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: Titan NorthPark35 Town Center						**2. Regulated Entity No.: N/A**			
3. Customer Name: Titan NP35 Phase II LLC						**4. Customer No.: CN605948462**			
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):**		6.72 ac	
9. Application Fee:	$5,000		**10. Permanent BMP(s):**			JellyFish			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson County		**14. Watershed:**			Berry Creek			

Application Distribution

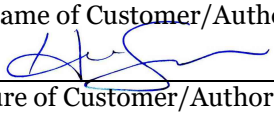
Instructions: Use the table below to determine the number of applications required. One original and one copy of the application, plus additional copies (as needed) for each affected incorporated city, county, and groundwater conservation district are required. Linear projects or large projects, which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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	_x_
Region (1 req.)	___	___	_x_
County(ies)	___	___	_x_
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___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 _x_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. Hollis Scheffler, P.E.
Print Name of Customer/Authorized Agent
 5/7/2025 Signature of Customer/Authorized Agent Date

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

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.

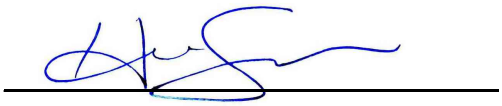
Signature

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: Hollis Scheffler, P.E.

Date: 02/12/25

Signature of Customer/Agent:



Project Information

1. Regulated Entity Name: Titan NorthPark35 Town Center
2. County: Williamson
3. Stream Basin: Berry Creek
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: Joe Iannacone
   Entity: Titan NP35 Phase II, LLC
   Mailing Address: 4903 Woorow Avenue
   City, State: Austin, Texas Zip: 78756
   Telephone: 210-388-5220 FAX: n/a
   Email Address: jiannacone@titan-development.com

8. Agent/Representative (If any):

   Contact Person: Hollis Scheffler, P.E.
   Entity: Westwood Professional Services
   Mailing Address: 8701 N. Mopac Expw. Ste. 320
   City, State: Austin, Texas Zip: 78759
   Telephone: 512-485-0831 FAX: n/a
   Email Address: hollis.scheffler@westwoodps.com

9. Project Location:

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

    _____

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: _____

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.

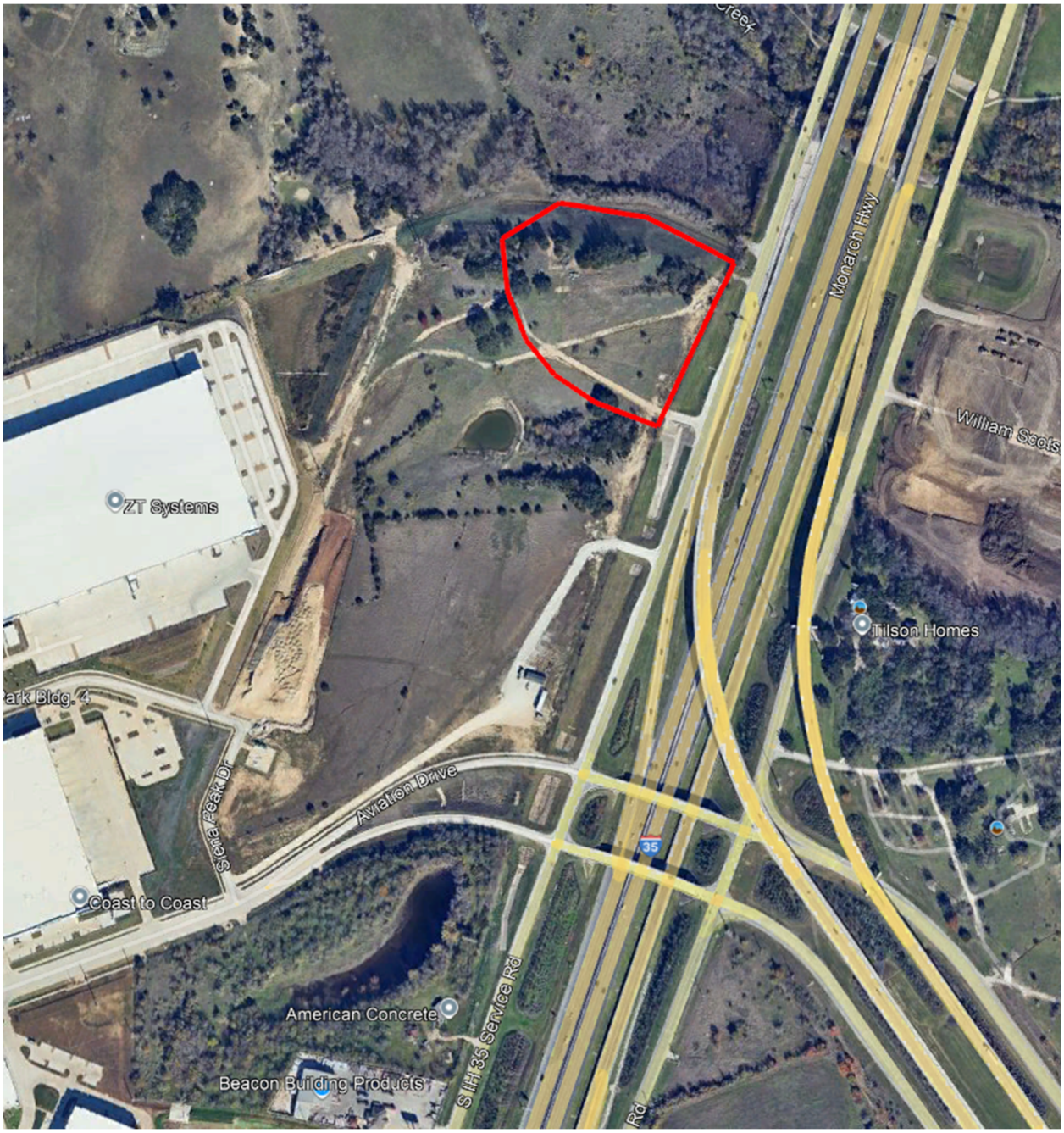
19. ☒ Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

- ☐ 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)

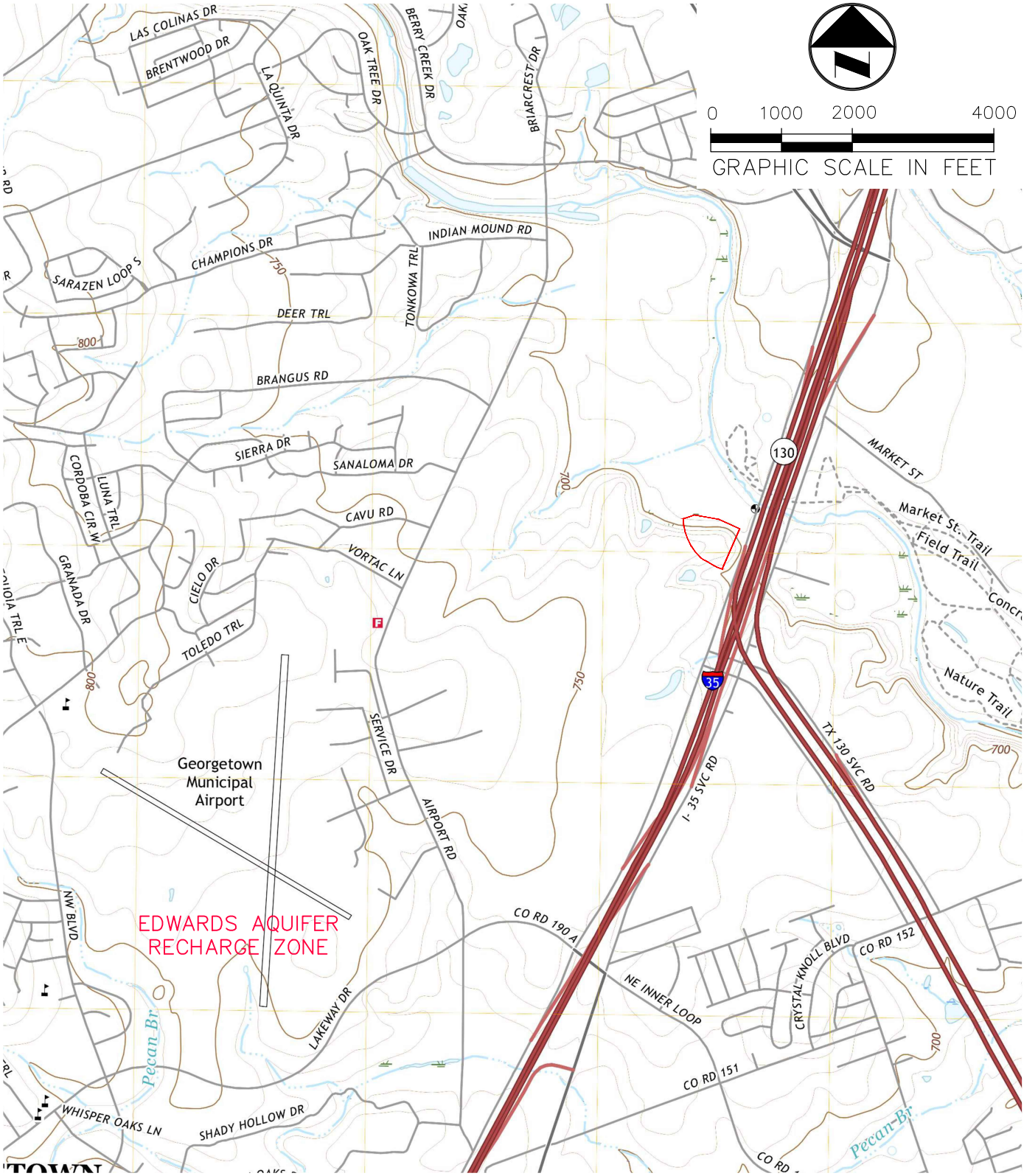
20. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies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

Attachment A – Road Map



Attachment B – USGS / Edwards Recharge Zone Map



ATTACHMENT "B"

USGS/EDWARDS RECHARGE ZONE MAP

GEORGETOWN QUADRANGLE
TEXAS - WILLIAMSON COUNTY
7.5-MINUTE SERIES

TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

Westwood
Westwood Professional Services, Inc.
Phone (512) 485-0831
Toll Free (888) 937-5150
8701 N. Mopac Expy, Suite 320
Austin, TX 78759
westwoodps.com

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER
SF	HAS	1"=2000'	02/12/2025	R0041495.00

TITAN NORTHPARK35 TOWN CENTER

SFORERO 2/12/2025 2:40 PM
N:\0041495.00\05 SERVICE GROUPS\SITE DESIGN & INFRASTRUCTURE DESIGN\1_DESIGN\WPAP APPLICATION\QUAD MAP.DWG

Attachment C – Project Description

The proposed development includes the construction of a city roadway, commercial building and utility extensions. The proposed improvements will occupy 8.75 acres of undeveloped land. The proposed site is located at 1809 Titan Drive in Georgetown, Texas 78628 in the City of Georgetown full-purpose jurisdiction. The existing site consists mostly of undeveloped grass meadows with few trees or brushy vegetation and Class D soil classification. According to FEMA Maps 48491C0283F and 48491C0291F (dated 12/20/2019), the subject site does not fall within a regulatory floodplain.

The site generally slopes at ±2% from the middle of the southwest side of the site to the north and east. The adjacent properties include industrial property to the west, agricultural sites to the north and south, and state right of way to the east.

The project will consist of city future roadway extension (Sanaloma Drive), a commercial building and associated grading, utility extensions, paving, and tie into proposed storm drain infrastructure and a JellyFish filtration system. The total impervious cover planned on the site is 5.04 acres. All proposed impervious cover is to be treated with the proposed JellyFish Filtration System.

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.

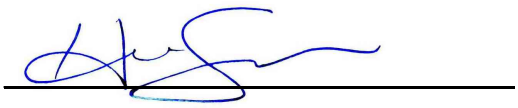
Signature

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: Hollis Scheffler, P.E.

Date: 8/22/2024

Signature of Customer/Agent:



Regulated Entity Name: Titan NorthPark35 Town Center

Regulated Entity Information

1. The type of project is:

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

2. Total site acreage (size of property):6.72 acres

3. Estimated projected population:n/a

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	0	÷ 43,560 =	0
Parking	0	÷ 43,560 =	0
Other paved surfaces	219,542	÷ 43,560 =	5.04
Total Impervious Cover	219,542	÷ 43,560 =	5.04

Total Impervious Cover 5.04 **÷ Total Acreage** 6.72 **X 100 =** 75**% 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	0 Gallons/day
_____% Industrial	_____Gallons/day
_____% Commingled	_____Gallons/day
TOTAL gallons/day 0	

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 Pecan Branch WWTP (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): FIRM Panels 4891C0283F & 48491C0291F dated 12/20/2019

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 0 (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)

☐ The wells are not in use and have been properly abandoned.
☐ The wells are not in use and will be properly abandoned.
☐ The wells are in use and comply with 16 TAC §76.

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

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

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

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

23. ☒ Areas of soil disturbance and areas which will not be disturbed.

24. ☒ Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

25. ☒ Locations where soil stabilization practices are expected to occur.

26. ☐ Surface waters (including wetlands).

    ☒ N/A

27. ☐ Locations where stormwater discharges to surface water or sensitive features are to occur.

    ☒ There will be no discharges to surface water or sensitive features.

28. ☒ Legal boundaries of the site are shown.

Administrative Information

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

30. ☒ Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

Attachment A – Factors Affecting Surface Water Quality

The following are potential sources of surface and groundwater contamination from construction activities:

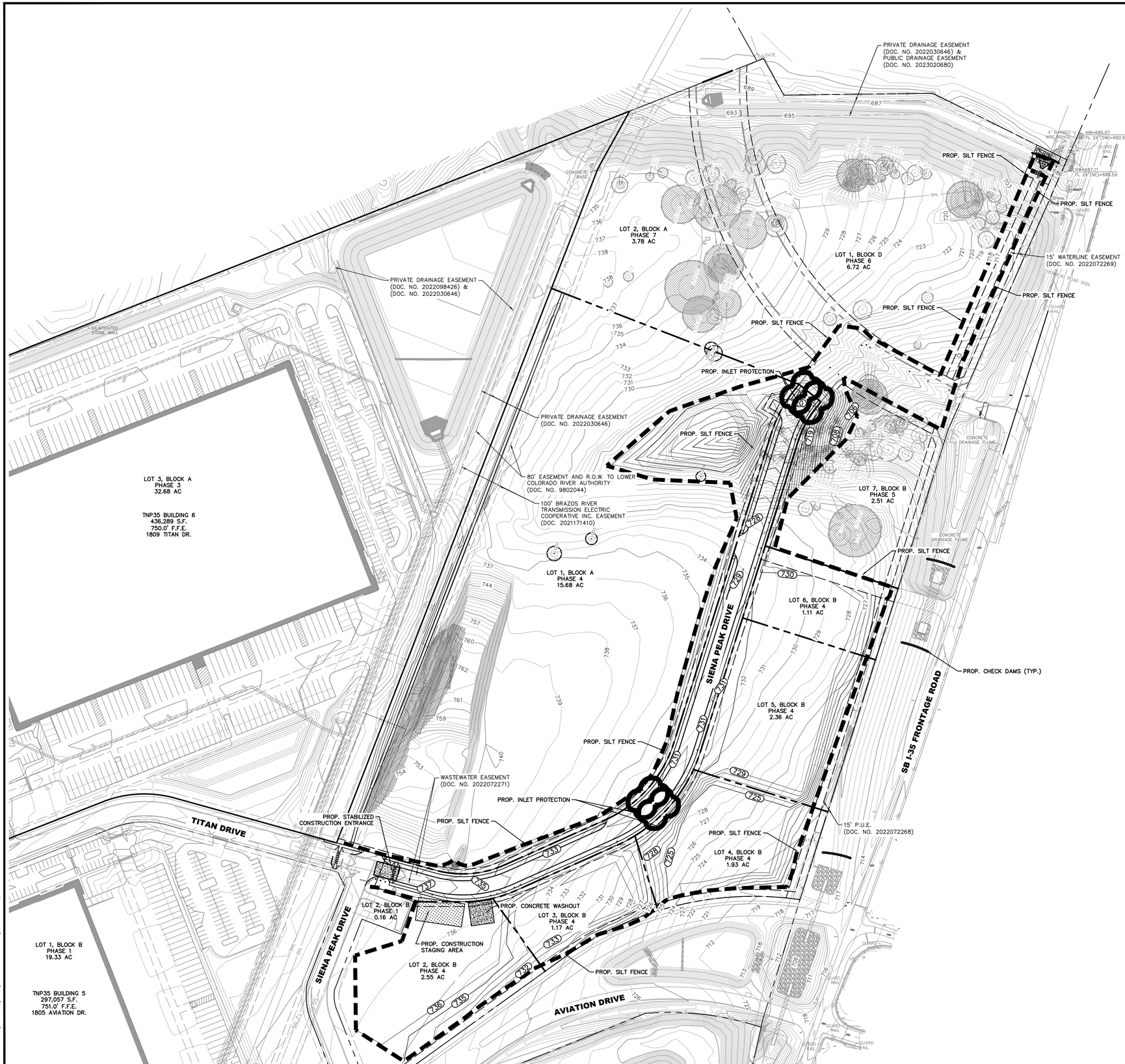
- Clearing and grubbing
- Grading and site excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping operations
- Staging and storage area
- Paving (including curb and gutter)
- Building Construction
- Concrete washout area

Attachment B – Volume and Character of Stormwater

The existing site generates approximately 59.7 cfs flowing over 8.75 acres primarily west to east over 75% grass cover at roughly 2%. The runoff coefficient utilized for the existing site is 0.40.

The proposed development generates an approximate 11.76 cfs and has a required TSS removal of 85%. The runoff from the site is generated from the roadway and other paved and impervious surfaces. The runoff coefficient utilized for the proposed site is 0.97. Flow is directed from the previously listed impervious structures and sent into catch basins to then be piped into the proposed JellyFish Peak Diversion Vault. The proposed BMP series meets the City of Georgetown's required 85% TSS removal efficiency.

Site Plan



0 50 100 200 300

GRAPHIC SCALE IN FEET
1"=100'

LEGEND

BL	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FLOOD LIGHT	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS (C.M.)	1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
613	EXIST CONTOUR
450	PROPOSED CONTOUR
	PROPOSED DRAINAGE FLOW DIRECTION
	PROPOSED CONSTRUCTION ENTRANCE
	INLET PROTECTION
	SILT FENCE (LIMITS OF DISTURBED AREA)
	CHECK DAM

TREE PRESERVATION LEGEND

HERITAGE TREE TO REMAIN	½ CRZ
HERITAGE TREE TO BE REMOVED	½ CRZ
PROTECTED TREE TO REMAIN	½ CRZ
PROTECTED TREE TO BE REMOVED	½ CRZ
TREE PROTECTION FENCE	

POLLUTION CONTROL GENERAL NOTES

1. THIS PLAN HAS BEEN PREPARED TO PROVIDE MEANS TO PREVENT OR MINIMIZE POLLUTION OF STORM WATER.
2. THE CONSTRUCTION ACTIVITY INCLUDED IN THIS PLAN WILL INCLUDE:
   - 2.A. CLEARING AND GRUBBING
   - 2.B. ROUGH GRADING
   - 2.C. FINAL GRADING
   - 2.D. UTILITY INSTALLATION
   - 2.E. PAVEMENT INSTALLATION
   - 2.F. BUILDING CONSTRUCTION
3. THE TOTAL ESTIMATED LAND AREA TO BE DISTURBED IS 16.15 ACRES.
4. THE ESTIMATED RUNOFF COEFFICIENT UPON COMPLETION OF THE PROJECT IS 0.90.
5. THE STORM WATER EXITING THE SITE IS COLLECTED IN AN EXISTING DRAINAGE SYSTEM MAINTAINED BY THE CITY OF GEORGETOWN, TEXAS.
6. THE SOILS ON THE SITE ARE GENERALLY EXPANSIVE CLAYS.
7. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION PROTECTION AROUND THE WORK AREA PERIMETER AND AT ALL INLET MOUTHS PRIOR TO COMMENCING WORK AND UNTIL THE WORK AREA HAS BEEN STABILIZED.
8. THE CONTRACTOR WILL REMOVE ALL EXCESS SOIL FROM CONSTRUCTION VEHICLES PRIOR TO EXITING THE SITE.
9. ALL DISTURBED AREAS WHICH WILL NOT BE RE-DISTURBED MUST BEGIN BEING STABILIZED IMMEDIATELY BY THE CONTRACTOR TO CONTROL EROSION. THE CONTRACTOR HAS 14 DAYS TO HAVE ALL STABILIZATION AND EROSION CONTROL DEVICES IN PLACE.
10. THE CONTRACTOR SHALL UNDERTAKE PROPER METHODS TO REDUCE DUST GENERATION FROM THE SITE.
11. THE CONTRACTOR MUST COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS REGARDING SEDIMENT AND EROSION CONTROL.
12. A COPY OF THIS PLAN, AS PART OF THE SWPPP, MUST BE KEPT AT THE CONSTRUCTION FACILITY DURING THE ENTIRE CONSTRUCTION PERIOD.
13. CONSTRUCTION SEQUENCING MUST PROVIDE FOR THE EXCAVATION OF AN ON-SITE BASIN AS A SEDIMENT COLLECTION BASIN PRIOR TO THE DISTURBANCE OF GREATER THAN 10 ACRES OF LAND.
14. ALL FINISHED GRADES ARE TO BE HYDROMULCHED, SPOT SODDED OR SEEDED AND WATERED UNTIL GROWTH IS ESTABLISHED ON AND OFF-SITE.
15. A PIT OR WASH OUT BASIN SHALL BE CONSTRUCTED ON-SITE BY THE CONTRACTOR FOR THE "WASH OUT" OF CONCRETE TRUCKS.
16. A BERM OR OTHER SPILL PROTECTION MEASURE SHALL BE USED FOR ANY TEMPORARY FUEL STORAGE TANK ON-SITE.
17. IF "SUMP" PUMPS ARE USED TO REMOVE WATER FROM EXCAVATED AREAS, FILTER THE DISCHARGE TO REMOVE SEDIMENT AND OTHER POLLUTANTS BEFORE THE WATER LEAVES THE SITE.
18. TO PREVENT DAMAGE TO VEGETATION IN DOWNSTREAM WATER COURSES, LIMIT ANY PROPOSED LIME STABILIZATION OPERATIONS TO THAT WHICH CAN BE MIXED AND COMPACTED BY THE END OF EACH WORK DAY. GEOTEXTILE FABRIC IS NOT EFFECTIVE IN FILTERING LIME SINCE THE GRAIN SIZE IS SMALLER THAN THE OPENING IN THE FABRIC.
19. VEHICLE PARKING AREAS, STAGING AREAS, STOCKPILES, SPOILS, ETC. SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. OTHERWISE, COVERING OR ENCIRCLING THE AREAS WITH PROTECTIVE MEASURES SHALL BE NECESSARY.
20. STORE ALL TRASH AND BUILDING MATERIALS WASTE IN AN ENCLOSURE UNTIL IT CAN BE PROPERLY DISPOSED OF AT THE APPROPRIATE OFF-SITE FACILITIES.
21. TRACKING OF SEDIMENT OFF-SITE BY TRUCK TRAFFIC SHALL BE HANDLED THROUGH REGULAR CLEANING.
22. INSPECTIONS SHALL BE CONDUCTED BY THE PERMITEE ONCE EVERY TWO WEEKS AND WITHIN 24 HOURS AFTER STORM EVENT OF 0.5 INCHES OR MORE OR ONCE PER WEEK ON A SPECIFIC PRE-DEFINED DAY. THE INSPECTIONS WILL INCLUDE:
   - 22.A. DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN STABILIZED.
   - 22.B. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
   - 22.C. STRUCTURAL CONTROL MEASURES.
   - 22.D. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
   - 22.E. IDENTIFICATIONS OF MEASURES THAT NEED TO BE MAINTAINED, MODIFIED, OR ADDED TO CORRECT PROBLEMS.
23. CONTRACTOR SHALL MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS PRESENT ON THE SITE TO PRECIPITATION AND TO STORMWATER.
24. PERMANENTLY STABILIZE EXPOSED SOIL, WITHIN AND ADJACENT TO THE SITE, THAT IS DISTURBED BY VEHICLES, GRADING AND OTHER CONSTRUCTION ACTIVITIES.
25. CONTAIN ALL RUNOFF FROM MATERIAL USED IN SUBGRADE STABILIZATION.
26. MATERIAL STOCKPILES SHALL BE COVERED BY PLASTIC OR SURROUNDED BY EROSION CONTROL STRUCTURES TO CONTROL SEDIMENT RELEASES.
27. CONTRACTOR SHALL PROTECT SLOPES IN EXCESS OF 15% IN ORDER TO MINIMIZE EROSION OF SOILS AND THE DISTURBANCE OF SLOPES.
28. VEGETATION TO BE PRESERVED WHERE EVER POSSIBLE TO HELP REDUCE EROSION. WHERE VEGETATION MUST BE REMOVED, PRESERVE NATIVE TOPSOIL IN ALL AREAS POSSIBLE.
29. MINIMIZE SOIL COMPACTION IN AREAS INTENDED FOR POST CONSTRUCTION PERVIOUS SURFACE.

2024-06-CON

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Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

EROSION CONTROL PLAN

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISOR OF HOLLIS ANN SCHEFFLER, P.E. 136049 ON 5/1/2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO. 10

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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.

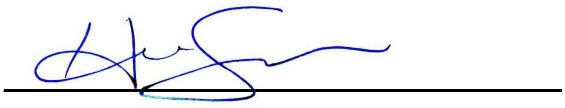
Signature

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: Hollis Scheffler, P.E.

Date: 8/22/2024

Signature of Customer/Agent



Regulated Entity Name: Titan NorthPark35 Town Center

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

Attachment B – BMPs for Upgradient Stormwater

There will be no upstream surface waters running onto the site and will not be treated with the proposed JellyFish. The proposed JellyFish and all associated ESC practices are designed for the subject site. The Jellyfish filtration system will be used to receive onsite flows from stormwater coming from the proposed site.

Attachment C – BMPs for On-site Stormwater

The Titan NorthPark 35 Entity is proposing a Jellyfish filtration system based on 6.72 acres of contributing area, encompassing 75.00% of impervious cover across the site. The stormwater is diverted through impervious structures and piped into a Jellyfish filtration system. The proposed JellyFish has adequate water quality storage to account for the proposed development and act as the primary treatment for TSS removal.

Attachment D – BMPs for Surface Streams

The Titan NorthPark 35 Entity is proposing a Jellyfish filtration system based on 6.56 acres of contributing area, encompassing 75.00% of impervious cover across the site. The stormwater is diverted through impervious structures and piped into a Jellyfish filtration system. The Jellyfish filtration system has adequate water quality storage to account for the proposed development and act as the primary treatment for TSS removal. The aforementioned BMP will provide adequate measures to prevent pollutant removal from entering the aquifer. No surface streams, buffers, or sensitive features are located on the site.

Attachment F – Construction Plans

CONSTRUCTION PLANS
FOR
TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
GEORGETOWN, TX 78628

OWNER

TITAN NP35 PHASE II, LLC
JOE IANNACONE
4903 WOODROW AVENUE
AUSTIN TX, 78756
JIANNACONE@TITAN-DEVELOPMENT.COM
TITAN-DEVELOPMENT.COM
210.338.5220

DEVELOPER

TITAN DEVELOPMENT
4903 WOODROW AVENUE
AUSTIN, TX 78756
TITAN-DEVELOPMENT.COM
512.720.7200

CONTRACTOR

CERRIS BUILDERS
3712 HELIOS WAY
PFLUGERVILLE, TX, 78660
512.687.6400
KMAXWELL@CERRIS.COM
CERRISBUILDERS.COM

ENGINEER

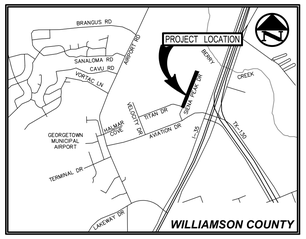
HOLLIS SCHEFFLER, P.E.
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AUSTIN TX 78759
512.485.0831
HOLLIS.SCHEFFLER@WESTWOODPS.COM
WESTWOODPS.COM

LANDSCAPE ARCHITECT

SCOTT SINN, PLA
8701 N. MOPAC EXPY, SUITE 320
AUSTIN TX 78759
512.485.0831
SCOTT.SINN@WESTWOODPS.COM
WESTWOODPS.COM

GENERAL NOTES:

1. THESE PLANS WERE PREPARED, SEALED, SIGNED AND DATED BY A TEXAS LICENSED PROFESSIONAL ENGINEER. THEREFORE, BASED ON THE ENGINEER'S CONCURRENCE OF COMPLIANCE, THE 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. WHERE NO EXISTING OVERHEAD INFRASTRUCTURE EXISTS, UNDERGROUND ELECTRIC UTILITY LINES SHALL B E 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 (ONLY APPLICABLE FOR NON-RESIDENTIAL AND MULTI-FAMILY DEVELOPMENT.)
4. ALL ELECTRIC AND COMMUNICATION INFRASTRUCTURE SHALL COMPLY WITH UDC SECTION 13.06.
5. THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
6. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON DECEMBER 14, 2020. NO SPRINGS OR STREAMS WERE IDENTIFIED IN THE GEOLOGIC ASSESSMENT.



VICINITY MAP
1" = 3000'

LEGAL DESCRIPTION:

AW0013 - WRIGHT, D. SUR., ACRES 32.047, DOC. NO. 2021051696 (O.P.R.)

FLOODPLAIN INFORMATION:

PER FEMA FIRM PANEL NO. 48491C0291F DATED 12/20/2019 AND FEMA FIRM PANEL NO. 48491C0283F DATED 12/20/2019, THE PROPOSED IMPROVEMENTS ARE IN THE AREA OF MINIMAL FLOOD HAZARD, ZONE X, AND NOT IN THE 100 YEAR FLOODPLAIN.
THERE ARE NO SPRINGS, STREAMS OR BUFFER ZONES LOCATED ON THE SUBJECT SITE.

PROPOSED USE:

CITY ROADWAY & UTILITY EXTENSION

ACREAGE:

2.22 AC (96,903 SF)

TOTAL IMPERVIOUS COVER:

EXISTING: 0 ACRES (00.0%)
PROPOSED: 1.49 AC (63.71%)

FIRE DEPARTMENT:

GEORGETOWN FIRE DEPARTMENT
3500 DB WOOD RD.
GEORGETOWN, TEXAS 78628
(512) 930-3473

ELECTRICITY, WATER & WASTEWATER:

GEORGETOWN UTILITY SYSTEMS
300-1 INDUSTRIAL AVENUE
GEORGETOWN, TX 78626
(512) 930-3555
HTTPS://GUS.GEORGETOWN.ORG/

TDLR:

PENDING

REVISIONS/CORRECTIONS

NO.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET NO.S	TOTAL # SHEETS IN PLAN SET	NET CHANGE TO IMP. COVER (sq. ft.)	TOTAL SITE IMP. COVER (sq. ft.) (%)	CITY OF GEORGETOWN APPROVAL/DATE	DATE IMAGED

PREPARED BY

Westwood

Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 Austin, TX 78759
westwoodps.com

Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

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SHEET SET INDEX

SHEET	SHEET NUMBER	SHEET TITLE
1	1	COVER
2	2	GENERAL NOTES
3	3	PRELIMINARY PLAT 1 OF 3
4	4	PRELIMINARY PLAT 2 OF 3
5	5	PRELIMINARY PLAT 3 OF 3
6	6	FINAL PLAT 1 OF 3
7	7	FINAL PLAT 2 OF 3
8	8	FINAL PLAT 3 OF 3
9	9	EXISTING CONDITIONS & DEMO PLAN
10	10	EROSION CONTROL PLAN
11	11	EROSION CONTROL DETAILS
12	12	EXISTING DRAINAGE AREA MAP
13	13	INTERIM DRAINAGE AREA MAP
14	14	PROPOSED DRAINAGE AREA MAP
15	15	SITE DRAINAGE AREA MAP
16	16	DRAINAGE AREA CALCULATIONS
17	17	SITE PLAN
18	18	SIGNAGE & STRIPING PLAN
19	19	ROADWAY TYPICAL SECTIONS
20	20	SIENA PEAK DRIVE 1 OF 2
21	21	SIENA PEAK DRIVE 2 OF 2
22	22	INTERSECTION BLOWUPS
23	23	MASS GRADING
24	24	STORM SEWER PLAN
25	25	STORM SEWER PROFILE SHEET 1 OF 2
26	26	STORM SEWER PROFILE SHEET 2 OF 2
27	27	STORM SEWER DETAILS
28	28	WATER QUALITY TREATMENT PLAN
29	29	WATER QUALITY TREATMENT DETAILS
30	30	OVERALL WATER & WASTEWATER PLAN
31	31	WATER PLAN & PROFILE 1 OF 2
32	32	WATER PLAN & PROFILE 2 OF 2
33	33	WASTEWATER PLAN & PROFILE 1 OF 2
34	34	WASTEWATER PLAN & PROFILE 2 OF 2
35	35	UTILITY STUBOUT PROFILES
36	36	RESTRAINED JOINT CALCS
37	37	UTILITY DETAILS 1 OF 2
38	38	UTILITY DETAILS 2 OF 2
39	39	PAVING PLAN
40	40	PAVING DETAILS
41	41	SIENA PEAK DR CROSS SECTIONS
42	L1.00	OVERALL TREE MITIGATION PLAN
43	L1.01	TREE MITIGATION PLAN
44	L1.02	TREE MITIGATION DATA & DETAILS
45	L2.00	OVERALL PLANTING PLAN
46	L2.01	PLANTING PLAN
47	L2.02	PLANTING PLAN
48	L3.00	SPECIFICATIONS

PROJECT ZONING: TITAN NORTHPARK 35 PUD (2023-58)

PROJECT ADDRESS: 3001 IH, 35, GEORGETOWN, TX 78628

SUBMITTAL DATE: MARCH 4, 2024

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Toll Free (888) 937-5150 Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

COVER

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISON OF HOLLIS ANN SCHEFFLER, P.E. 136049 ON 5/1/2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO.
1

2024-06-CON

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

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 TCEQ-0592 (REV. JULY 15, 2015) PAGE 2 OF 2
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.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ORGANIZED SEWAGE COLLECTION SYSTEM
GENERAL CONSTRUCTION NOTES

1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM (SCS) MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(C), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES AND ANY LOCAL GOVERNMENT STANDARD SPECIFICATIONS.
2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT
MUST BE PROVIDED WITH COPIES OF THE SCS PLAN AND THE TCEQ LETTER INDICATING THE SPECIFIC CONDITIONS OF ITS APPROVAL. DURING THE COURSE OF THESE REGULATED ACTIVITIES, THE CONTRACTORS MUST BE REQUIRED TO KEEP ON-SITE COPIES OF THE PLAN AND THE APPROVAL LETTER.
3. A WRITTEN NOTICE OF CONSTRUCTION MUST BE SUBMITTED TO THE PRESIDING TCEQ REGIONAL OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF ANY REGULATED ACTIVITIES. THIS NOTICE MUST INCLUDE:
- THE NAME OF THE APPROVED PROJECT;
- THE 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
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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: N/A
IF PIPE FLEXURE IS PROPOSED, THE FOLLOWING METHOD OF PREVENTING DEFLECTION OF THE JOINT MUST BE N/A 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.
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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 C924, 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

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

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:

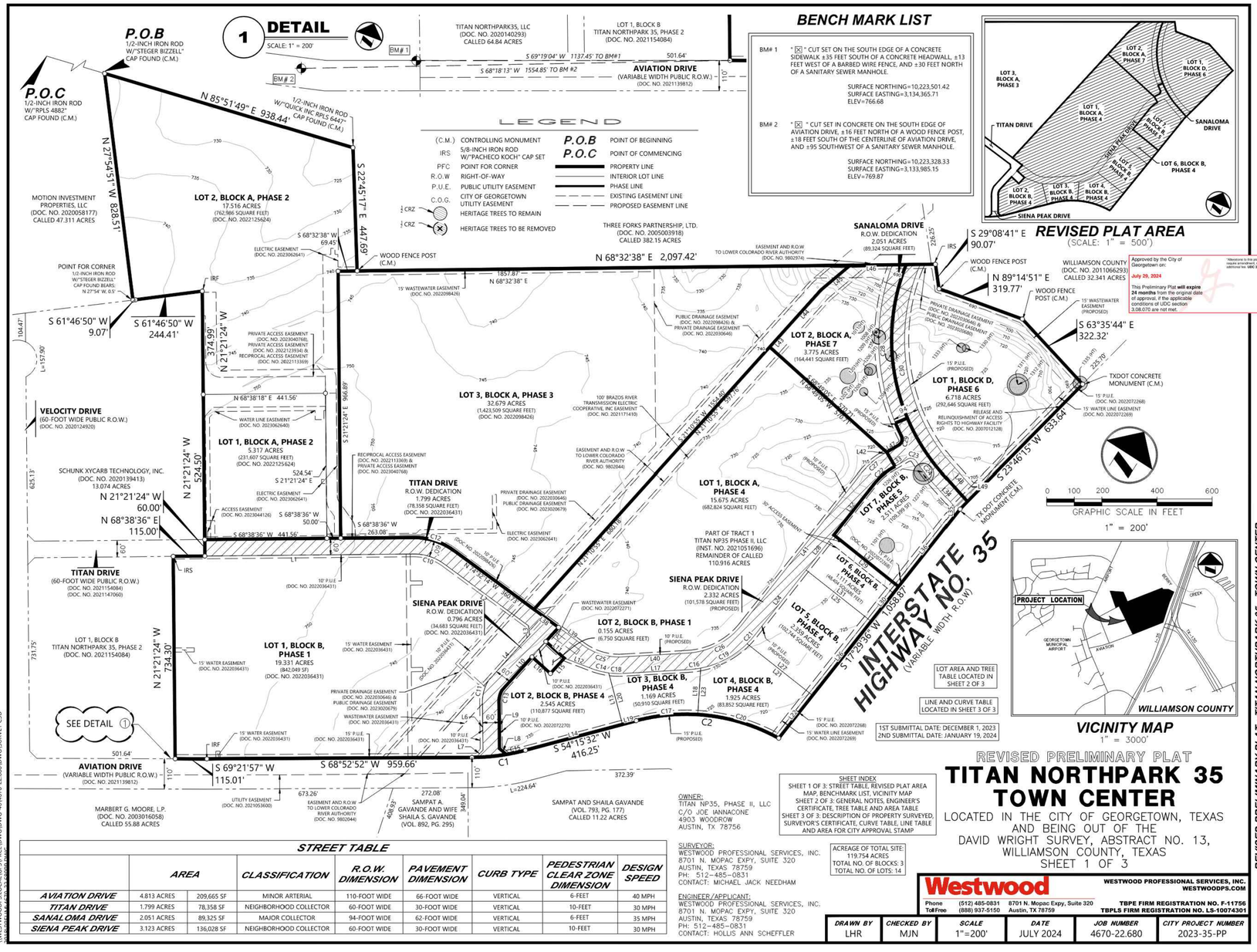
PIPE DIAMETER (INCHES)	MINIMUM TIME (SECONDS)	MAXIMUM LENGTH FOR MINIMUM TIME (FEET)	TIME FOR LONGER LENGTH (SECONDS/FOOT)
6	340	398	0.855
8	454	298	1.520
10	467	239	2.374
12	680	199	3.419
15	850	159	5.342
19	1020	133	7.693
21	1190	114	10.471
14	1360	100	13.676
17	1530	88	17.309
30	1700	80	21.369
33	1870	72	25.856

(A) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE FIRST 25% OF THE CALCULATED TESTING TIME.
(B) 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.
(C) 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.
(D) 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
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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) AN ADJUSTABLE OR DEFLECTOMETER 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.

GENERAL NOTES

1. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION SPECIFICATIONS OR THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE CITY OF GEORGETOWN STANDARD CONSTRUCTION SPECIFICATIONS.
2. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL BE FAMILIAR WITH THE PLANS, ALL NOTES, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, THE CITY STANDARDS FOR CONSTRUCTION, AND ANY OTHER APPLICABLE STANDARDS AND SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO BE FAMILIAR WITH ALL STANDARDS AND SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
3. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CONTRACTOR SHALL VERIFY ELEVATIONS SHOWN AND ENSURE THAT NECESSARY CROSSING CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES EXIST PRIOR TO CONSTRUCTION OF ANY SUCH CROSSINGS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL UTILITIES IN THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR TO VERIFY SIZE AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
4. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL MANHOLES, CLEANOUTS, VALVE BOXES, AND FIRE HYDRANTS, ETC. CONTRACTOR TO ADJUST TO PROPER LINE AND GRADE PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING AND GRADING. UTILITIES MUST BE MAINTAINED TO PROPER LINE AND GRADE DURING THE CONSTRUCTION OF THE PAVING FOR THIS DEVELOPMENT.
5.
5.1. PROTECT AND MAINTAIN ROADWAY TRAFFIC THROUGHOUT THE PROJECT, PROVIDING A MINIMUM OF ONE (1) LANE OPEN IN EACH DIRECTION;
5.2. PROVIDE AND MAINTAIN INTERIM ACCESS FROM ROADWAYS CURRENTLY IN USE TO ALL DRIVEWAYS AND INTERSECTING STREETS OR ALLEYS;
5.3. MAINTAIN NORMAL PROJECT DRAINAGE UNTIL NEW DRAINAGE FACILITIES ARE FUNCTIONAL, INCLUDING, WHERE NECESSARY, INTERIM REPLACEMENT OF EXISTING DRAINAGE STRUCTURES REMOVED FOR CONSTRUCTION OF NEW DRAINAGE FACILITIES;
5.4. MAINTAIN ALL WORK AND MATERIAL STORAGE AREAS IN ORDERLY CONDITION, FREE OF DEBRIS AND WASTE. ON COMPLETION OF CONSTRUCTION, CLEAN UP THE PROJECT AND ADJACENT AFFECTED AREAS TO ACCEPTABLE CONDITION, ALL AS PROVIDED IN THE GENERAL CONDITIONS.
6. PRIOR TO COMMENCEMENT OF CONSTRUCTION, BONDS AND THREE-WAY CONTRACTS SHALL BE SUBMITTED TO THE CITY AS REQUIRED.
7. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING TRENCH SAFETY.
8. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
9. REFER TO ARCHITECTURAL PLANS FOR DETAILED BUILDING ENTRANCE LAYOUTS, RAMPS, LANDSCAPE, AND SIDEWALKS.
10. ALL GRADING AND PROJECT SIGNS SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND LATEST UPDATES.
11. EXACT SAWCUT PAVEMENT REMOVAL AND REPLACEMENT LIMITS WITHIN THE PUBLIC RIGHT-OF-WAY IS TO BE IN ACCORDANCE WITH THE CITY PAVEMENT REPAIR MANUAL

Approved by COG on 7/29/2024



STREET TABLE

	AREA		CLASSIFICATION	R.O.W. DIMENSION	PAVEMENT DIMENSION	CURB TYPE	PEDESTRIAN CLEAR ZONE DIMENSION	DESIGN SPEED
AVIATION DRIVE	4.813 ACRES	209,665 SF	MINOR ARTERIAL	110-FOOT WIDE	66-FOOT WIDE	VERTICAL	6-FEET	40 MPH
TITAN DRIVE	1.799 ACRES	78,358 SF	NEIGHBORHOOD COLLECTOR	60-FOOT WIDE	30-FOOT WIDE	VERTICAL	10-FEET	30 MPH
SANALOMA DRIVE	2.051 ACRES	89,325 SF	MAJOR COLLECTOR	94-FOOT WIDE	62-FOOT WIDE	VERTICAL	6-FEET	35 MPH
SIENA PEAK DRIVE	3.123 ACRES	136,028 SF	NEIGHBORHOOD COLLECTOR	60-FOOT WIDE	30-FOOT WIDE	VERTICAL	10-FEET	30 MPH

SHEET INDEX
SHEET 1 OF 3: STREET TABLE, REVISED PLAT AREA MAP, BENCHMARK LIST, VICINITY MAP
SHEET 2 OF 3: GENERAL NOTES, ENGINEER'S CERTIFICATE, TREE TABLE AND AREA TABLE
SHEET 3 OF 3: DESCRIPTION OF PROPERTY SURVEYED, SURVEYOR'S CERTIFICATE, CURVE TABLE, LINE TABLE AND AREA FOR CITY APPROVAL STAMP

ACREAGE OF TOTAL SITE: 119.754 ACRES
TOTAL NO. OF BLOCKS: 3
TOTAL NO. OF LOTS: 14

OWNER:
TITAN NP35, PHASE II, LLC
C/O JOE IANNACONE
4903 WOODROW
AUSTIN, TX 78756

SURVEYOR:
WESTWOOD PROFESSIONAL SERVICES, INC.
8701 N. MOPAC EXPY, SUITE 320
AUSTIN, TEXAS 78759
PH: 512-485-0831
CONTACT: MICHAEL JACK NEEDHAM

ENGINEER/APPLICANT:
WESTWOOD PROFESSIONAL SERVICES, INC.
8701 N. MOPAC EXPY, SUITE 320
AUSTIN, TEXAS 78759
PH: 512-485-0831
CONTACT: HOLLIS ANN SCHEFFLER

REVISED PRELIMINARY PLAT
TITAN NORTHPARK 35 TOWN CENTER
LOCATED IN THE CITY OF GEORGETOWN, TEXAS AND BEING OUT OF THE DAVID WRIGHT SURVEY, ABSTRACT NO. 13, WILLIAMSON COUNTY, TEXAS
SHEET 1 OF 3

Westwood
WESTWOOD PROFESSIONAL SERVICES, INC.
WESTWOODPS.COM
Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 Austin, TX 78759
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER	CITY PROJECT NUMBER
LHR	MJN	1"=200'	JULY 2024	4670-22.680	2023-35-PP

REVISED PRELIMINARY PLAT - TITAN NORTHPARK 35 - TOWN CENTER

Westwood
Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
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westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

PRELIMINARY PLAT 1 OF 3

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO.
3

2024-06-CON

ZNMOORE
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\\WESTWOODPS\LOCAL\GFS\PRCE\DWG\DWG-4674670-22.680\DWGS\SURVEY C3D

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Approved by COG on 7/29/2024

GENERAL NOTES

1. Bearing system for this survey is based on the State Plane Coordinate System, North American Datum of 1983 (2011), Texas Central Zone 4203. Distances reported have been scaled by applying the surface adjustment factor of 1.0001313201.
2. The water, wastewater, and electric utility provider for this development is the City of Georgetown.
3. There are no areas within the boundaries of this subdivision in the 100-year floodplain as defined by FIRM Map Number 48491C0291F, effective date of December 20, 2019 and by FIRM Map Number 48491C0283F, effective date of December 20, 2019.
4. In order to promote drainage away from a structure, the slab elevation should be built at least one-foot above the surrounding ground, and the ground should be graded away from the structure at a slope of 1/2'' per foot for a distance of at least 10 feet.
5. The monuments of this plat have been rotated to the NAD 83/93 HARN - Texas Central Zone and NAVD 88.
6. All sedimentation, filtration, detention, and/or retention basins and related appurtenances shown shall be situated within a drainage easement or drainage lot. The owners, HOA, or assignees of the tracts upon which are located such easements, appurtenances, and detention facilities shall maintain same and be responsible for their maintenance, routine inspection, and upkeep.
7. The landowner assumes all risks associated with improvements located in the right-of-way, or road widening easements. By placing anything in the right-of-way or road widening easements, the landowner indemnifies and holds the City of Georgetown, Williamson County, their officers, agents and employees harmless from any liability owing to property defects or negligence not attributable to them and acknowledges that the improvements may be removed by the City and/or County and that the owner of the improvements will be responsible for the relocation and/or replacement of the improvements.
8. The building of all streets, roads, and other public thoroughfares and any bridges or culverts necessary to be constructed or placed is the responsibility of the owners of the tract of land covered by this plat in accordance with the plans and specifications prescribed by the City of Georgetown and/or Williamson County, Texas. Neither the City of Georgetown nor Williamson County assumes any obligation to build any of the streets, roads, or other public thoroughfares shown on this plat or of constructing any of the bridges or drainage improvements in connection therewith. Neither the City of Georgetown nor Williamson County assumes any responsibility for drainage ways or easements in the subdivision, other than those draining or protecting the road system and streets in their respective jurisdictions.
9. Right-of-way easements for widening roadways or improving drainage shall be maintained by the landowner until road or drainage improvements are actually constructed on the property. The City and/or County have the right at any time to take possession of any road widening easement for construction, improvement, or maintenance of the adjacent road.
10. A 10-foot or 15-foot Public Utility Easement is hereby dedicated along all street frontages within this plat as noted.
11. Neither the City of Georgetown nor Williamson County assumes any responsibility for the accuracy of representations by other parties in this plat. Floodplain data, in particular, may change depending on subsequent development. It is further understood that the owners of the tract of land covered by this plat must install at their own expense all traffic control devices and signage that may be required before the streets in the subdivision have finally been accepted for maintenance by the City and / or County.
12. This plat is subject to the provisions of the City of Georgetown Water Conservation Ordinance.
13. The subdivision subject to this application is subject to the Water Quality Regulations of the City of Georgetown.
14. A geologic assessment, in accordance with the City of Georgetown water quality regulations, was completed on December 02, 2020. any springs and streams as identified in the geologic assessment are shown herein.
15. The maximum impervious coverage per non-residential lot shall be pursuant to the UDC at the time of Site Plan application based on the zoning designation of the property.
16. There is hereby granted for the use and benefit of the public a continuing avigation easement for the free and unobstructed flight of aircraft (which term shall include any contrivance now or hereafter used for flight through the air) and the right of flight for the passage of aircraft in the air space above the surface of the Property, together with such noise and other effects as may be inherent in the operation of aircraft landing at, taking off from, or engaged in other flight activities at the Georgetown Municipal Airport.
17. Grantors do hereby grant and convey an easement for the Horizontal Zone, as that term is defined in Section 12.36 of the City of Georgetown Code of Ordinances and as shown on this plat, being further described as affecting Lot 1 and 2 of Block B (Phase 1), Lots 1-3 of Block A (Phase 2), Lot 1 of Block D (Phase 5), Lot 1 and 2 of Block A (Phase 4), Lots 2-7 of Block B (Phase 4) of this plat.
18. These easements shall be perpetual and shall be binding on Grantor and its assigns, heirs, and successors.
19. Any Heritage Tree as noted on this plat is subject, in perpetuity, to the maintenance, care, pruning and removal requirements of the City of Georgetown. Approved removal does not require modification of the plat.
20. All individual lots containing Heritage Trees are configured and designed so that the lot is developable for the intended purpose without requiring removal of the Heritage Trees or exceeding the percentage of allowable disturbance within the Heritage Trees CRZ.
21. Unless otherwise noted herein, all easements dedicated to the City of Georgetown by this plat shall be EXCLUSIVE to the City of Georgetown, and Grantor covenants that Grantor and Grantor's heirs, successors, and assigns shall not convey any other easement, license, or conflicting right to use in any manner, the area (or any portion thereof) covered by this grant.
22. All easements dedicated to the City of Georgetown by this plat additionally include the following rights: (1) the right of the City to change the size of any facilities installed, maintained, or operated within the easement area; (2) the right of the City to relocate any facilities within the easement area; and (3) the right of the City to remove from the easement area all trees and parts thereof, or other obstructions, which endanger or may interfere with the efficiency and maintenance of any facilities within the easement area.
23. State-owned riverbeds and beds of navigable streams in the public domain are held trust for the public. There is hereby granted for the use and benefit of the public a continuing access easement for the free and unobstructed use of the navigable river and the right of portage along its banks, across any portion of the Property between the mean high-water marks of the river in its natural state.

TREE TABLE

TAG NO.	NORTHING	EASTING	DESCRIPTION
1008	10,226,250.29	3,137,256.69	LIVE OAK 26"
1011	10,226,243.71	3,137,192.02	MULTI-TRUNK LIVE OAK 40.5"
1101	10,225,542.24	3,137,566.61	MULTI-TRUNK LIVE OAK 55.5"
1201	10,226,064.75	3,137,216.46	LIVE OAK 57.5"
1202	10,226,008.07	3,137,235.94	LIVE OAK 39"
1204	10,226,031.54	3,137,291.14	LIVE OAK 29"
1205	10,226,107.59	3,137,281.25	LIVE OAK 29"
1206	10,226,115.79	3,137,284.54	LIVE OAK 42.5"
1208	10,226,188.85	3,137,337.10	LIVE OAK 40"

TREE TABLE

TAG NO.	NORTHING	EASTING	DESCRIPTION
1209	10,226,236.10	3,137,270.40	LIVE OAK 51"
1226	10,225,835.99	3,137,594.53	LIVE OAK 32"
1227	10,225,830.37	3,137,598.33	MULTI-TRUNK LIVE OAK 37.5"
1311	10,226,253.62	3,137,802.65	MULTI-TRUNK LIVE OAK 39"
1312	10,226,249.97	3,137,804.09	MULTI-TRUNK LIVE OAK 31"
1330	10,226,310.38	3,137,579.50	MULTI-TRUNK LIVE OAK 26"
1333	10,226,305.80	3,137,563.41	MULTI-TRUNK LIVE OAK 34.5"
1335	10,226,338.32	3,138,012.40	CEDAR ELM 26"

ENGINEER'S CERTIFICATE

STATE OF TEXAS

COUNTY OF TRAVIS

I, Hollis A. Scheffler, Registered Professional Engineer in the State of Texas, do hereby certify that this subdivision is in the Edwards Aquifer Recharge Zone and is not encroached by Zone A flood area, as denoted herein and as defined by Federal Emergency Management Administration Flood Hazard Boundary Map, Community Panel Number 48491C0291F, effective date December 20, 2019 and Community Panel Number 48491C0283F, effective date December 20, 2019 and that each lot conforms to the City of Georgetown regulations.

The fully developed, concentrated stormwater runoff resulting from the one hundred (100) year frequency storm is contained within the drainage easement shown and/or public rights-of-way dedicated by this plat.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT AUSTIN, TEXAS THIS 29TH DAY OF July, 2024.

Hollis A. Scheffler
Registered Professional Engineer
No. 136049 State of Texas

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

7/29/2024

AREA TABLE

LOT 1, BLOCK B, PHASE 1	19.331 ACRES	842,049 SF
LOT 2, BLOCK B, PHASE 1	0.155 ACRES	6,750 SF
LOT 1, BLOCK A, PHASE 2	5.317 ACRES	231,607 SF
LOT 2, BLOCK A, PHASE 2	17.516 ACRES	762,986 SF
LOT 3, BLOCK A, PHASE 3	32.679 ACRES	1,423,509 SF
LOT 1, BLOCK A, PHASE 4	15.675 ACRES	682,824 SF
LOT 2, BLOCK B, PHASE 4	2.545 ACRES	110,877 SF
LOT 3, BLOCK B, PHASE 4	1.169 ACRES	50,910 SF
LOT 4, BLOCK B, PHASE 4	1.925 ACRES	83,852 SF
LOT 5, BLOCK B, PHASE 4	2.359 ACRES	102,744 SF
LOT 6, BLOCK B, PHASE 4	1.111 ACRES	48,404 SF
LOT 7, BLOCK B, PHASE 5	2.511 ACRES	109,399 SF
LOT 1, BLOCK D, PHASE 6	6.718 ACRES	292,646 SF
LOT 2, BLOCK A, PHASE 7	3.775 ACRES	164,441 SF
TITAN DRIVE R.O.W. (PROPOSED)	1.799 ACRES	78,358 SF
SIENA PEAK DRIVE (PROPOSED)	0.796 ACRES	34,683 SF
SANALOMA DRIVE (PROPOSED)	2.051 ACRES	89,324 SF
SIENA PEAK DRIVE (PROPOSED)	2.332 ACRES	101,578 SF
TOTAL AREA	119.754 ACRES	5,216,466 SF

IMPERVIOUS COVER TABLE

LOT	BLOCK	PHASE	ACREAGE AREA	IMPERVIOUS COVER AREA	IMPERVIOUS COVER PERCENTAGE
1	B	1	19.331	14.01	72.47%
2	B	1	0.155	0.07	45.16%
1	A	2	5.317	3.66	68.84%
2	A	2	17.516	8.65	49.38%
3	A	3	32.679	19.41	59.40%
1	A	4	15.675	7.75	49.44%
2	B	4	2.545	1.20	47.15%
3	B	4	1.169	0.47	40.21%
4	B	4	1.925	0.80	41.56%
5	B	4	2.359	1.33	56.38%
6	B	4	1.111	0.55	49.50%
7	B	5	2.511	1.10	43.81%
1	D	6	6.718	2.50	37.21%
2	A	7	3.775	1.05	27.81%
TITAN DRIVE			1.799	1.36	75.60%
SIENA PEAK DRIVE			3.128	1.58	50.51%
TOTALS			117.713	65.49	55.64%
ALLOWABLE IMPERVIOUS COVER				65.49	55.64%

TOTAL NO. OF LOTS	14 LOTS
TOTAL NO. OF BLOCKS	3 BLOCKS

REVISED PRELIMINARY PLAT

TITAN NORTHPARK 35 TOWN CENTER

LOCATED IN THE CITY OF GEORGETOWN, TEXAS
AND BEING OUT OF THE
DAVID WRIGHT SURVEY, ABSTRACT NO. 13,
WILLIAMSON COUNTY, TEXAS
SHEET 2 OF 3

Westwood
WESTWOOD PROFESSIONAL SERVICES, INC.
WESTWOODPS.COM
Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 Austin, TX 78759
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER	CITY PROJECT NUMBER
LHR	MJN	NONE	JULY 2024	4670-22.680	2023-35-PP

Westwood
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Westwood Professional Services, Inc.
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TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

PRELIMINARY PLAT 2 OF 3

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO.
4

2024-06-CON

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Approved by COG on 7/29/2024

DESCRIPTION OF PROPERTY SURVEYED

DESCRIPTION, of a 119.754 acre tract of land situated in the David Wright Survey, Abstract No. 13, Williamson County, Texas; said tract being part of that certain tract of land described as "Tract 1" and all of that certain tract of land described as "Tract 2" in Special Warranty Deed to Titan NP35 Phase II, LLC recorded in Document Number 2021051696 in said Official Public Records; said 119.754 acre tract being more particularly described as follows:

COMMENCING, at a 1/2-inch iron rod with "RPLS 4882" cap found in the southeast right-of-way of Airport Road (a variable width right-of-way); said point being the northwest corner of said Motion Investment Properties tract and in a northwest line of that certain tract of land described in Special Warranty Deed to Motion Investment Properties tract recorded in Document No. 2020058177 of said Official Public Records;

THENCE, **North 85 degrees 51 minutes 17 seconds East**, along the north line of said Motion Investment Properties tract, a distance of **809.69 feet** to the **POINT OF BEGINNING**; said point also being a 1/2-inch iron rod with "STEGER BIZZELL" cap found for the northeast corner of said Motion Investment Properties tract and the northwest corner of said Tract 2;

THENCE, **North 85 degrees 51 minutes 49 seconds East**, continuing along the north line of said Tract 2, a distance of **938.44 feet** to a 1/2-inch iron rod with "QUICK INC RPLS 6447" cap found for the northeast corner of said Tract 2;

THENCE, **South 22 degrees 45 minutes 17 seconds East**, along the northeast line of said Motion Investment Properties tract, a distance of **447.69 feet** to a wood post found, said point being the northeast corner of said "Tract 1" and the southeast corner of said "Tract 2";

THENCE, **North 68 degrees 32 minutes 38 seconds East**, continuing along the said south line of the Three Forks Partnership tract, a distance of **2,097.42 feet** to a 5/8-inch iron rod with "PACHECO KOCH" cap set for corner; said point being a southwest corner of that certain tract of land described in Deed without Warranty to Williamson County recorded in Document No. 2011066293 of said Official Public records;

THENCE, along the south line of said Williamson County tract, the following **three (3) calls**:

South 29 degrees 08 minutes 41 seconds East, a distance of **90.07 feet** to a wood fence post found for corner;

North 89 degrees 14 minutes 51 seconds East, a distance of **319.77 feet** to a wood fence post found for corner;

South 63 degrees 35 minutes 44 seconds East, a distance of **322.32 feet** to a TXDOT Type I concrete monument found for corner in the west right-of-way line of Interstate Highway No. 35 (a variable width right-of-way);

THENCE, **South 23 degrees 46 minutes 15 seconds West**, along the said west line of Interstate Highway No. 35, a distance of **633.64 feet** to a TXDOT Type I concrete monument found for corner;

THENCE, **South 17 degrees 29 minutes 36 seconds West**, continuing along the said west line of Interstate Highway 35, a distance of **1,058.87 feet** to 5/8-inch iron rod with "PACHECO KOCH" cap set for corner; said point being the beginning of a curve to the left;

THENCE, Along the north line of Aviation Drive a variable width right-of-way being recorded Document Number 2021139812 of the said Official Public Records, the following **five (5) calls**:

along said curve, having a central angle of **43 degrees 58 minutes 20 seconds**, a **radius** of **695.50 feet**, a **chord bearing** and distance of **South 76 degrees, 14 minutes, 41 seconds West 520.76 feet**, an **arc distance** of **533.77 feet** to a 5/8-inch iron rod with "PACHECO KOCH" cap set at the end of said curve;

South 54 degrees 15 minutes 32 seconds West, a distance of **416.25 feet** to a 5/8-inch iron rod with "PACHECO KOCH" cap set; said point being the beginning of a curve to the right;

along said curve, having a central angle of **14 degrees 51 minutes 30 seconds**, a **radius** of **757.01 feet**, a **chord bearing** and distance of **South 61 degrees 40 minutes 10 seconds West 195.76 feet**, an **arc distance** of **196.31 feet** to a 5/8-inch iron rod with "PACHECO KOCH" cap set at the end of said curve;

South 68 degrees 52 minutes 52 seconds West, a **distance** of **959.66 feet** to a 5/8-inch iron rod with "PACHECO KOCH" cap set;

South 69 degrees 21 minutes 57 seconds West, a **distance** of **115.01 feet** to a 1/2-inch iron rod found for corner;

THENCE, departing the said north line of Aviation Drive and along the west line of said Tract 1 the following **five (5) calls**:

North 20 degrees 38 minutes 03 seconds West, a distance of **55.00 feet** to a point for corner;

North 21 degrees 21 minutes 24 seconds West, a distance of **734.30 feet** to a 5/8-inch iron rod with "PACHECO KOCH" cap found for corner;

North 68 degrees 38 minutes 36 seconds West, a distance of **115.00 feet** to a point for corner;

North 21 degrees 21 minutes 24 seconds West, a distance of **959.49 feet** to a point for corner;

South 61 degrees 46 minutes 50 seconds West, at a distance of **244.41 feet** to a point for corner;

South 62 degrees 20 minutes 14 seconds West, a distance of **9.07 feet** to a point for corner; from said point a 1/2-inch iron rod with "STEGER BIZZELL" cap found bears, North 27 degrees 54 minutes West, a distance of 0.5 feet;

THENCE, **North 27 degrees 55 minutes 23 seconds West**, a distance of **828.23 feet** to a point for corner; the POINT OF BEGINNING;

CONTAINING: **5,216,466 square feet** or **119.754 acres** of land, more or less.

LINE TABLE

LINE	BEARING	LENGTH
L1	N 68°38'36" E	869.64'
L2	S 74°32'14" E	379.97'
L3	S 26°40'40" E	33.55'
L4	S 21°10'55" W	222.59'
L10	N 21°10'55" E	238.47'
L11	S 68°49'05" E	90.00'
L12	S 89°53'48" E	105.04'
L13	S 35°43'17" E	193.34'

LINE TABLE

LINE	BEARING	LENGTH
L14	S 54°15'32" W	364.29'
L15	S 21°10'55" W	75.00'
L16	N 68°49'07" W	90.00'
L17	N 65°53'33" E	237.21'
L18	S 17°12'03" E	168.79'
L19	S 54°15'32" W	51.96'
L20	N 35°43'17" W	193.34'
L21	S 72°30'24" E	302.64'

LINE TABLE

LINE	BEARING	LENGTH
L22	S 17°29'36" W	198.00'
L23	N 17°12'03" W	168.79'
L24	N 17°29'36" E	300.77'
L25	S 72°30'12" E	300.00'
L26	S 17°29'36" W	342.35'
L27	N 72°30'24" W	302.64'
L28	N 17°29'36" E	162.14'
L29	S 72°12'07" E	300.01'

LINE TABLE

LINE	BEARING	LENGTH
L30	S 17°29'36" W	160.56'
L31	N 72°30'12" W	300.00'
L32	N 17°29'36" E	235.88'
L33	N 38°41'17" E	69.52'
L34	S 62°45'30" E	107.42'
L35	S 21°55'49" E	39.37'
L36	S 17°29'36" W	322.98'
L37	N 72°12'07" W	300.01'

LINE TABLE

LINE	BEARING	LENGTH
L38	N 74°32'14" W	110.55'
L39	N 74°32'13" W	109.78'
L40	S 65°53'33" W	237.21'
L41	S 17°29'36" W	698.78'
L42	S 38°41'17" W	17.17'
L43	N 21°10'55" E	71.82'
L44	N 21°10'55" E	204.64'
L45	N 28°57'33" E	140.70'

LINE TABLE

LINE	BEARING	LENGTH
L46	N 68°32'38" E	153.02'
L47	S 38°41'17" W	52.32'
L48	N 62°45'30" W	101.07'
L49	S 68°43'06" W	35.39'

SURVEYOR'S CERTIFICATE

STATE OF TEXAS

COUNTY OF TRAVIS

I, Michael Jack Needham, a Registered Professional Land Surveyor, licensed by the State of Texas, do hereby certify that this plat is true and correctly made from an actual survey made on the ground of the property legally described hereon, and that there are no apparent discrepancies, conflicts, overlapping of improvements, visible utility lines or roads in place, except as shown on the accompanying plat, and that the corner monuments shown thereon were properly placed under my supervision in accordance with the subdivision regulations of the City of Georgetown, Texas.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT AUSTIN, TEXAS THIS 29TH DAY OF JULY , 2024.

Michael Jack Needham
Registered Professional Land Surveyor
No. 5183 State of Texas

STATE OF TEXAS · REGISTERED · MICHAEL JACK NEEDHAM · 5183 · LICENSED PROFESSIONAL LAND SURVEYOR

CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD BEARING	CHORD
C1	14°51'30"	757.01'	196.31'	98.71'	N 61°40'10" E	195.76'
C2	43°58'20"	695.50'	533.77'	280.80'	N 76°14'41" E	520.76'
C10	36°49'10"	185.00'	118.88'	61.58'	N 87°03'11" E	116.85'
C11	35°25'29"	147.72'	91.33'	47.18'	S 7°01'33" E	89.88'
C12	36°49'10"	245.00'	157.44'	81.55'	N 87°03'11" E	154.75'
C13	33°16'27"	87.77'	50.97'	26.23'	N 9°05'53" W	50.26'
C14	13°19'50"	280.01'	65.15'	32.72'	N 83°26'17" E	65.00'
C15	5°20'53"	757.01'	70.66'	35.36'	S 56°54'51" W	70.63'
C16	7°38'57"	330.00'	44.06'	22.06'	N 62°04'04" E	44.02'
C17	18°32'25"	695.50'	225.06'	113.52'	S 63°31'44" W	224.07'
C18	10°52'48"	280.01'	53.17'	26.67'	N 71°19'58" E	53.09'
C19	33°30'29"	330.00'	192.99'	99.34'	N 41°29'22" E	190.25'
C20	25°25'55"	695.50'	308.71'	156.94'	S 85°30'54" W	306.18'
C21	7°14'31"	330.00'	41.71'	20.88'	N 21°06'52" E	41.68'
C22	21°11'41"	220.00'	81.38'	41.16'	N 28°05'26" E	80.92'
C23	86°51'22"	25.00'	37.90'	23.66'	N 85°15'36" E	34.37'
C24	7°23'00"	776.84'	100.11'	50.12'	S 59°04'02" E	100.04'
C25	39°34'13"	220.00'	151.94'	79.14'	S 85°40'39" W	148.94'
C26	48°23'57"	270.00'	228.08'	121.34'	S 41°41'34" W	221.35'
C27	21°11'41"	280.00'	103.58'	52.39'	S 28°05'26" W	102.99'
C28	47°04'44"	777.00'	638.45'	338.49'	S 23°43'28" E	620.64'
C29	86°52'26"	25.00'	37.91'	23.67'	S 7°52'31" E	34.38'
C30	65°26'40"	685.28'	782.74'	440.32'	N 29°59'17" W	740.88'

AREA RESERVED FOR CITY APPROVAL STAMP

REVISED PRELIMINARY PLAT

TITAN NORTHPARK 35 TOWN CENTER

LOCATED IN THE CITY OF GEORGETOWN, TEXAS AND BEING OUT OF THE DAVID WRIGHT SURVEY, ABSTRACT NO. 13, WILLIAMSON COUNTY, TEXAS
SHEET 3 OF 3

Westwood
WESTWOOD PROFESSIONAL SERVICES, INC.
WESTWOODPS.COM
Phone (512) 485-0831 Toll Free (888) 937-5150
8701 N. Mopac Expy, Suite 320 Austin, TX 78759
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER	CITY PROJECT NUMBER
LHR	MJN	NONE	JULY 2024	4670-22.680	2023-35-PP

REVISED PRELIMINARY PLAT - TITAN NORTHPARK 35 II, 119.754 ACRES, LOT 1, BLOCK B

Westwood
Phone (512) 485-0831 Toll Free (888) 937-5150
8701 N. Mopac Expy, Suite 320 Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

PRELIMINARY PLAT 3 OF 3

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

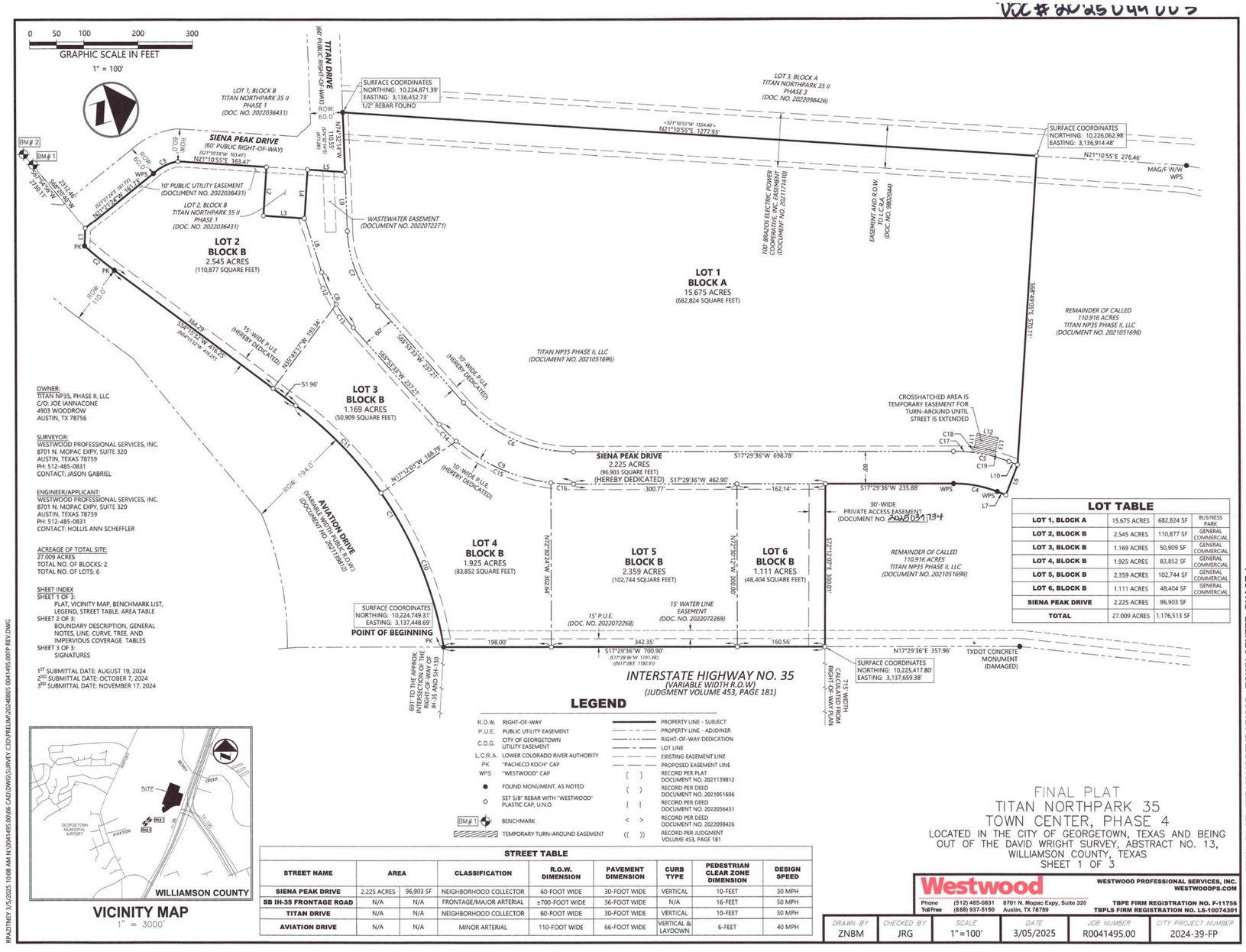
SHEET NO.
5

2024-06-CON

ZNMOORE
7/15/2024 4:53 PM
\\WESTWOODPS.LOCAL\GPS\PACE\DWG\DWG-46\4670-22.680\DWG\SURVEY C3D

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VOC # 20250440053



RPAZITNEY 3/5/2025 10:08 AM N:\0041495.00\06 CAD\DWG\SURVEY C3D\PRELIM\20240805 0041495.00FP REV.DWG

DSANCHEZ-GONZALEZ
6/18/2025 11:13 AM
N:\0041495.00\06 CAD\DWG\SITE DESIGN C3D\0041495.00_COVR.DWG

Westwood
Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

FINAL PLAT 1 OF 3

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO.
6

2024-06-CON

DOC#20250044003

DESCRIPTION OF PROPERTY SURVEYED

27.009 ACRES OF LAND SITUATED IN THE DAVID WRIGHT SURVEY, ABSTRACT NO. 13, WILLIAMSON COUNTY, TEXAS, SAID TRACT BEING OUT OF AND PART OF THE REMAINDER OF A CALLED 110.916 ACRE TRACT OF LAND ("TRACT I") DESCRIBED IN A DEED TO TITAN NP35 PHASE II, LLC, RECORDED IN DOCUMENT NO. 2021051696 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS ("O.P.R.W.C.T." HEREAFTER), SAID 27.009 ACRES OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT THE NORTHERNMOST NORTHEAST CORNER OF AVIATION DRIVE, A VARIABLE-WIDTH PUBLIC RIGHT-OF-WAY, AS DEDICATED IN THE FINAL PLAT OF AVIATION DRIVE, A SUBDIVISION OF RECORD LOCATED IN THE CITY OF GEORGETOWN, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, APPEARING IN DOCUMENT NO. 2021139812, O.P.R.W.C.T., SAID TERMINUS BEING MARKED BY A 1/2-INCH REBAR WITH CAP STAMPED "PACHECO KOCH" FOUND FOR THE BEGINNING OF A CURVE TO THE LEFT, SAID MONUMENT BEING LOCATED IN THE WESTERLY LINE OF INTERSTATE HIGHWAY 35, A VARIABLE-WIDTH PUBLIC RIGHT-OF-WAY;

THENCE WITH SAID NORTHWESTERLY LINE OF AVIATION DRIVE, THE FOLLOWING **THREE (3) COURSES AND DISTANCES:**

- WITH SAID CURVE TO THE LEFT, HAVING AN **ARC LENGTH** OF **533.77'**, A **RADIUS** OF **695.50'**, A **DELTA ANGLE** OF **43°58'20"**, AND A **CHORD BEARING** AND **DISTANCE** OF **S76°14'41"W 520.76'**, TO A SET STAKE MARKING THE END OF SAID CURVE,
- **S54°15'32"W 416.25'** TO THE BEGINNING OF A CURVE TO THE RIGHT, BEING MARKED BY A 1/2-INCH REBAR WITH CAP STAMPED "PACHECO KOCH",
- WITH SAID CURVE TO THE RIGHT, HAVING AN **ARC LENGTH** OF **70.66'**, A **RADIUS** OF **757.01'**, A **DELTA ANGLE** OF **05°20'53"**, AND A **CHORD BEARING** AND **DISTANCE** OF **S56°54'51"W 70.63'**, TO THE EASTERNMOST CORNER OF TITAN NORTHPARK 35 II, PHASE 1, A SUBDIVISION OF RECORD LOCATED IN THE CITY OF GEORGETOWN, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, APPEARING IN DOCUMENT NO. 2022036431, O.P.R.W.C.T., FOR THE NORTHERLY INTERSECTION OF SAID AVIATION DRIVE AND SIENA PEAK DRIVE, A VARIABLE-WIDTH PUBLIC RIGHT-OF-WAY, AS DEDICATED IN SAID TITAN NORTHPARK 35 II, PHASE 1, BEING MARKED BY A 1/2-INCH REBAR FOUND WITH CAP STAMPED "PACHECO KOCH";

THENCE WITH SAID NORTHEASTERLY LINE OF SAID TITAN NORTHPARK 35 II, PHASE 1 AND SAID SIENA PEAK DRIVE, THE FOLLOWING **FOUR (4) COURSES AND DISTANCES:**

- **N70°24'40"W 32.77'** TO A 5/8-INCH REBAR FOUND WITH CAP STAMPED "PACHECO KOCH",
- **N21°21'24"W 161.73'** TO THE BEGINNING OF A CURVE TO THE RIGHT, BEING MARKED BY A 5/8-INCH REBAR FOUND WITH CAP STAMPED "PACHECO KOCH",
- WITH SAID CURVE TO THE RIGHT, HAVING AN **ARC LENGTH** OF **50.97'**, A **RADIUS** OF **87.72'**, A **DELTA ANGLE** OF **33°17'39"**, AND A **CHORD BEARING** AND **DISTANCE** OF **N09°05'53"W 50.26'**, TO THE END OF SAID CURVE, BEING MARKED BY A SET STAKE,
- **N21°10'55"E 163.47'** TO THE SOUTHWEST CORNER OF LOT 2, BLOCK B OF SAID TITAN NORTHPARK 35 II, PHASE 1, SAID CORNER BEING MARKED BY A SET STAKE;

THENCE, WITH THE EXTERIOR OF SAID LOT 2, BLOCK B, TITAN NORTHPARK 35 II, PHASE 1, THE FOLLOWING **THREE (3) COURSES AND DISTANCES:**

- **S68°49'07"E 90.00'** TO THE SOUTHEAST CORNER OF SAID LOT 2, BLOCK B, BEING MARKED BY A SET STAKE,
- **N21°10'48"E 75.00'** TO THE NORTHEAST CORNER OF SAID LOT 2, BLOCK B, BEING MARKED BY A SET STAKE,
- **N68°49'05"W 90.00'**, RETURNING TO THE EASTERLY LINE OF SIENA PEAK DRIVE, FOR THE NORTHWEST CORNER OF SAID LOT 2, BLOCK B, BEING MARKED BY A SET STAKE,

THENCE N21°10'55"E 69.20', WITH SAID EASTERLY LINES OF TITAN NORTHPARK 35 II, PHASE 1 AND SIENA PEAK DRIVE, TO THE NORTHEAST CORNER OF SAME;

THENCE N74°32'14"W 110.55', AT 60.00' PASSING THE NORTHEAST CORNER OF TITAN DRIVE, A VARIABLE-WIDTH PUBLIC RIGHT-OF-WAY, AS DEDICATED IN SAID TITAN NORTHPARK 35 II, PHASE 1, AND CONTINUING WITH SAID NORTHERLY LINE OF TITAN DRIVE, TO THE SOUTHEAST CORNER OF LOT 3, BLOCK A OF TITAN NORTHPARK 35 II, PHASE 3, A SUBDIVISON OF RECORD LOCATED IN THE CITY OF GEORGETOWN, TEXAS, ACCORDING TO THE MAP OR PLAT THEREOF, APPEARING IN DOCUMENT NO. 2022098426, O.P.R.W.C.T., SAID CORNER BEING MARKED BY A FOUND 1/2-INCH REBAR;

THENCE N21°10'55"E 1277.93', WITH THE EASTERLY LINE OF SAID LOT 3, BLOCK A, TO THE NORTHWEST CORNER HEREOF, SAID CORNER BEING MARKED BY A SET STAKE, FROM WHICH A MAG NAIL WITH WASHER STAMPED "WESTWOOD AUSTIN" FOUND FOR A NORTHEASTERLY CORNER OF SAID LOT 3, BLOCK A, BEARS N21°10'55"E 276.46';

THENCE TRAVERSING THROUGH SAID REMAINDER OF 110.916 ACRES, WITH THE NORTHERLY LINES HEREOF, THE FOLLOWING **SIX (6) COURSES AND DISTANCES:**

- **S68°49'05"E 570.71'** TO A SET STAKE,
- **S51°18'43"E 60.00'** TO A SET STAKE,
- **S38°41'17"W 17.17'** TO THE BEGINNING OF A CURVE TO THE LEFT, BEING MARKED BY A 5/8-INCH REBAR WITH CAP STAMPED "WESTWOOD";
- WITH SAID CURVE TO THE LEFT, HAVING AN **ARC LENGTH** OF **81.38'**, A **RADIUS** OF **220.00'**, A **DELTA ANGLE** OF **21°11'41"**, AND A **CHORD BEARING** AND **DISTANCE** OF **S28°05'26"W 80.92'**, TO A 5/8-INCH REBAR WITH CAP STAMPED "WESTWOOD" MARKING THE END OF SAID CURVE,
- **S17°29'36"W 235.88'** TO A SET STAKE,
- **S72°12'07"E 300.01'** TO SAID WESTERLY LINE OF INTERSTATE HIGHWAY 35, BEING IN THE EAST LINE OF SAID 110.916 ACRES, FOR A NORTHEAST CORNER HEREOF, SAID CORNER BEING MARKED BY A SET STAKE, AND FROM WHICH A DAMAGED TXDOT CONCRETE MONUMENT FOUND FOR CORNER IN SAID WESTERLY LINE OF INTERSTATE HIGHWAY 35 BEARS N17°29'36"E 357.96';

THENCE S17°29'36"W 700.90', CONTINUING WITH THE WESTERLY LINE OF SAID INTERSTATE HIGHWAY 35 AND THE EASTERLY LINE OF SAID 110.916 ACRE TRACT TO THE **POINT OF BEGINNING** OF THE HEREIN DESCRIBED TRACT OF LAND, CONTAINING **27.009 ACRES (1,176,513 SQUARE FEET),** MORE OR LESS. BEARINGS ARE RELATIVE TO STATE PLANE COORDINATES, NAD83 (2011), TEXAS CENTRAL ZONE. DISTANCES AND AREAS HAVE BEEN SCALED BY APPLYING A SURFACE ADJUSTMENT FACTOR OF 1.0001313201 AND THUS REPRESENT SURFACE MEASUREMENTS. SET STAKES ARE 5/8-INCH REBAR WITH CAP STAMPED "WESTWOOD".

GENERAL NOTES

1. BEARING SYSTEM FOR THIS SURVEY IS BASED ON THE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (2011), TEXAS CENTRAL ZONE 4203. DISTANCES AND AREAS REPORTED HAVE BEEN SCALED BY APPLYING THE SURFACE ADJUSTMENT FACTOR OF 1.0001313201.
2. THE WATER, WASTEWATER, AND ELECTRIC UTILITY PROVIDER FOR THIS DEVELOPMENT IS THE CITY OF GEORGETOWN.
3. THERE ARE NO AREAS WITHIN THE BOUNDARIES OF THIS SUBDIVISION IN THE 100-YEAR FLOODPLAIN AS DEFINED BY FIRM MAP NUMBER 48491C0291F, EFFECTIVE DATE OF DECEMBER 20, 2019 AND BY FIRM MAP NUMBER 48491C0283F, EFFECTIVE DATE OF DECEMBER 20, 2019.
4. IN ORDER TO PROMOTE DRAINAGE AWAY FROM A STRUCTURE, THE SLAB ELEVATION SHOULD BE BUILT AT LEAST ONE-FOOT ABOVE THE SURROUNDING GROUND, AND THE GROUND SHOULD BE GRADED AWAY FROM THE STRUCTURE AT A SLOPE OF 1/2" PER FOOT FOR A DISTANCE OF AT LEAST 10 FEET.
5. THE MONUMENTS OF THIS PLAT HAVE BEEN ROTATED TO THE NAD 83/93 HARN - TEXAS CENTRAL ZONE AND NAVD 88.
6. ALL SEDIMENTATION, FILTRATION, DETENTION, AND/OR RETENTION BASINS AND RELATED APPURTENANCES SHOWN SHALL BE SITUATED WITHIN A DRAINAGE EASEMENT OR DRAINAGE LOT. THE OWNERS, HOA, OR ASSIGNEES OF THE TRACTS UPON WHICH ARE LOCATED SUCH EASEMENTS, APPURTENANCES, AND DETENTION FACILITIES SHALL MAINTAIN SAME AND BE RESPONSIBLE FOR THEIR MAINTENANCE, ROUTINE INSPECTION, AND UPKEEP.
7. THE LANDOWNER ASSUMES ALL RISKS ASSOCIATED WITH IMPROVEMENTS LOCATED IN THE RIGHT-OF-WAY, OR ROAD WIDENING EASEMENTS. BY PLACING ANYTHING IN THE RIGHT-OF-WAY OR ROAD WIDENING EASEMENTS, THE LANDOWNER INDEMNIFIES AND HOLDS THE CITY OF GEORGETOWN, WILLIAMSON COUNTY, THEIR OFFICERS, AGENTS AND EMPLOYEES HARMLESS FROM ANY LIABILITY OWING TO PROPERTY DEFECTS OR NEGLIGENCE NOT ATTRIBUTABLE TO THEM AND ACKNOWLEDGES THAT THE IMPROVEMENTS MAY BE REMOVED BY THE CITY AND/OR COUNTY AND THAT THE OWNER OF THE IMPROVEMENTS WILL BE RESPONSIBLE FOR THE RELOCATION AND/OR REPLACEMENT OF THE IMPROVEMENTS.
8. THE BUILDING OF ALL STREETS, ROADS, AND OTHER PUBLIC THOROUGHFARES AND ANY BRIDGES OR CULVERTS NECESSARY TO BE CONSTRUCTED OR PLACED IS THE RESPONSIBILITY OF THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PRESCRIBED BY THE CITY OF GEORGETOWN AND/OR WILLIAMSON COUNTY, TEXAS. NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUMES ANY OBLIGATION TO BUILD ANY OF THE STREETS, ROADS, OR OTHER PUBLIC THOROUGHFARES SHOWN ON THIS PLAT OR OF CONSTRUCTING ANY OF THE BRIDGES OR DRAINAGE IMPROVEMENTS IN CONNECTION THEREWITH. NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUMES ANY RESPONSIBILITY FOR DRAINAGE WAYS OR EASEMENTS IN THE SUBDIVISION, OTHER THAN THOSE DRAINING OR PROTECTING THE ROAD SYSTEM AND STREETS IN THEIR RESPECTIVE JURISDICTIONS.
9. RIGHT-OF-WAY EASEMENTS FOR WIDENING ROADWAYS OR IMPROVING DRAINAGE SHALL BE MAINTAINED BY THE LANDOWNER UNTIL ROAD OR DRAINAGE IMPROVEMENTS ARE ACTUALLY CONSTRUCTED ON THE PROPERTY, THE CITY AND/OR COUNTY HAVE THE RIGHT AT ANY TIME TO TAKE POSSESSION OF ANY ROAD WIDENING EASEMENT FOR CONSTRUCTION, IMPROVEMENT, OR MAINTENANCE OF THE ADJACENT ROAD.
10. A 10-FOOT OR 15-FOOT PUBLIC UTILITY EASEMENT IS HEREBY DEDICATED ALONG ALL STREET FRONTAGES WITHIN THIS PLAT AS NOTED.
11. NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUMES ANY RESPONSIBILITY FOR THE ACCURACY OF REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOODPLAIN DATA, IN PARTICULAR, MAY CHANGE DEPENDING ON SUBSEQUENT DEVELOPMENT. IT IS FURTHER UNDERSTOOD THAT THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT MUST INSTALL AT THEIR OWN EXPENSE ALL TRAFFIC CONTROL DEVICES AND SIGNAGE THAT MAY BE REQUIRED BEFORE THE STREETS IN THE SUBDIVISION HAVE FINALLY BEEN ACCEPTED FOR MAINTENANCE BY THE CITY AND / OR COUNTY.
12. THIS PLAT IS SUBJECT TO THE PROVISIONS OF THE CITY OF GEORGETOWN WATER CONSERVATION ORDINANCE.
13. THE SUBDIVISION SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.
14. A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON DECEMBER 2, 2020. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.
15. THE MAXIMUM IMPERVIOUS COVERAGE PER NON-RESIDENTIAL LOT SHALL BE PURSUANT TO THE APPROVED PRELIMINARY PLAT (2023-35-PP) AND TABLE SHOWN HEREON.
16. THERE IS HEREBY GRANTED FOR THE USE AND BENEFIT OF THE PUBLIC A CONTINUING AVIGATION EASEMENT FOR THE FREE AND UNOBSTRUCTED FLIGHT OF AIRCRAFT (WHICH TERM SHALL INCLUDE ANY CONTRIVANCE NOW OR HEREAFTER USED FOR FLIGHT THROUGH THE AIR) AND THE RIGHT OF FLIGHT FOR THE PASSAGE OF AIRCRAFT IN THE AIR SPACE ABOVE THE SURFACE OF THE PROPERTY, TOGETHER WITH SUCH NOISE AND OTHER EFFECTS AS MAY BE INHERENT IN THE OPERATION OF AIRCRAFT LANDING AT, TAKING OFF FROM, OR ENGAGED IN OTHER FLIGHT ACTIVITIES AT THE GEORGETOWN MUNICIPAL AIRPORT.
17. GRANTORS DO HEREBY GRANT AND CONVEY AN EASEMENT FOR THE HORIZONTAL ZONE, AS THAT TERM IS DEFINED IN SECTION 12.36 OF THE CITY OF GEORGETOWN CODE OF ORDINANCES AND AS SHOWN ON THIS PLAT, BEING FURTHER DESCRIBED AS AFFECTING LOT 1 OF BLOCK A (PHASE 4) AND LOTS 2-6 OF BLOCK B (PHASE 4) OF THIS PLAT.
18. THESE EASEMENTS SHALL BE PERPETUAL AND SHALL BE BINDING ON GRANTOR AND ITS ASSIGNS, HEIRS, AND SUCCESSORS.
19. UNLESS OTHERWISE NOTED HEREIN, ALL EASEMENTS DEDICATED TO THE CITY OF GEORGETOWN BY THIS PLAT SHALL BE EXCLUSIVE TO THE CITY OF GEORGETOWN, AND GRANTOR COVENANTS THAT GRANTOR AND GRANTOR'S HEIRS, SUCCESSORS, AND ASSIGNS SHALL NOT CONVEY ANY OTHER EASEMENT, LICENSE, OR CONFLICTING RIGHT TO USE IN ANY MANNER, THE AREA (OR ANY PORTION THEROF) COVERED BY THIS GRANT.
20. ALL EASEMENTS DEDICATED TO THE CITY OF GEORGETOWN BY THIS PLAT ADDITIONALLY INCLUDE THE FOLLOWING RIGHTS:
    (1) THE RIGHT OF THE CITY TO CHANGE THE SIZE OF ANY FACILITIES INSTALLED, MAINTAINED, OR OPERATED WITHIN THE EASEMENT AREA;
    (2) THE RIGHT OF THE CITY TO RELOCATE ANY FACILITIES WITHIN THE EASEMENT AREA; AND
    (3) THE RIGHT OF THE CITY TO REMOVE FROM THE EASEMENT AREA ALL TREES AND PARTS THEREOF, OR OTHER OBSTRUCTIONS, WHICH ENDANGER OR MAY INTERFERE WITH THE EFFICIENCY AND MAINTENANCE OF ANY FACILITIES WITHIN THE EASEMENT AREA.
21. SIDEWALK ALONG THE SOUTHBOUND FRONTAGE ROAD OF IH-35 WILL BE PLACED IN RIGHT-OF-WAY AS LOTS ARE DEVELOPED.
22. ANY HERITAGE TREE AS NOTED ON THIS PLAT IS SUBJECT, IN PERPETUITY, TO THE MAINTENANCE, CARE, PRUNING AND REMOVAL REQUIREMENTS OF THE CITY OF GEORGETOWN. APPROVED REMOVAL DOES NOT REQUIRE MODIFICATION OF THE PLAT.
23. ALL INDIVIDUAL LOTS CONTAINING HERITAGE TREES ARE CONFIGURED AND DESIGNED SO THAT THE LOT IS DEVELOPABLE FOR THE INTENDED PURPOSE WITHOUT REQUIRING REMOVAL OF THE HERITAGE TREES OR EXCEEDING THE PERCENTAGE OF ALLOWABLE DISTURBANCE WITHIN THE HERITAGE TREES' CRZ.

CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
C1	43°58'20"	695.50'	533.77'	S76°14'41"W	520.76'
[C1]	[43°58'20"]	[695.50']	[533.77']	[N76°14'41"E]	[520.76']
C2	05°20'53"	757.01'	70.66'	S56°54'51"W	70.63'
[C2]	[14°51'30"]	[757.01']	[196.31']	[N61°40'10"E]	[195.76']
C3	33°17'39"	87.72'	50.97'	N09°05'53"W	50.26'
(C3)	(33°17'39")	(87.72')	(50.97')	(S09°05'53"E)	(50.26')
C4	21°11'41"	220.00'	81.38'	S28°05'26"W	80.92'
C5	21°11'41"	280.00'	103.58'	S28°05'26"W	102.99'
C6	48°23'57"	270.00'	228.08'	S41°41'34"W	221.35'
C7	39°34'16"	220.00'	151.94'	S85°40'42"W	148.94'
C8	24°12'41"	280.00'	118.32'	S77°59'53"W	117.44'
C9	48°23'57"	330.00'	278.76'	S41°41'34"W	270.54'
C10	25°25'55"	695.50'	308.71'	S85°30'54"W	306.18'
C11	18°32'25"	695.50'	225.06'	S63°31'44"W	224.07'
C12	13°19'52"	280.00'	65.15'	S83°26'17"W	65.00'
C13	10°52'50"	280.00'	53.17'	S71°19'59"W	53.09'
C14	07°38'57"	330.00'	44.06'	S62°04'04"W	44.02'
C15	33°30'31"	330.00'	192.99'	S41°29'22"W	190.25'
C16	07°14'31"	330.00'	41.71'	S21°06'53"W	41.68'
C17	6°25'11"	280.00'	31.37'	N20°42'11"E	31.36'
C18	39°59'43"	18.00'	12.56'	N41°07'25"W	12.31'
C19	39°58'22"	18.00'	12.56'	S81°06'27"E	12.30'

LINE TABLE

LINE	BEARING	LENGTH	BEARING	LENGTH
L1	N70°24'40"W	32.77'	(S70°24'40"E)	(32.77')
L2	S68°49'07"E	90.00'	(N68°49'07"W)	(90.00')
L3	N21°10'48"E	75.00'	(S21°10'48"W)	(75.00')
L4	N68°49'05"W	90.00'	(S68°49'05"E)	(90.00')
L5	N21°10'55"E	69.20'	(S21°10'55"W)	(69.20')
L6	S51°18'43"E	60.00'	N/A	N/A
L7	S38°41'17"W	17.17'	N/A	N/A
L8	N89°53'47"W	105.04'	N/A	N/A
L9	N74°32'14"W	109.78'	N/A	N/A
L10	S38°41'17"W	17.17'	N/A	N/A
L11	N61°07'16"W	24.48'	N/A	N/A
L12	N28°52'44"E	40.00'	N/A	N/A
L13	S61°07'16"E	24.48'	N/A	N/A

IMPERVIOUS COVER TABLE

LOT	BLOCK	PHASE	ACREAGE AREA	IMPERVIOUS COVER AREA	IMPERVIOUS COVER PERCENTAGE
1	A	4	15.675	7.75	49.44%
2	B	4	2.545	1.20	47.15%
3	B	4	1.169	0.47	40.21%
4	B	4	1.925	0.80	41.56%
5	B	4	2.359	1.33	56.38%
6	B	4	1.111	0.55	49.50%
SIENA PEAK DRIVE			2.225	1.50	67.42%
TOTALS			27.009	13.60	50.35%

BENCHMARK LIST

BM# 1 - ⊠ - CUT SET ON THE SOUTH EDGE OF A CONCRETE SIDEWALK ±35 FEET SOUTH OF A CONCRETE HEADWALL, ±13 FEET WEST OF A BARBED WIRE FENCE, AND ±30 FEET NORTH OF A SANITARY SEWER MANHOLE.
SURFACE NORTHING=10,223,501.42
SURFACE EASTING=3,134,365.71
ELEV=796.68

BM# 2 - ⊠ - CUT SET IN CONCRETE ON THE SOUTH EDGE OF AVIATION DRIVE, ±16 FEET NORTH OF A WOOD FENCE POST, ±18 FEET SOUTH OF THE CENTERLINE OF AVIATION DRIVE, AND ±95 SOUTHWEST OF A SANITARY SEWER MANHOLE.
SURFACE NORTHING=10,223,328.33
SURFACE EASTING=3,133,985.15
ELEV=769.87

FINAL PLAT
TITAN NORTHPARK 35
TOWN CENTER, PHASE 4

LOCATED IN THE CITY OF GEORGETOWN, TEXAS AND BEING OUT OF THE DAVID WRIGHT SURVEY, ABSTRACT NO. 13, WILLIAMSON COUNTY, TEXAS
SHEET 2 OF 3

Westwood
WESTWOOD PROFESSIONAL SERVICES, INC.
WESTWOODPS.COM
Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 Austin, TX 78759
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER	CITY PROJECT NUMBER
ZNBM	JRG	N/A	3/05/2025	R0041495.00	2024-39-FP

FINAL PLAT : TITAN NORTHPARK 35 - TOWN CENTER, PHASE 4

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REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

FINAL PLAT 2 OF 3

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO.
7

2024-06-CON

9/4/2025 10:08 AM
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DSANCHEZ-GONZALEZ
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DOC# 2025044003

OWNER'S SIGNATURE BLOCK

STATE OF TEXAS (
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON (

THAT CHRISTOPHER PACHECO AS MANAGER FOR TITAN PROPERTY MANAGEMENT, LLC, AS MANAGER FOR TITAN NP35 PHASE II, LLC, OWNER OF THE 27.009-ACRE TRACT OF LAND SHOWN HEREON, SAID 27.009 ACRES BEING OUT OF THAT CERTAIN 110.916-ACRE TRACT OF LAND DESCRIBED IN A DEED RECORDED IN DOCUMENT NO. 2021051696 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, DO HEREBY STATE THAT THERE ARE NO LIEN HOLDERS OF THE CERTAIN TRACT OF LAND, DO HEREBY CERTIFY THERE ARE NO EASEMENT HOLDERS EXCEPT AS SHOWN HEREON AND DO HEREBY SUBDIVIDE, SAID TRACT AS SHOWN HEREON; DO HEREBY COVENANT TO ALL RESTRICTIONS LISTED HEREIN, WHICH SHALL RUN WITH THE LAND; AND DO HEREBY DEDICATE TO THE CITY OF GEORGETOWN THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS THE CITY OF GEORGETOWN MAY DEEM APPROPRIATE. I HEREBY BIND MY HEIRS, SUCCESSORS, AND ASSIGNS TO WARRANT AND FOREVER DEFEND SUCH DEDICATIONS, ALL AND SINGULAR, TO THE CITY OF GEORGETOWN AGAINST EVERY PERSON WHOMSOEVER CLAIMING OR TO CLAIM THE SAME OR ANY PART THEREOF. THIS SUBDIVISION IS TO BE KNOWN AS **TITAN NORTHPARK 35 TOWN CENTER, PHASE 4**.

TO CERTIFY WHICH, WITNESS BY MY HAND THIS 13TH DAY OF MARCH, 2025.

TITAN NP35 PHASE II, LLC, A TEXAS LIMITED LIABILITY COMPANY
6300 RIVERSIDE PLAZA LN. NW, SUITE 200
ALBUQUERQUE, NM, 87210

BY: TITAN PROPERTY MANAGEMENT, LLC, A TEXAS LIMITED LIABILITY COMPANY
6300 RIVERSIDE PLAZA LN. NW, SUITE 200
ALBUQUERQUE, NM, 87210
ITS MANAGER

CHRISTOPHER PACHECO MANAGER

STATE OF NEW MEXICO (
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF BERNALILLO (

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED CHRISTOPHER PACHECO KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT.

GIVEN UNDER MY HAND AND SEAL THIS 13TH DAY OF MARCH, 2025.

NOTARY PUBLIC IN AND FOR THE STATE OF NEW MEXICO

STATE OF NEW MEXICO
NOTARY PUBLIC
E. AIMEE GONZALEZ E.
Commission # 1067801
My Comm. Exp. 12-19-2028

MY COMMISSION EXPIRES ON: 12-19-2028

ENGINEER'S CERTIFICATE

STATE OF TEXAS (

COUNTY OF TRAVIS (

I, HOLLIS ANN SCHEFFLER, REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS SUBDIVISION IS IN THE EDWARDS AQUIFER RECHARGE ZONE AND IS NOT ENCROACHED BY ZONE A FLOOD AREA, AS DENOTED HEREIN AND AS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, COMMUNITY PANEL NUMBER 48491C0291F, EFFECTIVE DATE DECEMBER 20, 2019 AND BY FIRM MAP NUMBER 48491C0283F, EFFECTIVE DATE OF DECEMBER 20, 2019, AND THAT EACH LOT CONFORMS TO THE CITY OF GEORGETOWN REGULATIONS.

THE FULLY DEVELOPED, CONCENTRATED STORMWATER RUNOFF RESULTING FROM THE ONE HUNDRED (100) YEAR FREQUENCY STORM IS CONTAINED WITHIN THE DRAINAGE EASEMENT SHOWN AND/OR PUBLIC RIGHTS-OF-WAY DEDICATED BY THIS PLAT.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL, THIS 5TH DAY OF March, 2025.

HOLLIS ANN SCHEFFLER
REGISTERED PROFESSIONAL ENGINEER
NO. 136049 STATE OF TEXAS

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

3/5/2025

SURVEYOR'S CERTIFICATE

STATE OF TEXAS (

COUNTY OF TRAVIS (

KNOW ALL MEN BY THESE PRESENTS

I, JASON R. GABRIEL, A REGISTERED PROFESSIONAL LAND SURVEYOR, LICENSED BY THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE FROM AN ACTUAL SURVEY MADE ON THE GROUND OF THE PROPERTY LEGALLY DESCRIBED HEREON, AND THAT THERE ARE NO APPARENT DISCREPANCIES, CONFLICTS, OVERLAPPING OF IMPROVEMENTS, VISIBLE UTILITY LINES OR ROADS IN PLACE, EXCEPT AS SHOWN ON THE ACCOMPANYING PLAT, AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY SUPERVISION IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF THE CITY OF GEORGETOWN, TEXAS.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL, THIS 5TH DAY OF March, 2025.

JASON R. GABRIEL
REGISTERED PROFESSIONAL LAND SURVEYOR
NO. 6530 STATE OF TEXAS 3/15/2025

STATE OF TEXAS
REGISTERED
JASON R. GABRIEL
6530
PROFESSIONAL
LAND SURVEYOR

PLANNING DIRECTOR

I, SOFIA NELSON, PLANNING DIRECTOR OF THE CITY OF GEORGETOWN, TEXAS, DO HEREBY CERTIFY THIS PLAT IS APPROVED FOR FILING OF RECORD WITH THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS.

Sofia Nelson 06/5/2025
SOFIA NELSON, PLANNING DIRECTOR DATE

CITY BUILDING OFFICIAL

BASED UPON THE ABOVE REPRESENTATIONS OF THE ENGINEER OR SURVEYOR WHOSE SEAL IS AFFIXED HERETO, AND AFTER A REVIEW OF THE PLAT AS REPRESENTED BY THE SAID ENGINEER OR SURVEYOR, I FIND THAT THIS PLAT COMPLIES WITH THE REQUIREMENTS OF CHAPTER 15.44, FLOOD DAMAGE PREVENTION, OF THE GEORGETOWN MUNICIPAL CODE. THIS CERTIFICATION IS MADE SOLELY UPON SUCH REPRESENTATIONS AND SHOULD NOT BE RELIED UPON FOR VERIFICATIONS OF THE FACTS ALLEGED. THE CITY OF GEORGETOWN DISCLAIMS ANY RESPONSIBILITY TO ANY MEMBER OF THE PUBLIC OR INDEPENDENT VERIFICATIONS OF THE REPRESENTATION, FACTUAL OR OTHERWISE, CONTAINED IN THIS PLAT AND THE DOCUMENTS ASSOCIATED WITH IT.

Glen Holcomb 06-05-2025
GLEN HOLCOMB, BUILDING OFFICIAL DATE
CITY OF GEORGETOWN

COUNTY CLERK SIGNATURE BLOCK

STATE OF TEXAS (
KNOW ALL MEN BY THESE PRESENTS
COUNTY OF WILLIAMSON (

I, NANCY RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE ON THE 6th DAY OF June 2025, A.D., AT 2:30 O'CLOCK P.M., AND DULY RECORDED THIS THE 6th DAY OF June 2025, A.D., AT 2:30 O'CLOCK P.M., IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN DOCUMENT NO. 2025044003.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

NANCY RISTER, CLERK
COUNTY COURT OF WILLIAMSON COUNTY, TEXAS
BY: DEPUTY

COUNTY COURT
WILLIAMSON COUNTY TEXAS

FINAL PLAT
TITAN NORTHPARK 35
TOWN CENTER, PHASE 4

LOCATED IN THE CITY OF GEORGETOWN, TEXAS AND BEING OUT OF THE DAVID WRIGHT SURVEY, ABSTRACT NO. 13, WILLIAMSON COUNTY, TEXAS
SHEET 3 OF 3

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TBPLS FIRM REGISTRATION NO. LS-10074301

DRAWN BY	CHECKED BY	SCALE	DATE	JOB NUMBER	CITY PROJECT NUMBER
ZNBM	JRG	N/A	3/05/2025	R0041495.00	2024-39-FP

FINAL PLAT : TITAN NORTHPARK 35 - TOWN CENTER, PHASE 4

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3/5/2025 11:47 AM
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DSANCHEZ-GONZALEZ
6/18/2025 11:13 AM
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REVISIONS

NO.	DATE	DESCRIPTION	BY

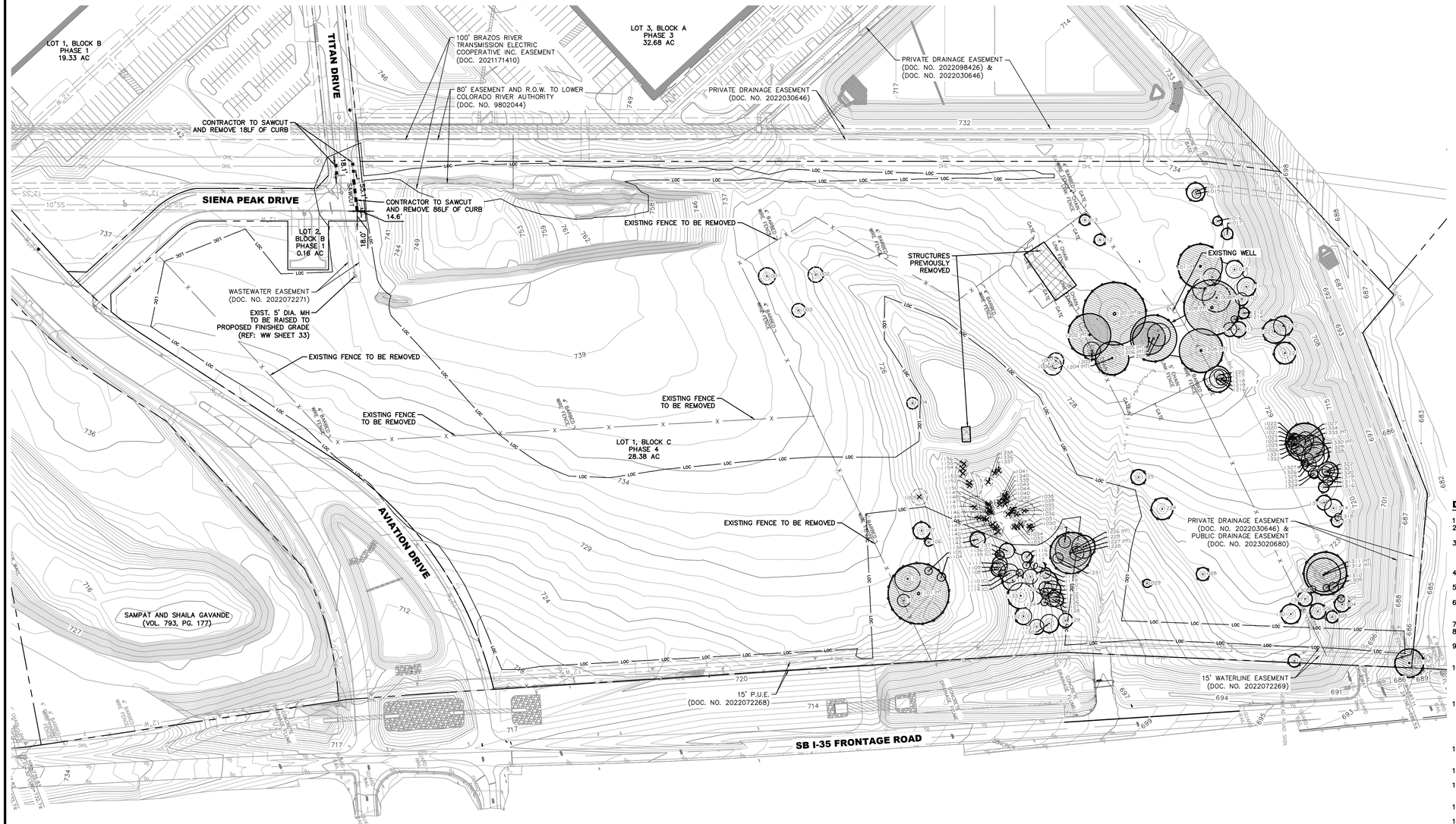
TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

FINAL PLAT 3 OF 3

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO.
8

2024-06-CON



0 50 100 200 300

GRAPHIC SCALE IN FEET
1"=100'

LEGEND

- BOLLARD
- ELECTRIC METER
- POWER POLE
- LIGHT STANDARD
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT
- CLEANOUT
- MANHOLE
- TRAFFIC SIGNAL CONTROL
- TRAFFIC SIGNAL POLE
- TELEPHONE BOX
- FLOOD LIGHT
- FLAG POLE
- TRAFFIC SIGN
- 1/2-INCH IRON ROD
- IRS — W/"PACHECO KOCH" CAP SET
- (C.M.) — CONTROLLING MONUMENT
- PROPERTY LINE
- FENCE
- OHL — OVERHEAD UTILITY LINE
- F — FIBER OPTIC LINE
- 30" R.C.P. — UNDERGROUND STORM LINE
- E — UNDERGROUND ELECTRIC LINE
- T — UNDERGROUND TELEPHONE LINE
- C — UNDERGROUND CABLE LINE
- 6"W — UNDERGROUND WATER LINE
- 6"SS — UNDERGROUND SANITARY SEWER LINE
- 613 — EXIST CONTOUR
- 612.39 — EXIST SPOT ELEVATION
- TC 612.39 — EXIST TOP OF CURB ELEVATION
- G 611.89 — EXIST GUTTER ELEVATION
- SAWCUT — LIMITS OF SAWCUT
- DEMOLITION AREA
- LOC — LIMITS OF CONSTRUCTION

TREE PRESERVATION LEGEND

- HERITAGE TREE TO REMAIN — ½ CRZ
- HERITAGE TREE TO BE REMOVED — ½ CRZ
- PROTECTED TREE TO REMAIN — ½ CRZ
- PROTECTED TREE TO BE REMOVED — ½ CRZ
- TREE PROTECTION FENCE

HT - HERITAGE TREE (26"+)
C - CREDIT TREE (6"-11.99")

REFERENCE LANDSCAPE PLANS FOR TREE REMOVAL AND PROTECTION

DEMOLITION GENERAL NOTES

1. CONTRACTOR IS TO REVIEW ALL GENERAL NOTES PRIOR TO BEGINNING WORK.
2. REMOVE ALL EXISTING PAVEMENT AND STRUCTURES WITHIN THE LIMITS OF DEMOLITION UNLESS OTHERWISE NOTED.
3. SAWCUT AND REMOVE ALL EXISTING DRIVE APPROACHES (WITHIN THE LIMITS OF DEMOLITION) TWO FEET FROM BACK OF CURB. SIDEWALKS, PAVEMENT, AND UTILITIES WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO REMAIN UNLESS OTHERWISE NOTED.
4. CONSULT THE DIMENSIONAL CONTROL PLAN. VERIFY THE PORTION OF EXISTING CONCRETE CURBS AND PAVEMENT WHICH ARE TO REMAIN.
5. COORDINATE WITH LOCAL POWER, TELEPHONE, CABLE, AND GAS COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF EXISTING UTILITIES.
6. ALL UTILITIES SHOULD BE CUT AND PLUGGED IN ACCORDANCE WITH THEIR RESPECTIVE UTILITY COMPANY REQUIREMENTS AND PRIOR TO DEMOLITION OF THE EXISTING BUILDINGS.
7. CONTRACTOR TO PLUG ALL EXISTING EXPOSED ENDS OF ABANDONED UTILITIES.
8. CONTRACTOR TO DETERMINE SOURCE OF ALL EXPOSED UTILITIES AND, IF REQUIRED, RECONNECT TO PROPOSED UTILITIES.
9. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND LEGAL DISPOSAL OF ALL THE UNSUITABLE MATERIALS FROM THE PROJECT SITE. CONTRACTOR SHALL CONTACT ALL LOCAL AUTHORITIES TO DETERMINE DISPOSAL REQUIREMENTS.
10. ALL TREES ON THE PROPERTY SHALL BE PROTECTED AGAINST DAMAGE DURING DEMOLITION OPERATIONS UNLESS OTHERWISE NOTED. THE TREE PROTECTION SHALL BE PLACED AROUND TREES PRIOR TO ANY DEMOLITION OR GRADING. TREE PROTECTION SHALL REMAIN UNTIL ALL WORK IS COMPLETED. REFER TO LANDSCAPE PLANS FOR TREE REMOVAL AND PROTECTION DETAILS.
11. ANY DAMAGE DONE TO EXISTING TREE CROWNS OR ROOT SYSTEMS SHALL BE REPAIRED IMMEDIATELY BY AN APPROVED TREE SURGEON AT THE OWNER'S DIRECTION. ROOTS EXPOSED AND/OR DAMAGED DURING DEMOLITION AND/OR GRADING OPERATIONS SHALL BE CUT OFF CLEANLY INSIDE THE EXPOSED OR DAMAGED AREA. CUT SURFACES PAINTED WITH AN APPROVED TREE PAINT, AND TOPSOIL AND MULCH PLACED OVER THE EXPOSED ROOT AREA IMMEDIATELY.
12. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING EROSION CONTROL MEASURES ON THE SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS UNTIL THE SITE HAS BEEN STABILIZED.
13. CONTRACTOR IS RESPONSIBLE FOR GRADING ALL DISTURBED AREAS TO ALLOW FOR POSITIVE DRAINAGE. GRADING SLOPES ARE NOT TO EXCEED 3:1.
14. AREAS EXCAVATED FOR FOUNDATION OR UNDERGROUND STRUCTURE REMOVAL SHALL BE BACK-FILLED AND COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY.
15. CONTRACTOR IS RESPONSIBLE FOR SECURITY OF THE SITE DURING DEMOLITION ACTIVITIES AND UNTIL SUBSTANTIAL COMPLETION.
16. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS AND CITY STANDARD CONSTRUCTION SPECIFICATIONS.
17. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL UTILITY MAINS, MANHOLES, CLEANOUTS, VALVE BOXES, AND FIRE HYDRANTS, ETC. IN THE AREA OF DEMOLITION.
18. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING TRENCH SAFETY.
19. BARRICADING AND PROJECT SIGNS SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND LATEST UPDATES.
20. CONTRACTOR SHALL MAINTAIN EXISTING PAVEMENT AND ACCESS TO FIRE HYDRANTS ON SITE UNTIL THE BUILDINGS AND STRUCTURES IN THAT AREA HAVE BEEN DEMOLISHED AND REMOVED.
21. CONTRACTOR WILL PROVIDE ON-SITE PARKING FOR WORKERS. VEHICLE PARKING WILL NOT BE ALLOWED WITHIN THE PUBLIC RIGHT-OF-WAY.
22. CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ADEQUATE DUST CONTROL MEASURES DURING DEMOLITION ACTIVITIES.
23. CONTRACTOR IS TO COORDINATE DEMOLITION ACTIVITIES WITH THE HAZARDOUS MATERIAL ABATEMENT CONTRACTORS' ACTIVITIES, IF APPLICABLE.
24. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL TEMPORARY UTILITY SERVICES REQUIRED TO COMPLETE THE SCOPE OF WORK.
25. CONTRACTOR IS TO START SAWCUTS OF CURB AT NEAREST JOINT

2024-06-CON

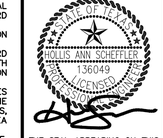
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REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

EXISTING CONDITIONS & DEMO PLAN

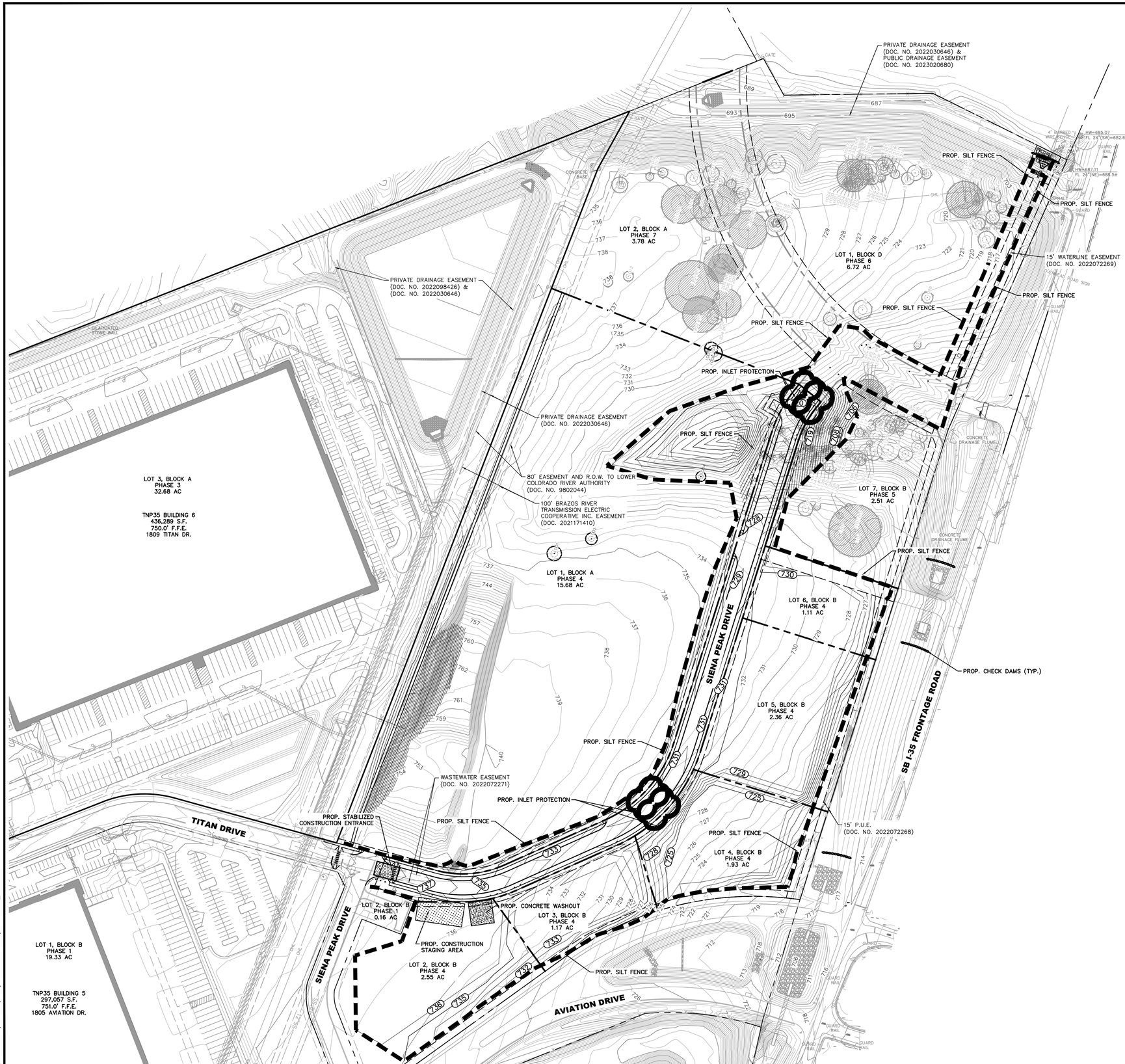


THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISON OF HOLLIS ANN SCHEFFLER, P.E. 136049 ON 5/1/2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO.
9

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5/7/2025 9:57 AM
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0 50 100 200 300

GRAPHIC SCALE IN FEET
1"=100'

LEGEND

BL	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FLOOD LIGHT	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS (C.M.)	1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
613	EXIST CONTOUR
450	PROPOSED CONTOUR
	PROPOSED DRAINAGE FLOW DIRECTION
	PROPOSED CONSTRUCTION ENTRANCE
	INLET PROTECTION
	SILT FENCE (LIMITS OF DISTURBED AREA)
	CHECK DAM

TREE PRESERVATION LEGEND

HERITAGE TREE TO REMAIN	½ CRZ
HERITAGE TREE TO BE REMOVED	½ CRZ
PROTECTED TREE TO REMAIN	½ CRZ
PROTECTED TREE TO BE REMOVED	½ CRZ
TREE PROTECTION FENCE	

POLLUTION CONTROL GENERAL NOTES

1. THIS PLAN HAS BEEN PREPARED TO PROVIDE MEANS TO PREVENT OR MINIMIZE POLLUTION OF STORM WATER.
2. THE CONSTRUCTION ACTIVITY INCLUDED IN THIS PLAN WILL INCLUDE:
   - 2.A. CLEARING AND GRUBBING
   - 2.B. ROUGH GRADING
   - 2.C. FINAL GRADING
   - 2.D. UTILITY INSTALLATION
   - 2.E. PAVEMENT INSTALLATION
   - 2.F. BUILDING CONSTRUCTION
3. THE TOTAL ESTIMATED LAND AREA TO BE DISTURBED IS 16.15 ACRES.
4. THE ESTIMATED RUNOFF COEFFICIENT UPON COMPLETION OF THE PROJECT IS 0.90.
5. THE STORM WATER EXITING THE SITE IS COLLECTED IN AN EXISTING DRAINAGE SYSTEM MAINTAINED BY THE CITY OF GEORGETOWN, TEXAS.
6. THE SOILS ON THE SITE ARE GENERALLY EXPANSIVE CLAYS.
7. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION PROTECTION AROUND THE WORK AREA PERIMETER AND AT ALL INLET MOUTHS PRIOR TO COMMENCING WORK AND UNTIL THE WORK AREA HAS BEEN STABILIZED.
8. THE CONTRACTOR WILL REMOVE ALL EXCESS SOIL FROM CONSTRUCTION VEHICLES PRIOR TO EXITING THE SITE.
9. ALL DISTURBED AREAS WHICH WILL NOT BE RE-DISTURBED MUST BEGIN BEING STABILIZED IMMEDIATELY BY THE CONTRACTOR TO CONTROL EROSION. THE CONTRACTOR HAS 14 DAYS TO HAVE ALL STABILIZATION AND EROSION CONTROL DEVICES IN PLACE.
10. THE CONTRACTOR SHALL UNDERTAKE PROPER METHODS TO REDUCE DUST GENERATION FROM THE SITE.
11. THE CONTRACTOR MUST COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS REGARDING SEDIMENT AND EROSION CONTROL.
12. A COPY OF THIS PLAN, AS PART OF THE SWPPP, MUST BE KEPT AT THE CONSTRUCTION FACILITY DURING THE ENTIRE CONSTRUCTION PERIOD.
13. CONSTRUCTION SEQUENCING MUST PROVIDE FOR THE EXCAVATION OF AN ON-SITE BASIN AS A SEDIMENT COLLECTION BASIN PRIOR TO THE DISTURBANCE OF GREATER THAN 10 ACRES OF LAND.
14. ALL FINISHED GRADES ARE TO BE HYDROMULCHED, SPOT SODDED OR SEEDED AND WATERED UNTIL GROWTH IS ESTABLISHED ON AND OFF-SITE.
15. A PIT OR WASH OUT BASIN SHALL BE CONSTRUCTED ON-SITE BY THE CONTRACTOR FOR THE "WASH OUT" OF CONCRETE TRUCKS.
16. A BERM OR OTHER SPILL PROTECTION MEASURE SHALL BE USED FOR ANY TEMPORARY FUEL STORAGE TANK ON-SITE.
17. IF "SUMP" PUMPS ARE USED TO REMOVE WATER FROM EXCAVATED AREAS, FILTER THE DISCHARGE TO REMOVE SEDIMENT AND OTHER POLLUTANTS BEFORE THE WATER LEAVES THE SITE.
18. TO PREVENT DAMAGE TO VEGETATION IN DOWNSTREAM WATER COURSES, LIMIT ANY PROPOSED LIME STABILIZATION OPERATIONS TO THAT WHICH CAN BE MIXED AND COMPACTED BY THE END OF EACH WORK DAY. GEOTEXTILE FABRIC IS NOT EFFECTIVE IN FILTERING LIME SINCE THE GRAIN SIZE IS SMALLER THAN THE OPENING IN THE FABRIC.
19. VEHICLE PARKING AREAS, STAGING AREAS, STOCKPILES, SPOILS, ETC. SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. OTHERWISE, COVERING OR ENCIRCLING THE AREAS WITH PROTECTIVE MEASURES SHALL BE NECESSARY.
20. STORE ALL TRASH AND BUILDING MATERIALS WASTE IN AN ENCLOSURE UNTIL IT CAN BE PROPERLY DISPOSED OF AT THE APPROPRIATE OFF-SITE FACILITIES.
21. TRACKING OF SEDIMENT OFF-SITE BY TRUCK TRAFFIC SHALL BE HANDLED THROUGH REGULAR CLEANING.
22. INSPECTIONS SHALL BE CONDUCTED BY THE PERMITEE ONCE EVERY TWO WEEKS AND WITHIN 24 HOURS AFTER STORM EVENT OF 0.5 INCHES OR MORE OR ONCE PER WEEK ON A SPECIFIC PRE-DEFINED DAY. THE INSPECTIONS WILL INCLUDE:
   - 22.A. DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN STABILIZED.
   - 22.B. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
   - 22.C. STRUCTURAL CONTROL MEASURES.
   - 22.D. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
   - 22.E. IDENTIFICATIONS OF MEASURES THAT NEED TO BE MAINTAINED, MODIFIED, OR ADDED TO CORRECT PROBLEMS.
23. CONTRACTOR SHALL MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS PRESENT ON THE SITE TO PRECIPITATION AND TO STORMWATER.
24. PERMANENTLY STABILIZE EXPOSED SOIL, WITHIN AND ADJACENT TO THE SITE, THAT IS DISTURBED BY VEHICLES, GRADING AND OTHER CONSTRUCTION ACTIVITIES.
25. CONTAIN ALL RUNOFF FROM MATERIAL USED IN SUBGRADE STABILIZATION.
26. MATERIAL STOCKPILES SHALL BE COVERED BY PLASTIC OR SURROUNDED BY EROSION CONTROL STRUCTURES TO CONTROL SEDIMENT RELEASES.
27. CONTRACTOR SHALL PROTECT SLOPES IN EXCESS OF 15% IN ORDER TO MINIMIZE EROSION OF SOILS AND THE DISTURBANCE OF SLOPES.
28. VEGETATION TO BE PRESERVED WHERE EVER POSSIBLE TO HELP REDUCE EROSION. WHERE VEGETATION MUST BE REMOVED, PRESERVE NATIVE TOPSOIL IN ALL AREAS POSSIBLE.
29. MINIMIZE SOIL COMPACTION IN AREAS INTENDED FOR POST CONSTRUCTION PERVIOUS SURFACE.

2024-06-CON

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REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

EROSION CONTROL PLAN

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

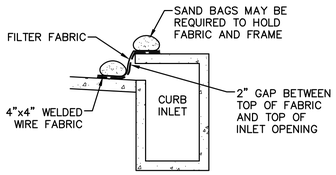
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DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

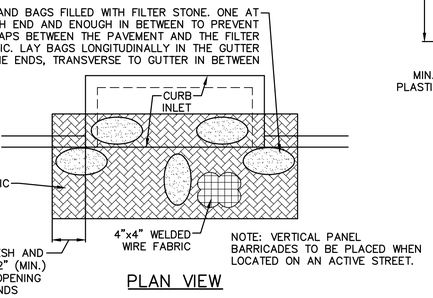
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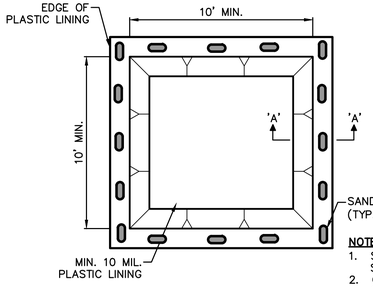
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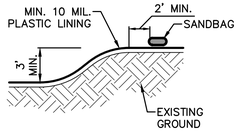
PLAN VIEW

1 CURB INLET PROTECTION

NOT TO SCALE



PLAN VIEW



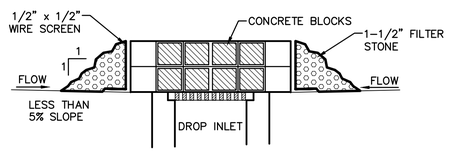
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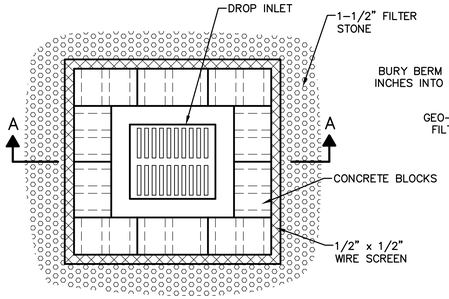
1. SANDBAGS MAY BE REPLACED BY A SOIL BERM TO ANCHOR PLASTIC LINING.
2. CONCRETE WASHOUT AREA TO BE CHECKED REGULARLY FOR REPAIRS.
3. REGULARLY REMOVE CONCRETE WASTE TO PREVENT OVERFLOWING.
4. PROVIDE MINIMUM 6 CF OF CONTAINMENT VOLUME FOR EVERY 10 CY OF CONCRETE PLACED. PROVIDE MINIMUM 1' FREEBOARD ABOVE CONTAINMENT VOLUME.

2 CONCRETE WASHOUT AREA

NOT TO SCALE



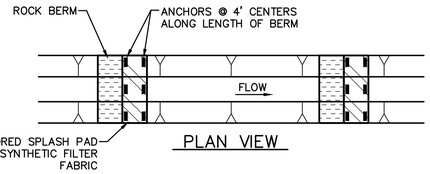
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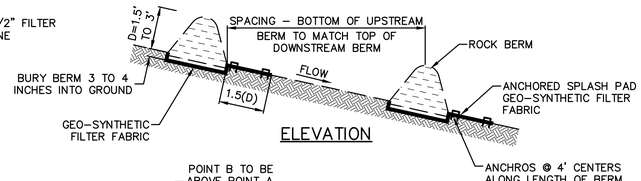
PLAN VIEW

3 DROP INLET PROTECTION

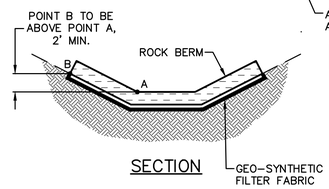
NOT TO SCALE



PLAN VIEW



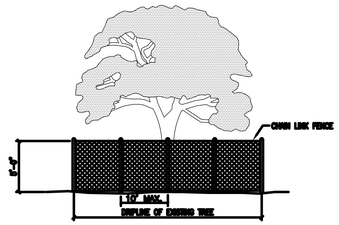
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SECTION

4 CHECK DAMS

NOT TO SCALE

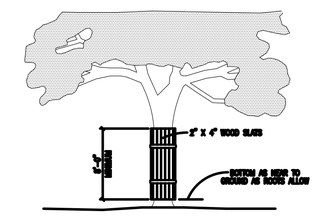


NOTES:

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. ALL BE LOCATED AT THE CONSTRUCTION LIMIT OF THE WORK (ENCIRCLED DRIPLINE), AND SHALL 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 REQUIRED 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 APPROVED PLANS IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PROPOSED 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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TREE PROTECTION – CHAIN LINK FENCE	EC09
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	CHECKED BY: TRB



NOTES:

1. WHERE ANY FENCING RESULT IN A FENCE BEING CLOSER THAN FIVE FEET (5'-0") TO A TREE TRUNK, ERECT THE ENTIRE FENCE AT A DISTANCE EQUAL TO A MINIMUM OF THREE FEET (3'-0") OR TO THE LIMITS OF LEGITIMATE WORK IN PROXIMITY TO THE TREES, WHICHEVER IS GREATER.
2. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE REMOVED 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.
3. PRIOR EXCAVATION OR SPADE CUTTING WITHIN TREE DRIPLINE, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT, TO MINIMIZE DAMAGE TO REMAINING ROOTS.
4. TREES MOST HEAVILY AFFECTED BY CONSTRUCTION ACTIVITIES SHOULD BE WATERED DEEPLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER. TREE CANOPIES SHOULD BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
5. ANY PREVIOUSLY DEPOSITED FILL WITHIN THE DRIPLINE OF LANDSCAPE EMERGENCY SHALL BE PLACED AS FAR FROM THE TRUNK AS POSSIBLE.
6. NO LANDSCAPE TOPSOIL DEPOSITED GREATER THE FOUR INCHES (4") SHALL BE PERMITTED WITHIN THE DRIPLINE OF A TREE. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
7. PLANNED TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TREE PROTECTION – WOOD SLATS	EC10
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	CHECKED BY: TRB

SILT FENCE

GUIDELINES FOR DESIGN AND INSTALLATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS

TYPE OF STRUCTURE	REACH LENGTH	MAXIMUM DRAINAGE AREA	SLOPE
ROCK BERM *, **	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
	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.

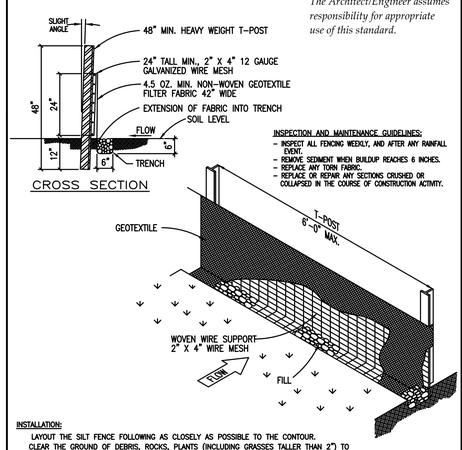
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
TEMPORARY EROSION AND SEDIMENTATION CONTROL GUIDELINES	EC01
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	CHECKED BY: TRB

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SWSP) 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 (VENTURA 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, REGULARLY AND TREATED WITH APPROPRIATE FUNGICIDE AT TIME OF MIXING. SEED SHALL BE REFRIGERATED 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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
EROSION AND SEDIMENTATION AND TREE PROTECTION NOTES	EC01A
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	CHECKED BY: TRB



CROSS SECTION

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

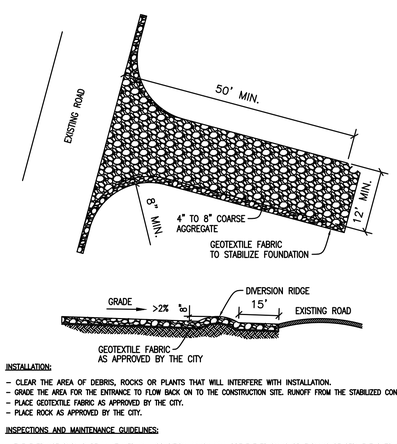
DRIVE THE HEAVY DUTY T–POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW. ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T–POST WITH 11 1/2 GAUGE GALVANIZED T–POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND

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

SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
SILT FENCE DETAIL	EC02
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	CHECKED BY: TRB



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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
STABILIZED CONSTRUCTION ENTRANCE	EC06
SCALE: NTS	DATE: 1/2003
DRAWN BY: MRS	CHECKED BY: TRB

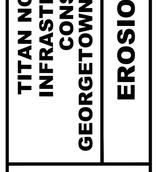
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Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS:

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

EROSION CONTROL DETAILS



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISOR OF HOLLIS ANN SCHEFFLER, P.E. 136049 ON 5/1/2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO. 11

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GRAPHIC SCALE IN FEET
1"=200'

LEGEND

- BOLLARD
- EM — ELECTRIC METER
- PP — POWER POLE
- LS — LIGHT STANDARD
- WM — WATER METER
- WV — WATER VALVE
- ICV — IRRIGATION CONTROL VALVE
- FH — FIRE HYDRANT
- CO — CLEANOUT
- MH — MANHOLE
- TSC — TRAFFIC SIGNAL CONTROL
- TSP — TRAFFIC SIGNAL POLE
- TELE — TELEPHONE BOX
- FLOOD LIGHT
- FP — FLAG POLE
- SIGN — TRAFFIC SIGN
- PROPERTY LINE
- X — FENCE
- 613 — EXISTING CONTOUR
- DRAINAGE FLOW DIRECTION
- DRAINAGE DIVIDE
- EX 8 / 1.00 / 7.99 — EXISTING DRAINAGE AREA ID, AREA IN ACRES, Q_{100} IN CUBIC FEET PER SECOND
- TC FLOW PATH & ARROW

SEE SHEET 16 FOR DRAINAGE AREA CALCULATIONS.

2024-06-CON

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NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

EXISTING DRAINAGE AREA MAP

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
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PROFESSIONAL ENGINEER

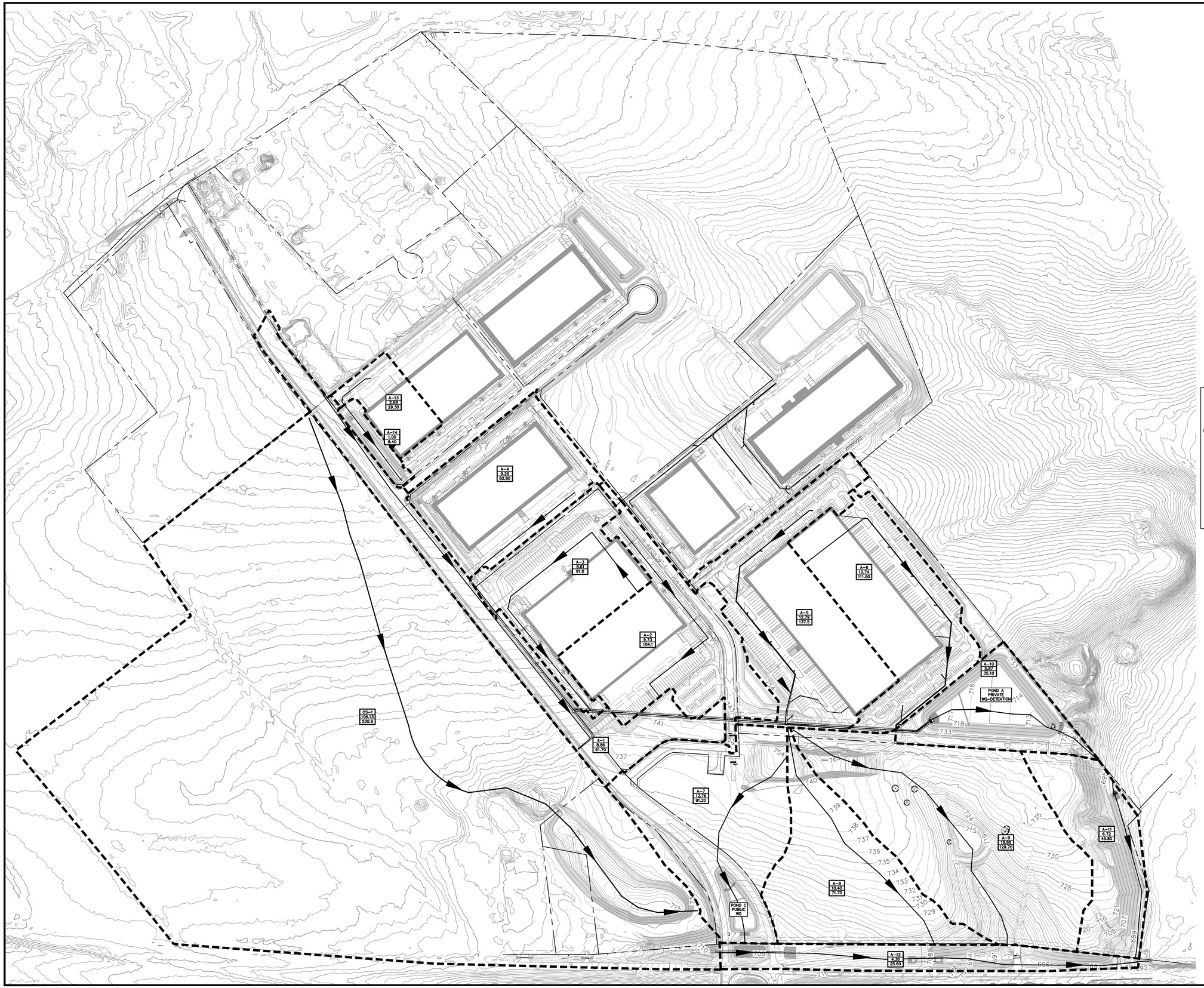
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NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

INTERIM DRAINAGE AREA MAP

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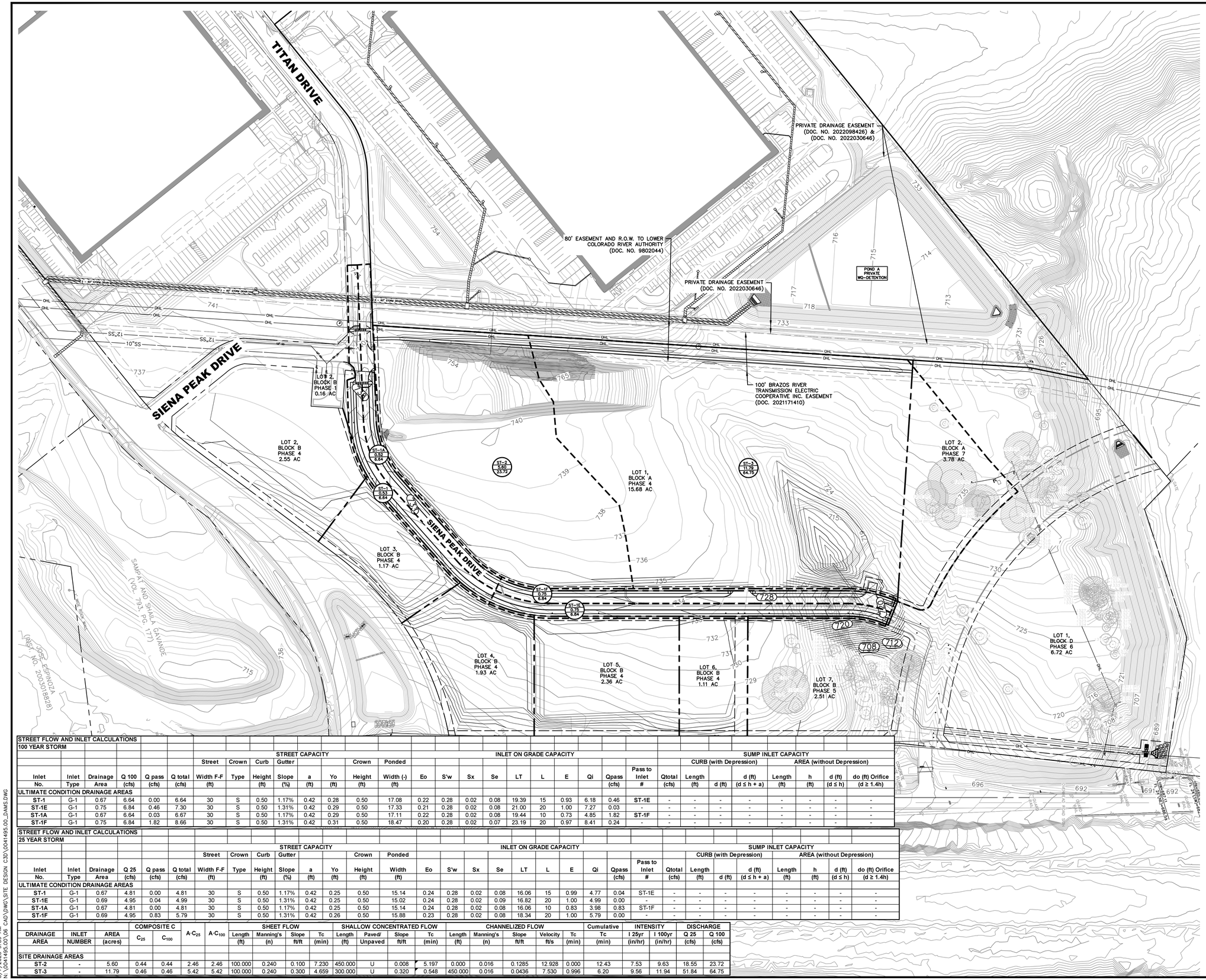
PROPOSED DRAINAGE AREA MAP

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0 50 100 200 300

GRAPHIC SCALE IN FEET
1"=100'

LEGEND

- BOLLARD
- ELECTRIC METER
- POWER POLE
- LIGHT STANDARD
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT
- CLEANOUT
- MANHOLE
- TRAFFIC SIGNAL CONTROL
- TRAFFIC SIGNAL POLE
- TELEPHONE BOX
- FLOOD LIGHT
- FLAG POLE
- TRAFFIC SIGN
- PROPERTY LINE
- FENCE
- 613 EXISTING CONTOUR
- 450 PROPOSED CONTOUR
- DRAINAGE FLOW DIRECTION
- 100-YR FLOODPLAIN LIMITS
- DRAINAGE DIVIDE
- U 8 / 1.00 / 7.99 ULTIMATE DRAINAGE AREA ID, AREA IN ACRES, Q_{100} IN CUBIC FEET PER SECOND

STREET FLOW AND INLET CALCULATIONS
100 YEAR STORM

						STREET CAPACITY								INLET ON GRADE CAPACITY									SUMP INLET CAPACITY								
						Street	Crown	Curb	Gutter			Crown	Ponded											CURB (with Depression)				AREA (without Depression)			
Inlet	Inlet	Drainage	Q 100	Q pass	Q total	Width F-F	Type	Height	Slope	a	Yo	Height	Width (-)	Eo	S'w	Sx	Se	LT	L	E	Qi	Qpass	Pass to Inlet	Qtotal	Length		d (ft)	Length	h	d (ft)	do (ft) Orifice
No.	Type	Area (cfs)	(cfs)	(cfs)	(cfs)	(ft)		(ft)	(%)	(ft)	(ft)	(ft)	(ft)									(cfs)	#	(cfs)	(ft)	d (ft)	(d ≤ h + a)	(ft)	(ft)	(d ≤ h)	(d ≥ 1.4h)
ULTIMATE CONDITION DRAINAGE AREAS																														
ST-1	G-1	0.67	6.64	0.00	6.64	30	S	0.50	1.17%	0.42	0.28	0.50	17.08	0.22	0.28	0.02	0.08	19.39	15	0.93	6.18	0.46	ST-1E	-	-	-	-	-	-	-	-
ST-1E	G-1	0.75	6.84	0.46	7.30	30	S	0.50	1.31%	0.42	0.29	0.50	17.33	0.21	0.28	0.02	0.08	21.00	20	1.00	7.27	0.03	-	-	-	-	-	-	-	-	-
ST-1A	G-1	0.67	6.64	0.03	6.67	30	S	0.50	1.17%	0.42	0.29	0.50	17.11	0.22	0.28	0.02	0.08	19.44	10	0.73	4.85	1.82	ST-1F	-	-	-	-	-	-	-	-
ST-1F	G-1	0.75	6.84	1.82	8.66	30	S	0.50	1.31%	0.42	0.31	0.50	18.47	0.20	0.28	0.02	0.07	23.19	20	0.97	8.41	0.24	-	-	-	-	-	-	-	-	-

STREET FLOW AND INLET CALCULATIONS
25 YEAR STORM

						STREET CAPACITY								INLET ON GRADE CAPACITY									SUMP INLET CAPACITY								
						Street	Crown	Curb	Gutter			Crown	Ponded											CURB (with Depression)				AREA (without Depression)			
Inlet	Inlet	Drainage	Q 25	Q pass	Q total	Width F-F	Type	Height	Slope	a	Yo	Height	Width	Eo	S'w	Sx	Se	LT	L	E	Qi	Qpass	Pass to Inlet	Qtotal	Length		d (ft)	Length	h	d (ft)	do (ft) Orifice
No.	Type	Area (cfs)	(cfs)	(cfs)	(cfs)	(ft)		(ft)	(%)	(ft)	(ft)	(ft)	(ft)									(cfs)	#	(cfs)	(ft)	d (ft)	(d ≤ h + a)	(ft)	(ft)	(d ≤ h)	(d ≥ 1.4h)
ULTIMATE CONDITION DRAINAGE AREAS																														
ST-1	G-1	0.67	4.81	0.00	4.81	30	S	0.50	1.17%	0.42	0.25	0.50	15.14	0.24	0.28	0.02	0.08	16.06	15	0.99	4.77	0.04	ST-1E	-	-	-	-	-	-	-	-
ST-1E	G-1	0.69	4.95	0.04	4.99	30	S	0.50	1.31%	0.42	0.25	0.50	15.02	0.24	0.28	0.02	0.09	16.82	20	1.00	4.99	0.00	-	-	-	-	-	-	-	-	-
ST-1A	G-1	0.67	4.81	0.00	4.81	30	S	0.50	1.17%	0.42	0.25	0.50	15.14	0.24	0.28	0.02	0.08	16.06	10	0.83	3.98	0.83	ST-1F	-	-	-	-	-	-	-	-
ST-1F	G-1	0.69	4.95	0.83	5.79	30	S	0.50	1.31%	0.42	0.26	0.50	15.88	0.23	0.28	0.02	0.08	18.34	20	1.00	5.79	0.00	-	-	-	-	-	-	-	-	-

			COMPOSITE C				SHEET FLOW				SHALLOW CONCENTRATED FLOW				CHANNELIZED FLOW						Cumulative	INTENSITY		DISCHARGE	
DRAINAGE	INLET	AREA	C_{25}	C_{100}	$A \cdot C_{25}$	$A \cdot C_{100}$	Length	Manning's	Slope	Tc	Length	Paved/	Slope	Tc	Length	Manning's	Slope	Velocity	Tc		Tc	I 25yr	I 100yr	Q 25	Q 100
AREA	NUMBER	(acres)					(ft)	(n)	ft/ft	(min)	(ft)	Unpaved	ft/ft	(min)	(ft)	(n)	ft/ft	ft/s	(min)		(min)	(in/hr)	(in/hr)	(cfs)	(cfs)
SITE DRAINAGE AREAS																									
ST-2	-	5.60	0.44	0.44	2.46	2.46	100.000	0.240	0.100	7.230	450.000	U	0.008	5.197	0.000	0.016	0.1285	12.928	0.000		12.43	7.53	9.63	18.55	23.72
ST-3	-	11.79	0.46	0.46	5.42	5.42	100.000	0.240	0.300	4.659	300.000	U	0.320	0.548	450.000	0.016	0.0436	7.530	0.996		6.20	9.56	11.94	51.84	64.75

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TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

SITE DRAINAGE AREA MAP

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED PROFESSIONAL ENGINEER

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EXISTING DRAINAGE AREA MAP CALCULATIONS

HEC-HMS SUMMARY: EXISTING CONDITONS														
							2 YEAR STORM		10 YEAR STORM		25 YEAR STORM		100 YEAR STORM	
Drainage Area Basin Designation	Point of Analysis	Drainage Area (ac)	Base Curve Number CN	Lag Time (min)	Cumulative Area (ac)	Impervious Cover %	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)
EX 1		1.84	84	8.29		0.00%	3.80		7.20		9.30		12.60	
EX 2		31.48	84	11.23		0.00%	72.10		126.40		160.20		212.00	
EX 3		52.42	84	12.81		0.00%	113.30		201.70		25.40		339.00	
EX 4		21.65	84	10.77		0.00%	52.90		92.00		116.20		153.70	
EX 5		76.76	84	12.84		0.00%	156.70		278.30		353.60		467.90	
EX 6		39.73	84	15.29		0.00%	77.70		141.40		180.90		239.70	
EX 7		14.22	84	12.31		0.00%	32.50		57.10		72.30		95.70	
	POA							402.20		762.70		1002.60		1362.50

Basin ID	Flowpath Length (ft)	Overland Flow: Length	Slope	Surface Cover	Velocity	*Manning's n	T_0	Shallow Concentrated Flow: Length	Slope	Surface Type	Velocity	*K	T_S	Channel Flow: Length	Slope	Type	*K	Velocity	T_h	T_C	T_{design}	T_L
		(ft)	(ft/ft)		(ft/s)		(min)	(ft)	(ft/ft)		(ft/s)		(min)	(ft)	(ft/ft)		(ft)	(ft/s)	(min)	(min)	(min)	(min)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
EX-1	559	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	409	0.010	24" RCP	72.01	7.20	0.95	13.92	13.92	8.35
EX-2	2734	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	2684	0.010	24" RCP	72.01	7.20	6.21	19.19	19.19	11.51
EX-3	3698	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	3448	0.010	NATURAL TRAP CHANNEL, B=10, Y= 6, SS=3;	68.56	6.86	8.38	21.36	21.36	12.81
EX-4	2299	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	2049	0.010	NATURAL TRAP CHANNEL, B=10, Y= 6, SS=3;	68.56	6.86	4.98	17.96	17.96	10.77
EX-5	3399	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	3249	0.010	NATURAL TRAP CHANNEL, B=10, Y= 6, SS=3;	68.56	6.86	7.90	20.87	20.87	12.52
EX-6	1458	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	1358	0.010	UNPAVED	1.61	16.1	14.06							25.48	25.48	15.29
EX-7	752	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	752	0.010	UNPAVED	1.61	16.1	7.78							19.21	19.21	11.52

INTERIM DRAINAGE AREA MAP CALCULATIONS

HEC-HMS SUMMARY: INTERIM CONDITONS							2 YEAR STORM		10 YEAR STORM		25 YEAR STORM		100 YEAR STORM	
Drainage Area Basin Designation	Point of Analysis	Drainage Area (ac)	Base Curve Number CN	Lag Time (min)	Cumulative Area (ac)	Impervious Cover %	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)
A-1		8.86	80	12.37		51.18%	26.80		39.40		48.30		61.70	
A-2		9.73	84	3.00		85.40%	71.60		73.50		86.60		104.10	
A-3		8.61	84	3.00		78.70%	60.90		63.70		75.40		91.00	
A-4		9.26	84	6.72		70.00%	45.80		56.40		67.00		82.80	
A-5		12.79	80	3.00		91.81%	96.60		97.70		114.70		137.50	
A-6		10.74	80	3.52		87.32%	75.00		78.50		92.00		111.50	
A-10		5.87	80	12.70		0.00%	10.00		19.70		25.70		35.10	
A-13		2.68	93	3.00		90.20%	21.00		21.00		24.50		29.30	
A-14		1.00	80	3.00		0.00%	3.00		4.90		6.40		8.40	
POND-A								50.20		95.80		119.10		142.20
A-7		12.76	80	8.31		13.90%	32.00		54.30		68.60		91.20	
A-8		10.40	80	8.51		0.00%	21.50		40.60		52.30		71.10	
A-9		18.96	80	8.48		0.00%	39.30		74.10		95.50		129.70	
A-11		6.72	80	8.62		0.00%	13.80		26.10		33.70		45.80	
A-12		4.36	80	14.12		7.80%	7.80		14.70		19.00		25.60	
OS-1		106.13	84	22.93		0.00%	161.20		307.20		398.90		530.90	
	POA							258.90		508.30		663.70		873.00

Basin ID	Flowpath Length (ft)	Overland Flow: Length	Slope	Surface Cover	Velocity	*Manning's n	T_0	Shallow Concentrated Flow: Length	Slope	Surface Type	Velocity	*K	T_S	Channel Flow: Length	Slope	Type	*K	Velocity	T_h	T_C	T_{design}	T_L
		(ft)	(ft/ft)		(ft/s)		(min)	(ft)	(ft/ft)		(ft/s)		(min)	(ft)	(ft/ft)		(ft)	(ft/s)	(min)	(min)	(min)	(min)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
A 1	2480	100	0.020	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.558	0.01	1.07	2380	0.010	PAVED	2.03	20.3	19.54							20.61	20.61	12.37
A 2	1173	50	0.010	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.040	0.01	0.80	45	0.010	PAVED	2.03	20.3	0.37	1078	0.005	48" RCP	114.31	8.1	2.22	3.39	5.00	3.00
A 3	1200	50	0.010	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.040	0.01	0.80	295	0.010	PAVED	2.03	20.3	2.42	855	0.005	48" RCP	114.31	8.1	1.76	4.99	5.00	3.00
A 4	1128	50	0.010	SHORT GRASS PRAIRIE	0.129	0.15	6.48	250	0.010	PAVED	2.03	20.3	2.05	828	0.003	36" RCP	94.36	5.2	2.67	11.20	11.20	6.72
A 5	383	100	0.007	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.035	0.01	1.61	254	0.006	PAVED	1.57	20.3	2.70	178	0.024	18" RCP	59.44	9.2	0.32	4.63	5.00	3.00
														174	0.007	24" RCP	72.01	6.0	0.48			
														174	0.005	30" RCP	83.56	5.9	0.49			
														474	0.006	36" RCP	94.36	7.4	1.07			
														234	0.007	42" RCP	104.57	8.6	0.45			
														22	0.036	48" RCP	114.31	21.8	0.02			
														28	0.086	60" RCP	132.64	38.8	0.01			
A 6	637	100	0.044	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	2.158	0.01	0.77	239	0.017	PAVED	2.62	20.3	1.52	299	0.004	18" RCP	59.44	3.7	1.33	5.87	5.87	3.52
														351	0.008	24" RCP	72.01	6.4	0.92			
														174	0.012	30" RCP	83.56	9.1	0.32			
														174	0.010	36" RCP	94.36	9.2	0.31			
														153	0.005	42" RCP	104.57	7.1	0.36			
														137	0.003	48" RCP	114.31	6.7	0.34			
A 7	1035	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	785	0.010	6X6 RCB	149.79	14.98	0.87	13.85	13.85	8.31
A 8	1249	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	999	0.010	8X4 RCB	138.47	13.85	1.20	14.18	14.18	8.51
A 9	1540	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	1290	0.010	10X7 RCB	184.99	18.50	1.16	14.14	14.14	8.48
A 10	1041	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	941	0.010	UNPAVED	1.61	16.1	9.74							21.16	21.16	12.70
A 11	851	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	601	0.010	24" RCP	72.01	7.20	1.39	14.37	14.37	8.62
A 12	1985	80	0.010	DENSE GRASS	0.096	0.24	13.92	25	0.010	UNPAVED	1.61	16.10	0.26	1055	0.010	PARABOLIC SWALE, 1' DEEP, 10' SPREAD	27.68	2.77	6.35	23.53	23.53	14.12
														275	0.010	24" RCP	72.01	7.20	0.64			
														100	0.010	10X7 RCB	184.99	18.50	0.09			
														325	0.010	48" RCP	114.31	11.43	0.47			
														500	0.005	CONCRETE TRAP CHANNEL, B=0, Y= 2, SS=1:1	65.52	4.63	1.80			
A 13	371	160	0.020	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.731	0.01	1.54	1	0.005	PAVED	1.44	20.3	0.01	210	0.010	24" RCP	72.01	7.2	0.49	2.04	5.00	3.00
A 14	166	15	0.005	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	0.619	0.01	0.40	1	0.005	PAVED	1.44	20.3	0.01	150	0.010	18" RCP	59.44	5.9	0.42	0.84	5.00	3.00
OS-1	3300	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	2400	0.010	UNPAVED	1.61	16.1	24.84	800	0.010	NATURAL TRAP CHANNEL, B=10, Y= 6, SS=3:1	68.56	6.86	1.94	38.21	38.21	22.93

PROPOSED DRAINAGE AREA MAP CALCULATIONS

HEC-HMS SUMMARY: DEVELOPED CONDITONS							2 YEAR STORM		10 YEAR STORM		25 YEAR STORM		100 YEAR STORM	
Drainage Area Basin Designation	Point of Analysis	Drainage Area (ac)	Base Curve Number CN	Lag Time (min)	Cumulative Area (ac)	Impervious Cover %	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)	Runoff Per Drainage Area (cfs)	Routed Cumulative Runoff (cfs)
DA-1		8.86	80	12.37		51.18%	26.80		39.40		48.30		61.70	
DA-2		9.73	84	3.00		85.40%	71.60		73.50		86.60		104.10	
DA-3		8.61	84	3.00		78.70%	60.90		63.70		75.40		91.00	
DA-4		9.26	84	6.72		70.00%	45.80		56.40		67.00		82.80	
DA-5		12.79	80	3.00		91.81%	96.60		97.70		114.70		137.50	
DA-6		10.74	80	3.52		87.32%	75.00		78.50		92.00		111.50	
DA-9		21.90	80	13.08		7.12%	40.30		75.80		98.00		132.40	
DA-10		5.87	80	12.70		0.00%	10.00		19.70		25.70		35.10	
DA-11		8.75	80	8.57		0.00%	18.00		34.10		43.90		59.70	
DA-13		2.68	93	3.00		90.20%	21.00		21.00		24.50		29.30	
DA-14		1.00	80	3.00		0.00%	3.00		4.90		6.40		8.40	
POND-A								50.20		95.80		119.10		142.20
DA-7		9.76	80	8.30		13.90%	24.50		41.50		52.50		69.80	
DA-8		8.39	80	8.34		0.00%	17.50		33.00		42.50		57.60	
DA-12		4.36	80	14.12		0.00%	7.00		14.00		18.30		25.00	
OS-1		106.13	84	22.93		0.00%	161.20		307.20		398.90		530.90	
	POA							265.20		519.90		677.40		890.90

Basin ID	Flowpath Length (ft)	Overland Flow: Length	Slope	Surface Cover	Velocity	*Manning's n	T_0	Shallow Concentrated Flow: Length	Slope	Surface Type	Velocity	*K	T_S	Channel Flow: Length	Slope	Type	*K	Velocity	T_h	T_C	T_{design}	T_L
		(ft)	(ft/ft)		(ft/s)		(min)	(ft)	(ft/ft)		(ft/s)		(min)	(ft)	(ft/ft)		(ft)	(ft/s)	(min)	(min)	(min)	(min)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
DA 1	2480	100	0.020	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.557	0.01	1.07	2380	0.010	PAVED	2.03	20.3	19.54							20.61	20.61	12.37
DA 2	1173	50	0.010	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.040	0.01	0.80	45	0.010	PAVED	2.03	20.3	0.37	1078	0.005	48" RCP	114.31	8.1	2.22	3.39	5.00	3.00
DA 3	1200	50	0.010	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.040	0.01	0.80	295	0.010	PAVED	2.03	20.3	2.42	855	0.005	48" RCP	114.31	8.1	1.76	4.99	5.00	3.00
DA 4	1128	50	0.010	SHORT GRASS PRAIRIE	0.129	0.15	6.48	250	0.010	PAVED	2.03	20.3	2.05	828	0.003	36" RCP	94.36	5.2	2.67	11.20	11.20	6.72
DA 5	383	100	0.007	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.035	0.01	1.61	254	0.01	PAVED	1.57	20.30	2.70	178	0.024	18" RCP	59.44	9.2	0.32	4.63	5.00	3.00
														174	0.007	24" RCP	72.01	6.0	0.48			
														174	0.005	30" RCP	83.56	5.9	0.49			
														474	0.006	36" RCP	94.36	7.4	1.07			
														234	0.007	42" RCP	104.57	8.6	0.45			
														22	0.036	48" RCP	114.31	21.8	0.02			
														28	0.086	60" RCP	132.64	38.8	0.01			
DA 6	637	100	0.044	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	2.158	0.01	0.77	239	0.02	PAVED	2.62	20.30	1.52	299	0.004	18" RCP	59.44	3.7	1.33	5.87	5.87	3.52
														351	0.008	24" RCP	72.01	6.4	0.92			
														174	0.012	30" RCP	83.56	9.1	0.32			
														174	0.010	36" RCP	94.36	9.2	0.31			
														153	0.005	42" RCP	104.57	7.1	0.36			
														137	0.003	48" RCP	114.31	6.7	0.34			
DA 7	1035	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	785	0.010	6X6 RCB	149.79	15.0	0.87	13.85	13.85	8.31
DA 8	1249	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	999	0.010	8X4 RCB	138.47	13.8	1.20	14.18	14.18	8.51
DA 9	1540	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	1290	0.010	10X7 RCB	184.99	18.5	1.16	14.14	14.14	8.48
DA 10	1041	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	941	0.010	UNPAVED	1.61	16.1	9.74							21.16	21.16	12.70
DA 11	851	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	150	0.010	UNPAVED	1.61	16.1	1.55	601	0.010	24" RCP	72.01	7.2	1.39	14.37	14.37	8.62
DA 12	1985	80	0.010	DENSE GRASS	0.096	0.24	13.92	25	0.010	UNPAVED	1.61	16.10	0.26	1055	0.010	PARABOLIC SWALE, 1' DEEP, 10' SPREAD	27.68	2.77	6.35	23.53	23.53	14.12
														275	0.010	24" RCP	72.01	7.20	0.64			
														100	0.010	10X7 RCB	184.99	18.50	0.09			
														325	0.010	48" RCP	114.31	11.43	0.47			
														500	0.005	CONCRETE TRAP CHANNEL, B=0, Y= 2, SS=1:1	65.52	4.63	1.80			
DA 13	371	160	0.020	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	1.731	0.01	1.54	1	0.005	PAVED	1.44	20.3	0.01	210	0.010	24" RCP	72.01	7.2	0.49	2.04	5.00	3.00
DA 14	166	15	0.005	SMOOTH SURFACES (CONCRETE, ASPHALT, GRAVEL, OR BARE SOIL)	0.619	0.01	0.40	1	0.005	PAVED	1.44	20.3	0.01	150	0.010	18" RCP	59.44	5.9	0.42	0.84	5.00	3.00
OS-1	3300	100	0.010	SHORT GRASS PRAIRIE	0.146	0.15	11.42	2400	0.010	UNPAVED	1.61	16.1	24.84	800	0.010	NATURAL TRAP CHANNEL, B=10, Y= 6, SS=3:1	68.56	6.86	1.94	38.21	38.21	22.93

POA COMPARISON

FLOW COMPARISON: EXISTING VS. INTERIM VS. PROPOSED												
	2 YEAR STORM			10 YEAR STORM			25 YEAR STORM			100 YEAR STORM		
Point of Analysis	Existing (cfs)	Interim (cfs)	Proposed (cfs)	Existing (cfs)	Interim (cfs)	Proposed (cfs)	Existing (cfs)	Interim (cfs)	Proposed (cfs)	Existing (cfs)	Interim (cfs)	Proposed (cfs)
POA	402.20	258.90	265.20	762.70	508.30	519.90	1002.60	663.70	677.40	1362.50	873.00	890.90

NOTE: DETENTION FOR THIS SITE IS BEING PROVIDED WITH 2020-55-CON, POND A
NOTE: THIS HAS BEEN CALCULATED WITH SCS METHOD-TIME OF CONCENTRATION CALCS.

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TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

DRAINAGE AREA CALCULATIONS



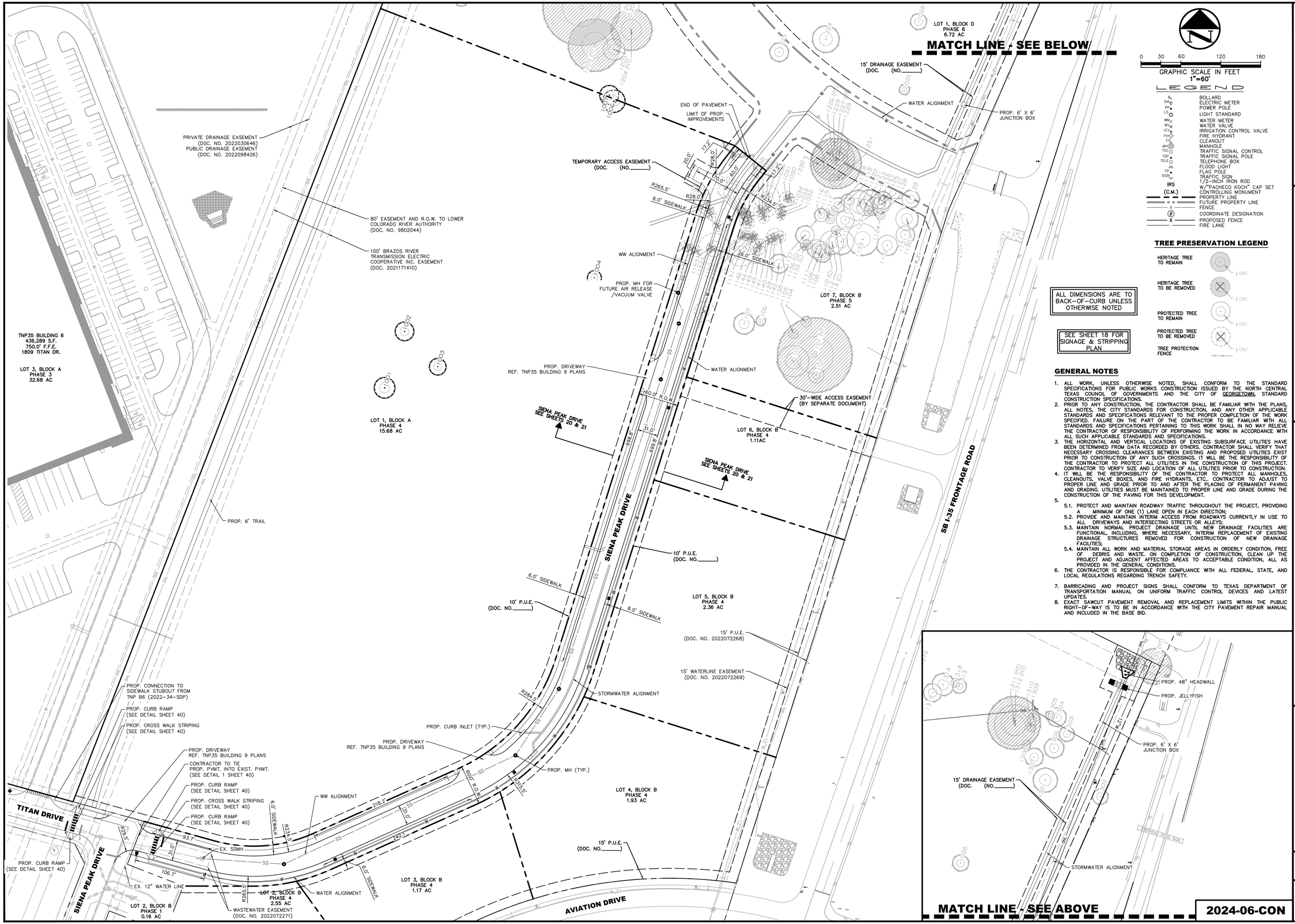
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DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO. 16

2024-06-CON

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GENERAL NOTES

1. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ISSUED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS AND THE CITY OF GEORGETOWN, STANDARD CONSTRUCTION SPECIFICATIONS.
2. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL BE FAMILIAR WITH THE PLANS, ALL NOTES, THE CITY STANDARDS FOR CONSTRUCTION, AND ANY OTHER APPLICABLE STANDARDS AND SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO BE FAMILIAR WITH ALL STANDARDS AND SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.
3. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CONTRACTOR SHALL VERIFY THAT NECESSARY CROSSING CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES EXIST PRIOR TO CONSTRUCTION OF ANY SUCH CROSSINGS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL UTILITIES IN THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR TO VERIFY SIZE AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
4. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL MANHOLES, CLEANOUTS, VALVE BOXES, AND FIRE HYDRANTS, ETC., CONTRACTOR TO ADJUST TO PROPER LINE AND GRADE PRIOR TO AND AFTER THE PLACING OF PERMANENT PAVING AND GRADING. UTILITIES MUST BE MAINTAINED TO PROPER LINE AND GRADE DURING THE CONSTRUCTION OF THE PAVING FOR THIS DEVELOPMENT.
5.
   - 5.1. PROTECT AND MAINTAIN ROADWAY TRAFFIC THROUGHOUT THE PROJECT, PROVIDING A MINIMUM OF ONE (1) LANE OPEN IN EACH DIRECTION;
   - 5.2. PROVIDE AND MAINTAIN INTERIM ACCESS FROM ROADWAYS CURRENTLY IN USE TO ALL DRIVEWAYS AND INTERSECTING STREETS OR ALLEYS;
   - 5.3. MAINTAIN NORMAL PROJECT DRAINAGE UNTIL NEW DRAINAGE FACILITIES ARE FUNCTIONAL, INCLUDING, WHERE NECESSARY, INTERIM REPLACEMENT OF EXISTING DRAINAGE STRUCTURES REMOVED FOR CONSTRUCTION OF NEW DRAINAGE FACILITIES;
   - 5.4. MAINTAIN ALL WORK AND MATERIAL STORAGE AREAS IN ORDERLY CONDITION, FREE OF DEBRIS AND WASTE. ON COMPLETION OF CONSTRUCTION, CLEAN UP THE PROJECT AND ADJACENT AFFECTED AREAS TO ACCEPTABLE CONDITION, ALL AS PROVIDED IN THE GENERAL CONDITIONS.
6. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS REGARDING TRENCH SAFETY.
7. BARRICADING AND PROJECT SIGNS SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND LATEST UPDATES.
8. EXACT SAWCUT PAVEMENT REMOVAL AND REPLACEMENT LIMITS WITHIN THE PUBLIC RIGHT-OF-WAY IS TO BE IN ACCORDANCE WITH THE CITY PAVEMENT REPAIR MANUAL AND INCLUDED IN THE BASE BID.

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REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

SITE PLAN

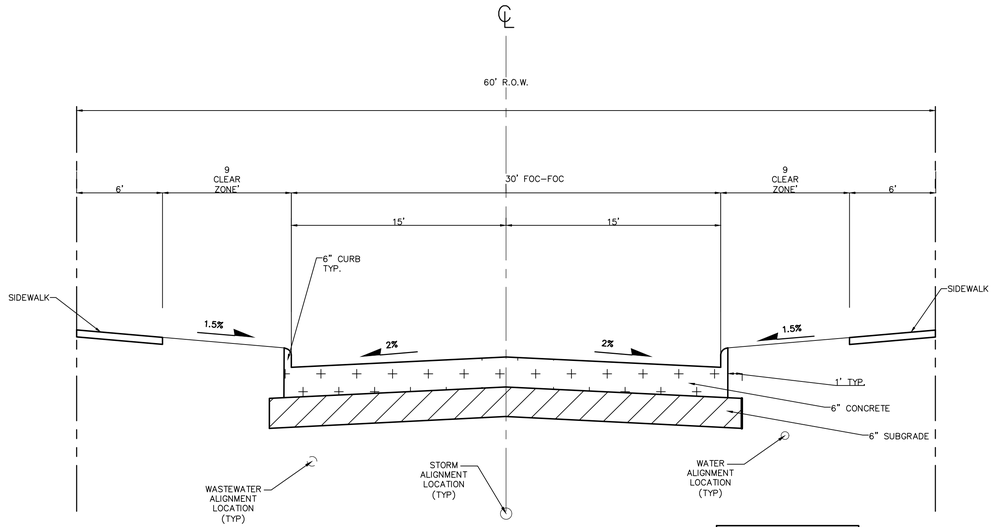
STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

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SHEET NO. 17

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SIENA PEAK DRIVE
STA 0+77.13 TO STA 16+49.95

1

1"=10'

NOTE: TYPICAL SECTION FOR INFORMATIONAL PURPOSES. REFERENCE SECTIONS ON SHEET 41

0 20 40 80 120

GRAPHIC SCALE IN FEET
1"=40'

0 5 10 15

VERTICAL SCALE IN FEET
V: 1"=5'

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NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

ROADWAY TYPICAL SECTIONS

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED PROFESSIONAL ENGINEER

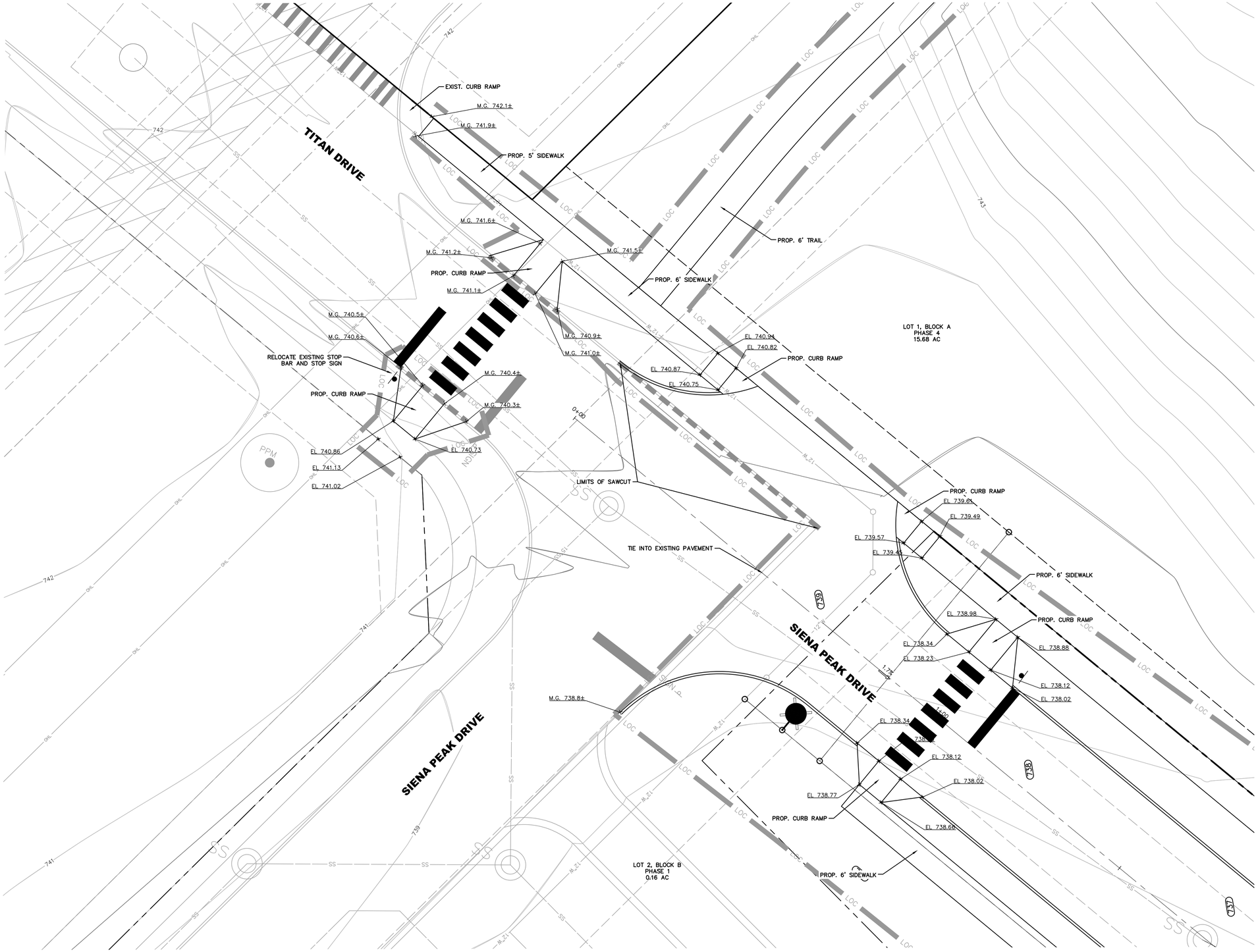
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DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

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1 SIENA PEAK DRIVE & TITAN DRIVE

1"=20'

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REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

INTERSECTION BLOWUPS

HOLLIS ANN SCHEFFLER 136049 LICENSED PROFESSIONAL ENGINEER

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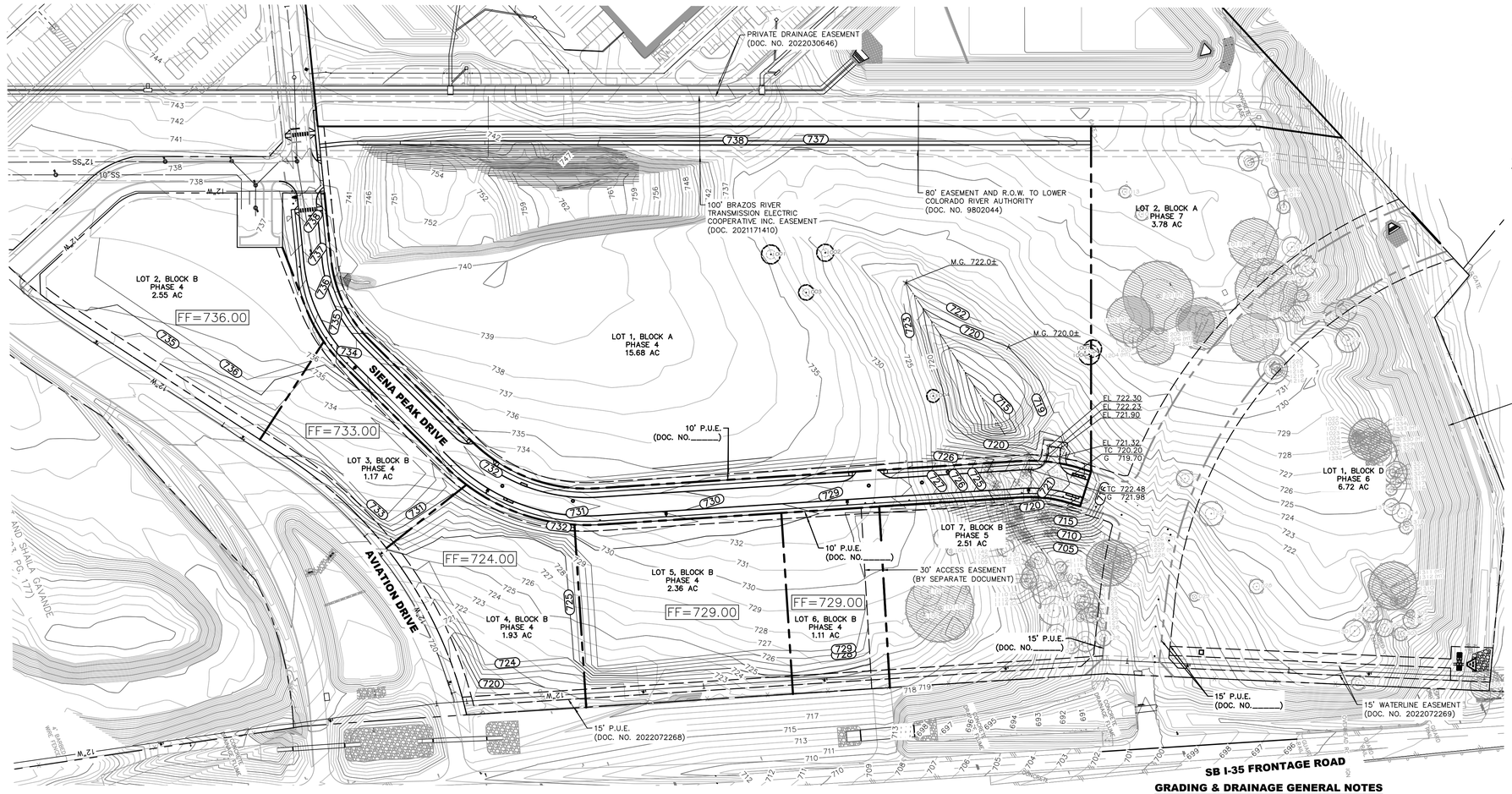
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GRAPHIC SCALE IN FEET
1"=100'

LEGEND

BL	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LT	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FL	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS	1/2"-INCH IRON ROD W/"PACHECO KOCH" CAP SET
(C.M.)	CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
613	EXIST CONTOUR
612.39	EXIST SPOT ELEVATION
TC 612.39 G 611.89	EXIST TOP OF CURB ELEVATION / EXIST GUTTER ELEVATION
400	PROPOSED CONTOUR
TC 614.50 G 614.00	PROPOSED TOP OF CURB ELEVATION / PROPOSED GUTTER ELEVATION
EL 614.25	PROPOSED SPOT ELEVATION
TW 620.50 EL 614.00	PROPOSED TOP OF WALL ELEVATION / PROPOSED GROUND ELEVATION AT BOTTOM OF WALL
M.G.	MATCH EXISTING GRADE
	PROPOSED SWALE
	PROPOSED GRADE BREAK
	PROPOSED DRAINAGE FLOW DIRECTION

TREE PRESERVATION LEGEND

HERITAGE TREEREE TO REMAIN	± CRZ
HERITAGE TREE E TO BE REMOVED ED	± CRZ
PROTECTED TREE E TO REMAIN	± CRZ
PROTECTED TREE E TO BE REMOVED)	± CRZ
TREE PROTECTION FENCE	

FOR ROADWAY PLAN & PROFILES SEE SHEETS 20 TO 22

GRADING & DRAINAGE GENERAL NOTES

1. REFER TO GEOTECHNICAL REPORT FOR REQUIREMENTS REGARDING FILL COMPACTION AND MOISTURE CONTENT.
2. UNLESS NOTED, ALL FILL IS TO BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT. FILL TO BE PLACED IN MAXIMUM LIFTS OF 6 INCHES.
3. SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NO GREATER THAN 5% (UNLESS OTHERWISE NOTED) AND A CROSS SLOPE NO GREATER THAN 2%.
4. GRADING OF ALL HANDICAPPED SPACES AND ROUTES TO CONFORM TO FEDERAL, STATE, AND LOCAL GUIDELINES.
5. ALL PROPOSED AND EXISTING GRADES IN NON-PAVED AREAS ARE "FINISHED GRADE" (i.e. IN LANDSCAPE BEDS, TOP OF MULCH/BEDDING MATERIAL).
6. UNLESS NOTED, STORM DRAIN LINES SHALL BE OF THE FOLLOWING MATERIALS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS:
   - 6.A. RCP C-76, CLASS III
   - 6.B. ADS N-12
   - 6.C. HANCOR Hi-Q
   - 6.D. CONTECH ALUMINIZED ULTRA FLOW
   - 6.E. LANE HD 100
7. UNLESS NOTED, GRATE INLETS TO BE "FORTERRA PIPE AND PRECAST" CATCH BASIN SIZED AS SHOWN, OR APPROVED EQUAL.
8. FINAL PAVING, CURB, AND SIDEWALK ELEVATIONS WILL BE PLACED AT PLUS OR MINUS 0.03 FOOT.
9. REFER TO LANDSCAPE SPECIFICATIONS FOR SEEDING AND SODDING REQUIREMENTS.
10. ANY CONCRETE, ROCK, OR MATERIAL DEEMED BY THE ENGINEER TO BE UNSUITABLE FOR SUBGRADE SHALL BE DISPOSED OF OFFSITE AT CONTRACTOR'S EXPENSE.
11. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
12. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
13. A ROUND MANHOLE COVER MEETING CITY SPECIFICATIONS SHALL BE PLACED IN ALL INLET TOPS NEAR THE OUTLET PIPE.
14. CRUSHED STONE BEDDING OR APPROVED EQUAL SHALL BE PROVIDED BY THE CONTRACTOR WHEN ROCK IS ENCOUNTERED IN TRENCHES. THERE SHALL BE NO ADDITIONAL PAY ITEM FOR CRUSHED STONE BEDDING.
15. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTOR'S EXPENSE.

2024-06-CON

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REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

MASS GRADING

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISOR OF HOLLIS ANN SCHEFFLER, P.E. 136049 ON 5/1/2025 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DESIGN	DRAWN	DATE
HAS	JAS	OCT 2023

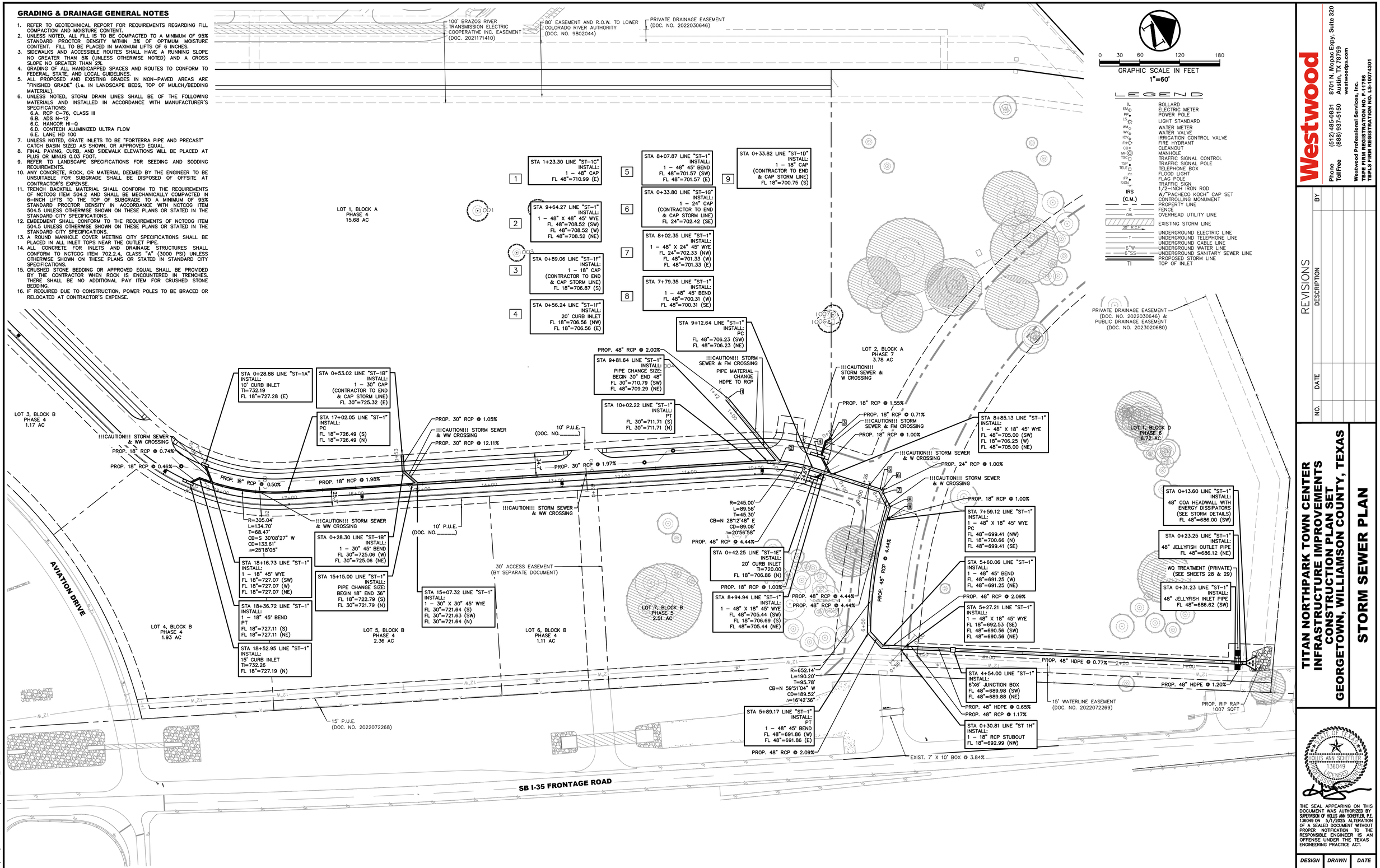
SHEET NO.
23

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PK-0041495.00_GRAD.DWG

GRADING & DRAINAGE GENERAL NOTES

1. REFER TO GEOTECHNICAL REPORT FOR REQUIREMENTS REGARDING FILL COMPACTION AND MOISTURE CONTENT.
2. UNLESS NOTED, ALL FILL IS TO BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT. FILL TO BE PLACED IN MAXIMUM LIFTS OF 6 INCHES.
3. SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NO GREATER THAN 5% (UNLESS OTHERWISE NOTED) AND A CROSS SLOPE NO GREATER THAN 2%.
4. GRADING OF ALL HANDICAPPED SPACES AND ROUTES TO CONFORM TO FEDERAL, STATE, AND LOCAL GUIDELINES.
5. ALL PROPOSED AND EXISTING GRADES IN NON-PAVED AREAS ARE "FINISHED GRADE" (i.e. IN LANDSCAPE BEDS, TOP OF MULCH/BEDDING MATERIAL).
6. UNLESS NOTED, STORM DRAIN LINES SHALL BE OF THE FOLLOWING MATERIALS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS:
   - 6.A. RCP C-76, CLASS III
   - 6.B. ADS N-12
   - 6.C. HANCOR Hi-Q
   - 6.D. CONTECH ALUMINIZED ULTRA FLOW
   - 6.E. LANE HD 100
7. UNLESS NOTED, GRATE INLETS TO BE "FORTERRA PIPE AND PRECAST" CATCH BASIN SIZED AS SHOWN, OR APPROVED EQUAL.
8. FINAL PAVING, CURB, AND SIDEWALK ELEVATIONS WILL BE PLACED AT PLUS OR MINUS 0.03 FOOT.
9. REFER TO LANDSCAPE SPECIFICATIONS FOR SEEDING AND SODDING REQUIREMENTS.
10. ANY CONCRETE, ROCK, OR MATERIAL DEEMED BY THE ENGINEER TO BE UNSUITABLE FOR SUBGRADE SHALL BE DISPOSED OF OFFSITE AT CONTRACTOR'S EXPENSE.
11. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG ITEM 504.2 AND SHALL BE MECHANICALLY COMPACTED IN 6-INCH LIFTS TO THE TOP OF SUBGRADE TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY IN ACCORDANCE WITH NCTCOG ITEM 504.5 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
12. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS OF NCTCOG ITEM 504.5 UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
13. A ROUND MANHOLE COVER MEETING CITY SPECIFICATIONS SHALL BE PLACED IN ALL INLET TOPS NEAR THE OUTLET PIPE.
14. ALL CONCRETE FOR INLETS AND DRAINAGE STRUCTURES SHALL CONFORM TO NCTCOG ITEM 702.2.4, CLASS "A" (3000 PSI) UNLESS OTHERWISE SHOWN ON THESE PLANS OR STATED IN STANDARD CITY SPECIFICATIONS.
15. CRUSHED STONE BEDDING OR APPROVED EQUAL SHALL BE PROVIDED BY THE CONTRACTOR WHEN ROCK IS ENCOUNTERED IN TRENCHES. THERE SHALL BE NO ADDITIONAL PAY ITEM FOR CRUSHED STONE BEDDING.
16. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTOR'S EXPENSE.



Westwood
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Toll Free (888) 937-5150
8701 N. Mopac Expy, Suite 320
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westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

STORM SEWER PLAN

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISOR OF HOLLIS ANN SCHEFFLER, P.E. 136049 ON 5/1/2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

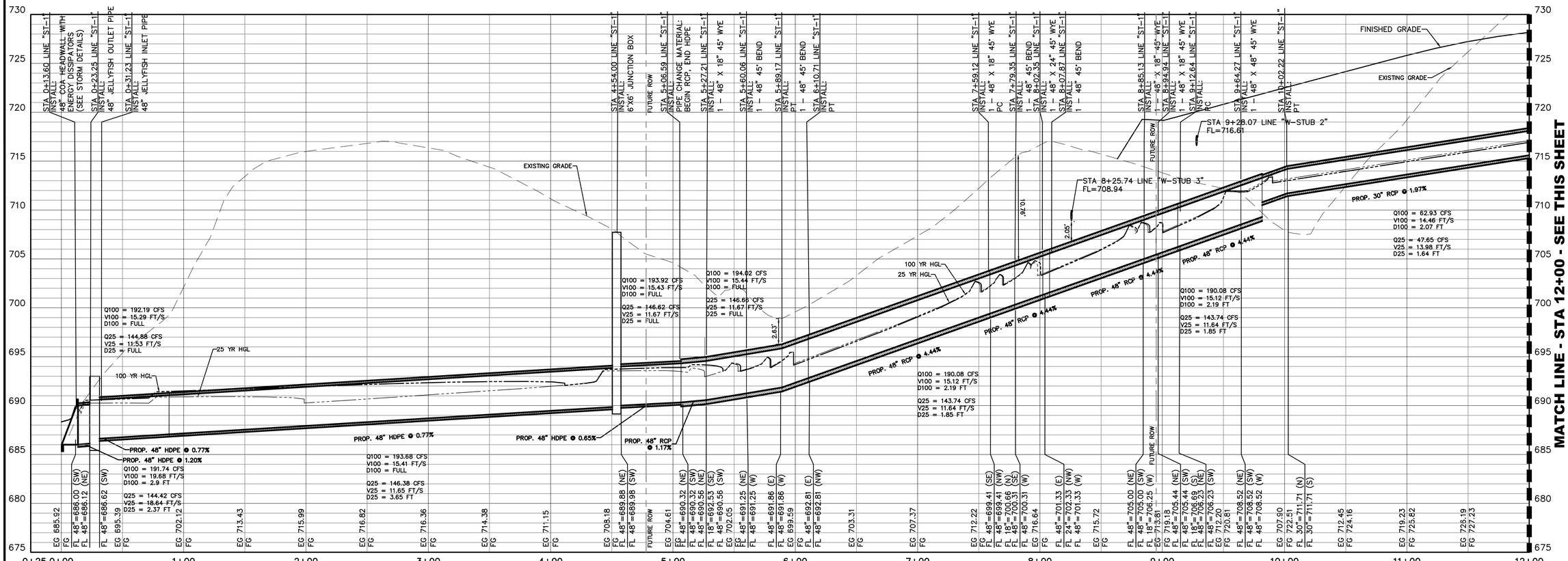
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HAS	NBB	MAR 2024

SHEET NO. 24

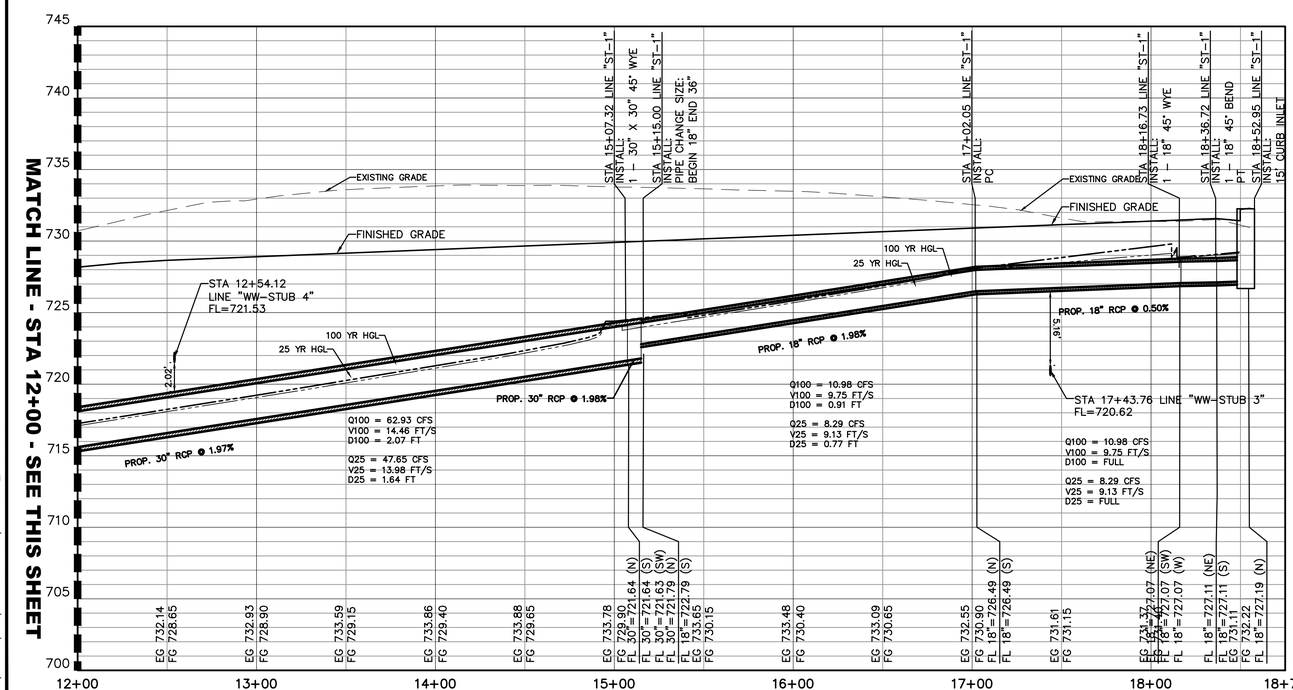
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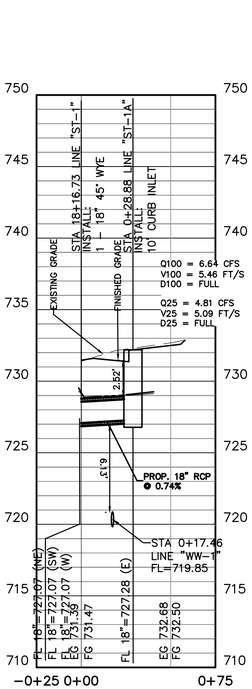
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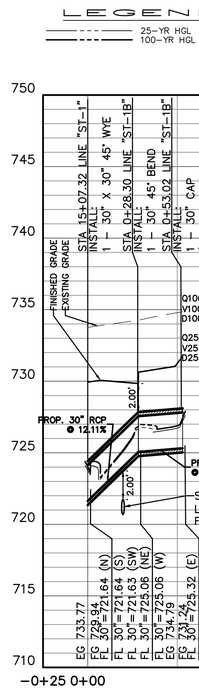
PROFILE: ST-1



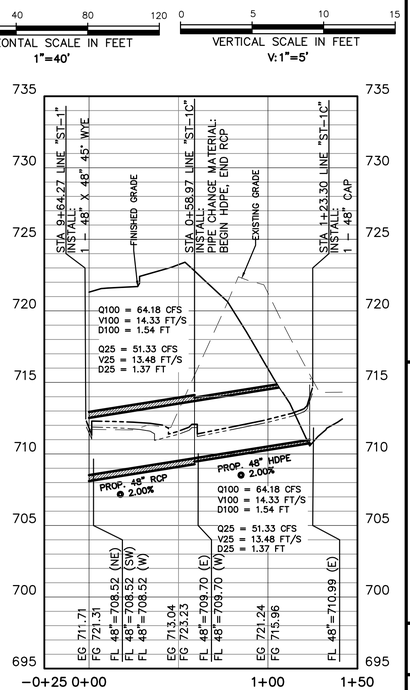
PROFILE: ST-1



PROFILE: ST-1A



PROFILE: ST-1B



PROFILE: ST-1C

LEGEND
25-YR HGL
100-YR HGL

HORIZONTAL SCALE IN FEET
0 20 40 80 120
1"=40'

VERTICAL SCALE IN FEET
0 5 10 15
V:1"=5'

2024-06-CON

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REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

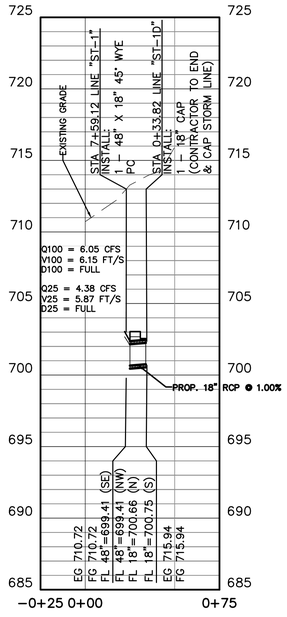
STORM SEWER PROFILE SHEET 1 OF 2

HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

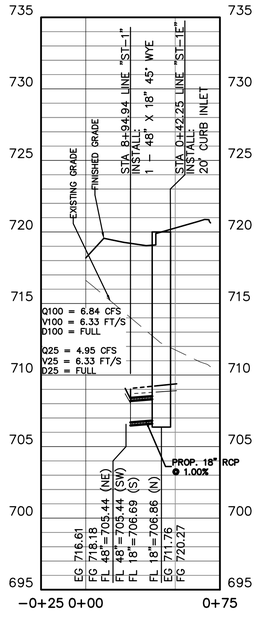
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HAS	NBB	MAR 2024

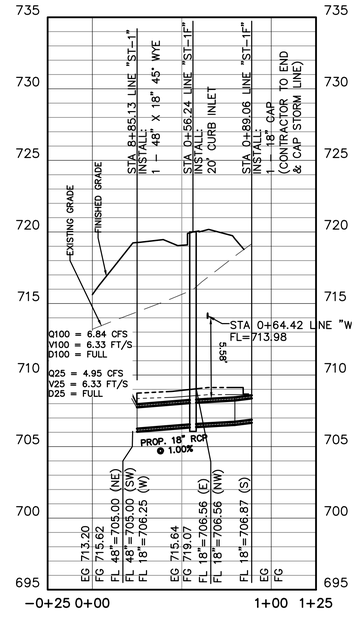
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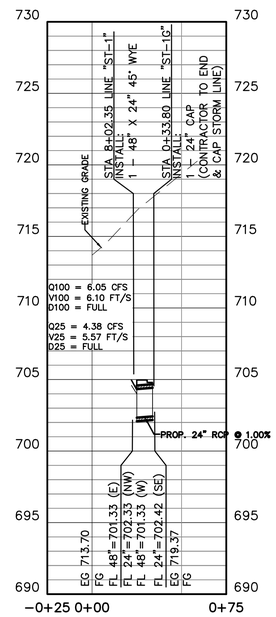
PROFILE: ST-1D



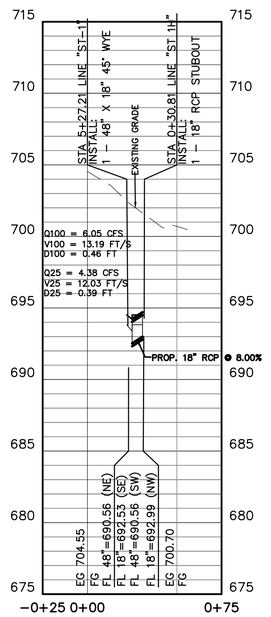
PROFILE: ST-1E



PROFILE: ST-1F



PROFILE: ST-1G



PROFILE: ST 1H

LEGEND

25-YR HGL

100-YR HGL

0 20 40 80 120

HORIZONTAL SCALE IN FEET

1"=40'

0 5 10 15

VERTICAL SCALE IN FEET

V:1"=5'

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REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

STORM SEWER PROFILE SHEET 2 OF 2

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

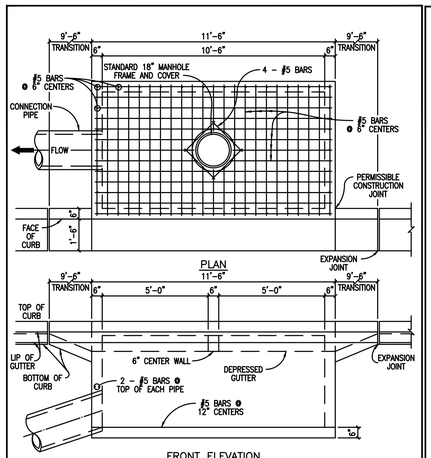
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HAS	NBB	MAR 2024

SHEET NO.
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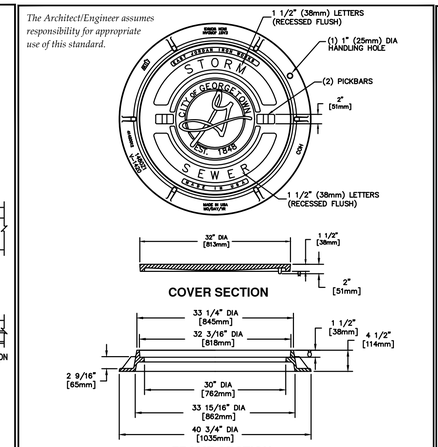
NOTES:
1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF GEORGETOWN.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CURB INLET DETAIL
SD09
NTS | 1/2003

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



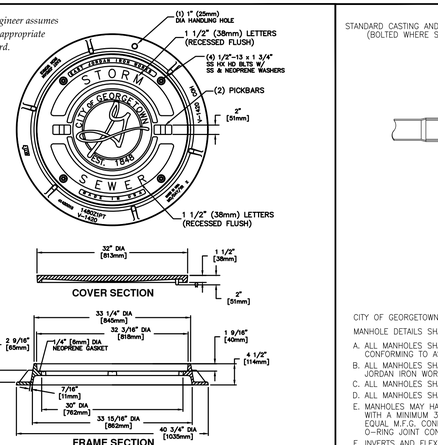
NOTES:
1. STANDARD STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V-1420\1480Z1, COVER TO BE STAMPED WITH "STORM SEWER".
2. STANDARD STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00148391.
4. FOR BOLTED STORM SEWER MANHOLE SET REFER TO DETAIL SD11A.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE SET
SD11
NTS | 1/2003

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

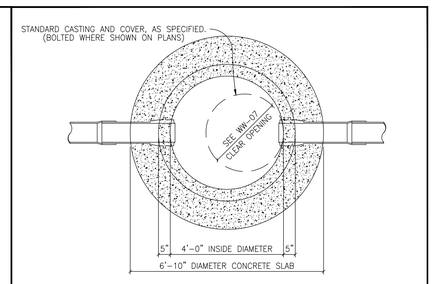


NOTES:
1. BOLTED STORM SEWER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V-1420\1480Z1PT. COVER TO BE STAMPED WITH "STORM SEWER"
2. BOLTED STORM SEWER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148393 41420015.
4. FOR STANDARD STORM SEWER MANHOLE SET REFER TO DETAIL SD11.

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
BOLTED STORM SEWER MANHOLE SET
SD11A
NTS | 1/2006



MANHOLE PLAN

CITY OF GEORGETOWN NOTES:

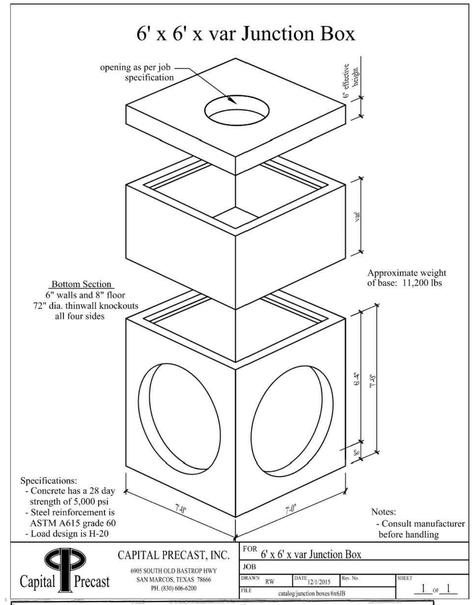
MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER O-RING GASKET JOINTS 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 CALVERT CONCRETE OR APPROVED EQUAL M.F.G. CONFORMING TO ASTM C478, 5000 P.S.I. CONCRETE, TRAFFIC BEARING, AND O-RING 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 OF FIVE (5) GRADE RINGS ARE ALLOWED.

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

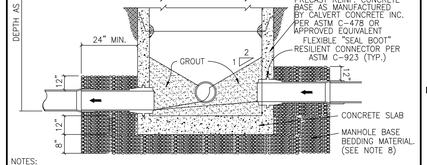
ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE PLAN
SD12
NTS | 1/2003



CAPITAL PRECAST, INC.
6005 SOUTH OLD BASTROP HWY
SAN MARCOS, TEXAS 78666
PH. (830) 606-6200

FOR: 6' x 6' x var Junction Box
JOB
DRAWN: RW | DATE: 12/1/2015 | Rev. No.: | SHEET: 1 OF 1
TITLE: catalog junction boxes/6x6JB

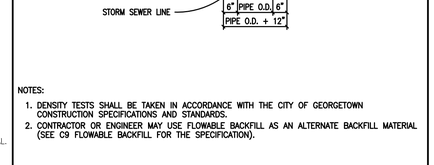


NOTES:
1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET – SINGLE OFF-SET JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
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 STORM SEWER 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.
8. 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.

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD STORM SEWER MANHOLE – SECTION
SD13
NTS | 1/2003



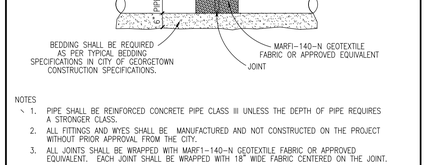
NOTES:
1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

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

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

ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY FOR STORM SEWER
SD41
NTS | 1/2003

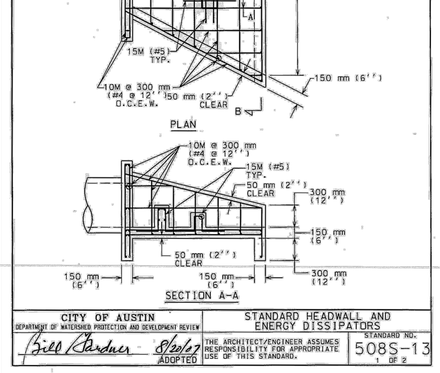


NOTES
1. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS.
2. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
3. ALL JOINTS SHALL BE WRAPPED WITH MARFI-140-N GEOTEXTILE FABRIC OR APPROVED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

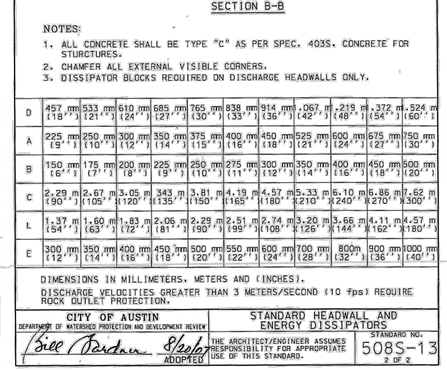
ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL (PROFILE) FOR STORM SEWER
SD42
NTS | 1/2003



CITY OF AUSTIN
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW
Bill Bardin 8/20/07
ADOPTED

STANDARD HEADWALL AND ENERGY DISSIPATORS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 508S-13
1 OF 2



SECTION B-B

NOTES:
1. ALL CONCRETE SHALL BE TYPE "C" AS PER SPEC. 403S. CONCRETE FOR STURCTURES.
2. CHAMFER ALL EXTERNAL VISIBLE CORNERS.
3. DISSIPATOR BLOCKS REQUIRED ON DISCHARGE HEADWALLS ONLY.

D	457 mm (18")	533 mm (21")	610 mm (24")	685 mm (27")	765 mm (30")	838 mm (33")	914 mm (36")	067 m (42")	219 m (48")	372 m (54")	524 m (60")
A	225 mm (9")	250 mm (10")	300 mm (12")	350 mm (14")	375 mm (15")	400 mm (16")	450 mm (18")	525 mm (21")	600 mm (24")	675 mm (27")	750 mm (30")
B	150 mm (6")	175 mm (7")	200 mm (8")	225 mm (9")	250 mm (10")	275 mm (11")	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")
C	2.29 m (90")	2.67 m (105")	3.05 m (120")	343 m (135")	3.81 m (150")	4.19 m (165")	4.57 m (180")	5.33 m (210")	6.10 m (240")	6.86 m (270")	7.62 m (300")
L	1.37 m (54")	1.60 m (63")	1.83 m (72")	2.06 m (81")	2.29 m (90")	2.51 m (99")	2.74 m (108")	3.20 m (126")	3.66 m (144")	4.11 m (162")	4.57 m (180")
E	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	700 mm (28")	800m (32")	900 mm (36")	1000 mm (40")

DIMENSIONS IN MILLIMETERS. METERS AND (INCHES).
DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

CITY OF AUSTIN
DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW
Bill Bardin 8/20/07
ADOPTED

STANDARD HEADWALL AND ENERGY DISSIPATORS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
STANDARD NO. 508S-13
2 OF 2

Westwood
Phone (512) 485-0831 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 Austin, TX 78759
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Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

STORM SEWER DETAILS

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY SUPERVISION OF HOLLIS ANN SCHEFFLER, P.E. 136049 ON 5/1/2025. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO. 27

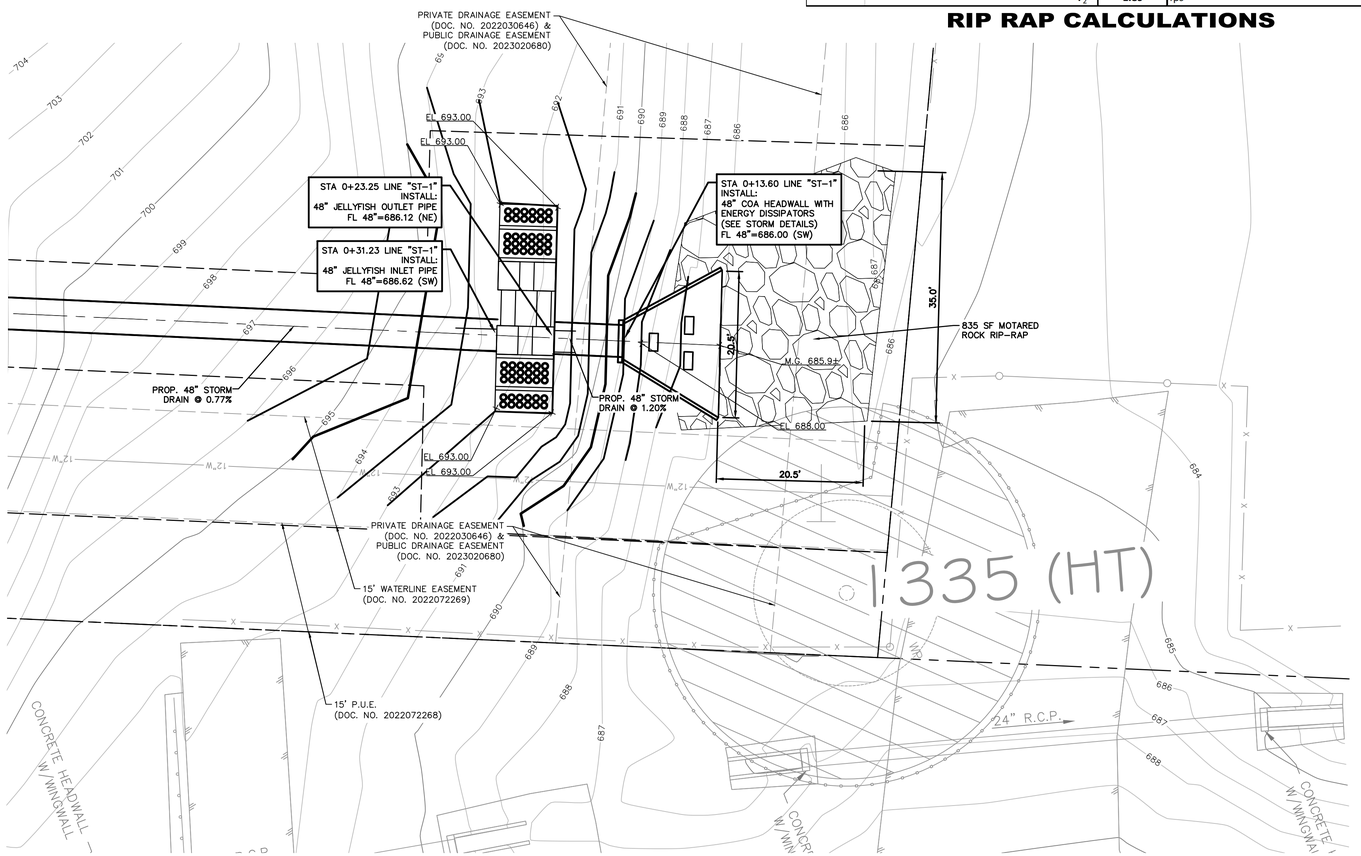
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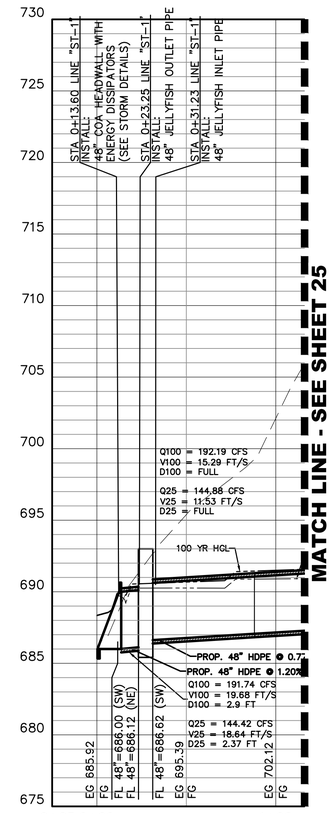
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Project:	NorthPark Town Center		
	Pipe Diameter (ft) =	4.0	
Q =	191.74	cfs	
V_o =	19.68	fps	Outlet Velocity - (Supercritical Flow $V_o = V_n$)
TW =	4	ft	Tail Water Depth
		4.00	
	TW =	4.00	(ft)
Calculate Rip Rap Size			
	Rip-Rap Size (D_{50})=	**0.86**	median rock size by weight (ft)
		10.3	**D_{50} (in)**
Calculate Rip Rap Class			
	Class	3	
Estimate Apron Dimensions			
L =	5D	**20.00**	**length of Apron(ft)**
H =	2.4D50	**2.06**	**Depth of Apron (ft)**
W_{start} =	3D	**12.00**	**Width at Apron start(Culvert Exit) (ft)**
W_{end} =	3D + 2(L/3)	**25.33**	**Width at Apron End (ft)**
Determine Exit Velocity			
	Q =	191.74	
	A_2 =	101.3	(ft^2)
	V_2 =	**1.89**	fps

RIP RAP CALCULATIONS



0 5 10 20 30
GRAPHIC SCALE IN FEET
1"=10'



MATCH LINE - SEE SHEET 25

0 20 40 80 120
HORIZONTAL SCALE IN FEET
1"=40'

0 5 10 15
VERTICAL SCALE IN FEET
V: 1"=5'

LEGEND

	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LP	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FL	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS (C.M.)	1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
30" R.C.P.	EXISTING STORM LINE
	UNDERGROUND ELECTRIC LINE
T	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE LINE
6"W	UNDERGROUND WATER LINE
6"SS	UNDERGROUND SANITARY SEWER LINE
	PROPOSED STORM LINE
TI	TOP OF INLET

NOTE: DETENTION FOR THIS SITE IS BEING PROVIDED WITH 2020-55-CON "POND-A"

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REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

WATER QUALITY TREATMENT PLAN

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

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HAS	NBB	MAR 2024

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Contech Engineered Solutions Calculations for Texas Commission on Environmental Quality
TSS Removal Calculations

Project Name: Titan Northpark Town Center
Date Prepared: 11/14/2024

1. The Required Load Reduction for the total project:

Calculations from RG-348 — Page 3-29 Equation 3.3: $L_M = 28.5(A_N \times P)$
Pages 3-27 to 3-30

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 85% 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 * =	8.73	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	6.13	acres
Total post-development impervious cover fraction * =	0.70	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	5664	lbs.

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. = JellyFish

Total drainage basin/outfall area =	8.73	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	6.13	acres
Post-development impervious fraction within drainage basin/outfall area =	0.70	
$L_{M\ THIS\ BASIN}$ =	5664	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	JF	abbreviation
Removal efficiency =	86.0	percent

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 $P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	8.73	acres
A_I =	6.13	acres
A_P =	2.63	acres
L_R =	3871	lbs.

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

desired $L_{M\ THIS\ BASIN}$ =	5664	lbs.
F =	0.95	

6. Calculate Treated Flow required by the BMP Type for this drainage basin / outfall area.

Offsite area draining to BMP =	0.00	acres
Offsite impervious cover draining to BMP =	0.00	acres

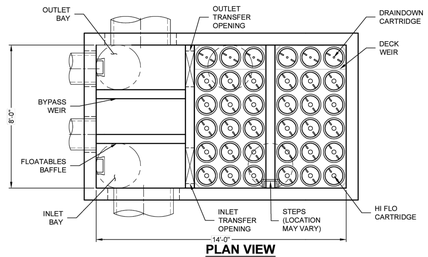
Calculations from RG-348
Pages Section 3.2.22

Rainfall Intensity =	1.80	inches per hour
Effective Area =	5.59	acres
Cartridge Length =	54	inches
Peak Treatment Flow Required =	**10.15**	**cubic feet per second**

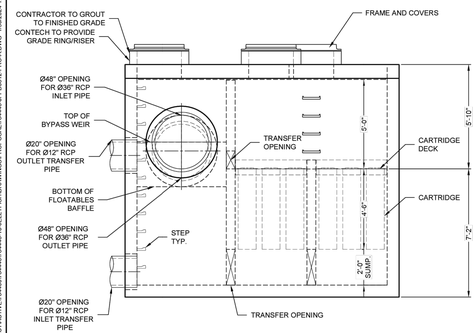
7. Jellyfish
Designed as Required in RG-348
Section 3.2.22

Flow Through Jellyfish Size — VIDEO

Jellyfish Size for Flow-Based Configuration =	2ea JFPDo812-26-6
Jellyfish Treatment Flow Rate =	10.34 cfs



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

RIM
ELEV. = 693.00 '

TOP OF STRUCTURE
ELEV. = 691.82 '

WEIR ELEV. = 687.65 '
INLET INV. ELEV. = 686.65 '

OUTLET INV. ELEV. = 686.15 '

STRUCTURE INV.
ELEV. = 679.65 '

BOTTOM OF STRUCTURE
ELEV. = 678.98 '

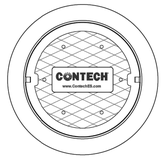
Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	5.88
DECK TO INSIDE TOP (MIN) (B)	5.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	WQU
WATER QUALITY FLOW RATE (cfs)	11.73
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	RCP
# OF CARTRIDGES REQUIRED (HF / DD)	30/6
CARTRIDGE LENGTH	54

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	686.65	RCP	36	*	*
INLET #2	*	*	*	*	*
OUTLET	686.15	RCP	36	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	693.00

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:
VAULT INLINE UPSIZED TO 8'X14' VAULT FOR 36" PIPE
* PER ENGINEER OF RECORD

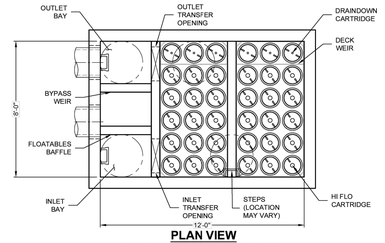
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2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
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B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

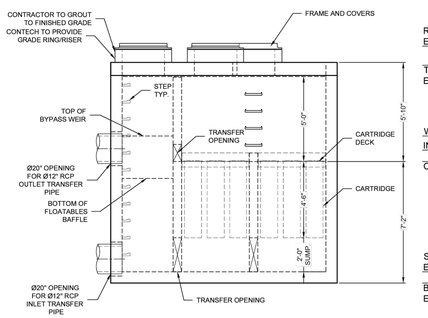
CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9100 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

8' x 12' JELLYFISH - 784446 - 010
TITAN NORTHPARK TOWN CENTER
GEORGETOWN, TX
SITE DESIGNATION: WQU

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PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

RIM
ELEV. = 693.00 '

TOP OF STRUCTURE
ELEV. = 691.82 '

WEIR ELEV. = 687.65 '
INLET INV. ELEV. = 679.65 '

OUTLET INV. ELEV. = 686.15 '

STRUCTURE INV.
ELEV. = 679.65 '

BOTTOM OF STRUCTURE
ELEV. = 678.98 '

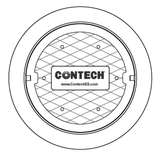
Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

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CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089
MAX. TREATMENT (CFS)	5.88
DECK TO INSIDE TOP (MIN) (B)	5.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	WQU
WATER QUALITY FLOW RATE (cfs)	11.73
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	RCP
# OF CARTRIDGES REQUIRED (HF / DD)	30/6
CARTRIDGE LENGTH	54

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	679.65	RCP	12	*	*
INLET #2	*	*	*	*	*
OUTLET	686.15	RCP	12	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	693.00

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:
INLET AND OUTLET PIPES FOR SYSTEM EQUILIZATION
* PER ENGINEER OF RECORD

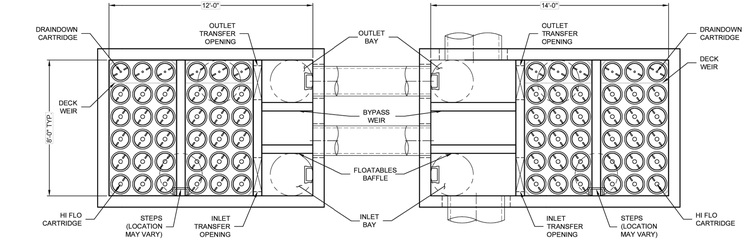
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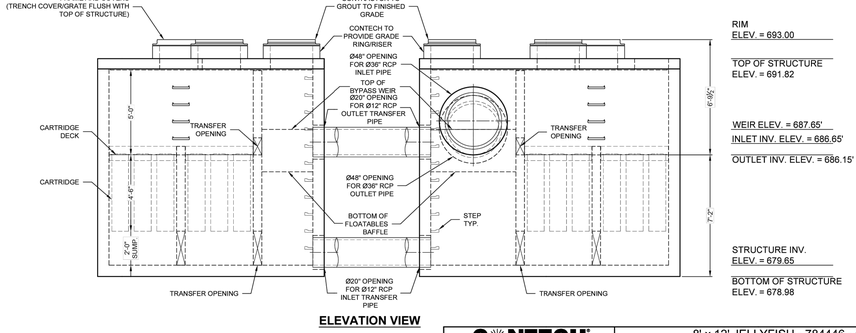
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8' x 12' JELLYFISH - 784446 - 45
TITAN NORTHPARK TOWN CENTER
GEORGETOWN, TX
SITE DESIGNATION: WQU

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PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)



ELEVATION VIEW

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TOP OF STRUCTURE
ELEV. = 691.82

WEIR ELEV. = 687.65'
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SITE DESIGNATION: WQU

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REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

WATER QUALITY TREATMENT PLAN



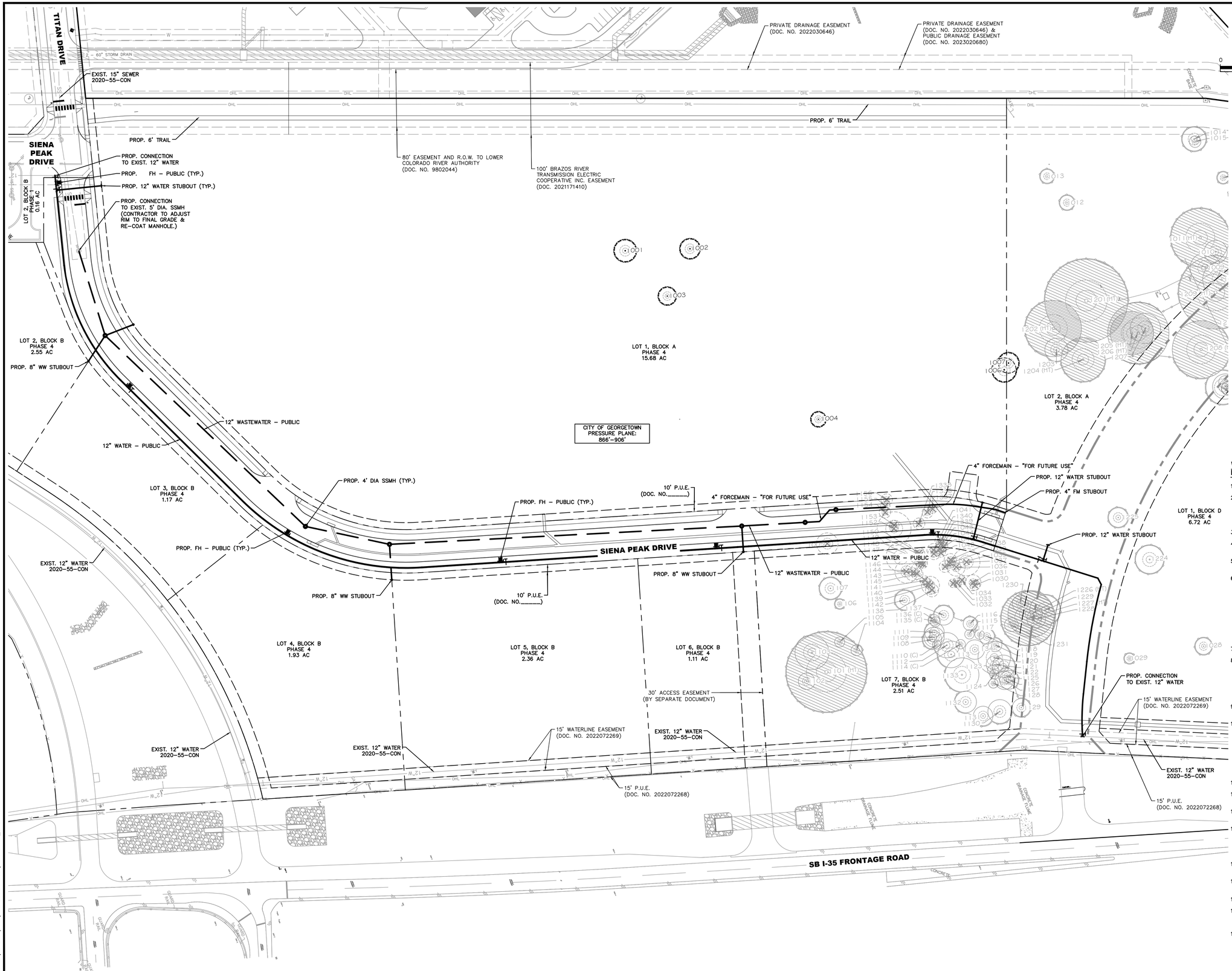
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LEGEND

- BOLLARD
- ELECTRIC METER
- POWER POLE
- LIGHT STANDARD
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT
- CLEANOUT
- MANHOLE
- TRAFFIC SIGNAL CONTROL
- TRAFFIC SIGNAL POLE
- TELEPHONE BOX
- FLOOD LIGHT
- FLAG POLE
- TRAFFIC SIGN
- IRS — 1/2-INCH IRON ROD
- (C.M.) — W/"PACHECO KOCH" CAP SET CONTROLLING MONUMENT
- PROPERTY LINE
- FENCE
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE LINE
- 6"W — UNDERGROUND WATER LINE
- 8"SS — UNDERGROUND SANITARY SEWER LINE
- PROP. FDC LOCATION
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- PROP. WATER LINE W/ BEND
- PROP. SANITARY SEWER LINE
- PROP. SANITARY SEWER MANHOLE
- PROP. SANITARY SEWER CLEANOUT

TREE PRESERVATION LEGEND

- HERITAGE TREE TO REMAIN — ½ CRZ
- HERITAGE TREE TO BE REMOVED — ½ CRZ
- PROTECTED TREE TO REMAIN — ½ CRZ
- PROTECTED TREE TO BE REMOVED — ½ CRZ
- TREE PROTECTION FENCE

WATER & SANITARY SEWER GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS "A" (3000 PSI), UNLESS OTHERWISE NOTED.
2. ALL WATER MAINS SHALL BE PVC C900, DR 18, CLASS 235. FIRE PROTECTION SERVICES SHALL BE PVC C900, DR 14, CLASS 305 AND INSTALLED IN ACCORDANCE WITH THE DESIGN AND SPECIFICATIONS OF THE FIRE PROTECTION PLANS TO BE PREPARED BY A LICENSED FIRE PROTECTION CONTRACTOR.
3. WATER AND SANITARY SEWER SERVICES SHALL MEET PLUMBING CODE REQUIREMENTS.
4. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF 48 INCHES BELOW IMPROVED FINISHED GRADE, UNLESS OTHERWISE NOTED.
5. SANITARY SEWER GRAVITY PIPE SHALL BE PVC SDR-26. SANITARY SEWER FORCE MAIN PIPE SHALL BE HDPE c900 DR17
6. WHEN WATER AND SANITARY SEWER MAINS, SERVICES, AND LATERALS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO EACH OTHER THAN NINE FEET IN ALL DIRECTIONS AND PARALLEL LINES MUST BE INSTALLED IN SEPARATE TRENCHES. WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING TCEQ CHAPTERS SHALL APPLY:
   - 6.A. TCEQ CHAPTER 217.53 PIPE DESIGN, SECTION (d) SEPARATION DISTANCES.
   - 6.B. TCEQ CHAPTER 290.44 WATER DISTRIBUTION, SECTION (e) LOCATION OF WATERLINES.
7. CONTRACTOR TO VERIFY ALL EXISTING SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
8. CONTRACTOR SHALL TIE A ONE INCH WIDE PIECE OF RED PLASTIC FLAGGING TO THE END OF SEWER SERVICE AND SHALL LEAVE A MINIMUM OF 36 INCHES OF FLAGGING EXPOSED AFTER BACKFILL. AFTER CURB AND PAVING IS COMPLETED, CONTRACTOR SHALL MARK THE LOCATION OF THE SEWER SERVICE ON THE CURB OR ALLEY IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
9. ALL SANITARY SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE STANDARD CITY SPECIFICATIONS.
10. THE UTILITY CONTRACTOR SHALL INSTALL THE WATER SERVICES TO A POINT TWO FEET BACK OF THE CURB LINE AT A DEPTH OF 12 INCHES. THE METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AFTER THE PAVING CONTRACTOR HAS COMPLETED THE FINE GRADING BEHIND THE BACK OF THE CURB. EACH SERVICE LOCATION SHALL BE MARKED ON THE CURB WITH A BLUE LETTER "W" BY THE UTILITY CONTRACTOR AND TIED TO PROPERTY CORNERS ON THE "RECORD DRAWINGS."
11. ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS.
12. TRENCH BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
13. EMBEDMENT SHALL CONFORM TO THE REQUIREMENTS SHOWN ON THESE PLANS OR STATED IN THE STANDARD CITY SPECIFICATIONS.
14. VALVE BOXES SHALL BE FURNISHED AND SET ON EACH GATE VALVE. AFTER THE FINAL CLEAN-UP AND ALIGNMENT HAS BEEN COMPLETED, THE UTILITY CONTRACTOR SHALL POUR A 24"X24"X6" CONCRETE BLOCK AROUND ALL VALVE BOX TOPS LEVEL WITH THE FINISHED GRADE.
15. CONTRACTOR SHALL RECONNECT ALL EXISTING SERVICES AND MAINTAIN EXISTING SERVICES THROUGHOUT CONSTRUCTION.
16. IF REQUIRED DUE TO CONSTRUCTION, POWER POLES TO BE BRACED OR RELOCATED AT CONTRACTOR'S EXPENSE.
17. ALL MECHANICAL JOINTS SHALL HAVE MEGA LUG THRUSTS RETAINTS.
18. ALL RISER PIPING AND FORCE MAIN HEADER PIPING SHALL BE DUCTILE IRON, CLASS 53 WITH A MINIMUM WORKING PRESSURE OF 150 PSI PLUS A SURGE PRESSURE OF 100 PSI AND PRESSURE TYPE JOINTS.
19. ALL PVC SHALL CONFORM TO AWWA C-C900. PROVIDE DR-18 FOR FORCE MAIN AND SHALL HAVE RUBBER GASKET EQUIPPED BELL AND SPIGOT JOINTS CONFORMING TO LATEST ASTM STANDARDS. THE GASKET MATERIAL SHALL CONFORM TO LATEST ASTM STANDARDS.

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TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

OVERALL WATER & WASTEWATER PLAN

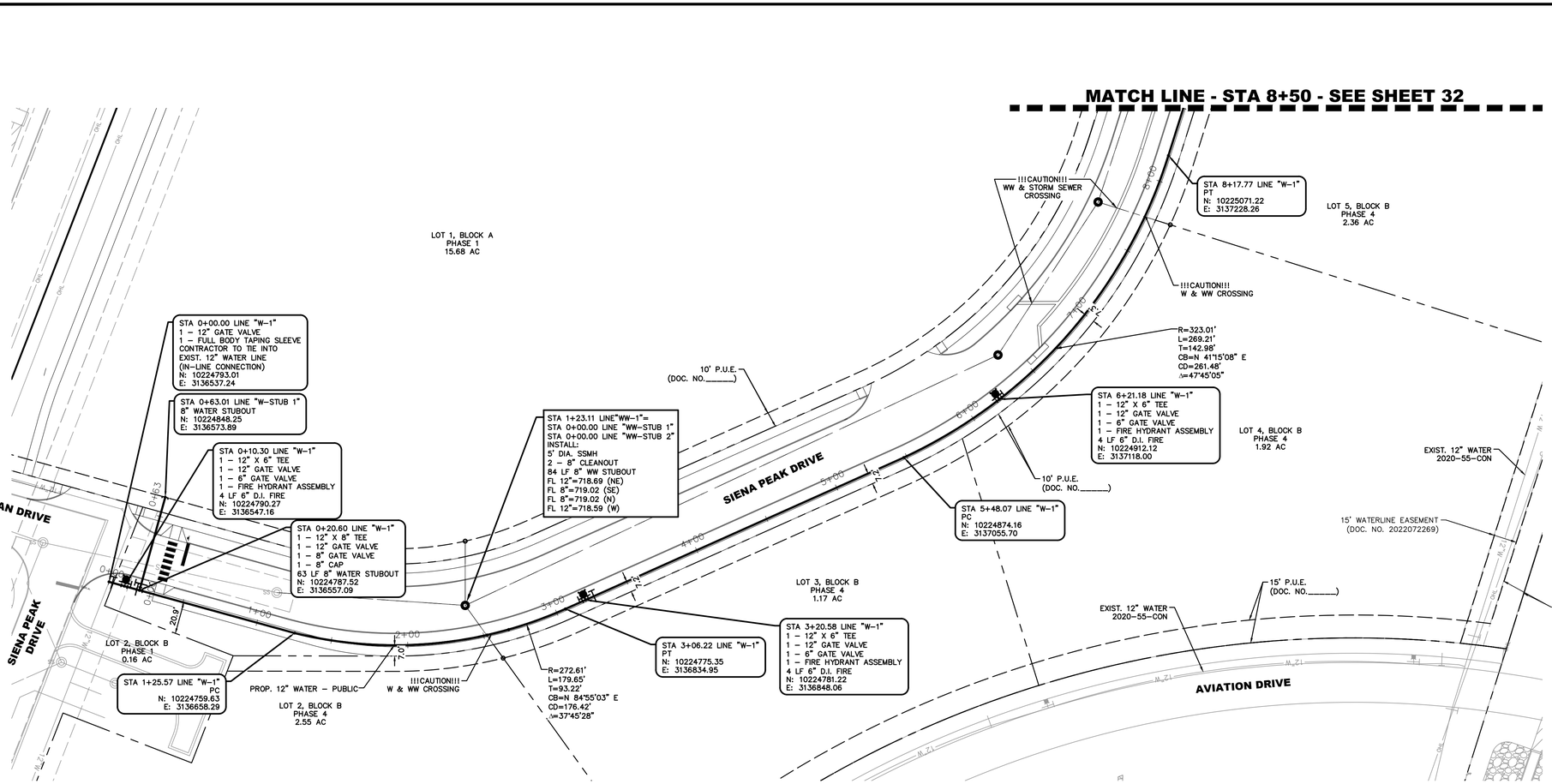
STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

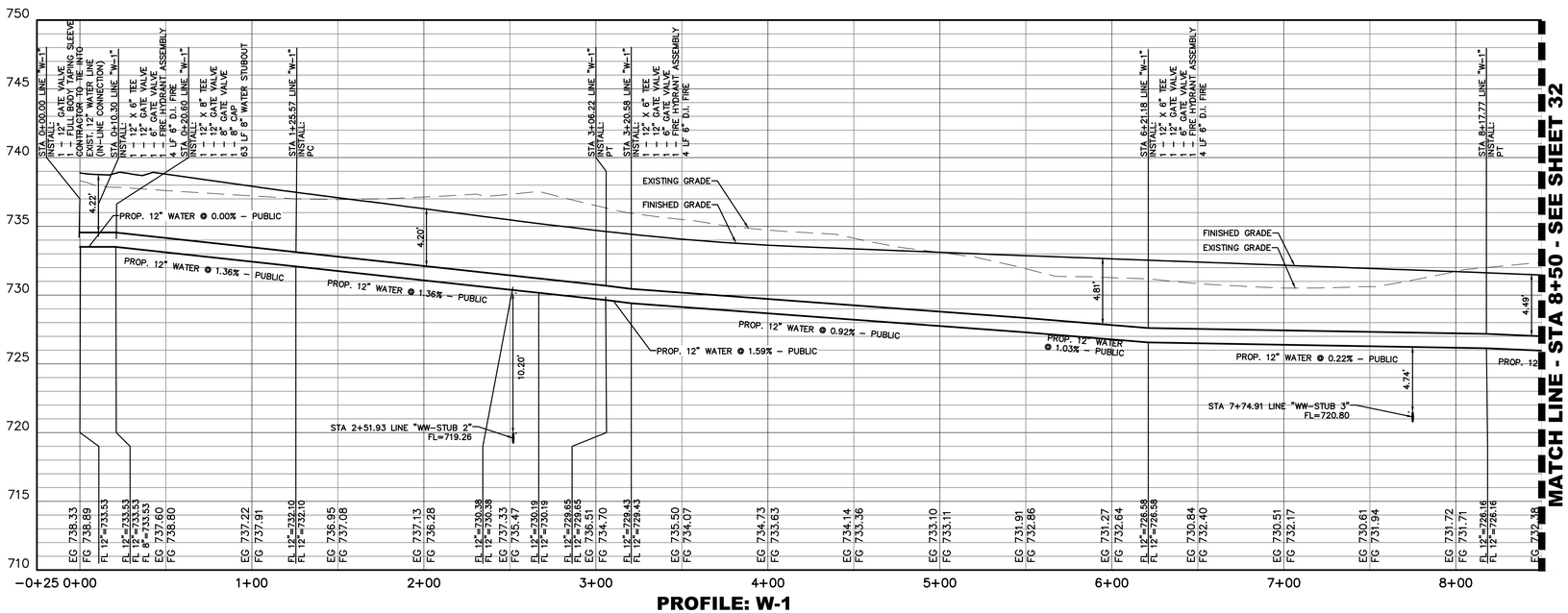
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SHEET NO. **30**

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PROFILE: W-1

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TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET GEORGETOWN, WILLIAMSON COUNTY, TEXAS

WATER PLAN & PROFILE 1 OF 2

HOLLIS ANN SCHEFFLER 136049 LICENSED PROFESSIONAL ENGINEER

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SHEET NO. 31

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PK–0041495.00_UTILITY.DWG

MATCH LINE - STA 8+50 - SEE SHEET 31

LOT 1, BLOCK A
PHASE 4
15.68 AC

10' P.U.E.
(DOC. NO._____)

!!!CAUTION!!!
WW & STORM SEWER CROSSING

!!!CAUTION!!!
W & WW CROSSING

SIENA PEAK DRIVE

PROP. 12" WATER – PUBLIC

STA 9+27.36 LINE "W-1"
1 – 12" X 6" TEE
1 – 12" GATE VALVE
1 – 6" GATE VALVE
1 – FIRE HYDRANT ASSEMBLY
4 LF 6" D.I. FIRE
N: 10225175.74
E: 3137261.20

STA 12+27.36 LINE "W-1"
1 – 12" X 6" TEE
1 – 12" GATE VALVE
1 – 6" GATE VALVE
1 – FIRE HYDRANT ASSEMBLY
4 LF 6" D.I. FIRE
N: 10225461.86
E: 3137351.38

STA 15+16.39 LINE "W-1"
PC
N: 10225737.53
E: 3137438.26

STA 15+27.35 LINE "W-1"
1 – 12" X 6" TEE
1 – 12" GATE VALVE
1 – 6" GATE VALVE
1 – FIRE HYDRANT ASSEMBLY
4 LF 6" D.I. FIRE
N: 10225747.88
E: 3137441.85

STA 15+85.06 LINE "W-1"
1 – 12" X 12" TEE
2 – 12" GATE VALVES
1 – 12" CAP
41.5 LF 12" WATER STUBOUT
N: 10225798.80
E: 3137468.70

R=227.00'
L=82.46'
T=41.69'
CB=S 28°16'52" W
CD=82.01'
Δ=20°48'50"

STA 15+99.36 LINE "W-1"
PT
N: 10225810.23
E: 3137477.27

STA 18+85.02 LINE "W-1"
PT
N: 10225884.45
E: 3137683.78

LOT 2, BLOCK A
PHASE 4
3.78 AC

STA 0+53.00 LINE "W-STUB 2"
1 – 12" W STUBOUT CAP
N: 10225829.27
E: 3137425.33

!!!CAUTION!!!
WW & STORM
SEWER CROSSING

END OF PROPOSED PAVING

STA 0+23.38 LINE "W-STUB 3"
1 – 12" W STUBOUT CAP
N: 10225892.77
E: 3137513.27

!!!CAUTION!!!
W & STORM SEWER CROSSING

PROP. 12" WATER – PUBLIC

STA 16+86.18 LINE "W-1"
1 – 12" X 12" TEE
2 – 12" GATE VALVES
1 – 12" CAP
17 LF 12" WATER STUBOUT
N: 10225878.07
E: 3137531.46

STA 17+66.16 LINE "W-1"
1 – 12" 45° BEND
N: 10225940.56
E: 3137581.37

STA 17+76.18 LINE "W-1"
1 – 12" 45° BEND
N: 10225941.68
E: 3137591.33

STA 17+86.15 LINE "W-1"
PC
N: 10225935.81
E: 3137599.39

R=713.94'
L=99.45'
T=49.81'
CB=S 58°40'47" E
CD=99.37'
Δ=7°58'52"

LOT 1, BLOCK D
PHASE 5
6.72 AC

STA 19+30.14 LINE "W-1"
PC
N: 10225863.79
E: 3137723.90

R=345.00'
L=49.06'
T=24.57'
CB=N 66°49'55" W
CD=49.02'
Δ=8°08'50"

STA 19+79.20 LINE "W-1"
PT
N: 10225844.51
E: 3137768.96

STA 19+89.20 LINE "W-1"
1 – 12" X 12" FULL BODIED TAPPING SLEEVE
1 – 12" GATE VALVE
CONTRACTOR TO TIE
INTO EXIST. 12" WATER
(HOT-TAP CONNECTION)
N: 10225841.37
E: 3137778.46

EXIST. 12" WATER
2020-55-CON

LOT 5, BLOCK B
PHASE 4
2.36 AC

LOT 6, BLOCK B
PHASE 4
1.01 AC

LOT 7, BLOCK B
PHASE 4
2.81 AC

15' WATERLINE EASEMENT
(DOC. NO. 2022072269)

15' P.U.E.
(DOC. NO. 2022072268)

0 20 40 80 120
GRAPHIC SCALE IN FEET
1"=40'

0 5 10 15
VERTICAL SCALE IN FEET
V:1"=5'

LEGEND

B	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FL	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS	1/2-INCH IRON ROD
(C.M.)	W/"PACHECO KOCH" CAP SET
	CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
	UNDERGROUND ELECTRIC LINE
T	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE LINE
6"W	UNDERGROUND WATER LINE
6"SS	UNDERGROUND SANITARY SEWER LINE
	PROP FDC LOCATION
	PROP WATER VALVE
	PROP FIRE HYDRANT
	PROP WATER LINE W/ BEND
	PROP SANITARY SEWER LINE
	PROP SANITARY SEWER MANHOLE
	PROP SANITARY SEWER CLEANOUT

MATCH LINE - STA 8+00 - SEE SHEET 31

STA 8+27.36 LINE "W-1"
INSTALL:
1 – 12" X 6" TEE
1 – 12" GATE VALVE
1 – 6" GATE VALVE
1 – FIRE HYDRANT ASSEMBLY
4 LF 6" D.I. FIRE

STA 12+27.36 LINE "W-1"
INSTALL:
1 – 12" X 6" TEE
1 – 12" GATE VALVE
1 – 6" GATE VALVE
1 – FIRE HYDRANT ASSEMBLY
4 LF 6" D.I. FIRE

STA 12+57.02 LINE "W-1"
INSTALL:
1 – 12" X 12" TEE
1 – 12" GATE VALVE
1 – 12" CAP
17 LF 12" WATER STUBOUT

STA 12+72.27 LINE "W-1"
INSTALL:
1 – 12" X 12" TEE
1 – 12" GATE VALVE
1 – 12" CAP
17 LF 12" WATER STUBOUT

STA 13+29.84 LINE "W-1"
INSTALL:
1 – AUTOMATIC AIR
RELEASE VALVE W/ RING
(SEE C.O.G. DETAILS
W-12 & W-13)

EXISTING GRADE
FINISHED GRADE
4.32'
4.08'
2.06'
PROP. 12" WATER @ 1.31% – PUBLIC
WATER @ 0.54% – PUBLIC
PROP. 12" WATER @ 0.38% – PUBLIC
PROP. 12" WATER @ 0.01% – PUBLIC
PROP. 12" WATER @ 0.54% – PUBLIC
STA 12+64.53 LINE "WW-STUB 4"
FL=721.62
PROP. 12" WATER @ 2.65% – PUBLIC

	9+00	10+00	11+00	12+00	13+00	14+00
FG	731.46					
EG		732.87	733.24	733.43	733.52	733.40
FG		731.21	730.71	730.46	730.21	729.96
FL 12"		725.56				
FL 12"		725.56				
EG		733.09	733.24	733.43	733.40	732.97
FG		730.96	730.71	730.46	729.96	728.71
FL 12"						724.44
FL 12"						724.44
EG						732.47
FG						729.44
FL 12"						724.44
FL 12"						724.44
EG						731.12
FG						729.11
FL 12"						724.35
FL 12"						724.35
FL 12"						723.60
FL 12"						723.60
EG						728.09
FG						728.27

PROFILE: W-1

MATCH LINE - STA 14+00 - THIS SHEET

STA 15+16.39 LINE "W-1"
INSTALL:
PC

STA 15+85.06 LINE "W-1"
INSTALL:
1 – 12" X 12" TEE
2 – 12" GATE VALVES
1 – 12" CAP
41.5 LF 12" WATER STUBOUT

STA 15+99.36 LINE "W-1"
INSTALL:
PT

STA 16+86.18 LINE "W-1"
INSTALL:
1 – 12" X 12" TEE
2 – 12" GATE VALVES
1 – 12" CAP
17 LF 12" WATER STUBOUT

STA 17+66.16 LINE "W-1"
INSTALL:
1 – 12" 45° BEND

STA 17+76.18 LINE "W-1"
INSTALL:
1 – 12" 45° BEND

STA 17+86.15 LINE "W-1"
INSTALL:
PC

STA 18+85.02 LINE "W-1"
INSTALL:
PT

STA 19+79.20 LINE "W-1"
INSTALL:
PT

STA 19+89.20 LINE "W-1"
INSTALL:
1 – 12" X 12" FULL BODIED TAPPING SLEEVE
1 – 12" GATE VALVE
CONTRACTOR TO TIE
INTO EXIST. 12" WATER
(HOT-TAP CONNECTION)

FINISHED GRADE
EXISTING GRADE
4.00'
4.66'
4.66'
3.04'
2.19'
PROP. 12" WATER @ 2.65% – PUBLIC
PROP. 12" WATER @ 4.59% – PUBLIC
PROP. 12" WATER @ 5.07% – PUBLIC
PROP. 12" WATER @ 4.46% – PUBLIC
PROP. 12" WATER @ 6.93% – PUBLIC
STA 17+21.98
LINE "ST-1"
FL=700.45
STA 19+69.25 LINE "ST-1"
FL=690.65

	14+00	15+00	16+00	17+00	18+00	19+00	20+00
EG	715.54	707.32	710.03	711.74	713.38	714.70	716.33
FG	725.49	723.84	721.65	720.26	714.50	FG	FG
FL 12"		717.99		713.79	707.37		706.70
FL 12"		717.99		713.79	707.37		706.70
EG							706.44
FG							706.44
FL 12"							706.17
FL 12"							706.17
EG							712.17
FG							FG
FL 12"						701.15	
EG						705.03	
FG						FG	
FL 12"							696.48
FL 12"							696.48
FL 12"							695.77
EG							702.45
FG							FG

PROFILE: W-1

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TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

WATER PLAN & PROFILE 2 OF 2

HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TEXAS

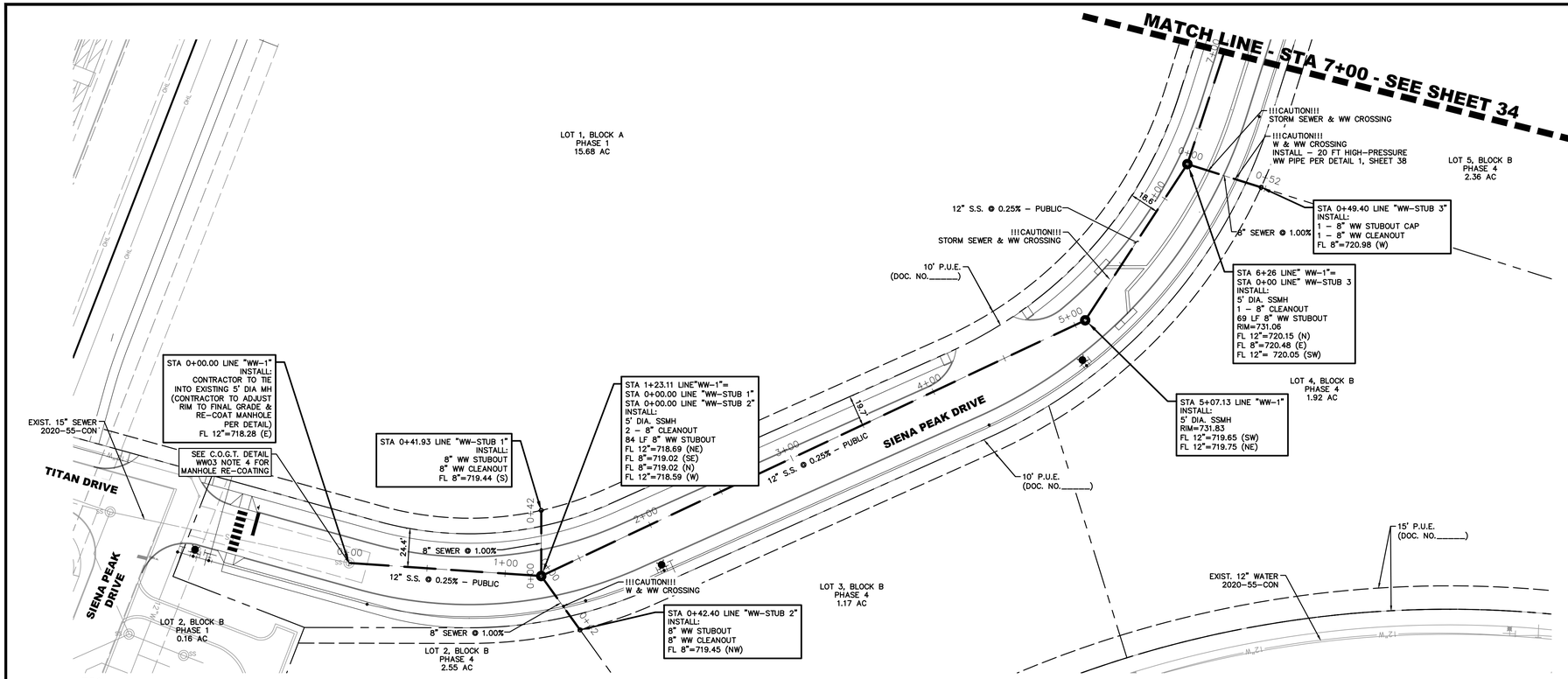
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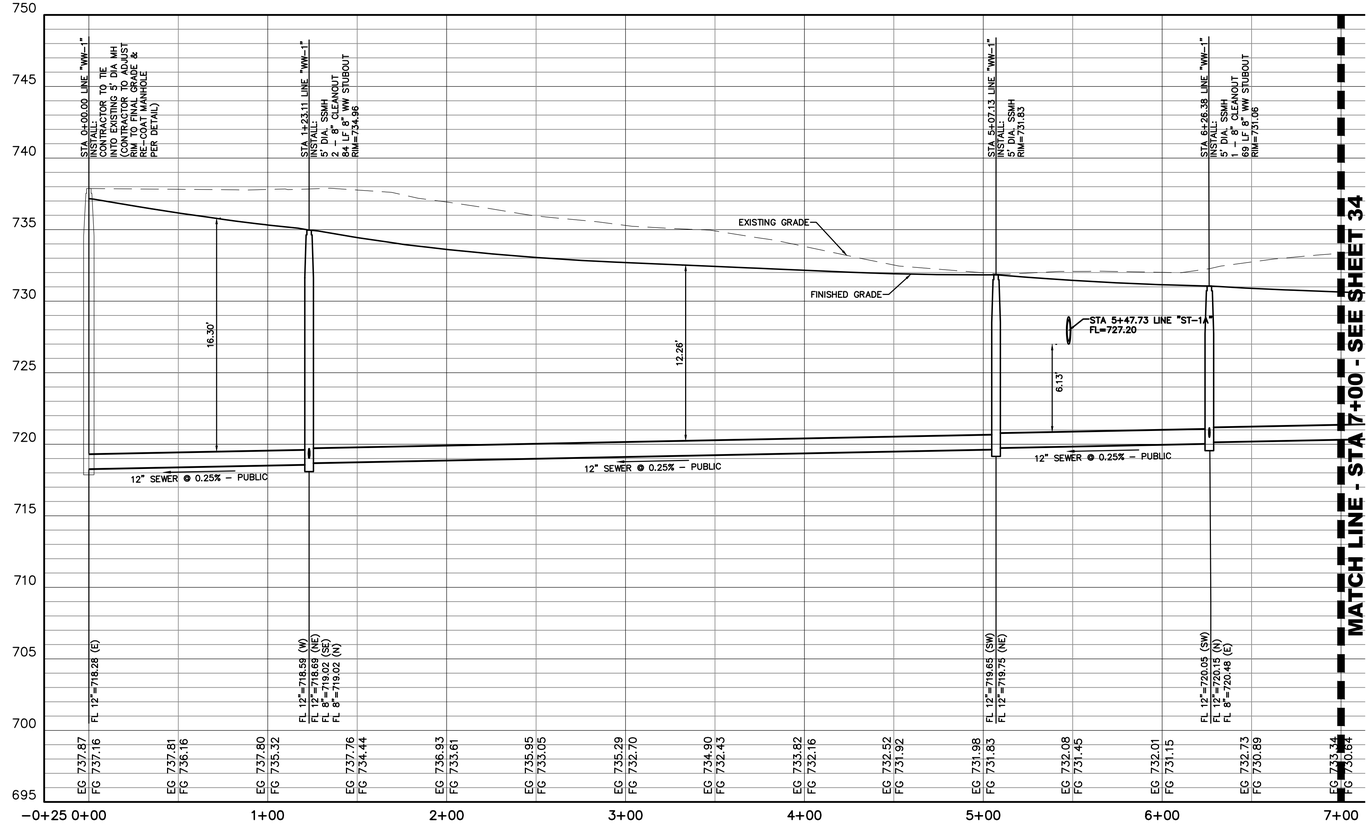
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HAS	NBB	MAR 2024

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PROFILE: WW-1

0 20 40 80 120
GRAPHIC SCALE IN FEET
1"=40'

0 5 10 15
VERTICAL SCALE IN FEET
V:1"=5'

LEGEND

	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FL	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS	1/2–INCH IRON ROD
(C.M.)	W/"PADHECO KOCH" CAP SET
	CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
	UNDERGROUND ELECTRIC LINE
T	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE LINE
6"W	UNDERGROUND WATER LINE
6"SS	UNDERGROUND SANITARY SEWER LINE
	PROP FDC LOCATION
	PROP WATER VALVE
	PROP FIRE HYDRANT
	PROP WATER LINE W/ BEND
	PROP SANITARY SEWER LINE
	PROP SANITARY SEWER MANHOLE
	PROP SANITARY SEWER CLEANOUT

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REVISIONS

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TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

WASTEWATER PLAN & PROFILE 1 OF 2

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

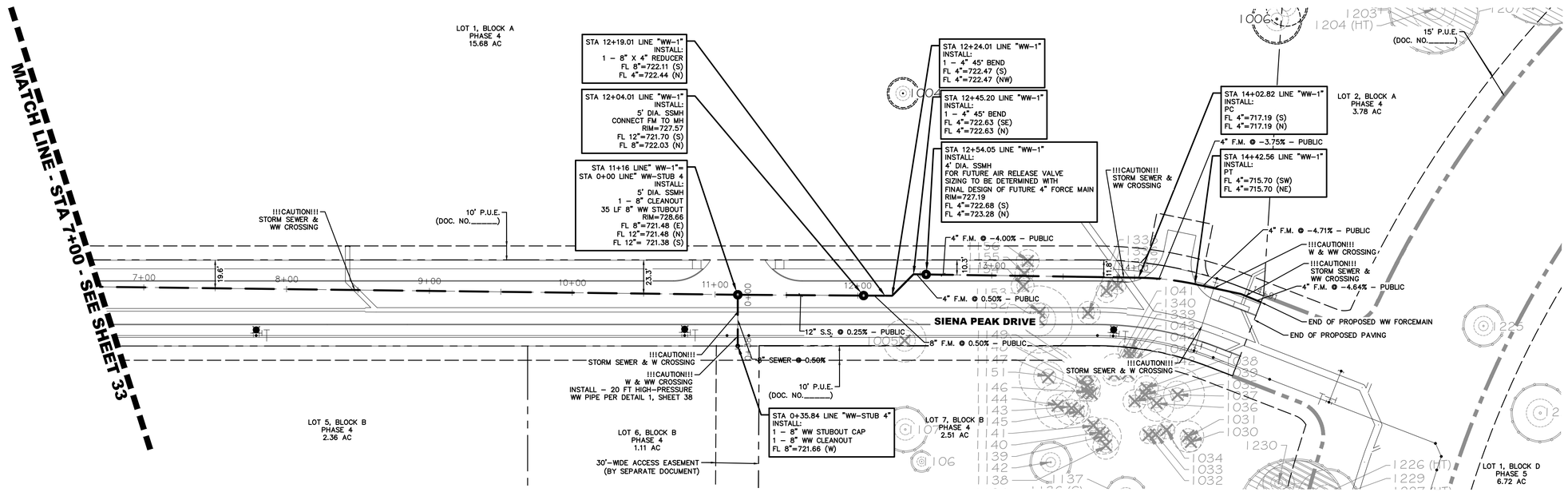
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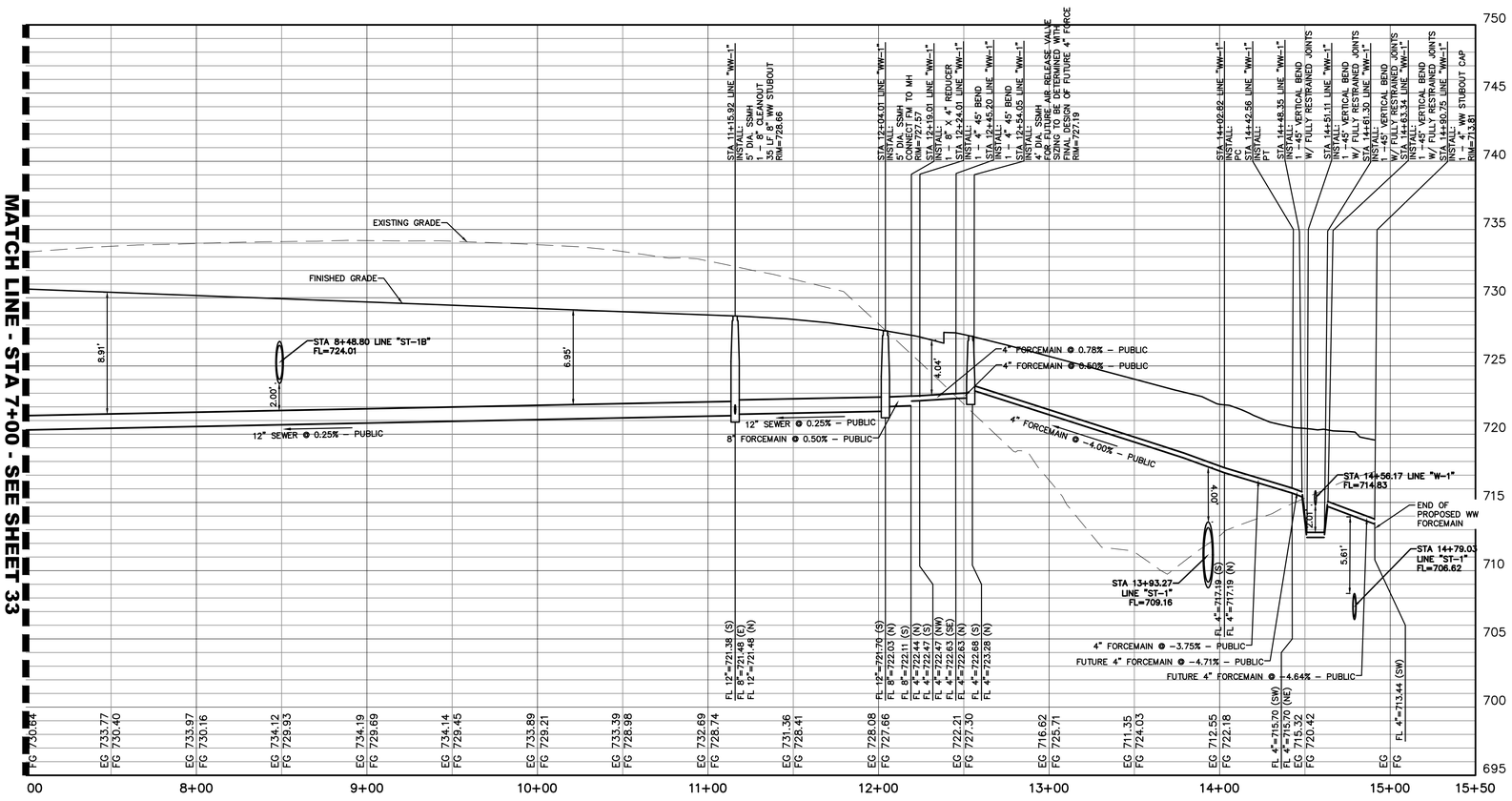
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PROFILE: WW-1

2024-06-CON

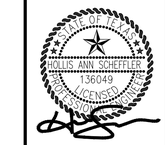
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Phone (512) 485-0831
Toll Free (888) 937-5150
8701 N. Mopac Expy, Suite 320
Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER INFRASTRUCTURE IMPROVEMENTS CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

WASTEWATER PLAN & PROFILE 2 OF 2



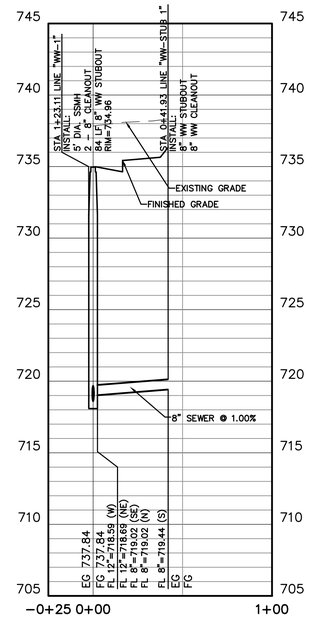
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DESIGN	DRAWN	DATE
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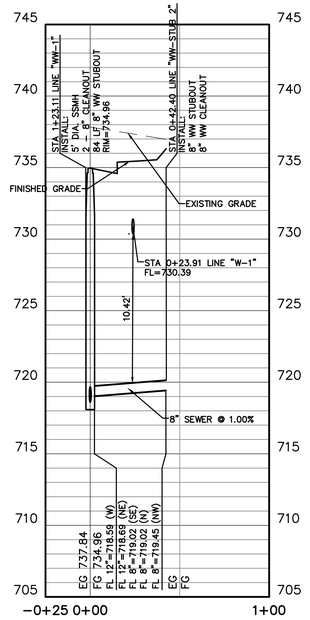
SHEET NO.
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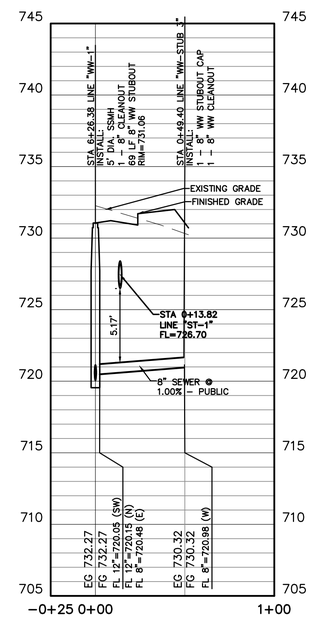
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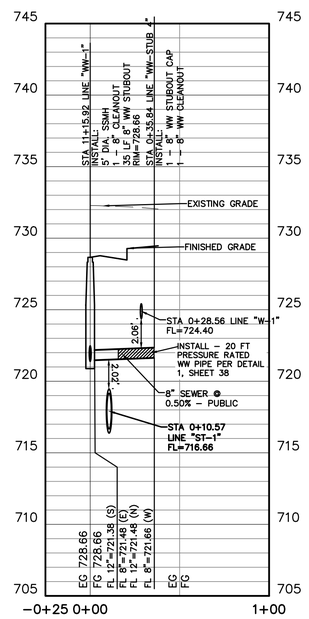
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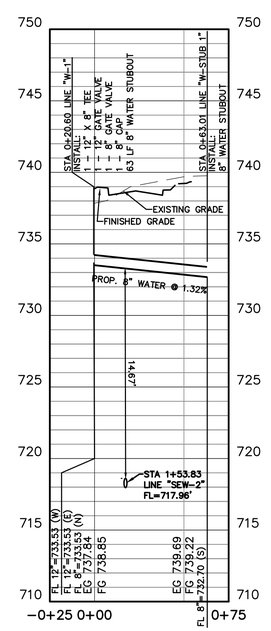
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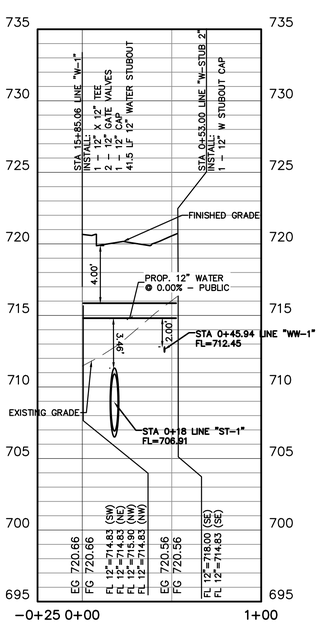
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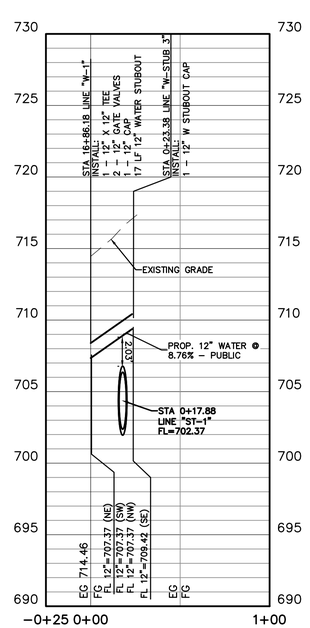
PROFILE: WW-STUB 4



PROFILE: W-STUB 1



PROFILE: W-STUB 2



PROFILE: W-STUB 3



LEGEND

- BOLLARD
- ELECTRIC METER
- POWER POLE
- LIGHT STANDARD
- WATER METER
- WATER VALVE
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT
- CLEANOUT
- MANHOLE
- TRAFFIC SIGNAL CONTROL
- TRAFFIC SIGNAL POLE
- TELEPHONE BOX
- FLOOD LIGHT
- FLAG POLE
- TRAFFIC SIGN
- 1/2-INCH IRON ROD
- IRS (C.M.) W/"PACHECO KOCH" CAP SET CONTROLLING MONUMENT
- PROPERTY LINE
- FENCE
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE LINE
- UNDERGROUND WATER LINE
- UNDERGROUND SANITARY SEWER LINE
- PROP FDC LOCATION
- PROP WATER VALVE
- PROP FIRE HYDRANT
- PROP WATER LINE W/ BEND
- PROP SANITARY SEWER LINE
- PROP SANITARY SEWER MANHOLE
- PROP SANITARY SEWER CLEANOUT

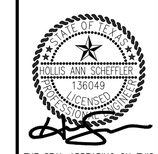
Westwood
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Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

UTILITY STUBOUT PROFILES



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DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO. 35

2024-06-CON

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5/7/2025 10:06 AM
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Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

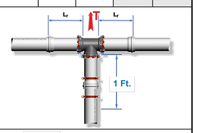
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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		6 In.	10 Ft.			1 Ft.	

Site Name: W-1, 0+10.30

Site Notes:



ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	37.39	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	0.58	Outside Diameter Branch
W_p =	3.31	Weight of Pipe
W_w =	13.81	Weight of Water in Pipe
L_t =	10	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	232.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	481.120	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	1.822	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	210.906	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-89.787	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

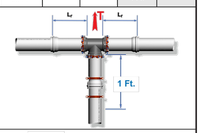
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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		8 In.	20 Ft.			1 Ft.	

Site Name: W-1, 0+20.60

Site Notes:



ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	64.33	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	0.75	Outside Diameter Branch
W_p =	5.72	Weight of Pipe
W_w =	23.75	Weight of Water in Pipe
L_t =	20	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	300.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	629.470	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	2.356	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	274.686	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-149.291	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

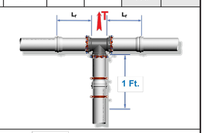
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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		6 In.	20 Ft.			1 Ft.	

Site Name: W-1, 3+20.58

Site Notes:



ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	37.39	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	0.58	Outside Diameter Branch
W_p =	3.31	Weight of Pipe
W_w =	13.81	Weight of Water in Pipe
L_t =	20	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	232.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	481.120	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	1.822	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	210.906	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-232.759	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

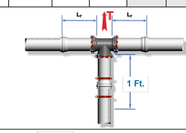
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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		6 In.	20 Ft.			1 Ft.	

Site Name: W-1, 6+21.18

Site Notes:



ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	37.39	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	0.58	Outside Diameter Branch
W_p =	3.31	Weight of Pipe
W_w =	13.81	Weight of Water in Pipe
L_t =	20	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	232.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	481.120	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	1.822	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	210.906	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-232.759	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

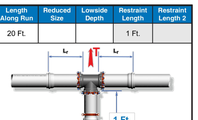
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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		6 In.	20 Ft.			1 Ft.	

Site Name: W-1, 9+27.36

Site Notes:



ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	37.39	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	0.58	Outside Diameter Branch
W_p =	3.31	Weight of Pipe
W_w =	13.81	Weight of Water in Pipe
L_t =	20	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	232.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	481.120	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	1.822	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	210.906	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-232.759	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

MEGALUG®

Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

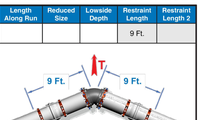
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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		6 In.	20 Ft.			1 Ft.	

Site Name: W-1, 12+27.36

Site Notes:



ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	37.39	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	0.58	Outside Diameter Branch
W_p =	3.31	Weight of Pipe
W_w =	13.81	Weight of Water in Pipe
L_t =	20	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	232.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	481.120	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	1.822	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	210.906	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-232.759	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

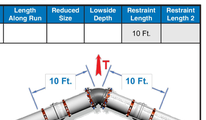
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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		6 In.	20 Ft.			1 Ft.	

Site Name: W-1, 15+27.35

Site Notes:



ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	37.39	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	0.58	Outside Diameter Branch
W_p =	3.31	Weight of Pipe
W_w =	13.81	Weight of Water in Pipe
L_t =	20	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	232.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	481.120	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	1.822	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	210.906	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-232.759	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Tee	PVC	SC	1.5	5	4 Ft.	200 PSI	12 In.		12 In.	20 Ft.			1 Ft.	

Site Name: W-1, 15+85.06

Site Notes:

ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	4	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure

Pipe Derived Variables

A =	136.85	Cross Sec. Area (Main)
A_b =	136.85	Cross Sec. Area (Branch)
D =	1.10	Outside Pipe Diameter
D_b =	1.10	Outside Diameter Branch
W_p =	12.17	Weight of Pipe
W_w =	50.53	Weight of Water in Pipe
L_t =	20	Min. restrained Length either side of Tee

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density

Calculations for Tee

$W_f = \gamma \cdot D \cdot H =$	440.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	942.700	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	4.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	1827.491	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$(A_b)_r = \pi \cdot D_b =$	3.456	Area Based on Full Branch Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	2010.240	Bearing Resistance of Pipelines
$F_m = (A_b)_r \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	408.116	Frictional Resistance
$L_t = S_f(P \cdot A_p - R_b \cdot L_t)/F_m =$	-47.173	Minimum Restrained Length Branch

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Horizontal Bend	PVC	SC	1.5	5	8 Ft.	200 PSI	12 In.	45°					9 Ft.	

Site Name: W-1, 16+86.18

Site Notes:

ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	8	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure
θ =	45	Bend Angle

Pipe Derived Variables

A =	136.85	Cross Sec. Area of Pipe
D =	1.10	Outside Pipe Diameter
W_p =	12.17	Weight of Pipe
W_w =	50.53	Weight of Water in Pipe

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density
K_m =	1.00	Trench Compaction Modifier

Calculations for Horizontal Bend

$W_f = \gamma \cdot D \cdot H =$	660.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	1382.700	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	8.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	2813.091	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	3094.400	Bearing Resistance of Pipelines
$F_a = A_p \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	566.151	Frictional Resistance
$L = (S_f \cdot P \cdot A \cdot \tan((\pi/180) \cdot (\theta/2)))/(F_a + (R_b/2)) =$	8.047	Minimum Restrained Length

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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RESTRAINT LENGTH VALUES

Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Reduced Size	Lowside Depth	Restraint Length	Restraint Length 2
Horizontal Bend	PVC	SC	1.5	5	6 Ft.	200 PSI	12 In.	45°					10 Ft.	

Site Name: W-1, 17+66.16

Site Notes:

ALL JOINTS WITHIN THE CALCULATED LENGTH MUST BE RESTRAINED
IF YOUR DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.

Defined Variables

H =	8	Depth of Bury
S_f =	1.5	Safety Factor
P =	200	Internal Pressure
θ =	45	Bend Angle

Pipe Derived Variables

A =	136.85	Cross Sec. Area of Pipe
D =	1.10	Outside Pipe Diameter
W_p =	12.17	Weight of Pipe
W_w =	50.53	Weight of Water in Pipe

Defined Variables

f_c =	0.20	Cohesion Modifier Coefficient
c =	225	Cohesion of Soil
f_a =	0.60	Friction Angle Modifier
Φ =	25	Internal Friction Angle of Soil
γ =	100	Soil Density
K_m =	1.00	Trench Compaction Modifier

Calculations for Horizontal Bend

$W_f = \gamma \cdot D \cdot H =$	880.000	Normal Force Due to Soil
$W = 2W_f + W_p + W_w =$	1822.700	Normal Force Acting on Pipeline
$K_p = \tan^2(\pi/180) \cdot (45 + (\Phi/2)) =$	2.464	Rankin Passive Pressure Coeff.
$H_c = H + (D/2) =$	8.550	Depth From Surface to Pipe Center
$\sigma_v = \gamma \cdot H_c \cdot K_p \cdot 2\pi/K_w =$	2813.091	Horizontal Passive Soil Pressure
$A_p = \pi \cdot (D/2) =$	1.728	Area Based on Half of Circumference
$R_b = K_w \cdot \sigma_v \cdot D =$	3094.400	Bearing Resistance of Pipelines
$F_a = A_p \cdot f_c \cdot c + W \cdot \tan(\pi/180) \cdot f_a \cdot \Phi) =$	566.151	Frictional Resistance
$L = (S_f \cdot P \cdot A \cdot \tan((\pi/180) \cdot (\theta/2)))/(F_a + (R_b/2)) =$	8.047	Minimum Restrained Length

Created by EBAA Iron's Restraint Length Calculator v7.1.3 on April 3, 2025

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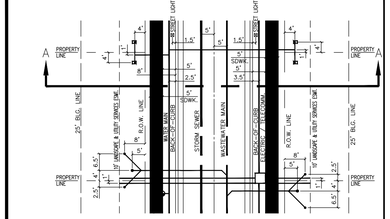
Project Name: TITAN NORTHPARK TOWN CENTER

Project Notes:

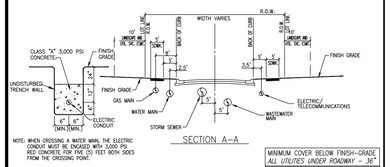
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RESTRAINT LENGTH VALUES

| Fitting Type | Pipe Material | Soil Type | Safety Factor | Trench Type | Depth of Bury | Test Pressure | Nominal Size | Bend Angle | Branch Size | Length Along Run | Reduced Size | Lowside Dep



PLAN



SECTION A–A

NOTE: WHEN CROSSING A WATER MAIN, THE ELECTRIC CONDUIT MUST BE ENCASED WITH 3,000 PSI RED CONCRETE FOR FIVE (5) FEET BOTH SIDES FROM THE CROSSING POINT.

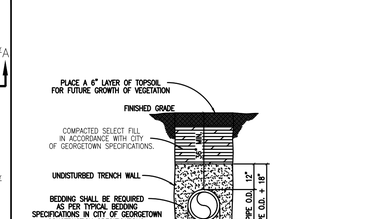
ELECTRIC CONDUIT CONCRETE ENCASEMENT DETAIL

CLASSIFICATION	ROW	B–B	PVMT.
MINOR ARTERIAL	VARIES	80'	76'
MAJOR ARTERIAL	VARIES	110'	106'

MINIMUM COVER BELOW FINISH–GRADE
ALL UTILITIES UNDER ROADWAY – 36"
ELECTRIC PRIMARY 36"
ELECTRIC SECONDARY 24"
WATER 36"
WASTEWATER 48"
STORM SEWER 36"
GAS 36"
TELECOMMUNICATIONS 36"

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

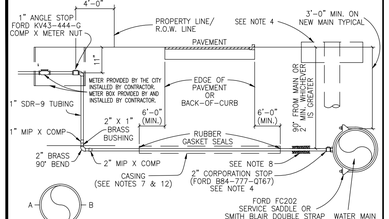
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
UTILITY ASSIGNMENTS FOR MINOR ARTERIAL AND MAJOR ARTERIAL ROADWAYS
ADOPTED 6/21/2006 — W01B — NTS — 1/2003 — MRS — TRB



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

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

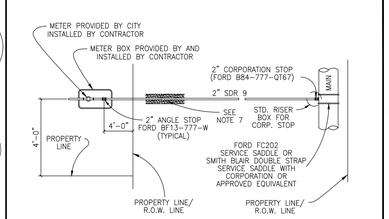
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER NON–PAVED AREAS
ADOPTED 6/21/2006 — W02 — NTS — 1/2003 — MRS — TRB



NOTES:
1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CENTERLINE AS SHOWN ON DETAIL "A."
2. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. AUTHORIZED SERVICE LINE MATERIALS: POLYETHYLENE TUBING SHALL BE SDR–9, CLASS 200, SDR TUBING SHALL HAVE STAINLESS STEEL STIFFENERS.
4. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL. SEE STD. RISER FOR CORP. STOP DETAIL, (DWG # W08).
5. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CORPORATION STOP WITH NO FITTINGS IN BETWEEN.
6. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
7. CASING REQUIRED FOR ALL PAVEMENT CROSSINGS. 4" SDR–26 REQUIRED FOR OPEN–CUT. STEEL CASING PIPE REQUIRED FOR JACK AND BORE LIMITS OF CASING SHOULD EXTEND SIX FEET BEYOND THE EDGE OF PAVEMENT OR BACK–OF–CURB.
8. BEDDING MATERIAL AS PER CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS.
9. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY THE CITY ENGINEER.
10. METER BOX TO BE CAPABLE OF HOUSING ITRON AUTOMATIC METER READING DEVICE. USE DFW–PLASTICS, INC. PART NO. 1200;SBAMR OR APPROVED EQUAL.
11. ALL SERVICE LINES SHALL BE PLACED 90° PERPENDICULAR TO THE ROADWAY. SEE DETAIL W23.
12. CASING SHALL EXTEND OUT TO WITHIN 4" INSIDE OF THE R.O.W. LINE, ON BOTH SIDES.

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

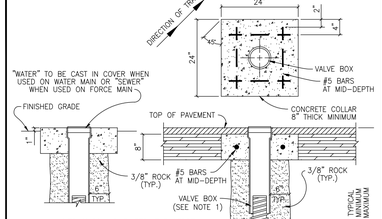
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL WATER SERVICE–ELEVATION
ADOPTED 01/23/2013 — W03 — NTS — 1/2013 — MH



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.

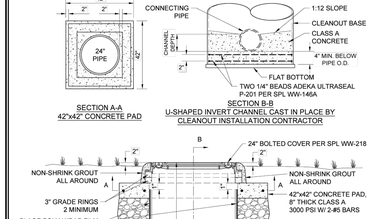
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
SINGLE WATER SERVICE PLAN
ADOPTED 01/23/2013 — W04 — NTS — 1/2013 — MH

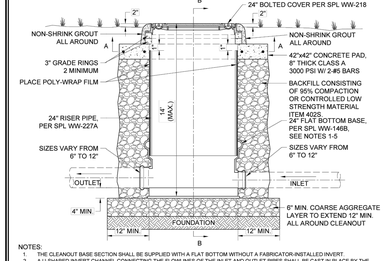


NOTES:
1. VALVE BOX SHALL BE 5 1/4" CAST IRON ADJUSTABLE HAVING AN ADJUSTABLE RANGE OF + OR – 6 INCHES FROM INSTALLED FINISH GRADE.
2. ACCEPTABLE GATE VALVES ARE:
   A. AMERICAN FLOW CONTROL – SERIES 2500
   B. MUELLER – 2360 SERIES
   C. CLOW

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

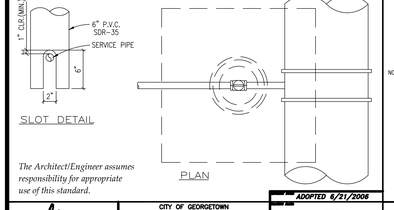
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL VALVE SETTING
ADOPTED 6/21/2006 — W07 — NTS — 1/2003 — MRS — TRB



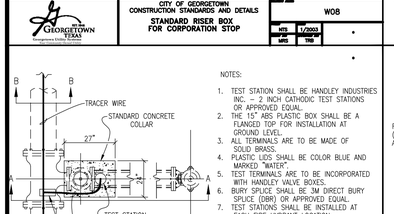


NOTES:
1. THE CLEANOUT BASE SECTION SHALL BE SUPPLIED WITH A FLAT BOTTOM WITHOUT A FABRICATOR–INSTALLED INVERT.
2. A U–SHAPED INVERT CHANNEL CONNECTING THE FLOWLINES OF THE INLET AND OUTLET PIPES SHALL BE CAST IN PLACE BY THE CLEANOUT INSTALLATION CONTRACTOR.
3. THE CHANNEL DEPTH SHALL BE 3/4 OF THE DIAMETER OF THE LARGEST PIPE CONNECTING TO THE CLEANOUT.
4. USE CLASS A CONCRETE FOR THE CAST IN PLACE INVERT AND COAT IT WITH AN ORGANIC SPRAY LINER LISTED ON SPL WW–611.
5. THE CLEANOUT FOUNDATION SHALL MEET OR EXCEED STANDARD SPECIFICATION ITEM 506.5B.
6. IN CASES WHERE THE WASTEWATER SERVICE LINE IS LARGER THAN 12" DIAMETER, THE CONTRACTOR MUST INSTALL A MINIMUM 48" DIAMETER MANHOLE IN LIEU OF THE LARGE DIAMETER CLEANOUT. THE ENGINEER MUST PROVIDE AN ACCEPTABLE SAMPLE PORT AND RECEIVE APPROVAL IN WRITING FROM THE INDUSTRIAL WASTE REVIEWER BEFORE INSTALLATION. THE 48" DIA. MANHOLE SHALL CONFORM TO STD. 506S.10 AND INCLUDE A SAMPLE PORT.

CITY OF AUSTIN AUSTIN WATER		LARGE DIAMETER CLEANOUT	
JEFF A. KYLE	08/14/2020 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 506-AW-04 1 OF 1



ELEVATION

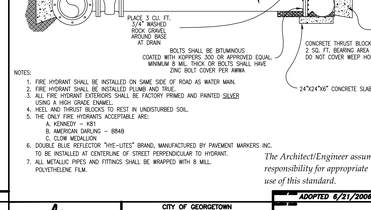


SLOT DETAIL

PLAN

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

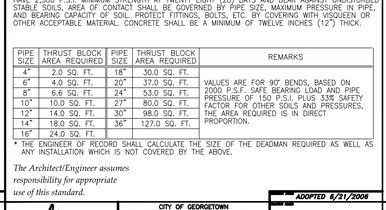
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
STANDARD RISER BOX FOR CORPORATION STOP
ADOPTED 6/21/2006 — W08 — NTS — 1/2003 — MRS — TRB



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. HELD 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 "HY–LITES" 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 MIL. POLYETHELENE FILM.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL FIRE HYDRANT INSTALLATION
ADOPTED 6/21/2006 — W10 — NTS — 1/2003 — MRS — TRB



*DEADMAN

TYPICAL SECTION

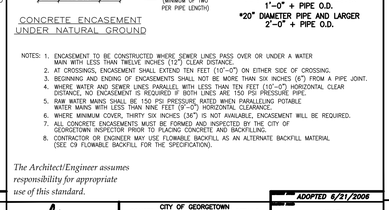
ALL THRUST BLOCKS SHALL BE FORMED. LAID FORMS SHALL BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO THE POURING OF CONCRETE AND SHALL ALSO BE INSPECTED BY THE CITY OF GEORGETOWN PRIOR TO COVERING. TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS FOUR INCHES (4") AND 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
ADOPTED 6/21/2006 — W11 — NTS — 1/2003 — MRS — TRB



CONCRETE ENCASEMENT UNDER EXISTING AND PROPOSED ROADWAY

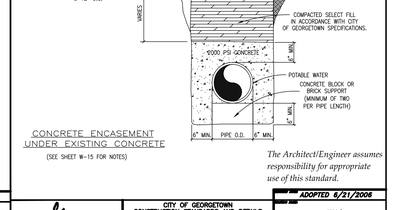
CONCRETE ENCASEMENT UNDER NATURAL GROUND

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

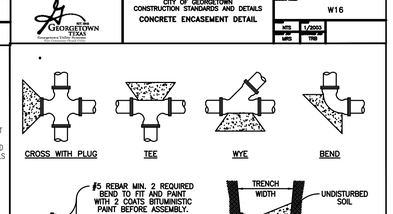
NOTES: 1. ENCASEMENT TO BE CONSTRUCTED WHERE SEWER LINES PASS OVER OR UNDER A WATER MAIN WITH LESS THAN TWELVE INCHES (12") CLEAR DISTANCE.
2. AT CROSSINGS, ENCASEMENT SHALL EXTEND TEN FEET (10'–0") ON EITHER SIDE OF CROSSING.
3. BEGINNING AND ENDING OF ENCASEMENTS SHALL NOT BE MORE THAN SIX INCHES (6") FROM A PIPE JOINT.
4. WHERE WATER AND SEWER LINES PARALLEL WITH LESS THAN TEN FEET (10'–0") HORIZONTAL CLEAR DISTANCE, NO ENCASEMENT IS REQUIRED IF BOTH LINES ARE 150 PSI PRESSURE PIPE.
5. RAW WATER MAINS SHALL BE 150 PSI PRESSURE RATED WHEN PARALLELING POTABLE WATER MAINS WITH LESS THAN NINE FEET (9'–0") HORIZONTAL CLEARANCE.
6. WHERE MINIMUM COVER, THIRTY SIX INCHES (36") IS NOT AVAILABLE, ENCASEMENT WILL BE REQUIRED.
7. ALL CONCRETE ENCASEMENTS MUST BE FORMED AND INSPECTED BY THE CITY OF GEORGETOWN INSPECTOR PRIOR TO PLACING CONCRETE AND BACKFILLING.
8. 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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CONCRETE ENCASEMENT DETAIL
ADOPTED 6/21/2006 — W15 — NTS — 1/2003 — MRS — TRB



CONCRETE ENCASEMENT UNDER EXISTING GRAVEL ROAD



CONCRETE ENCASEMENT UNDER EXISTING CONCRETE

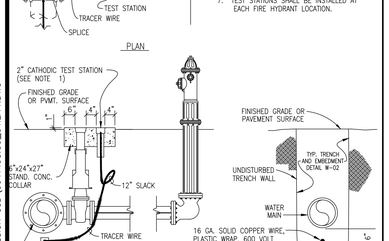
(SEE SHEET W–15 FOR NOTES)

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
CONCRETE ENCASEMENT DETAIL
ADOPTED 6/21/2006 — W16 — NTS — 1/2003 — MRS — TRB

PLAN

NOTES:
1. TEST STATION SHALL BE HANDLEY INDUSTRIES INC. – 2 INCH CATHODIC TEST STATIONS OR APPROVED EQUAL.
2. THE 15" ABS PLASTIC BOX SHALL BE A FLANGED TOP FOR INSTALLATION AT GROUND LEVEL.
3. ALL TERMINALS ARE TO BE MADE OF SOLID BRASS.
4. PLASTIC LIDS SHALL BE COLOR BLUE AND MARKED "WATER".
5. TEST TERMINALS ARE TO BE INCORPORATED WITH HANDLEY VALVE BOXES.
6. BURY SPLICE SHALL BE 3M DIRECT BURY SPLICE (DBR) OR APPROVED EQUAL.
7. TEST STATIONS SHALL BE INSTALLED AT EACH FIRE HYDRANT LOCATION.

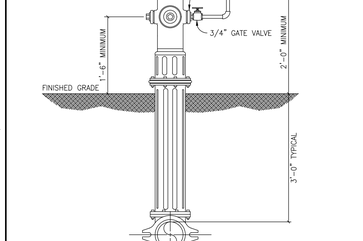


SECTION A–A

SECTION B–B

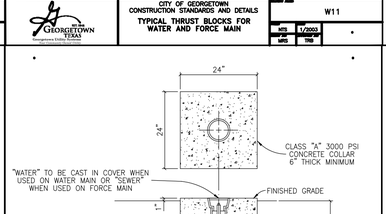
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRACER WIRE INSTALLATION AND TEST STATION LOCATION
ADOPTED 6/21/2006 — W18 — NTS — 1/2003 — MRS — TRB



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

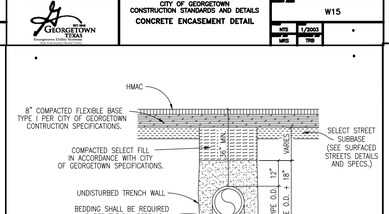
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
FIRE HYDRANT SAMPLING POINT
ADOPTED 6/21/2006 — W19 — NTS — 1/2003 — MRS — TRB



NOTES:
1. SEE VALVE SETTING DETAIL, DWG. #W–07.
2. ACCEPTABLE GATE VALVES ARE:
   A. MUELLER – 2360 SERIES
   B. CLOW

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
INLINE VALVE INSTALLATION
ADOPTED 6/21/2006 — W21 — NTS — 1/2003 — MRS — TRB

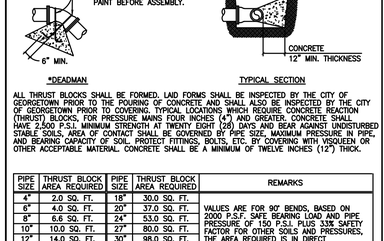


TRENCH WIDTHS
***PIPE LESS THAN 20" DIAMETER**
1'–0" + PIPE O.D.
***20" DIAMETER PIPE AND LARGER**
2'–0" + PIPE O.D.

NOTES: 1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS. 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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TRENCH AND EMBEDMENT DETAIL UNDER PROPOSED ROADWAY
ADOPTED 6/21/2006 — W22 — NTS — 1/2003 — MRS — 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) BLOCKS, 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.

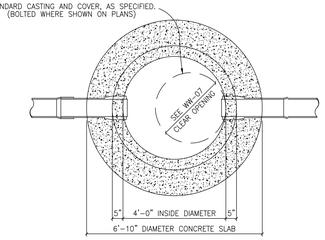
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS
TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAIN
ADOPTED 6/21/2006 — W11 — NTS — 1/2003 — MRS — TRB

Westwood

Phone (512) 485-0831 — 8701 N. Mopac Expy, Suite 320
Toll Free (888) 937-5150 — Austin, TX 78759
westwoodps.com

Westwood Professional Services, Inc.
TBPE FIRM



SEE DETAIL WW-03

MANHOLE PLAN

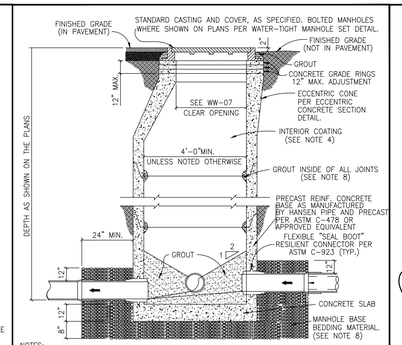
CITY OF GEORGETOWN NOTES:

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	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD MANHOLE – PLAN	ADOPTED 6/21/2006 WW02	NTS 1/2003 APC TRB

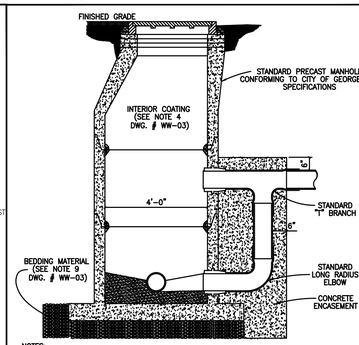


NOTES:

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	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD MANHOLE – SECTION	ADOPTED 6/21/2006 WW03	NTS 1/2003 APC TRB

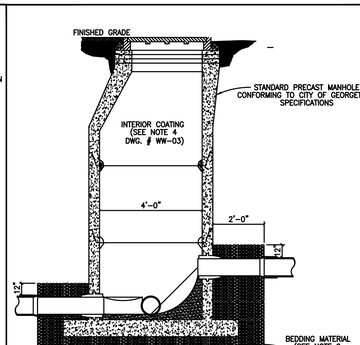


NOTES:

1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE POURED INTEGRALLY WITH BOTH MANHOLE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET (2') OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
4. WHEN P.V.C. IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT P.V.C. FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.
5. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
6. SEE STANDARD MANHOLE DETAIL (DWG. # WW–03) FOR ADDITIONAL REQUIREMENTS.

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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS DROP CONNECTION–PRECAST MANHOLE TYPE "A"	ADOPTED 6/21/2006 WW04	NTS 1/2003 APC TRB

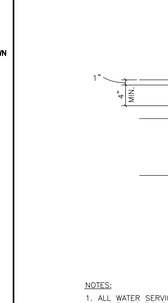


NOTES:

1. TO BE USED WHERE DROP IS SIX INCHES (6") TO TWO FEET (2'–0").
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. MINIMUM PIPE SIZE FOR DROP IS EIGHT INCHES (8").
5. SEE STANDARD MANHOLE DETAIL (DWG. # WW–03) FOR ADDITIONAL REQUIREMENTS.

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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS DROP CONNECTION–PRECAST MANHOLE TYPE "B"	ADOPTED 6/21/2006 WW05	NTS 1/2003 APC TRB



PLAN VIEW
(TYPICAL)

NOTES:

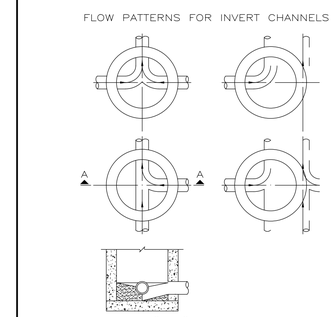
1. ALL WATER SERVICE, WASTE WATER SERVICE AND VALVE LOCATIONS SHALL BE APPROXIMATELY MARKED AS FOLLOWS:

WATER SERVICE	"W"	TOP OF CURB
WASTE WATER SERVICE	"S"	TOP OF CURB
VALVE	"V"	TOP OF CURB

2. LETTERS SHALL HAVE A 1/2" MAX. WIDTH.

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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS CURB STAMP DETAIL	ADOPTED 6/21/2006 SD05	NTS 1/2003 APC TRB



NOTES:

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.
4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.
5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS FLOW PATTERNS FOR INVERT CHANNELS	ADOPTED 6/21/2006 WW06	NTS 1/2003 APC TRB

NOTES:

1. BOLTED WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480APT V–1420/148021PT, COVER TO BE STAMPED WITH "SANITARY SEWER".
2. BOLTED WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
3. FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 00148392 41420015.
4. FOR STANDARD WASTEWATER MANHOLE SET REFER TO DETAIL WW07.

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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS BOLTED WASTEWATER MANHOLE SET	ADOPTED 6/21/2006 WW07A	NTS 1/2006 MRS TRB

NOTES:

1. STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V–1420/148021, 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.

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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD WASTEWATER MANHOLE SET	ADOPTED 6/21/2006 WW07	NTS 1/2003 APC TRB

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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS 48"X5" TO 33"X8"X36" TALL ECCENTRIC CONCRETE SECTION	ADOPTED 6/21/2006 WW08	NTS 1/2003 APC TRB

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

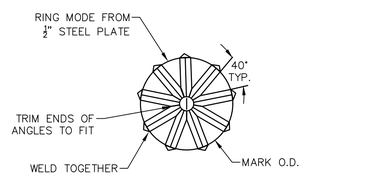
GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SEWER CLEAN–OUT DETAIL	ADOPTED 6/21/2006 WW12	NTS 1/2003 APC TRB

NEW WASTEWATER COLLECTION SYSTEM PIPE (PRESSURE-RATED) BELOW AND CROSSING A WATER SUPPLY PIPE

1

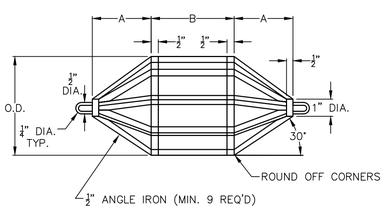
REFER NOTE: 7.A

7. IF A COLLECTION SYSTEM PIPE CROSSES BELOW A WATER SUPPLY PIPE, EACH PORTION OF THE COLLECTION SYSTEM PIPE WITHIN NINE FEET OF THE WATER SUPPLY PIPE MUST EITHER BE CONSTRUCTED USING AT LEAST 150 PSI PRESSURE CLASS PIPE ACCORDING TO SUBPARAGRAPH 7.A OF THIS PARAGRAPH, OR MUST BE ENCASED IN CEMENT–STABILIZED SAND ACCORDING TO SUBPARAGRAPH 7.B OF THIS PARAGRAPH , OR MUST BE ENCASED IN A CASING PIPE ACCORDING TO SUBPARAGRAPH 7.C OF THIS PARAGRAPH.
   7.A A COLLECTION SYSTEM PIPE THAT CROSSES BELOW A WATER SUPPLY PIPE AND IS CONSTRUCTED OF AT LEAST 150 PSI PRESSURE CLASS, CORROSION–RESISTANT, NON–BRITTLE PIPE MUST:
      7.A.1 HAVE AT LEAST SIX INCHES OF SEPARATION BETWEEN THE OUTSIDES OF THE PIPES;
      7.A.2 BE CENTERED ON THE CROSSING;
      7.A.3 BE AT LEAST 18 FEET LONG; AND
      7.A.4 TERMINATE AT JOINTS THAT ARE DESIGNED TO SEAL AT ATMOSPHERIC PRESSURE.



FRONT VIEW

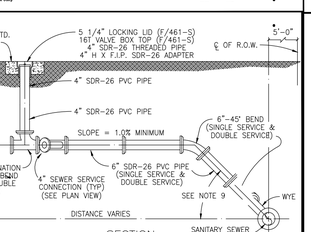
GO, NO GO DEFLECTION TESTING MANDREL



SIDE OR TOP VIEW

2 **DEFLECTION TESTING MANDREL**

NOT TO SCALE

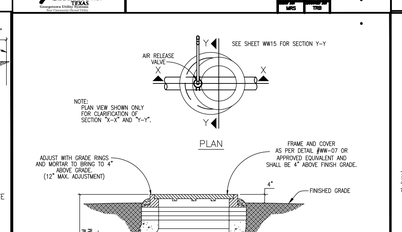


NOTES:

1. SERVICE CONNECTION RISERS SHALL TERMINATE 8' IN–SIDE THE PROPERTY 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.

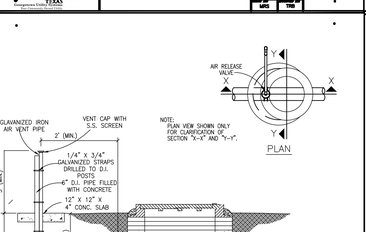
The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS SEWER SERVICE CONNECTIONS	ADOPTED 6/21/2006 WW13	NTS 1/2003 APC TRB



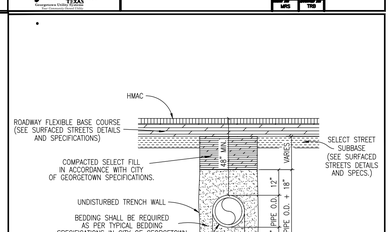
The Architect/Engineer assumes responsibility for appropriate use of this standard.

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD AIR RELEASE VALVE FOR FORCE MAIN	ADOPTED 6/21/2006 WW14	NTS 1/2003 APC TRB



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

GEORGETOWN TEXAS	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS STANDARD AIR RELEASE VALVE FOR FORCE MAIN	ADOPTED 6/21/2006 WW15	NTS 1/2003 APC TRB



NOTES:

1. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
2. 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 DETAIL UNDER PROPOSED ROADWAY	ADOPTED 6/21/2006 WW18	NTS 1/2003 APC TRB

2024-06-CON

Westwood
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8701 N. Mopac Expy, Suite 320
Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

NO.	DESCRIPTION	DATE	BY
	REVISIONS		

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

UTILITY DETAILS 2 OF 2

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED PROFESSIONAL ENGINEER

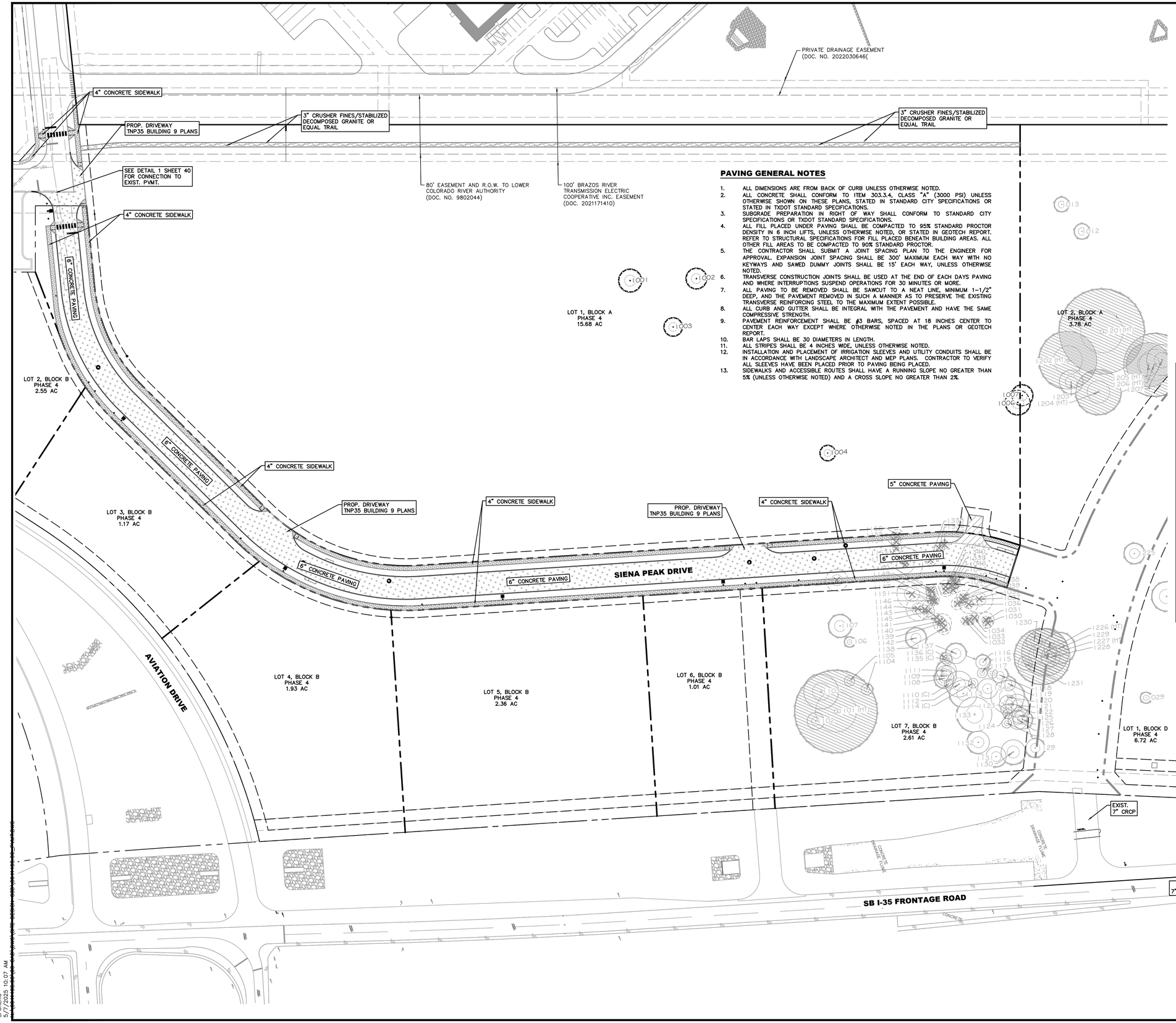
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DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

SHEET NO. **38**

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PAVING GENERAL NOTES

1. ALL DIMENSIONS ARE FROM BACK OF CURB UNLESS OTHERWISE NOTED.
2. ALL CONCRETE SHALL CONFORM TO ITEM 303.3.4, CLASS "A" (3000 PSI) UNLESS OTHERWISE SHOWN ON THESE PLANS, STATED IN STANDARD CITY SPECIFICATIONS OR STATED IN TXDOT STANDARD SPECIFICATIONS.
3. SUBGRADE PREPARATION IN RIGHT OF WAY SHALL CONFORM TO STANDARD CITY SPECIFICATIONS OR TXDOT STANDARD SPECIFICATIONS.
4. ALL FILL PLACED UNDER PAVING SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6 INCH LIFTS, UNLESS OTHERWISE NOTED, OR STATED IN GEOTECH REPORT. REFER TO STRUCTURAL SPECIFICATIONS FOR FILL PLACED BENEATH BUILDING AREAS. ALL OTHER FILL AREAS TO BE COMPACTED TO 90% STANDARD PROCTOR.
5. THE CONTRACTOR SHALL SUBMIT A JOINT SPACING PLAN TO THE ENGINEER FOR APPROVAL. EXPANSION JOINT SPACING SHALL BE 300' MAXIMUM EACH WAY WITH NO KEYWAYS AND SAWED DUMMY JOINTS SHALL BE 15' EACH WAY, UNLESS OTHERWISE NOTED.
6. TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED AT THE END OF EACH DAYS PAVING AND WHERE INTERRUPTIONS SUSPEND OPERATIONS FOR 30 MINUTES OR MORE.
7. ALL PAVING TO BE REMOVED SHALL BE SAWCUT TO A NEAT LINE, MINIMUM 1-1/2" DEEP, AND THE PAVEMENT REMOVED IN SUCH A MANNER AS TO PRESERVE THE EXISTING TRANSVERSE REINFORCING STEEL TO THE MAXIMUM EXTENT POSSIBLE.
8. ALL CURB AND GUTTER SHALL BE INTEGRAL WITH THE PAVEMENT AND HAVE THE SAME COMPRESSIVE STRENGTH.
9. PAVEMENT REINFORCEMENT SHALL BE #3 BARS, SPACED AT 18 INCHES CENTER TO CENTER EACH WAY EXCEPT WHERE OTHERWISE NOTED IN THE PLANS OR GEOTECH REPORT.
10. BAR LAPS SHALL BE 30 DIAMETERS IN LENGTH.
11. ALL STRIPES SHALL BE 4 INCHES WIDE, UNLESS OTHERWISE NOTED.
12. INSTALLATION AND PLACEMENT OF IRRIGATION SLEEVES AND UTILITY CONDUITS SHALL BE IN ACCORDANCE WITH LANDSCAPE ARCHITECT AND MEP PLANS. CONTRACTOR TO VERIFY ALL SLEEVES HAVE BEEN PLACED PRIOR TO PAVING BEING PLACED.
13. SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A RUNNING SLOPE NO GREATER THAN 5% (UNLESS OTHERWISE NOTED) AND A CROSS SLOPE NO GREATER THAN 2%.

0 30 60 120 180

GRAPHIC SCALE IN FEET
1"=60'

LEGEND

B	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS	1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
(C.M.)	CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
	FIRE LANE
	4" REINFORCED CONCRETE SIDEWALK (3000 PSI) REF: C.O.G.T. DETAIL SD-14 FOR SUBGRADE INFO
	HAMMERHEAD AREA, 5" REINFORCED CONCRETE PVMT (CLASS "C", 3600 PSI), 6" SUBGRADE
	TRAIL SURFACE, 3" STABILIZED DECOMPOSED GRANITE

SIENA PEAK DRIVE

CONCRETE PAVING

6" CONCRETE W/ NO. 4 BARS AT 18" (4,000 PSI), OVER

6" SUBGRADE, LIME-STABILIZED WITH A MINIMUM 4% HYDRATED LIME (BY DRY WEIGHT) (18 LBS/SY) COMPACTED TO A MIN. 95% MODIFIED PROCTOR DENSITY (ASTM D1557), AT OR ABOVE OPTIMUM MOISTURE.

EXPANSION JOINTS LOCATED AT MAX 300' INTERVALS AND ENDS OF PLACEMENTS.

(ALTERNATIVE) FLEXIBLE PAVEMENT, FULL-DEPTH ASPHALT

1-1/2" HMAC, TXDOT ITEM 340, TYPE "D", FINE-GRADED SURFACE COURSE, OVER

3-1/2" HMAC, TXDOT ITEM 340, TYPE "A", COARSE-GRADED BASE COURSE, OVER

6" LIME-STABALIZED SUBGRADE, 4 PERCENT HYDRATED LIME (18 POUNDS PER SQUARE YARD), COMPACTED TO A MINIMUM OF 95 PERCENT MODIFIED PROCTOR, ASTM D1557, AT OR ABOVE OPTIMUM MOISTURE.

CAPE ARCHITECT AND MEP PLANS. CONTRACTOR TO VERIFY ALL SLEEVES HAVE BEEN PLACED PRIOR TO PAVING BEING PLACED.

REFER TO GEOTECHNICAL REPORT AND SUPPLEMENTARY PAVEMENT SECTION LETTER CREATED BY REED ENGINEERING GROUP, LTD. DATED 8/5/2020, 8/11/2020 & 01/29/2024 RESPECTIVELY.

TREE PRESERVATION LEGEND

HERITAGE TREE TO REMAIN	½ CRZ
HERITAGE TREE TO BE REMOVED	½ CRZ
PROTECTED TREE TO REMAIN	½ CRZ
PROTECTED TREE TO BE REMOVED	½ CRZ
TREE PROTECTION FENCE	½ CRZ

2024-06-CON

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Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DESCRIPTION	DATE	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

PAVING PLAN

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

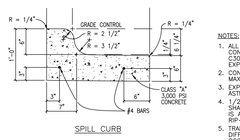
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DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

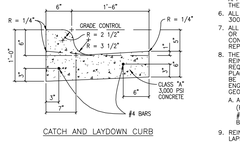
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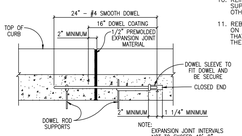
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SPILL CURB



CATCH AND LAYDOWN CURB



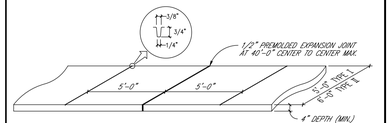
CURB DOWEL DETAIL

NOTES:

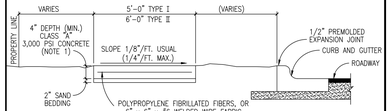
1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, A615M, C309, AND D1752, BROOM FINISH EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAX.
3. EXPANSION JOINTS AS PER STD. ASTM D-1752.
4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.
5. TRANSITIONS 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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
CURB AND GUTTER DETAILS	SD06
NTS / 1/2003	



TYPE I – AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES, TRIPLEXES AND QUADRAPLEXES.
TYPE II – AS REQUIRED FOR MULTI-FAMILY, OTHER NON-RESIDENTIAL USES AND PARKING LOTS/STRUCTURES.
ALL THOROUGHFARES (COLLECTOR AND ABOVE) REQUIRE TYPE II.

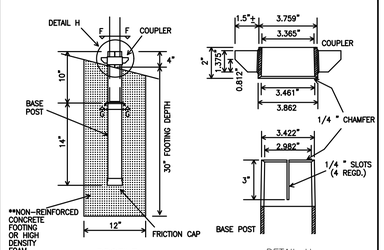


NOTES:

1. STANDARD LOCATION OF SIDEWALK SHALL BE IN CONFORMANCE WITH THE UDC.
2. SIDEWALK SHALL CONFORM TO CURRENT TDLR/TAS STANDARDS.
3. ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND ENGINEER OF RECORD.
4. ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT SHALL BE APPROVED BY THE REGISTERED ACCESSIBILITY SPECIALIST (RAS) AND BY THE CITY ENGINEER.
5. SLIP DOWEL SHALL BE INSTALLED AT EVERY LONGITUDINAL EXPANSION JOINT (UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER DURING ENGINEERING PLAN REVIEW PRIOR TO FINAL DESIGN).

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

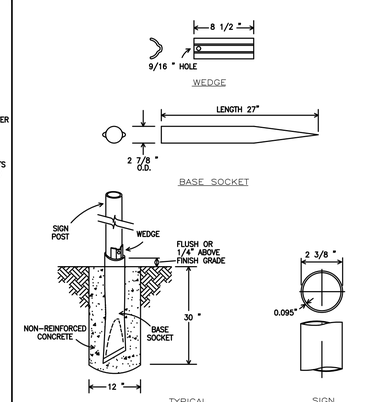
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006 TRB
SIDEWALK SECTION AND JOINT DETAIL	SD14
NTS / 1/2003	



* PLASTING INSERT MUST BE USED WITH 1/16 " THIN WALL TUBING.
** FOOTING SHALL BE REMOVED AND BACKFILLED WHEN BARRICADE IS REMOVED.

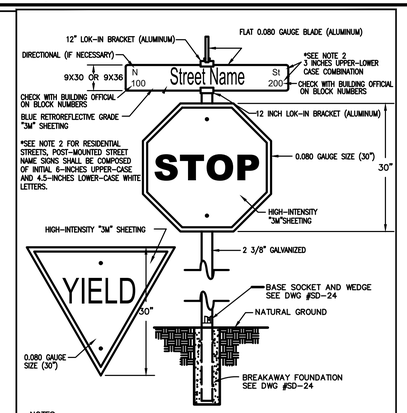
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CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
UNIVERSAL ANCHOR SYSTEM	SD23
NTS / 1/2003	



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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
POZ-LOC (BREAKAWAY FOUNDATION)	SD24
NTS / 1/2003	

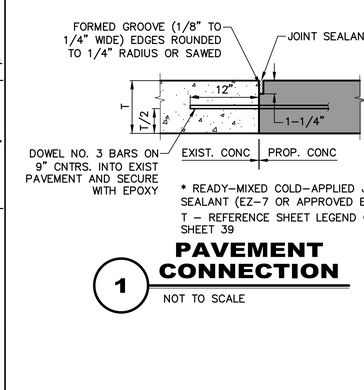


NOTES:
1. 7'-FOOT MIN. HEIGHT FROM GROUND TO BOTTOM OF SIGN.
2. ALL SIGNS TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TXMUTCD).
3. ALL SIGNAGE SHEETINGS SHALL BE HIGH-INTENSITY "3M" SHEETING.
4. ANY MODIFICATION TO THIS STANDARD SHALL BE SUBMITTED FOR APPROVAL.

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

MODIFIED

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISED 1/14/2014 WBD ADOPTED 6/21/2006 TRB
STANDARD SIGN DETAIL	SD25
NTS / 1/2003	



* READY-MIXED COLD-APPLIED JOINT SEALANT (EZ-7 OR APPROVED EQUAL)
T – REFERENCE SHEET LEGEND ON SHEET 39

1 PAVEMENT CONNECTION

NOT TO SCALE

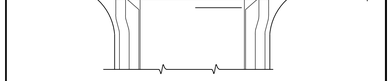
NOTES:

1. COMMERCIAL SIDEWALKS WIDTHS – 6'
   RESIDENTIAL SIDEWALKS WIDTHS – 5'
2. ALL SLOPES ARE MAXIMUM ALLOWABLE. FLATTER SLOPES THAT WILL STILL DRAIN PROPERLY ARE ENCOURAGED.
3. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
4. FOR PURPOSES OF WARNING, THE CURB RAMPS SHALL HAVE A LIGHT REFLECTIVE VALUE AND TEXTURE THAT SIGNIFICANTLY CONTRASTS WITH THAT OF ADJOINING PEDESTRIAN ROUTES.
5. TEXTURES MAY CONSIST OF PAVERS WITH TRUNCATED DOMED SURFACES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
6. COLOR CONTRAST, FOR EXAMPLE, MAY BE ACCOMPLISHED WITH COLORED CONCRETE PAVERS THAT HAVE TRUNCATED DOMES WHICH WOULD PROVIDE A CONTRAST WITH TYPICALLY LIGHT COLORED CONCRETE.
7. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, VISIBILITY AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
8. RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS IF THEY ARE UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. MEDIAN CROSSING SHALL BE A MINIMUM OF 5' WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR TROUGH THEM.
9. ALL SIDEWALK PLANS AND DETAILS SHALL BE SUBMITTED AND APPROVED BY "REGISTERED ACCESSIBILITY SPECIALIST" (RAS).
10. ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GRATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6 INCHES OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL MEET THE REQUIREMENTS OF A RAMP PER TAS 405.THE ONLY EXCEPTION IS AT CURB RAMPS. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHERE EVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
11. TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE OR ACT PROTRUDING OBJECTS.
12. ALL SIDEWALKS SHALL BE DOWELED INTO EXISTING SIDEWALKS, DRIVEWALKS, DRIVEWAYS, INLET BOXES, RETAINING WALLS, ETC.
13. ALL SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 1:50, UNLESS A VARIANCE IS PROVIDED BY TDLR.

(PENETRATES) A CURB.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006 TRB
PEDESTRIAN RAMPS GENERAL NOTES	SD28
NTS / 1/2003	



NOTE: ALL RAMPS SHALL BE CONTAINED WITHIN THE RESPECTIVE CURB RETURN RADIUS.

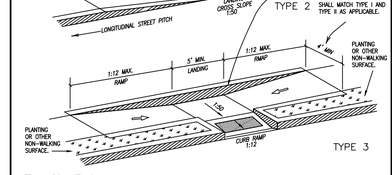
The Architect/Engineer assumes responsibility for appropriate use of this standard.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006 TRB
TYPICAL INTERSECTON LAYOUT	SD29
NTS / 1/2003	



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

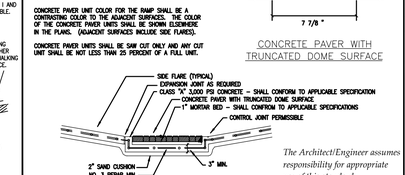
CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006 TRB
CURB RAMP PLACEMENTS AT INTERSECTIONS	SD30
NTS / 1/2003	



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

PARALLEL CURB RAMPS

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006 TRB
SIDEWALK RAMP DETAILS TYPE 1-3	SD31
NTS / 1/2003	



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 THE PLANS.

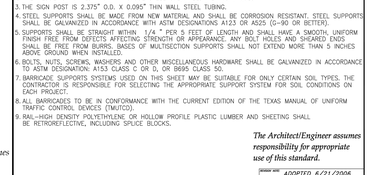
CONCRETE PAVER UNIT SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS.

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.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	REVISED 7/7/2015 WBD REVISED 3/14/2014 WBD ADOPTED 6/21/2006 TRB
CURB RAMP TEXTURES TYPE A	SD37
NTS / 1/2003	

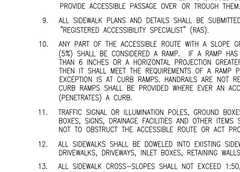


GENERAL NOTES FOR THIN WALL TUBE TYPE SIGN SUPPORT:

1. THE BASE SOCKET IS FORMED FROM 2 7/8 " O.D. X 12 GAUGE GALVANIZED PIPE.
2. THE WEDGE IS FORMED FROM 11 GAUGE STEEL GALVANIZED PER ASTM A525.
3. THE SIGN POST IS 2.375" O.D. X 0.095" THIN WALL STEEL TUBING.
4. STEEL SUPPORTS SHALL BE MADE FROM NEW MATERIAL AND SHALL BE CORROSION RESISTANT. STEEL SUPPORTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATIONS A123 OR A525 (G-90 OR BETTER).
5. SUPPORTS SHALL BE STRAIGHT WITHIN 1/4 " PER 5 FEET OF LENGTH AND SHALL HAVE A SMOOTH, UNIFORM FINISH FREE FROM DEFECTS AFFECTING STRENGTH OR APPEARANCE. ANY BOLT HOLES AND SHEARED ENDS SHALL BE FREE FROM BURRS. BASES OF MULTISECTION SUPPORTS SHALL NOT EXTEND MORE THAN 5 INCHES ABOVE GROUND WHEN INSTALLED.
6. BOLTS, NUTS, SCREWS, WASHERS AND OTHER MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE TO ASTM DESIGNATION: A153 CLASS C OR D, OR B695 CLASS 50.
7. BARRICADE SUPPORTS SYSTEMS USED ON THIS SHEET MAY BE SUITABLE FOR ONLY CERTAIN SOIL TYPES. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE APPROPRIATE SUPPORT SYSTEM FOR SOIL CONDITIONS ON EACH PROJECT.
8. ALL BARRICADES TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
9. RAIL–HIGH DENSITY POLYETHYLENE OR HOLLOW PROFILE PLASTIC LUMBER AND SHEETING SHALL BE RETROREFLECTIVE, INCLUDING SPLICE BLOCKS.

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

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
PERMANENT END-OF-ROAD BARRICADE	SD21
NTS / 1/2003	



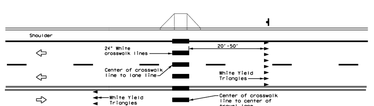
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

1. Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines if present.
2. A minimum 6' clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
3. For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
4. At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
5. Each crosswalk shall be a minimum of 6' wide.
6. The High-Visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimension shall comply with the "Texas Manual on Uniform Traffic Control Devices."
7. Final placement of Stop Bar/Yield Triangles and Crosswalk shall be approved by the Engineer in the field.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (RETLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



UNSIGNALIZED MID BLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

NOTES

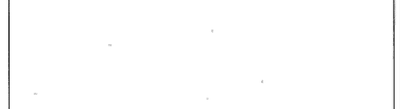
1. Use yield triangles with "Yield Here to Pedestrians" signs on unsignalized mid block crosswalks.
2. Use stop bars with "Stop Here on Red" signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

Texas Department of Transportation	Traffic Operations Standard
CROSSWALK PAVEMENT MARKINGS	
PM(4)-20	

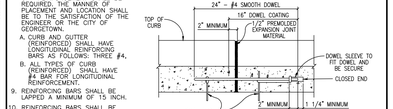


NOTES
* WHEN NEEDED FOR ACCESSIBILITY (GRADE >5 PERCENT) OR AS NEEDED FOR PEDESTRIAN SAFETY.
* NOT TO BE USED ON BRIDGES
* ONE SHOP SPLICE PER PANEL IS PERMITTED WITH MINIMUM 85 PERCENT PENETRATION. THE WELD MAY BE SQUARE GROOVE OR SINGLE VEE GROOVE. GRIND SMOOTH.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	PEDESTRIAN ADA HANDRAIL ON SIDEWALK-OPTION 3
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
	STANDARD NO. 707-4 1 OF 2



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	PEDESTRIAN ADA HANDRAIL ON SIDEWALK-OPTION 3
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
	STANDARD NO. 707-4 2 OF 2



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 TH 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. ONE OF THE FOLLOWING SCHEMES 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. CURB AND GUTTER (REINFORCED) SHALL HAVE LONGITUDINAL REINFORCING BARS AS FOLLOWS: TWO #4.
   B. ALL TYPES OF CURB (REINFORCED) SHALL HAVE #4 BAR FOR LONGITUDINAL REINFORCEMENT.
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.

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	ADOPTED 6/21/2006
RIBBON CURB DETAILS	SD08
NTS / 1/2003	

2024-06-CON

Westwood
Phone (512) 485-0831
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8701 N. Mopac Expy, Suite 320
Austin, TX 78759
westwoodps.com
Westwood Professional Services, Inc.
TBPE FIRM REGISTRATION NO. F-11756
TBPLS FIRM REGISTRATION NO. LS-10074301

NO.	DESCRIPTION	DATE	BY
	REVISIONS		

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

PAVING DETAILS



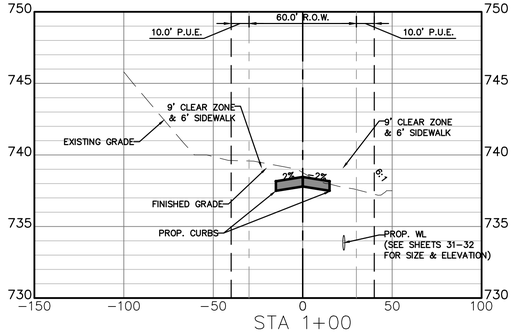
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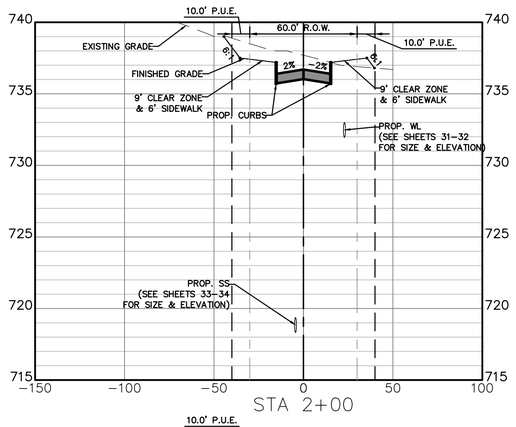
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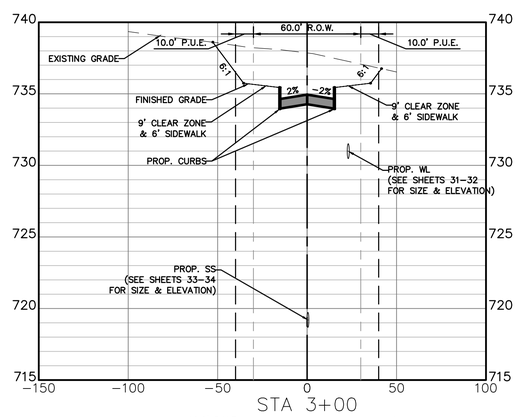
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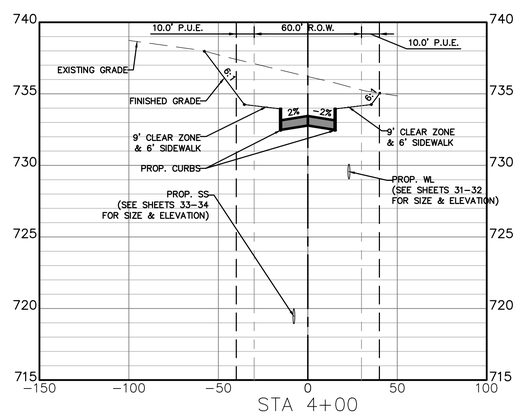
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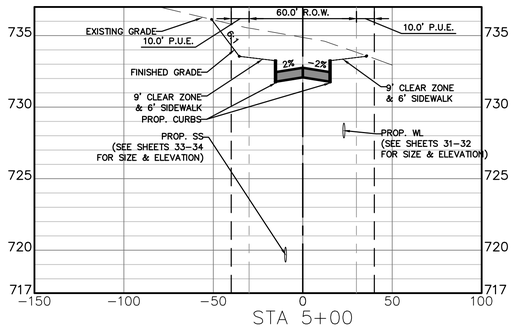
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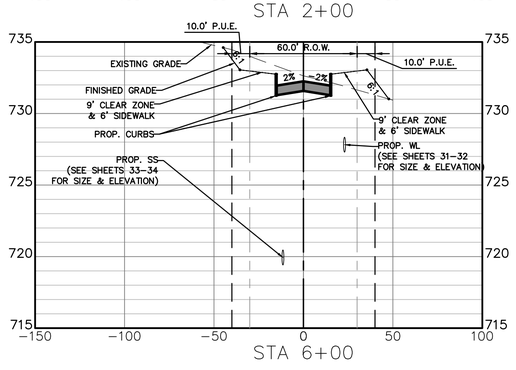


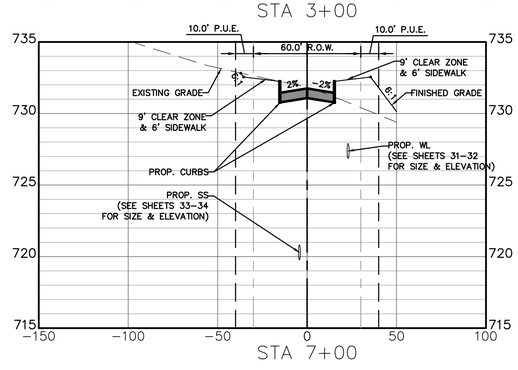


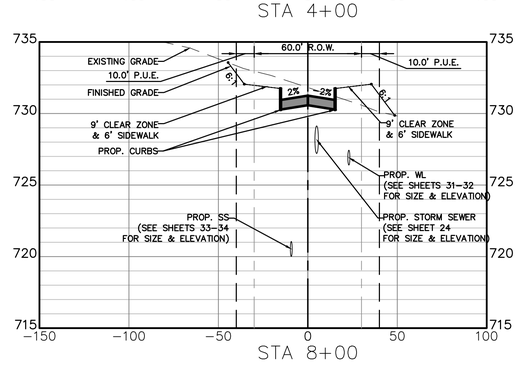


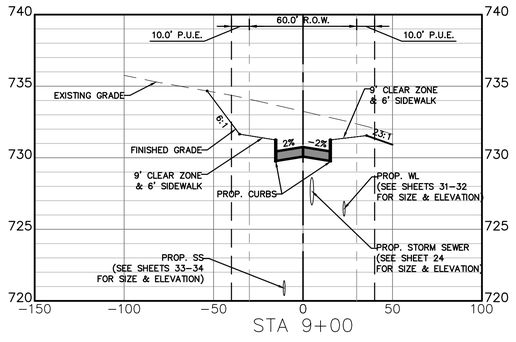


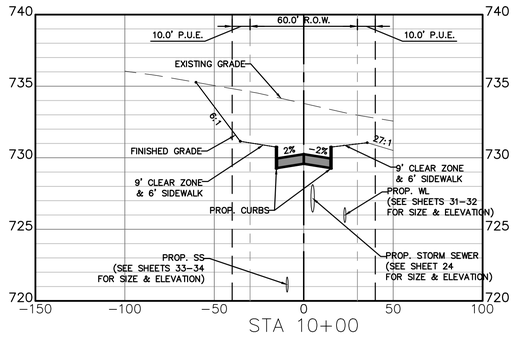


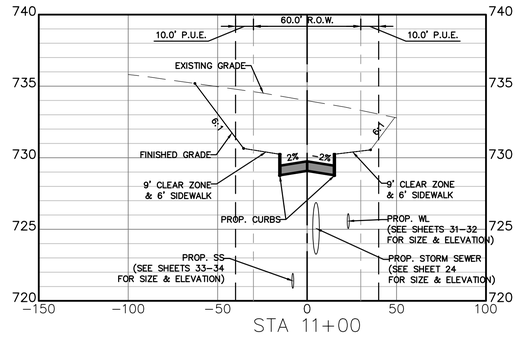


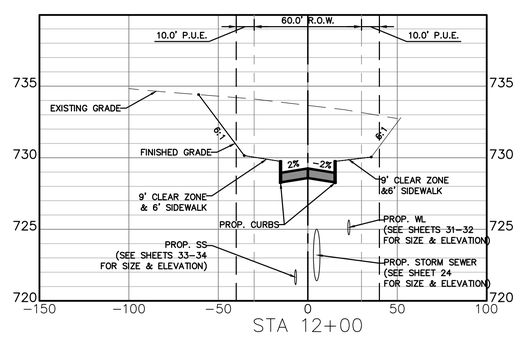


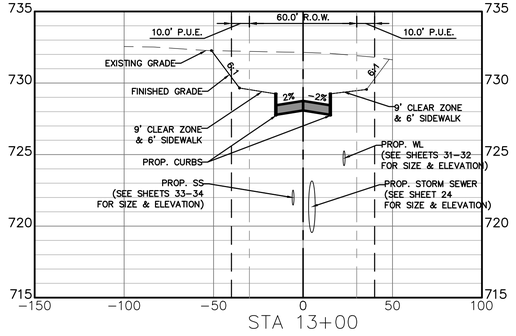


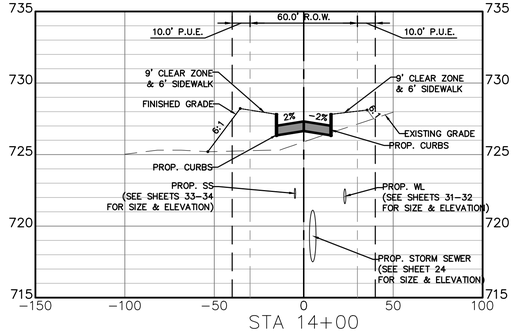


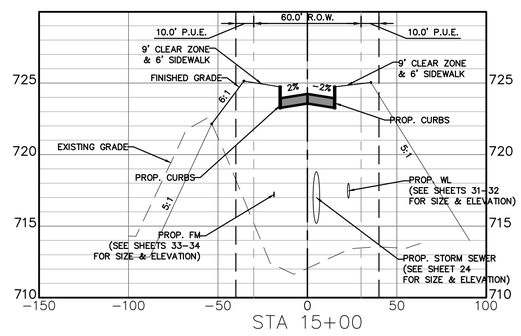


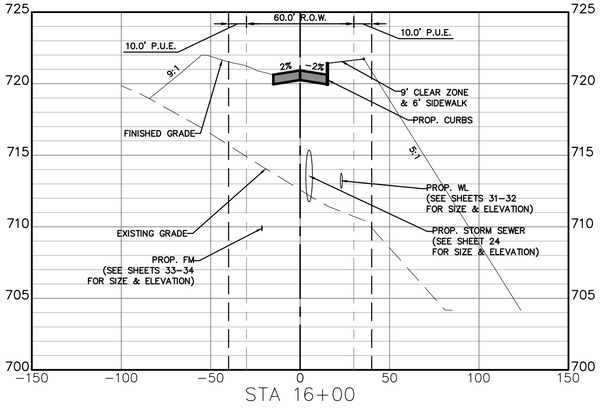












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TBPLS FIRM REGISTRATION NO. LS-10074301

REVISIONS

NO.	DATE	DESCRIPTION	BY

TITAN NORTHPARK TOWN CENTER
INFRASTRUCTURE IMPROVEMENTS
CONSTRUCTION PLAN SET
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

SIENA PEAK DR CROSS SECTIONS



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DESIGN	DRAWN	DATE
HAS	NBB	MAR 2024

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Attachment G – Inspection, Maintenance, Repair and Retrofit Plan

The following inspection and maintenance guidelines for the permanent best management practices will be followed in accordance with the Edwards Aquifer Technical Guidance on Best Management Practices. A log documenting the performed inspections, maintenance activities, and repairs will be kept to ensure BMPs are performing and operating as designed.

Jellyfish:

- Jellyfish cartridges ore passively backwashed automatically after each storm event, which removes accumulated sediment from the membranes and significantly extends the service life of the cartridges and the maintenance interval. If required. The cartridges can be easily manually backwashed without removing the cartridges. Additionally, the lightweight cartridges can be removed by hand and externally rinsed, and rinsed cartridges then re-installed. These simple maintenance options allow for cartridge regeneration, thereby minimizing cartridge replacement costs and life-cycle treatment Costs while ensuring long term treatment performance.
- Regular inspection and maintenance are proven, cost-effective ways to maximize water resource protection for all stormwater pollution control practices and are required to insure proper functioning of the Jellyfish® Filter. Inspection of the Jellyfish® Filter is performed from the surface, while proper maintenance requires a combination of procedures conducted from the surface and with worker entry into the structure. Please refer to the following information and guidelines before conducting inspection and maintenance activities:
- *Inspections.* Post-construction inspection is required prior 1o putting the Jellyfish Filter info service. Routine inspections are recommended quarterly during the first year of operation for accurately assess the sediment and floatable pollutant accumulation, and to ensure that the automatic backwash feature is functioning properly. Inspection frequency in subsequent years is based on the maintenance plan developed in the fist year but must occur annually at a minimum. Inspections should also be performed immediately after ail fuel or another chemical spill.
- *Maintenance.* The unit must be cleaned annually. This cleaning includes removal and appropriate disposal of all water, sediment. oil and grease. and debris that has accumulated within the unit. The Jellyfish Filter is inspected and maintained by professional vacuum cleaning service providers with experience in the maintenance of underground tanks, sewers and catch basins. Since some of the maintenance procedures require manned entry info the Jellyfish structure, only professional maintenance service providers trained in confined space entry procedures should enter the vessel. Service provider companies typically have personnel who are trained and certified in confined space entry procedures according to local, state, and federal standards. Filter cartridges should be tested for adequate flow rate, every 12 months and cleaned and re-commissioned, or replaced if necessary. A manual backflush must be performed on a single drain down cartridge using a Jellyfish Cartridge Backflush Pipe(described in the Jellyfish® Filter Owner's Manual). If the time required to drain 14 gallons of backflush water from the Backflush Pipe (from top of pipe to the top of the open flapper valve) exceeds 15 seconds, it is recommended to perform a manual

backflush on each of the cartridges. After the manual backflush, the drain down test should be repeated on a single cartridge to determine if the cartridge can drain 14 gallons of water in 15 seconds. If the cartridge still does not achieve the design flow rate, it must be replaced. The unit should be cleaned out immediately after an oil, fuel, or chemical spill.

- *External Rinsing.* This cartridge cleaning procedure is performed by removing the cartridge from the cartridge deck and externally rinsing the filtration tentacles using a low-pressure water sprayer, as described in the Jellyfish® Filter Owner's Manual. If this procedure is performed within the structure, the cartridge or individual filtration tentacles should be rinsed while safely suspended over the maintenance access wall opening in the cartridge deck, such that rinsate flows into the lower chamber of the Jellyfish® Filter. If the rinsing procedure is performed outside the structure, the cartridge or individual filtration tentacles should be rinsed in a suitable basin such as a plastic barrel or tub, and rinsate subsequently poured into the maintenance access wall opening in the cartridge deck. Sediment is subsequently removed from the lower chamber by standard vacuum service.

Engineer Signature

Hollis Scheffler, P.E.
Printed Name

Senior Project Manager
Title

02/12/2025
Date

Owner Signature

BEN F. SPENCER
Printed Name

MANAGER
Title

5/6/2025
Date

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.

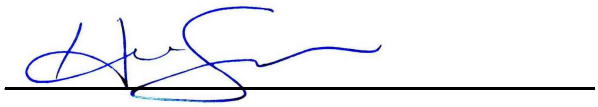
Signature

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: Hollis Scheffler, P.E.

Date: 8/22/2024

Signature of Customer/Agent:



Regulated Entity Name: Titan NorthPark35 Town Center

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: _____

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.

Attachment A – Spill Response Actions

In accordance with the Edwards Aquifer Technical Guidance on Best Management Practices Operators, the following actions will be followed to ensure appropriate measures are taken in the case of a spill:

Education

- Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.
- Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities.
- Do not bury or wash spills with water.
- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.
- Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

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

Minor Spills

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

Semi-Significant Spills

- 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

- 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.

Attachment B – Potential Sources of Contamination

The following are potential sources of surface and groundwater contamination from construction activities:

- Clearing and grubbing
- Grading and site excavation
- Vehicle tracking
- Topsoil stripping and stockpiling
- Landscaping operations
- Staging and storage area
- Paving (including curb and gutter)
- Building Construction
- Concrete washout area

Attachment C – Sequence of Major Activities

The following sequence of construction is included in the construction plans:

1. Rough cut pond to be used as sediment basin.
   Estimated area disturbed = n/a ac
   Estimated timing = Completed

2. Temporary erosion controls, silt fencing and tree protection fencing to be installed.
   Estimated area disturbed = 6.72 ac
   Estimated timing = 1 week

3. Pre-construction meeting to be held on-site.
   Estimated area disturbed = n/a ac
   Estimated timing = 1 day

4. Demolition of existing materials.
5. Estimated area disturbed = 6.72 ac
   Estimated timing = 6 weeks

6. Site staking and rough grading.
7. Estimated area disturbed = 6.72 ac
   Estimated timing = 6 weeks

8. Storm sewers to be installed.
9. Estimated area disturbed = 6.72 ac
   Estimated timing = 8 weeks

10. Water, wastewater and paving improvements to begin.
11. Estimated area disturbed = 6.72 ac
    Estimated timing = 8 weeks

12. Temporary erosion control measures to be inspected on a regular basis; any sediment buildup to be removed.
    Estimated area disturbed = n/a
    Estimated timing = 1 week

13. Site to be cleaned up and revegetated.
14. Estimated area disturbed = 6.72 ac
    Estimated timing = 6 weeks

15. Temporary erosion controls to be removed after permanent restoration of site is established.
    Estimated area disturbed = n/a
    Estimated timing = 1 week

Attachment D – Temporary Best Management Practices and Measures

The following temporary best management practices will be conducted to prevent pollution of surface water, groundwater, and stormwater in accordance with the Edwards Aquifer Technical Guidance on Best Management Practices.

Temporary Vegetation
Vegetation will be used as a temporary stabilization technique for areas disturbed by construction, but not covered by pavement, buildings, or other structures. As a temporary control, vegetation will be used to stabilize stockpiles and barren areas that are inactive for long periods of time.

Dust Control
Dust control will prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards and improve traffic safety. This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Temporary Construction Entrance/Exit
The temporary gravel construction entrance will provide a stable entrance/exit condition from the construction site and keep mud and sediment off public roads. A stabilized construction entrance is a stabilized pad of crushed stone located at any point traffic will be entering or leaving the construction site from a public right-of way, street, alley, sidewalk or parking area. The stabilized construction entrance will reduce or eliminate the tracking or flowing of sediment onto public rights of-way. This practice should be used at all points of construction ingress and egress.

Silt Fence
A silt fence is a barrier consisting of geotextile fabric supported by metal posts to prevent soil and sediment loss from a site. Proposed silt fences will be highly effective at controlling sediment from disturbed areas. They cause runoff to pond, allowing heavier solids to settle out.

Inlet Protection
All proposed inlets that may receive storm runoff from disturbed areas should be protected. Temporary inlet protection is a series of different measures that provide protection against silt transport or accumulation in storm sewer systems. This clogging can greatly reduce or completely stop the flow in the pipes. The different measures are used for different site conditions and inlet types. Filter barrier protection using silt fence is appropriate when the drainage area is less than one acre and the basin slope is less than five percent. This type of protection is not applicable in paved areas. Block and gravel protection is used when flows exceed 0.5 cubic feet per second and it is necessary to allow for overtopping to prevent flooding. This form of protection is also useful for curb type inlets as it works well in paved areas. Wire mesh and gravel protection is used when flows exceed 0.5 cubic feet per second and construction traffic may occur over the inlet. This form of protection may be used with both curb and drop inlets.

Concrete Washout Area

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

The following steps will help reduce stormwater pollution from concrete wastes: • Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.

- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

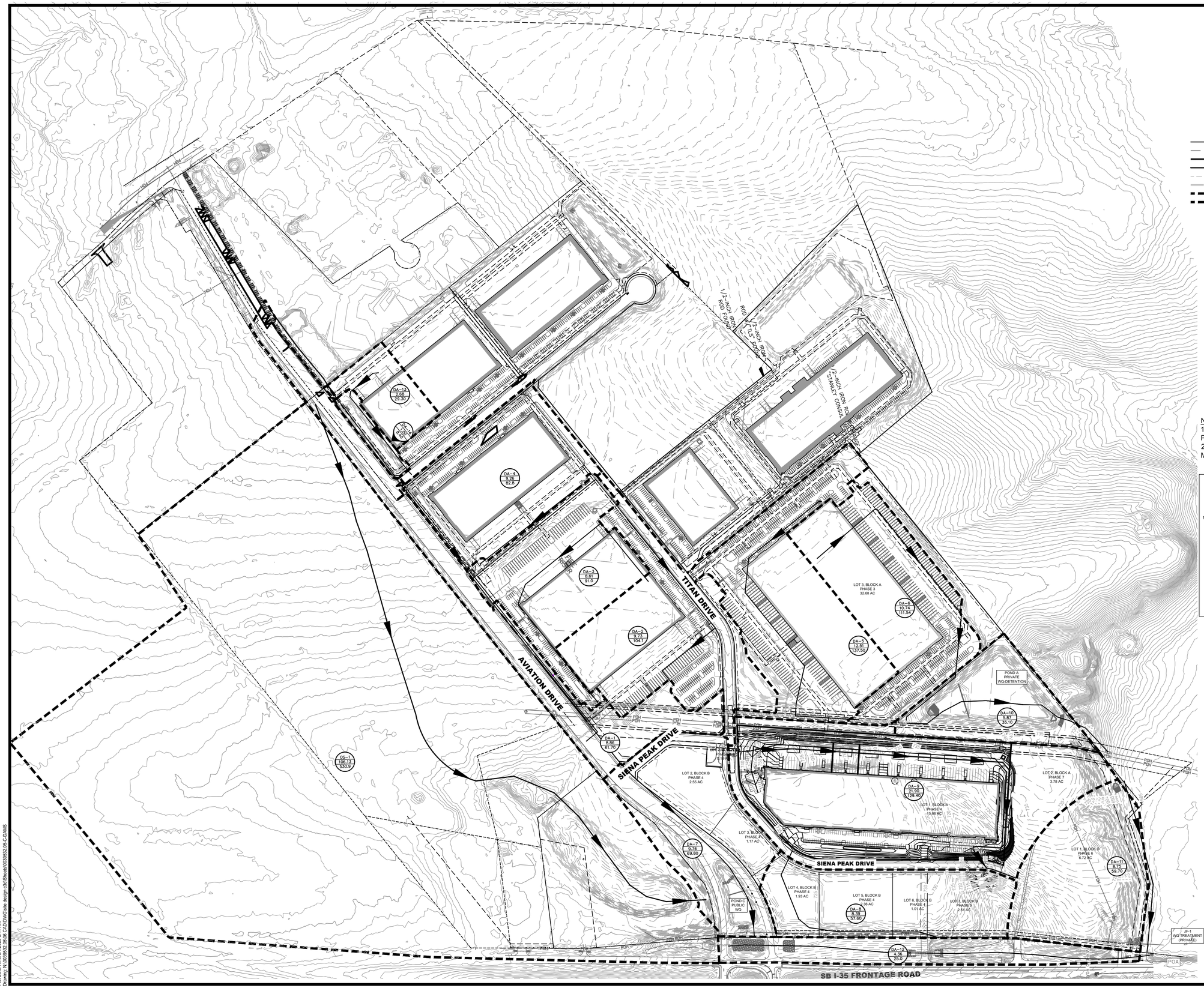
For onsite washout:

- Locate washout area at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.

Attachment F – Structural Practices

Stormwater will be routed through the proposed silt fence and inlet protection for pollutant removal. The proposed permanent BMPs are to be constructed as to intercept stormwater flowing from the roadway and other impervious areas. The silt fence will provide temporary sedimentation control during construction prior to the permanent BMPs being finalized. No part of the site or placement of the structural practices will be encumbered by floodplain as shown on FEMA #48491C0283F & 48491C0291F.

Attachment G – Drainage Area Map



Westwood
Westwood Professional Services, Inc.
8701 NORTH MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
F: 888.937.5150
TBPELS ENGINEERING FIRM NO. 11756
TBPELS SURVEYING FIRM NO. 10074301
westwoodps.com

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

GEORGETOWN, WILLIAMSON COUNTY, TEXAS

205 SIENA PARK DRIVE

TITAN NORTHPARK 35 IX
POND A DRAINAGE AREA MAP

DATE: APRIL, 2025
DRAFTER: CBA/JDI
DESIGNER: SF
CHECKED: HAS
PROJECT NO.
0039532.05

4/2/2025
STATE OF TEXAS
Hollis A Scheffler
136049
LICENSED
PROFESSIONAL ENGINEER

10
SHEET 10 OF 48

2025-20-SDP

Last Saved by: SFontero
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Plotted: 4/4/2025 9:25 AM
Drawing: N:\0039532.05\06 CAD\DWG\site design c3d\Sheets\0039532.05-C-DAMS

Attachment I – Inspection and Maintenance for BMPs

The following inspection and maintenance guidelines for the temporary best management practices will be followed in accordance with the Edwards Aquifer Technical Guidance on Best Management Practices. Inspections of the Temporary BMPs will be documented in an inspection report. Inspection reports will document maintenance activities, sediment removal and modifications to the sediment and erosion controls.

Temporary Vegetation

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

Dust Control

1. When dust is evident during dry weather, reapply dust control BMPs.

Temporary Construction Entrance/Exit

1. Inspect all fencing weekly, and after any rainfall.
2. Remove sediment when buildup reaches 6 inches.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section. (4) 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.
4. 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.

Silt Fence

1. Inspect all fencing weekly, and after any rainfall.
2. Remove sediment when buildup reaches 6 inches.
3. Replace any torn fabric or install a second line of fencing parallel to the torn section.
4. 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.
5. 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.

Inlet Protection

1. Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2. 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.
3. Check placement of device to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if torn or missing.
5. Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

Concrete Washout Area

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

Attachment J – Schedule of Interim and Permanent Soil Stabilization Practices

Seeding of the disturbed areas will be on-going after completion of the rough grading process. Temporary seeding will be utilized until permanent landscaping is installed. Seeding will occur on any areas that are undisturbed for a period of 14 days. If construction progress is stopped for a period of 14 days, soil stabilization practices must be initiated by the contractor. Permanent landscaping will be provided as soon as final grades are achieved and the final paving and building operations are completed.

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I BEN F. SPENCER,
Print Name

MANAGER,
Title - Owner/President/Other

of TITAN NP35 PHASE II LLC,
Corporation/Partnership/Entity Name

have authorized Hollis Scheffler, P.E.
Print Name of Agent/Engineer

of Westwood Professional Services
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

4.30.25
Date

THE STATE OF NEW MEXICO §

County of BERNALILLO §

BEFORE ME, the undersigned authority, on this day personally appeared BEN F. SPENCER 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 30th day of APRIL, 2025

STATE OF NEW MEXICO
NOTARY PUBLIC
E. AIMEE GONZALEZ E.
Commission # 1067801
My Comm. Exp. 12-19-2028

NOTARY PUBLIC

E. AIMEE GONZALEZ E.
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 12/19/2028

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Titan NorthPark 35 Town Center
Regulated Entity Location: Georgetown, Texas; Williamson, County
Name of Customer: Joe Iannacone
Contact Person: Hollis Scheffler, P.E. Phone: 512-485-0831
Customer Reference Number (if issued):CN 605948462
Regulated Entity Reference Number (if issued):RN 111023883

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	6.72 Acres	$ 5000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____

Date: 05/28/2025

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

TCEQ Core Data Form

TCEQ Use Only

For detailed instructions regarding completion of 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 605948462		RN N/A

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ 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:*

Titan NP35 Phase II, LLC

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number (*if applicable*)
85-1714807			

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☐ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☒ Owner ☐ Operator ☐ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

4903 Woodrow Ave

City	State	ZIP	ZIP + 4
Austin	TX	78756	

16. Country Mailing Information (*if outside USA*)	17. E-Mail Address (*if applicable*)
	jiannacone@titan-development.com

18. Telephone Number	19. Extension or Code	20. Fax Number (*if applicable*)
(210) 338-5220		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (*If 'New Regulated Entity" is selected below this form should be accompanied by a permit application*)

☐ 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 Agency 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.*)

Titan NP35 Phase II LLC

23. Street Address of the Regulated Entity: *(No PO Boxes)*	Siena Peak Drive							
	City	Georgetown	**State**	TX	**ZIP**	78728	**ZIP + 4**	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	The property is located northwest of the Aviation Drive & IH35 intersection in Georgetown, Texas.

26. Nearest City	**State**	**Nearest ZIP Code**

27. Latitude (N) In Decimal:	30.68297°N		**28. Longitude (W) In Decimal:**	97.66901°W	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	40	58.68	97	40	8.42

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)
4225		493110	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Industrial

34. Mailing Address:	**6901 McAllister Fwy, Ste. 1120**							
	City	**San Antonio**	**State**	**TX**	**ZIP**	**78216**	**ZIP + 4**	

35. E-Mail Address:	**jiannacone@titan-development.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(210) 338-5220		**( ) -**

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	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

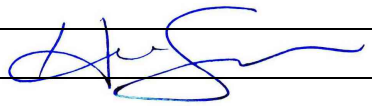
40. Name:	Hollis Scheffler, P.E.	**41. Title:**	Project Manager

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 485-0831		( ) -	hollis.scheffler@westwoodps.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:	Westwood PS	**Job Title:**	Senior Project Manager
Name *(In Print):*	Hollis Scheffler	**Phone:**	(512) 485- **831**

Signature:		Date:	5/7/2025