (C) 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.
         (D) 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.
         (E) 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.
   (b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
      (1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
         (A) *Mandrel Sizing.*
            (i) 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.
            (ii) 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 purpose 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.
            (iii) All dimensions must meet the appropriate standard.
         (B) *Mandrel Design.*
            (i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
            (ii) A mandrel must have nine or more odd number of runners or legs.
            (iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
            (iv) Each size mandrel must use a separate proving ring.
         (C) *Method Options.*
            (i) An adjustable or flexible mandrel is prohibited.
            (ii) A test may not use television inspection as a substitute for a deflection test.
            (iii) 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.
      (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.
      (3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
      (4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
      (5) Gravity collection system pipe deflection must not exceed five percent (5%).
      (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.
   (a) All manholes must pass a leakage test.
   (b) 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.
      (1) Hydrostatic Testing.

         (A) 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.
         (B) 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.
         (C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
      (2) Vacuum Testing.
         (A) 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.
         (B) No grout must be placed in horizontal joints before testing.
         (C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
         (D) 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.
         (E) 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.
         (F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
         (G) A test does not begin until after the vacuum pump is off.
         (H) 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.

HERE CIVIL CONSULTANTS
PHONE: (336) 554-2424
HERE CC PROJECT No.: PW-017

No. | SUBMITTAL DATES / REVISIONS DESC. | DATE | BY

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
TCEQ NOTES

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Personal Warehouse
Date Prepared: 1/19/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadshe

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	5.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	3.23	acres
Total post-development impervious cover fraction * =	0.65	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	2815	lbs.

* **The values entered in these fields should be for the total project area.**

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	4.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	3.23	acres
Post-development impervious fraction within drainage basin/outfall area =	0.76	
$L_{M\ THIS\ BASIN}$ =	2811	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Retention / Irrigation
Removal efficiency = 100 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	4.22	acres
A_I =	3.23	acres
A_P =	0.99	acres
L_R =	3593	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 2811 lbs.

F = 0.78

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.00	inches
Post Development Runoff Coefficient =	0.58	
On-site Water Quality Volume =	8863	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1773	
Total Capture Volume (required water quality volume(s) x 1.20) =	10636	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = 10636 cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of 0.1
Irrigation area =	42544	square feet	
	0.98	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

12. Constructed Wetlands Designed as Required in RG-348 Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands = NA cubic feet

13. AquaLogic™ Cartridge System Designed as Required in RG-348 Pages 3-74 to 3-78

**** 2006 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.**

Required Sedimentation chamber capacity =	NA	cubic feet
Filter canisters (FCs) to treat WQV =	NA	cartridges
Filter basin area (RA_F) =	NA	square feet

14. Stormwater Management StormFilter® by CONTECH

Required Water Quality Volume for Contech StormFilter System = NA cubic feet

THE SIZING REQUIREMENTS FOR THE FOLLOWING BMP's / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES

15. Grassy Swales Designed as Required in RG-348 Pages 3-51 to 3-54

Design parameters for the swale:

Drainage Area to be Treated by the Swale = A =	8.00	acres
Impervious Cover in Drainage Area =	4.00	acres
Rainfall intensity = i =	1.1	in/hr
Swale Slope =	0.01	ft/ft
Side Slope (z) =	3	
Design Water Depth = y =	0.33	ft
Weighted Runoff Coefficient = C =	0.54	
A_{CS} = cross-sectional area of flow in Swale =	13.17	sf
P_W = Wetted Perimeter =	40.62	feet
R_H = hydraulic radius of flow cross-section = A_{CS}/P_W =	0.32	feet
n = Manning's roughness coefficient =	0.2	

15A. Using the Method Described in the RG-348

Manning's Equation: $Q = \frac{1.49}{n} A_{CS} R_H^{2/3} S^{1/2}$

$b = \frac{0.134 \times Q}{y^{5/3} S^{1/2}} - zy$ = 38.51 feet

Q = CiA = 4.71 cfs

To calculate the flow velocity in the swale:

V (Velocity of Flow in the swale) = Q/A_{CS} = 0.36 ft/sec

To calculate the resulting swale length:

L = Minimum Swale Length = V (ft/sec) * 300 (sec) = 107.24 feet

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun.

15B. Alternative Method using Excel Solver

Design Q = CiA = 4.71 cfs

Manning's Equation Q =	0.76	cfs	Error 1 = 3.95
Swale Width=	6.00	ft	

Instructions are provided to the right (green comments).

Flow Velocity	0.36	ft/s
Minimum Length =	107.24	ft

Instructions are provided to the right (blue comments).

Design Width =	6	ft	
Design Discharge =	0.76	cfs	Error 2 = 3.95
Design Depth =	0.33	ft	
Flow Velocity =	0.32	cfs	
Minimum Length =	97.48	ft	

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun.
If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter stripe with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

17. Wet Vaults Designed as Required in RG-348 Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = NA lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4: Q = CiA

C = runoff coefficient for the drainage area =	0.60	C = Runoff Coefficient = 0.546 (IC)^2 + 0.328 (IC) + 0.03
i = design rainfall intensity =	1.1	in/hour
A = drainage area in acres =	1	acres
Q = flow rate in cubic feet per second =	0.66	cubic feet/sec

RG-348 Page 3-31 Equation 3.5: $V_{OR} = Q/A$

Q = Runoff rate calculated above =	0.66	cubic feet/sec
A = Water surface area in the wet vault =	150	square feet
V_{OR} = Overflow Rate =	0.00	feet/sec
Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) =	53	percent
Load removed by Wet Vault =	#VALUE!	lbs

If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
Calculate the efficiency reduction for the actual rainfall intensity rate

Actual Rainfall Intensity at which Wet Vault bypass Occurs =	0.5	in/hour
Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 =	0.75	percent
Efficiency Reduction for Actual Rainfall Intensity =	0.83	percent
Resultant TSS Load removed by Wet Vault =	#VALUE!	lbs

18. Permeable Concrete Designed as Required in RG-348 Pages 3-79 to 3-83

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMP's Installed in a Series Designed as Required in RG-348 Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E_2 be changed from 0.5 to 0.66 on May 3, 2006

$E_{TOT} = [1 - ((1 - E_1) \times (1 - 0.65E_2))] \times 100$ = 86.38 percent NET EFFICIENCY OF THE BMP's IN THE SERIES

EFFICIENCY OF FIRST BMP IN THE SERIES = E_1 = 75.00 percent

EFFICIENCY OF THE SECOND BMP IN THE SERIES = E_2 = 70.00 percent

EFFICIENCY OF THE THIRD BMP IN THE SERIES = E_3 = 0.00 percent

THEREFORE, THE NET LOAD REMOVAL WOULD BE:
(A_I AND A_P VALUES ARE FROM SECTION 3 ABOVE)

$L_R = E_{TOT} \times P \times (A_I \times 34.6 + A_P \times 0.54)$ = 3103.77 lbs

20. Stormceptor

Required TSS Removal in BMP Drainage Area=	NA	lbs	
Impervious Cover Overtreatment=	0.0000	ac	
TSS Removal for Uncaptured Area =	0.00	lbs	
BMP Sizing			
Effective Area =	NA	EA	
Calculated Model Size(s) =	#N/A		
Actual Model Size (if multiple values provided in Calculated Model Size or if you are choosing a larger model size) =	0	Model Size	
Surface Area =	#N/A	ft^2	
Overflow Rate =	#VALUE!	V_{or}	
Rounded Overflow Rate =	#VALUE!	V_{or}	
BMP Efficiency % =	#VALUE!	%	
L_R Value =	#VALUE!	lbs	
TSS Load Credit =	#VALUE!	lbs	
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!		
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!		

21. Vortech

Required TSS Removal in BMP Drainage Area=	NA	lbs	
Impervious Cover Overtreatment=	0.0000	ac	
TSS Removal for Uncaptured Area =	0.00	lbs	
BMP Sizing			
Effective Area =	NA	EA	
Calculated Model Size(s) =	#N/A		
Actual Model Size (if choosing larger model size) =	Vx1000	Pick Model Size	
Surface Area =	7.10	ft^2	
Overflow Rate =	#VALUE!	V_{or}	
Rounded Overflow Rate =	#VALUE!	V_{or}	
BMP Efficiency % =	#VALUE!	%	
L_R Value =	#VALUE!	lbs	
TSS Load Credit =	#VALUE!	lbs	
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!		
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!		

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
TCEQ POND CALCULATIONS

SHEET 22 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

CALL 811 BEFORE YOU DIG

6/2/2025 9:32 PM F:\PROJECTS_PERSONAL WAREHOUSE\PW-017 - GEORGETOWN TX\CIVIL\CAD\PLANS\SITE DEVELOPMENT PLAN\0 - COVER.DWG

TEMPORARY STORMWATER SECTION

TCEQ FORM : TCEQ-0602

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: Ravin Nanpatee, P.E

Date: 6/2/2025

Signature of Customer/Agent:

Regulated Entity Name: Personal Warehouse Georgetown

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: Onsite Sediment Basin

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 the 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.

TEMPORARY STORMWATER SECTION

ATTACHMENT A

SPILL REPONSE ACTIONS

Temporary Stormwater Section – Spill Response Actions

Education

Prior to construction, the Contractor shall educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks. This will include being able to identify what a "significant spill" is for each material they use, and what is the appropriate response for a "significant" and "insignificant" spill.

Preparation

The Contractor shall ensure that any hazardous materials and wastes are stored in covered containers and out of sight from the general public's eye. The Contractor shall also stockpile spill cleanup materials where it will be readily accessible and notify employees and subcontractors of their locations. The Contractor shall also appoint a responsible individual to oversee and enforce on-site control measures.

General Spill Cleanup

Leaks and spills should be cleaned up immediately using 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. Spills should never be hosed down with water as it will contaminate surface runoff.

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 are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

TEMPORARY STORMWATER SECTION

ATTACHMENT B

POTENTIAL SOURCE OF CONTAMINATION

Temporary Stormwater Section – Potential Source of Contamination

Vehicle and Equipment Maintenance

If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills. Regularly inspect onsite vehicles and equipment for leaks and repair immediately. Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite. Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids. Place drip pans or absorbent materials under paving equipment when not in use. Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly. Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around. Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters. Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills. Discourage "topping off" of fuel tanks. Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

Vehicle Tracking

As construction equipment and vehicles enter and exit the construction site, dirt and sediments will be tracked on to the roadway even with the use of a vehicle tracking method. This sediment can be washed into surrounding drainage features such as swales. Street sweeping shall be conducted regularly to ensure that excessive dirt stays off the paved roads.

TEMPORARY STORMWATER SECTION

ATTACHMENT C

SEQUENCE OF MAJOR ACTIVITIES

Temporary Stormwater Section – Sequence of Major Activities

The following is an anticipated sequence of the major construction events that will take place for the proposed project.

1) Gain all site plan approvals and permits from the City of Georgetown and the TCEQ as well as any other jurisdiction(s)

2) Hold a pre-construction meeting with the City of Georgetown on site

3) Install all Best Management Practices (BMPs) listed on the initial erosion control plan. This includes, but is not limited to, the temporary sediment pond, silt fence, sediment traps, diversion ditches, etc.

    a. The Sediment Pond will disturb approximately 0.293-acres
    b. The Level spreader will disturb approximately 0.031-acres

4) Request Inspection from Georgetown to inspect initial BMPs measures

5) Commence land clearing and mass grading operations. All fill dirt and/or dirt export being stockpiled on the location shown on the initial erosion control plan. The retaining walls proposed onsite shall be constructed during this phase as well. The total disturbed area for this activity will be approximately 5.004-acres, the entire property.

    a. Any exposed slopes that are 4:1 or greater that are intended to be disturbed within three days shall be covered with erosion control products.
    b. Surface Roughen mass graded areas, approximately 5.004-acres, per the interim erosion control plan.

6) Fine grade the retention pond and level spreader per the approved plans and constructed the outlet structure as well as any other pond storm infrastructure.

    a. Total disturbed area will be approximately 0.48-acres

7) Commence utility construction (water, sanitary, storm sewer, etc.) per the approved plans. This includes main and service lines to each of the buildings

    a. Total disturbed area will be approximately 1.02-acres
    b. Install inlet protections at all proposed inlet locations.

8) Commence fine grading and compaction on the site. This includes areas for parking, drive isles, building foundations, etc. Install erosion control matting on slopes that are 4:1 or greater. Seed and mulch all proposed landscape areas.

    a. Total disturbed area will be approximately 3.91-acres
    b. Seed and Mulching will encompass an area of 1.60-acres, approximately

9) Commence construction of the building foundations and vertical components of the building

    a. Total disturbed area will be approximately 1.47-acres

10) Commence construction of all hardscape areas for parking, drive isles, sidewalks, etc.

    a. Total disturbed area will be approximately 2.13-acres.
    b. Updated inlet protection as necessary with hardscape work

11) Install final landscaping and irrigation per the approved landscape plans

    a. Total disturbed area will be approximately 1.61-acres

12) Contractor shall remove all temporary BMPs once the site has been stabilized.

TEMPORARY STORMWATER SECTION

ATTACHMENT D

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

Temporary Stormwater Section – Temporary Best Management Practices and Measures

Vehicle Tracking Control

This BMP will be located at the construction site entrance and will be constructed of large rocks that will aid with the removal of excess dirt from vehicles entering and leaving the site. This will help with reducing the amount of sediment that exits the site that could potentially end up in waterways.

Stabilized Staging Area

This BMP will give the contractor a controlled area to stage construction equipment and materials throughout the project. This area will be surrounded by silt fence to ensure that runoff generated from this area does not flow to the sediment basin as the runoff may contain pollutants.

Silt Fence

This BMP is located around the perimeter of the project site and is used to ensure that runoff and sediment does not exit the site after rainfall events. Untreated runoff that may also contain sediment that could pollute downstream waterways. The silt fence will typically terminate at treatment BMPs such as sediment traps. In addition, the silt fence will assist with offsite upgradient flows from entering the site.

Diversion Ditches

These ditches will be effectively placed to divert storm water runoff to other temporary BMPs for treatment. These ditches will help keep on-site runoff within the property boundaries.

Sediment Trap

The proposed sediment traps are located downstream of the proposed sediment pond to capture and treat runoff prior to leaving this site. Diversion ditches are proposed to direct and discharge runoff into these BMPs. The sediment traps have a small pool for runoff to stage and a rock filter for it to pass through prior to existing the site. This will aid with the removal of sediment and pollutants generated on site.

Temporary Sediment Pond

The proposed sediment pond will be constructed at the initial stage of the construction to collect and stage runoff from most of the disturbed areas. This pond has been sized for the 2-year/24-hour storm and will have a riser pipe to regulate the outflow of stormwater. The released water will enter a level spreader at the eastern property line that has been designed to not exceed pre-development conditions. This sediment pond will function as detention basin and will allow sediment and pollutants to settle prior to exiting the site.

Temporary Stockpile

The temporary stockpile location is where fill dirt and/or export dirt can be staged. Silt fence is proposed around this pile to ensure that dirt is not washed away from the pile during rainfall events.

Surface Roughening

This BMP method will be implemented after mass grading operations have been completed. This will be achieved by a tracked construction vehicle maneuvering around the recently disturbed area and creating a divot pattern what will function as riffles on the ground. This will slow down the runoff's velocity as it travels overland to other temporary BMP measures. This means that sediment will be less likely to be washed away during storm events and therefore less likely to exit the site untreated.

Inlet Protection

This BMP will be placed at proposed and existing inlets in or around the site. This will function as a filter for sediment and pollutants prior to entering the storm sewer. Runoff that enters the inlet will be directed to the onsite pond

Erosion Control Blankets

This BMP will be placed on slopes that are 4:1 or greater. This will help with keeping grass seed in place during storm events in a effort to get established. It will also help stabilize the recently graded slope and prevent sediment from washing away.

Seeding and Mulching

This practice will help stabilize the soil by allowing grass to get established and stabilize the soil. The type of seed mix shall be approved by Georgetown.

TEMPORARY STORMWATER SECTION

ATTACHMENT F

STRUCTURAL PRACTICES

Temporary Stormwater Section – Structural Practices

The temporary structural practices proposed for this project are the Diversion Ditches and the Sediment Pond. The structural practices can be described as measures to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants.

Diversion Ditches

The Diversion Ditches will be placed per the initial erosion control plan and will capture and divert onsite runoff to the Sediment Control Basin for treatment. Other Diversion Ditches are proposed to capture runoff from smaller areas and discharge it into Sediment Traps.

Temporary Sediment Pond

The proposed sediment pond will be constructed at the initial stage of the construction to collect and stage runoff from most of the disturbed areas. This pond has been sized for the 2-year/24-hour storm and will have a riser pipe to regulate the outflow of stormwater. The released water will enter a level spreader at the eastern property line that has been designed to not exceed pre-development conditions. This sediment pond will function as detention basin and will allow sediment and pollutants to settle prior to exiting the site. The contractor shall be responsible for the removal of sediment, trash and other pollutants after rainfall events

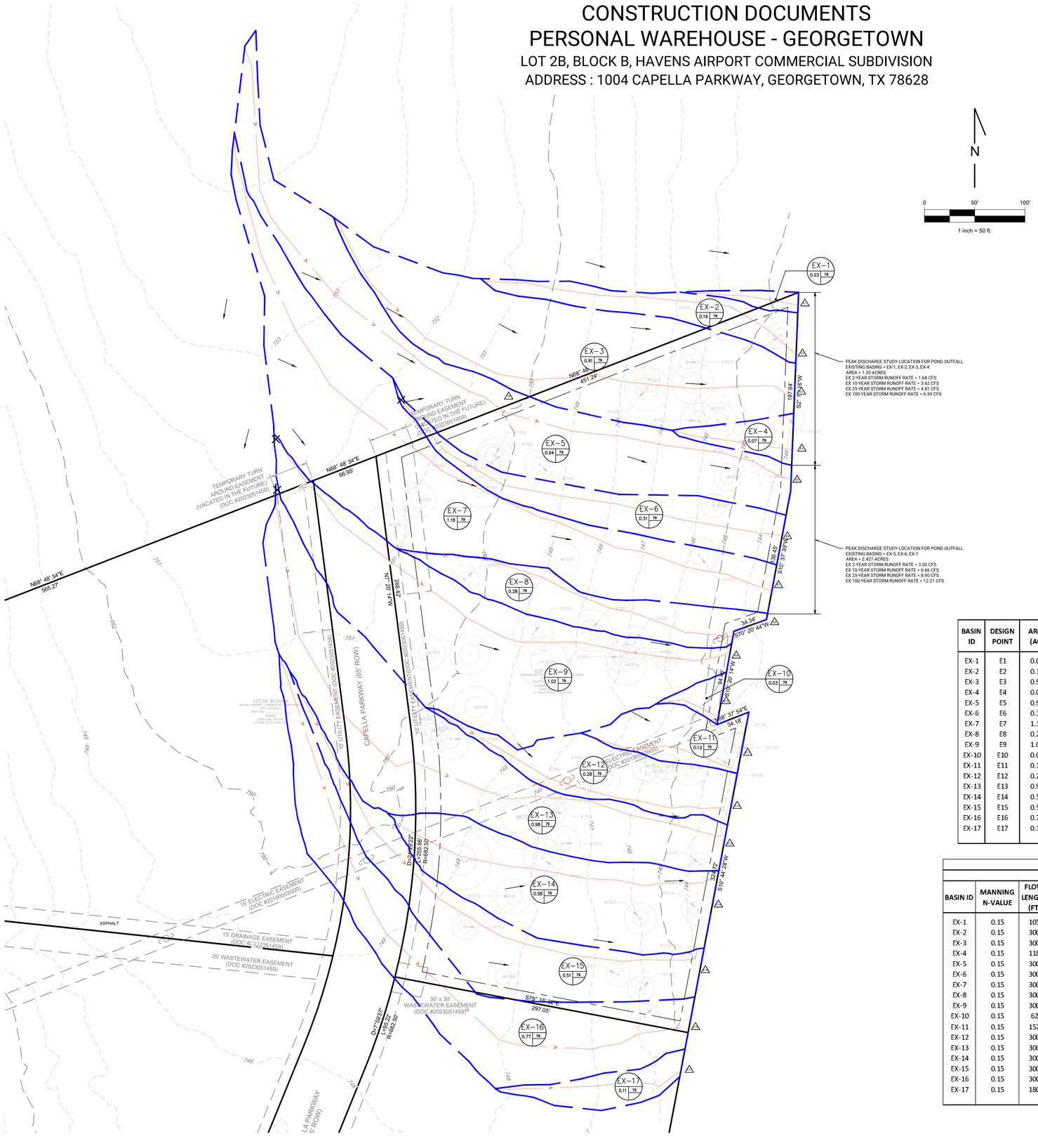
Not the placement of these structural practices do not encroach within wetlands.

TEMPORARY STORMWATER SECTION

ATTACHMENT G

DRAINAGE AREA MAP

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

- PROPOSED MAJOR CONTOUR (5280)
- PROPOSED MINOR CONTOUR (5279)
- EXISTING MAJOR CONTOUR (5280)
- EXISTING MINOR CONTOUR (5279)
- DIRECTIONAL FLOW ARROW
- SPOT ELEVATION (5150)
- PROJECT BOUNDARY
- DRAINAGE BASIN BOUNDARY
- TIME OF CONCENTRATION PATH
- LIMITS OF OUTFALL STUDY

LEGEND

- BASIN DESIGNATION (BASIN AREA / X.XX / X.XX)
- RUNOFF CURVE NUMBER
- DESIGN POINT (X)

ABBREVIATIONS:

FL = FLOW LINE
FG = FINISHED GRADE
ME = MATCH EXISTING
TBC = TOP BACK OF CURB
HP = HIGH POINT
LP = LOW POINT

TOW = TOP OF WALL
BOW = BOTTOM OF WALL
FFE = FINISHED FLOOR ELEVATION
SF = SQUARE FEET

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 11/25/2024. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

BASIN ID	DESIGN POINT	AREA (AC)	RUNOFF CURVE NUMBER	TIME OF CONCENTRATION	IMPERVIOUS COVER	RUNOFF RATE Q (cfs)							
						2-YEAR C-VALUE	2-YEAR STORM	10-YEAR C-VALUE	10-YEAR STORM	25-YEAR C-VALUE	25-YEAR STORM	100-YEAR C-VALUE	100-YEAR STORM
EX-1	E1	0.03	79	9.98	0.00%	0.32	0.06	0.34	0.13	0.37	0.17	0.47	0.23
EX-2	E2	0.19	79	22.20	0.00%	0.32	0.27	0.34	0.58	0.37	0.77	0.47	1.06
EX-3	E3	0.91	79	25.82	0.00%	0.32	1.22	0.34	2.63	0.37	3.49	0.47	4.79
EX-4	E4	0.07	79	10.30	0.00%	0.32	0.13	0.34	0.28	0.37	0.38	0.47	0.51
EX-5	E5	0.94	79	30.26	0.00%	0.32	1.14	0.34	2.52	0.37	3.37	0.47	4.63
EX-6	E6	0.31	79	23.81	0.00%	0.32	0.42	0.34	0.93	0.37	1.24	0.47	1.69
EX-7	E7	1.18	79	30.04	0.00%	0.32	1.44	0.34	3.21	0.37	4.29	0.47	5.89
EX-8	E8	0.28	79	23.15	0.00%	0.32	0.39	0.34	0.87	0.37	1.15	0.47	1.57
EX-9	E9	1.02	79	25.92	0.00%	0.32	1.36	0.34	2.93	0.37	3.90	0.47	5.36
EX-10	E10	0.03	79	6.15	0.00%	0.32	0.07	0.34	0.14	0.37	0.17	0.47	0.24
EX-11	E11	0.16	79	12.61	0.00%	0.32	0.28	0.34	0.59	0.37	0.75	0.47	1.03
EX-12	E12	0.28	79	21.96	0.00%	0.32	0.41	0.34	0.89	0.37	1.17	0.47	1.61
EX-13	E13	0.98	79	27.97	0.00%	0.32	1.26	0.34	2.76	0.37	3.64	0.47	5.01
EX-14	E14	0.58	79	22.09	0.00%	0.32	0.83	0.34	1.82	0.37	2.39	0.47	3.28
EX-15	E15	0.51	79	26.05	0.00%	0.32	0.69	0.34	1.47	0.37	1.96	0.47	2.68
EX-16	E16	0.77	79	27.66	0.00%	0.32	1.00	0.34	2.17	0.37	2.87	0.47	3.94
EX-17	E17	0.11	79	14.44	0.00%	0.32	0.11	0.34	0.30	0.37	0.42	0.47	0.60

TIME OF CONCENTRATION CALCULATIONS (SCS METHOD)											
	SHEET FLOW CALCULATIONS						SHALLOW CONCENTRATION FLOW CALCULATIONS				
BASIN ID	MANNING N-VALUE	FLOW LENGTH (FT)	SLOPE (%)	2-YEAR, 24-HOUR RAINFALL DEPTH (IN)	VELOCITY (FT/S)	SHEET FLOW TC (MIN)	SURFACE TYPE	FLOW LENGTH (FT)	SLOPE (%)	VELOCITY (FT/S)	SHEET FLOW TC (MIN)	TIME OF CONCENTRATION
EX-1	0.15	105	1.50%	4.20	0.05	9.98						9.98
EX-2	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	26	1.75%	0.93	0.47	22.20
EX-3	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	228	1.75%	0.93	4.09	25.82
EX-4	0.15	118	1.75%	4.20	0.05	10.30						10.30
EX-5	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	476	1.75%	0.93	8.53	30.26
EX-6	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	116	1.75%	0.93	2.08	23.81
EX-7	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	463.9	1.75%	0.93	8.31	30.04
EX-8	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	79	1.75%	0.93	1.42	23.15
EX-9	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	234	1.75%	0.93	4.19	25.92
EX-10	0.15	62	1.75%	4.20	0.04	6.15						6.15
EX-11	0.15	152	1.75%	4.20	0.05	12.61						12.61
EX-12	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	13	1.75%	0.93	0.23	21.96
EX-13	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	348	1.75%	0.93	6.24	27.97
EX-14	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	20	1.75%	0.93	0.36	22.09
EX-15	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	241	1.75%	0.93	4.32	26.05
EX-16	0.15	300	1.75%	4.20	0.06	21.73	SHORT GRASS PRASTURE	331	1.75%	0.93	5.93	27.66
EX-17	0.15	180	1.75%	4.20	0.05	14.44						14.44

PERSONAL WAREHOUSE
WORK · STORE · PLAY

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HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

STATE OF TEXAS
RAVIN J NANPATEE
147661
LICENSED
PROFESSIONAL ENGINEER
5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

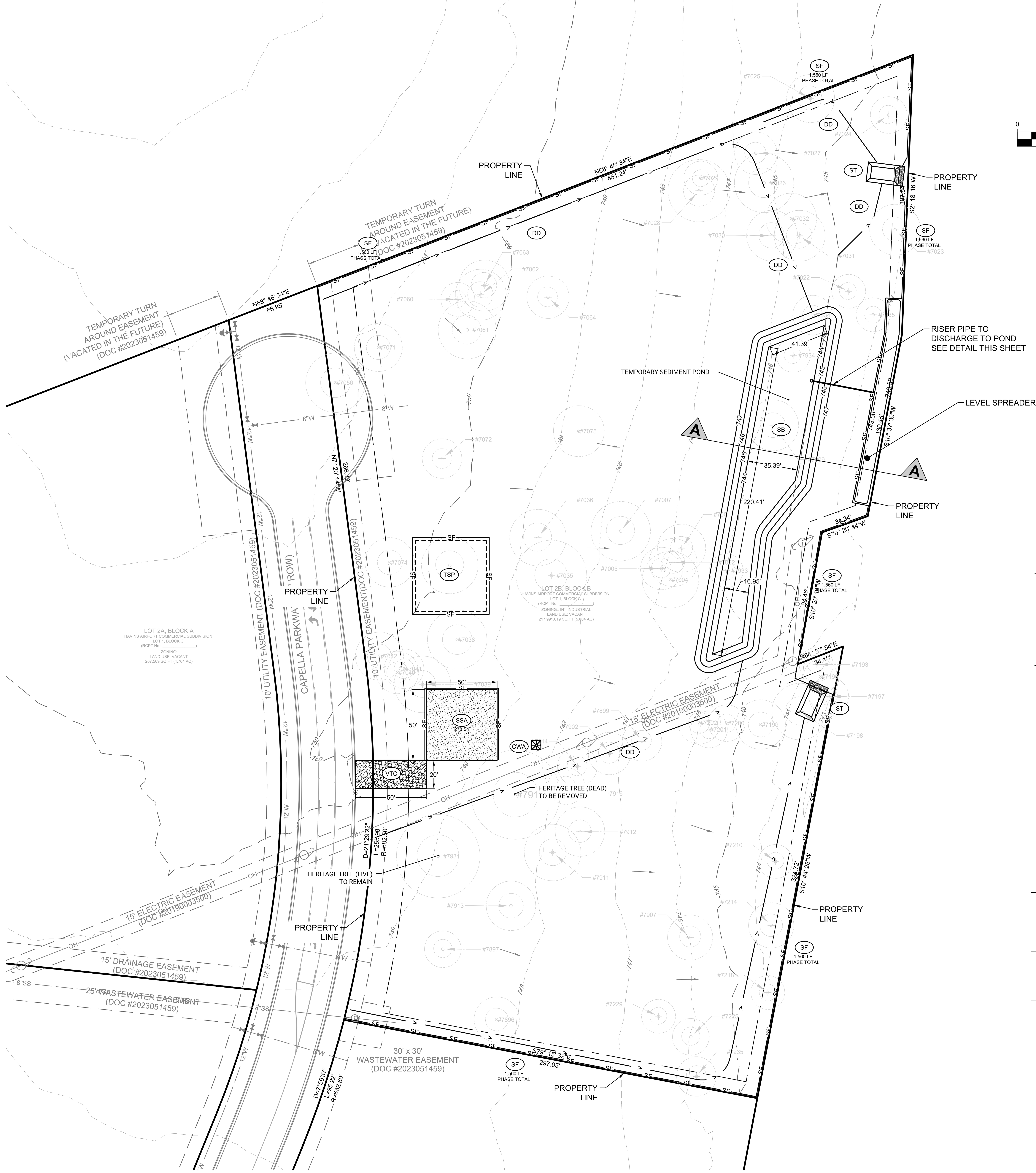
SHEET TITLE
EXISTING DRAINAGE MAP

SHEET NO. C6 OF 22

DESIGNED BY: R.J.N. DRAWN BY: R.J.N. CHECKED BY: R.J.N.

6/2/2025 9:47 PM F:\PROJECTS_PERSONAL WAREHOUSE\PW-017 - GEORGETOWN TX\CIVIL\REPORTS\DRAINAGE REPORT\DRAINAGE REPORTIE - DRAINAGE MAPS\1 - EX DRAINAGE MAP.DWG

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

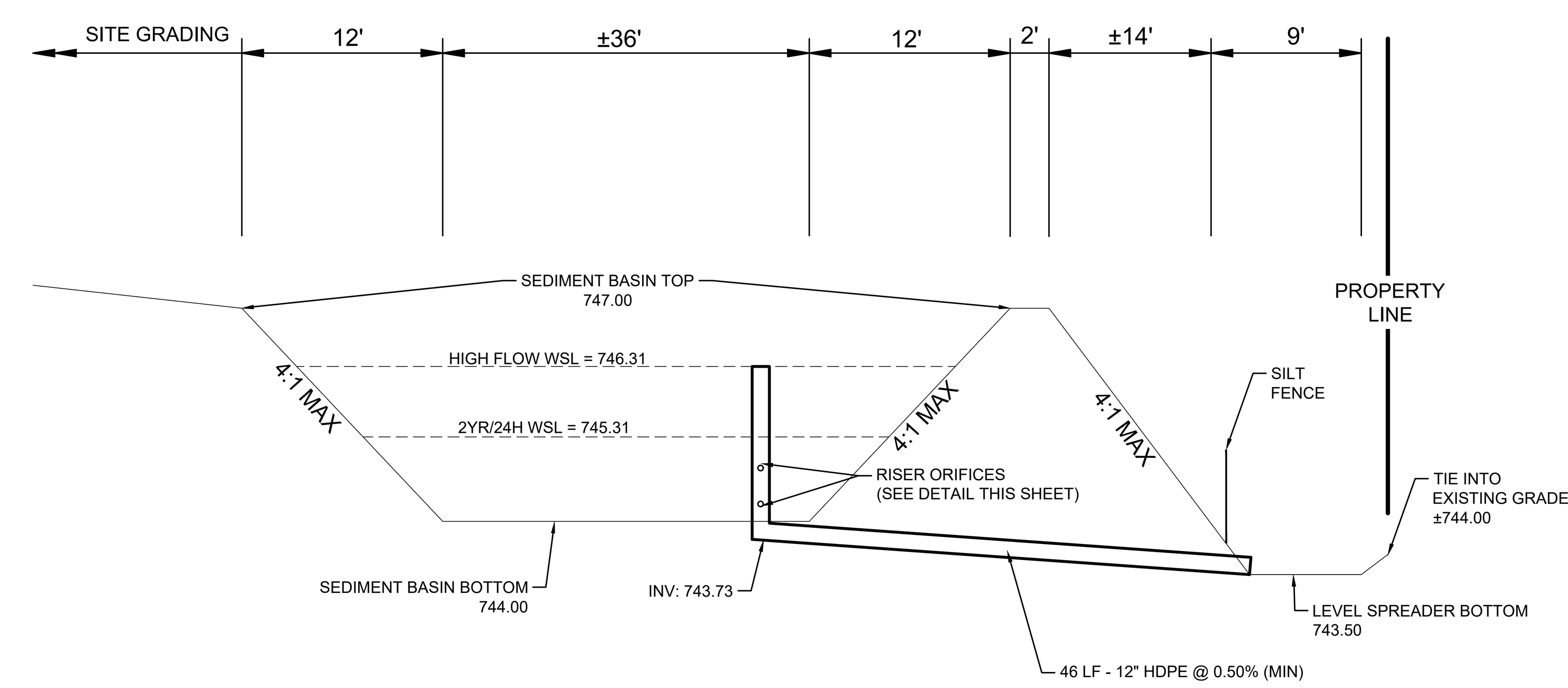


PROJECT INFORMATION

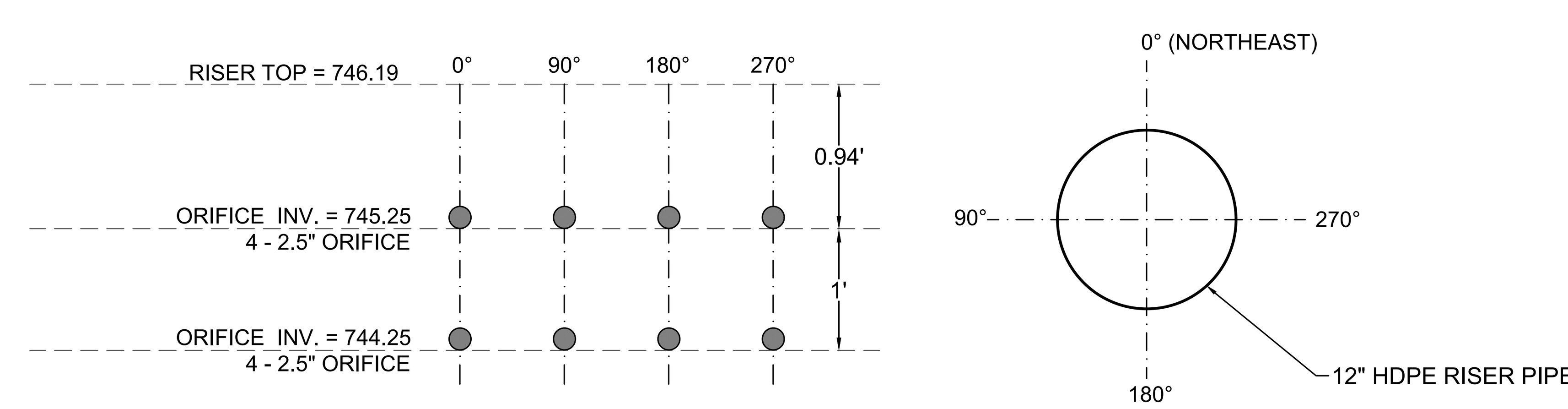
- PROPOSED USES : OFFICE/WAREHOUSE; RESEARCH, TESTING AND DEVELOPMENT LAB; MANUFACTURING, PROCESSING AND ASSEMBLY (GENERAL)
- ZONING = IN (INDUSTRIAL)
- TOTAL ACREAGE = 5.004 ACRES
- TOTAL IMPERVIOUS COVER = 3.233 ACRES
- LEGAL DESCRIPTION = S13268 - HAVENS AIRPORT COMMERCIAL (BLK C LT 1 REPLAT)

LEGEND

Symbol	Code	Description
5280		PROPOSED MAJOR CONTOUR
5279		PROPOSED MINOR CONTOUR
5280		EXISTING MAJOR CONTOUR
5279		EXISTING MINOR CONTOUR
		PHASE BOUNDARY
CF	CF	CONSTRUCTION FENCE
	CM	CONSTRUCTION MARKER
	CWA	CONCRETE WASHOUT AREA
	ECB	EROSION CONTROL BLANKET
<	DD	DIVERSION DITCH
	IP	INLET PROTECTION
	LOC	LIMITS OF CONSTRUCTION
	OP	OUTLET PROTECTION
	SB	SEDIMENT BASIN
	SCL	SEDIMENT CONTROL LOG
	SM	SEEDING AND MULCHING
SF	SF	SILT FENCE
	SP	STOCK PILE
	SSA	STABILIZED STAGING AREA
	SR	SURFACE ROUGHENING
	ST	SEDIMENT TRAP
	VTC	VEHICLE TRACKING CONTROL
	TSP	TEMPORARY STOCKPILE



RISER CROSS SECTION



RISER PIPE DETAIL

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PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

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PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INITIAL EROSION CONTROL PLAN

SHEET 2 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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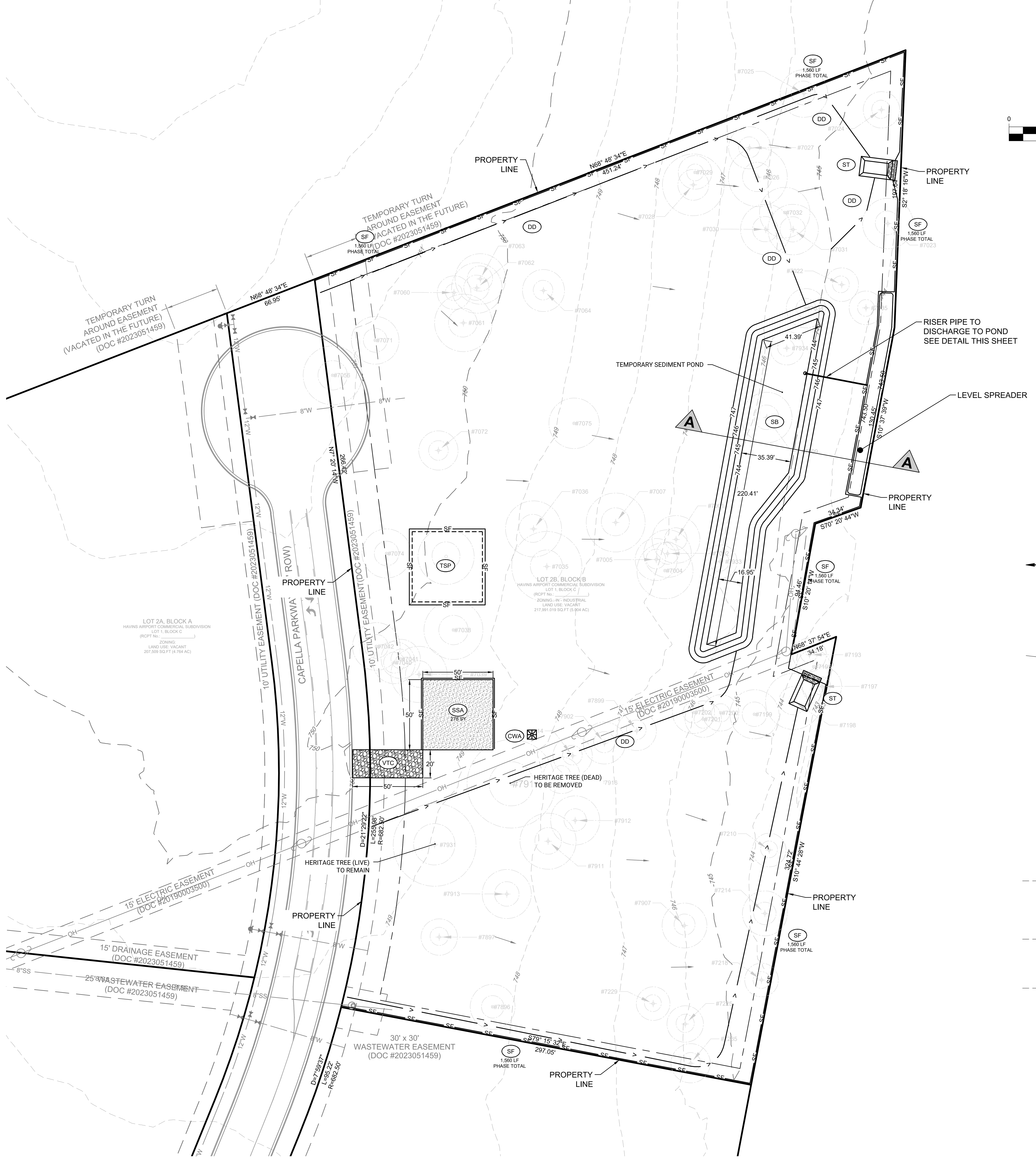
TEMPORARY STORMWATER SECTION

ATTACHMENT H

TEMPORARY SEDIMENT POND CALCULATIONS

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN

LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



PROJECT INFORMATION

- PROPOSED USES : OFFICE/WAREHOUSE; RESEARCH, TESTING AND DEVELOPMENT LAB; MANUFACTURING, PROCESSING AND ASSEMBLY (GENERAL)
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- TOTAL ACREAGE = 5.004 ACRES
- TOTAL IMPERVIOUS COVER = 3.233 ACRES
- LEGAL DESCRIPTION = S13268 - HAVENS AIRPORT COMMERCIAL (BLK C LT 1 REPLAT)

LEGEND

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5279	PROPOSED MINOR CONTOUR
5280	EXISTING MAJOR CONTOUR
5279	EXISTING MINOR CONTOUR
	PHASE BOUNDARY
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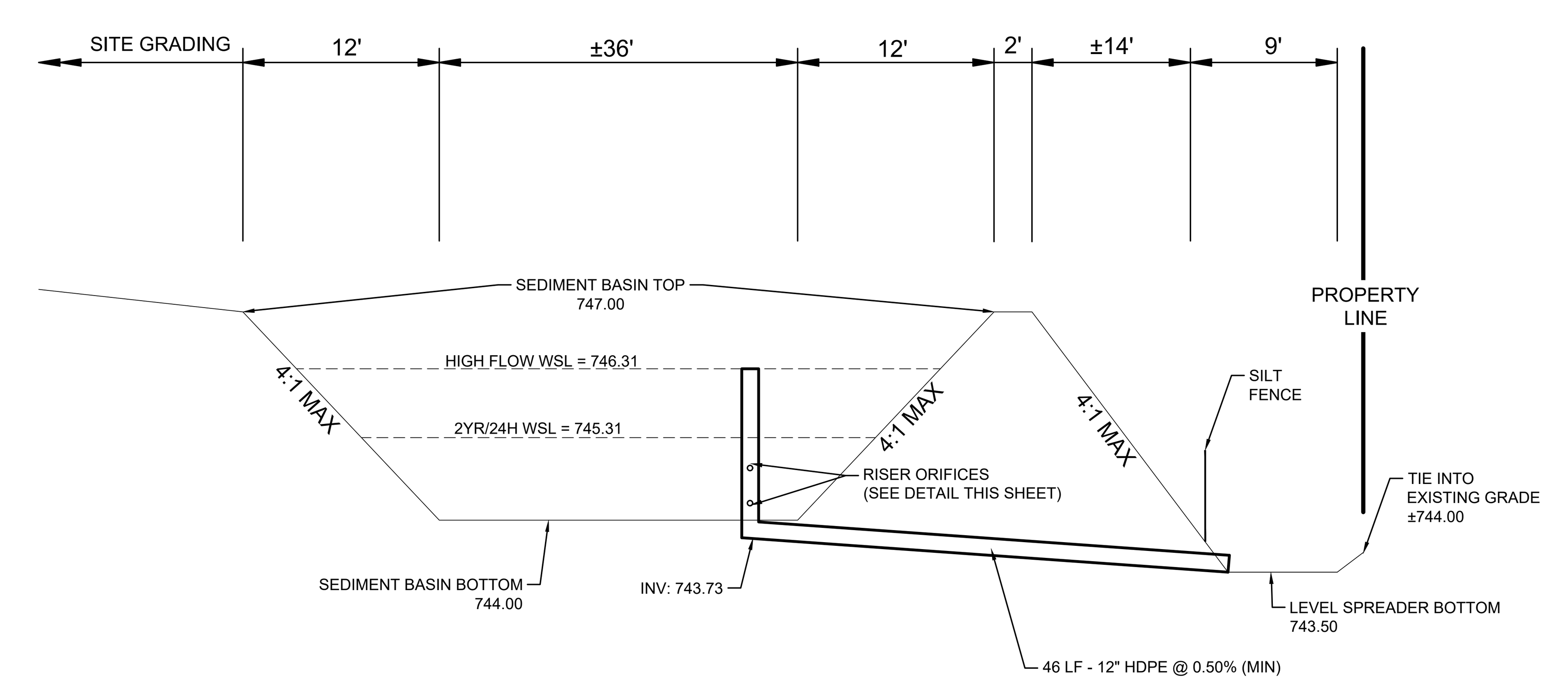
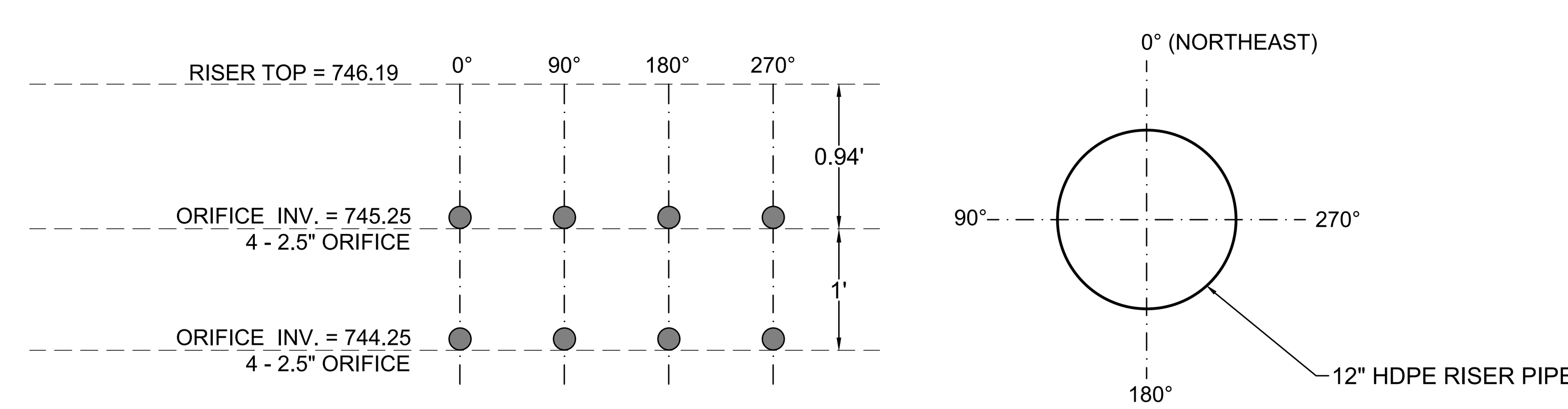
SP	STOCK PILE
SSA	STABILIZED STAGING AREA
SR	SURFACE ROUGHENING
ST	SEDIMENT TRAP
VTC	VEHICLE TRACKING CONTROL
TSP	TEMPORARY STOCKPILE



RISER CROSS SECTION



RISER PIPE DETAIL

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5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INITIAL EROSION CONTROL PLAN

SHEET
2 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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Project Description

File Name	PW-017 - Georgetown TX (2024.0620)_BMP BASIN SIZE.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	00:00:00	0:00:00
End Analysis On	00:00:00	0:00:00
Start Reporting On	00:00:00	0:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	1
Subbasins	29
Nodes	34
Junctions	0
Outfalls	31
Flow Diversions	0
Inlets	0
Storage Nodes	3
Links	6
Channels	0
Pipes	0
Pumps	0
Orifices	4
Weirs	2
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfa Distril

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	BASIN_A	1.21	484.00	96.39	2.64	2.24	2.72	6.16	0 00:06:00
2	BASIN_B	0.40	484.00	97.42	2.64	2.35	0.95	2.10	0 00:06:00
3	BASIN_C	1.14	484.00	93.18	2.64	1.93	2.20	5.14	0 00:06:00
4	BASIN_D	0.65	484.00	80.00	2.64	0.99	0.64	1.50	0 00:06:00
5	BASIN_E	0.41	484.00	96.85	2.64	2.29	0.93	2.10	0 00:06:00
6	BASIN_F	0.06	484.00	95.38	2.64	2.14	0.12	0.28	0 00:06:00
7	BASIN_G	0.31	484.00	97.36	2.64	2.34	0.72	1.60	0 00:06:00
8	BASIN_H	0.23	484.00	97.54	2.64	2.36	0.55	1.20	0 00:06:00
9	BASIN_OFF_1	0.48	484.00	80.00	2.64	0.99	0.48	1.10	0 00:06:00
10	BASIN_TRIB	1.49	484.00	79.00	2.64	0.93	1.39	0.74	0 01:54:50
11	EX-1	0.03	484.00	79.00	2.64	0.93	0.03	0.03	0 00:38:04
12	EX-10	0.03	484.00	79.00	2.64	0.93	0.03	0.05	0 00:23:29
13	EX-11	0.16	484.00	79.00	2.64	0.93	0.14	0.14	0 00:48:07
14	EX-12	0.28	484.00	79.00	2.64	0.93	0.26	0.18	0 01:23:13
15	EX-13	0.98	484.00	79.00	2.64	0.93	0.91	0.58	0 01:31:41
16	EX-14	0.58	484.00	79.00	2.64	0.93	0.54	0.36	0 01:23:24
17	EX-15	0.51	484.00	79.00	2.64	0.93	0.48	0.31	0 01:28:59
18	EX-16	0.77	484.00	79.00	2.64	0.93	0.71	0.45	0 01:31:15
19	EX-17	0.11	484.00	72.00	2.64	0.60	0.07	0.06	0 00:55:05
20	EX-2	0.19	484.00	79.00	2.64	0.93	0.18	0.12	0 01:23:33
21	EX-3	0.91	484.00	79.00	2.64	0.93	0.85	0.55	0 01:28:39
22	EX-4	0.07	484.00	79.00	2.64	0.93	0.07	0.07	0 00:39:18
23	EX-5	0.94	484.00	79.00	2.64	0.93	0.87	0.54	0 01:34:55
24	EX-6	0.31	484.00	79.00	2.64	0.93	0.29	0.19	0 01:25:49
25	EX-7	1.18	484.00	79.00	2.64	0.93	1.10	0.68	0 01:34:37
26	EX-8	0.28	484.00	79.00	2.64	0.93	0.26	0.18	0 01:24:54
27	EX-9	1.02	484.00	79.00	2.64	0.93	0.95	0.61	0 01:28:48
28	POST	5.00	484.00	92.08	2.64	1.83	9.16	17.58	0 00:14:14
29	TEST	0.03	484.00	80.00	2.64	0.99	0.03	0.07	0 00:07:59

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Fre A
34	SED_BASIN	Storage Node	744.00	747.00	744.00		0.00	3.72	745.31		

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)
3	SED_1	Orifice	SED_BASIN	SED_OUT		744.00	743.75		10.000		2.16				
4	SED_2	Orifice	SED_BASIN	SED_OUT		744.00	743.75		10.000		0.03				

Storage Node : SED_BASIN

Input Data

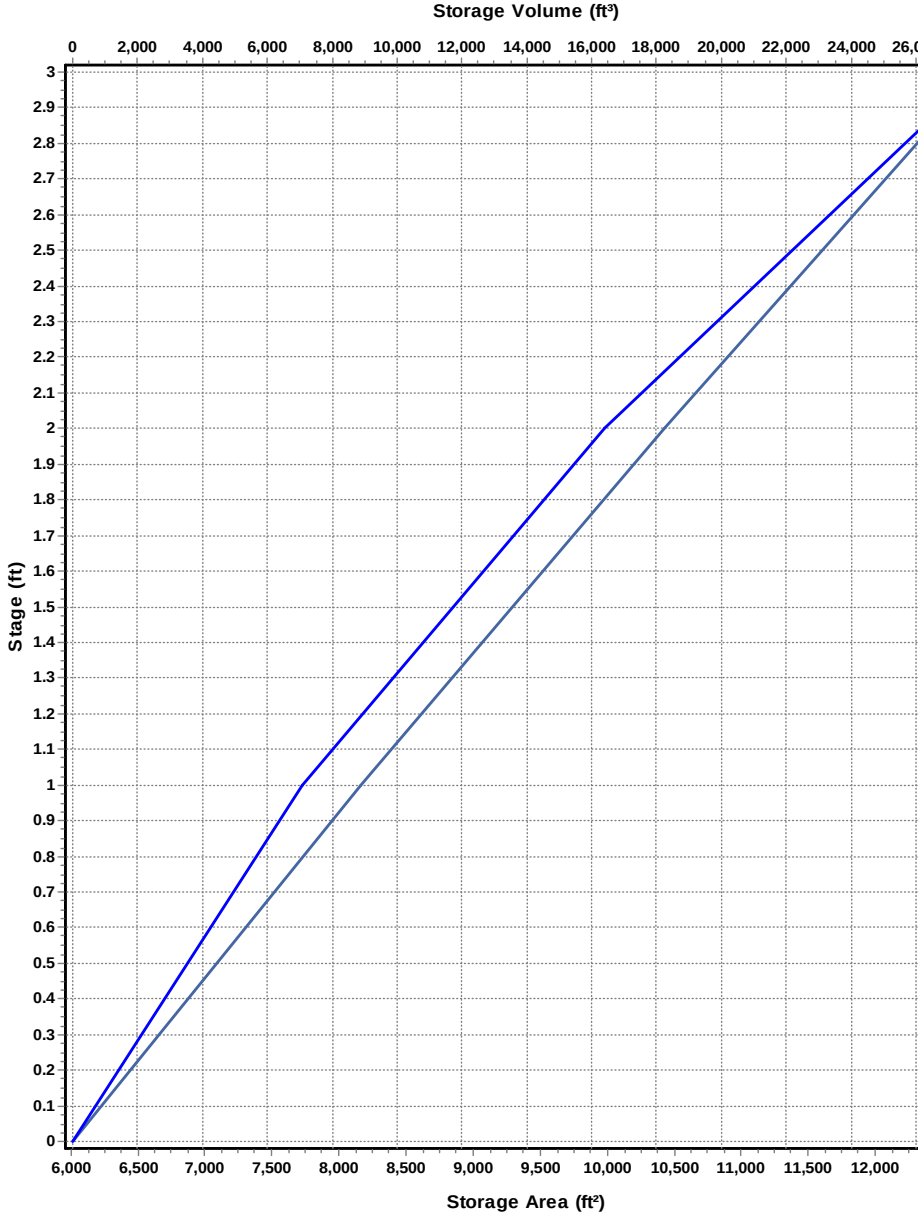
Invert Elevation (ft)	744.00
Max (Rim) Elevation (ft)	747.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	744.00
Initial Water Depth (ft)	0.00
Ponded Area (ft²)	0.00
Evaporation Loss	0.00

Storage Area Volume Curves

Storage Curve : N_BASIN

Stage (ft)	Storage Area (ft²)	Storage Volume (ft³)
0	6014.32	0
1	8165.6	7089.96
2	10423.74	16384.63
3	12782.4	27987.7

Storage Area Volume Curves



Storage Node : SED_BASIN (continued)

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)
1	SED_1	Side	CIRCULAR	No	10.00		
2	SED_2	Side	CIRCULAR	No	10.00		

Output Summary Results

Peak Inflow (cfs)	3.72
Peak Lateral Inflow (cfs)	3.72
Peak Outflow (cfs)	2.19
Peak Exfiltration Flow Rate (cfm)	0
Max HGL Elevation Attained (ft)	745.31
Max HGL Depth Attained (ft)	1.31
Average HGL Elevation Attained (ft)	744.37
Average HGL Depth Attained (ft)	0.37
Time of Max HGL Occurrence (days hh:mm)	0 03:23
Total Exfiltration Volume (1000-ft³)	0
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0

TEMPORARY STORMWATER SECTION

ATTACHMENT I

INSPECTION & MAINTENANCE FOR BMPS

Temporary Stormwater Section – Inspection and Maintenance for Temporary BMPs

Vehicle Tracking Control

- 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.

Silt 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.

Diversion Ditches

- Swales should be inspected weekly and after each rain event to determine if silt is building up behind the dike or if erosion is occurring on the face of the dike. Locate and repair any damage to the channel or clear debris or other obstructions so as not to diminish flow capacity.
- Silt should be removed in a timely manner to prevent remobilization and to maintain the effectiveness of the control.
- If erosion is occurring on the face of the dike, the slopes of the face should either be stabilized through mulch or seeding or the slopes of the face should be reduced.
- Damage from storms or normal construction activities such as tire ruts or disturbance of swale stabilization should be repaired as soon as practical.

Sediment Trap

- Inspection should be made weekly and after each rainfall. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed by the contractor.
- Trash and other debris should be removed after each rainfall to prevent clogging of the outlet structure.
- Sediment should be removed and the trap restored to its original dimensions when the sediment has accumulated to half of the design depth of the trap.
- Sediment removed from the trap should be deposited in an approved spoils area and in such a manner that it will not cause additional siltation.

Temporary Sediment Pond

- Inspection should be made weekly and after each rainfall. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Repair should be made promptly as needed by the contractor.
- Trash and other debris should be removed after each rainfall to prevent clogging of the outlet structure.
- Accumulated silt should be removed and the basin should be re-graded to its original dimensions at such point that the capacity of the impoundment has been reduced to 75% of its original storage capacity.
- The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.

Inlet Protection

- Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
- Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
- Check placement of device to prevent gaps between device and curb.
- Inspect filter fabric and patch or replace if torn or missing.
- Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

Erosion Control Blankets

- Blankets and matting should be inspected weekly and after each rain event to locate and repair any damage. Apply new material if necessary to restore function.

TEMPORARY STORMWATER SECTION

ATTACHMENT J

SCHEDULE OF INTERIM & PERMANENT SOIL STABLIZATION PRACTICES

Temporary Stormwater Section – Schedule of Interim and Permanent Soil Stabilization Practices

Here is a general schedule of the soil stabilization practices that will be incorporated into the site as construction progresses.

Initial Phase

- Upon the installation of the initial site BMPs (sediment pond, silt fence, etc.). Tree protection measures shall be installed around the trees that are proposed to remain on site per the approved landscape plans. In addition, one heritage tree is located on site and is proposed to remain. The Georgetown Tree preservation detail shall be followed and can be found in the approved landscape plans.

Interim Phase

- As the site is mass graded and retaining walls are constructed, it can be expected that bare ground will be exposed throughout this phase of construction. Rolled Erosion Control products should be applied to 4:1 slopes of greater if it will be exposed for three days of more. In areas along the perimeter where the tie-in grading has been finalized, seeding and mulching shall be applied and rolled erosion control products shall be applied on steeper slopes.

Permanent Phase

- As the site's development nears completion with buildings constructed, and pavement finalized. The site's permanent landscaping (trees, shrubs, etc.) and irrigation shall be placed per the approved landscape architectural plans. Seeding and Mulching should be placed on site per the final erosion control plan and rolled erosion control products shall be placed on slopes 4:1 or steeper. In areas where sod is proposed, the contractor shall regularly water per the supplier's recommendations.

PERMANENT STORMWATER SECTION

TCEQ FORM : TCEQ-0600

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: Ravin Nanpatee, P.E

Date: 6/2/2025

Signature of Customer/Agent

Regulated Entity Name: Personal Warehouse Georgetown

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 insure 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 insure 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

PERMANENT BEST MANAGEMENT PRACTICES

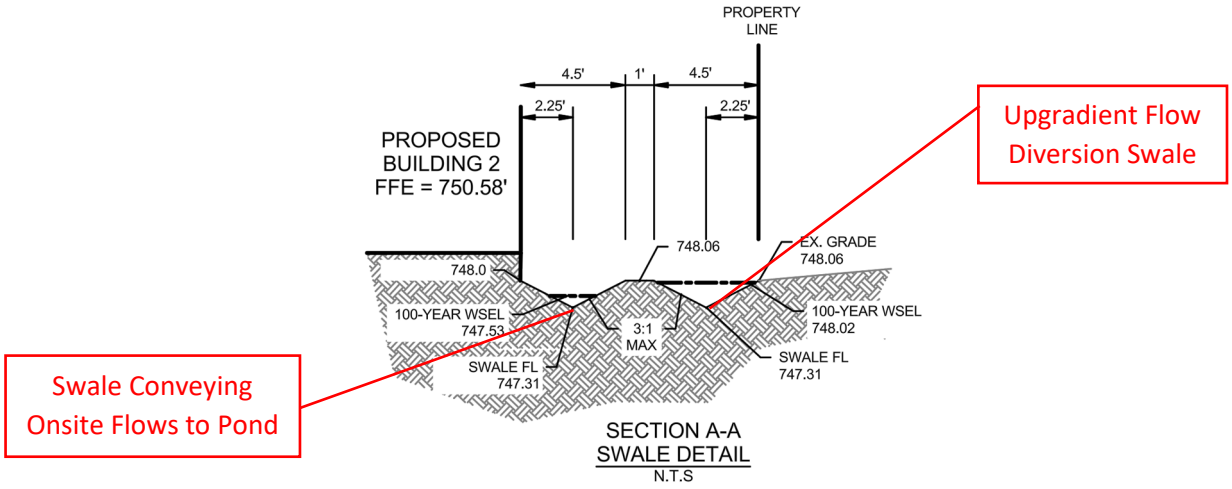
ATTACHMENT B

BMPs FOR UPGRADIENT STORM WATER

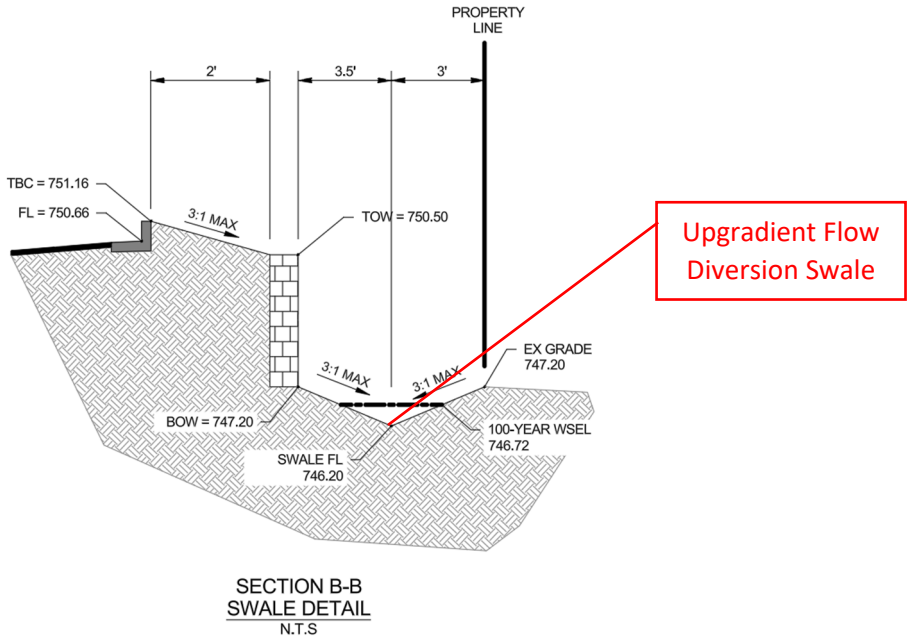
Permanent Best Management Practices – BMPs for Upgradient Stormwater

Upgradient stormwater flows, known as tributary flows, exist for this property. There are flows from the north that cross into the property via the north property line and a small amount of flow that crosses the southern property line from the south.

The northern upgradient flow is from undisturbed land that is covered in native grasses and shrubs and can be described as a short grass prairie. This land is gently sloped towards the project site. This flow will be diverted around the site via a swale along the northern property line. This swale will flow from the west to the east and will discharge to follow the historical path of the flow. Here is the cross section of the swale along the north property line :



The southern upgradient flow is also from undisturbed land that is covered in native grasses and shrubs and can be described as a short grass prairie. This property is a part of the commercial subdivision and is anticipated to be developed in the near future. This upgradient flow will be captured by a swale along the southern property that will flow from the west to the east and will discharge to follow the historical path of the flow. Here is the cross section of the swale along the south property line :



PERMANENT BEST MANAGEMENT PRACTICES

ATTACHMENT C

BMPs FOR ON-SITE STORMWATER

Permanent Best Management Practices – BMPs for On-Site Stormwater

There are three proposed permanent Best Management Practices onsite which are grass swales, a retention/irrigation pond and a level spreader.

Grass Swales

There are three grass swales that are proposed with this project. There are two along the north property line and one along the southern property line. The two along the north property line will run parallel to each other. The northern one of the two will convey offsite flow from the adjacent property to the eastern property line to follow the historic drainage pattern of the area. While the southern one of the two will convey onsite flows to a drainage inlet. The grass swale along the southern property line will convey offsite flow from the adjacent property to the eastern property line to follow the historic drainage pattern of the area.

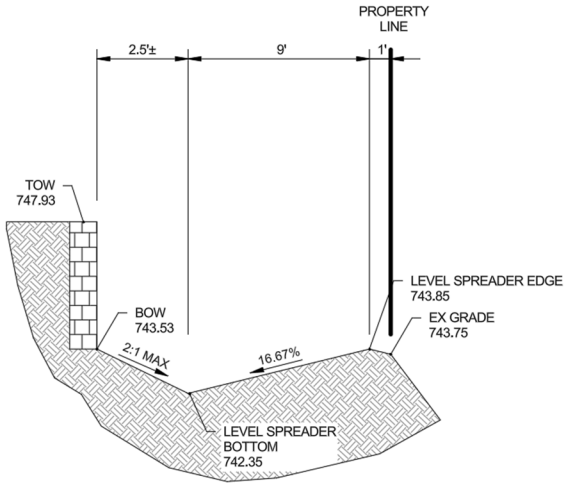
Retention/Irrigation Pond

The proposed onsite retention pond will accept runoff from all the proposed impervious areas of the site as well as landscape areas. Runoff will enter the pond via a proposed storm sewer network which is made up of storm inlets and storm pipes. Riprap is located at the storm sewer outlet locations within the pond to provide outlet protection. Generally, the water will enter the pond and a small volume will be withheld in a separate section of the pond for irrigation purposes. The excess volume will enter into the main pool of the pond where it will be regulated by an outlet structure that has been designed to release runoff equal to or less than the pre-development conditions. However, the lower portion of the main pool will retain water where it will infiltrate into the ground or evaporate.

Per TCEQ criteria, this permanent BMP will effectively remove 100% of TSS. This method was used since it will the TCEQ requirement of 80% removal and the Georgetown requirement of 85% removal.

Level Spreader

The proposed pond will discharge stormwater via an outlet structure to a proposed level spreader that is located at the eastern property line. This will allow the discharged runoff from the pond to gradually exit the property and continue the historic drainage pattern of the area. It has been designed to ensure that the post development outflow rates from the level spreader do not exceed the post development rates. Here is a cross section of the level spreader :



SECTION A-A
LEVEL SPREADER DETAIL
N.T.S

PERMANENT BEST MANAGEMENT PRACTICES

ATTACHMENT F

CONSTRUCTION PLANS

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Personal Warehouse
Date Prepared: 1/19/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadshe

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	5.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	3.23	acres
Total post-development impervious cover fraction * =	0.65	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	2815	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	4.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	3.23	acres
Post-development impervious fraction within drainage basin/outfall area =	0.76	
$L_{M\ THIS\ BASIN}$ =	2811	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Retention / Irrigation
Removal efficiency = 100 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	4.22	acres
A_I =	3.23	acres
A_P =	0.99	acres
L_R =	3593	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 2811 lbs.

F = 0.78

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.00	inches
Post Development Runoff Coefficient =	0.58	
On-site Water Quality Volume =	8863	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1773	
Total Capture Volume (required water quality volume(s) x 1.20) =	10636	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = 10636 cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of 0.1
Irrigation area =	42544	square feet	
	0.98	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins — Designed as Required in RG-348 — Pages 3-66 to 3-71

Required capacity of Permanent Pool = **NA** cubic feet — **Permanent Pool Capacity is 1.20 times the WQV**
Required capacity at WQV Elevation = **NA** cubic feet — **Total Capacity should be the Permanent Pool Capacity plus a second WQV.**

12. Constructed Wetlands — Designed as Required in RG-348 — Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands = **NA** cubic feet

13. AquaLogic™ Cartridge System — Designed as Required in RG-348 — Pages 3-74 to 3-78

**** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.**

Required Sedimentation chamber capacity = **NA** cubic feet
Filter canisters (FCs) to treat WQV = **NA** cartridges
Filter basin area (RIA_F) = **NA** square feet

14. Stormwater Management StormFilter® by CONTECH

Required Water Quality Volume for Contech StormFilter System = **NA** cubic feet

THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES

15. Grassy Swales — Designed as Required in RG-348 — Pages 3-51 to 3-54

Design parameters for the swale:

Drainage Area to be Treated by the Swale = A = 8.00 acres
Impervious Cover in Drainage Area = 4.00 acres
Rainfall intensity = i = 1.1 in/hr
Swale Slope = 0.01 ft/ft
Side Slope (z) = 3
Design Water Depth = y = 0.33 ft
Weighted Runoff Coefficient = C = 0.54

A_{CS} = cross-sectional area of flow in Swale = 13.17 sf
P_W = Wetted Perimeter = 40.62 feet
R_H = hydraulic radius of flow cross-section = A_{CS}/P_W = 0.32 feet
n = Manning's roughness coefficient = 0.2

15A. Using the Method Described in the RG-348

Manning's Equation: $Q = \frac{1.49}{n} A_{CS} R_H^{2/3} S^{0.5}$

$b = \frac{0.134 \times Q}{y^{1.67} S^{0.5}} - zy$ = 38.51 feet

Q = CiA = 4.71 cfs

To calculate the flow velocity in the swale:

V (Velocity of Flow in the swale) = Q/A_{CS} = 0.36 ft/sec

To calculate the resulting swale length:

L = Minimum Swale Length = V (ft/sec) * 300 (sec) = 107.24 feet

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun.

15B. Alternative Method using Excel Solver

Design Q = CiA = 4.71 cfs

Manning's Equation Q = 0.76 cfs — Error 1 = 3.95
Swale Width= 6.00 ft

Instructions are provided to the right (green comments).

Flow Velocity 0.36 ft/s
Minimum Length = 107.24 ft

Instructions are provided to the right (blue comments).

Design Width = 6 ft
Design Discharge = 0.76 cfs — Error 2 = 3.95
Design Depth = 0.33 ft
Flow Velocity = 0.32 cfs
Minimum Length = 97.48 ft

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun.
If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

To solve for bottom width of the trapezoidal swale (b) using the Excel solver:
Excel can simultaneously solve the "Design Q" (C217) vs "Manning's Q" (C219) by varying the "Swale Width" (C220).
The required "Swale Width" occurs when the "Design Q" = "Manning's Q"

First, highlight Cell F219 (Error 1 value). The equation showing in the fx screen for Cell F219 should be "= C217-C219"
Then click on "Tools" and "Solver". The "Solver Parameters" screen pops up.
The value in the "Set Target cell" should be F219 "Error 1 ="
The value in the "By Changing Cells" should be C220 "Swale Width"
Click on solve.

The resulting "Swale Width" must be less than 10 feet to meet the requirements of the TGM.
If the resulting "Swale Width" exceeds 10 feet then the design parameters must be revised and the solver run again.

If there is not the option for "Solver" under "Tools"
Click on "Tools" and "Add Ins" and then check "Solver Add-in"
Then proceed as instructed above.

If you would like to increase the bottom width of the trapezoidal swale (b):
Excel can simultaneously solve the "Design Q" (C217) vs "Design Discharge" (C232) by varying the "Design Depth" (C233).
The required "Design Depth" for a 10-foot bottom width occurs when the "Design Q" (C217) = the "Design Discharge" (C232).

First set the desired bottom width in Cell C231.
Highlight Cell F232. The equation showing in the fx screen for Cell F232 should be "= C217-C232"

Click on "Tools" and "Solver". The "Solver Parameters" screen pops up.
The value in the "Set Target cell" should be F232 "Error 2"
The value in the "By Changing Cells" should be C233 "Design Depth"
Click on solve.

The resulting "Design Depth" must be equal to or less than 0.33 feet to meet the requirements of the TGM.
If the resulting "Design Depth" exceeds 0.33 feet then the design parameters must be revised and the solver run again.
First set the desired bottom width in Cell C231.
Highlight Cell F232. The equation showing in the fx screen for Cell F232 should be "= C217-C232"
Click on "Tools" and "Solver". The "Solver Parameters" screen pops up.
The value in the "Set Target cell" should be F232 "Error 2"
The value in the "By Changing Cells" should be C233 "Design Depth"
Click on solve.

The resulting "Design Depth" must be equal to or less than 0.33 feet to meet the requirements of the TGM.
If the resulting "Design Depth" exceeds 0.33 feet then the design parameters must be revised and the solver run again.

16. Vegetated Filter Strips — Designed as Required in RG-348 — Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

17. Wet Vaults — Designed as Required in RG-348 — Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = **NA** lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4: Q = CiA

C = runoff coefficient for the drainage area = 0.60 — **C = Runoff Coefficient = 0.546 (IC)^2 + 0.328 (IC) + 0.03**
i = design rainfall intensity = 1.1 in/hour
A = drainage area in acres = 1 acres

Q = flow rate in cubic feet per second = 0.66 cubic feet/sec

RG-348 Page 3-31 Equation 3.5: $V_{OR} = Q/A$

Q = Runoff rate calculated above = 0.66 cubic feet/sec
A = Water surface area in the wet vault = 150 square feet

V_{OR} = Overflow Rate = 0.00 feet/sec

Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) = 53 percent

Load removed by Wet Vault = #VALUE! lbs

If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
Calculate the efficiency reduction for the actual rainfall intensity rate

Actual Rainfall Intensity at which Wet Vault bypass Occurs = 0.5 in/hour

Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 = 0.75 percent
Efficiency Reduction for Actual Rainfall Intensity = 0.83 percent

Resultant TSS Load removed by Wet Vault = #VALUE! lbs

18. Permeable Concrete — Designed as Required in RG-348 — Pages 3-79 to 3-83

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMPs Installed in a Series Designed as Required in RG-348 Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E_2 be changed from 0.5 to 0.65 on May 3, 2006

$E_{TOT} = [1 - ((1 - E_1) X (1 - 0.65E_2) x (1 - 0.25E_3))] X 100 =$ 86.38 percent NET EFFICIENCY OF THE BMPs IN THE SERIES

EFFICIENCY OF FIRST BMP IN THE SERIES = E_1 = 75.00 percent

EFFICIENCY OF THE SECOND BMP IN THE SERIES = E_2 = 70.00 percent

EFFICIENCY OF THE THIRD BMP IN THE SERIES = E_3 = 0.00 percent

THEREFORE, THE NET LOAD REMOVAL WOULD BE:
(A_1 AND A_P VALUES ARE FROM SECTION 3 ABOVE)

$L_R = E_{TOT} X P X (A_1 X 34.6 X A_P X0.54) =$ 3103.77 lbs

20. Stormceptor

Required TSS Removal in BMP Drainage Area=	**NA**	lbs
Impervious Cover Overtreatment=	0.0000	ac
TSS Removal for Uncaptured Area =	0.00	lbs

BMP Sizing

Effective Area =	NA	EA
Calculated Model Size(s) =	#N/A	
Actual Model Size (if multiple values provided in Calculated Model Size or if you are choosing a larger model size) =	0	Model Size
Surface Area =	#N/A	ft^2
Overflow Rate =	#VALUE!	V_{or}
Rounded Overflow Rate =	#VALUE!	V_{or}
BMP Efficiency % =	#VALUE!	%
L_R Value =	#VALUE!	lbs
TSS Load Credit =	#VALUE!	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!	
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

21. Vortech

Required TSS Removal in BMP Drainage Area=	**NA**	lbs
Impervious Cover Overtreatment=	0.0000	ac
TSS Removal for Uncaptured Area =	0.00	lbs

BMP Sizing

Effective Area =	NA	EA
Calculated Model Size(s) =	#N/A	
Actual Model Size (if choosing larger model size) =	Vx1000	Pick Model Size
Surface Area =	7.10	ft^2
Overflow Rate =	#VALUE!	V_{or}
Rounded Overflow Rate =	#VALUE!	V_{or}
BMP Efficiency % =	#VALUE!	%
L_R Value =	#VALUE!	lbs
TSS Load Credit =	#VALUE!	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!	
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

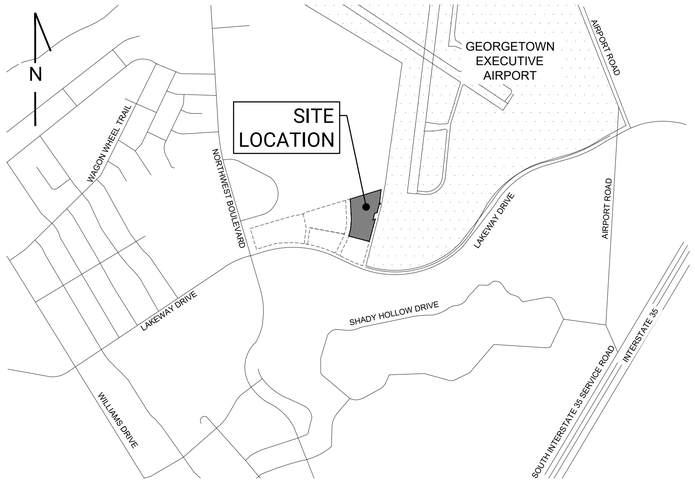
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

GEORGETOWN GENERAL NOTES

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, AND SUCCESSORS TO THE CURRENT PROPERTY OWNER, TO ENSURE THE SUBJECT PROPERTY AND ANY IMPROVEMENTS ARE MAINTAINED IN CONFORMANCE WITH THIS SITE DEVELOPMENT PLAN.
2. THIS DEVELOPMENT SHALL COMPLY WITH ALL STANDARDS OF THE UNIFIED DEVELOPMENT CODE (UDC), THE CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL, THE DEVELOPMENT MANUAL AND ALL OTHER APPLICABLE CITY STANDARDS.
3. THIS SITE DEVELOPMENT PLAN SHALL MEET THE UDC STORMWATER REQUIREMENTS.
4. ALL SIGNAGE REQUIRES A SEPARATE APPLICATION AND APPROVAL FROM THE INSPECTION SERVICES DEPARTMENT. NO SIGNAGE IS APPROVED WITH THE SITE DEVELOPMENT PLAN.
5. SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH THE UDC.
6. DRIVEWAYS WILL REQUIRE APPROVAL BY THE DEVELOPMENT ENGINEER OF THE CITY OF GEORGETOWN.
7. OUTDOOR LIGHTING SHALL COMPLY WITH SECTION 7.04 OF THE UDC.
8. SCREENING OF MECHANICAL EQUIPMENT, DUMPSTERS AND PARKING SHALL COMPLY WITH CHAPTER 8 OF THE UDC. THE SCREENING IS SHOWN ON THE LANDSCAPE AND ARCHITECTURAL PLANS, AS APPLICABLE.
9. THE COMPANION LANDSCAPE PLAN HAS BEEN DESIGNED AND PLANT MATERIALS SHALL BE INSTALLED TO MEET ALL REQUIREMENTS OF THE UDC.
10. ALL MAINTENANCE OF REQUIRED LANDSCAPE SHALL COMPLY WITH THE MAINTENANCE STANDARDS OF CHAPTER 8 OF THE UDC.
11. A SEPARATE IRRIGATION PLAN SHALL BE REQUIRED AT THE TIME OF BUILDING PERMIT APPLICATION.
12. FIRE FLOW REQUIREMENTS OF 1,000 GALLONS PER MINUTE ARE BEING MET BY THIS PLAN. PLEASE SEE THE FIRE FLOW INFORMATION BLOCKS PROVIDED ON THIS SHEET
13. ANY HERITAGE TREE NOTED ON THIS SITE DEVELOPMENT PLAN IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE.
14. THE CONSTRUCTION PORTION OF THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
15. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
16. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL BE LOCATED ALONG THE STREET AND WITHIN THE SITE. WHERE EXISTING OVERHEAD INFRASTRUCTURE IS TO BE RELOCATED, IT SHALL BE RE-INSTALLED UNDERGROUND AND THE EXISTING FACILITIES SHALL BE REMOVED AT THE DISCRETION OF THE DEVELOPMENT ENGINEER.
17. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.

PROJECT NOTES

- THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
- A GEOLOGIC ASSESSMENT, PERFORMED BY HORIZON ENVIRONMENTAL SERVICES, INC. DATED JUNE 2018, IN ACCORDANCE WITH GEORGETOWN CRITERIA WAS PERFORMED FOR THIS PROPERTY AND CONCLUDED THAT NO GEOLOGIC FEATURES AND 1 MAN-MADE FEATURE (M-1) WERE IDENTIFIED AT THE SUBJECT SITE. THE MAN-MADE FEATURE HAS BEEN EVALUATED AS NON-SENSITIVE FOR GROUNDWATER RECHARGE CAPABILITY AND WOULD THEREFORE NOT REQUIRE A TCEQ PROTECTIVE SETBACK BUFFER



VICINITY MAP
1" = 1000'

PROJECT INFORMATION

- PROPOSED USES : OFFICE/WAREHOUSE; RESEARCH, TESTING AND DEVELOPMENT LAB; MANUFACTURING, PROCESSING AND ASSEMBLY (GENERAL)
- ZONING = IN (INDUSTRIAL)
- TOTAL ACREAGE = 5.004 ACRES
- TOTAL IMPERVIOUS COVER = 3.233 ACRES
- LEGAL DESCRIPTION = S13268 - HAVINS AIRPORT COMMERCIAL (BLK C LT 1 REPLAT)

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 12/11/2023. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

			AVERAGE DAILY TRIPS	
ITE CODE	LAND UES	SIZE	RATE	TOTAL
110	LIGHT INDUSTRIAL	24.136	4.96	120
710	OFFICE	24.136	9.74	235

SHEET INDEX

BUILDING A FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 7,500 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

BUILDING B FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 8,266.50 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

BUILDING C FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 18,479.70 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

BUILDING D FIRE FLOW DATA :

FIRE FLOW REQUIREMENTS FOR THIS SITE ARE 1,000 GPM FIRE HYDRANT TO MEET FIRE FLOW REQUIREMENTS, FIRE HYDRANT MUST SUPPLY 1,000 GPM, MINIMUM @ 20 PSI RESIDUAL PRESSURE

CODE USED FOR ANALYSIS : IFC 2021
OCCUPANCY GROUP : S-1

CONSTRUCTION TYPE : II-B (CMU SHELL)

FIRE AREA : 14,026.40 SQ.FT

THE BUILDINGS ARE FULLY SPRINKED

OWNER (S)

GTOWNPW, LLC.
7200 WEST ALTON WAY, SUITE B220
CENTENNIAL, CO 80112
CONTACT : ERIC GREVEN (303-222-0768)

ENGINEER

HERE CIVIL CONSULTANTS, LLC.
20 PUBLIX DRIVE SUITE 104 #129
CLAYTON, NORTH CAROLINA 27527
CONTACT: RAVIN NANPATEE (336) 554-2424

ARCHITECT

HOVER ARCHITECTURE
383 INVERNESS PARKWAY, SUITE 175
ENGLEWOOD, CO 80112
CONTACT: ANDREA MORTON (720-893-2527)

LANDSCAPE ARCHITECT

GREEN EYE STUDIO
CONTACT: STACIE HOLT (512) 484-11.05

CITY OF GEORGETOWN
PLANNING DEPARTMENT
809 MARTIN LUTHER KING JR ST.
GEORGETOWN, TEXAS 78626
(512) 930-3575

CITY OF GEORGETOWN
GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVE.
GEORGETOWN, TX 78626
(512) 930-36401

CITY APPROVAL BLOCK

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
COVER SHEET

SHEET 1 OF 22

DESIGNED BY R.J.N DRAWN BY R.J.N CHECKED BY R.J.N

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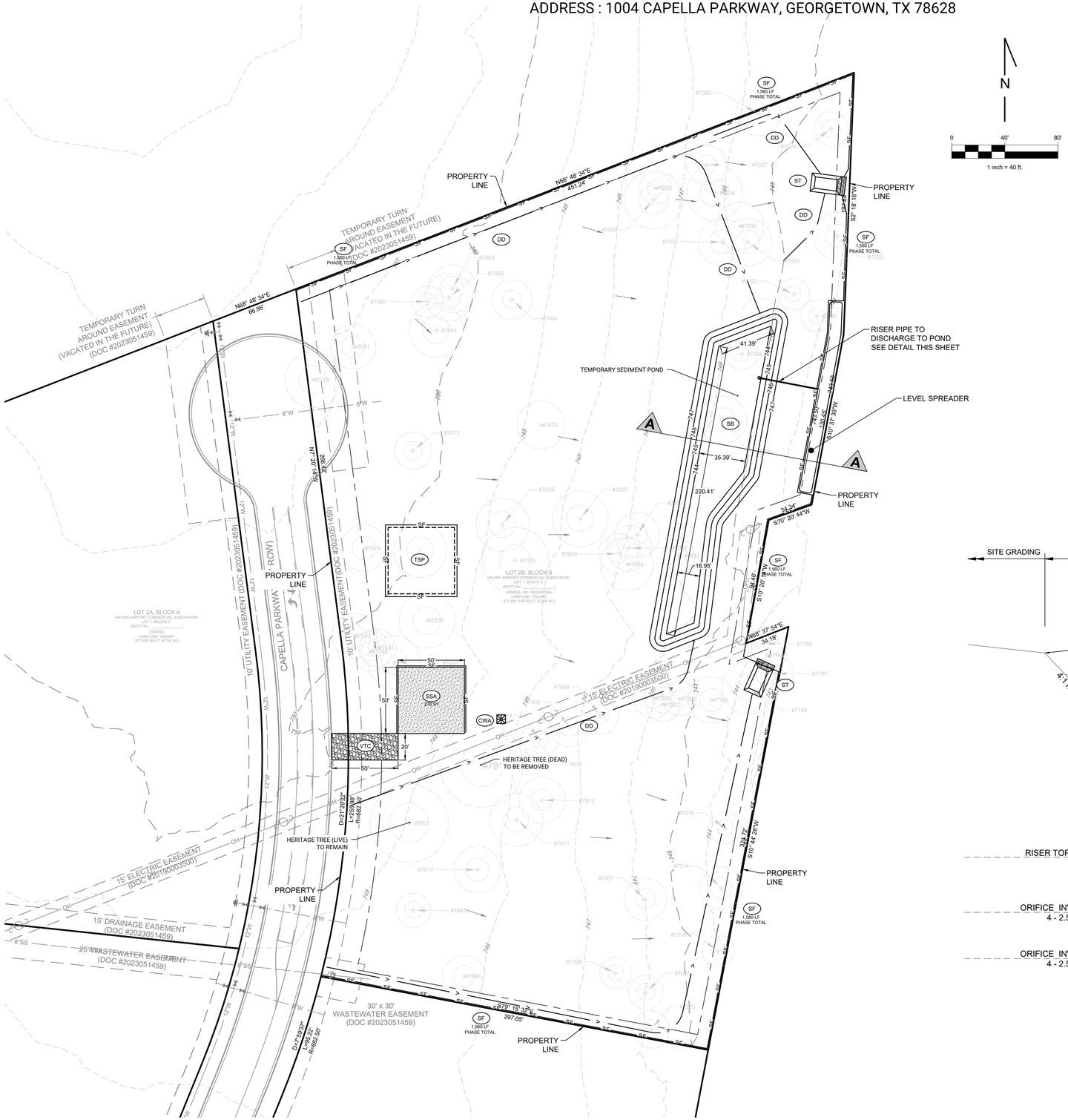
6/2/2025 9:29 PM F:\PROJECTS_PERSONAL WAREHOUSE\PW-017 - GEORGETOWN TX\CIVIL\CAD\PLANS\SITE DEVELOPMENT PLAN\0 - COVER.DWG

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

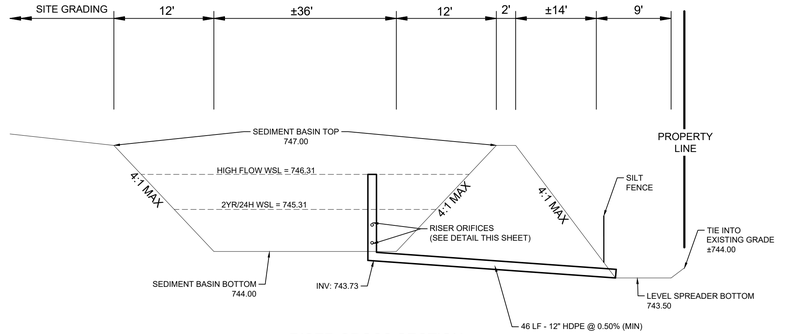


PROJECT INFORMATION

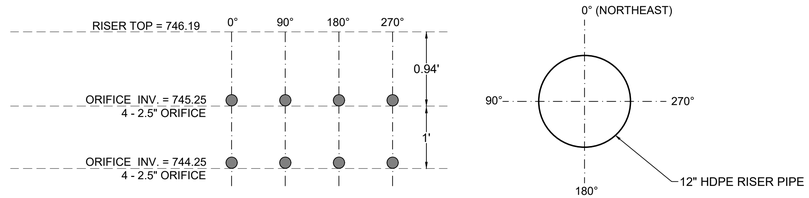
- PROPOSED USES : OFFICE/WAREHOUSE; RESEARCH, TESTING AND DEVELOPMENT LAB; MANUFACTURING, PROCESSING AND ASSEMBLY (GENERAL)
- ZONING = IN (INDUSTRIAL)
- TOTAL ACREAGE = 5.004 ACRES
- TOTAL IMPERVIOUS COVER = 3.233 ACRES
- LEGAL DESCRIPTION = S13268 - HAVINS AIRPORT COMMERCIAL (BLK C LT 1 REPLAT)

LEGEND

5280	PROPOSED MAJOR CONTOUR
5279	PROPOSED MINOR CONTOUR
5280	EXISTING MAJOR CONTOUR
5279	EXISTING MINOR CONTOUR
	PHASE BOUNDARY
CF	CONSTRUCTION FENCE
CM	CONSTRUCTION MARKER
CWA	CONCRETE WASHOUT AREA
ECB	EROSION CONTROL BLANKET
DD	DIVERSION DITCH
IP	INLET PROTECTION
LOC	LIMITS OF CONSTRUCTION
OP	OUTLET PROTECTION
SB	SEDIMENT BASIN
SCL	SEDIMENT CONTROL LOG
SM	SEEDING AND MULCHING
SF	SILT FENCE
SP	STOCK PILE
SSA	STABILIZED STAGING AREA
SR	SURFACE ROUGHENING
ST	SEDIMENT TRAP
VTC	VEHICLE TRACKING CONTROL
TSP	TEMPORARY STOCKPILE



RISER CROSS SECTION



RISER PIPE DETAIL

PERSONAL WAREHOUSE
WORK · STORE · PLAY

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@GHERECC.COM
HERE CC PROJECT No. : PW-017

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No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

STATE OF TEXAS — RYAN J. NANPATEE — 5/22/2025 — LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INITIAL EROSION CONTROL PLAN

SHEET 2 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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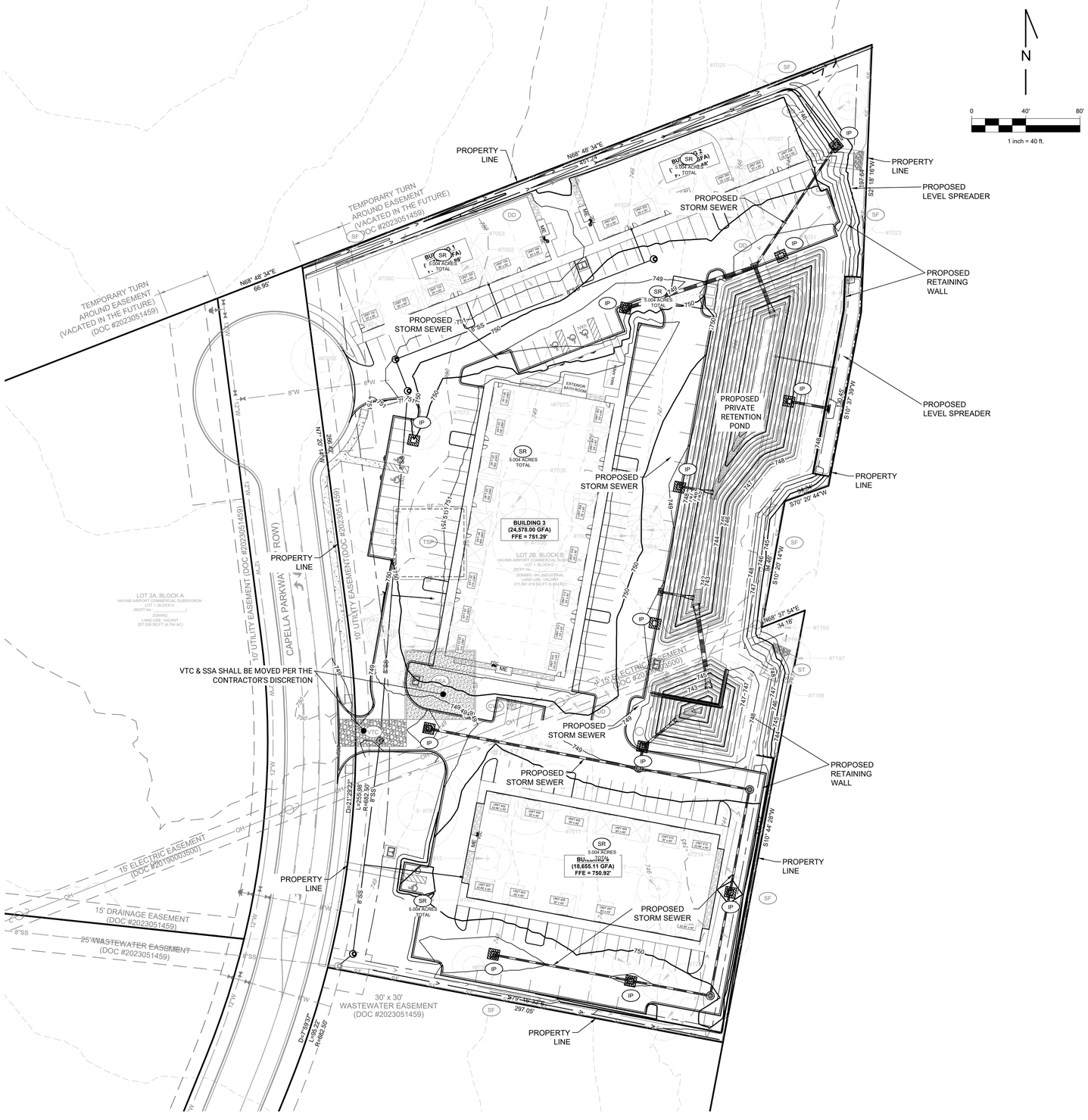
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

5280		PROPOSED MAJOR CONTOUR
5279		PROPOSED MINOR CONTOUR
5280		EXISTING MAJOR CONTOUR
5279		EXISTING MINOR CONTOUR
		PHASE BOUNDARY
CF	CF	CONSTRUCTION FENCE
	CM	CONSTRUCTION MARKER
CWA	CWA	CONCRETE WASHOUT AREA
ECB	ECB	EROSION CONTROL BLANKET
<	DD	DIVERSION DITCH
IP	IP	INLET PROTECTION
LOC	LOC	LIMITS OF CONSTRUCTION
OP	OP	OUTLET PROTECTION
SB	SB	SEDIMENT BASIN
SCL	SCL	SEDIMENT CONTROL LOG
SM	SM	SEEDING AND MULCHING
SF	SF	SILT FENCE
SP	SP	STOCK PILE
SSA	SSA	STABILIZED STAGING AREA
SR	SR	SURFACE ROUGHENING
ST	ST	SEDIMENT TRAP
VTC	VTC	VEHICLE TRACKING CONTROL
TSP	TSP	TEMPORARY STOCKPILE

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
INTERIM EROSION CONTROL PLAN

SHEET 3 OF 22

DESIGNED BY: R.J.N. DRAWN BY: R.J.N. CHECKED BY: R.J.N.

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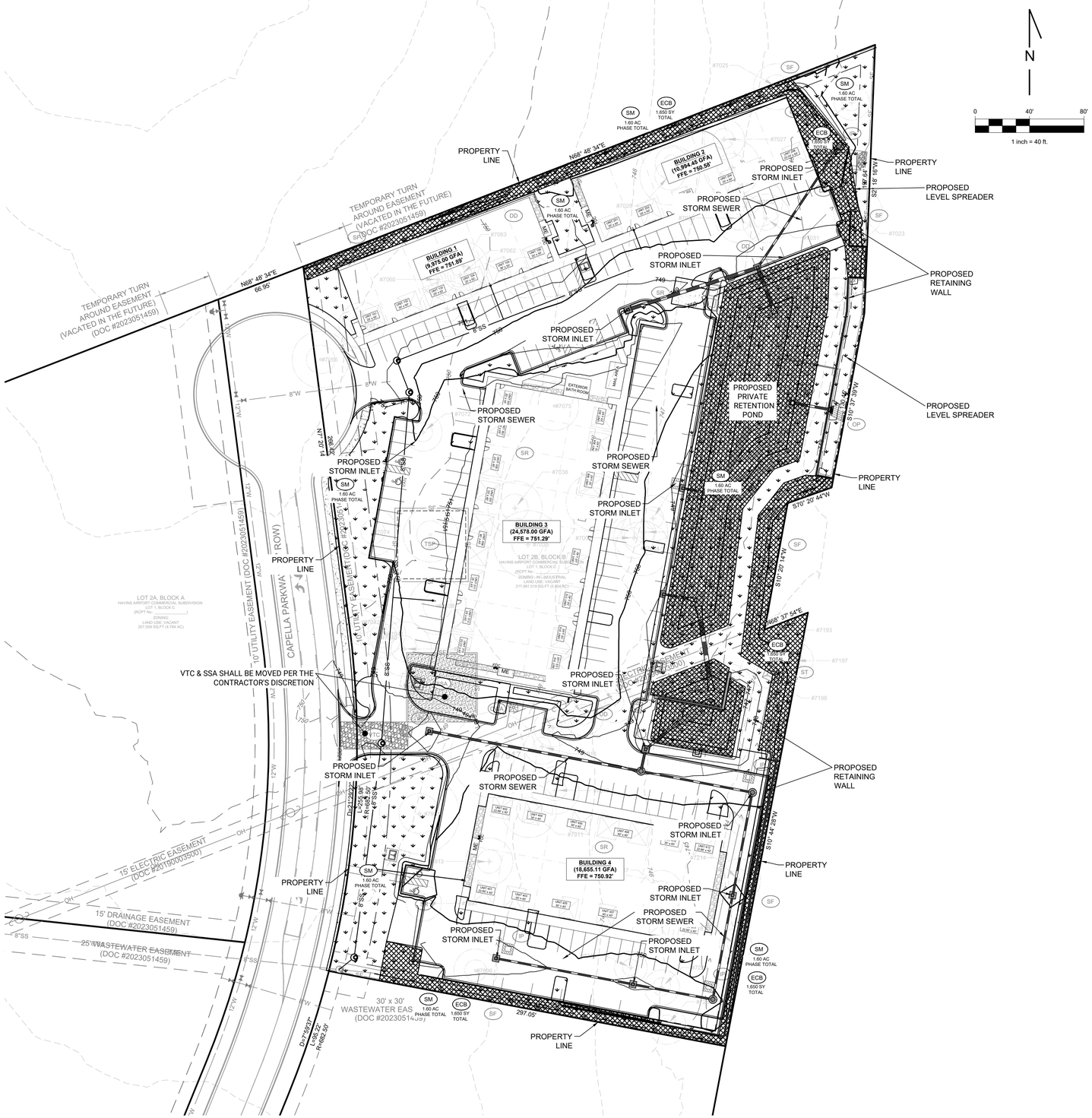
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

5280		PROPOSED MAJOR CONTOUR
5279		PROPOSED MINOR CONTOUR
5280		EXISTING MAJOR CONTOUR
5279		EXISTING MINOR CONTOUR
		PHASE BOUNDARY
CF	CF	CONSTRUCTION FENCE
	CM	CONSTRUCTION MARKER
	CWA	CONCRETE WASHOUT AREA
	ECB	EROSION CONTROL BLANKET
<	DD	DIVERSION DITCH
	IP	INLET PROTECTION
	LOC	LIMITS OF CONSTRUCTION
	OP	OUTLET PROTECTION
	SB	SEDIMENT BASIN
	SCL	SEDIMENT CONTROL LOG
	SM	SEEDING AND MULCHING
SF	SF	SILT FENCE
	SP	STOCK PILE
	SSA	STABILIZED STAGING AREA
	SR	SURFACE ROUGHENING
	ST	SEDIMENT TRAP
	VTC	VEHICLE TRACKING CONTROL
	TSP	TEMPORARY STOCKPILE

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EMAIL : RNANPATEE@GHERECC.COM
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No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
FINAL EROSION CONTROL PLAN

SHEET 4 OF 22

DESIGNED BY RJN DRAWN BY RJN CHECKED BY RJN

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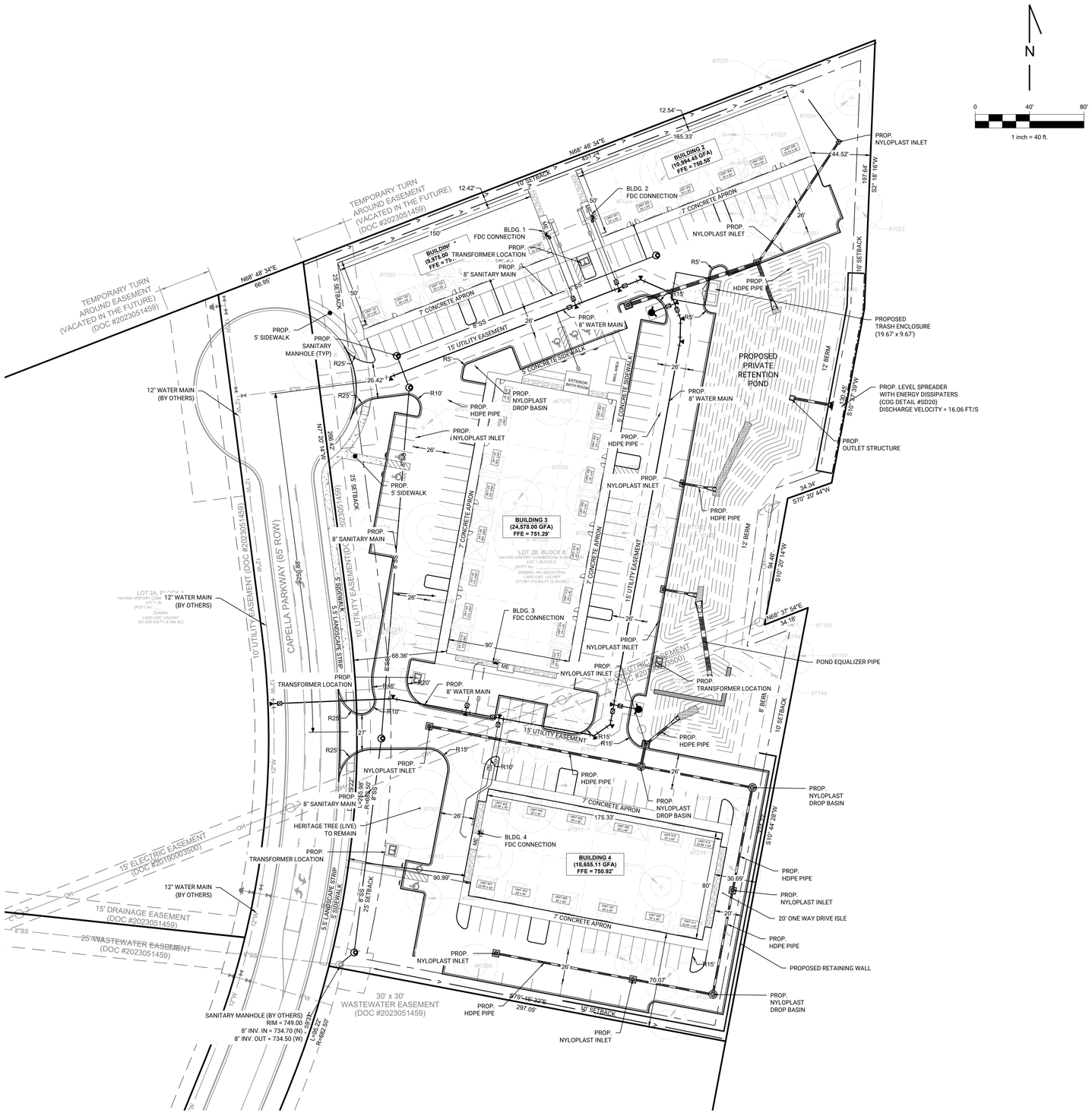
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



DIMENSIONAL SITE PLAN NOTES

- ALL LIGHTING FIXTURES SHALL BE DESIGNED TO COMPLETELY CONCEAL AND FULLY SHIELD, WITHIN AN OPAQUE HOUSING, THE LIGHT SOURCE FROM VISIBILITY FROM ANY STREET RIGHT-OF-WAY. THE CONE OF LIGHT SHALL NOT CROSS ANY ADJACENT PROPERTY LINE. THE ILLUMINATION SHALL NOT EXCEED 2 FOOT CANDLES AT A HEIGHT OF THREE FEET AT THE PROPERTY LINE. ONLY INCANDESCENT, FLUORESCENT, COLOR-CORRECTED HIGH-PRESSURE SODIUM OR METAL HALIDE MAY BE USED. ALL VEHICLE OR PEDESTRIAN ACCESS SHALL BE SUFFICIENTLY LIGHTED TO ENSURE SECURITY OF PROPERTY AND PERSONS.
- ALL ROOF, WALL AND GROUND MOUNTED MECHANICAL EQUIPMENT MUST BE SCREENED IN ACCORDANCE WITH CHAPTER 8 OF THE UDC. IF ROOF AND WALL MOUNTED EQUIPMENT OF ANY TYPE INCLUDING DUCT WORK AND LARGE VENTS IS PROPOSED IT SHALL BE SHOWN ON THE SITE PLAN AND SCREENING IDENTIFIED. SCREENING OF MECHANICAL EQUIPMENT SHALL RESULT IN THE MECHANICAL EQUIPMENT BLENDING IN WITH THE PRIMARY BUILDING AND NOT APPEARING SEPARATE FROM THE BUILDING AND SHALL BE SCREENED FROM VIEW OF ANY RIGHTS-OF-WAY OR ADJOINING PROPERTIES.
- PER CHAPTER 8, THE DUMPSTER ENCLOSURES MUST BE ONE (1) FOOT ABOVE THE HEIGHT OF THE WASTE CONTAINER. USE PROTECTIVE POLES IN CORNERS AND AT IMPACT AREAS. FENCE POSTS SHALL BE OF OF RUST PROTECTED METAL OR CONCRETE. A MINIMUM 6" SLAB IS REQUIRED AND MUST BE SLOPED TO DRAIN; THE ENCLOSURE MUST HAVE STEEL FRAMED GATES WITH SPRING LOADED HINGES AND FASTENERS TO KEEP CLOSED. SCREENING MUST BE ON ALL FOUR SIDES BY MASONRY WALL OR APPROVED FENCE OR SCREENING WITH OPAQUE GATES.

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 3/13/2025. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

LEGEND

- EASEMENT
- RIGHT OF WAY (R.O.W.)
- CENTERLINE
- PROJECT BOUNDARY
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- STREET LIGHT POLES
- STREET SIGNS
- ADA PATH

SITE UTILIZATION TABLE

	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
BUILDING/ROOF AREA	48,272.60	1.108	22.15%
HARDSCAPE COVERAGE	92,605.02	2.126	42.48%
LANDSCAPE/OPEN SPACE	77,106.38	1.770	35.37%
TOTAL SITE AREA	217,984.00	5.004	100.00%

IMPERVIOUS PERCETNAGE BREAKDOWN

	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
ASPHALT	82,225.27	1.888	88.79%
CONCRETE	10,379.75	0.238	11.21%
TOTAL IMPERVIOUS AREA	92,605.02	2.126	

TOTAL GROSS FLOOR AREA (GFA)

	GFA (SQ.FT.)
BUILDING 100	9,975.00
BUILDING 200	10,994.45
BUILDING 300	24,578.00
BUILDING 400	18,655.11
TOTAL SITE GFA	64,202.56

IMPERVIOUS PERCETNAGE BREAKDOWN

	AREA (SQ.FT)	AREA (AC)	SITE PERCENTAGE
ASPHALT	82,225.27	1.888	88.79%
CONCRETE	10,379.75	0.238	11.21%
TOTAL IMPERVIOUS AREA	92,605.02	2.126	

PARKING DATA

TOTAL PROPOSED GROSS SQUARE FOOTAGE =		64,203
PROFESSIONAL AND BUSINESS OFFICES		
ALL OTHER OFFICES AND SERVICES	REQUIRED =	81
1 SPACE PER 400 SQ. FT. OF GFA	PROVIDED =	100
(50% TOTAL DEVELOPMENT) (32,102 SQ.FT)		
INDUSTRIAL MANUFACTURING AND WAREHOUSING USES		
ALL OTHER INDUSTRIAL MANUFACTURING AND WAREHOUSING		
1 SPACE PER 500 SQ. FT. OF GFA OF INDOOR FACILITY	REQUIRED =	65
(50% TOTAL DEVELOPMENT) (16,051 SQ.FT)	PROVIDED =	118
NOTE: NO UNIT EXCEEDS 2,500 SQUARE FEET OR HAS OUTDOOR OR OUTDOOR STORAGE AREA		
ADA PARKING STALLS	REQUIRED =	5 + 2 VAN
7 STALLS (2 VAN) FOR 201 - 300 PROVIDED PARKING STALLS	PROVIDED =	5 + 2 VAN
TOTAL PARKING PROVIDED =		218

PERSONAL WAREHOUSE
WORK · STORE · PLAY
HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

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No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

STATE OF TEXAS — RAVIN J NANPATEE — 147661 — LICENSED PROFESSIONAL ENGINEER — 5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL SITE PLAN

SHEET 5 OF 22

DESIGNED BY RJN, DRAWN BY RJN, CHECKED BY RJN

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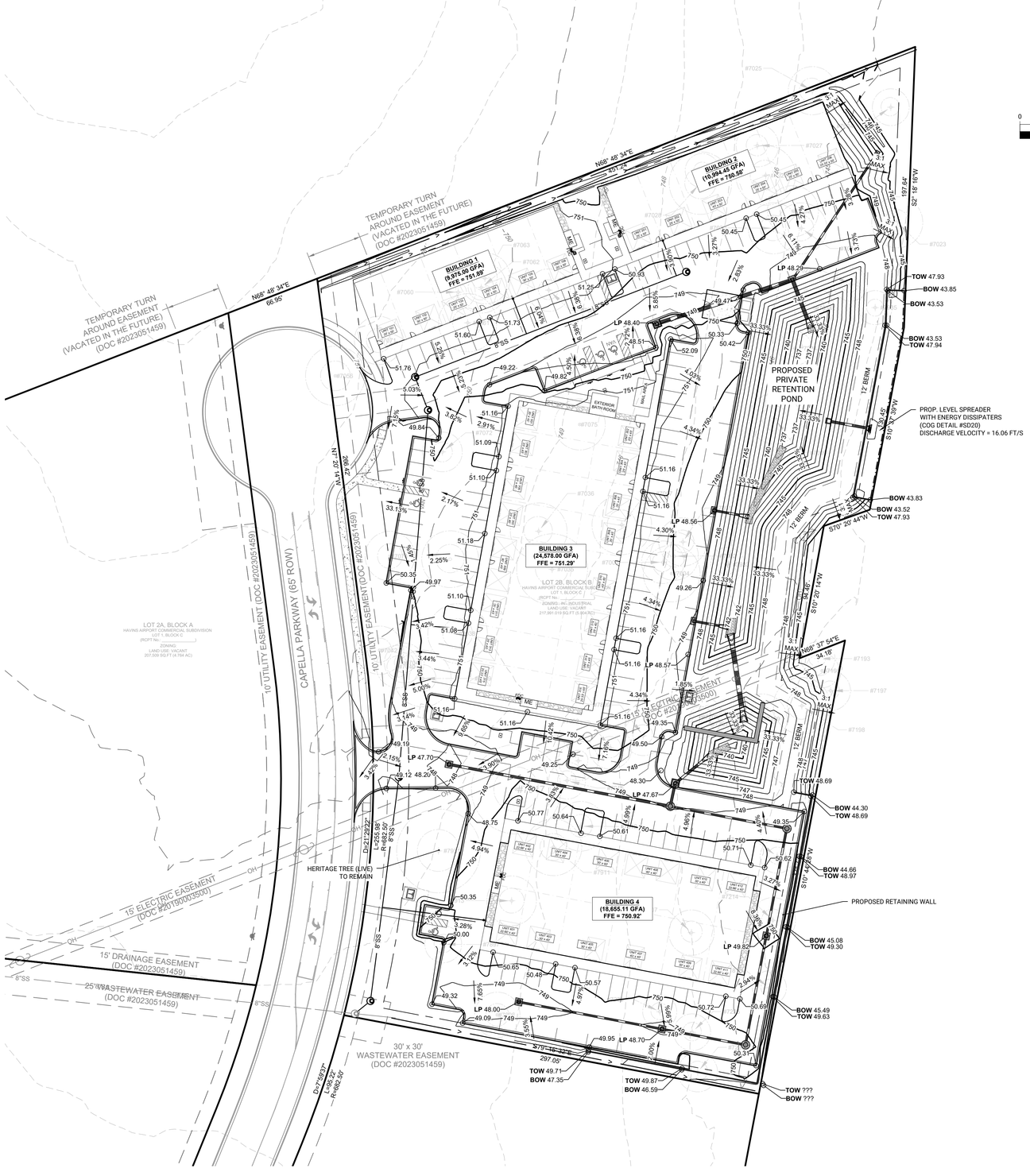
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628



LEGEND

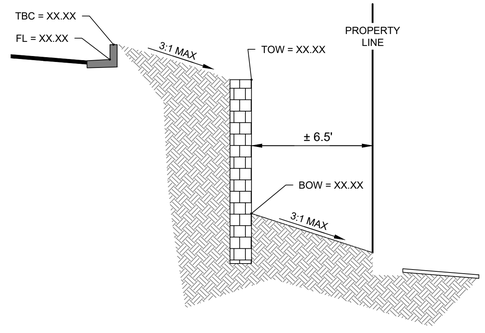
5280	PROPOSED MAJOR CONTOUR
5279	PROPOSED MINOR CONTOUR
5280	EXISTING MAJOR CONTOUR
5279	EXISTING MINOR CONTOUR
	DIRECTIONAL FLOW ARROW
5150	SPOT ELEVATION
	RIGHT OF WAY (R.O.W.)
	CENTERLINE
	PROJECT BOUNDARY
	STORM MANHOLES
	STORM INLETS

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 12/11/2023. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

ABBREVIATIONS:

FL = FLOW LINE
FG = FINISHED GRADE
ME = MATCH EXISTING
TBC = TOP BACK OF CURB
HP = HIGH POINT
OG = ON GRADE
LP = LOW POINT
TOW = TOP OF WALL
BOW = BOTTOM OF WALL
FFE = FINISHED FLOOR ELEVATION
SF = SQUARE FEET



CMU RETAINING WALL DETAIL
N.T.S.

NOTES

1. RETAINING WALLS, SECTIONS OF RETAINING WALLS 4-FEET IN HEIGHT OR HIGHER OR TIERED WALLS MUST BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF TEXAS AND MUST RECEIVE A BUILDING PERMIT FROM THE TOWN OF GEORGETOWN PRIOR TO THE ISSUANCE OF THE PUBLIC WORKS PERMIT.
2. TOP OF WALL (TOW) AND BOTTOM OF WALL (BOW) INDICATE THE FINISHED GRADE ADJACENT TO THE WALL. REFER TO STRUCTURAL PLANS FOR WALL DESIGN.

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

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5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL GRADING PLAN

SHEET 6 OF 22

DESIGNED BY R.J.N. DRAWN BY R.J.N. CHECKED BY R.J.N.

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CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

LEGEND

- EASEMENT
- RIGHT OF WAY (R.O.W.)
- CENTERLINE
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- SS — EXISTING SANITARY & STUB OUT
- W — EXISTING WATER & STUB OUT
- IRR — FUTURE IRRIGATION & STUB OUT
- SS — FUTURE SANITARY & STUB OUT
- SANITARY SERVICE
- W — WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES
- E — EXISTING ELECTRIC
- T — EXISTING TELEPHONE
- FO — EXISTING FIBER OPTIC
- G — EXISTING GAS
- OH — EXISTING OVER HEAD ELECTRIC

GEORGETOWN GENERAL UTILITY NOTES

1. THESE CONSTRUCTION PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE CONSTRUCTION PLANS FOR CONSTRUCTION OF THE PROPOSED PROJECT ARE HEREBY APPROVED SUBJECT TO THE STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.
2. THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE CITY.
3. THE SITE CONSTRUCTION PLANS SHALL MEET ALL REQUIREMENTS OF THE APPROVED SITE PLAN.
4. WASTEWATER MAINS AND SERVICE LINES SHALL BE SDR 26 PVC.
5. WASTEWATER MAINS SHALL BE INSTALLED WITHOUT HORIZONTAL OR VERTICAL BENDS.
6. MAXIMUM DISTANCE BETWEEN WASTEWATER MANHOLES IS 500 FEET.
7. WASTEWATER MAINS SHALL BE LOW PRESSURE AIR TESTED AND MANDREL TESTED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
8. WASTEWATER MANHOLES SHALL BE VACUUM TESTED AND COATED BY THE CONTRACTOR ACCORDING TO CITY OF GEORGETOWN AND TCEQ REQUIREMENTS.
9. WASTEWATER MAINS SHALL BE CAMERA TESTED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ON DVD FORMAT PRIOR TO PAVING THE STREETS.
10. PRIVATE WATER SYSTEM FIRE LINES SHALL BE TESTED BY THE CONTRACTOR TO 200 PSI FOR 2 HOURS.
11. PRIVATE WATER SYSTEM FIRE LINES SHALL BE DUCTILE IRON PIPING FROM THE WATER MAIN TO THE BUILDING SPRINKLER SYSTEM, AND 200 PSI C900 PVC FOR ALL OTHERS.
12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.
13. ALL BENDS AND CHANGES IN DIRECTION ON WATER MAINS SHALL BE RESTRAINED AND THRUST BLOCKED.
14. LONG FIRE HYDRANT LEADS SHALL BE RESTRAINED.
15. ALL WATER LINES ARE TO BE BACTERIA TESTED BY THE CONTRACTOR ACCORDING TO THE CITY STANDARDS AND SPECIFICATIONS.
16. WATER AND SEWER MAIN CROSSINGS SHALL MEET ALL REQUIREMENTS OF THE TCEQ AND THE CITY.
17. FLEXIBLE BASE MATERIAL FOR PUBLIC STREETS SHALL BE TXDOT TYPE A GRADE 1.
18. HOT MIX ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE D UNLESS OTHERWISE SPECIFIED AND SHALL BE A MINIMUM OF 2 INCHES THICK ON PUBLIC STREETS AND ROADWAYS.
19. ALL SIDEWALK RAMPS ARE TO BE INSTALLED WITH THE PUBLIC INFRASTRUCTURE.
20. A MAINTENANCE BOND IS REQUIRED TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE PUBLIC IMPROVEMENTS. THIS BOND SHALL BE ESTABLISHED FOR 2 YEAR IN THE AMOUNT OF 10% OF THE COST OF THE PUBLIC IMPROVEMENTS AND SHALL FOLLOW THE CITY FORMAT.
21. RECORD DRAWINGS OF THE PUBLIC IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER PRIOR TO ACCEPTANCE OF THE PROJECT. THESE DRAWINGS SHALL BE ON MYLAR OR ON TIFF OR PDF DISK (300DPI). IF A DISK IS SUBMITTED, A BOND SET SHALL BE INCLUDED WITH THE DISK.
22. PER STANDARD CITY DETAILS, WHEN CONNECTING TO EXISTING MANHOLES, THE MANHOLE SHALL BE RE-EPOXYSEALED AFTER CORING/CONNECTION.

PRIVATE FIRE LINE UTILITY NOTES

1. PRIVATE FIRE HYDRANTS MUST FOLLOW CITY OF GEORGETOWN CODE OF ORDINANCES
2. FIRE DEPARTMENT CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE TO THE CITY OF GEORGETOWN ORDINANCES AND REQUIREMENTS
3. BUILDING CODE = INTERNATIONAL BUILDING CODE, 2021 EDITION
3. FIRE CODE = INTERNATIONAL FIRE CODE, 2021 EDITION
4. CITY OF GEORGETOWN SEC. 8.04.430. - SECTION 507.2.1, PRIVATE FIRE SERVICE MAINS. PRIVATE FIRE SERVICE MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24. THE INSTALLATION OF ALL PRIVATE FIRE LINES SHALL BE BY A SPRINKLER CONTRACTOR REGISTRATION UNDERGROUND (SGR-U) LICENSED COMPANY.
5. REFER TO BUILDING MEP PLANS FOR BACKFLOW PREVENTION DEVICE INFORMATION

UTILITY CROSSING NOTE

1. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND (SEE CLAUSE (V) OF THIS SUBPARAGRAPH) FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.

WORKING PRESSURE STATEMENT

1. WORKING PRESSURES FOR THIS PROJECT ARE OBTAINED FROM THE 16" LINE WITHIN THE LAKEWAY DRIVE RIGHT OF WAY. PRESSURES ARE 866' - 906'
2. FIRE HYDRANT FLOW TEST RESULT SUMMARY :

   STATIC : 60.11 PSI
   RESIDUAL : 52.11
   FLOW AT RESIDUAL : 1960 GPM

ENGINEER'S PRELIMINARY REVIEW NOTE

FOR REVIEW. THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF REVIEW UNDER THE AUTHORITY OF RAVIN J NANPATEE, #147661 ON 7/26/2024. IT IS NOT TO BE USED FOR BIDDING, PERMIT OR CONSTRUCTION.

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HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

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LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL UTILITY PLAN

SHEET 7 OF 22

DESIGNED BY RJN DRAWN BY RJN CHECKED BY RJN

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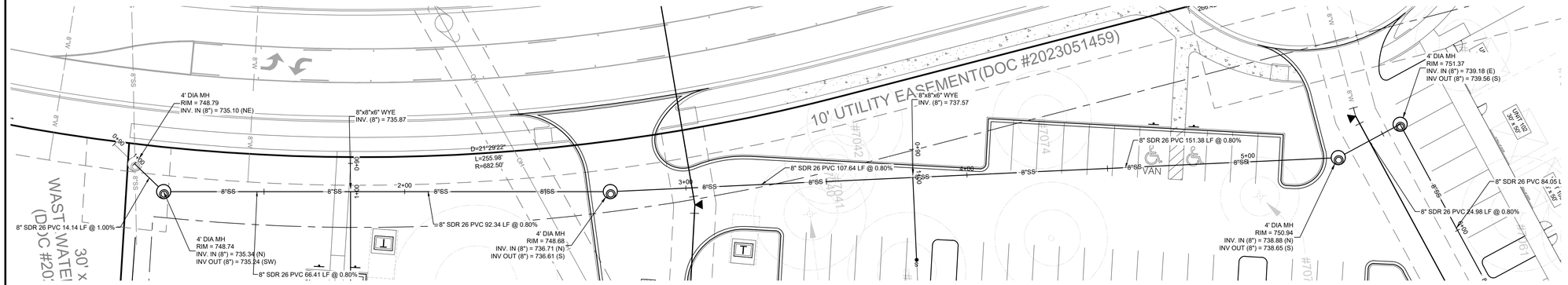


LEGEND

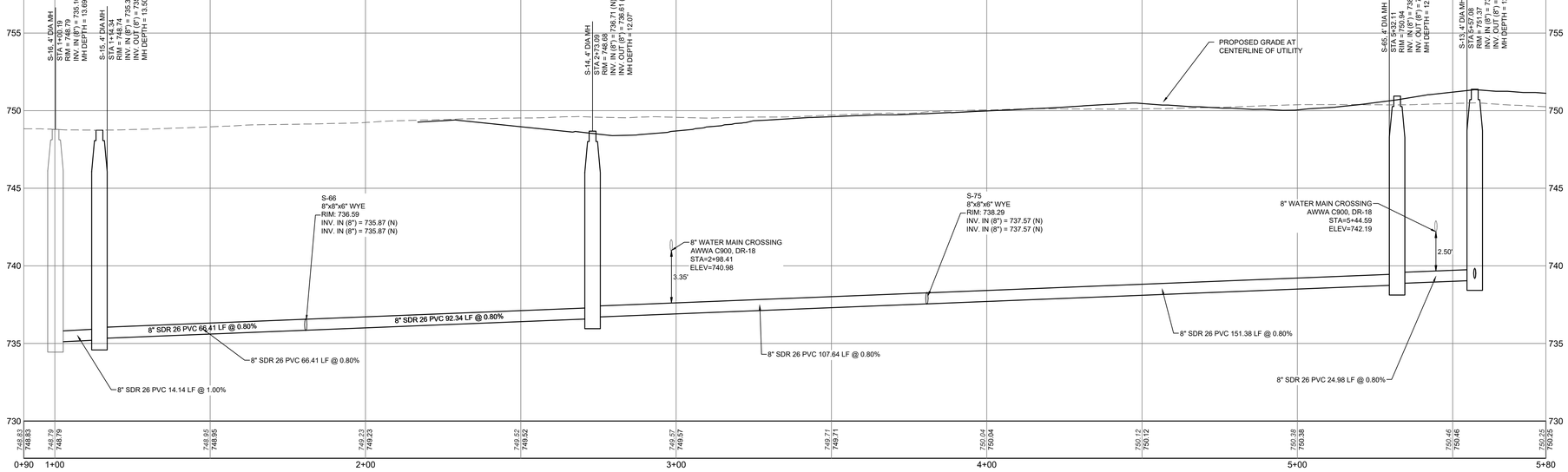
- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
- EXISTING WATER & STUB OUT
- SANITARY SERVICE
- WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES

N

0 20' 40'

1 inch = 20 ft.

SANITARY MAIN
(0+90-5+80)



PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

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SHEET 8 OF 22

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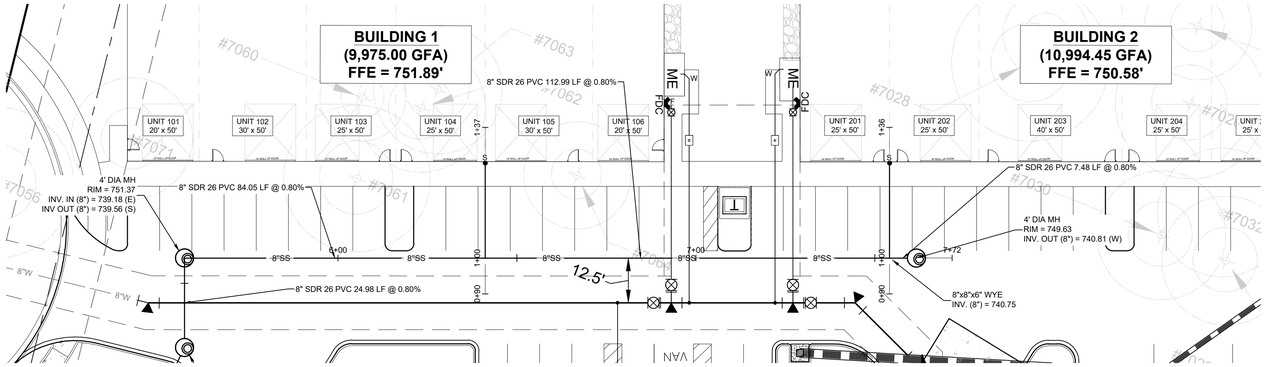

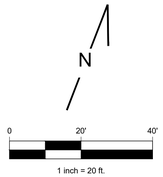

LEGEND

- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
- EXISTING WATER & STUB OUT
- SANITARY SERVICE
- WATER SERVICE
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- POWER POLES
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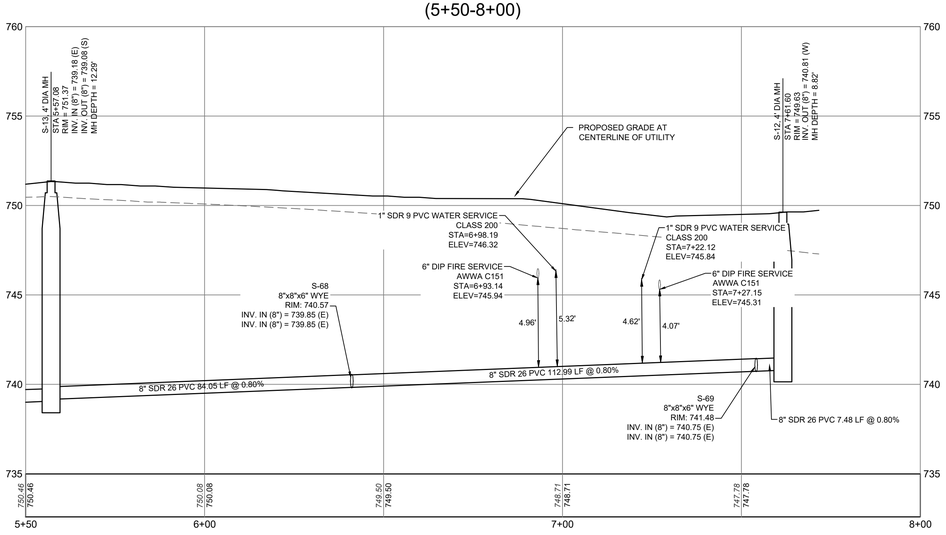
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES

SANITARY MAIN
(5+50-8+00)



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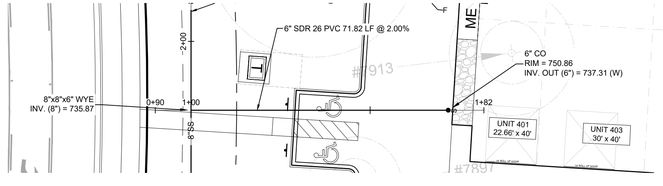
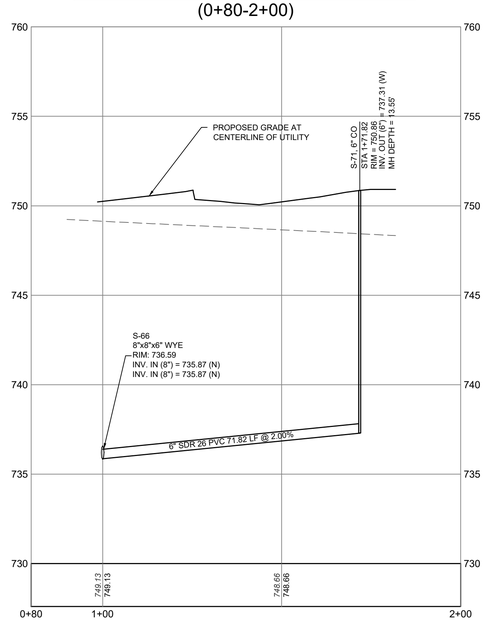
VERT: 1" = 5'



BUILDING 400 SAN SERV
(0+80-2+00)



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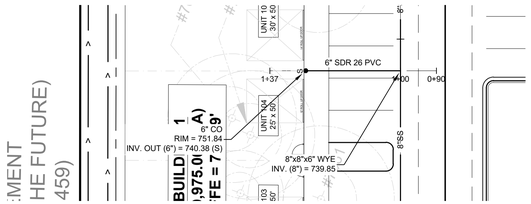
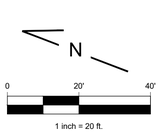
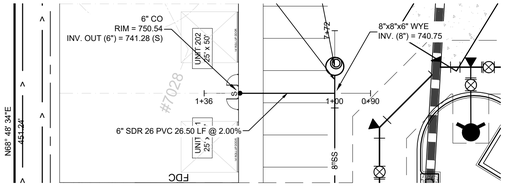
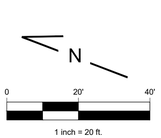
LEGEND

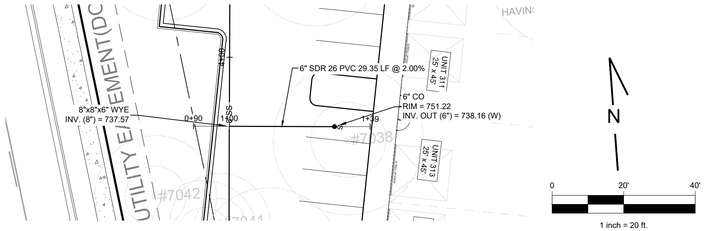
- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
- EXISTING WATER & STUB OUT
- SANITARY SERVICE
- WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES











BUILDING 100 SAN SERV
(0+80-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

BUILDING 200 SAN SERV
(0+80-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

BUILDING 300 SAN SERV
(0+80-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

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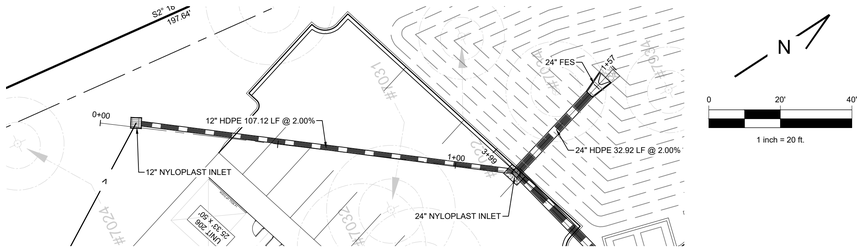

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RET - STORM SEWER - LINE A

(-0+10-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

RET - STORM SEWER - LINE B

(0+50-1+50)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

RET - STORM SEWER - SOUTH POND

(0+50-1+80)

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

LEGEND

EASEMENT
PROPOSED STORM & STUB OUT
PROPOSED WATER & STUB OUT
EXISTING STORM & STUB OUT
EXISTING SANITARY & STUB OUT
EXISTING WATER & STUB OUT
SANITARY SERVICE
WATER SERVICE
STREET LIGHT POLES
POWER POLES
SANITARY MANHOLES
WATER VALVES
BEND AND THRUST BLOCK
FIRE HYDRANTS
STORM MANHOLES

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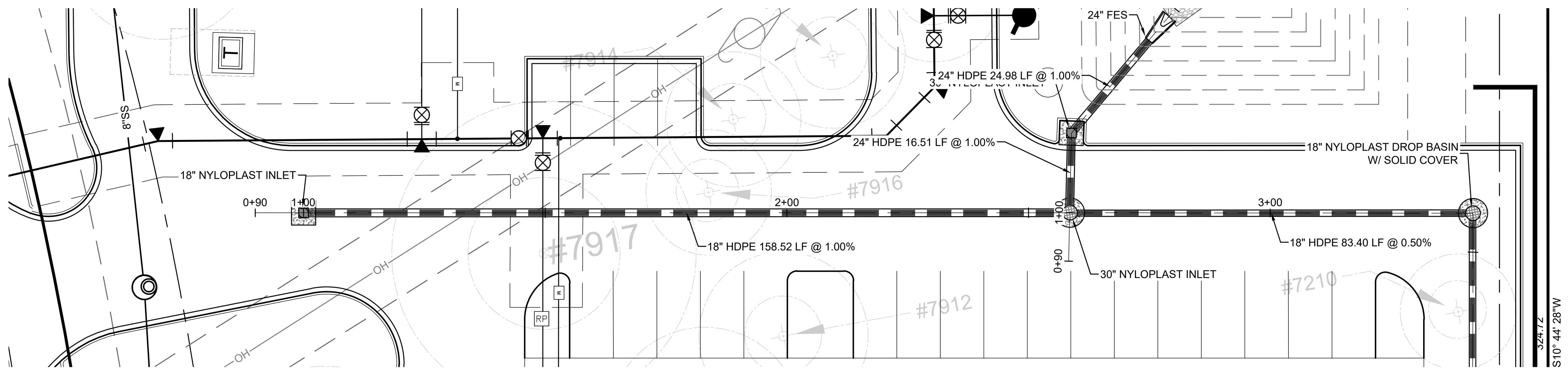
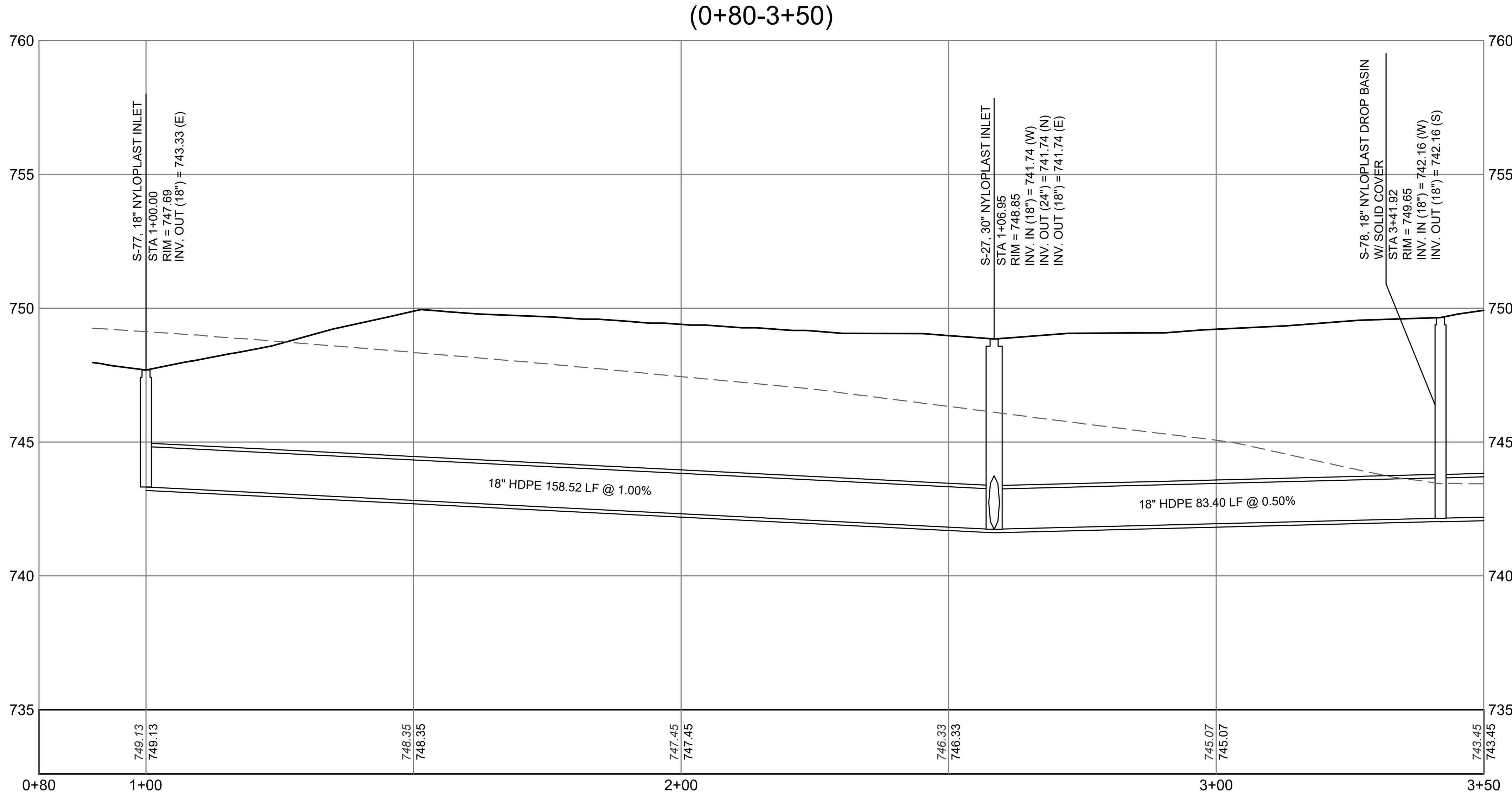


RET - STORM SEWER - LINE E
(0+80-3+50)



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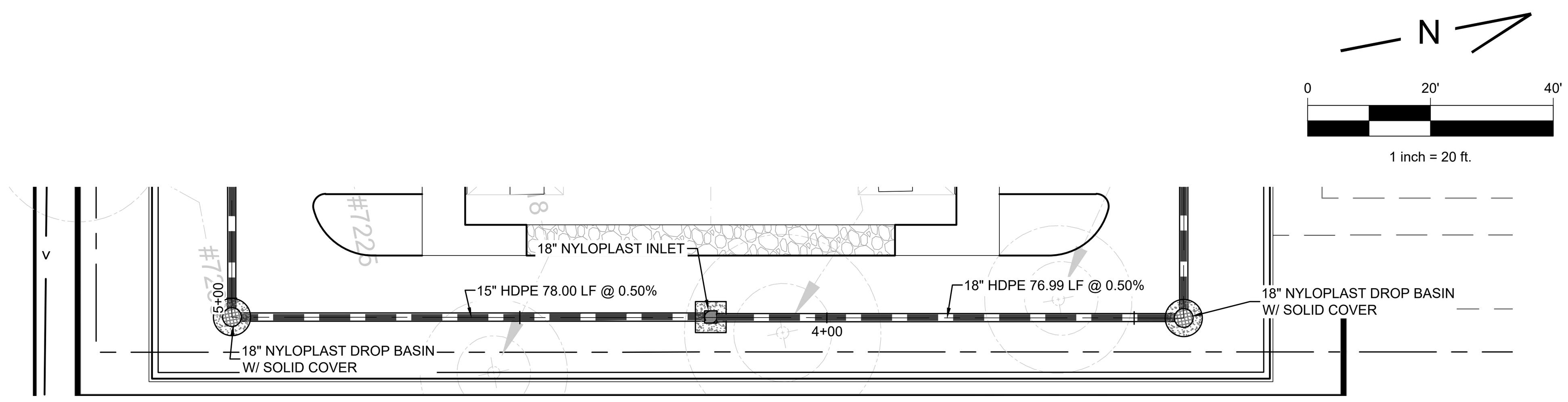
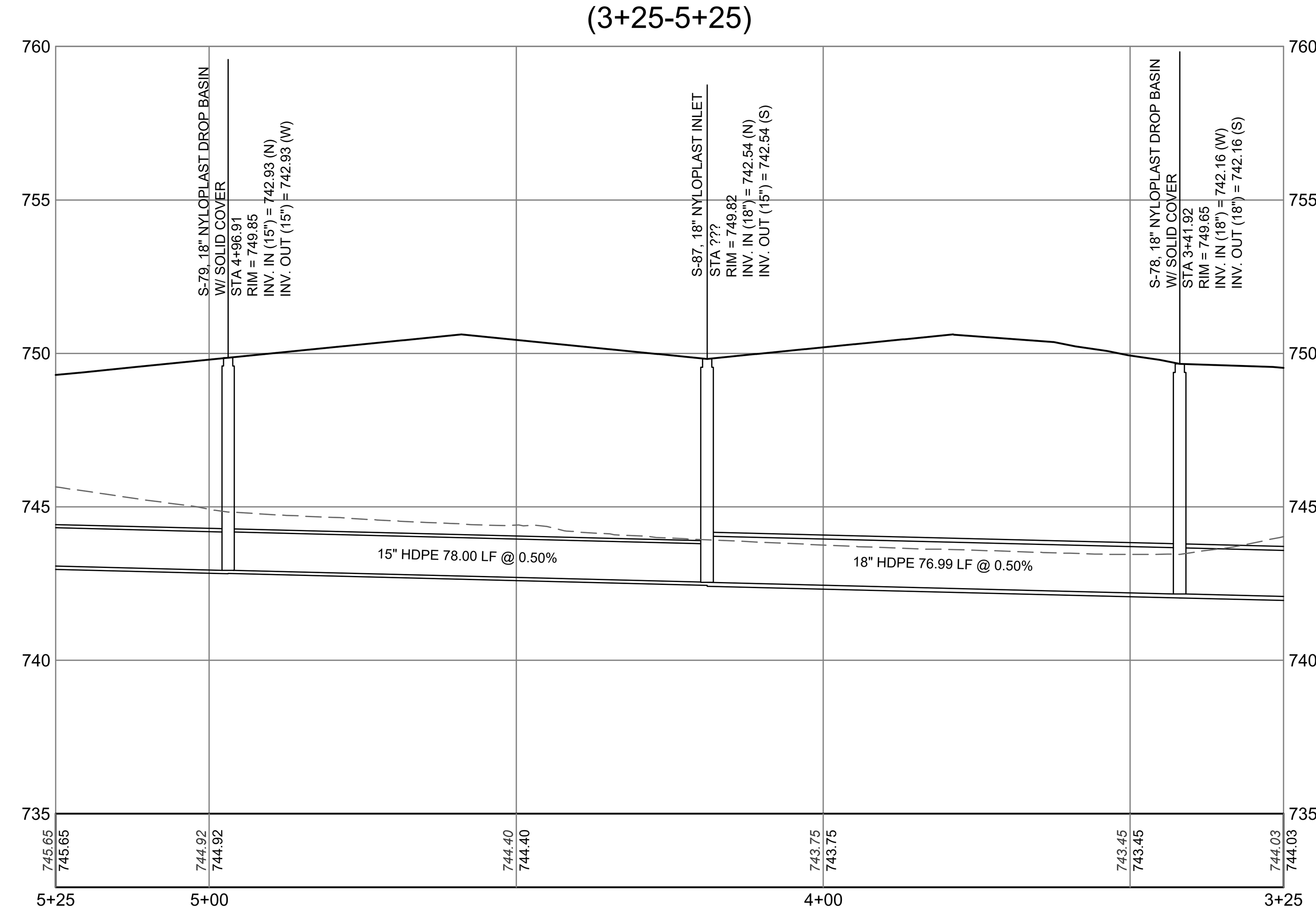
VERT: 1" = 5'



RET - STORM SEWER - LINE E
(3+25-5+25)



PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

LEGEND

- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
- EXISTING WATER & STUB OUT
- SANITARY SERVICE
- WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
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- EASEMENT
- PROPOSED STORM & STUB OUT
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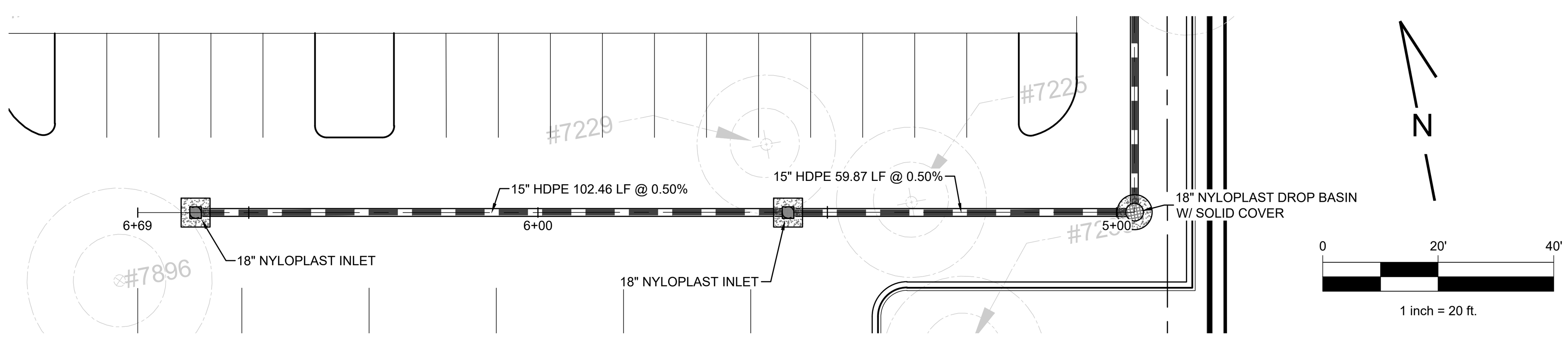
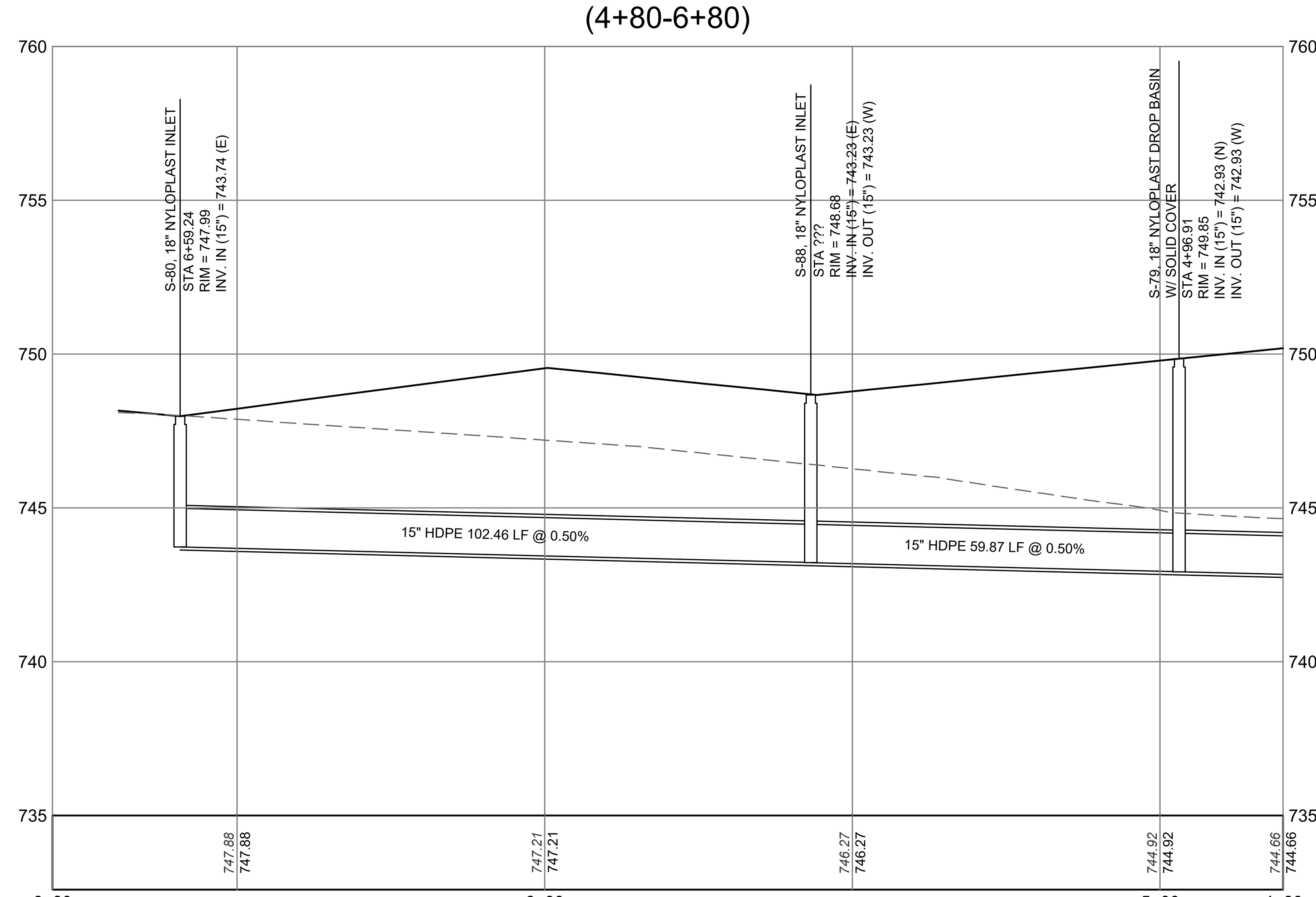


RET - STORM SEWER - LINE E
(4+80-6+80)



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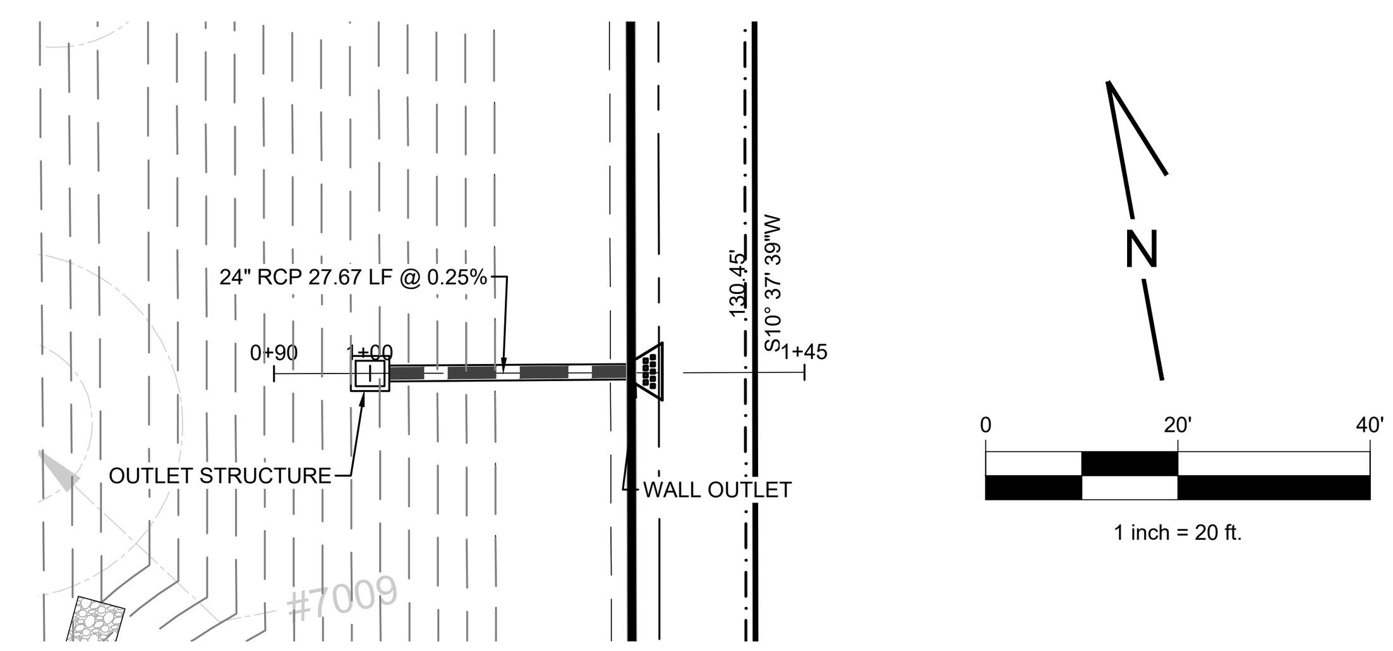
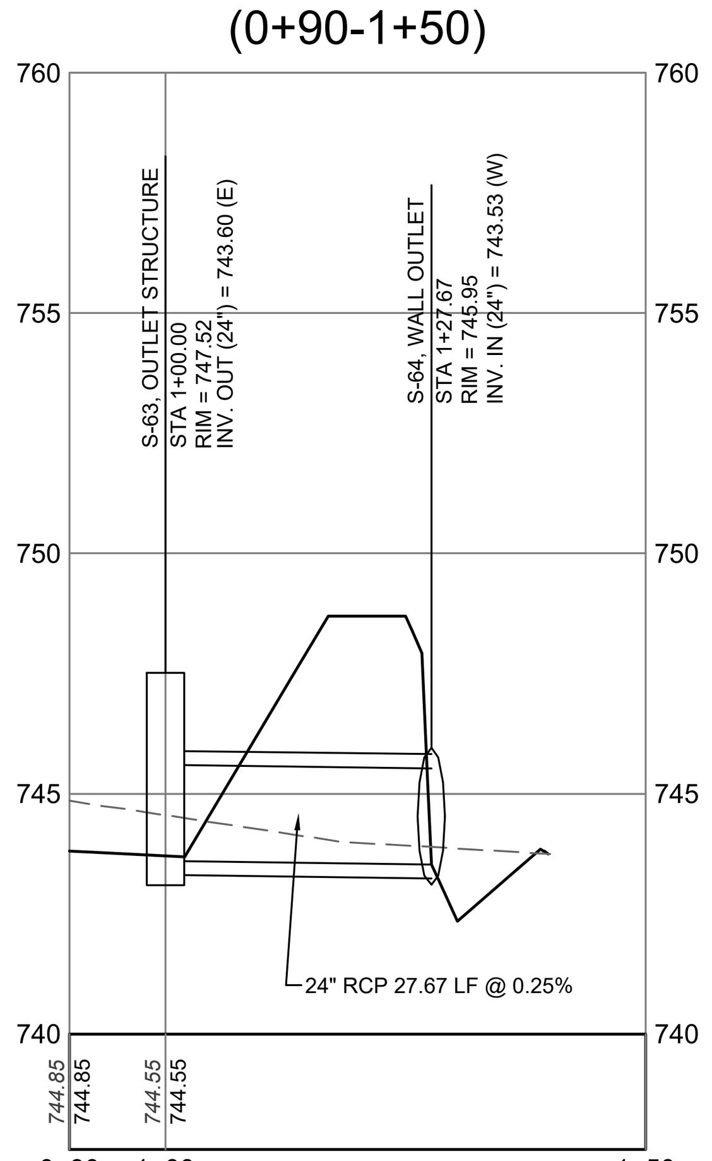
VERT: 1" = 5'



POND OUTLET
(0+90-1+50)



PROFILE
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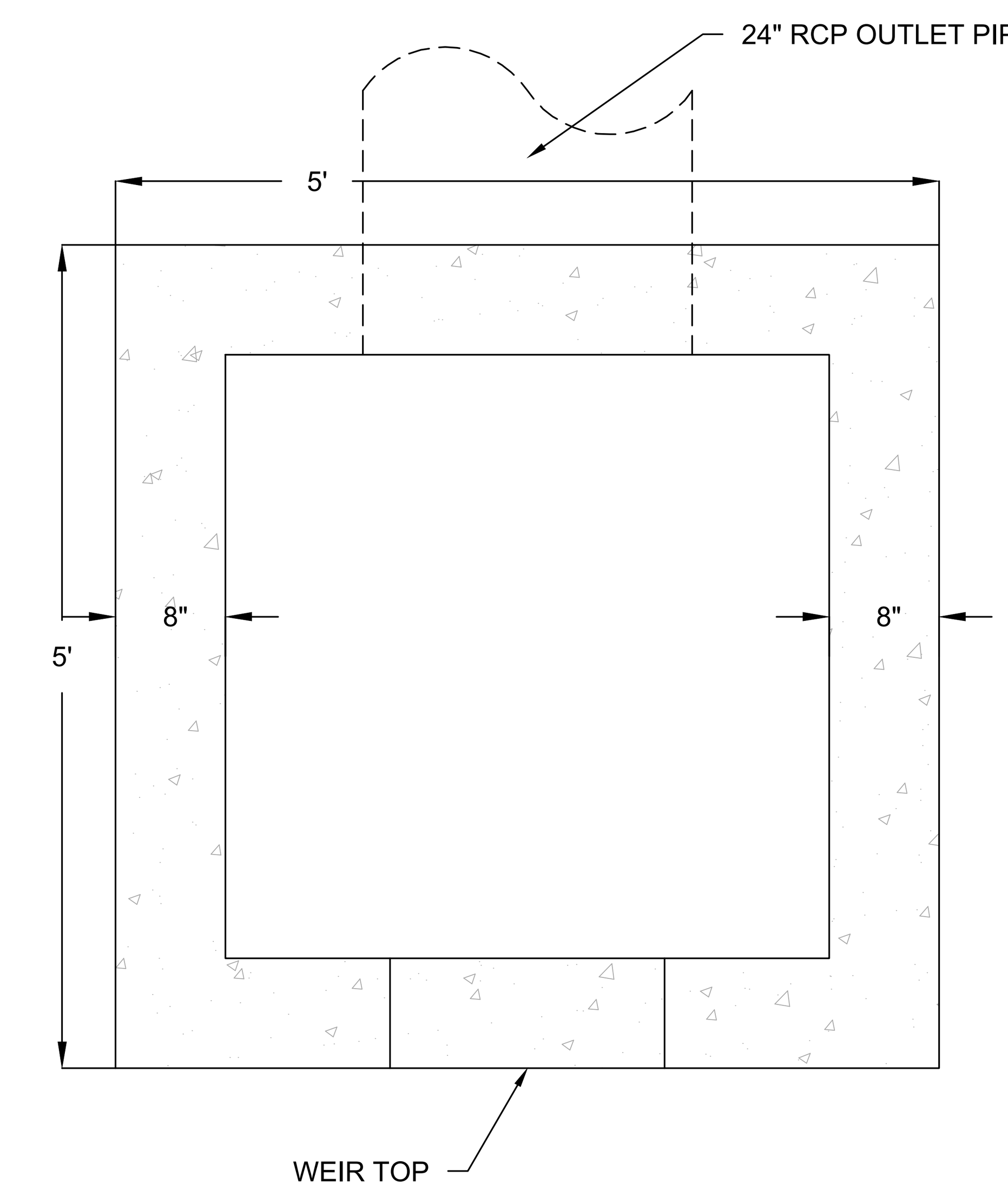

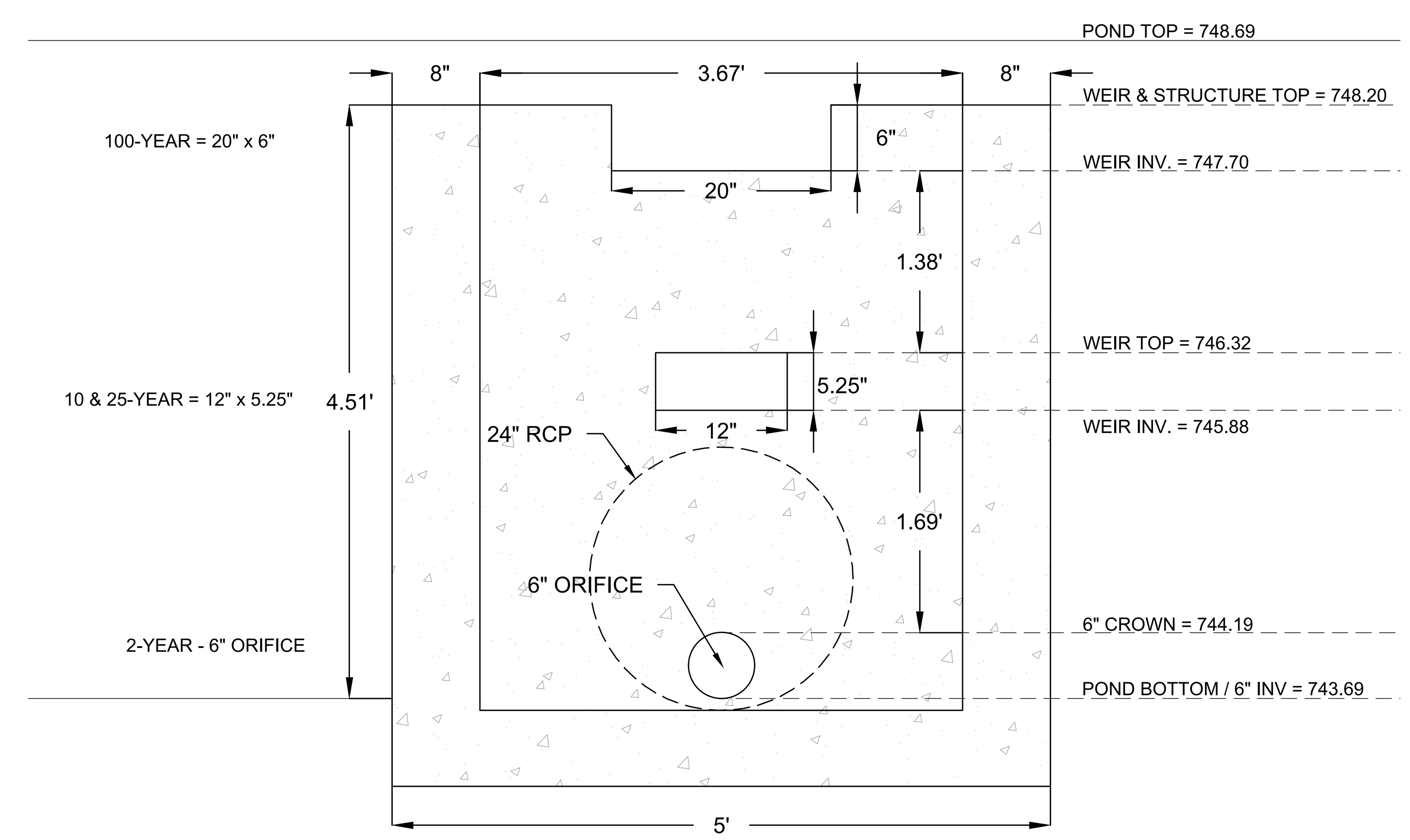

OUTLET STRUCTURE DETAIL
N.T.S

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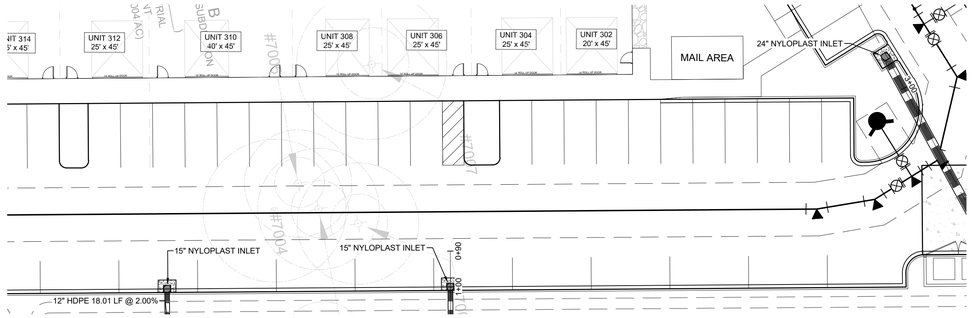
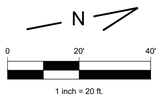
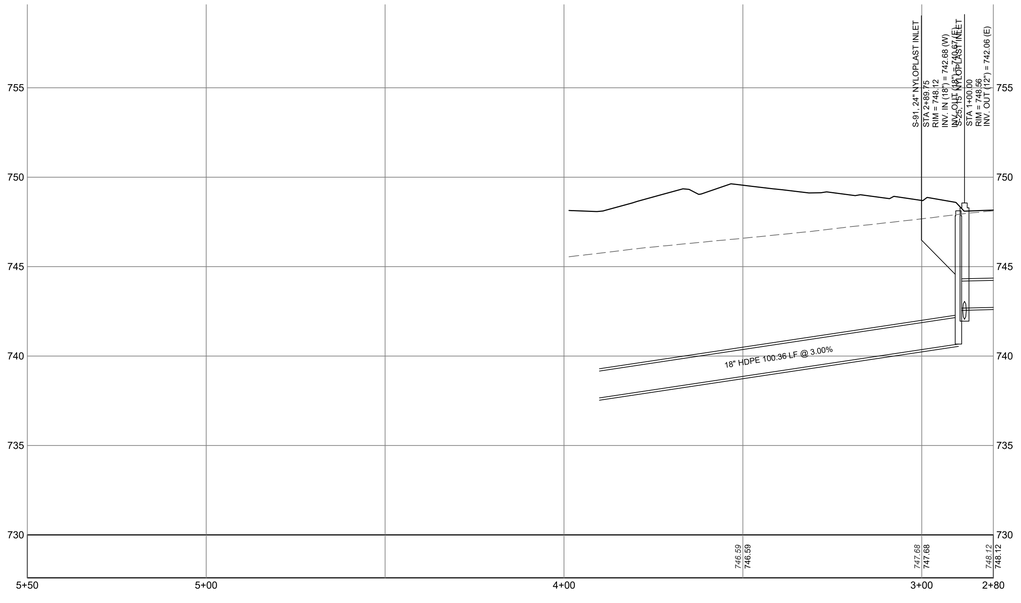
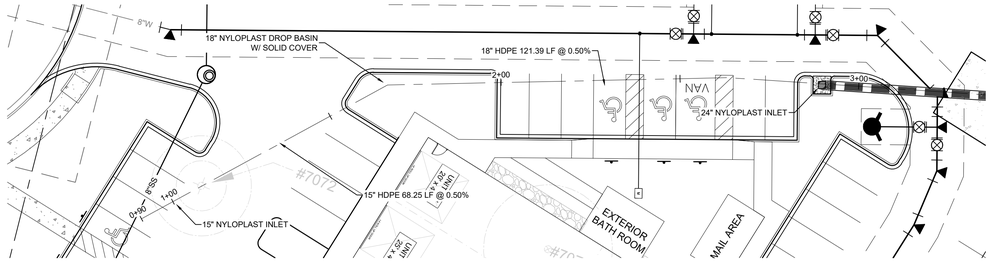
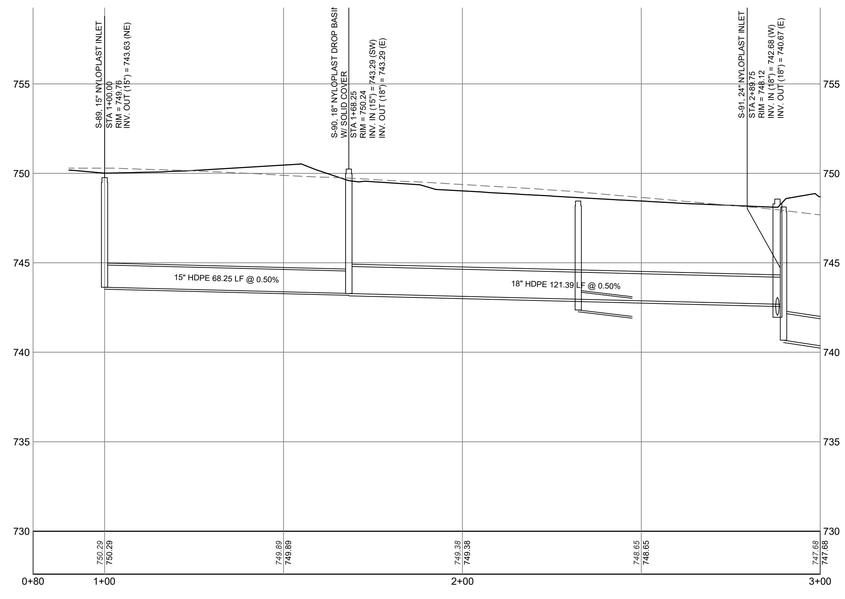






PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'





PROFILE
HORIZ: 1" = 20'
VERT: 1" = 5'

LEGEND

- EASEMENT
- PROPOSED STORM & STUB OUT
- PROPOSED WATER & STUB OUT
- EXISTING STORM & STUB OUT
- EXISTING SANITARY & STUB OUT
- EXISTING WATER & STUB OUT
- SANITARY SERVICE
- WATER SERVICE
- STREET LIGHT POLES
- POWER POLES
- SANITARY MANHOLES
- WATER VALVES
- BEND AND THRUST BLOCK
- FIRE HYDRANTS
- STORM MANHOLES

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EMAIL : RNANPATE@GHERECC.COM
HERE CC PROJECT No. : PW-017

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No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
STORM PLAN & PROFILE

SHEET
14 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

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CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

ENGINEER'S PRELIMINARY REVIEW NOTE

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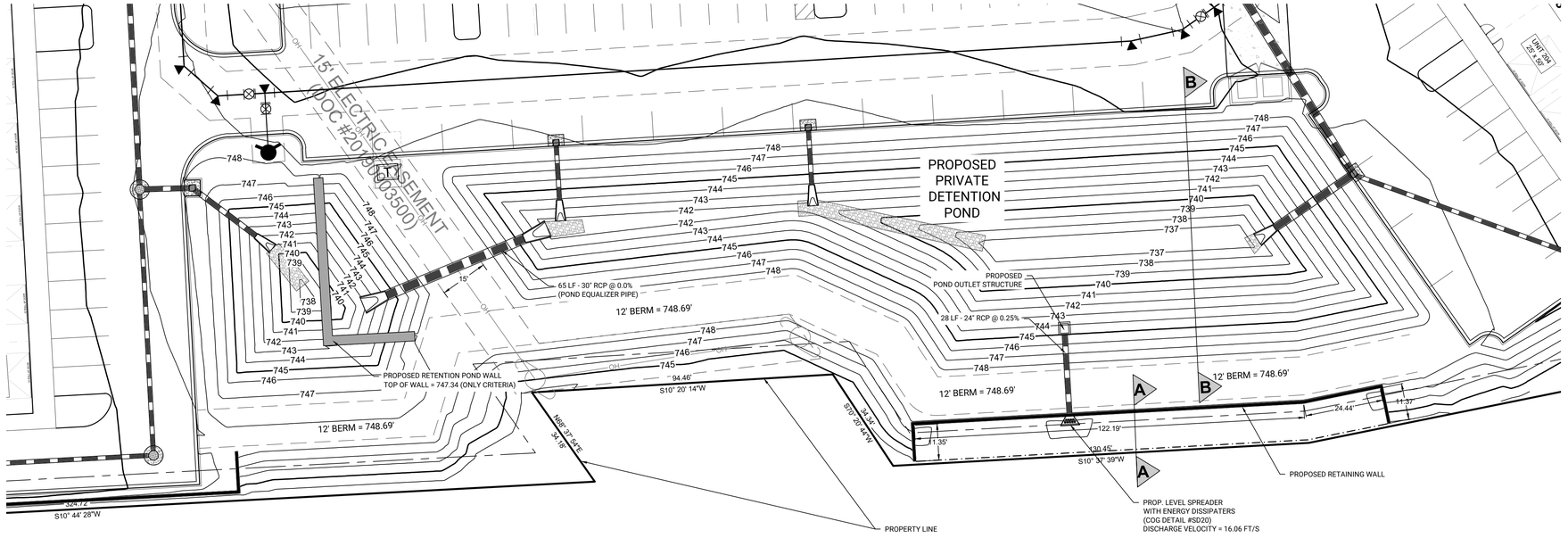

N

0 20' 40'

1 inch = 20 ft.

LEGEND

- 5280 — PROPOSED MAJOR CONTOUR
- 5279 — PROPOSED MINOR CONTOUR
- 5280 — EXISTING MAJOR CONTOUR
- 5279 — EXISTING MINOR CONTOUR
- DIRECTIONAL FLOW ARROW
- 5150 — SPOT ELEVATION
- RIGHT OF WAY (R.O.W.)
- CENTERLINE
- PROJECT BOUNDARY
- STORM MANHOLES
- STORM INLETS

ABBREVIATIONS:

FL = FLOW LINE
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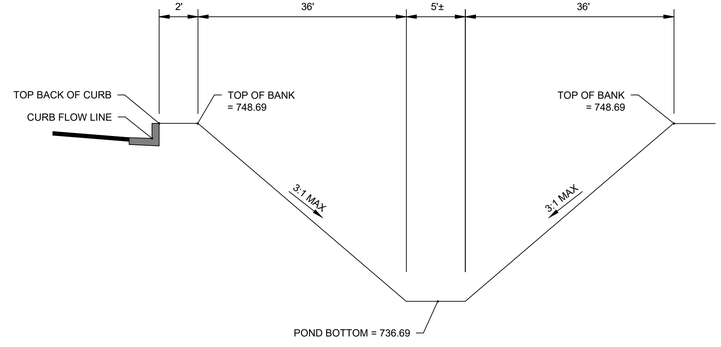
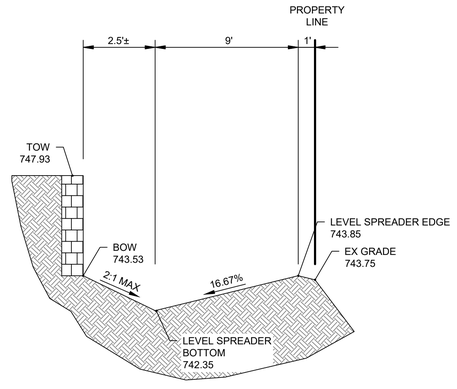


SECTION B-B
POND CROSS SECTION
N.T.S



SECTION A-A
LEVEL SPREADER DETAIL
N.T.S

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STATE OF TEXAS — RAVIN J NANPATEE — 147661 — PROFESSIONAL ENGINEER
5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
OVERALL POND PLAN

SHEET 15 OF 22

DESIGNED BY R.J.N. DRAWN BY R.J.N. CHECKED BY R.J.N.

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No. : PW-017

PERSONAL WAREHOUSE — WORK · STORE · PLAY

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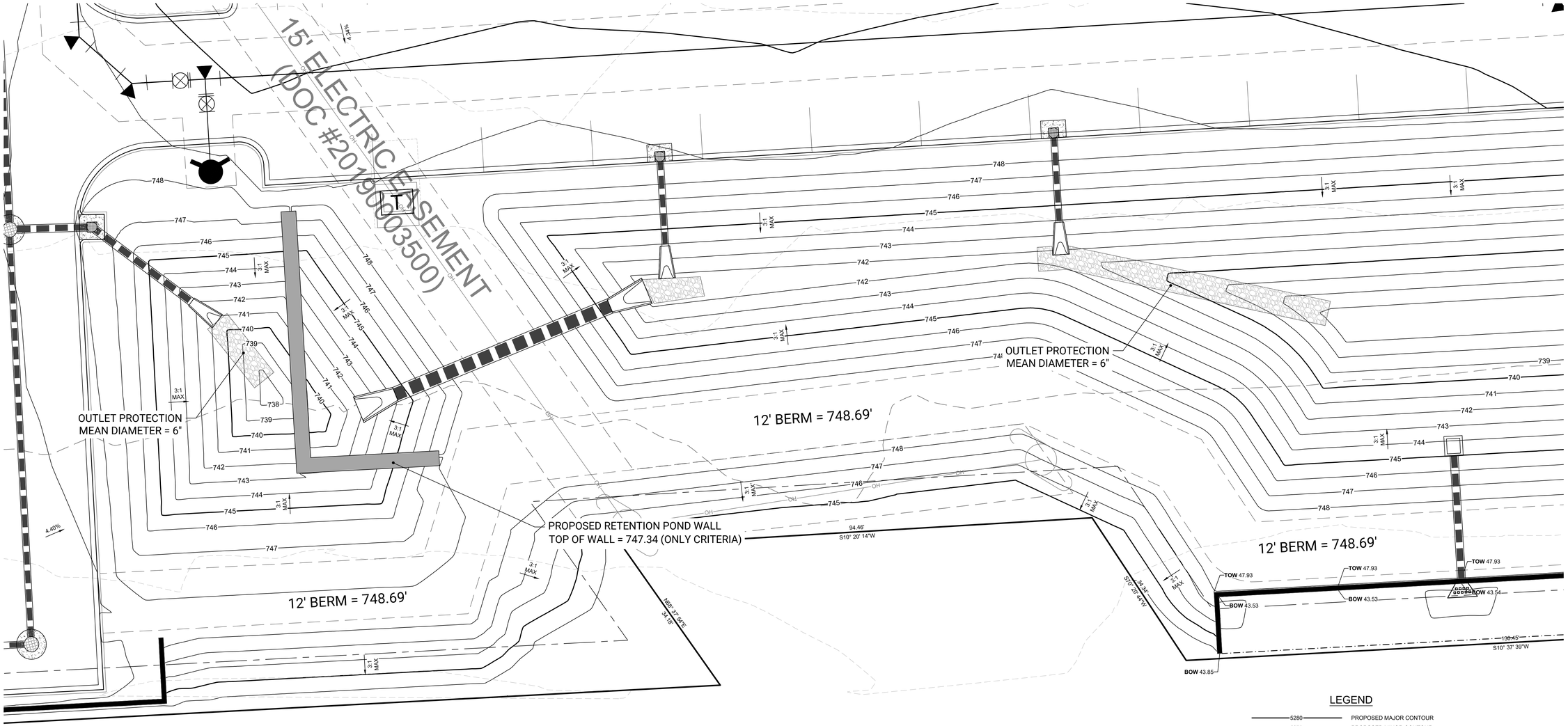

N

0 10' 20'

1 inch = 10 ft.

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PERSONAL WAREHOUSE
WORK · STORE · PLAY

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STATE OF TEXAS · RAVIN J NANPATEE · 147661 · PROFESSIONAL ENGINEER
5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
POND DETAILS

SHEET
16 OF 22

DESIGNED BY: RJN | DRAWN BY: RJN | CHECKED BY: RJN

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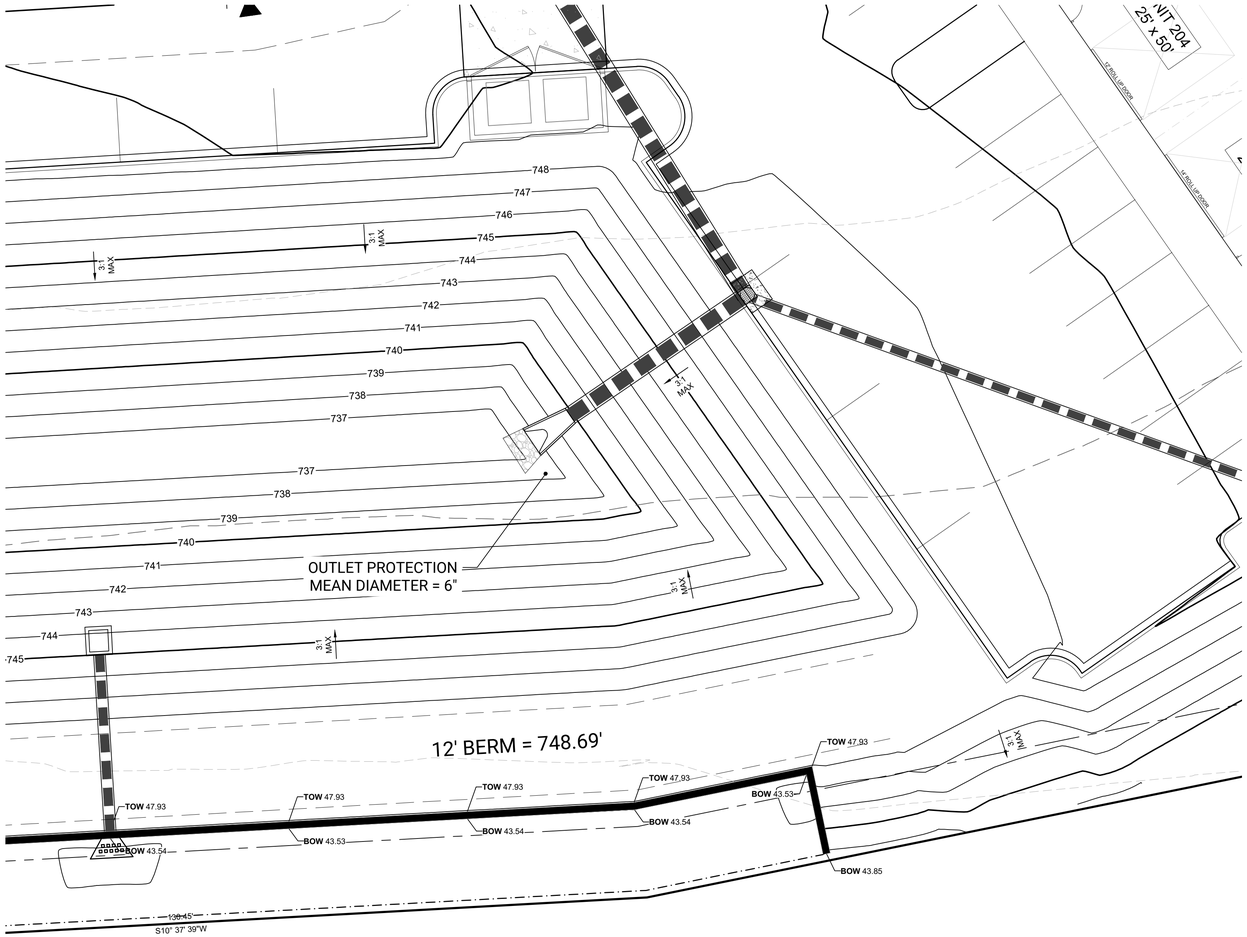
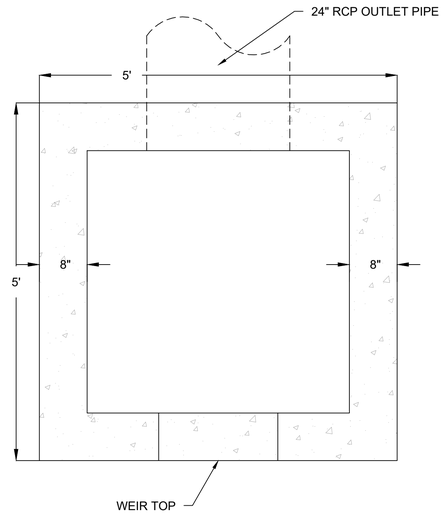
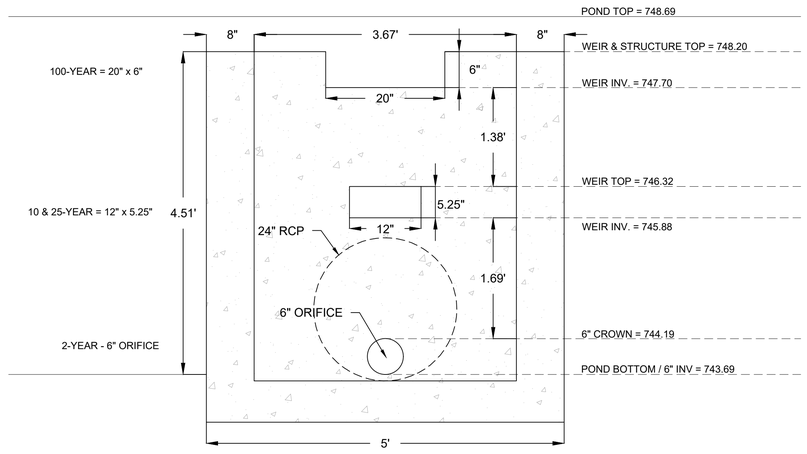




OUTLET STRUCTURE DETAIL - TOP
N.T.S



OUTLET STRUCTURE DETAIL
N.T.S

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CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
POND DETAILS

SHEET 17 OF 22

DESIGNED BY RJN | DRAWN BY RJN | CHECKED BY RJN

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PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

EROSION CONTROL DETAILS

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
SILT FENCE	N/A	2 ACRES	0 – 10%
	200 FEET	2 ACRES	10 – 20%
	100 FEET	1 ACRE	20 – 30%
	50 FEET	1/2 ACRE	> 30%
TRIANGLE FILTER DIKE	100 FEET	1/2 ACRE	< 30% SLOPE
	50 FEET	1/4 ACRE	> 30% SLOPE
ROCK BERM *, **	500 FEET	< 5 ACRES	0 – 10%

* FOR ROCK BERM DESIGN WHERE PARAMETERS ARE OTHER THAN STATED, DRAINAGE AREA CALCULATIONS AND ROCK BERM DESIGN MUST BE SUBMITTED FOR REVIEW.

** HIGH SERVICE ROCK BERMS MAY BE REQUIRED IN AREAS OF ENVIRONMENTAL SIGNIFICANCE AS DETERMINED BY THE CITY OF GEORGETOWN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

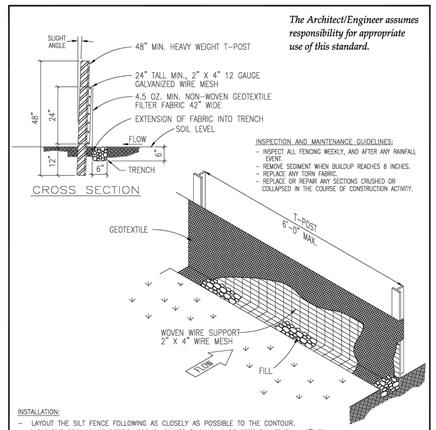
ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES
EC01

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS.

1. THE CONTRACTOR TO INSTALL AND MAINTAIN EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING, GRADING, OR EXCAVATION). CONTRACTOR TO REMOVE EROSION/SEDIMENTATION CONTROLS AT THE COMPLETION OF PROJECT AND GRASS RESTORATION.
2. ALL PROJECTS WITHIN THE RECHARGE ZONE OF THE EDWARD'S AQUIFER SHALL SUBMIT A BEST MANAGEMENT PRACTICES AND WATER POLLUTION AND ABATEMENT PLAN TO THE TNRCC FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS TO BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN AND WATER POLLUTION ABATEMENT PLAN. DEVIATIONS FROM THE APPROVED PLAN MUST BE SUBMITTED TO AND APPROVED BY THE OWNER'S REPRESENTATIVE.
4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 100#/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 80% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS.
5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN.
6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATION TO OCCUR AT 10-DAY INTERVALS DURING THE FIRST TWO MONTHS TO INSURE GERMINATION AND ESTABLISHMENT OF THE GRASS - RAINFALL OCCURRENCES OF 1/2 INCH OR GREATER TO POSTPONE THE WATERING SCHEDULE ONE WEEK.
7. RESTORATION TO BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1-1/2 INCHES HIGH WITH 95.# COVERAGE, PROVIDED NO BARE SPOTS LARGER THAN 25 SQUARE FEET EXIST.
8. A MINIMUM OF FOUR (4) INCHES OF TOPSOIL TO BE PLACED IN ALL AREAS DISTURBED BY CONSTRUCTION.
9. THE CONTRACTOR TO HYDROMULCH OR SOD (AS SHOWN ON PLANS) ALL EXPOSED CUTS AND FILLS UPON COMPLETION OF CONSTRUCTION.
10. EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILDUP WITHIN TREE DRIPLINE.
11. TO AVOID SOIL COMPACTION, CONTRACTOR SHALL NOT ALLOW VEHICULAR TRAFFIC, PARKING, OR STORAGE OF EQUIPMENT OR MATERIALS IN THE TREE DRIPLINE AREAS.
12. WHERE A FENCE IS CLOSER THAN FOUR (4) FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF EIGHT (8) FEET (OR TO THE LIMITS OF LOWER BRANCHING). IN ADDITION TO THE FENCING.
13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
14. ANY ROOT EXPOSED BY CONSTRUCTION ACTIVITY TO BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOPSOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN TWO DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
15. CONTRACTOR TO PRUNE VEGETATION TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.). ALL FINISHED PRUNING TO BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES").
16. THE CONTRACTOR IS TO INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY RAINFALL EXCEEDING 1/4 INCH TO VERIFY THAT THEY HAVE NOT BEEN SIGNIFICANTLY DISTURBED. ANY ACCUMULATED SEDIMENT AFTER A SIGNIFICANT RAINFALL TO BE REMOVED AND PLACED IN THE OWNER DESIGNATED SPOIL DISPOSAL SITE. THE CONTRACTOR TO CONDUCT PERIODIC INSPECTIONS OF ALL EROSION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE.
17. WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT IMMEDIATELY ADJACENT TO A PROTECTED TREE, ERECT THE FENCE APPROXIMATELY TWO TO FOUR FEET (2'-4') BEHIND THE AREA IN QUESTION.
18. NO ABOVE AND/OR BELOW GROUND TEMPORARY FUEL STORAGE FACILITIES TO BE STORED ON THE PROJECT SITE.
19. IF EROSION AND SEDIMENTATION CONTROL SYSTEMS ARE EXISTING FROM PRIOR CONTRACTS, OWNER'S REPRESENTATIVE AND THE CONTRACTOR TO EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEMS FOR DAMAGE PRIOR TO CONSTRUCTION. ANY DAMAGE TO PREEXISTING EROSION AND SEDIMENTATION CONTROLS NOTED TO BE REPAIRED AT OWNERS EXPENSE.
20. INTENTIONAL RELEASE OF VEHICLE OR EQUIPMENT FLUIDS ONTO THE GROUND IS NOT ALLOWED. CONTAMINATED SOIL RESULTING FROM ACCIDENTAL SPILL TO BE REMOVED AND DISPOSED OF PROPERLY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES
EC01A



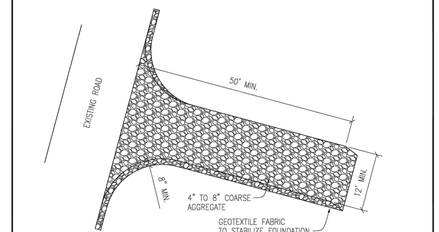
The Architect/Engineer assumes responsibility for appropriate use of this standard.

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
- REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
- REPLACE ANY TORN FABRIC.
- REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.

INSTALLATION:
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1".
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SILT FENCE DETAIL
EC02

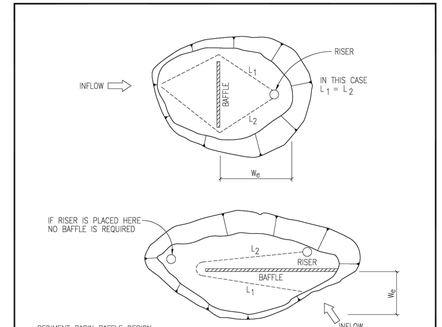


INSTALLATION:
- CLEAR THE AREA OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.
- GRADE THE AREA FOR THE ENTRANCE TO FLOW BACK ON TO THE CONSTRUCTION SITE. RUNOFF FROM THE STABILIZED CONSTRUCTION
- PLACE GEOTEXTILE FABRIC AS APPROVED BY THE CITY.
- PLACE ROCK AS APPROVED BY THE CITY.

INSPECTIONS AND MAINTENANCE GUIDELINES:
- 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 ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
- WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-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.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
STABILIZED CONSTRUCTION ENTRANCE
EC06

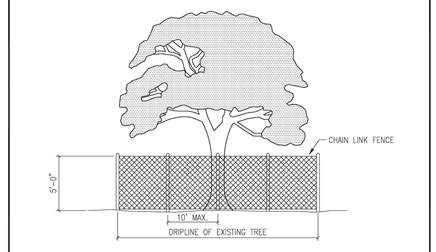


SEDIMENT BASIN BAFFLE DESIGN
$W_e = A / (L_1 + L_2)$
W_e = EFFECTIVE WIDTH OF BASIN
A = SURFACE AREA OF BASIN WHEN FILLED TO RISER CREST
L_1, L_2 = SHORTEST TRAVEL DISTANCE AROUND THE BAFFLE FROM INLET TO OUTLET

INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
- TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
- ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE-GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 1/2 OF ITS ORIGINAL STORAGE CAPACITY.
- THE REMOVED SEDIMENT SHOULD BE STOCKPILED OR REDISTRIBUTED IN AREAS THAT ARE PROTECTED FROM EROSION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SEDIMENT BASIN BAFFLE DESIGN
EC08

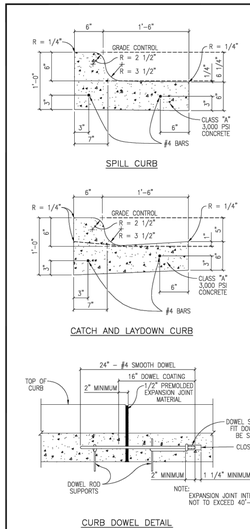


NOTES:
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
TREE PROTECTION – CHAIN LINK FENCE
EC09

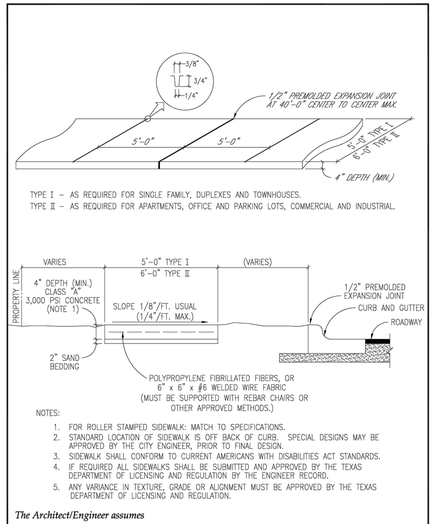
SITE DETAILS



NOTES:
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752. BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D-1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF GEORGETOWN.
6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.
7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.
8. THE FOLLOWING SCHEME OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.
   A. ALL CURB AND CURB AND GUTTER (REINFORCED) SHALL HAVE TWO #4 LONGITUDINAL REINFORCING BARS.
9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.
10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.
11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CURB AND GUTTER DETAILS
SD06

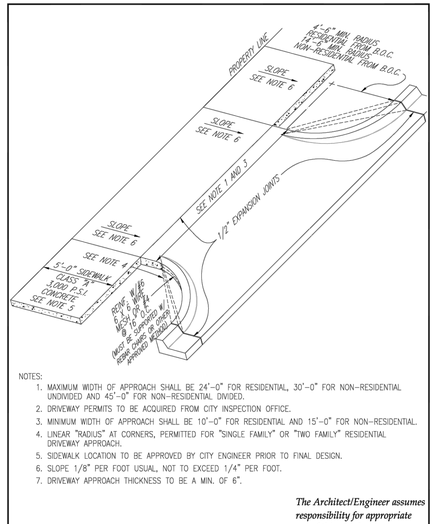


TYPE I – AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES.
TYPE II – AS REQUIRED FOR APARTMENTS, OFFICE AND PARKING LOTS, COMMERCIAL AND INDUSTRIAL.

NOTES:
1. FOR ROLLER STAMPED SIDEWALK: MATCH TO SPECIFICATIONS.
2. STANDARD LOCATION OF SIDEWALK IS OFF BACK OF CURB. SPECIAL DESIGNS MAY BE APPROVED BY THE CITY ENGINEER, PRIOR TO FINAL DESIGN.
3. SIDEWALK SHALL CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
4. IF REQUIRED ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION BY THE ENGINEER RECORD.
5. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT MUST BE APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
SIDEWALK SECTION AND JOINT DETAIL
SD14

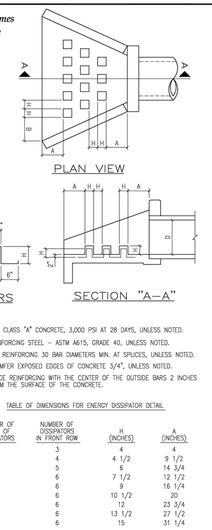


NOTES:
1. MAXIMUM WIDTH OF APPROACH SHALL BE 24'-0" FOR RESIDENTIAL, 30'-0" FOR NON-RESIDENTIAL UNDIVIDED AND 45'-0" FOR NON-RESIDENTIAL DIVIDED.
2. DRIVEWAY PERMITS TO BE ACQUIRED FROM CITY INSPECTION OFFICE.
3. MINIMUM WIDTH OF APPROACH SHALL BE 10'-0" FOR RESIDENTIAL AND 15'-0" FOR NON-RESIDENTIAL.
4. LINEAR "RADIUS" AT CORNERS, PERMITTED FOR "SINGLE FAMILY" OR "TWO FAMILY" RESIDENTIAL DRIVEWAY APPROACH.
5. SIDEWALK LOCATION TO BE APPROVED BY CITY ENGINEER PRIOR TO FINAL DESIGN.
6. SLOPE 1/8" PER FOOT USUAL, NOT TO EXCEED 1/4" PER FOOT.
7. DRIVEWAY APPROACH THICKNESS TO BE A MIN. OF 6".

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
CONCRETE DRIVEWAY APPROACH TYPICAL
SD15

The Architect/Engineer assumes responsibility for appropriate use of this standard.



NOTES:
1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL – ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	18 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006
CITY OF GEORGETOWN
CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATOR DETAIL
SD20

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PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
DETAILS

SHEET
18 OF 22

DESIGNED BY RJN DRAWN BY RJN CHECKED BY RJN

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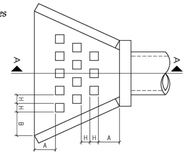
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

SITE DETAILS

The Architect/Engineer assumes responsibility for appropriate use of this standard.

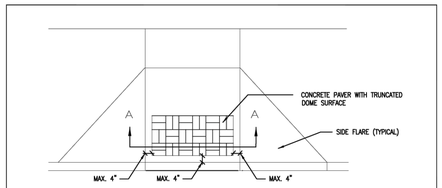


NOTES:
1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL – ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	16 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
ENERGY DISSIPATOR DETAIL
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD20
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



TRUNCATED DOME PATTERN CURB RAMP

GENERAL NOTES

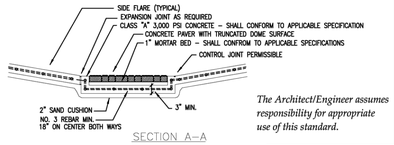
CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-936, C-33, AND SHALL BE LAID IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN

CONCRETE PAVER UNIT SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS.

CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR TO THE ADJACENT SURFACES. THE COLOR OF THE CONCRETE PAVER UNITS SHALL BE SHOWN ELSEWHERE IN THE PLANS. (ADJACENT SURFACES INCLUDE SIDE FLARES).

CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY AND ANY CUT UNIT SHALL BE NOT LESS THAN 25 PERCENT OF A FULL UNIT.

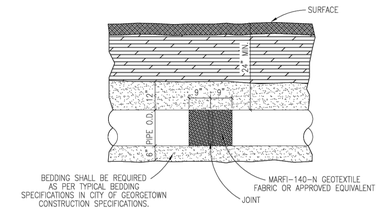
CONCRETE PAVER WITH TRUNCATED DOME SURFACE



SECTION A–A

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB RAMP TEXTURES TYPE A
REVISION NOTE: REVISED 3/14/2014 WBD
REVISION NOTE: ADOPTED 6/21/2006 TRB
DRAWING NAME: SD37
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS/AP | APPROVED BY: TRB

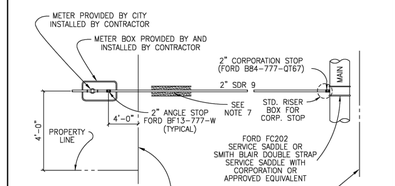


NOTES
1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MARFI-140-N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. EACH JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC CENTERED ON THE JOINT.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: SD42
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

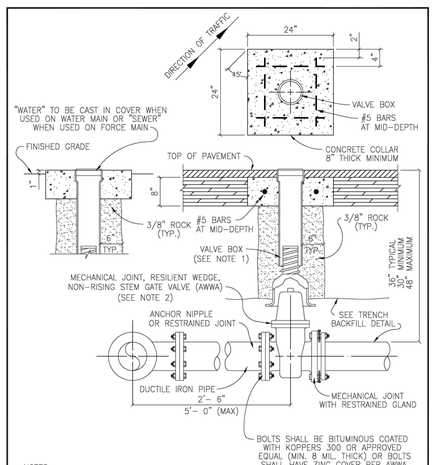
WATER DETAILS



NOTES:
1. AUTHORIZED SERVICE LINE MATERIAL: POLYETHYLENE TUBING SHALL BE SDR-9. CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
2. ANGLE STOP SHALL BE 1" MINIMUM.
3. 1" ANGLE STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
5. ANGLE STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
6. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
7. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
8. CASING REQUIREMENTS FOR SERVICE LINES CROSSING ROADWAYS SEE DETAIL W-03 NOTE #7.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

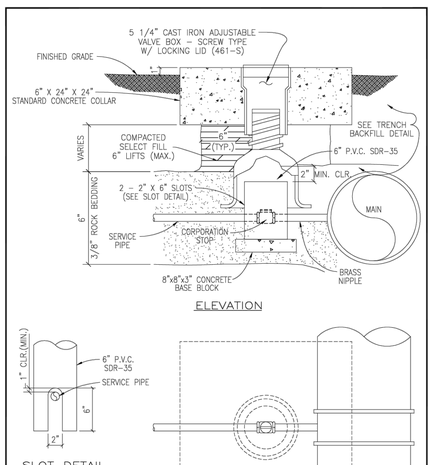
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SINGLE WATER SERVICE PLAN
REVISION NOTE: ADOPTED 01/23/2013
DRAWING NAME: W04
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL VALVE SETTING
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W07
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



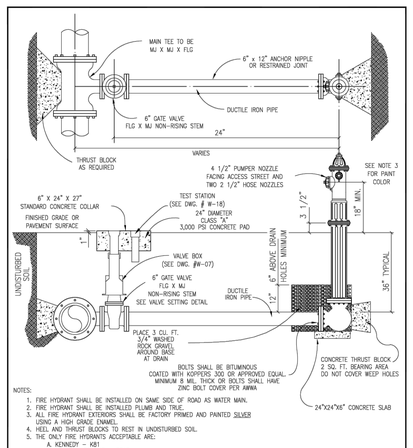
ELEVATION

SLOT DETAIL

PLAN

The Architect/Engineer assumes responsibility for appropriate use of this standard.

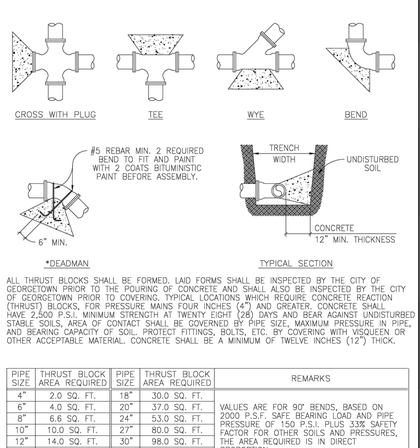
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD RISER BOX FOR CORPORATION STOP
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W08
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



NOTES:
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. ALL FIRE HYDRANT EXTERIORS SHALL BE FACTORY PRIMED AND PAINTED SILVER USING A HIGH GRADE ENAMEL.
4. HELL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
5. THE ONLY FIRE HYDRANTS ACCEPTABLE ARE:
   A. KENNEDY – K81
   B. AMERICAN DARLING – B84B
   C. CLOW MEDALLION
6. DOUBLE BLUE REFLECTOR "HYS-U1ES" BRAND, MANUFACTURED BY PAVEMENT MARKERS INC. TO BE INSTALLED AT CENTERLINE OF STREET PERPENDICULAR TO HYDRANT.
7. ALL METALLIC PIPES AND FITTINGS SHALL BE WRAPPED WITH 8 MILL. POLYETHELENE FILM.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL FIRE HYDRANT INSTALLATION
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W10
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB



*DEADMAN

TYPICAL SECTION

ALL THRUST BLOCKS SHALL BE FORMED, LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKING FOR PRESSURE MAINS FOUR INCHES (4") AND GREATER. CONCRETE SHALL HAVE 2,500 P.S.I. MINIMUM STRENGTH AT TWENTY EIGHT (28) DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS. AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAXIMUM PRESSURE IN PIPE, AND BEARING CAPACITY OF SOIL. PROTECT FITTINGS, BOLTS, ETC. BY COVERING WITH VISQUEEN OR OTHER ACCEPTABLE MATERIAL. CONCRETE SHALL BE A MINIMUM OF TWELVE INCHES (12") THICK.

PIPE SIZE	THRUST BLOCK AREA REQUIRED	PIPE SIZE	THRUST BLOCK AREA REQUIRED	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	VALUES ARE FOR 90° BENDS, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. PLUS 33% SAFETY FACTOR FOR OTHER SOILS AND PRESSURES, THE AREA REQUIRED IS IN DIRECT PROPORTION.
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	
16"	24.0 SQ. FT.			

* THE ENGINEER OF RECORD SHALL CALCULATE THE SIZE OF THE DEADMAN REQUIRED AS WELL AS ANY INSTALLATION WHICH IS NOT COVERED BY THE ABOVE.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN
REVISION NOTE: ADOPTED 6/21/2006
DRAWING NAME: W11
SCALE: NTS | DATE: 1/2003
DRAWN BY: MRS | APPROVED BY: TRB

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HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
DETAILS

SHEET
19 OF 22

DESIGNED BY R.N | DRAWN BY R.N | CHECKED BY R.N

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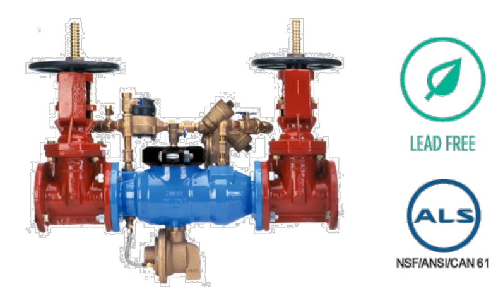
CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

WATER DETAILS

ZURN Model 375DA
Reduced Pressure Detector Assembly

Application
Designed for installation on water lines in fire protection systems to protect against both backsiphonage and backpressure of contaminated water into the potable water supply. The Model 375DA shall provide protection where a potential health hazard exists. Incorporates metered by-pass to detect leaks and unauthorized water use.



Standards Compliance
(Unless otherwise noted, applies to sizes 2 1/2" thru 10")
- ASSE® Listed 1047
- UL® Classified
- AWWA Compliant C550
- CSA® Certified B64.4 (4" & 6")
- C-UL® Classified
- FM® Approved
- NYC MEA 218-01-M VOL 3
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California
- Meets the requirements of NSF/ANSI/CAN 61*

*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

By-Pass Backflow Assembly 3/4" Model 975XLD

Materials

Main valve body	Ductile Iron ASTM A 536
Access covers	Ductile Iron ASTM A 536
Coatings	NSF Approved fusion epoxy finish
Internals	Stainless steel, 300 Series NORYL™
Fasteners	Stainless Steel, 300 Series
Elastomers	EPDM (FDA approved) Buna Nitrile (FDA approved)
Polymers	NORYL™
Springs	Stainless steel, 300 series
Sensing line	Stainless steel, braided hose

Options (Suffixes can be combined)
- ☐ - with OS & Y gate valves (standard)
- ☐ L - less shut-off valves (flanged body connections)
- ☐ LM - less water meter
- ☐ - with gpm meter (standard)
- ☐ CFM - with cu ft/min meter
- ☐ G - with groove end gate valves
- ☐ FG - with flanged inlet gate connection and grooved outlet gate connection
- ☐ PI - with Post Indicator Gate Valve
- ☐ GF - with flanged inlet connection and grooved outlet connection
- ☐ BG - with grooved end butterfly valves with integral monitor switches (2 1/2" - 10")

Accessories
- ☐ Air gap (Model AG)
- ☐ Repair kit (rubber only)
- ☐ Thermal expansion tank (Model XT)
- ☐ OS & Y Gate valve tamper switch (OSY-40)
- ☐ QT-SET Quick Test Fitting Set

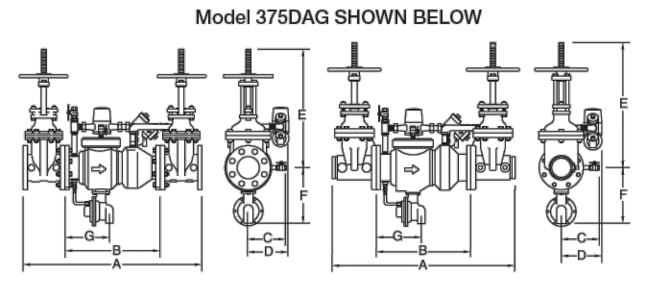
Attention:
Model 375DA (flange body) and Model 375ADA (grooved body) have different lay lengths.

Relief Valve discharge port:
2 1/2" - 6" - 2.75 sq. in.
8" - 10" - 3.69 sq. in.

Features
Sizes: 2 1/2", 3", 4", 6", 8", 10"

Maximum working water pressure	175 PSI
Maximum working water temperature	140°F
Hydrostatic test pressure	350 PSI
End connections (Grooved for steel pipe)	AWWA C606
(Flanged bolt pattern)	ASME B16.42 Class 150

Model 375DAG SHOWN BELOW



Dimensions & Weights (do not include pkg.)

MODEL 375DA SIZE in.	MODEL 375DA SIZE mm	A in.	A mm	A WITH BUTTERFLY VALVES in.	A WITH BUTTERFLY VALVES mm	B LESS GATE VALVES in.	B LESS GATE VALVES mm	C in.	C mm	D in.	D mm	E OS&Y OPEN in.	E OS&Y OPEN mm	E OS&Y CLOSED in.	E OS&Y CLOSED mm	E WITH BUTTERFLY VALVES in.	E WITH BUTTERFLY VALVES mm	F in.	F mm	G in.	G mm	WEIGHT LESS SHUT-OFF VALVES lbs.	WEIGHT LESS SHUT-OFF VALVES kg	WEIGHT OS&Y GATE VALVES FLANGED lbs.	WEIGHT OS&Y GATE VALVES FLANGED kg	WEIGHT OS&Y GATE VALVES GROOVED lbs.	WEIGHT OS&Y GATE VALVES GROOVED kg	WEIGHT BUTTERFLY VALVES GROOVED lbs.	WEIGHT BUTTERFLY VALVES GROOVED kg
2 1/2	65	31	787	28	711	15 7/8	403	7 1/4	184	9	229	17 3/4	451	15 3/8	391	13 3/4	349	9 1/2	241	8 3/8	213	75	34	185	84	167	76	147	67
3	80	32	813	28 1/2	724	15 7/8	403	7 1/4	184	9	229	20 1/4	514	17	432	13 3/4	349	9 1/2	241	8 3/8	213	78	35	208	94	160	73	130	59
4	100	37 5/8	956	32 8/9	835	19 1/2	495	8	203	9	229	22 1/2	572	18 1/4	464	17	432	11	279	9 1/4	235	116	53	306	139	292	132	200	91
6	150	44 5/8	1133	37 5/8	956	23 1/2	597	10	254	10 1/2	267	30 1/2	775	24 1/4	616	17 1/2	445	12 3/8	314	9 1/4	235	194	88	494	224	468	212	312	142
8	200	60 7/8	1546	53 7/8	1369	37 3/4	959	11	279	15 1/2	394	37	940	28 1/2	724	16 15/16	430	15 3/8	391	16 3/4	426	382	173	858	389	810	367	556	252
10	250	63 7/8	1622	57 7/8	1470	37 3/4	959	11	279	15 1/2	394	45 5/8	1159	34 3/4	883	16 15/16	430	15 3/8	391	16 3/4	426	412	187	1230	558	1164	528	800	363

Zurn Industries, LLC | Wilkins
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766
In Canada | **Zurn Industries Limited**
7900 Goreway Drive, Unit 10, Brampton, Ontario L6T 5W6, 877-892-5216
www.zurn.com

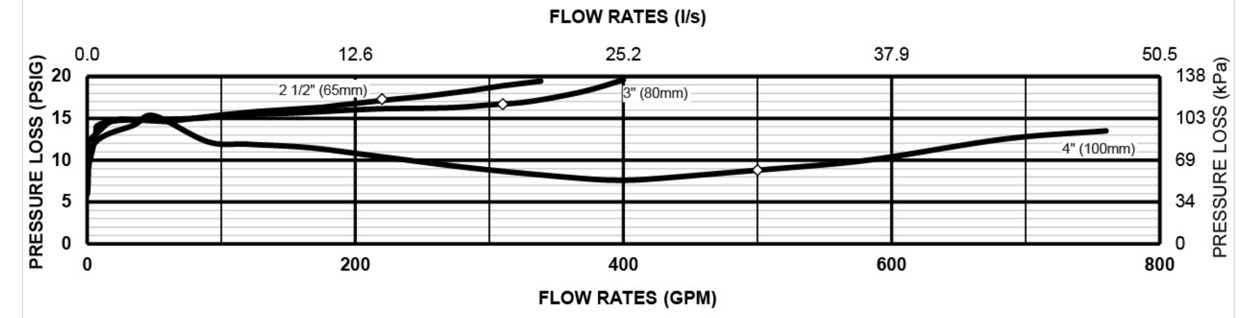
Rev. P
Date: 08/20
Document No. BF-375DA
Product No. Model 375DA
Patent zurn.com/patents

Page 1 of 2

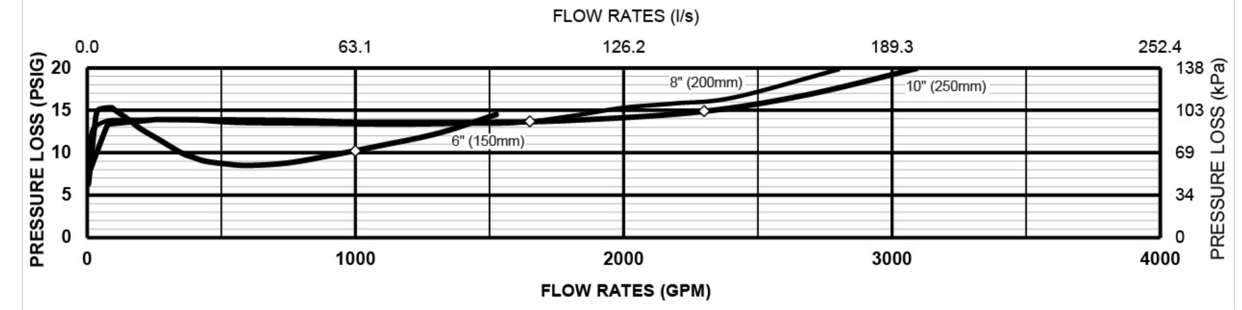
Flow Characteristics

○Rated Flow (established by approval agencies)

MODEL 375DA 2 1/2", 3" & 4" (STANDARD & METRIC)

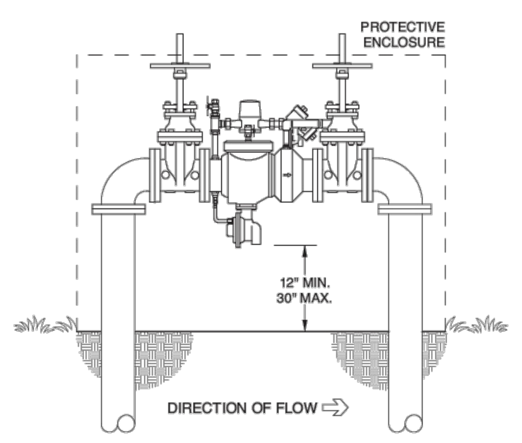


MODEL 375DA 6", 8" & 10" (STANDARD & METRIC)

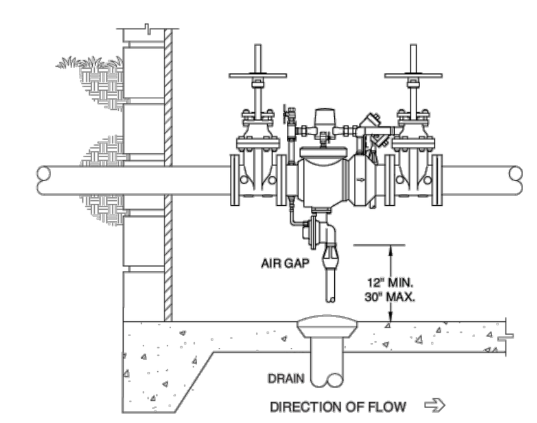


Typical Installation
Local codes shall govern installation requirements. To be installed in accordance with the manufacturer's instructions and the latest edition of the Uniform Plumbing Code. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.

Capacity thru Schedule 40 Pipe (GPM)				
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec
2 1/2"	75	112	149	224
3"	115	173	230	346
4"	198	298	397	595
6"	450	675	900	1351
8"	780	1169	1559	2339
10"	1229	1843	2458	3687
12"	1763	2644	3525	5288



OUTDOOR INSTALLATION



INDOOR INSTALLATION

Specifications
The Reduced Pressure Detector Backflow Prevention Assembly shall be certified to NSF/ANSI/CAN 61, ASSE® Listed 1047, and supplied with full port OS & Y gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536), the seat ring and check valve shall be NORYL™, the stem shall be stainless steel (ASTM A 276) and the seat disc elastomers shall be EPDM. The checks and the relief valve shall be accessible for maintenance without removing the device from the line. The Reduced Pressure Detector Backflow Prevention Assembly shall be a ZURN WILKINS Model 375DA.

Zurn Industries, LLC | Wilkins
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766
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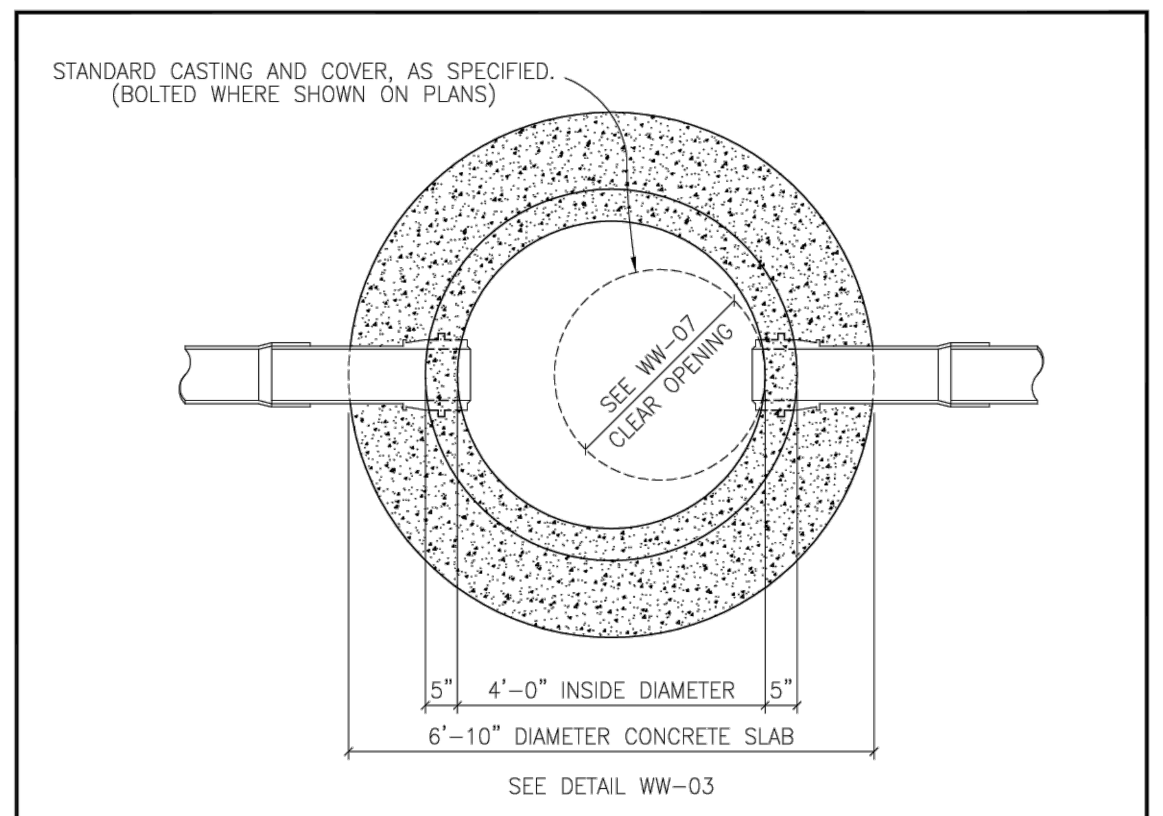
WASTEWATER DETAILS



SEE DETAIL WW-03

MANHOLE PLAN

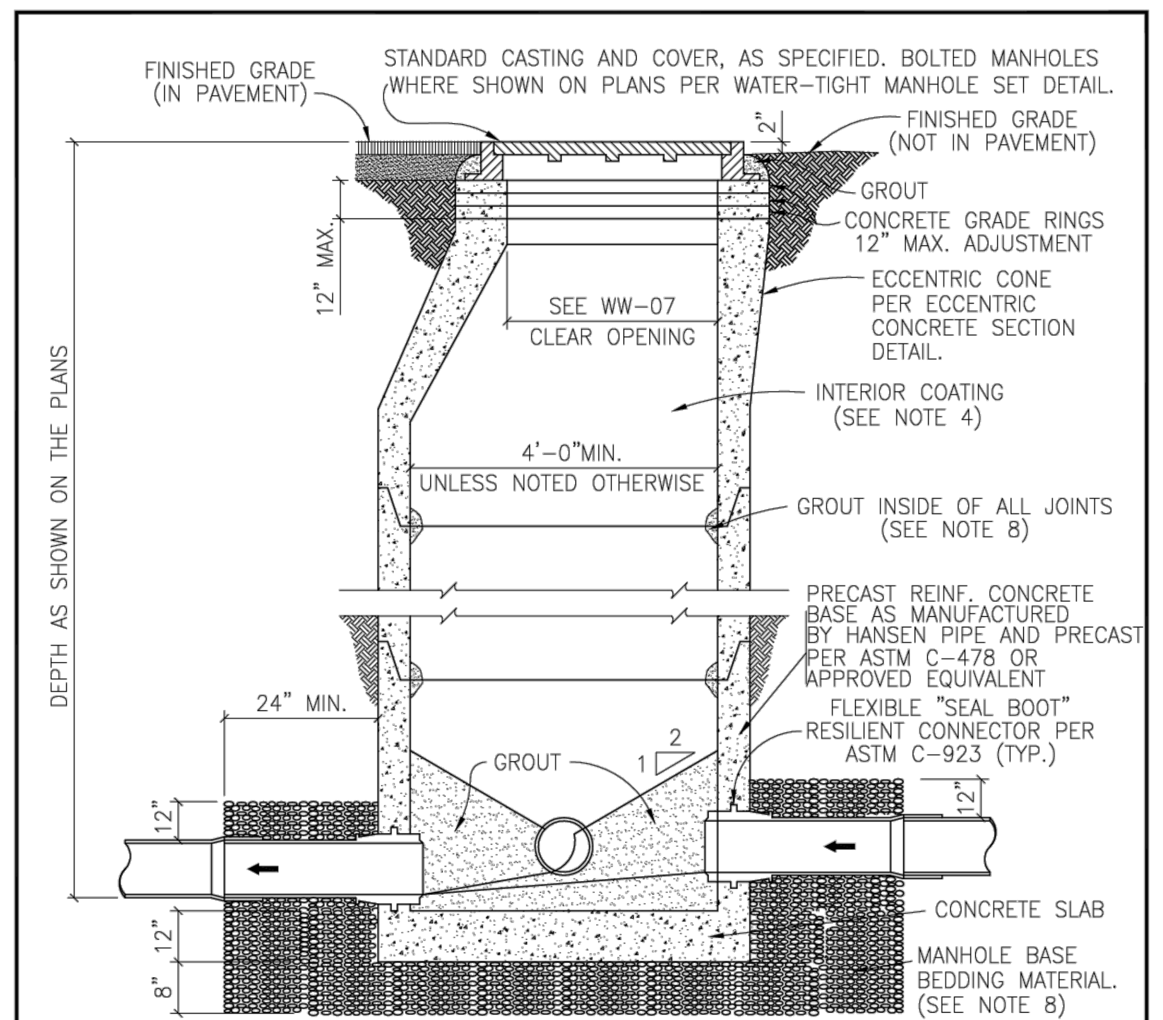
CITY OF GEORGETOWN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C478, C433 AND C76.
B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # WW-07) OR APPROVED EQUIVALENT.
C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
E. MANHOLES MAY HAVE A FLAT LID, IF APPROVED BY CITY OF GEORGETOWN, BEING 12" THICK WITH A MINIMUM 30" OPENING, AS MANUFACTURED BY HANSEN PIPE AND PRECAST OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING AND WITH PROFILE GASKET – SINGLE OFF-SET JOINT CONFORMING TO ASTM C443.
F. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.
G. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1').
H. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM ADJUSTMENT OF 12" ARE ALLOWED.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD MANHOLE – PLAN	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW02 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF-SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. AN 80 MIL. COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
5. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETTED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
6. MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE. REFERENCE MANHOLE VENT DETAIL.
7. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
8. GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
9. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL:
   SIEVE SIZE 2", PERCENT (%) RETAINED 0
   SIEVE SIZE 1 1/2", % RETAINED 0-10
   SIEVE SIZE 1", % RETAINED 45-80
   SIEVE SIZE 3/4", % RETAINED 85-100
   SIEVE SIZE 3/8", % RETAINED 95-100

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD MANHOLE – SECTION	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW03 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB

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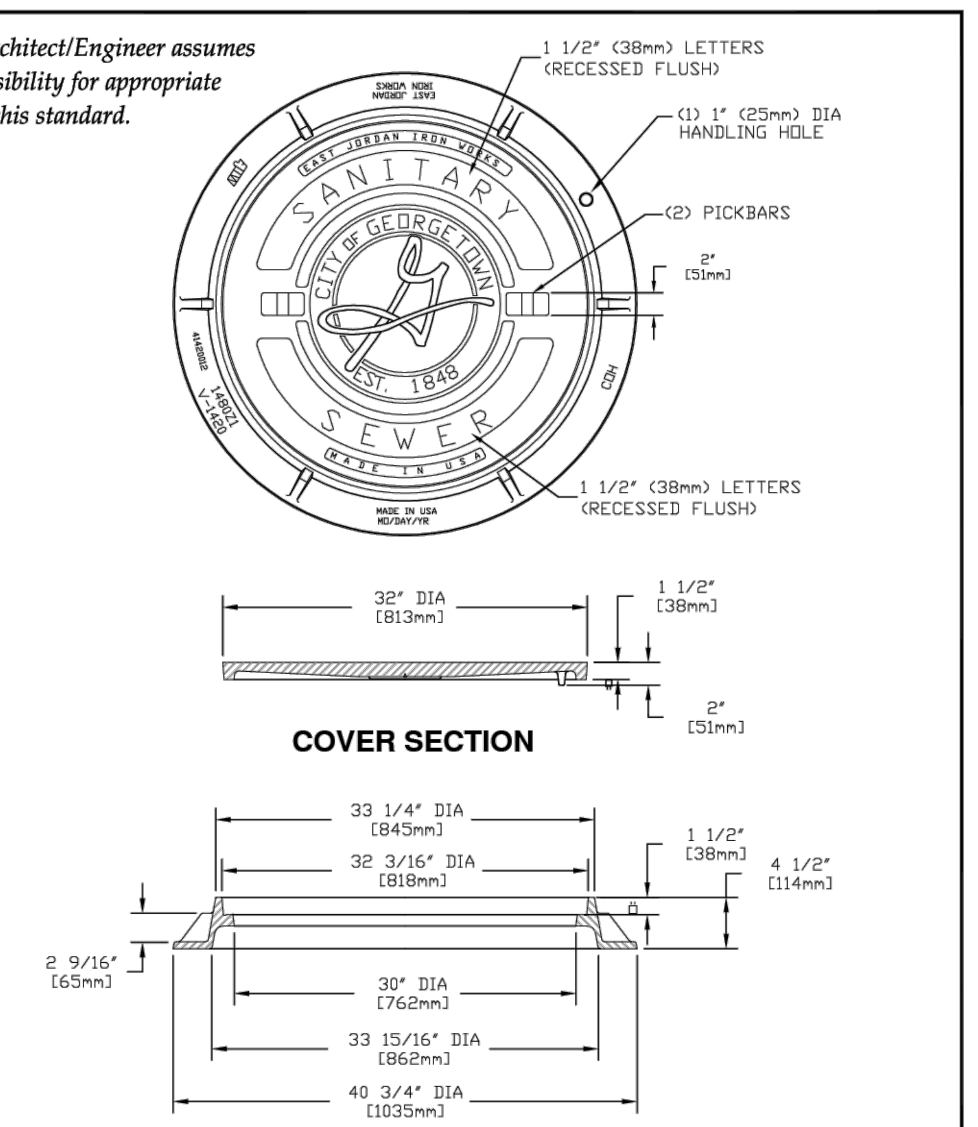
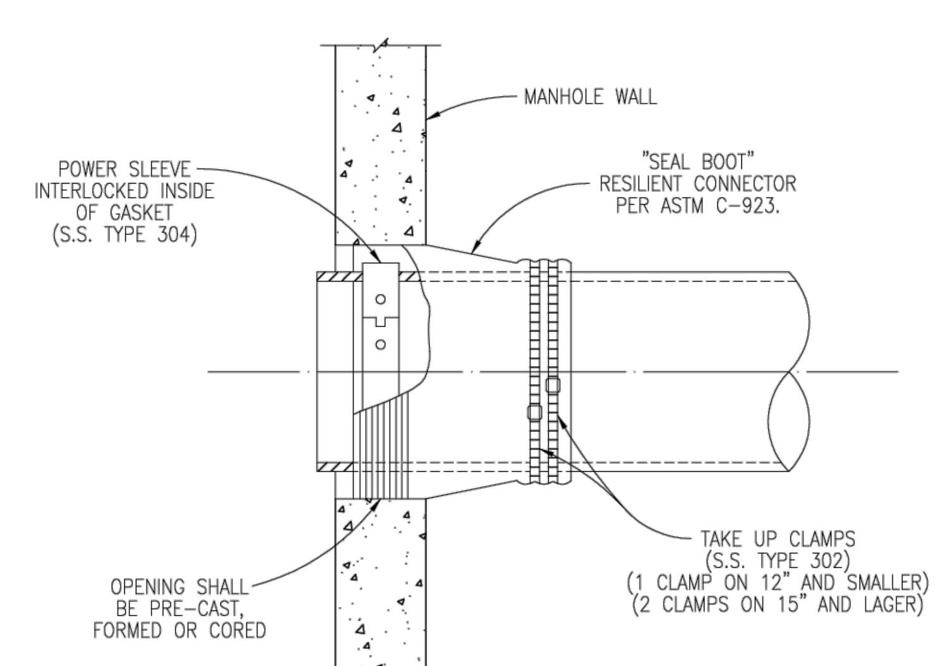


NOTES:
1. STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V-1420/1480Z1, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. STANDARD WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00148390.
4. FOR BOLTED WASTEWATER MANHOLE SET REFER TO DETAIL WW07A.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD WASTEWATER MANHOLE SET	ADOPTED 6/21/2006 WW07 NTS 1/2003 MRS TRB



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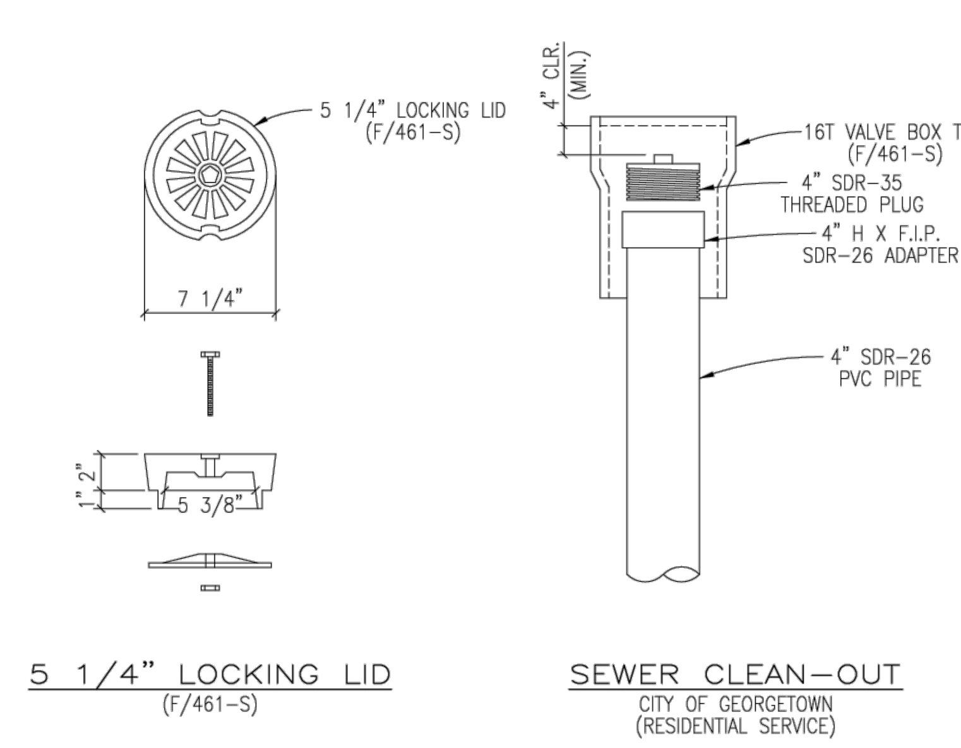
GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS FLEXIBLE "SEAL BOOT" CONNECTOR	ADOPTED 6/21/2006 WW10 NTS 1/2003 MRS TRB



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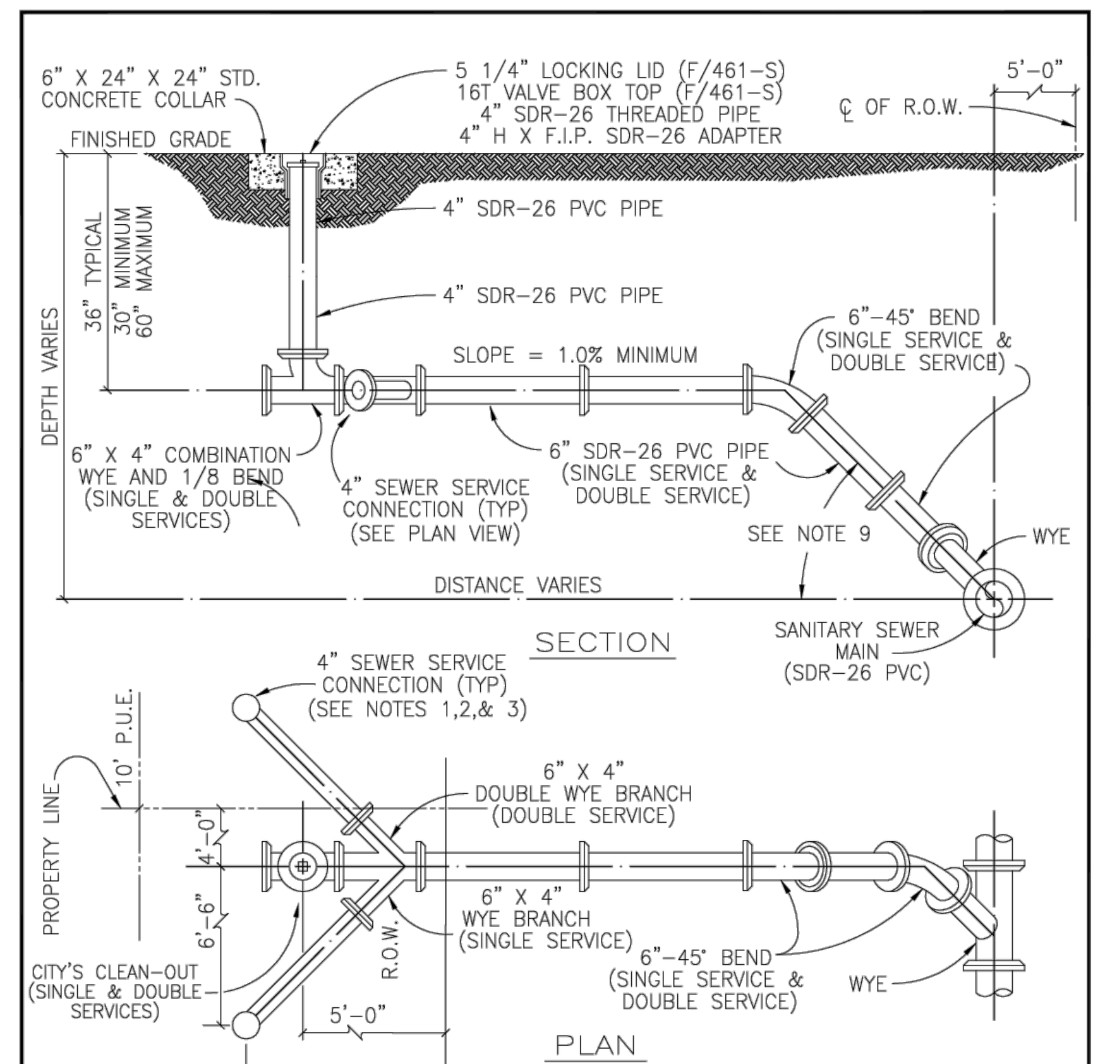
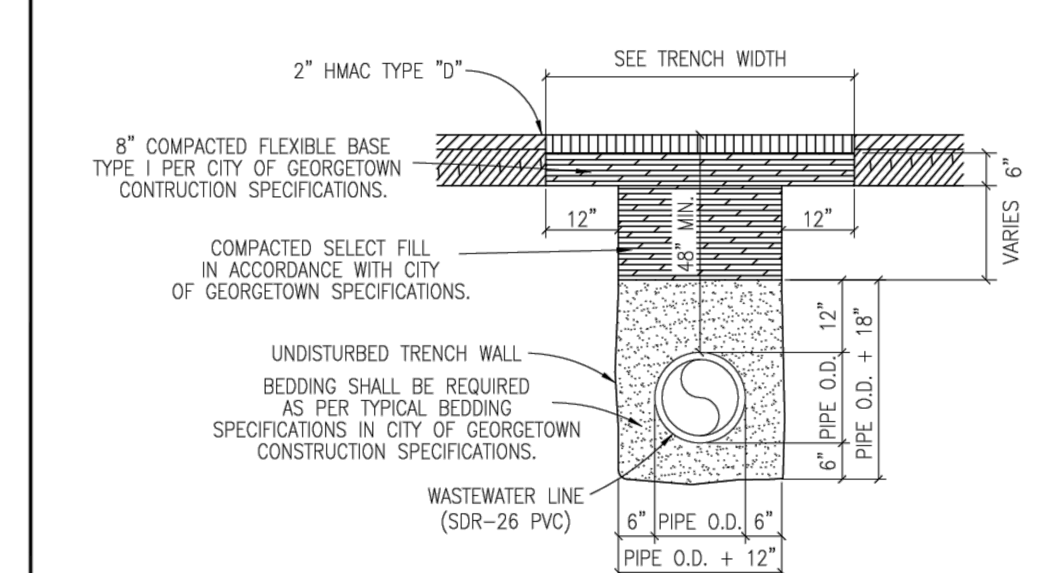
GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SEWER CLEAN-OUT DETAIL	ADOPTED 6/21/2006 WW12 NTS 1/2003 MRS TRB



NOTES:
1. SERVICE CONNECTION RISERS SHALL TERMINATE 8' INSIDE THE PROPETY LINE.
2. THE END OF EACH SERVICE CONNECTION RISER SHALL BE EXTENDED 12" ABOVE FINISH GRADE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATER-TIGHT WITH AN APPROVED CAP OR PLUG.
4. FOR P.V.C. INSTALLATIONS, CONNECT TO EXISTING "BELL END" AND CONNECT OPPSITE END WITH P.V.C. TO P.V.C. KNOCK ON SLEEVE.
5. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT (1'-0") ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED TO THE SAME SPECIFICATIONS AS SHOWN ON PAVEMENT REPLACEMENT DETAIL.
6. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.
7. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY THE CITY OF GEORGETOWN ENGINEERING DEPARTMENT.
8. SERVICE LINE MATERIAL SHALL BE P.V.C., SDR-26.
9. SEWER SERVICE SLOPE TO BE 45° OFF CENTERLINE OF MAIN.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS EST. 1848 Georgetown Utility Systems Your Community Owned Utility	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SEWER SERVICE CONNECTIONS	REVISION NOTE: ADOPTED 6/21/2006 DRAWING NAME: WW13 SCALE: NTS DATE: 1/2003 DRAWN BY: MRS APPROVED BY: TRB



TRENCH WIDTHS
*PIPE LESS THAN 20" DIAMETER
1'-0" + PIPE O.D.
*20" DIAMETER PIPE AND LARGER
2'-0" + PIPE O.D.

NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE PLACED IN MULTIPLE LIFTS NOT TO EXCEED 6". EACH LAYER SHALL BE THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY	ADOPTED 6/21/2006 WW17 NTS 1/2003 MRS TRB

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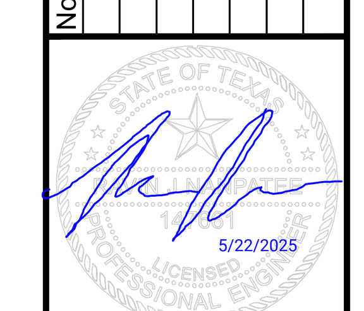
HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY



CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE: DETAILS

SHEET 20 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN

LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

TCEQ WPAP GENERAL COSTRUCTION NOTES

Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director (ED), nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code (TAC), Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the ED, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the 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 activity start date; and
   - the contact information of the prime contractor.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan (WPAP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature(s) (caves, solution cavity, sink hole, etc.) is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. Construction activities may not be resumed until the TCEQ has reviewed and approved the appropriate protective measures in order to protect any sensitive feature and the Edwards Aquifer from potentially adverse impacts to water quality.

4. No temporary or permanent hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.

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 approved plans and manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.

6. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.

7. Sediment must be removed from the sediment traps or sedimentation basins not later than

when it occupies 50% of the basin's design capacity.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. If portions of the site will have a temporary or permanent cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.

11. The following records shall be maintained and made available to the TCEQ upon request:
    - 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.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

    A. any 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;

    B. any 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;

    C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

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.

TCEQ ORGANIZED SEWAGE COLLECTION SYSTEM GENERAL COSTRUCTION NOTES

Texas Commission on Environmental Quality
Organized Sewage Collection System
General Construction Notes

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

The following/listed "construction notes" are intended to be advisory in nature only and do not constitute an approval or conditional approval by the Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further actions may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as well as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed "construction notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, Texas Administrative Code, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title 30 Texas Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.

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 activity 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 attachments 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:
    - (a) 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:
      - (1) *Low Pressure Air Test.*
        - (A) 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.
        - (B) 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.
          - (i) A pipe must be pressurized to 3.5 pounds per square inch (psi) greater than the pressure exerted by groundwater above the pipe.
          - (ii) 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

(C) 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

(D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
(E) 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.
(F) 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.
(G) A testing procedure for pipe with an inside diameter greater than 33 inches must be approved by the executive director.

(2) *Infiltration/Exfiltration Test.*
(A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 50 gallons per inch of 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.
(B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
(C) 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.
(D) 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.
(E) 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.

(b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also required. The following procedures must be followed:
(1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.
(A) *Mandrel Sizing.*
(i) 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.
(ii) 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 purpose 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.
(iii) All dimensions must meet the appropriate standard.
(B) *Mandrel Design.*
(i) A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed.
(ii) A mandrel must have nine or more odd number of runners or legs.
(iii) A barrel section length must equal at least 75% of the inside diameter of a pipe.
(iv) Each size mandrel must use a separate proving ring.
(C) *Method Options.*
(i) An adjustable or flexible mandrel is prohibited.
(ii) A test may not use television inspection as a substitute for a deflection test.
(iii) 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.
(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.
(3) A deflection test method must be accurate to within plus or minus 0.2% deflection.
(4) An owner shall not conduct a deflection test until at least 30 days after the final backfill.
(5) Gravity collection system pipe deflection must not exceed five percent (5%).
(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.
    (a) All manholes must pass a leakage test.
    (b) 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.
    (1) Hydrostatic Testing.

(A) 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.
(B) 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.
(C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

(2) Vacuum Testing.
(A) 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.
(B) No grout must be placed in horizontal joints before testing.
(C) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
(D) 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.
(E) 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.
(F) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
(G) A test does not begin until after the vacuum pump is off.
(H) 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.

PERSONAL WAREHOUSE
HERE CIVIL CONSULTANTS
PHONE: (336) 554-2424
HERE CC PROJECT No.: PW-017

No. | SUBMITTAL DATES / REVISIONS DESC. | DATE | BY

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE: TCEQ NOTES

SHEET 21 OF 22

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION
ADDRESS : 1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Personal Warehouse
Date Prepared: 1/19/2024

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadshe

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Williamson	
Total project area included in plan * =	5.00	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	3.23	acres
Total post-development impervious cover fraction * =	0.65	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	2815	lbs.

* **The values entered in these fields should be for the total project area.**

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	4.22	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	3.23	acres
Post-development impervious fraction within drainage basin/outfall area =	0.76	
$L_{M\ THIS\ BASIN}$ =	2811	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Retention / Irrigation
Removal efficiency = 100 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	4.22	acres
A_I =	3.23	acres
A_P =	0.99	acres
L_R =	3593	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 2811 lbs.

F = 0.78

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth =	1.00	inches
Post Development Runoff Coefficient =	0.58	
On-site Water Quality Volume =	8863	cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP =	0.00	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0	
Off-site Runoff Coefficient =	0.00	
Off-site Water Quality Volume =	0	cubic feet
Storage for Sediment =	1773	
Total Capture Volume (required water quality volume(s) x 1.20) =	10636	cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.
The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System Designed as Required in RG-348 Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = 10636 cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate =	0.1	in/hr	Enter determined permeability rate or assumed value of 0.1
Irrigation area =	42544	square feet	
	0.98	acres	

8. Extended Detention Basin System Designed as Required in RG-348 Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters Designed as Required in RG-348 Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins =	NA	cubic feet	
Minimum filter basin area =	NA	square feet	
Maximum sedimentation basin area =	NA	square feet	For minimum water depth of 2 feet
Minimum sedimentation basin area =	NA	square feet	For maximum water depth of 8 feet

10. Bioretention System Designed as Required in RG-348 Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = NA cubic feet

11. Wet Basins Designed as Required in RG-348 Pages 3-66 to 3-71

Required capacity of Permanent Pool =	NA	cubic feet	Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation =	NA	cubic feet	Total Capacity should be the Permanent Pool Capacity plus a second WQV.

12. Constructed Wetlands Designed as Required in RG-348 Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands = NA cubic feet

13. AquaLogic™ Cartridge System Designed as Required in RG-348 Pages 3-74 to 3-78

**** 2006 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.**

Required Sedimentation chamber capacity =	NA	cubic feet
Filter canisters (FCs) to treat WQV =	NA	cartridges
Filter basin area (RA_F) =	NA	square feet

14. Stormwater Management StormFilter® by CONTECH

Required Water Quality Volume for Contech StormFilter System = NA cubic feet

THE SIZING REQUIREMENTS FOR THE FOLLOWING BMP's / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES

15. Grassy Swales Designed as Required in RG-348 Pages 3-51 to 3-54

Design parameters for the swale:

Drainage Area to be Treated by the Swale = A =	8.00	acres
Impervious Cover in Drainage Area =	4.00	acres
Rainfall intensity = i =	1.1	in/hr
Swale Slope =	0.01	ft/ft
Side Slope (z) =	3	
Design Water Depth = y =	0.33	ft
Weighted Runoff Coefficient = C =	0.54	
A_{CS} = cross-sectional area of flow in Swale =	13.17	sf
P_W = Wetted Perimeter =	40.62	feet
R_H = hydraulic radius of flow cross-section = A_{CS}/P_W =	0.32	feet
n = Manning's roughness coefficient =	0.2	

15A. Using the Method Described in the RG-348

Manning's Equation: $Q = \frac{1.49}{n} A_{CS} R_H^{2/3} S^{1/2}$

$b = \frac{0.134 \times Q}{y^{5/3} S^{1/2}} - zy$ = 38.51 feet

Q = CiA = 4.71 cfs

To calculate the flow velocity in the swale:

V (Velocity of Flow in the swale) = Q/A_{CS} = 0.36 ft/sec

To calculate the resulting swale length:

L = Minimum Swale Length = V (ft/sec) * 300 (sec) = 107.24 feet

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun.

15B. Alternative Method using Excel Solver

Design Q = CiA = 4.71 cfs

Manning's Equation Q =	0.76	cfs	Error 1 = 3.95
Swale Width=	6.00	ft	

Instructions are provided to the right (green comments).

Flow Velocity	0.36	ft/s
Minimum Length =	107.24	ft

Instructions are provided to the right (blue comments).

Design Width =	6	ft	
Design Discharge =	0.76	cfs	Error 2 = 3.95
Design Depth =	0.33	ft	
Flow Velocity =	0.32	cfs	
Minimum Length =	97.48	ft	

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun.
If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

16. Vegetated Filter Strips Designed as Required in RG-348 Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter stripe with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

17. Wet Vaults Designed as Required in RG-348 Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = NA lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4: Q = CiA

C = runoff coefficient for the drainage area =	0.60	C = Runoff Coefficient = 0.546 (IC)^2 + 0.328 (IC) + 0.03
i = design rainfall intensity =	1.1	in/hour
A = drainage area in acres =	1	acres
Q = flow rate in cubic feet per second =	0.66	cubic feet/sec

RG-348 Page 3-31 Equation 3.5: $V_{OR} = Q/A$

Q = Runoff rate calculated above =	0.66	cubic feet/sec
A = Water surface area in the wet vault =	150	square feet
V_{OR} = Overflow Rate =	0.00	feet/sec
Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) =	53	percent
Load removed by Wet Vault =	#VALUE!	lbs

If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
Calculate the efficiency reduction for the actual rainfall intensity rate

Actual Rainfall Intensity at which Wet Vault bypass Occurs =	0.5	in/hour
Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 =	0.75	percent
Efficiency Reduction for Actual Rainfall Intensity =	0.83	percent
Resultant TSS Load removed by Wet Vault =	#VALUE!	lbs

18. Permeable Concrete Designed as Required in RG-348 Pages 3-79 to 3-83

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMP's Installed in a Series Designed as Required in RG-348 Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E_2 be changed from 0.5 to 0.66 on May 3, 2006

$E_{TOT} = [1 - ((1 - E_1) \times (1 - 0.65E_2))] \times 100$ = 86.38 percent NET EFFICIENCY OF THE BMP's IN THE SERIES

EFFICIENCY OF FIRST BMP IN THE SERIES = E_1 = 75.00 percent

EFFICIENCY OF THE SECOND BMP IN THE SERIES = E_2 = 70.00 percent

EFFICIENCY OF THE THIRD BMP IN THE SERIES = E_3 = 0.00 percent

THEREFORE, THE NET LOAD REMOVAL WOULD BE:
(A_I AND A_P VALUES ARE FROM SECTION 3 ABOVE)

$L_R = E_{TOT} \times P \times (A_I \times 34.6 + A_P \times 0.54)$ = 3103.77 lbs

20. Stormceptor

Required TSS Removal in BMP Drainage Area=	NA	lbs	
Impervious Cover Overtreatment=	0.0000	ac	
TSS Removal for Uncaptured Area =	0.00	lbs	
BMP Sizing			
Effective Area =	NA	EA	
Calculated Model Size(s) =	#N/A		
Actual Model Size (if multiple values provided in Calculated Model Size or if you are choosing a larger model size) =	0	Model Size	
Surface Area =	#N/A	ft^2	
Overflow Rate =	#VALUE!	V_{or}	
Rounded Overflow Rate =	#VALUE!	V_{or}	
BMP Efficiency % =	#VALUE!	%	
L_R Value =	#VALUE!	lbs	
TSS Load Credit =	#VALUE!	lbs	
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!		
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!		

21. Vortech

Required TSS Removal in BMP Drainage Area=	NA	lbs	
Impervious Cover Overtreatment=	0.0000	ac	
TSS Removal for Uncaptured Area =	0.00	lbs	
BMP Sizing			
Effective Area =	NA	EA	
Calculated Model Size(s) =	#N/A		
Actual Model Size (if choosing larger model size) =	Vx1000	Pick Model Size	
Surface Area =	7.10	ft^2	
Overflow Rate =	#VALUE!	V_{or}	
Rounded Overflow Rate =	#VALUE!	V_{or}	
BMP Efficiency % =	#VALUE!	%	
L_R Value =	#VALUE!	lbs	
TSS Load Credit =	#VALUE!	lbs	
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!		
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!		

HERE CIVIL CONSULTANTS
PHONE : (336) 554 - 2424
EMAIL : RNANPATEE@HERECC.COM
HERE CC PROJECT No.: PW-017

No.	SUBMITTAL DATES / REVISIONS DESC.	DATE	BY

5/22/2025

CONSTRUCTION DOCUMENTS
PERSONAL WAREHOUSE - GEORGETOWN
1004 CAPELLA PARKWAY, GEORGETOWN, TX 78628
LOT 2B, BLOCK B, HAVENS AIRPORT COMMERCIAL SUBDIVISION

SHEET TITLE
TCEQ POND CALCULATIONS

SHEET 22 OF 22

DESIGNED BY: RJN DRAWN BY: RJN CHECKED BY: RJN

CALL 811 BEFORE YOU DIG

6/2/2025 9:32 PM F:\PROJECTS_PERSONAL WAREHOUSE\PW-017 - GEORGETOWN TX\CIVIL\CAD\PLANS\SITE DEVELOPMENT PLAN\0 - COVER.DWG

PERMANENT BEST MANAGEMENT PRACTICES

ATTACHMENT G

INSPECTION, MAINTENANCE, REPAIR AND RETROFIT

The intent of this inspection, maintenance, repair and retrofit plan is to inform the owner of how to maintain the proposed Permanent Stormwater Best Management Practices (BMPs) proposed for this project.

These BMPs will be private facilities and will be the responsibility of the owner to maintain. The owner will be required to routinely inspect the facility on a monthly basis and after a major rainfall event. Ownership contact information :

GTOWNPW Development, LLC.
7200 South Alton Way, Suite B220
Centennial, CO 80112
(720) 341-7918

If ownership of the property changes, this plan shall be updated with the contact information of the entity / individual(s) responsible for the permanent BMP maintenance.

PERMANENT STORMWATER BEST MANAGEMENT PRACTICES

The Permanent Stormwater BMP specific to this project are grassy swales, a retention pond and a level spreader. These BMPs should be inspected, maintained and repaired per the TCEQ's criteria. Included in this plan are excerpts from the TCEQ criteria for each of these BMPs for reference. If a BMP needs to be repaired, it shall be restored to its original working condition and original design.

In the event that a BMP needs to be retrofitted, the Owner shall contact the Engineer of Record for retrofitting solutions. The Engineer shall ensure that the retrofit will meet TCEQ's criteria and functionality.

The Owner shall be responsible to keep records of all inspections, maintenance and repairs that occur for each BMP. An example of an inspection log is included in this plan.

CONCLUSION

The owner shall be responsible for maintaining the onsite permanent BMPs with the methods described in this plan. In addition to this plan, common sense, and good judgement based on observations and practical experience will help keep the BMPs running efficiently.

GTOWNPW Development LLC
By: Jerry Blocher, its Authorized Signatory
Owner or Responsible Party (Printed)

Owner or Responsible Party (Signed)

3.5.7 Grassy Swales

Maintenance for grassy swales is minimal and is largely aimed at keeping the grass cover dense and vigorous. Maintenance practices and schedules should be developed and included as part of the original plans to alleviate maintenance problems in the future. Recommended practices include (modified from Young et al., 1996):

- *Pest Management*. An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

- *Seasonal Mowing and Lawn Care*. Lawn mowing should be performed routinely, as needed, throughout the growing season. Grass height should not exceed 18 inches. Grass cuttings should be collected and disposed of offsite, or a mulching mower can be used. Regular mowing should also include weed control practices; however, herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients.

- *Inspection*. Inspect swales at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The swale should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections should be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

- *Debris and Litter Removal*. Trash tends to accumulate in swale areas, particularly along highways. Any swale structures (i.e. check dams) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than two times per year (Urbonas et al., 1992).

- *Sediment Removal*. Sediment accumulating near culverts and in channels needs to be removed when they build up to 3 inches at any spot, or cover vegetation. Excess sediment should be removed by hand or with flat-bottomed shovels. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level with the bottom of the swale. Sediment removal should be performed periodically, as determined through inspection.

- *Grass Reseeding and Mulching*. A healthy dense grass should be maintained in the channel and side slopes. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during swale establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established.

- *Public Education*. Private homeowners are often responsible for roadside swale maintenance. Unfortunately, overzealous lawn care on the part of homeowners can present some problems. For example, mowing the swale too close to the ground, or excessive application of fertilizer and pesticides will all be detrimental to the performance of the swale. Pet waste can also be a problem in swales, and should be removed to avoid contamination from fecal coliform and other waste-associated bacteria. The delegation of maintenance responsibilities to individual landowners is a cost benefit to the locality. However, localities should provide an active educational program to encourage the recommended practices.

3.5.5 Retention/Irrigation

The following guidelines should be used to develop the maintenance plan for the retention/irrigation BMP.

- *Inspections.* The irrigation system, including pumps, should be inspected and tested (or observed while in operation) to assure proper operation at least 6 times annually. Two of these inspections should occur during or immediately following wet weather. Any leaks, broken spray heads, or other malfunctions with the irrigation system should be repaired immediately. In particular, sprinkler heads must be checked to determine if any are broken, clogged, or not spraying properly. All inspection and testing reports should be kept on site and accessible to inspectors.

- *Sediment Removal.* Remove sediment from splitter box, basin, and wet wells at least two times per year or when the depth reaches 3 inches.

- *Irrigation Areas.* To the greatest extent practicable, irrigation areas are to remain in their natural state. However, vegetation must be maintained in the irrigation area such that it does not impede the spray of water from the irrigation heads. Tree and shrub trimmings and other large debris should be removed from the irrigation area.

- *Mowing.* The upper stage, side slopes, and embankment of a retention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed.

- *Debris and Litter Removal.* Debris and litter will accumulate near the basin pump and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the irrigation system.

- *Erosion Control.* The pond side slopes and embankment may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct the problems.

- *Nuisance Control.* Standing water or soggy conditions in the retention basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing and debris removal).

1.3.6 Level Spreaders

A level spreader is used as an outlet device for dikes and diversions and consists of an excavated depression constructed at zero grade across a slope. The purpose is to convert concentrated runoff to sheet flow and release it uniformly onto areas stabilized by existing vegetation.

Level spreaders should be used where there is a need to divert stormwater away from disturbed areas to avoid overstressing erosion control measures or where sediment free storm runoff can be released in sheet flow down a stabilized slope without causing erosion. A perspective view of a level spreader is shown in Figure 1-12.

This practice applies only in those situations where the spreader can be constructed on undisturbed soil and the area below the level lip is uniform with a slope of 10% or less and is stabilized by natural vegetation. The runoff water should not be allowed to re-concentrate after release unless it occurs during interception by another measure (such as a permanent pond or detention basin) located below the level spreader.

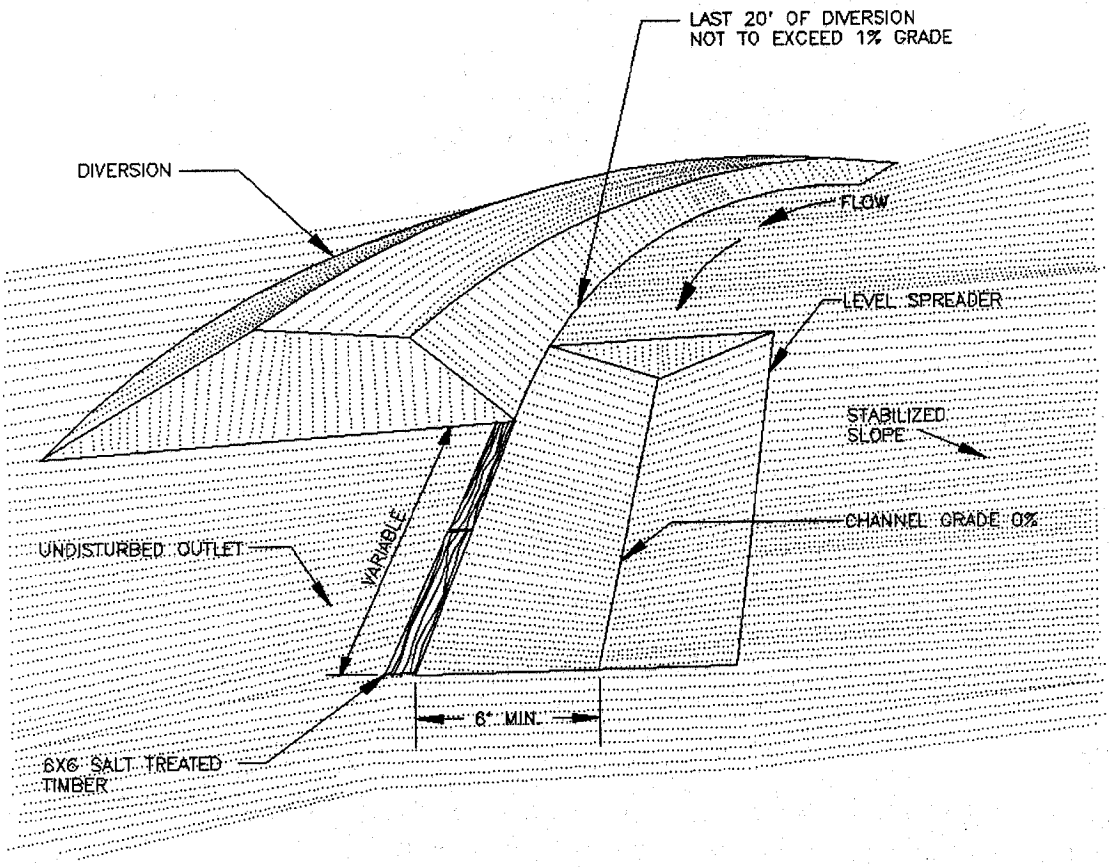


Figure 1-12 Perspective View of a Level Spreader (VA Dept of Conservation, 1992)

Particular care should be taken to construct the outlet lip completely level in a stable, undisturbed soil. Any depressions in the lip will concentrate the flow, resulting in erosion. Under higher design flow conditions, a rigid outlet lip design should be used to create the desired sheet flow conditions. Runoff water containing high sediment loads must be treated in a sediment-trapping device before being released to a level spreader.

Installation:

(1) Level spreaders should be constructed on undisturbed soil (not fill material).

(2) The entrance to the spreader should be shaped in such a manner as to insure that runoff enters directly onto the 0% grade channel.

(3) Construct a 20-ft. transition section from the diversion channel to blend smoothly to the width and depth of the spreader.

(4) The level lip should be constructed at 0% grade to insure uniform spreading of stormwater runoff.

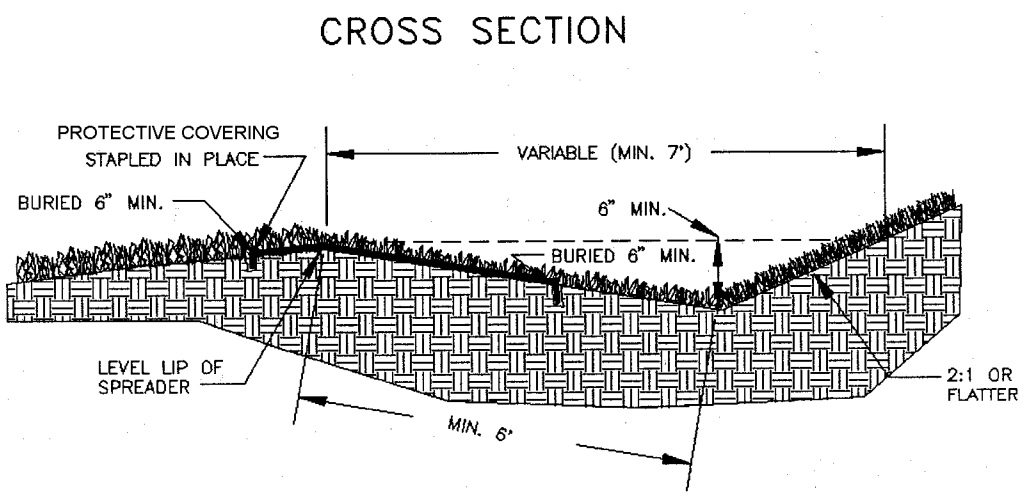
(5) The level lip may be stabilized by vegetation if the flow from the 2-year, 24-hour storm is expected to be less than 4 cfs, otherwise a rigid non-erodible material should be used.

(6) Protective covering for vegetated lip should be a minimum of 4 feet wide extending 6 inches over the lip and buried 6 inches deep in a vertical trench on the lower edge. The upper edge should butt against smoothly cut sod and be securely held in place with closely spaced heavy-duty wire staples (see Figure 1-13).

(7) Rigid level lip should be entrenched at least 2 inches below existing ground and securely anchored to prevent displacement. An apron of coarse aggregate should be placed to top of level lip and extended down slope at least 3 feet. Place filter fabric under stone and use galvanized wire mesh to hold stone securely in place (see Figure 1-13).

(8) The released runoff must outlet onto undisturbed stabilized areas with slope not exceeding 10%. Slope must be sufficiently smooth to preserve sheet flow and prevent flow from concentrating.

(9) Immediately after its construction, appropriately seed and mulch the entire disturbed area of the spreader.



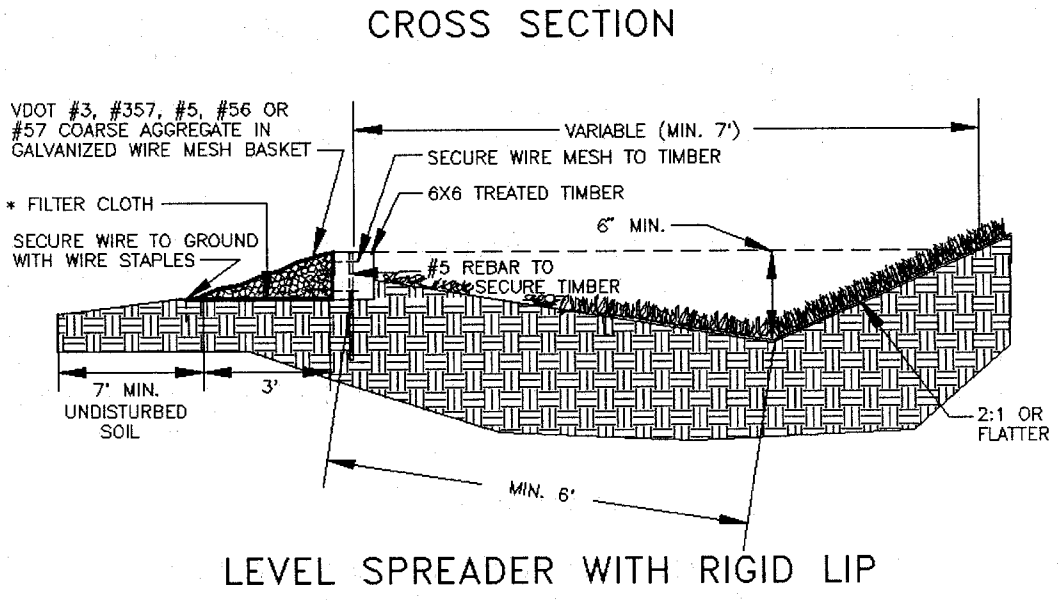


Figure 1-13 Cross-Section of a Level Spreader (VA Dept of Conservation, 1992)

Inspection and Maintenance Guidelines:

(1) The measure should be inspected after every rainfall and repairs made, if required.

(2) Level spreader lip should remain at 0% slope to allow proper function of measure.

(3) The contractor should avoid the placement of any material on and prevent construction traffic across the structure. If the measure is damaged by construction traffic, it should be repaired immediately.

STORMWATER INSPECTION REPORT

Page 1

Company Name:
Project Name:
Job #:
Inspection #:

Inspector Name:
Inspector Title:
Date of Inspection:
Weather History Since Last Inspection:

Rain amount:

Type of Inspection	☐ Regular	☐ Pre-Storm	☐ Post-Storm	Other:

Phase of Work	☐ Clearing/ Grubbing	☐ Rough Grading	☐ Utility Excavation/Backfill	☐ Building Construction
	☐ Paving	☐ Final Grading	☐ Final Stabilization	☐ Terminate Permit

List Site Specific BMPs ***Add Any New, Modified or Removed BMPs***	***Working Properly***			***If No, Corrective Action Proposed***	***Action Date***
	Yes	***No***	***N/A***		

AGENT AUTHORIZATION FORM

TCEQ FORM : TCEQ-0599

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I ERIC GREVEN,
Print Name

MANAGER,
Title - Owner/President/Other

of GTOWNPH LLC,
Corporation/Partnership/Entity Name

have authorized RAVIN NANPATEE
Print Name of Agent/Engineer

of HERE CIVIL CONSULTANTS
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:

Applicant's Signature

5/29/25
Date

THE STATE OF CO §
County of Arapahoe §

BEFORE ME, the undersigned authority, on this day personally appeared Eric Greven 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 29th day of May, 2025.

NOTARY PUBLIC

Tyler Greven
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: September 25, 2028

TYLER GREVEN
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20244035992
MY COMMISSION EXPIRES SEPTEMBER 25, 2028

OWNER AUTHORIZATION FORM

TCEQ FORM : TCEQ-21019

Owner Authorization Form

Edwards Aquifer Protection Program

Instructions

Complete the following form by adding the requested information in the fields below. The form must be notarized for it to be considered complete. Attach it to other programmatic submittals required by 30 Texas Administrative Code (30 TAC), Chapter 213, and provide it to TCEQ's Edwards Aquifer Protection Program (EAPP) as part of your application.

If you have questions on how to fill out this form or about EAPP, please contact us by phone at 512-339-2929 or by e-mail at eapp@tceq.texas.gov.

Landowner Authorization

I, Eric Greven of GTOWNPW LLC

am the owner of the property located at: 1004 Clear Skies Way, Georgetown, TX

legal description of the property referenced in the application.

and am duly authorized in accordance with 30 TAC 213.4(c)(2) and 213.4(d)(1), or 30 TAC 213.23(c)(2) and 213.23(d), relating to the right to submit an application, signatory authority, and proof of authorized signatory.

I do hereby authorize GTOWNPW Development LLC
To conduct construction activities
At 1004 Clear Skies Way, Georgetown, Texas

Landowner Acknowledgement

I understand thatGTOWNPW LLC

Is ultimately responsible for the compliance with the approved or conditionally approved Edwards Aquifer protection plan and any special conditions of the approved plan through all phases of plan implementation even if the responsibility for compliance and the right to possess and control the property referenced in the application has been contractually assumed by another legal entity. I further understand that any failure to comply with any condition of the executive director's approval is a violation and subject to administrative rule or orders and penalties as provided under 30 TAC 213.10, relating to enforcement. Such violations may also be subject to civil penalties.

Landowner Signature

Signature
Landowner Signature

5/29/25

Date

THE STATE § OF State Colorado

County § of County Arapahoe

BEFORE ME, the undersigned authority, on this day personally appeared

Eric Greven

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 Day 29th day of Month May, 2025.

Click or tap here to add ID

NOTARY PUBLIC

TYLER GREVEN
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20244035992
MY COMMISSION EXPIRES SEPTEMBER 25, 2028

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: Date September 25, 2028

Optional Attachments

Select All that apply:

☐ Lease Agreement

☐ Signed Contract

☐ Deed Restricted Easement

☐ Other legally binding documents

APPLICATION FEE FORM

TCEQ FORM : TCEQ-0574

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: GTOWNPW DEVELOPMENT, LLC.
Regulated Entity Location: Centennial, Colorado
Name of Customer: Steve Garrison
Contact Person: Steve Garrison Phone: (303) 222-0768
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☑ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ 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	5.004	Acres	$ 5,000
Sewage Collection System	662	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: 5/7/25

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 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $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

CORE DATA FORM

TCEQ FORM : TCEQ-10400

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

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	5/14/2025

☒ 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:*
GTOWNPW DEVELOPMENT, LLC.	N/A

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
805894223	32098742185	33-365-1104	

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 ☐ Other:

☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:								
	7200 South Alton Way							
	Suite B220							
	City	Centennial	State	CO	ZIP	80112	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	Jerry@personalwarehouse.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(720) 341-7918		( ) -

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.)*

Personal Warehouse Georgetown

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	1004 Clear Skies Way							
	City	Georgetown	**State**	TX	**ZIP**	78628	**ZIP + 4**	
24. County	Williamson							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	

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:	30.67159		**28. Longitude (W) In Decimal:**	97.68087	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	40	17.72	97	40	51.13

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)
6531		531390	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Real Estate Development - Personal Wareh

34. Mailing Address:	**7200 South Alton Way**							
	Suite B220							
	City	**Centennial**	**State**	**CO**	**ZIP**	**80112**	**ZIP + 4**	

35. E-Mail Address:	**Jerry@personalwarehouse.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(720) 341-7918		( ) -

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:	Ravin Nanpatee	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(336) 554-2424		( ) -	rnanpatee@herecc.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:	GTownPW Development LLC	**Job Title:**	VP-Development
Name *(In Print):*	Jerry Blocher	**Phone:**	(720) 341- **7918**
Signature:		**Date:**	5/29/25