

Water Pollution Abatement Plan (WPAP)

Parkside on the River Section 8

CITY OF GEORGETOWN WILLIAMSON COUNTY, TEXAS

November 09, 2023

HR Green Project No: 2303297

Prepared For: HM Parkside, LP 1011 North Lamar Boulevard Austin, Texas 78703

Prepared By: HR Green Development TX, LLC 5508 Highway 290 West, Suite 150 Austin, Texas 78735 TBPE Firm No. F-16384





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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 <u>30 TAC 213</u>.

Administrative Review

1. <u>Edwards Aquifer applications</u> 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: <u>http://www.tceq.texas.gov/field/eapp</u>.

- 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 N Section 8	ame: P	arksi	de on t	the Ri	iver	2. Regulated Entity No.:					
3. Customer Name: HM Parkside, LP						4. Cı	4. Customer No.: CN605721653				
5. Project Type: (Please circle/check one)		Modif	icatior	1	Extension		Exception				
6. Plan Type: (Please circle/check one)	WPAP X	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures		
7. Land Use: (Please circle/check one)	Resider X	ntial	Non-r	esiden	tial		8. Sit	e (acres): 41.26 (LOC = 28.73) Legal Boundary = 75.68			
9. Application Fee: \$6,500 10. Permanent BMI						BMP(s):	Batch Detention Pond, Vegetative Filter Strip			
11. SCS (Linear Ft.):		12. AS	ST/US	ST (No	o. Tar	nks):	N/A				
13. County:	William County	son	14. W	aters	hed:			South Fork San Gabriel River			

Application Distribution

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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.

County:	Hays	Travis	Williamson										
Original (1 req.)			<u>_X</u>										
Region (1 req.)			<u>_X</u>										
County(ies)			<u>_X</u>										
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							

Austin Region

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.

10

Christine Campbell Print Name of Customer/Authorized Agent An

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Signature of Customer/Authorized Agent

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11/09/2023 Date

FOR TCEQ INTERNAL USE ONLY									
Date(s)Reviewed: Date Administratively Complete:									
Received From:		Correct Number of Copies:							
Received By:		Distribut	ion Date:						
EAPP File Number:		Complex:							
Admin. Review(s) (No.):		No. AR R	ounds:						
Delinquent Fees (Y/N):		Review Time Spent:							
Lat./Long. Verified:		SOS Cust							
Agent Authorization Complete/Notarized (Y/N):		Fee	Payable to TCEQ (Y/N):						
Core Data Form Complete (Y/N):		Check:	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: Christine Campbell, P.E.

Date: 11/09/2023

Signature of Customer/Agent:

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Project Information

- 1. Regulated Entity Name: Parkside on the River Section 8
- 2. County: Williamson
- 3. Stream Basin: Brazos River Basin
- 4. Groundwater Conservation District (If applicable): N/A
- 5. Edwards Aquifer Zone:



6. Plan Type:

🔀 WPAP	AST
SCS	UST UST
Modification	Exception Request

7. Customer (Applicant):

Contact Person: <u>Blake Magee</u> Entity: <u>HM Parkside, LP</u> Mailing Address: <u>1011 North Lamar Boulevard</u> City, State: <u>Austin, TX</u> Telephone: <u>512-481-0303</u> Email Address: <u>Blake@blakemageeco.com</u>

Zip: <u>78703</u> FAX: _____

8. Agent/Representative (If any):

Contact Person: Christine CampbellEntity: HR Green Development TX, LLCMailing Address: 5508 US Highway 290 West Suite #150City, State: Austin, TXZip: 78735Telephone: 512-872-6696FAX: _____Email Address: christine.campbell@hrgreen.com

9. Project Location:

The project site is located inside the city limits of _____

The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of <u>Georgetown</u>.

- 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.

Located east of Texas Bluebonnet Trail. East of Parkside on the River Phase 3 Sections 3A & 3B. Property ID R574025, R312360

- 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: <u>November 17, 2023</u>
- 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
 - \ge 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.





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



LEANDER QUADRANGLE TEXAS 7.5-MINUTE SERIES





Produced by the United States Geological Survey North American Datum of 1983 (NAD83) World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 14R This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

.....NAIP, September 2016 - November 2016 U.S. Census Bureau, 2015GNIS, 1979 - 2018National Hydrography Dataset, 2002 - 2018National Elevation Dataset, 2002Aultiple sources; see metadata file 2016 - 2017 Imagery.... Roads..... Names..... Hydrography..... Contours.... Boundaries.... 1982 Wetlands... ..FWS National Wetlands Inventory



NSN. 7643016396981 NGA REF NO. USGSX24K25238

State Route



ATTACHMENT C – PROJECT NARRATIVE

The Parkside on the River Section 8 development is a proposed single-family residential development tract, including associated right-of-way, drainage, and utilities located in the City of Georgetown and Williamson County. The project site is located within the Edwards Aquifer Recharge Zone, the Edwards Aquifer Contributing Zone, and within the San Gabriel River watershed. The overall project site encompasses a 41.26-acre tract of land located east of Texas Bluebonnet Trail and east of Parkside on the River Phase 3 Sections 3A & 3B. There will be roughly 28.73-acres of disturbed land and a 75.68-acre legal boundary for application fee purposes.

The project site is primarily undeveloped wooded land with grass. Runoff flows towards the South Fork San Gabriel River. A portion of the project site is located within the 100-year floodplain as defined by FEMA FIRM Panel No. 48491C0460F, dated December 20, 2019. However, no proposed residential lots lie within the FEMA 100-year floodplain. The floodplain is located within the open space lot at the boundary of the project.

The proposed development results in an impervious cover of approximately 30.5% and will have the associated runoff treated by a batch detention pond and a vegetative filter strip. Of the 41.26 acres of the proposed Parkside on the River Section 8 property, there is approximately 12.57 acres of impervious cover. Based on the 80% TSS removal requirement by TCEQ we need to provide 10,941 lbs of TSS removal for the proposed development. As shown in the calculations, the proposed pond and vegetative filter strip satisfy the TSS removal requirement by the City of Georgetown is also satisfied for the proposed batch detention pond.

The fully-developed conditions for the overall area propose approximately 29.60 acres of post-development impervious cover, of which approximately 1.60 acres are existing from Parkside on the River Phase 3 Sections 4, 7A & 7B, 12.57 acres proposed with Section 8, 14.50 acres of future impervious cover from Section 9A & 10A, and 0.92 acres of future impervious cover from Section 9B & 10B. Based on the 80% TSS removal requirement by TCEQ we need to provide 24,371 lbs of TSS removal in the fully-developed case. As shown in the calculations, the proposed pond and vegetative filter strip satisfy this requirement. The 85% TSS removal requirement by the City of Georgetown is also satisfied for the proposed batch detention pond. In the fully-developed condition, the proposed batch detention pond (BDP-01) is estimated to treat a total of 27.05 acres of impervious cover (1.60 acres of existing impervious cover from Section 9A & 10A, and 0.92 acres of future impervious cover from Section 9B & 10B) and provide 24,500 lbs of TSS removal. Approximately 1.92 acres of impervious cover proposed with Section 8 is being treated with a 15' permanent engineered vegetative filter strip (VFS-01). Approximately 0.63 acres of impervious cover proposed with Section 8 is bypassing treatment. The proposed BMPs are overtreating to account for the bypass impervious cover.

Refer to the construction plans for the water quality calculations and batch detention pond design. Refer to the table below for the fully developed sedimentation treatment breakdown provided.

A tree demolition schedule is included in the construction plans.

The associated combination of roadway, drainage, water quality, water, and wastewater improvements will be designed and built to serve this residential development.





	PARKSIDE ON THE RIVER SECTION 8 - TSS REMOVAL SUMMARY - FULLY-DEVELOPED																								
224 Mar 1	MAX TSS	MAX TSS	MAXITSS	MAXITSS	MAXITSS	ΜΑΧΤSS	MAXITSS	MAX TSS	MAX TSS	MAXITSS	MAXITSS	MAX TSS	MAX TSS		PRE-		PROPOSED I.C.					CITY OF GEORGETOWN	PROVIDED TSS		VOLUME
DRAINAGE AREA	BMP TYPE	REMOVAL	DA SIN AREA	I.C.	SECTION 8	SECTION 9A & 10A	SECTION 98 & 10B	POST-DEVEL	OPMENT I.C.	REMOVAL	POND TSS LOAD REMOVAL	LOAD REMOVAL	REQUIRED	PROVIDED											
			AC	AC	AC	AC	AC	AC	%	LB	LB	LB	CF	CF											
BDP-01	BATCH DETENTION POND	91%	60.07	1.60	10.02	14.50	0.92	27.05	45%	22,152	23,536	24,500	130,099	137,853											
VFS-01	VEGETATIVE FILTER STRIP	85%	4.00	0.00	1.92			1.92	48%	1,671		1,838													
BP-01	BY-PASS	0%	1.17	0.00	0.63			0.63	54%	548															
	TOTAL:		65.24	1.60	12.57	14.50	0.92	29.60	45%	24,371		26,338													
1 - FOR THE GEO	RGETOWN TSS R	REMOVAL REQUIR	EMENT, WE CON	SIDER 85% OF TS	S REMOVAL FOR	THE DRAINAGE A	REA THAT DRAINS	TOWARD THE B	ATCH DETENTION	PONDS.															



Narrative Description of Site-Specific Geology for the Parkside on the River Property (Phase 3, Sections 8, 9A, & 10A) Located in Georgetown, Williamson County, Texas

Prepared for:

HM PARKSIDE DEVELOPMENT, INC

Prepared by:

CAMBRIAN ENVIRONMENTAL

October 18th, 2023

NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY FOR THE PARKSIDE ON THE RIVER PROPERTY (PHASE 3, SECTIONS 8, 9A, & 10A) LOCATED IN GEORGETOWN, WILLIAMSON COUNTY, TEXAS

Prepared for:

HM Parkside Development, Inc. Blake Magee Co. 1011 North Lamar Blvd. Austin, Texas 78703

Prepared by:

Craig Crawford, P.G. TX Geoscience License #10791

Cambrian Environmental

4422 Pack Saddle Pass Suite 204 Austin, Texas 78745

TX Geoscience Firm Registration #50484

As a licensed professional geoscientist, I attest that the contents of this report are complete and accurate to the best of my knowledge.



Geologic Assessment

Texas Commission on Environmental Quality

For Regulated Activities on The Edwards Aquifer Recharge/transition Zones and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

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

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

Signature

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

Telephone: 512.705.5541

AST UST

Print Name of Geologist: Craig Crawford, PG

Date: 18 October 2023

Fax: _____ Representing: Cambrian Environmental (TBPG Firm # 50484) (Name of Company in

TBPE registration number)

Signature of Geologist:



Regulated Entity Name: HM Parkside Development, Inc. (Parkside on the River - Ph. 3, Sec. 8, 9A, & 10A)

Project Information

- 1. Date(s) Geologic Assessment was performed: <u>August 30th through September 12th 2023</u>
- 2. Type of Project:

\times	WPAP
	SCS

3.	Location	of	Proj	ect:
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Recharge Zone Transition Zone Contributing Zone within the Transition Zone

1 of 3

TCEQ-0585 (Rev.02-11-15)

- 4. X Attachment A Geologic Assessment Table. Completed Geologic Assessment Table (Form TCEQ-0585-Table) is attached.
- Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Table 1 - Soil Units, InfiltrationCharacteristics and Thickness

Soil Name	Group*	Thickness(feet)
Denton (DnB)	D	< 3.5
Eckrant (EeB,ErE,ErG)	D	< 2

- * Soil Group Definitions (Abbreviated)
 - A. Soils having a high infiltration rate when thoroughly wetted.
 - B. Soils having a moderate infiltration rate when thoroughly wetted.
 - C. Soils having a slow infiltration rate when thoroughly wetted.
 - D. Soils having a very slow infiltration rate when thoroughly wetted.
- 6. Attachment B Stratigraphic Column. A stratigraphic column showing formations, members, and thicknesses is attached. The outcropping unit, if present, should be at the top of the stratigraphic column. Otherwise, the uppermost unit should be at the top of the stratigraphic column.
- 7. Attachment C Site Geology. A narrative description of the site specific geology including any features identified in the Geologic Assessment Table, a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure(s), and karst characteristics is attached.
- 8. Attachment D Site Geologic Map(s). The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1": 400'

Applicant's Site Plan Scale: 1" = 100'Site Geologic Map Scale: 1" = 100'Site Soils Map Scale (if more than 1 soil type): 1" = 400'

9. Method of collecting positional data:

🔀 Global Positioning System (GPS) technology.

Other method(s). Please describe method of data collection: _____

- 10. The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
- 11. Surface geologic units are shown and labeled on the Site Geologic Map.

TCEQ-0585 (Rev.02-11-15)

2 of 3

12. Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

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

- 13. 🛛 The Recharge Zone boundary is shown and labeled, if appropriate.
- 14. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.): If applicable, the information must agree with Item No. 20 of the WPAP Application Section.
 - There are _____ (#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
 - The wells are not in use and have been properly abandoned.
 - The wells are not in use and will be properly abandoned.
 - The wells are in use and comply with 16 TAC Chapter 76.
 - There are no wells or test holes of any kind known to exist on the project site.

Administrative Information

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



NARRATIVE DESCRIPTION OF SITE-SPECIFIC GEOLOGY FOR THE PARKSIDE ON THE RIVER PROPERTY (PHASE 3, SECTIONS 8, 9A, & 10A) LOCATED IN GEORGETOWN, WILLIAMSON COUNTY, TEXAS

INTRODUCTION

This narrative Geologic Assessment accompanies the Texas Commission on Environmental Quality (TCEQ) Geologic Assessment Form TCEQ-0585 completed for the Parkside on the River property in Georgetown, Williamson County, Texas (see Site Location Map). This assessment covers a portion of Phase 3, and includes Sections 8, 9A, and 10A. The project area is located on the north side of Leander Road (FM 2243), approximately 5.25 miles west of the intersection with Interstate Highway (IH) 35.

METHODOLOGY

A Cambrian Environmental Registered Professional Geoscientist (Texas License #10791) and several karst technicians conducted a field survey for a TCEQ Geologic Assessment on various dates between August 30th and September 12th 2023. The pedestrian survey was completed by walking parallel transects spaced approximately 50 feet apart as directed by the TCEQ in the Instructions to Geologists for Geologic Assessments on the Edwards Aquifer Recharge/Transition Zones (Rev. 10-01-04). Closer spacing was used where vegetation inhibited clear observation. The project site was thoroughly examined for the presence of potential karst features, including depressions, holes, and animal burrows. A number of techniques can be used for this effort, including probing with a digging implement to determine the thickness and consistency of fill material and feeling for the presence of air flow, which may indicate the presence of a sub-surface void space. Other techniques include making observations of any notable characteristics of the feature site such as the presence of various types of vegetation or a semi-circular burrow mound produced by the activities of small mammals.

RESULTS

<u>Soils</u>

Soils mapped within the project area consist of the Denton silty clay (DnB), Eckrant extremely stony clay (EeB), Eckrant-Rock outcrop (ErE, ErG) series soils¹ (see Site Soils Map). The Denton and Eckrant series soils are within the "D" classification of the hydrologic soil groups. Type "D" soils have a very slow infiltration rate (very high runoff potential) when thoroughly wet.

Geology

The mapped bedrock lithology underlying the majority of the project area consists of the Edwards Limestone (Ked), with the Comanche Peak Limestone (Kc) present in the lower elevation areas. The Comanche Peak Limestone serves as the lower confining unit of the Edwards Aquifer. The western portion of this tract is mapped as being within the Edwards Aquifer Recharge Zone, and the eastern portion is within the Contributing Zone (see Site Geologic Map). The portion of the tract mapped as Contributing Zone coincides with areas where topography drops off towards a drainage, and also where the Comanche Peak Limestone is present. Based on topographic and geologic maps, the Edwards outcrop present on this

¹ United States Department of Agriculture, Natural Resource Conservation Service. Online Web Soil Survey, Williamson County, Texas. http://websoilsurvey.sc.egov.usda.gov/

property is likely no more than 50 to 60 feet thick in the areas of highest elevation. The geology of the property has been mapped most recently at a useful scale by Collins (2005) and we find his interpretation of the geology to be generally accurate.² Bedrock outcrops were common in some areas, while other areas seemed to have relatively thick soil cover. No faults are mapped within the project limits, and none were observed during the pedestrian survey.

Recharge into the aquifer primarily occurs in areas where the Edwards Group and upper confining units are exposed at the surface. Most recharge is from direct infiltration via precipitation and streamflow loss. Recharge occurs predominantly along secondary porosity features such as faults, fractures, and karst features (caves, solution cavities, sinkholes, etc.); and these types of karst features are commonly formed along joints, fractures, and bedding plane surfaces formed within the Edwards Group Limestone.

Site Hydrogeologic Assessment

One sensitive feature was identified during the pedestrian survey (feature "F-2"). Recharge to the aquifer on this property has the greatest potential to occur in the immediate vicinity of this feature. Other areas of the property had a very low density of discovered features and thick soil cover, and the potential for recharge to occur is thought to be low in these areas. Additionally, should any karst features be discovered during the construction phase of the project, they should be reported to TCEQ to determine the appropriate mitigation measures.

Feature Descriptions

- F-1 The feature consists of a non-karst closed depression that measures approximately 8 feet by 10 feet by 2.5 feet deep. The depression is located near the top of drainage, and appears to be the result of bedrock scour and headward erosional processes. There are no signs of any portals, or any other indicators that this feature contributes to subsurface infiltration. The feature is lined with cobbles, soil, and grassy vegetation. The feature is ranked as "non-sensitive".
- F-2 The feature consists of small sinkhole that measures approximately 4 feet in diameter by at least 2 feet deep. Within the bowl of the sinkhole there is an opening that measures 14 inches by 8 inches. No airflow was detected during this investigation, however the rocks surrounding the opening were covered in green moss, which can be an indicator that subsurface airflow occurs periodically. Small persimmon trees are present around the bowl of the sinkhole, and the feature is lined with loose organic debris and cobbles. The feature is ranked as "sensitive" and Cambrian recommends a minimum of a 50-foot radius protective buffer around this feature.

² E.W. Collins, 2005, Geologic Map of the West Half of the Taylor Texas 30x60 Quadrangle: Central Texas Urban Corridor Encompassing Round Rock, Georgetown, Salado, Briggs, Liberty Hill, and Leander, Bureau of Economic Geology, University of Texas at Austin. Scale 1:100,000

City of Georgetown Salamander Ordinance

No springs were identified within the interior of the property during the pedestrian survey, and therefore no occupied site protection, or spring buffer protection measures will be required for the property. A mapped stream is present on the property (flowing from west to east, see Site Geologic Map), but it appears to only flow during heavy rain when there is high runoff potential. This mapped stream consists of a shallow and gently sloping drainage that did not have any water present, even after a moderate precipitation event that occurred during the course of the pedestrian survey. The catchment area of this mapped stream is less than 64 acres, and therefore no stream protection buffer will be required. A second and larger mapped stream is present along the southeastern boundary of the property, and it was actively flowing at the time of the pedestrian survey. This stream is present in the lowest elevation portion of this property and is within the Edwards Aquifer Contributing Zone, and therefore will not require a stream protection buffer. The 100-year floodplain is present along this channel, with a small portion being within the bounds of the limits of the project area included in this assessment.

Additionally, all regulated activities within the Recharge Zone must follow water quality best management practices, and development of the property will need to comply with the water quality protection measures as outlined in Section 8 of the Ordinance.

Stratigraphic Column

*Area shaded gray represents the lithology directly underlying the project site

Period	Group	Stratigraphic Unit	Hydrologic Unit	Maximum Thickness (Feet)
		Stream and river alluvium (Qal)		
Quaternary to Tertiary		Terrace alluvium (Qt)	Overlying Units	70
		Older alluvium (QTa)		
	Taylor	Taylor Clay (Ktl)		300
	Austin	Austin Chalk (Kau)		400
Upper Cretaceous (Gulf Series)	Eagle Ford	Eagle Ford Shale (Kef)	Confining Units	60
	Washita	Buda Limestone (Kbu)		20
	W donna	Del Rio Clay (Kdr)		60
		Georgetown Limestone (Kgt)		100
	Fredericksburg	Edwards Limestone (Ked)	Edwards Aquifer	120
Lower Cretaceous (Comanche Series)		Comanche Peak Formation (Kc)		50
		Walnut Formation (Kw)	Confining Unit	140
	Trinity	Upper Glen Rose Limestone (Kgru)	Upper Trinity Aquifer	200



Photo 1. View of feature F-1



Photo 2. View of feature F-2

GEOLOGIC A	SSESSMEN	TABLE	2.17				PR	OJE	CT NA	ME	: Parks	ide or	the R	iver - Ph	ase	3 Se	ctio	ns 8	, 9A,	10A
L	OCATION					F	EAT	URE	CHARA	CTE	RISTICS				EVA	LUAT	TION		PHYS	SICAL SETTING
1A	1B *	1C*	2A	2B	3		4		5	5A	6	7	8A	8B	9		10		11	12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIME	NSIONS (FEET)	TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	ITIVITY	CATCHM (AC	ENT AREA RES)	TOPOGRAPHY
						х	Y	Z		10						<40	<u>>40</u>	<1.6	<u>>1.6</u>	
F-1	30.60843	-97.76876	CD	5	Ked	8	10	2.5					C,F,O	15	20	X		Х		Hilltop
F-2	30.60888	-97.76689	SH	20	Ked	4	4	2+					0	25	45		Х	Х		Hilltop
						-											-			
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* DATUM: WGS84																				
2A TYPE		TYPE		28	POINTS						8A	INFILLIN	G							
С	Cave				30		N	None	exposed	bedro	ock									
SC	Solution cavity				20		С	Coars	e - cobble	es, bre	akdown, sa	and, grave	el							
SF	Solution-enlarge	d fracture(s)			20		0	Loose	e or soft m	ud or	soil. organi	cs. leaves	s. sticks. d	ark colors						
F	Fault				20		F	Fines	compact	ed cla	v-rich sedir	ment, soil	profile, an	ay or red cold	ors					
0	Other natural be	drock features			5		V	Vege	tation. Giv	e deta	ails in narrat	tive descr	iption	,						
MB	Manmade featur	e in bedrock			30		FS	Flows	tone, cem	nents,	cave depos	sits								
SW	Swallow hole				30		х	Other	materials											
SH	Sinkhole				20										and the set of					
CD	Non-karst closed	depression			5					13	2 TOPOGR	APHY								
Z	Zone, clustered	or aligned feature	es		30		Cliff,	Hilltop	, Hillside,	Drain	age, Floodp	olain, Stre	ambed							

I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Date 18 October 2023

Sheet 1 of 1



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



















Site Geologic Map



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: Christine Campbell, P.E.

Date: 11/09/2023

Signature of Customer/Agent:

Chuth Confull

Regulated Entity Name: Parkside on the River Section 8

Regulated Entity Information

- 1. The type of project is:
 - Residential: Number of Lots:<u>88</u>
 -] Residential: Number of Living Unit Equivalents:_____
 - Commercial
 - Industrial
 - Other:____
- 2. Total site acreage (size of property): 41.26 (LOC 28.73 acres)
- 3. Estimated projected population: <u>88 units * 3.5 people / unit = 308 people</u>
- 4. The amount and type of impervious cover expected after construction are shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	387,200	÷ 43,560 =	8.89
Parking	-	÷ 43,560 =	-
Other paved surfaces	160,451	÷ 43,560 =	3.68
Total Impervious Cover	547,651	÷ 43,560 =	12.57

Table 1 - Impervious Cover Table

Total Impervious Cover <u>12.57</u> ÷ Total Acreage <u>41.26</u> X 100 = <u>30.5</u>% 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 = _____ $Ft^2 \div 43,560 Ft^2/Acre = _____ acres.$

10. Length of pavement area: _____ feet.

Width of pavement area:feet. $L \times W =$ $Ft^2 \div 43,560 Ft^2/Acre =$ acres.Pavement areaacres ÷ R.O.W. areaacres 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:

<u>100</u> % Domestic	<u>22,000 </u> Gallons/day
% Industrial	Gallons/day
% Commingled	Gallons/day
TOTAL gallons/day <u>22,000</u>	

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_____.

- \boxtimes 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 <u>Dove Springs</u> (name) Treatment Plant. The treatment facility is:

\times	Existing.
	Proposed

16. \square 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. \square The Site Plan must have a minimum scale of 1" = 400'.

Site Plan Scale: 1" = <u>100</u>'.

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): <u>FEMA FIRM Panel No. 48491C0460F, 12/20/2019</u>

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

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

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

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

The wells are not in use and have been properly abandoned.

The wells are not in use and will be properly abandoned.

] The wells are in use and comply with 16 TAC §76.

 \boxtimes 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 WATER QUALITY

Potential sources of pollution that may be expected to affect the quality of the storm water discharges from the construction site include the following:

- Soil erosion due to the clearing of the site for wastewater improvements.
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings.
- Hydrocarbons from asphalt paving operations.
- Miscellaneous trash and litter from construction.

Potential sources of pollution that may be expected to affect the quality of the storm water discharges from the site after construction is completed include the following:

- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings.
- Dirt and dust from vehicles.
- Trash and litter.

ATTACHMENT B – VOLUME AND CHARACTER OF STORMWATER

The project site is primarily undeveloped wooded land with grass. Runoff flows towards the South Fork San Gabriel River. A portion of the project site is located within the 100-year floodplain as defined by FEMA FIRM Panel No. 48491C0460F, dated December 20, 2019. However, no proposed residential lots lie within the FEMA 100-year floodplain. The floodplain is located within the open space lot at the boundary of the project.

The proposed development results in an impervious cover of approximately 30.5% and will have the associated runoff treated by a batch detention pond and a vegetative filter strip. Of the 41.26 acres of the proposed Parkside on the River Section 8 property, there is approximately 12.57 acres of impervious cover. Based on the 80% TSS removal requirement by TCEQ we need to provide 10,941 lbs of TSS removal for the proposed development. As shown in the calculations, the proposed pond and vegetative filter strip satisfy the TSS removal requirement by the City of Georgetown is also satisfied for the proposed batch detention pond.

The fully-developed conditions for the overall area propose approximately 29.60 acres of post-development impervious cover, of which approximately 1.60 acres are existing from Parkside on the River Phase 3 Sections 4, 7A & 7B, 12.57 acres proposed with Section 8, 14.50 acres of future impervious cover from Section 9A & 10A, and 0.92 acres of future impervious cover from Section 9B & 10B. Based on the 80% TSS removal requirement by TCEQ we need to provide 24,371 lbs of TSS removal in the fully-developed case. As shown in the calculations, the proposed pond and vegetative filter strip satisfy this requirement. The 85% TSS removal requirement by the City of Georgetown is also satisfied for the proposed batch detention pond. In the fully-developed condition, the proposed batch detention pond (BDP-01) is estimated to treat a total of 27.05 acres of impervious cover (1.60 acres of existing impervious cover from Section 9A & 10A, and 0.92 acres of future impervious cover from Section 9B & 10B) and provide 24,500 lbs of TSS removal. Approximately 1.92 acres of impervious cover proposed with Section 8 is being treated with a 15' permanent engineered vegetative filter strip (VFS-01). Approximately 0.63 acres of impervious cover proposed with Section 8 is bypassing treatment. The proposed BMPs are overtreating to account for the bypass impervious cover.

Refer to the construction plans for the water quality calculations and batch detention pond design. Refer to the table below for the fully developed sedimentation treatment breakdown provided.

Detailed existing and proposed flow data for the points of interest are provided on the drainage plan as part of the construction documents submitted with this application.

Storm drainage will be captured in the proposed curb inlets and drain to the proposed batch detention pond.





PARKSIDE ON THE RIVER SECTION 8 - TSS REMOVAL SUMMARY - FULLY-DEVELOPED														
DRAINAGE AREA	BMP TYPE	MAX TSS REMOVAL EFFICIENCY	BASIN AREA	PRE- DEVELOPMENT I.C.	PROPOSED I.C.					TCEQ REQUIRED	CITY OF GEORGETOWN	PROVIDED TSS	VOLUME	VOLUME
					SECTION 8	SECTION 9A & 10A	SECTION 9B & 10B	POST-DEVELOPMENT I.C.		REMOVAL	POND TSS LOAD REMOVAL	LOAD REMOVAL	REQUIRED	PROVIDED
			AC	AC	AC	AC	AC	AC	%	LB	LB	LB	CF	CF
BDP-01	BATCH DETENTION POND	91%	60.07	1.60	10.02	14.50	0.92	27.05	45%	22,152	23,536	24,500	130,099	137,853
VFS-01	VEGETATIVE FILTER STRIP	85%	4.00	0.00	1.92			1.92	48%	1,671		1,838		
BP-01	BY-PASS	0%	1.17	0.00	0.63			0.63	54%	548				
	TOTAL:		65.24	1.60	12.57	14.50	0.92	29.60	45%	24,371		26,338		
1 - FOR THE GEORGETOWN TSS REMOVAL REQUIREMENT, WE CONSIDER 85% OF TSS REMOVAL FOR THE DRAINAGE AREA THAT DRAINS TOWARD THE BATCH DETENTION PONDS.														

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: Christine Campbell, P.E.

Date: 11/09/2023

Signature of Customer/Agent:

Chuth Condull

Regulated Entity Name: Parkside on the River Section 8

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: <u>San Gabriel River</u>

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
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.
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.
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 used in combination with other erosion and sediment controls within each 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 at 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. \square 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

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses. Measures include reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

The following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite.
 Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the Owner and to the appropriate State or local government agency, regardless of the size.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The site superintendent responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the office trailer onsite.
- Any reportable quantity hydrocarbon or hazardous material spill should be reported to the TCEQ at the following 24-hour toll free number 1-800-832-8224.

For a spill of Reportable Quantity:

- Initial notification. Upon the determination that a reportable discharge or spill has occurred, the responsible person shall notify the agency as soon as possible but not later than 24 hours after the discovery of the spill or discharge.
- Method of notification. The responsible person shall notify the agency in any reasonable manner including by telephone, in person, or by any other method approved by the agency. In all cases, the initial notification shall provide, to the extent known, the information listed in subsection (d) of Title 30, Part I, Chapter 327, Rule §327.3. Notice provided under this section satisfies the federal requirement to notify the State Emergency Response Commission in the State of Texas.
- Notification of local government authorities. If the discharge or spill creates an imminent health threat, the responsible person shall immediately notify and cooperate with local emergency authorities. The responsible party will cooperate with the local emergency authority in providing support to implement appropriate notification and response actions. The local emergency authority, as necessary, will implement its emergency management plan, which may include notifying and evacuating affected persons. In the absence of a local emergency authority, the responsible person shall take reasonable measures to notify potentially affected persons of the imminent health threat.
- As soon as possible, but no later than two (2) weeks after discovery of the spill or discharge, the Contractor shall reasonably attempt to notify the Owner (if identifiable) or Occupant of the property upon which the discharge or spill occurred as well as the occupants of any property that the Contractor believes is adversely affected.

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tceq.texas.gov /response/



Vehicle and Equipment Maintenance:

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

ATTACHMENT B – POTENTIAL SOURCES OF CONTAMINATION

Once grading activities begin, erosion of bare soil during rainfall events is the most common source of contamination. Silt fences will be installed at the beginning of the grading operation to minimize the potential for transport of the soil offsite.

Asphalt products will be used on this project. After placement of asphalt, emulsion, or coatings, the applicant will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt curing time, the applicant should maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur.

During construction activities, potential sources of contamination would include petroleum products leaking from construction equipment. The contractor will be advised to keep the equipment in working order and report any spills per the spill response plan.

Other potential sources of contamination include hydraulic fluid and diesel fuel from mechanical equipment and vehicles, as well as paints and chemicals used on site. Any spills shall be handled according to the Spill Response Actions in Attachment A.

ATTACHMENT C – SEQUENCE OF MAJOR ACTIVITIES

The first activity of construction will be to install the erosion control measures, consisting of silt fences, tree protection, storm drains, inlet protection, rock berm, and a stabilized construction entrance. Temporary erosion control measures will remain in place throughout the duration of construction and will be required to be maintained by the contractor to ensure proper functionality, especially after storm events. All disturbed areas to remain pervious will be vegetated using the procedures detailed in the construction plans and all temporary erosion control measures will be removed upon revegetation. Construction activities associated with this application is expected to disturb 28.73 acres of the site.

Major Construction Activities and Sequencing:

The major construction activities for this project will include and be sequenced as follows:

1. Established Best Management Practices shall consist of the following: silt fencing, temporary spoils areas, concrete truck washout pits, and a temporary construction entrance (Estimated area to be disturbed = 0.50 Acres). These items are to remain and be maintained throughout all construction activities.



- Initial site mass grading operation including right-of-way and first grading. (Estimated area to be disturbed = 11.09 Acres)
- 3. Installation of utilities including storm, water, and wastewater (Estimated area to be disturbed = 1.34 Acres)
- Construction of street/driveway pavement including backfill behind curbs (estimated area to be disturbed = 3.26 Acres)
- 5. Total Construction (estimated area to be disturbed = 28.73 Acres)
- 6. Final soil stabilization for the site and removal of temporary BMPs once the soil has been stabilized.

The contractor is responsible for implementing and maintaining the storm water pollution prevention plan which includes maintaining all the necessary erosion controls throughout construction.

ATTACHMENT D – TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

As shown on the Construction Erosion Control Plans, temporary BMP practices and measures will include installing silt fences, inlet protection, rock berm, a stabilized construction entrance, a concrete truck washout, and a temporary spoils area prior to beginning grading operations on the site. Temporary measures are intended to provide a method of slowing the upgradient flow, onsite flow or runoff from the construction site in order to allow sediment and suspended solids to settle out of the water. By containing the sediment and solids within the site, they will not enter surface streams and/or sensitive features. As a temporary BMP, a silt fence will be installed to reduce pollutants. BMP measures utilized in this plan are intended to allow storm water to continue downstream after passing through for treatment.

Site Preparation:

The methodology for pollution prevention of all on-site stormwater will include a) the erection of silt fences along the downgradient boundary of the construction activities, b) installation of inlet protection at all inlets, c) installation of a stabilized construction entrance to reduce the dispersion of sediment from the site, and d) installation of a construction staging area.

Construction:

All installed erosion control measure will be inspected, and if necessary, repaired before any additional construction begins, as well as periodically throughout the construction process. The contractor will be responsible for all maintenance of erosion control measures, as well as the installation of all remaining on-site control measures, including the concrete truck washout, as necessary.

ATTACHMENT E – REQUEST TO TEMPORARILY SEAL A FEATURE

There are no sensitive features on the site. Sensitive feature F-2 is located north of the property in the future Parkside on the River Section 9A & 10A project. Refer to the Geologic Assessment and Proposed Conditions Plan.

ATTACHMENT F – STRUCTURAL PRACTICES

Most of the site flows and upgradient run off will encounter the proposed batch detention pond. There is roughly 0.63 acres of impervious cover in Parkside on the River Section 8 that will bypass treatment. The proposed BMPs are overtreating to account for the bypass impervious cover.

ATTACHMENT G – DRAINAGE AREA MAPS

Refer to the construction plans attached.

ATTACHMENT H – TEMPORARY SEDIMENT POND(S) PLANS AND CALCULATIONS

The batch detention pond will act as a temporary and permanent sedimentation pond. The proposed pond (BDP-01) provides 137,853 CF of water quality volume.

The calculated temporary sedimentation pond volume required is calculated below.



Calculation: Required Volume = (Rainfall Depth*Runoff Coefficient*Drainage Area*120%) = 1.50 in. * 0.33 * 60.07 acres * 120% = 129.524 CF

ATTACHMENT I – INSPECTION AND MAINTENANCE FOR BMPS

See construction plans included with this application submittal.

Temporary Best Management Practices (BMPs) and measures will be used during construction to prevent pollution of groundwater, surface water and naturally occurring environmental features. Silt fence, inlet protection, stabilized construction entrance, tree protection, concrete washout area, and a temporary spoils area will be installed prior to beginning construction and prior to commencement of any of the activities defined in the sequence of construction as Attachment C. Inspection and maintenance of the on-site controls shall be performed during the site clearing and rough grading process. Weekly inspections will be documented in an inspection report. The inspection reports will document maintenance activities, sediment removal, and any modifications to the erosion and sedimentation controls. The perimeter fence shall be regularly monitored to ensure that the buffers remain no-construction zones until the site work has been completed and authorization has been granted by the engineer. Refer to the construction plans attached for specific controls and details.

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 run-off from the site, and through the use of silt fences placed immediately downstream of disturbed areas and inlet protection at all inlets. To minimize destruction to any portion of the Recharge Zone, on-site perimeter silt fence will also be implemented for pertinent areas throughout the entirety of construction. The Contractor is expected to inspect the controls weekly and after significant rainfalls to ensure proper function. When silt accumulates six (6) inches in depth the Contractor shall promptly remove the silt from the controls.

BMPs and measures will prevent pollutants from entering surface streams or the aquifer by intercepting stormwater potentially carrying sediment and other pollutants. BMPs and measures will implement a stabilized construction entrance, a construction stockpiling/staging area, and a concrete washout area to help minimize pollutant run-off and erosion generated during construction. Paved streets and driveways adjacent to these sites will be cleaned regularly to remove excess mud, dirt or rock tracked from the site. Sedimentation will be concentrated only in these areas for efficient maintenance. Water trucks will be on-site as necessary to aid be cleaned regularly to remove excess mud, dirt or rock tracked from the site. Sedimentation will be concentrated only in these areas for efficient maintenance. Water trucks will be on-site as necessary to aid in controlling dust. BMPs will be implemented to limit/prevent contaminated inflow from entering surface streams or the aquifer. These practices are to include the following measures; the use of silt fence, vegetative buffer zones, and inlet protection. The fabricated silt fence barricade will provide help to reduce the likelihood of contaminated runoff from entering the aquifer. If any sensitive features are identified by TCEQ inspections, or during excavation or construction, measures appropriate to the sensitivity of the discovered feature will be enacted. No blasting is proposed.

Temporary Erosion and Sedimentation Notes:

- 1. The Contractor shall maintain, install erosion/sedimentation controls and tree/natural protective fencing prior to any site preparation work (clearing, grubbing or excavation).
- 2. The placement of erosion/sedimentation controls and tree/natural area protective fencing shall be in accordance with the TCEQ Technical Guidance Manual and the approved Erosion and Sedimentation Control Plan. No erosion controls shall be placed beyond the property lines of the site unless written permission has been obtained from adjacent property owners.
- 3. A pre-construction conference shall be held on-site with the Contractor, design engineer/permit applicant and Environmental Inspector after installation of the erosion/sedimentation and tree/natural area protection measures and prior to beginning any site preparation work. The Contractor shall notify the Environmental Inspector at least three (3) days prior to the meeting date.



- 4. Any major variation in materials or locations of controls or fences from those shown on the approved plans will require a revision and must be approved by the reviewing engineer, environmental specialist or city arborist as appropriate. Minor changes to be made as field revisions to the Erosion and Sedimentation Control Plan may be required by the Environmental Inspector during the course of construction to correct control inadequacies.
- 5. The Contractor is required to inspect the controls at weekly intervals and after significant rainfall events to ensure that they are functioning properly. The person(s) responsible for maintenance of controls shall immediately make any necessary repairs to damaged areas. Silt accumulation at controls must be removed when the depth reaches six (6) inches.
- 6. Prior to final acceptance by the City, haul roads and waterway crossing constructed for temporary Contractor access must be removed, accumulated sediment removed from the waterway and the area restored to the original grade and revegetated. All land clearing debris shall be disposed of in approved soil disposal sites.
- 7. All work must stop if a void in the rock substrate is discovered, which is one (1) square foot in total area, blows air from within the substrate, and/or consistently received water during any rain event. At this time it is the responsibility of the project manager to immediately contact an Environmental Inspector for further investigation.
- 8. All slopes shall be sodded or seeded with approved grass, grass mixtures or ground cover suitable to the area and season in which they are applied.
- 9. Silt fences, rock berms, sedimentation basins and similarly recognized techniques and materials shall be employed during construction to prevent point source sedimentation loading of downstream facilities. Such installation shall be regularly inspected for effectiveness. Additional measures may be required if, in the opinion of the City Engineer, they are warranted.
- 10. All temporary erosion control measures shall not be removed until final inspection and approval of the project by the engineer. It shall be the responsibility of the Contractor to maintain all temporary erosion control structures and to remove each structure as approved by the engineer.
- 11. Any dirt, mud, rocks, debris, etc., that is spilled, tracked, or otherwise deposited on any existing paved street shall be cleaned up immediately.

Dewatering Operations

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP area under way, inspect weekly to verify continued BMP implementation.
- 2. Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- 3. Unit-specific maintenance requirements are included with the description of each technology.
- 4. Sediment removed during the maintenance of a dewatering device may be either spread onsite and stabilized, or disposed of at a disposal site.
- 5. Sediment that is commingled with other pollutants must be disposed of in accordance with all applicable laws and regulations.

ATTACHMENT J – SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Contractors will ensure that existing vegetation is preserved where attainable and that disturbed portions of the site will be stabilized. Stabilization practices may include but are not limited to temporary seeding, permanent seeding, mulching, geotextiles, sodding, tree protection, preservation of natural vegetation and other appropriate measures. All slopes shall be sodded or seeded with approved grass, grass mixtures or ground cover suitable to the area and season in which they are applied. Except as noted below, stabilization shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the activity has temporarily or permanently ceased. Refer to the construction plans attached for the TCEQ Notes, the Existing Conditions & Tree Survey, and the Erosion & Sedimentation Control Plan.

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: Christine Campbell, P.E.

Date: 11/09/2023

Signature of Customer/Agent

Chuth Canghull

Regulated Entity Name: Parkside on the River Section 8

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.



- 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 multifamily 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 pollutio surface water, groundwater, or stormwater that originates upgradient from the and flows across the site is attached. No surface water, groundwater or stormwater originates upgradient from the 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 a flows across the site, and an explanation is attached. 	n of the site e site re and
7.	Attachment C - BMPs for On-site Stormwater.	
	 A description of the BMPs and measures that will be used to prevent pollutio surface water or groundwater that originates on-site or flows off the site, inc pollution caused by contaminated stormwater runoff from the site is attache Permanent BMPs or measures are not required to prevent pollution of surface or groundwater that originates on-site or flows off the site, including pollutio caused by contaminated stormwater runoff, and an explanation is attached. 	n of luding d. e water n
8.	Attachment D - BMPs for Surface Streams. A description of the BMPs and measure that prevent pollutants from entering surface streams, sensitive features, or the is attached. Each feature identified in the Geologic Assessment as sensitive has be addressed.	ires aquifer been
] N/A	
9.	The applicant understands that to the extent practicable, BMPs and measures maintain flow to naturally occurring sensitive features identified in either the geo assessment, executive director review, or during excavation, blasting, or constru-	ust plogic ction.
	 The permanent sealing of or diversion of flow from a naturally-occurring sense 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-occurr sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached. 	sitive on rring
10	Attachment F - Construction Plans. All construction plans and design calculation the proposed permanent BMP(s) and measures have been prepared by or under direct supervision of a Texas Licensed Professional Engineer, and are signed, seal dated. The plans are attached and, if applicable include:	s for the ed, and
	 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.
\boxtimes	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

degradation. N/A

Responsibility for Maintenance of Permanent BMP(s)

by the regulated activity, which increase erosion that results in water quality

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. \square 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 - BMP'S FOR UPGRADIENT STORMWATER

There is no upgradient, offsite flow that will be captured in the proposed storm infrastructure and routed to the BMPs.

ATTACHMENT C - BMP'S FOR ON-SITE STORMWATER

Onsite areas considered in this description are all part of the overall Parkside on the River development. The water flows towards the South Fork San Gabriel River. The proposed infrastructure is sized to treat a minimum 80% of the TSS as defined by the TCEQ and 85% of the batch detention pond TSS as defined by the City of Georgetown. In the fully-developed condition, the proposed batch detention pond (BDP-01) is estimated to treat a total of 27.05 acres of impervious cover (1.60 acres of existing impervious cover from Sections 4, 7A & 7B, 10.02 acres of impervious cover proposed with Section 8, 14.50 acres of future impervious cover from Section 9A & 10A, and 0.92 acres of future impervious cover proposed with Section 9B & 10B) and provide 24,500 lbs of TSS removal. Approximately 1.92 acres of impervious cover proposed with Section 8 is being treated with a 15' permanent engineered vegetative filter strip (VFS-01). Approximately 0.63 acres of impervious cover proposed with Section 8 is bypassing treatment. The proposed BMPs are overtreating to account for the bypass impervious cover.

Refer to the Construction Plans for the sediment treatment details.

ATTACHMENT D – BMP'S FOR SURFACE STREAMS

There is a mapped stream on the north end of the property. This stream has a catchment area of less than 64 acres and appears to only flow during heavy rain. A portion of the project site is located within the 100-year floodplain as defined by FEMA FIRM Panel No. 48491C0460F, dated December 20, 2019. However, no proposed residential lots lie within the FEMA 100-year floodplain. The floodplain is located within the open space lot at the boundary of the project. There are no sensitive features located on the property. Sensitive feature F-2 is located north of the property in the future Parkside on the River Section 9A & 10A project. Proposed impervious cover associated with the Parkside on the River Section 8 development is routed to the proposed BMPs which are sized to treat a minimum 80% of the TSS as defined by TCEQ. Refer to the Geologic Assessment and Proposed Conditions Plan.

ATTACHMENT F – CONSTRUCTION PLANS

Construction plans are attached.

ATTACHMENT I – MEASURES OF MINIMIZING SURFACE STREAM CONTAMINATION

There is a mapped stream on the north end of the property. This stream has a catchment area of less than 64 acres and appears to only flow during heavy rain. Proposed impervious cover associated with the Parkside on the River Section 8 development is routed to the proposed BMPs which are sized to treat a minimum 80% of the TSS as defined by TCEQ.



ATTACHMENT G – INSPECTION, MAINTENANCE, REPAIR, AND RETROFIT PLAN

Batch Detention Pond

- 1. Inspections should take place a minimum of twice a year and be documented in inspection reports. Inspection reports should include a field logbook documenting date, location, and action items. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.
- 2. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.
- 3. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.
- 4. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place whenever required based on the periodic inspections.
- 5. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).
- 6. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.
- 7. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.
- 8. The Logic Controller should be inspected as part of the twice-yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

Vegetative Filter Strips

1. Seasonal Mowing and Lawn Care. If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetative filter strip areas.



Parkside on the River Section 8 Water Pollution Abatement Plan (WPAP) Project No.: 2303297

- 2. Inspection. Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. Inspections should be documented in inspection reports. Inspection reports should include a field logbook documenting date, location, and action items. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections.
- 3. Debris and Litter Removal. Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.
- 4. Sediment Removal. Sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flatbottomed shovels.
- 5. Grass Reseeding and Mulching. A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

An amended copy of this document will be provided to the TCEQ within thirty days of any changes in the following information.

1101 North Lamar Boulevard

Parkside, LP

Austin, TX 78703

Responsible	Party	for	Maintenance:	HM

Address:

City, State, Zip:

Telephone Number:

(512) 481-0303

Signature of Responsible Party



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

I	Blake Magee Print Name
	President Title - Owner/President/Other
of	HM Parkside, LP
have authorized	Corporation/Partnership/Entity Name Christine Campbell, P.E.
	Print Name of Agent/Engineer
01	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

THE STATE OF TEXAS § County of TRAVIS 8

BEFORE ME, the undersigned authority, on this day personally appeared <u>Blue 5. Mager</u> 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 b day of November, 2023

Typed or Frinted Name of Notary

MY COMMISSION EXPIRES: $5 \cdot 29 \cdot 2021$ HOLLY H. FULLERTON MY COMMISSION EXPIRES 5-29-2024

NOTARY ID: 132499027

Application Fee Form

Texas Commission on Environmental Quality									
Name of Proposed Regulated Entity: Parkside on the River Section 8									
Regulated Entity Location: Located east of Texas Bluebonnet Trail. East of Parkside on the River									
Phase 3 Sections 3A & 3B. Property ID R574025, R312360									
Name of Customer: <u>HM Parkside, LP</u>									
Contact Person: <u>Blake Magee</u> Phone: <u>512-481-0303</u>									
Customer Reference Number (if issued):CN <u>605721653</u>									
Regulated Entity Reference Number (if issued):RN									
Austin Regional Office (3373)									
Havs		🖂 Wil	liamson						
San Antonio Regional Office (3362	2)								
	, 								
			lide						
Comal	Kinney								
Application fees must be paid by c	heck, certified check, or	r money order, payable	e to the Texas						
Commission on Environmental Qu	ality. Your canceled ch	neck will serve as your	receipt. This						
form must be submitted with you	r fee payment . This pa	yment is being submit	ted to:						
🔀 Austin Regional Office	Sa	n Antonio Regional Of	fice						
Mailed to: TCEQ - Cashier	0\	vernight Delivery to: T	CEQ - Cashier						
Revenues Section	12	100 Park 35 Circle							
Mail Code 214	Βι	uilding A, 3rd Floor							
P.O. Box 13088	Au	ustin, TX 78753							
Austin, TX 78711-3088	(5	12)239-0357							
Site Location (Check All That Appl	y):								
🔀 Recharge Zone	Contributing Zone	Transit	ion Zone						
Type of Pla	In	Size	Fee Due						
Water Pollution Abatement Plan,	Contributing Zone								
Plan: One Single Family Residenti	al Dwelling	Acres	\$						
Water Pollution Abatement Plan,	Contributing Zone	Legal boundary =							
Plan: Multiple Single Family Resid	ential and Parks	75.68 Acres	\$ 6,500.00						
Water Pollution Abatement Plan,	Contributing Zone								
Plan: Non-residential	Acres	\$							
Sewage Collection System	L.F.	\$							
Lift Stations without sewer lines	Acres	\$							
Underground or Aboveground Sto	orage Tank Facility	Tanks	\$						
Piping System(s)(only)		Each	\$						
Exception		Each	\$						
Extension of Time	Each	\$							

Signature: Chathe Completel Date: 11/09/2023

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 Area in	
Project	Acres	Fee
One Single Family Residential Dwelling	< 5	\$650
Multiple Single Family Residential and Parks	< 5	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial,	< 1	\$3,000
institutional, multi-family residential, schools, and	1 < 5	\$4,000
other sites where regulated activities will occur)	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$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

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)						ink to s	earch	3.	Regu	ulated	d Entity Referen	ce Number	(if issued)
CN 60572	21653			for (<u>CN or RN</u> Central F	<u>V numb</u> Registry	<u>ers in</u> **	F	RN				
SECTION	II: Cu	stomer Info	ormation										
4. General Co	ustomer I	nformation	5. Effective	Date	for Cus	stomer	· Infor	matio	on Up	odate	s (mm/dd/yyyy)		
New Cust	omer Legal Na	me (Verifiable wit	h the Texas S	Updat Secreta	e to Cu arv of Si	stomer tate or	Inform Texas	natior Com	n Introll	ler of	Change in	Regulated I	Entity Ownership
The Custo	mer Nar	ne submitted	here mav	be ur	odated	auto	mati	cally	bas	sed	on what is cu	rrent and	active with the
Texas Sec	retary o	f State (SOS)	or Texas C	Comp	troller	r of P	ublic	Acc	oun	nts ((CPA).		
6. Customer	Legal Na	me (If an individua	l, print last nam	e first:	eg: Doe	, John)			lf new	v Cus	tomer, enter previ	ious Custome	er below:
HM Parks	ide, LP												
7. TX SOS/CI	PA Filing	Number	8. TX State	Tax II	D (11 digi	ts)		1	9. Fe	edera	I Tax ID (9 digits)	10. DUN	S Number (if applicable)
08031546	83		3206880	5335									
11. Type of C	Customer:	Corporati	on			Individ	ual		Partnership: 🗖 General 🛛 Limited				
Government:	City 🗌	County 🗌 Federal [] State 🗌 Othe	r		Sole P	ropriet	torshi	р		Other:		
12. Number of	of Employ	rees			1 - 6 /				13. Independently Owned and Operated?			ted?	
⊠ 0-20 ≥	21-100	101-250	251-500] 501 a	nd high	ner		×Υ	es			
14. Custome	r Role (Pr	oposed or Actual) -	- as it relates to	the Re	egulated	Entity I	isted or	n this i	form.	Pleas	e check one of the	following:	
⊠Owner □Occupation	nal Licens	ee 🗌 Respo	tor onsible Party		□ 0 □ V	wner 8 oluntar	k Oper y Clea	ator anup A	Applic	cant	Other:		
	1011 N	North Lamar	Boulevard										
15. Mailing													
Address.	City	Austin		S	State	TX		ZIP	7	7870	03	ZIP + 4	
16. Country I	Mailing In	formation (if outs	ide USA)				17. E	E-Mai	Add	dress	(if applicable)		
Blake@blakemageeco.com													
18. Telephone Number 19. Extension or Code 20. Fax Number (if applicable)													
(512)48	(512) 481-0303 () -												

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
 New 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.)

Parkside on the River Section 8

23. Street Address of the Regulated Entity:	Located east of Texas Bluebonnet Trail. East of Parkside on the River Phase 3 Sections 3A & 3B. Property ID R574025, R312360											
(NO FO BOXES)	City	Georgetov		State	T	X	ZIP	786	28	ZIP + 4		
24. County	Williamson County						1				1	
	Ent	er Physical Lo	ocatio	on Description	n if no	o stree	t address is	s provi	ded.			
25. Description to Physical Location:	Located 3A & 3E	Located east of Texas Bluebonnet Trail. East of Parkside on the River Phase 3 Sections 3A & 3B. Property ID R574025, R312360										
26. Nearest City								State		Ne	arest ZIP Code	
Georgetown								ΤХ		78	628	
27. Latitude (N) In Decir	30.607425	30.607425			28. L	8. Longitude (W) In Decim			nal: -97.765361			
Degrees	Minutes		Seco	nds		Degree	jrees Minu		Minutes		Seconds	
30		36		26.37N			97	97		45	55.30W	
29. Primary SIC Code (4 digits) 30. Secondary SIC Code (4 digits) 31. Primary NAICS Code (5 or 6 digits) 32. Secondary NAICS (5 or 6 digits)					ICS Code							
1521					236	5115						
33. What is the Primary B	usiness of t	his entity?	Do not	repeat the SIC or	NAICS	descrip	tion.)					
Land Development -	Single Fa	amily Resid	lenti	ial			-					
	1011 North Lamar Boulevard											
34. Mailing Address:												
	City	Austin		State		ТХ	ZIP		78703	ZIP + 4		
35. E-Mail Address:		blake@blakemageeco.com										
36. Telephone Number				37. Extension or Code			de 38. Fax Number (if applicable)					
(512) 481-0303				(() -		
39. TCEQ Programs and ID form. See the Core Data Form in	Numbers Che structions for a	eck all Programs	and v	write in the perm	its/reg	istratior	n numbers tha	at will be	e affected by	the updates su	bmitted on this	
Dam Safety			Edwards Aquifer			Emissions Inventory Air			Industrial Hazardous Waste			
Municipal Solid Waste	New Source Review Air [OSSF		C	Petroleum Storage Tank			D PWS		
Sludge Storm Water			Title V Air						Used Oil			
Voluntary Cleanup	Waste Water			Wastewater Agriculture		re [Water Rights			Other:		

SECTION IV: Preparer Information

40. Name:	Christine Ca	ampbell		41. Title:	Project Engineer	
42. Telephon	e Number	43. Ext./Code	44. Fax Number	45. E-Mail Address		
(512) 872-6696			() -	christine	.campbell@hrgreen.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:	HR Green Development TX, LLC	Job Title:	Project Engineer			
Name(In Print) :	Christine Campbell			Phone:	(512) 872-6696	
Signature:	Chata Canglul			Date:	11/9/2023	

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NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

SPECIAL WARRANTY DEED

This Special Warranty Deed (this **Deed**) is made as of December <u>36</u>, 2018, by **HCB LAREDO TEXAS, LLC, a** Colorado limited liability company (Grantor), to HM PARKSIDE, LP, a Texas limited partnership (Grantee).

For other valuable consideration to Grantor paid by the Grantee, the receipt of which is acknowledged, Grantor and Grantee agree as follows:

1. <u>Conveyance and Warranty of Title</u>.

Grantor GRANTS, SELLS, and CONVEYS to Grantee, subject to the Permitted Exceptions (defined below), all of the real property (the **Real Property**) more particularly described on **Exhibit** <u>A</u> attached to this Deed, together with all interest of Grantor in:

- any easements, rights-of-way, and rights of ingress or egress that benefit the Real Property;
- any dedicated highway, avenue, street, or alley, in, on, across, in front of, abutting, or adjoining the Real Property or any land lying in or under the bed of any of the foregoing; and
- any strips or gores of land adjoining the Real Property and abutting properties, whether owned or claimed by deed, limitations, or otherwise, and whether or not located inside or outside of the Real Property;

(collectively, the **Property**).

TO HAVE AND TO HOLD the Property, subject to the Permitted Exceptions, together with all and singular the rights and appurtenances thereto in anywise belonging, to Grantee, its successors and assigns, forever; and Grantor binds itself, its successors and assigns, to WARRANT AND FOREVER DEFEND all and singular the Property to Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through, or under Grantor, but not otherwise.

2. <u>Permitted Exceptions</u>.

This Deed is made, and is accepted by Grantee, subject to the restrictions, easements, covenants, encumbrances, and liens described on **Exhibit B** attached to this Deed, but only to the extent that same are in existence and affect the Property (the **Permitted Exceptions**).

EXECUTED as of the date first above written.

<u>GRANTOR</u>:

HCB LAREDO TEXAS, LLC,

a Colorado limited liability company

By: Name: Title: L.J.

Address of Grantee:

HM Parkside LP 1011 N. Lamar Blvd. Austin, Texas 78703

THE STATE OF KANSAS ş ş ş

COUNTY OF JOHNSON

This instrument was acknowledged before me on **December 21**, 2018, by <u>cl D. balsbaugh</u>, <u>Balanter</u> Ville Parisher of HCB LAREDO TEXAS, LLC, a Colorado Michael D. Bulsbauch limited liability company, on behalf of said limited liability company.

[NOTARIA SEAL

NOTARY PUBLIC - State of Kansas LINDSAY JAMES My Appt. Expires

imias Notary Public in and for The 3 LINDGA Print Name: My Commission Expires:

Exhibit A

Real Property

Tract 1:

1,143.511 acres of land in Williamson County, Texas, being more particularly described as 1,156.001 acres described on <u>Exhibit A-1</u> attached hereto and incorporated herein, SAVE AND EXCEPT 9.410 acres described on <u>Exhibit A-2</u> attached hereto and incorporated herein and SAVE AND EXCEPT 3.080 acres described on <u>Exhibit A-3</u> attached hereto and incorporated herein and

Tract 2:

Lot 2, Block G, Water Oak North Section 1, a subdivision in Williamson County, Texas, according to the map or plat thereof recorded under Document No. 2013033404, Official Public Records of Williamson County, Texas.

EXHIBIT A-1

County:WilliamsonProject:Water Oak SouthJob No.:A180801MBS No.:18-005

FIELD NOTES FOR 1156.001 ACRES

Being a tract containing 1,156.001 acres of land located in the I. Donagan Survey, Abstract Number 178, the J. Thompson Survey, Abstract Number 608, the Key West Irrigation Survey, Abstract Number 711, the I.&G.N. R.R. Survey, Abstract number 744, the J.D. Johns Survey, Abstract Number 365, the W.E. Pate Survey, Abstract Number 836, the D. Medlock Survey, Abstract Number 839, in Williamson County, Texas; Said 1,156.001 acre tract being a call 195.193 acre tract of land recorded in the name of Laredo Wo, Ltd. in Williamson County Clerk's File (W.C.C.F.) Number 2007014280, a call 71.001 acre tract of land recorded in the name of Laredo Wo, Ltd. in W.C.C.F. Number 2007014281, call 77.399 acre, 44.314 acre, and 203.137 acre tracts of land recorded in the name of Laredo Wo, Ltd. in W.C.C.F. Number 2007014282, call 330.24 acre and 15.56 acre tracts of land recorded in the name of Laredo Wo, Ltd. in W.C.C.F. Number 2007014285, a call 0.368 acre tract of land recorded in the name of Laredo Wo, Ltd. in W.C.C.F. Number 2008039394, and a call 6.190 acre tract of land recorded in the name of Laredo Wo, Ltd. in W.C.C.F. Number 2009022803, and a portion of a call 192.314 acre tract of land recorded in the name of Laredo Wo, Ltd. in W.C.C.F. Number 2007014289, a call 3.080 acre tract of land recorded in the name of Austin WO, LLC in W.C.C.F. Number 2014011207 and a call 324.00 acre tract of land recorded in the name of Laredo Wo, Ltd. in W.C.C.F. Number 2007014278; Said 1,156.001 acres being more particularly described by metes and bounds descriptions as follows (bearings are referenced to the Texas Coordinate System, NAD 1983, Central Zone):

Beginning at a 1/2-inch iron rod found at the southwesterly corner of said 6.190 acre tract, the southeasterly corner of a call 47.420 acre tract of land recorded in the name of Georgetown Properties II, LLC in W.C.C.F. Number 2012043969 and the northerly Right-of-Way (R.O.W.) line of F.M. 2243 (80-feet width);

Thence, with the easterly line of said 47.420 acre tract, the following sixteen (16) courses:

- 1. North 28 degrees 25 minutes 04 seconds East, a distance of 160.70 feet to a 1/2-inch iron rod found;
- 155.33 feet along the arc of a curve to the left, said curve having a central angle of 16 degrees 06 minutes 30 seconds, a radius of 552.50 feet and a chord which bears North 18 degrees 24 minutes 54 seconds West, a distance of 154.82 feet to a 1/2-inch iron rod found;
- 3. North 26 degrees 28 minutes 10 seconds West, a distance of 157.44 feet to a 1/2-inch iron rod found;

- 4. 38.91 feet along the arc of a curve to the left, said curve having a central angle of 89 degrees 10 minutes 31 seconds, a radius of 25.00 feet and a chord which bears North 71 degrees 03 minutes 54 seconds West, a distance of 35.10 feet to a 1/2-inch iron rod set;
- 5. North 27 degrees 14 minutes 19 second West, a distance of 65.03 feet to a 1/2-iron rod set;
- 6. 39.79 feet along the arc of a curve to the left, said curve having a central angle of 91 degrees 11 minutes 17 seconds, a radius of 25.00 feet and a chord which bears North 19 degrees 07 minutes 36 seconds East, a distance of 35.72 feet to a 1/2-inch iron rod set;
- 7. North 26 degrees 28 minutes 10 seconds West, a distance of 150.25 feet to a 1/2-inch iron rod set;
- 8. 674.40 feet along the arc of a curve to the right, said curve having a central angle of 45 degrees 58 minutes 22 seconds, a radius of 840.50 feet and a chord which bears North 03 degrees 28 minutes 59 seconds West, a distance of 656.45 feet to a 1/2-inch iron rod set;
- 9. 203.98 feet along the arc of a curve to the left, said curve having a central angle of 22 degrees 04 minutes 18 seconds, a radius of 529.52 feet and a chord which bears South 77 degrees 26 minutes 54 seconds West, a distance of 202.72 feet to a 1/2-inch iron rod set;
- 10. North 32 degrees 58 minutes 10 seconds West, a distance of 44.22 feet to a 1/2-iron rod set;
- 11. North 34 degrees 39 minutes 43 seconds West, a distance of 239.78 feet to a 1/2-inch iron rod found;
- 12. North 55 degrees 20 minutes 17 seconds East, a distance of 450.00 feet, from which a 1/2inch iron rod found, bears South 61 degrees East a distance of 0.49 feet;
- 13. North 34 degrees 39 minutes 43 seconds West, a distance of 97.07 feet to a 1/2-inch iron rod set;
- 14. 124.70 feet along the arc of a curve to the left, said curve having a central angle of 119 degrees 05 minutes 02 seconds, a radius of 60.00 feet and a chord which bears North 24 degrees 52 minutes 55 seconds East, a distance of 103.44 feet, from which a 1/2-inch iron rod found, bears South 68 degrees East, a distance of 0.55 feet;
- 15. North 55 degrees 20 minutes 17 seconds East, a distance of 120.00 feet to a 1/2-inch iron rod found;

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16. North 34 degrees 39 minutes 43 seconds West, a distance of 126.11 feet to an easterly line of The Preserve Phase 1, a subdivision recorded in Cabinet EE, Slide Number 310-316 of the Williamson County Plat Records (W.C.P.R.), from which a 1/2-inch iron rod found, bears South 67 degrees East, a distance of 0.66 feet;

Thence, with the easterly line of said The Preserve Phase 1, the following twelve (12) courses:

- 1. North 80 degrees 20 minutes 05 seconds East, a distance of 307.48 feet to a 1/2-inch iron rod set;
- 2. North 23 degrees 41 minutes 11 seconds West, a distance of 279.38 feet to a 1/2-inch iron rod set;
- 3. 31.65 feet along the arc of a curve to the left, said curve having a central angle of 72 degrees 13 minutes 47 seconds, a radius of 25.11 feet and a chord which bears North 63 degrees 28 minutes 50 seconds West, a distance of 29.60 feet to a 1/2-inch iron rod set;
- 4. North 09 degrees 39 minutes 51 seconds West, a distance of 50.00 feet to a 1/2-inch iron rod set;
- 5. North 80 degrees 20 minutes 05 seconds East, a distance of 155.74 feet to a 1/2-inch iron rod found;
- 6. North 21 degrees 06 minutes 30 seconds West, a distance of 186.45 feet to a 1/2-inch iron rod set;
- 7. North 30 degrees 29 minutes 37 seconds West, a distance of 233.35 feet to a 1/2-inch iron rod found;
- 8. North 23 degrees 41 minutes 11 seconds West, a distance of 528.84 feet to a cotton spindle found;
- 9. South 66 degrees 44 minutes 24 seconds West, a distance of 125.00 feet to a 1/2-inch iron rod set;
- 10. North 23 degrees 41 minutes 11 seconds West, a distance of 409.01 feet to a 1/2-inch iron rod found;
- 11. North 68 degrees 45 minutes 39 seconds East, a distance of 108.54 feet to a 1/2-inch iron rod found;
- 12. North 21 degrees 14 minutes 21 seconds West, a distance of 714.47 feet to the easterly line of a call 60.5184 acre tract of land recorded in the name of AVP Ranch, Ltd. in W.C.C.F. Number 2011081794, from which a 1/2-inch iron rod found, bears North 27 degrees West, a distance of 0.68 feet;

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Thence, with said easterly line, North 14 degrees 11 minutes 42 seconds East, a distance of 1,508.94 feet to a 1/2-inch iron rod set at the southwesterly corner of a call 314.00 acre tract of land recorded in the name of Georgetown Properties II in W.C.C.F. Number 2012043969;

Thence, with the southerly line of said 314.00 acre tract, the following ten (10) courses:

- 1. South 75 degrees 48 minutes 18 seconds East, a distance of 431.73 feet to a 1/2-inch iron rod found;
- 2. 326.94 feet along the arc of a curve to the right, said curve having a central angle of 32 degrees 24 minutes 32 seconds, a radius of 578.00 feet and a chord which bears South 59 degrees 36 minutes 01 seconds East, a distance of 322.60 feet to a 1/2-inch iron rod found;
- 3. South 43 degrees 23 minutes 44 seconds East, a distance of 1,170.13 feet to a 1/2-iron rod found;
- 4. 175.01 feet along the arc of a curve to the right, said curve having a central angle of 09 degrees 18 minutes 07 seconds, a radius of 1078.00 feet and a chord which bears North 55 degrees 24 minutes 17 seconds East, a distance of 174.82 feet to a 1/2-inch iron rod found;
- 5. North 60 degrees 03 minutes 21 seconds East, a distance of 538.21 feet, from which a 1/2inch iron rod found, bears South 23 degrees West, a distance of 0.50 feet;
- 6. 839.65 feet along the arc of a curve to the left, said curve having a central angle of 52 degrees 10 minutes 41 seconds, a radius of 922.00 feet and a chord which bears North 33 degrees 58 minutes 00 seconds East, a distance of 810.93 feet to a 1/2-inch iron rod found;
- 7. North 07 degrees 52 minutes 40 seconds East, a distance of 108.32 feet to a 1/2-inch iron rod set;
- 8. 1,349.11 feet along the arc of a curve to the right, said curve having a central angle of 79 degrees 02 minutes 14 seconds, a radius of 978.00 feet and a chord which bears North 47 degrees 23 minutes 47 seconds East, a distance of 1,244.66 feet to a 1/2-inch iron rod found;
- 9. North 86 degrees 54 minutes 53 seconds East, a distance of 321.28 feet to a 1/2-inch iron rod found;
- 10. 75.21 feet along the arc of a curve to the right, said curve having a central angle of 03 degrees 59 minutes 50 seconds, a radius of 1078.00 feet and a chord which bears North 88 degrees 54 minutes 08 seconds East, a distance of 75.19 feet to a 1/2-inch iron rod set at the southeasterly corner of said 314.00 acre tract and the westerly line of aforesaid 203.137 acre tract;

Thence, with the easterly line of said 314.00 acre tract, the following two (2) courses:

- 1. North 22 degrees 05 minutes 52 seconds West, a distance of 1596.68 feet to a 1-inch iron pipe found;
- 2. North 22 degrees 18 minutes 08 seconds West, a distance of 624.71 feet to the northeasterly corner of said 314.00 acre tract, the northwesterly corner of aforesaid 324.00 acre tract, a southerly corner of aforesaid 192.314 acre tract, and the centerline of South San Gabriel River;

Thence, with a northerly line of said 314.00 acre tract and the meanders of said centerline, South 68 degrees 48 minutes 05 seconds West, a distance of 57.92 feet to the southeasterly corner of a call 168.62 acre tract of land recorded in the name of Zamin, L.P. in W.C.C.F. Number 201403274 and the most southerly corner of said 192.314 acre tract;

Thence, with the easterly line of said 168.62 acre tract, the following ten (10) courses:

- 1. North 00 degrees 10 minutes 15 seconds West, a distance of 94.12 feet to a 1/2-inch iron rod set;
- 2. North 00 degrees 06 minutes 25 seconds East, a distance of 765.27 feet to a 1/2-inch iron rod (1847 cap) found;
- 3. North 00 degrees 15 minutes 54 seconds West, a distance of 374.43 feet to a nail in fence post found;
- 4. North 04 degrees 32 minutes 45 seconds East, a distance of 49.08 feet to a 1/2-inch iron rod set;
- 5. North 02 degrees 05 minutes 56 seconds East, a distance of 31.02 feet to a 1/2-inch iron rod set;
- 6. North 00 degrees 04 minutes 52 seconds East, a distance of 74.51 feet to a 1/2-inch iron rod set;
- 7. North 02 degrees 25 minutes 02 seconds West, a distance of 79.29 feet to a 1/2-inch iron rod (1847 cap) found;
- 8. North 00 degrees 29 minutes 19 seconds West, a distance of 311.09 feet to a 26-inch pine tree;
- 9. North 01 degrees 10 minutes 38 seconds West, a distance of 96.13 feet to a nail in a 30inch cedar tree found;

10. North 02 degrees 08 minutes 59 seconds East, a distance of 140.61 feet to a nail in a 28inch oak tree found at the southwesterly corner of a call 106.00 acre tract of land recorded in the name of Zamin, L.P. in W.C.C.F. Number 2010065268;

Thence, with the southerly line of said 106.00 acre tract, the following thirteen (13) courses:

- 1. South 36 degrees 25 minutes 52 seconds East, a distance of 145.97 feet to a 1/2-inch iron rod found;
- 2. South 40 degrees 04 minutes 40 seconds East, a distance of 159.64 feet to a 1/2-inch iron rod found;
- 3. South 65 degrees 38 minutes 47 seconds East, a distance of 83.14 feet to a 1/2-inch iron rod found;
- 4. North 88 degrees 53 minutes 22 seconds East, a distance of 622.87 feet to a cotton spindle found;
- 5. North 69 degrees 06 minutes 39 seconds East, a distance of 153.64 feet to a cotton spindle found;
- 6. North 67 degrees 02 minutes 44 seconds East, a distance of 133.64 feet to a 1/2-inch iron rod found;
- 7. South 27 degrees 21 minutes 25 seconds East, a distance of 172.95 feet to a 1/2-inch iron rod found;
- 8. South 36 degrees 36 minutes 32 seconds East, a distance of 272.53 feet to a 1/2-inch iron rod found;
- 9. South 82 degrees 53 minutes 15 seconds East, a distance of 115.61 feet to a 1/2-inch iron rod set;
- 10. North 56 degrees 07 minutes 11 seconds East a distance of 186.34 feet to a 1/2-inch iron rod found;
- 11. North 07 degrees 51 minutes 19 seconds West, a distance of 67.58 feet to a to a 1/2-inch iron rod found;
- 12. North 34 degrees 57 minutes 21 seconds West, a distance of 1007.97 feet to a 1/2-inch iron rod found;
- North 55 degrees 43 minutes 32 seconds East, a distance of 579.96 feet to a 1/2-inch iron rod found at a westerly corner of a call 26.673 acre tract of land recorded in the name of Chesmar Homes Austin LLC in W.C.C.F. Number 2013095985;

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Thence, with the southerly line of said 26.673 acre tract and the southerly line of a call 21.255 acre tract of land recorded in the name of Chesmar Homes Austin LLC. in W.C.C.F. Number 2018039081, the following nineteen (19) courses:

- 1. South 32 degrees 47 minutes 04 seconds East, a distance of 44.07 feet to a 1/2-inch iron rod set;
- 2. South 57 degrees 12 minutes 56 seconds West, a distance of 102.66 feet to a 1/2-inch iron rod set;
- 3. South 14 degrees 17 minutes 30 seconds East, a distance of 224.58 feet to a 1/2-inch iron rod set;
- 4. South 65 degrees 02 minutes 43 seconds East, a distance of 102.90 feet to a 1/2-inch iron rod set;
- 5. South 31 degrees 01 minutes 16 seconds East, a distance of 404.11 feet to a 1/2-inch iron rod set;
- 6. South 04 degrees 15 minutes 14 seconds West, a distance of 202.68 feet to a 1/2-inch iron rod set;
- 7. South 04 degrees 50 minutes 11 seconds West, a distance of 99.31 feet to a 1/2-inch iron rod set;
- 8. South 41 degrees 38 minutes 10 seconds East, a distance of 114.53 feet to a 1/2-inch iron rod set;
- 9. South 55 degrees 58 minutes 17 seconds East, a distance of 65.00 feet to a 1/2-inch iron rod set;
- 10. 49.41 feet along the arc of a curve to the right, said curve having a central angle of 14 degrees 31 minutes 09 seconds, a radius of 194.99 feet and a chord which bears South 84 degrees 07 minutes 03 seconds East, a distance of 49.28 feet to a 1/2-inch iron rod set;
- 11. South 80 degrees 23 minutes 52 seconds East, a distance of 35.39 feet to a 1/2-inch iron rod set;
- 12. South 83 degrees 07 minutes 59 seconds East, a distance of 260.77 feet to a 1/2-inch iron rod set;
- 13. South 73 degrees 37 minutes 51 seconds East, a distance of 287.96 feet to a 1/2-inch iron rod set;
- 14. North 83 degrees 40 minutes 45 seconds East, a distance of 84.78 feet to a 1/2-inch iron rod set;

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- 15. North 06 degrees 19 minutes 15 seconds West, a distance of 176.09 feet to a 1/2-inch iron rod set;
- 16. 60.98 feet along the arc of a curve to the left, said curve having a central angle of 15 degrees01 minutes 43 seconds, a radius of 232.50 feet and a chord which bears North 68 degrees07 minutes 46 seconds East, a distance of 60.81 feet to a 1/2-inch iron rod set;
- 17. North 60 degrees 36 minutes 55 seconds East, a distance of 246.19 feet to a 1/2-inch iron rod set;
- 18. 39.28 feet along the arc of a curve to the right, said curve having a central angle of 90 degrees 01 minutes 54 seconds, a radius of 25.00 feet and a chord which bears South 74 degrees 23 minutes 05 seconds East, a distance of 35.36 feet to a 1/2-inch iron rod set;
- 19. North 60 degrees 36 minutes 55 seconds East, a distance of 55.00 feet to a 1/2-inch iron rod set at a westerly corner of a call 24.958 acre tract of land recroded in the name of ABG Water Oak Partners, Ltd. in W.C.C.F. Number 2014071868;

Thence, with the southerly line of said 24.958 acre tract, the following ten (10) courses:

- 1. South 03 degrees 29 minutes 46 seconds East, a distance of 31.45 feet to a 1/2-inch iron rod set;
- 2. South 03 degrees 43 minutes 00 seconds East, a distance of 299.26 feet to a 1/2-inch iron rod set;
- 3. 90.18 feet along the arc of a curve to the right, said curve having a central angle of 05 degrees 53 minutes 18 seconds, a radius of 877.50 feet and a chord which bears South 00 degrees 46 minutes 21 seconds East, a distance of 90.14 feet to a 1/2-inch iron rod set;
- 4. South 01 degrees 24 minutes 06 seconds East, a distance of 233.95 feet to a 1/2-inch iron rod set;
- 5. South 73 degrees 49 minutes 36 seconds East, a distance of 545.48 feet to a 1/2-inch iron rod set;
- 6. South 89 degrees 06 minutes 15 seconds East, a distance of 70.34 feet to a 1/2-inch iron rod set;
- 7. South 83 degrees 26 minutes 51 seconds East, a distance of 1532.87 feet to a 1/2-inch iron rod set;
- 8. North 85 degrees 29 minutes 19 seconds East, a distance of 278.11 feet to a 1/2-inch iron rod set;

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- 9. North 04 degrees 30 minutes 41 seconds West, a distance of 130.00 feet to a 1/2-inch iron rod set;
- North 85 degrees 29 minutes 19 seconds East, a distance of 160.52 feet to a 1/2-inch iron rod set on the westerly line of a call 32.61 acre tract of land recorded in the name of William Charles Bagwell, Et Ux in Volume 2438, Page 0499 of the Williamson County Deed Records (W.C.D.R.);

Thence, with the westerly line of said 32.61 acre tract, the following two (2) courses:

- 1. South 09 degrees 08 minutes 19 seconds East, a distance of 233.24 feet to a 1/2-inch iron rod found;
- 2. South 00 degrees 25 minutes 18 seconds East, a distance of 188.62 feet to the northerly line of a call 190.40 acre tract of land recorded in the name of Texas Crushed Stone Company in Volume 743, Page 47 of the W.C.D.R. and the said centerline of the South San Gabriel River;

Thence, with the meanders of said centerline, the following seven (7) courses:

- 1. South 87 degrees 44 minutes 31 seconds West, a distance of 362.99 feet;
- 2. North 78 degrees 02 minutes 28 seconds West, a distance of 85.59 feet;
- 3. South 80 degrees 19 minutes 11 seconds West, a distance of 148.88 feet;
- 4. South 65 degrees 08 minutes 13 seconds West, a distance of 207.18 feet;
- 5. North 66 degrees 16 minutes 04 seconds West, a distance of 40.94 feet;
- 6. North 89 degrees 30 minutes 57 seconds West, a distance of 541.24 feet;
- 7. North 79 degrees 08 minutes 16 seconds West, a distance of 180.05 feet to a 5/8-inch iron rod set for the northwesterly corner of said 190.40 acre tract;

Thence, leaving said centerline, with the westerly line of said 190.40 acre tract, the following seven (7) courses:

- 1. South 01 degrees 52 minutes 12 seconds East, a distance of 1026.81 feet to a 1/2-inch iron rod (1847 cap) found;
- 2. South 01 degrees 10 minutes 35 seconds East, a distance of 167.70 feet to a 1/2-inch iron rod found;
- 3. South 00 degrees 03 minutes 35 seconds West, a distance of 341.80 feet to a 1-inch iron pipe found;

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- 4. South 06 degrees 25 minutes 15 seconds East, a distance of 359.37 feet to a 5/8-inch iron rod set;
- 5. South 01 degrees 45 minutes 07 seconds East, a distance of 480.85 feet to a 1/2-inch iron rod found;
- 6. South 02 degrees 48 minutes 39 seconds East, a distance of 258.38 feet to a nail found;
- South 02 degrees 30 minutes 15 seconds East, a distance of 1139.73 feet to a 1/2-inch iron rod found at a northerly corner of a call 77.902 acre tract of land recorded in the name of Edwin H. Vale, Jr in W.C.C.F. Number 2017014736;

Thence, with the northerly and westerly line of said 77.902 acre tract, the following seven (7) courses:

- 1. South 68 degrees 13 minutes 42 seconds West, a distance of 128.79 feet to a cotton spindle found;
- 2. North 36 degrees 37 minutes 28 seconds West, a distance of 381.75 feet to a 1/2-inch iron rod found;
- 3. North 68 degrees 46 minutes 05 seconds West, a distance of 137.51 feet to a 1/2-inch iron rod found;
- 4. South 84 degrees 17 minutes 41 seconds West, a distance of 214.68 feet to a 1/2-inch iron rod found;
- 5. South 71 degrees 34 minutes 53 seconds West, a distance of 180.12 feet to a 1/2-inch iron rod found;
- 6. South 75 degrees 44 minutes 55 seconds West, a distance of 433.46 feet to a cotton spindle found;
- 7. South 80 degrees 42 minutes 01 seconds West, a distance of 377.54 feet to a 1/2-inch iron rod found, said iron rod being the most northerly northeast corner of a called 3.080 acre tract of land called Road Easement in W.C.C.F. No. 2014011208;

Thence, through and across aforesaid 77.902 acre tract and with the easterly line of said road easement, 764.64 feet along the arc of a curve to the right, said curve having a central angle of 49 degrees 52 minutes 11 seconds, a radius of 878.50 feet and a chord which bears South 46 degrees 35 minutes 20 seconds East, a distance of 740.73 feet to a 5/8-inch iron rod set on the southerly line of said 77.902 acre tract, also being on the northerly line of aforesaid 195.193 acre tract;

Thence, with a southerly of said 77.902 acre tract, North 68 degrees 08 minutes 38 seconds East, a distance of 901.90 feet to a nail found at a northwesterly corner of said 77.902 acre tract;
Thence with the westerly line of said 77.902 acre tract, South 20 degrees 54 minutes 54 seconds East, a distance of 3,791.46 feet to the northerly R.O.W. line of aforesaid F.M. 2243, from which a 1/2-inch iron rod found bears North 22 degrees East, a distance of 0.50 feet;

Thence, with said northerly R.O.W. line, the following five (5) courses:

- 1. South 69 degrees 01 minutes 48 seconds West, a distance of 1,585.42 feet to a concrete monument found;
- 2. 849.64 feet along the arc of a curve to the right, said curve having a central angle of 17 degrees 14 minutes 00 seconds, a radius of 2,824.79 feet and a chord which bears South 77 degrees 38 minutes 50 seconds West, a distance of 846.44 feet, from which a concrete monument found, bears North 28 degrees East, a distance of 0.50 feet;
- 3. South 86 degrees 15 minutes 50 seconds West, a distance of 563.49 feet to a 1/2-inch iron rod set;
- 4. 562.37 feet along the arc of a curve to the left, said curve having a central angle of 16 degrees 31 minutes 30 seconds, a radius of 1,949.86 feet and a chord which bears South 78 degrees 00 minutes 05 seconds West, a distance of 560.42 feet, from which a concrete monument found, bears North 82 degrees East, a distance of 0.90 feet;
- 5. South 69 degrees 44 minutes 20 seconds West, a distance of 71.58 feet to a 1/2-inch iron rod (1847 cap) found at the southwesterly corner of aforesaid 71.001 acre tract, also being the southeasterly corner of a call 22.60 acre tract of land recorded in the name of Dufner, Elizabeth Anne in W.C.C.F. Number 2014063697.

Thence, leaving said R.O.W. line, with the westerly line of said 71.001 acre tract, North 10 degrees 42 minutes 53 seconds West, a distance of 2,663.31 feet to the northwesterly corner of the said 71.001 acre tract, and the northeasterly corner of said 22.60 Acre tract, from which a cotton spindle found bears North 16 degrees 21 minutes 55 seconds East, a distance of 0.50 feet;

Thence, with said northerly line of a said 22.60 acre tract, and a call 17.60 acre tract of land recorded in the name of Elizabeth Anne Dufner in W.C.C.F. Number 2014063597, and a call 93.60 acre tract of land recorded in the name of Arthur and Gordon Faubion in W.C.C.F. Number 2005043418, styled tract A. the following five (5) courses:

- 1. South 69 degrees 14 minutes 42 seconds West, a distance of 375.66 feet to a 1/2-inch iron rod set;
- 2. South 69 degrees 12 minutes 50 seconds West, a distance of 185.31 feet to a 1/2-inch iron rod set;
- 3. South 69 degrees 16 minutes 08 seconds West, a distance of 386.65 feet to 1/2-inch iron rod found;

- 4. South 69 degrees 43 minutes 16 seconds West, a distance of 277.23 feet to a 1/2-inch iron rod (1847 cap) found;
- 5. South 69 degrees 32 minutes 42 seconds West, a distance of 957.57 feet to a 1/2-iron rod (1847 cap) found at the northwesterly corner of said 93.60 acre tract;

Thence, with the westerly line of said 93.60 acre tract, the following three (3) courses:

- 1. South 21 degrees 20 minutes 43 seconds East, a distance of 854.12 feet to a 1/2-iron rod (1847 cap) found;
- 2. South 20 degrees 57 minutes 06 seconds East, a distance of 930.97 feet to a 1/2-inch iron rod found;
- 3. South 20 degrees 43 minutes 36 seconds East, a distance of 754.25 feet to the aforesaid northerly R.O.W. line of F.M. 2243, from which a 1/2-inch iron rod found, bears South 01 degree East, a distance of 0.39 feet;

Thence, with said northerly R.O.W. line, the following three (3) courses:

- 63.33 feet along the arc of a curve to the right, said curve having a central angle of 00 degree 38 minutes 16 seconds, a radius of 5,689.53 feet and a chord which bears South 78 degrees 04 minutes 28 seconds West, a distance of 63.33 feet to a 1/2-inch iron rod set;
- 2. South 79 degrees 37 minutes 29 seconds West, a distance of 2,643.52 feet to a 1/2-inch iron rod found;
- 3. South 79 degrees 44 minutes 55 seconds West, a distance of 201.05 feet to the **Point of Beginning** and containing 1,156.001 acres of land.

GBI Partners, L.P. Ph: 512-296-2675 December 20, 2018



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EXHIBIT A-2

County:WilliamsonProject:Water Oak SouthJob No.:A180801MBS No.:15-128

FIELD NOTES FOR 9.410 ACRES

Being a 9.410 acre tract of land located in the J. Thompson Survey, Abstract Number 608 and being a portion of a called 77.902 acre tract of land recorded in the name of Edwin H. Hale, Jr. in W.C.C.F. No. 2017014736, said 9.410 acres being more particularly described by metes and bounds descriptions as follows (bearings are referenced to the Texas Coordinate System, NAD 1983, Central Zone);

Beginning at a 1/2-inch iron rod found at the most westerly corner of said 9.410 acre tract, the northerly line of aforesaid 195.193 acre tract, and an easterly line of aforesaid 77.399 acre tract;

Thence, with the westerly line of said 9.410 acre tract, 837.65 feet along the arc of a curve to the right, said curve having a central angle of 34 degrees 46 minutes 41 seconds, a radius of 1380.00 feet and a chord which bears North 03 degrees 17 minutes 54 seconds East, a distance of 824.85 feet to a 1/2-inch iron rod found at the southerly corner of aforesaid 203.137 acre tract;

Thence, through and across said 77.902 acre tract, the following two (2) courses:

- 231.13 feet along the arc of a curve to the left, said curve having a central angle of 12 degrees 16 minutes 44 seconds, a radius of 1078.50 feet and a chord which bears South 70 degrees 45 minutes 37 seconds East, a distance of 230.69 feet to a 1/2-inch iron rod set;
- 2. 696.23 feet along the arc of a curve to the right, said curve having a central angle of 55 degrees 17 minutes 21 seconds, a radius of 721.50 feet and a chord which bears South 49 degrees 15 minutes 19 seconds East, a distance of 669.53 feet to a 1/2-inch iron rod found on the northerly line of aforesaid 195.193 acre tract;

Thence, with said northerly line, the following two courses:

- 1. South 68 degrees 09 minutes 20 seconds West, a distance of 590.44 feet to a 1/2-inch iron rod (1847 cap) found;
- 2. South 67 degrees 58 minutes 56 seconds West, a distance of 242.14 feet to the Point of Beginning and containing 9.410 acres of land.

GBI Partners, L.P. Ph: 512-296-2675 October 17, 2018 DESCRIPTION OF 3.080 ACRES OF LAND OUT OF THE J. THOMPSON SURVEY, ABSTRACT NO. 608, SITUATED IN WILLIAMSON COUNTY, TEXAS; BEING A PORTION OF THAT CERTAIN 168.32 ACRE TRACT DESCRIBED IN A DEED TO CHARLIE A. BARTON AND WIFE, OLLIE A. BARTON OF RECORD IN VOLUME 470, PAGE 303 OF THE DEED RECORDS OF WILLIAMSON COUNTY, TEXAS, SAID 3.080 ACRES BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

1.13

COMMENCING, at a 1/2 inch iron rod with cap found for the northwesterly corner of that certain 195.2 acre tract described as "Tract C", in a deed to Donald C. Faubion, an undivided 47%; Debra Ann Faubion, an undivided 26.5%; and Cynthia Jo Barba, an undivided 26.5% by the Partition and Exchange Deed of record in Document No. 2005043418 of the Official Public Records of Williamson County, Texas, the same being an angle point in the southerly line of said 168.32 acre tract and an angle point in the occupied easterly line of that certain 100 acre tract conveyed to Charles Grady Barton, of record in Volume 899, Page 791 of said Deed Records, also being the Point of Beginning of a Boundary Line Agreement recorded in Document No. 2005007159 of said Official Public Records;

THENCE, along the northerly line of said 195.2 acre tract and southerly line of said 168.32 acre tract, the following three courses and distances:

- 1) N67°59'04"E, a distance of 312.47 feet to a /2 inch iron rod with cap found;
- 2) N67°58'56"E, a distance of 378.76 feet to a 1/2 inch iron rod with cap found;
- 3) N68°09'20"E, a distance of 590.44 feet to a 1/2 inch iron rod with cap set for the POINT OF BEGINNING and the southwesterly corner hereof;

THENCE, leaving the northerly line of said 195.2 acre tract, over and across said 168.32 acre tract, along the westerly, northerly and easterly lines hereof, the following four (4) courses and distances:

- Along a curve to the left having a radius of 721.50 feet, a central angle of 55°17'21", an arc length of 696.23 feet, a chord which bears N49°15'19"W, a distance of 669.53 feet to a 1/2 inch iron rod with cap set for a point of reverse curvature to the right;
- 2) Along said reveres curve to the right having a radius of 1078.50 feet, a central angle of 12°16'44", an arc length of 231.13 feet, a chord which bears N70°45'37"W, a distance of 230.69 feet to a 1/2 inch iron rod with cap set for the northwesterly corner hereof;
- 3) N80°42'01"E, a distance of 337.11 feet to a 1/2 inch iron rod with cap set for the point of curvature of a curve to the right;
- 4) Along said curve to the right having a radius of 878.50 feet, a central angle of 49°52'11", an arc length of 764.64 feet, a chord which bears S46°35'20"E, a distance of 740.73 feet to a 1/2 inch iron rod with cap set in the southerly line of said 168.32 acre tract for the southeasterly corner hereof, from which a 60-D nail found in concrete at the base of a metal fence post, for the common northerly corner of said 195.2 acre tract and that certain 51.56 acre tract described in the deed to Charles Grady Barton, of record in Volume 1976, Page 703, of the Official Records of Williamson County, Texas bears N68°08'39"E, a distance of 1031.81 feet;

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THENCE, along the northerly line of said 195.2 acre tract and the southerly line of said 168.32 acre tract, the following two (2) courses and distances:

- 1) S68°08'39"W, a distance of 129.91 feet to a 2 inch pipe fence post found;
- 2) S68°09'20"W, a distance of 27.09 feet to the POINT OF BEGINNING, containing an area of 3.080 acres (134,164 square feet) of land, more or less, within these metes and bounds.

BEARING BASIS: THE BASIS OF BEARINGS FOR THIS SURVEY IS THE TEXAS COORDINATE SYSTEM, NAD83(96) CENTRAL ZONE, ESTABLISHED BY NGS OPUS SOLUTION USING CORS STATIONS DF5370, AF9638, DF4062, & DE5999.

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<u>Exhibit B</u>

Permitted Exceptions

- 1. Restrictions contained in plat recorded under Document No. 2013033404, Official Public Records of Williamson County, Texas (Tract 2 only).
- 2. Environmental setback as shown on the plat recorded in Cabinet EE, Slide 310 of the Plat Records of Williamson County, Texas, as shown on the Survey dated December 20, 2018, prepared by Alan Jay Horton, Registered Professional Land Surveyor No. 5768 (the "Survey"). (TRACT 1)
- 3. Pipeline easement granted to Seminole Pipeline Company, by instrument dated July 1, 1981, recorded in Volume 844, Page 624 of the Deed Records of Williamson County, Texas and as amended in Volume 2171, Page 554 of the Official Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 4. Petroleum pipeline easement granted to Seminole Pipeline Company as recorded in Volume 851, Page 698 of the Official Public Records and as amended in Volume 2244, Page 297 of the Official Public Records and under Document No. 2018066453 of the Official Public Records, all of Williamson County, Texas. (TRACT 1)
- 5. 15 foot public utility easement dated August 9, 1999, granted by Norma Nell Faubion et al to City of Georgetown, recorded under Document No. 199955406 of the Official Public Records of Williamson County, Texas. (TRACT 1)
- 6. 15 foot utility easement executed by Anne V. Patience to City of Georgetown, dated April 29, 1999, recorded under Document No. 199968547 of the Real Property Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- Notice of Voluntary Inclusion into the Extraterritorial Jurisdiction of the City of Georgetown dated 10/12/1999 and recorded under Document No. 199971384 of the Official Public Records of Williamson County, Texas. (TRACT 1)
- 8. Water line easement executed by Thomas E. Dreiss, Trustee, to Brushy Creek Municipal Utility District, dated March 1, 2004. recorded under Document No. 2004018609 of the Real Property Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 9. Water line easement dated April 15, 2004, granted by Grady Barton and Carrie Ann Barton-Smith to Brushy Creek Municipal Utility District, recorded under Document No. 2004029224 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 10. Water line easement granted to Brushy Creek Municipal Utility District, by instrument dated June 22, 2004, recorded under Document No. 2004049691 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 11. Water line easement dated June 1, 2005, granted by Debra Ann Faubion et al to Brushy Creek Municipal Utility District, recorded under Document No. 2005040893 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)

- 12. All interests in water, together with all rights relating thereto, express or implied, reserved in instrument recorded under Document No. 2007014282 of the Official Records of Williamson County, Texas. (TRACT 1)
- 13. All oil, gas and other minerals, together with all rights relating thereto, express or implied, reserved in instrument recorded under Document No. 2007014282 of the Official Records of Williamson County, Texas. (TRACT 1)
- 14. Road Easement created in that certain Road and Sewer Line Easement Agreement dated February 22, 2007, recorded under Document No. 2007014284 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 15. Terms, conditions and stipulations of Road Improvements and Sewer Line Development and Conditional Easement Agreement by and between Thomas E. Dreiss, Trustee, and Laredo WO, Ltd., a Texas limited partnership, dated February 22, 2007, and recorded under Document No. 2007014288 of the Official Public Records of Williamson County, Texas, and as further affected by Document No. 2009022806 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 16. Amended and Restated Development Agreement filed of record under Document No. 2012027844, and as further affected under Document Nos. 2016008515, 2012006198 and 2018036246 of the Official Public Records of Williamson County, Texas.
- 17. Wastewater easement as recorded under Document Number 2007064713 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 18. Utility access easement as recorded under Document No. 2008085853 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 19. The terms, conditions and stipulations of that certain Sanitary Sewer Easement Agreement dated September 27, 2010, recorded under Document No. 2010065269 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 20. The terms, conditions and stipulations of that certain Drainage Easement Agreement dated September 27, 2010, recorded under Document No. 2010065270; and as amended under Document No. 2017104825 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 21. All terms, conditions, and provisions of that certain Agreement regarding Williamson County Municipal Utility District 25 dated January 11, 2012, recorded under Document No. 2012006198 of the Official Public Records of Williamson County, Texas.
- 22. Williamson County Regional Habitat Conservation Plan Memorandum of Participation Agreement Relative to U.S. Fish and Wildlife Service Permit dated May 15, 2012, recorded under Document No. 2012043627 of the Official Public Records of Williamson County, Texas.
- 23. Sanitary Sewer Easement Agreement dated August 1, 2013, recorded under Document No. 2013080603 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)

- 24. Drainage Easement Agreement as recorded under Document No. 2013095986 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 25. Sanitary Sewer Easement Agreement as recorded under Document No. 2013095987 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 26. The terms, conditions and stipulations of that certain Access Easement and Right of Way dated January 31, 2014, recorded under Document No. 2014011208 of the Official Public Records of Williamson County, Texas. (TRACT 1)
- 27. Drainage Easement Agreement as recorded under Document No. 2014026475 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 28. Sanitary Sewer Easement Agreement as recorded under Document No. 2014026476 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 29. The terms, conditions and stipulations of that certain Drainage Easement Agreement dated August 25, 2014, recorded under Document No. 2014071869 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 30. The terms, conditions and stipulations of that certain Sanitary Sewer Easement Agreement dated August 25, 2014, recorded under Document No. 2014071870 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 31. Waiver of Special Appraisal dated May 31, 2012, as recorded under Document No. 2014076279 of the Official Public Records of Williamson County, Texas.
- 32. Waiver of Special Appraisal dated August 19, 2014, as recorded under Document No. 2014076284 of the Official Public Records of Williamson County, Texas.
- 33. The terms, conditions and stipulations of that certain Permanent Easement Agreement dated January 21, 2016, recorded under Document No. 2016010600 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 34. Sanitary sewer easement granted to City of Georgetown, by instrument dated August 18, 2016, recorded under Document No. 2016077685 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 35. The terms, conditions and stipulations of that certain Wastewater Easement dated June 23, 2017, recorded under Document No. 2017098157 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 36. The terms, conditions and stipulations of that certain Utility Access Easement dated June 23, 2017, recorded under Document No. 2017098158 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 37. The terms, conditions and stipulations of that certain Roadway, Utility and Drainage Easement Agreement dated October 20, 2017, recorded under Document No. 2017098160 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)

- 38. The terms, conditions and stipulations of that certain Access Easement dated October 20, 2017, recorded under Document No. 2017098161 of the Official Public Records of Williamson County, Texas. (TRACT 1)
- 39. Guying utility easement granted to Pedernales Electric Cooperative, Inc., by instrument dated December 16, 2016, recorded under Document No. 2018062791 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 1)
- 40. Any and all easements and building setbacks shown on Plat(s) recorded under Document No(s). 2013033404 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 2)
- 41. Lot 2, Block G, to be reserved for use by the City of Georgetown Fire Department, as stated on the plat recorded under Document No. 2013033404 of the Official Public Records of Williamson County, Texas. (TRACT 2)
- 42. The terms, conditions and stipulations of that certain Water Line Easement and Right-of-Way dated March 24, 2006, recorded under Document No. 2006027343 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 2)
- 43. The terms, conditions and stipulations of that certain Memorandum of Development Agreement dated July 9, 2012, recorded under Document No. 2012056684 of the Official Public Records of Williamson County, Texas. (TRACT 2)
- 44. Wastewater easement granted to City of Georgetown, by instrument dated July 18, 2018, recorded under Document No. 2018075352 of the Official Public Records of Williamson County, Texas, as shown on the Survey. (TRACT 2)
- 45. Water Line Easements granted to Chisholm Trail Special Utility District as recorded under Document Nos. 2013044607, 2013044608, 2013044609, 2013044610, 2013044611, 2013044612, 2013044613, 2013044616, 2013044617, 2013048344, 2013062167, 2013064547, 2013062168, 2013091201, 2013100385, 2014019467, 2014025124, 2014025144, 2014033910, 2014038543, 2014038544, 2014047251, 2014047260, 2014058853, 2014058854 and 2014058871, all of the Official Public Records of Williamson County, Texas. (TRACT 2)
- 46. The rights of Williamson County Municipal Utility District No. 25 to levy taxes and issue bonds.

11-GF#201802592 JPB RETURN TO: HERITAGE TITLE 401 CONGRESS, SUITE 1500 AUSTIN, TEXAS 78701

ELECTRONICALLY RECORDED OFFICIAL PUBLIC RECORDS

2018114043

Pages: 24 Fee: \$113.00 _ 12/31/2018 11:38 AM



Nanay E. Rater

Nancy E. Rister,County Clerk Williamson County,Texas

PRELIMINARY PLAT FOR PARKSIDE ON THE RIVER SECTIONS 8, 9A & 10AGEORGETOWN, WILLIAMSON COUNTY, TEXAS

OWNER/DEVELOPER:

HM PARKSIDE, LP 1011 NORTH LAMAR BLVD., AUSTIN, TX 78703 (512) 481-0303 BLAKE@BLAKEMAGEECO.COM

ENGINEER/SURVEYOR: HR GREEN DEVELOPMENT TX, LLC

5508 HIGHWAY 290 WEST, SUITE 150 AUSTIN, TEXAS 78735 512.872.6696 SHERVIN.NOOSHIN@HRGREEN.COM

WATERSHED STATUS:

THIS SITE IS LOCATED IN THE SOUTH FORK OF THE SAN GABRIEL WATERSHED. THIS SITE IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE AND CONTRIBUTING ZONE.

FLOODPLAIN INFORMATION:

PORTIONS OF THIS SUBDIVISION ARE WITHIN SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 100 YEAR FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 48491C0460F. EFFECTIVE DATE DECEMBER 20, 2019.

LEGAL DESCRIPTION:

75.68 ACRES OF LAND IN THE JOSEPH THOMPSON SURVEY, ABSTRACT NO 608 AND THE W.E. PATE SURVEY, ABSTRACT NO. 836, WILLIAMSON COUNTY TEXAS; BEING A PORTION OF A CERTAIN CALLED 1,143.511 ACRE TRACT OF LAND. DESIGNATED AS TRACT 1. AND DESCRIBED IN THE SPECIAL WARRAN DEED TO HM PARKSIDE, LP OF RECORD IN DOCUMENT NO. 2018114043, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND ALSO BEING A PORTION OF A CERTAIN CALLED 314.00 ACRE TRACT OF LAND DESIGNATED AS TRACT 1 AND DESCRIBED IN THE SPECIAL WARRANTY DEED TO HM GPII, LP OF RECORD IN DOCUMENT NO. 2021027159, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS

BENCHMARK NOTE:

NAVD88 - GEOID12B

BM(1380)-221: COTTON GIN SPINDLE FOUND IN THE SOUTH EDGE OF A CONCRETE SIDEWALK ELEVATION = 962.21 FEET.

BM(1380)-700100: MAGNAIL WITH WASHER STAMPED HR GREEN SET IN CONCRETE RIM OF WATER MANHOLE ELEVATION = 940.16 FEET.

BM(1380)-700200: MAGNAIL WITH WASHER STAMPED HR GREEN SET IN CONCRETE BASE OF BOLLARD ELEVATION = 890.30 FEET.

NAME	CLASSIFICATION	ROW WIDTH	MIN. PVMT WIDTH (F-F)	CURB TYPE	DESIGN SPEED	LENGTH (LF)	CUL-DE-SAC	MAINTENANG
PARKSIDE PARKWAY	MINOR ARTERIAL	135'	48'	24" CURB & GUTTER	40 MPH	1,340	NONE	PUBLIC
PEACEFUL SERENITY DRIVE	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	308	NONE	PUBLIC
PANSY TRAIL	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	2,011	NONE	PUBLIC
BEAUTIFUL WISDOM COURT	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	143	60' RADIUS	PUBLIC
ANGELS JOY COVE	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	77	60' RADIUS	PUBLIC
TWISTED TARPLEY LANE	LOCAL STREET	VARIES	28'	24" CURB & GUTTER	25 MPH	1,649	NONE	PUBLIC
GLORIOUS GARDEN WAY	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	155	NONE	PUBLIC
WHITE DAISY LANE	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	1,426	NONE	PUBLIC
SCARLET SAGE DRIVE	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	1,143	60' RADIUS	PUBLIC
MIGHTY COUNSELOR LANE	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	1,096	NONE	PUBLIC
GLORIOUS DAY COVE	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	216	60' RADIUS	PUBLIC
GOLDEN RIGHTEOUS COURT	LOCAL STREET	50'	28'	24" CURB & GUTTER	25 MPH	190	60' RADIUS	PUBLIC

STREETS

2023-25-PP

INITIAL SUBMITTAL DATE: 08/21/2023



VICINITY MAP SCALE: 1"=4000'

PROJECT SUMMARY

TOTAL SITE AREA: 75.68 ACRES
RESIDENTIAL LOTS 191 (41.00 ACRES)
OPEN SPACE LOTS 6 (0.87 ACRES)
OPEN SPACE /DRAINAGE LOTS 2 (14.60 ACRES)
OPEN SPACE /DRAINAGE /WATER QUALITY LOTS 1 (4.83 ACRES)
TOTAL LOTS 200 (61.30 ACRES)
NUMBER OF BLOCKS 8

STREETS (ROW AREA): 14.38 ACRES

SUBMITTED BY :

SHEET INDEX

NUMBER	SHEET TITLE
1	COVER SHEET
2	OVERALL PRELIMINARY PLAT
3	PHASING PLAN
4	PRELIMINARY PLAT (1 OF 2)
5	PRELIMINARY PLAT (2 OF 2)
6	CURVE TABLES
7	PRELIMINARY PLAT NOTES
	NUMBER 1 2 3 4 5 6 7

Know what's below Call before you dig. Ш Ľ מ n ⊅ | DESIGNED BY: CC DRAWN BY: MM CHECKED BY: SN APPROVED BY:_ SHEET 1 OF 7 2023 - 25 - PF

SUBMITTAL DATE : OCTOBER 20, 2023

10 heringood

SHERVIN NOOSHIN, P.E. HR GREEN DEVELOPMENT TX, LLC 5508 HIGHWAY 290 WEST, SUITE 150 AUSTIN, TEXAS 78735 512.872.6696

SHERVIN NOOSHIN

96807

10/20/2023

DATE

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











PARKSIDE PARKWAY CENTERLINE CURVES								
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH			
C1	124.57'	851.50'	8.382°	N54° 43' 16"E	124.45			
C2	600.44'	923.50'	37.252°	N40° 17' 09"E	589.92			

PEACEFUL SERENITY DRIVE CENTERLINE CURVES							
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH		
C3	67.55'	300.00'	12.901°	N24° 38' 14"W	67.41		

PANSY TRAIL CENTERLINE CURVES							
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH		
C4	384.69'	800.00'	27.552°	S58° 02' 15"W	381.00		
C5	269.31'	900.00'	17.145°	S80° 23' 09"W	268.30		
C6	338.41'	725.25'	26.735°	S75° 35' 26"W	335.35		

TWISTED TARPLEY LANE CENTERLINE CURVES								
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH			
C7	59.72'	300.00'	11.406°	S45° 31' 34"E	59.63			
C8	123.95'	262.50'	27.055°	S53° 21' 02"E	122.81			
C9	235.77'	300.00'	45.030°	S89° 23' 35"E	229.75			
C10	566.90'	398.50'	81.507°	S71° 09' 15"E	520.29			
C11	346.61'	345.00'	57.564°	S59° 10' 56"E	332.22			

GLORIOUS GARDEN WAY CENTERLINE CURVES							
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH		
C12	75.33'	280.00'	15.414°	N13° 03' 29"W	75.10		

WHITE DAISY LANE CENTERLINE CURVES							
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH		
C13	234.04'	345.00'	38.868°	S71° 29' 20"W	229.57		
C14	676.73'	596.50'	65.002°	N56° 34' 35"W	641.02		

SCARLET SAGE DRIVE CENTERLINE CURVES							
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH		
C15	335.96'	630.00'	30.554°	N55° 14' 37"E	331.99		
C16	215.48'	763.00'	16.181°	N62° 25' 49"E	214.76		
C17	172.09'	450.00'	21.911°	N65° 17' 43"E	171.04		

MIGHTY COUNSELOR LANE CENTERLINE CURVES							
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH		
C18	107.10'	220.00'	27.893°	N48° 39' 24"W	106.05		
C19	243.92'	220.00'	63.526°	N30° 50' 26"W	231.62		

GLORIOUS DAY COVE CENTERLINE CURVES							
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH		
C20	98.17'	500.00'	11.250°	N55° 25' 38"E	98.02		

			BLOCK C	URVES	
NUMBER	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD DISTANCE
C24	128.09'	919.00'	7.986°	N54° 55' 09"E	127.99
C25	556.55'	856.00'	37.252°	N40° 17' 09"E	546.80
C26	39.27'	25.00'	90.000°	S76° 05' 17"E	35.36
C27	39.27'	25.00'	90.000°	N13° 54' 43"E	35.36
C28	40.71'	25.00'	93.304°	N82° 07' 07"E	36.36
C29	34.73'	25.00'	79.592°	S11° 26' 01"E	32.00
C30	23.56'	15.00'	90.000°	S26° 48' 48"W	21.21
C31	23.56'	15.00'	90.000°	S63° 11' 12"E	21.21
C32	22.92'	15.00'	87.561°	N29° 35' 53"E	20.76
C33	22.92'	15.00'	87.561°	N57° 57' 47"W	20.76
C34	15.12'	15.00'	57.769°	N43° 04' 01"W	14.49
C35	309.49'	60.00'	295.538°	N75° 49' 03"E	64.00
C36	15.12'	15.00'	57.769°	S14° 42' 08"W	14.49
C37	24.08'	15.00'	91.965°	S45° 03' 35"E	21.57
C38	23.05'	15.00'	88.035°	N44° 56' 25"E	20.85
C39	31.91'	15.00'	121.899°	N27° 28' 43"E	26.23
C40	243.51'	60.00'	232.534°	S82° 47' 45"W	107.61
C41	31.91'	15.00'	121.899°	N41° 53' 13"W	26.23
C42	21.87'	15.00'	83.556°	S75° 59' 58"E	19.99
C43	24.25'	15.00'	92.623°	S15° 54' 41"W	21.69
C44	22.19'	15.00'	84.766°	S63° 08' 52"E	20.22
C45	23.26'	15.00'	88.857°	N23° 39' 49"E	21.00
C46	23.56'	15.00'	90.000°	S45° 55' 21"W	21.21
C47	23.56'	15.00'	90.000°	S44° 04' 39"E	21.21
C48	23.56'	15.00'	90.000°	S45° 55' 21"W	21.21
C49	23.56'	15.00'	90.000°	S44° 04' 39"E	21.21
C50	21.25'	15.00'	81.150°	S20° 28' 37"W	19.51
C51	21.25'	15.00'	81.150°	S78° 22' 22"E	19.51
C52	15.49'	15.00'	59.153°	S21° 45' 29"W	14.81
C53	309.47'	60.00'	295.520°	N40° 03' 30"W	64.02
C54	14.81'	15.00'	56.574°	N79° 24' 53"E	14.22
C55	22.67'	15.00'	86.577°	S8° 34' 43"W	20.57
C56	22.67'	15.00'	86.577°	N77° 59' 56"W	20.57
C57	24.39'	15.00'	93.172°	N22° 30' 37"E	21.79
C58	24 39'	15.00'	93 172°	S70° 39' 41"F	21.79
C59	22 62'	15.00'	86 397°	S0° 08' 50"F	20.54
 C60	22 62'	15.00'	86 397°	N86° 14' 59"F	20.54
C61	15 12'	15.00'	57 769°	N14° 10' 00"E	14 49
C62	309 49'	60.00'	295 538°	N46° 56' 55"W	64.00
 	15 12'	15.00'	57 769°	S71° 56' 09"W	14 49
 C64	15.12	15.00'	57 769°	N47° 21' 59"F	14 49
C65	309 49'	60.00'	295 538°	N13° 44' 57"W	64 00
 C66	15 12'	15 00'	57 769°	S74° 51' 53"F	14 49
C.67	68 22'	205 00'	19.067°	S41° 41' 45"E	67 01
 	121 18'	200.00	34 716°	S49° 31' 13"E	119 34
000	216 13'	275 00'	45 030°	S80° 23' 35"⊑	210.61
 	210.10	275.00	60.679°	S81° 34' 07"E	210.01
070	344.19	JJ2J.UU	<u>ک/م.00</u>	301 34 U/ E	328.33

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ENGINEER'S CERTIFICATION

I, SHERVIN NOOSHIN, REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS SUBDIVISION IS IN THE EDWARDS AQUIFER RECHARGE ZONE AND CONTRIBUTING ZONE, THAT PORTIONS OF THIS SUBDIVISION ARE WITHIN ZONE A FLOOD AREA, AS DENOTED HEREIN, AS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 48491C0460F, EFFECTIVE DATE DECEMBER 20, 2019, AND THAT EACH LOT CONFORMS TO THE CITY OF GEORGETOWN REGULATIONS AS MODIFIED BY THE DEVELOPMENT AGREEMENT.

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

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT AUSTIN, TRAVIS COUNTY, TEXAS, THIS _____ DAY OF _____, 20____.

SHERVIN NOOSHIN, P.E. REGISTERED PROFESSIONAL ENGINEER NO. 96807 STATE OF TEXAS HR GREEN DEVELOPMENT TX, LLC 5508 HIGHWAY 290 WEST, SUITE 150 AUSTIN, TEXAS 78735

DESCRIPTION OF 75.68 ACRES OF LAND IN THE JOSEPH THOMPSON SURVEY, ABSTRACT NO. 608 AND THE W.E. PATE SURVEY, ABSTRACT NO. 836, WILLIAMSON COUNTY, TEXAS; BEING A PORTION OF A CERTAIN CALLED 1,143.511 ACRE TRACT OF LAND, DESIGNATED AS TRACT 1, AND DESCRIBED IN THE SPECIAL WARRANTY DEED TO HM PARKSIDE, LP OF RECORD IN DOCUMENT NO. 2018114043, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND ALSO BEING A PORTION OF A CERTAIN CALLED 314.00 ACRE TRACT OF LAND DESIGNATED AS TRACT 1 AND DESCRIBED IN THE SPECIAL WARRANTY DEED TO HM GPII, LP OF RECORD IN DOCUMENT NO. 2021027159. OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY. TEXAS; SAID 75.68 ACRES OF LAND, AS SURVEYED BY HR GREEN DEVELOPMENT TX, LLC, BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET IN A NORTHEAST LINE OF A CERTAIN CALLED 171.334 ACRE TRACT OF LAND DESCRIBED IN THE SPECIAL WARRANTY DEED TO HM PARKSIDE DEVELOPMENT. INC. OF RECORD IN DOCUMENT NO. 2021195608, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, SAME BEING A NORTHEAST LINE OF THE SAID 1.143.511 ACRE TRACT. IN THE SOUTHWEST LINE OF THE SAID 314.00 ACRE TRACT. AT THE NORTHERN TERMINUS OF THE WEST RIGHT-OF-WAY LINE OF PARKSIDE PARKWAY, A 135-FOOT WIDE RIGHT-OF-WAY, AS SHOWN ON PARKSIDE ON THE RIVER PHASE 3, SECTION 4 & 7A, 7B, A SUBDIVISION ACCORDING TO THE PLAT OR MAP OF RECORD IN DOCUMENT NO. 2023014821, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, FOR THE WEST CORNER AND POINT OF BEGINNING OF THE TRACT DESCRIBED HEREIN;

THENCE LEAVING THE NORTHEAST LINE OF THE SAID 171.334 ACRE TRACT, LEAVING A NORTHEAST LINE OF THE SAID 1,143.511 ACRE TRACT, CROSSING THE SAID 314.00 ACRE TRACT, WITH THE NORTHWEST AND NORTH LINES OF THE TRACT DESCRIBED HEREIN, THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

- 1. WITH THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 919.00 FEET, AN ARC DISTANCE OF 128.09 FEET, AND A CHORD WHICH BEARS N 54°55'09" E, A DISTANCE OF 127.99 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR A POINT-OF-TANGENCY,
- 2. N 58°54'43" E, A DISTANCE OF 615.06 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR A POINT-OF-CURVATURE,
- 3. WITH THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 856.00 FEET, AN ARC DISTANCE OF 556.55 FEET, AND A CHORD WHICH BEARS N 40°17'09" E, A DISTANCE OF 546.80 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTH CORNER OF THE TRACT DESCRIBED HEREIN. FROM WHICH A COTTON GIN SPINDLE FOUND AT A POINT-OF-TANGENCY IN A NORTH LINE OF THE SAID 1.143.511 ACRE TRACT AND THE SOUTHEAST LINE OF THE SAID 314.00 ACRE TRACT BEARS N 32°21'15" E, A DISTANCE OF 223.30 FEET, AND
- 4. S 68°20'25" E, A DISTANCE OF 68.00 FEET TO A CALCULATED POINT IN THE CURVING SOUTHEAST LINE OF THE SAID 314.00 ACRE TRACT. IN A CURVING NORTH LINE OF THE SAID 1,143.511 ACRE TRACT, FOR A POINT-ON-LINE OF THE NORTH LINE DESCRIBED HEREIN, FROM WHICH A COTTON GIN SPINDLE FOUND AT A POINT-OF-TANGENCY IN A NORTH LINE OF THE SAID 1,143.511 ACRE TRACT AND THE SOUTHEAST LINE OF THE SAID 314.00 ACRE TRACT BEARS ALONG THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 922.00 FEET, AN ARC DISTANCE OF 221.55 FEET, AND A CHORD WHICH BEARS N 14°45'25" E, A DISTANCE OF 221.02 FEET;

THENCE LEAVING THE SOUTHEAST LINE OF THE SAID 314.00 ACRE TRACT, CROSSING THE SAID 1,143.511 ACRE TRACT, CONTINUING WITH THE NORTH LINE AND WITH THE EAST AND SOUTHEAST LINES OF THE TRACT DESCRIBED HEREIN, THE FOLLOWING TWENTY (20) COURSES AND DISTANCES:

- 1. S 68°20'25" E, A DISTANCE OF 82.00 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,
- 2. S 55°41'45" E, A DISTANCE OF 148.08 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,
- 3. S 32°56'47" E, A DISTANCE OF 40.37 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,
- 4.S 55°41'43" E, A DISTANCE OF 65.67 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,
- 5. N 78°14'47" E. A DISTANCE OF 62.32 FEET TO A 1/2-INCH IRON ROD WITH A
- 6. N 68°05'32" E, A DISTANCE OF 102.21 FEET TO A 1/2-INCH IRON ROD WITH A
- PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT.
- 7. N 84°38'56" E, A DISTANCE OF 50.00 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT

PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,

PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,

- 9. N 84°38'56" E, A DISTANCE OF 93.70 FEET TO A 1/2-INCH IRON PLASTIC CAP STAMPED "HR GREEN" SET FOR A POINT-OF-CURVATU
- 10. WITH THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF AN ARC DISTANCE OF 647.39 FEET, AND A CHORD WHICH BEARS S DISTANCE OF 612.04 FEET TO A 1/2-INCH IRON ROD WITH A STAMPED "HR GREEN" SET FOR A POINT-OF-TANGENCY,
- 11. S 30°12'02" E, A DISTANCE OF 39.59 FEET TO A 1/2-INCH IRON PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT.
- 12. S 25°58'56" E, A DISTANCE OF 98.07 FEET TO A 1/2-INCH IRON PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,
- 13. S 53°03'43" E, A DISTANCE OF 87.71 FEET TO A 1/2-INCH IRON PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT,
- 14. S 20°36'16" E. A DISTANCE OF 142.62 FEET TO A 1/2-INCH IRON PLASTIC CAP STAMPED "HR GREEN" SET FOR THE BEGIN NON-TANGENT POINT-OF-CURVATURE,
- 15. WITH THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF AN ARC DISTANCE OF 13.39 FEET, AND A CHORD WHICH BEARS S DISTANCE OF 13.39 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC C "HR GREEN" SET FOR A POINT-OF-NON-TANGENCY,
- 16. S 02°02'09" W, A DISTANCE OF 185.00 FEET TO A ½-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE BEGINNING OF A NON-TANGENT POINT-OF-CURVATURE,
- 17. WITH THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 505.00 FEET, AN ARC DISTANCE OF 92.81 FEET, AND A CHORD WHICH BEARS N 86°46'15" E, A DISTANCE OF 92.68 FEET TO A ½-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR A NON-TANGENT END OF CURVE,
- 18. S 89°17'03" E, A DISTANCE OF 529.00 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTHEAST CORNER OF THE TRACT DESCRIBED HEREIN, FROM WHICH A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTHWEST CORNER OF LOT 39. BLOCK L, AMENDING PLAT OF PARKSIDE ON THE RIVER, PHASE 2, SECTIONS 4 AND 7, A SUBDIVISION ACCORDING TO THE PLAT OR MAP OF RECORD IN DOCUMENT NO. 2023015638, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, BEARS N 60°42'45" E, A DISTANCE OF 430.48 FEET,
- 19. S 15°13'07" W, A DISTANCE OF 368.43 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT, AND
- 20. S 50°52'59" W, A DISTANCE OF 1,593.85 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET IN THE EAST LINE OF LOT 1, BLOCK H, VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2, A SUBDIVISION ACCORDING TO THE PLAT OR MAP OF RECORD IN DOCUMENT NO. 2023040311, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, FOR THE SOUTH CORNER OF THE TRACT DESCRIBED HEREIN, FROM WHICH A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET IN THE NORTH LINE OF A CERTAIN CALLED 76.00 ACRE TRACT OF LAND, DESIGNATED AS TRACT A-1, AND DESCRIBED IN THE PARTITION AND EXCHANGE DEED TO GORDON WINSTON FAUBION OF RECORD IN DOCUMENT NO. 2005101511, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, IN THE SOUTH LINE OF THE SAID 1,143.511 ACRE TRACT, FOR THE MOST EASTERLY SOUTHEAST CORNER OF SAID LOT 1, BLOCK H, VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2, BEARS S 17°33'06" E, A DISTANCE OF 126.93 FEET;

THENCE CONTINUING ACROSS THE SAID 1,143.511 ACRE TRACT, WITH THE EAST BOUNDARY LINE OF SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2, WITH THE SOUTHWEST LINE OF THE TRACT DESCRIBED HEREIN, THE FOLLOWING THREE (3) COURSES AND DISTANCES:

- 1. N 17°33'05" W, A DISTANCE OF 362.15 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT IN THE EAST LINE OF LOT 31, BLOCK H, SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2, AND A NORTHEAST CORNER OF SAID LOT 1, BLOCK H, VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER. PHASE 3, SECTION 2, FOR AN ANGLE POINT OF THE TRACT DESCRIBED HEREIN,
- 2. N 29°55'30" E, A DISTANCE OF 95.89 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTHEAST CORNER OF LOT 32. BLOCK H. SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER. PHASE 3, SECTION 2, FOR AN ANGLE POINT OF THE TRACT DESCRIBED HEREIN, AND

8. N 05°21'04" W. A DISTANCE OF 21.32 FEET TO A ½-INCH IRON ROD WITH A 3. N 62°00'00" W. AT A DISTANCE OF 129.09 FEET, PASS A ½-INCH IRON ROD WITH A

SURVEYOR'S CERTIFICATION

I, ERNESTO NAVARRETE, REGISTERED PROFESSIONAL LAND SURVEYOR IN 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, TRAVIS COUNTY, TEXAS,

_____DAY OF ______, 20____.

ERNESTO NAVARRETE REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6642 HR GREEN DEVELOPMENT TX, LLC 5508 HIGHWAY 290 WEST, SUITE 150 AUSTIN, TEXAS 78735

METES AND BOUNDS

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⁻ 560.85 FEET, 63°16'07" E, A PLASTIC CAP
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⁵ 320.00 FEET, 86°45'55" E, A CAP STAMPED

HEREIN;

PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTH TERMINUS OF THE EAST RIGHT-OF-WAY LINE OF SCARLET SAGE DRIVE, A 50-FOOT RIGHT-OF-WAY, AS SHOWN ON SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2, SAME BEING THE NORTHWEST CORNER OF SAID LOT 32, BLOCK H, VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2, AND CONTINUING, AT A DISTANCE OF 180.20 FEET, PASS A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTH TERMINUS OF THE WEST RIGHT-OF-WAY LINE OF SAID SCARLET SAGE DRIVE, SAME BEING THE NORTHEAST CORNER OF LOT 1, BLOCK G, SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2. AND CONTINUING FOR A TOTAL DISTANCE OF 430.03 FEET TO A ½-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTHWEST CORNER OF LOT 2, BLOCK G, SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTION 2, SAME BEING THE EAST CORNER OF LOT 15, BLOCK G, VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3. SECTIONS 3A AND 3B. A SUBDIVISION ACCORDING TO THE PLAT OR MAP OF RECORD IN DOCUMENT NO. 2023040394, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, FOR A POINT-ON-LINE OF THE TRACT DESCRIBED

THENCE N 62°00'00" W, CONTINUING ACROSS THE SAID 1,143.511 ACRE TRACT, WITH THE NORTHEAST LINE OF LOT'S 15 AND 16, BLOCK G, SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER. PHASE 3. SECTIONS 3A AND 3B. CONTINUING WITH THE SOUTHWEST LINE OF THE TRACT DESCRIBED HEREIN, A DISTANCE OF 398.83 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTH CORNER OF LOT 16, BLOCK G, SAID VACATION AND RESUBDIVISION OF PARKSIDE ON THE RIVER, PHASE 3, SECTIONS 3A AND 3B, SAME BEING THE EAST CORNER OF LOT 30, BLOCK G, SAID PARKSIDE ON THE RIVER PHASE 3, SECTION 4 & 7A, 7B, FOR A POINT-ON-LINE OF THE TRACT DESCRIBED HEREIN

THENCE CONTINUING ACROSS THE SAID 1,143.511 ACRE TRACT, WITH THE NORTHEAST OUT-BOUNDARY LINE OF SAID PARKSIDE ON THE RIVER PHASE 3, SECTION 4 & 7A, 7B, CONTINUING WITH THE SOUTHWEST LINE OF THE TRACT DESCRIBED HEREIN, THE FOLLOWING TEN (10) COURSES AND DISTANCES:

- 1. N 62°00'00" W, AT A DISTANCE OF 142.96 FEET PASS A ½-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE EASTERN TERMINUS OF THE SOUTH RIGHT-OF-WAY LINE OF WHITE DAISY LANE. A 50-FOOT RIGHT-OF-WAY. AS SHOWN ON SAID PARKSIDE ON THE RIVER. PHASE 3. SECTION 4 & 7A. 7B. SAME BEING THE NORTH CORNER OF SAID LOT 30, BLOCK G, PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, AND CONTINUING, AT A DISTANCE OF 197.12 FEET. PASS A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE EASTERN TERMINUS OF THE NORTH RIGHT-OF-WAY LINE OF SAID WHITE DAISY LANE, SAME BEING THE EAST CORNER OF LOT 1, BLOCK F, SAID PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, AND CONTINUING FOR A TOTAL DISTANCE OF 422.91 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTH CORNER OF LOT 3, BLOCK F, SAID PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, SAME BEING THE EAST CORNER OF LOT 4, BLOCK F, SAID PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, FOR AN ANGLE POINT OF THE TRACT DESCRIBED HEREIN,
- 2. N 50°32'35" W, A DISTANCE OF 153.72 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT IN THE NORTHEAST LINE OF LOT 6, BLOCK F, SAID PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, FOR AN ANGLE POINT OF THE TRACT DESCRIBED HEREIN,
- 3. N 32°00'00" W, A DISTANCE OF 102.71 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTH CORNER OF LOT 8. BLOCK F, SAID PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, FOR AN ANGLE POINT OF THE TRACT DESCRIBED HEREIN,
- 4. S 58°00'00" W, A DISTANCE OF 125.16 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR AN ANGLE POINT IN THE NORTH LINE OF SAID LOT 8, BLOCK F, PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, FOR AN ANGLE POINT OF THE TRACT DESCRIBED HEREIN,
- 5. N 32°00'00" W, AT A DISTANCE OF 18.08 FEET, PASS A ½-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTHERN TERMINUS OF THE EAST RIGHT-OF-WAY LINE OF PANSY TRAIL, A 50-FOOT RIGHT-OF-WAY, AS SHOWN ON SAID PARKSIDE ON THE RIVER. PHASE 3. SECTION 4 & 7A. 7B. SAME BEING A NORTHWEST CORNER OF SAID LOT 8, BLOCK F, PARKSIDE ON THE RIVER. PHASE 3. SECTION 4 & 7A. 7B. AND CONTINUING, AT A DISTANCE OF 69.55 FEET, PASS A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTHERN TERMINUS OF THE WEST RIGHT-OF-WAY LINE OF SAID PANSY TRAIL. SAME BEING THE EAST CORNER OF LOT 30. BLOCK E. SAID PARKSIDE ON THE RIVER, PHASE 3, SECTION 4 & 7A, 7B, AND CONTINUING FOR A TOTAL DISTANCE OF 115.00 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR A POINT-OF-CURVATURE,
- 6. WITH THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, AN ARC DISTANCE OF 23.56 FEET, AND A CHORD WHICH BEARS N 13°00'00" E, A DISTANCE OF 21.21 FEET TO A CALCULATED NON-TANGENT END OF CURVE,

- 7. N 32°00'00" W, A DISTANCE OF 55.00 FEET TO A 1/2-INCH IRON ROD WITH PLASTIC CAP STAMPED "HR GREEN" SET FOR THE BEGINNING OF NON-TANGENT POINT-OF-CURVATURE,
- 8. WITH THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 15.00 FEET, A ARC DISTANCE OF 23.56 FEET, AND A CHORD WHICH BEARS N 77°00'00" W, DISTANCE OF 21.21 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPE "HR GREEN" SET FOR A POINT-OF-TANGENCY,
- 9. N 32°00'00" W, AT A DISTANCE OF 35.28 FEET, PASS A ½-INCH IRON ROD WITH PLASTIC CAP STAMPED "HR GREEN" SET FOR THE NORTHERN TERMINUS C THE EAST RIGHT-OF-WAY LINE OF SAID PARKSIDE PARKWAY. SAME BEING TH NORTH CORNER OF LOT 1, BLOCK E, SAID PARKSIDE ON THE RIVER, PHASE SECTION 4 & 7A. 7B. AND CONTINUING FOR A TOTAL DISTANCE OF 105.00 FEE TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPED "HR GREEN" SET FOR POINT-OF-CURVATURE, AND
- 10. WITH THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 25.00 FEE AN ARC DISTANCE OF 19.60 FEET, AND A CHORD WHICH BEARS N 09°32'18" W, DISTANCE OF 19.10 FEET TO A 1/2-INCH IRON ROD WITH A PLASTIC CAP STAMPE "HR GREEN" SET IN THE SOUTHWEST LINE OF THE SAID 314.00 ACRE TRACT, A NORTHEAST LINE OF THE SAID 1,143.511 ACRE TRACT, IN THE NORTHEAS LINE OF THE SAID 171.334 ACRE TRACT, FOR THE END OF A NON-TANGEN CURVE IN THE NORTHERN TERMINUS OF SAID PARKSIDE PARKWAY, FOR TH END OF A NON-TANGENT CURVE IN THE SOUTHWEST LINE OF THE TRAC DESCRIBED HEREIN, FROM WHICH A 1/2-INCH IRON ROD WITH A PLASTIC CA STAMPED "HR GREEN" SET FOR A RE-ENTRANT CORNER OF THE SAID 1,143.5" ACRE TRACT, SAME BEING THE SOUTH CORNER OF THE SAID 314.00 ACR TRACT, BEARS S 43°23'44" E, A DISTANCE OF 10.48 FEET;

THENCE N 43°23'44" W, WITH A NORTHEAST LINE OF THE SAID 1,143.511 ACR TRACT. WITH THE NORTHEAST LINE OF THE SAID 171.334 ACRE TRACT, WITH TH SOUTHWEST LINE OF THE SAID 314.00 ACRE TRACT, WITH THE NORTHER TERMINUS OF SAID PARKSIDE PARKWAY, CONTINUING WITH THE SOUTHWEST LIN OF THE TRACT DESCRIBED HEREIN, A DISTANCE OF 49.47 FEET TO THE POINT O **BEGINNING** AND CONTAINING 75.68 ACRES OF LAND, MORE OR LESS.

BEARING BASIS: TEXAS COORDINATE SYSTEM, CENTRAL ZONE, NAD83, GRID.

				DATE
PLA	AT NOTES:			B
1.	THIS DEVELOPMENT IS PLATTED UNDER THE REGULATIONS OF THE PARKSIDE ON THE RIVER (ORDINANCE NO. 2019-69) DEVELOPMENT AGREEMENT AND THE ASSOCIATED UNIFIED DEVELOPMENT CODE AND IS IN CONFORMANCE WITH THE CODES AND STANDARDS REFERENCED WITHIN.			
2.	CURRENT UTILITY PROVIDERS FOR THIS DEVELOPMENT ARE WATER: CITY OF GEORGETOWN, WASTEWATER: CITY OF GEORGETOWN, AND ELECTRIC: PEDERNALES ELECTRIC COOPERATIVE, INC.			
3.	ALL STRUCTURES/OBSTRUCTIONS ARE PROHIBITED IN DRAINAGE EASEMENTS.			Z
4.	PORTIONS OF THIS SUBDIVISION ARE WITHIN SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 100 YEAR FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 48491C0460F, EFFECTIVE DATE DECEMBER 20, 2019.			REVISIL
5.	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.			
6.	WATER QUALITY WILL BE PROVIDED PER TCEQ STANDARDS.			
7.	A 10-FOOT PUBLIC UTILITY EASEMENT IS RESERVED ALONG ALL LOCAL STREET FRONTAGES WITHIN THIS PLAT. A 10-FOOT PUBLIC UTILITY EASEMENT IS RESERVED ALONG PARKSIDE PARKWAY ONLY ALONG ITS EAST RIGHT-OF-WAY LINE.			
8.	THE MONUMENTS OF THIS PLAT HAVE BEEN ROTATED TO THE NAD 83/93 HARN - TEXAS CENTRAL ZONE AND NAVD 88.			
9.	THE IMPERVIOUS COVER LIMITS FOR SINGLE FAMILY LOTS SHALL BE PER EXHIBIT M-1 OF THE PARKSIDE ON THE RIVER DEVELOPMENT AGREEMENT (ORD 2019-69) BASED ON LOT SIZE.	5		
10.	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.	Know Call be	what's belo efore you o	ow. dig.
11.	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.	HIGHWAY 290 WEST 150 N TX 78735	72. 6696 EN. COM NO: 16384	NO: 10194101
12.	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 HAS THE RIGHT AT ANY TIME TO TAKE POSSESSION OF ANY ROAD WIDENING EASEMENT FOR CONSTRUCTION, IMPROVEMENT, OR MAINTENANCE OF THE ADJACENT ROAD.	5508 SUITE AUSTI	512.8 HRGRE	T X TBPLS
13.	THIS PLAT IS SUBJECT TO THE PROVISIONS OF THE CITY OF GEORGETOWN WATER CONSERVATION ORDINANCE.	$(\Gamma$		N
14.	THE SUBDIVISION SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN.	\bigcap	UTA C	P M
15.	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			DEVELO
16.	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 THIS TRACT OF LAND COVERED BY THIS PLAT IN ACCORDANCE WITH PLANS AND SPECIFICATIONS PRESCRIBED BY THE CITY OF GEORGETOWN AND/OR WILLIAMSON COUNTY, TEXAS. NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUME 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.	SHEF PROXESS Mer	RVIN NOOSHIN 96807 CENSE ONAL ENG	
17.	NEITHER THE CITY OF GEORGETOWN NOR WILLIAMSON COUNTY ASSUMES ANY RESPONSIBILITY FOR THE ACCURACY OF REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOOD PLAIN 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.	л П	10/2	0/2023 S S X
18.	PARKLAND WILL BE DEDICATED PER THE DEVELOPMENT AGREEMENT AND IS NOT REQUIRED		ЩЧ.	Ш Н
19.	ALL LOTS WITH 5' SETBACKS SHALL REQUIRE 1,500 GPM FIRE FLOWS. REQUIRED FIRE FLOWS SHALL BE PROVIDED BY DEVELOPER THROUGH ELEVATED STORAGE, GROUND STORAGE AND PUMPS, OR OTHER APPROVED INFRASTRUCTURE.	Z	Е RIV & 1 Д	, ג 1 2 2
20.	A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON OCTOBER 18, 2023. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE GEOLOGIC ASSESSMENT ARE SHOWN HEREIN.	РГА	ЧТН 9А А	
21.	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.	RΥ		, VIL
22.	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.			
23.	ALL WATER QUALITY, SEDIMENTATION, FILTRATION, DETENTION, AND/OR RETENTION BASINS AND RELATED APPURTENANCES SHOWN SHALL BE SITUATED WITHIN A DRAINAGE EASEMENT OR DRAINAGE LOT. THE M.U.D., HOA, OR ASSIGNEES OF THE TRACTS UPON WHICH ARE LOCATED SUCH EASEMENTS, APPURTENANCES, DETENTION, AND WATER QUALITY FACILITIES SHALL MAINTAIN SAME AND BE RESPONSIBLE FOR THEIR MAINTENANCE, ROUTINE INSPECTION AND UPKEEP.	אר ועשאנ	 	EORGET
24.	IMPROVEMENTS WITHIN THE COUNTY ROAD RIGHT-OF-WAY INCLUDING, BUT NOT LIMITED TO, LANDSCAPING, IRRIGATION, LIGHTING, CUSTOM SIGNS, IS PROHIBITED WITHOUT FIRST OBTAINING AN EXECUTED LICENSE AGREEMENT WITH WILLIAMSON COUNTY.	DESIGN	NED BY:	
25.	ALL SIDEWALKS SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, EXCEPT THE 10' SIDEWALK ALONG PARKSIDE PARKWAY, WHICH WILL BE MAINTAINED BY THE M.U.D.	DRAWN	BY: _	мм
26.	MAINTENANCE RESPONSIBILITY FOR DRAINAGE WILL NOT BE ACCEPTED BY THE COUNTY OTHER THAN THAT ACCEPTED IN CONNECTION WITH DRAINING OR PROTECTING THE ROAD SYSTEM. MAINTENANCE RESPONSIBILITY FOR STORM WATER MANAGEMENT CONTROLS WILL REMAIN WITH THE OWNER.	CHECK	ED BY: _ VED BY:_	SN
		SHEET	7 of	<u>7</u>
		2023	- 25 -	PP

OWNER/DEVELOPER:

HM PARKSIDE ,LP 1011 NORTH LAMAR BLVD AUSTIN, TX 78703 (512) 481-0303

ENGINEER/SURVEYOR: HR GREEN DEVELOPMENT TX, LLC

5508 HIGHWAY 290 WEST, SUITE 150 AUSTIN, TEXAS 78735 (512) 872-6696

WATERSHED STATUS:

THIS SITE IS LOCATED IN THE SOUTH FORK OF THE SAN GABRIEL WATERSHED. THIS SITE IS LOCATED OVER THE EDWARDS AQUIFER RECHARGE ZONE AND CONTRIBUTING ZONE.

FLOODPLAIN INFORMATION:

PORTIONS OF THIS SUBDIVISION ARE WITHIN SPECIAL FLOOD HAZARD AREAS INUNDATED BY THE 100 YEAR FLOOD AS IDENTIFIED BY THE U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NUMBER 48491C0460F, EFFECTIVE DATE DECEMBER 20, 2019.

LEGAL DESCRIPTION:

41.26 ACRES OF LAND IN THE JOSEPH THOMPSON SURVEY, ABSTRACT NO. 608 AND THE W.E. PATE SURVEY, ABSTRACT NO. 836, WILLIAMSON COUNTY, TEXAS BEING A PORTION OF A CERTAIN CALLED 1,143.511 ACRE TRACT OF LAND, DESIGNATED AS TRACT 1, AND DESCRIBED IN THE SPECIAL WARRANTY DEED TO HM PARKSIDE, LP OF RECORD IN DOCUMENT NO. 2018114043, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, AND ALSO BEING A PORTION OF A CERTAIN CALLED 314.00 ACRE TRACT OF LAND DESIGNATED AS TRACT 1 AND DESCRIBED IN THE SPECIAL WARRANTY DEED TO HM GPII, LP OF RECORD IN DOCUMENT NO. 2021027159, OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS

BENCHMARK NOTE:

NAVD 88 (GEOID 12A)

BM(1380)-221:

COTTON GIN SPINDLE FOUND IN THE SOUTH EDGE OF A CONCRETE SIDEWALK ELEVATION = 962.21 FEET.

BM(1380)-700100: MAGNAIL WITH WASHER STAMPED HR GREEN SET IN CONCRETE RIM OF WATER MANHOLE

ELEVATION = 940.16 FEET

BM(1380)-700200: MAGNAIL WITH WASHER STAMPED HR GREENSET IN CONCRETE BASE OF BOLLARD ELEVATION = 890.30 FEET.

UTILITY PROVIDERS:

WATER & WASTEWATER: GEORGETOWN UTILITY SYSTEMS 300-1 INDUSTRIAL AVENUE, GEORGETOWN TX 78626 (512) 930-3555 GUS@GEORGETOWN.ORG ELECTRIC: PEDERNALES ELECTRIC COOPERATIVE

(877) 372-0391

NO LIABILITY NOTE:

LIMITATION OF LIABILITY - HR GREEN DEVELOPMENT TX. LLC ASSUMES NO LIABILITY FOR ANY DESIGN OR DRAWINGS IN THESE PLANS. THAT ARE NOT SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED WITH THE TEXAS BOARD OF PROFESSIONAL ENGINEERS AS A MEMBER OF THIS FIRM (#F-16384). OTHER CONSULTANTS' WORK SHOWN IN THESE PLANS IS THE RESPONSIBILITY OF THE CONSULTANT WHO PREPARED SUCH WORK, AND IS INCLUDED IN THIS PLAN SET FOR REVIEW REQUIREMENTS ONLY.

SITE PLAN COMPONENTS – ALL BUILDING AND STRUCTURAL IMPROVEMENTS SHOWN HEREON ARE SHOWN FOR CONCEPTUAL PURPOSES ONLY. HR GREEN DEVELOPMENT TX, LLC IS NOT RESPONSIBLE OR LIABLE FOR THE DESIGN OF BUILDING OR STRUCTURAL IMPROVEMENTS BY OTHERS.

STRUCTURAL COMPONENTS - ALL STRUCTURAL DESIGN IS THE RESPONSIBILITY OF THE OWNER'S STRUCTURAL ENGINEER. STRUCTURAL DESIGN SHOWN HEREON IS THE DESIGN OF THE OWNER'S STRUCTURAL ENGINEER.

PAVEMENT DESIGN – PAVEMENT DESIGN SHOWN HEREON IS THE DESIGN OF THE OWNER S GEOTECHNICAL CONSULTANT. HR GREEN DEVELOPMENT TX, LLC MAKES NO WARRANTY OR GUARANTEE AS TO ITS SUITABILITY, AND ASSUMES NO LIABILITY THEREFORE.

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			REVISIONS
	DETAILS MANUAL AND ALL OTHER APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS AND CODES.	Number	Date	Description
2.	THIS PROJECT IS SUBJECT TO ALL CITY STANDARD SPECIFICATIONS AND DETAILS IN EFFECT AT THE TIME OF SUBMITTAL OF THE PROJECT TO THE			
3.	THE PROPERTY SUBJECT TO THIS APPLICATION IS SUBJECT TO THE WATER QUALITY REGULATIONS OF THE CITY OF GEORGETOWN			
4.	A GEOLOGIC ASSESSMENT, IN ACCORDANCE WITH THE CITY OF GEORGETOWN WATER QUALITY REGULATIONS, WAS COMPLETED ON OCTOBER 18, 2023. ANY SPRINGS AND STREAMS AS IDENTIFIED IN THE			
5.	THIS PROJECT IS SUBJECT TO THE REQUIREMENTS OF PARKSIDE ON THE RIVER DEVELOPMENT AGREEMENT (ORDINANCE NO. 2019-69).			

CIVIL CONSTRUCTION PLANS PARKSIDE ON THE RIVER MUNICIPAL UTILITY DISTRICT NO. 2 PARKSIDE ON THE RIVER SECTION 8

GEORGETOWN, WILLIAMSON COUNTY, TEXAS 2023-xx-CON

INITIAL SUBMITTAL DATE: 11/06/2023



PARKSIDE ON THE RIVER M.U.D. NO. 2



GENERAL CONSTRUCTION NOTES

- 1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF GEORGETOWN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.
- 2. CONTRACTOR SHALL NOTIFY GEORGETOWN UTILITIES AT 512-930-3555 AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET R.O.W. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S R.O.W. MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
- 3. FOR SLOPES OR TRENCHES GREATER THAN FIVE (5) FEET IN DEPTH, A NOTE MUST BE ADDED STATING THAT CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 E. 6TH STREET, AUSTIN, TEXAS.
- 4. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS. 5. <u>CONTRACTOR INFORMATION</u>
 - CONTRACTOR: UNKNOWN AT TIME OF SUBMITTAL

CONTRACTOR ADDRESS: <u>N/A</u>PHONE <u># N/A</u> DEVELOPER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS:

- HR GREEN DEVELOPMENT TX. LLC. PHONE# (512) 872-6696 PERSON OR FIRM RESPONSIBLE FOR EROSION/SEDMENTATION CONTROL MAINTENANCE: HM PARKSIDE DEVELOPMENT INC. PHONE# 512-481-0303 PERSON OF FIRM RESPONSIBLE FOR TREE/NATURAL AREA PROTECTION MAINTENANCE:
- HM PARKSIDE DEVELOPMENT INC. PHONE# 512-481-0303
- 6. TOPOGRAPHIC DATA SHOWN HEREON BASED ON GROUND TOPO SURVEY BY HR GREEN ON OCTOBER 2023.
- 7. IF CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS, HE/SHE SHOULD CONTACT THE ENGINEER/SURVEYOR IMMEDIATELY.
- 8. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED AND GRADED TO DRAIN.
- 9. ANY TEMPORARY SPOILS STOCKPILE MUST BE LOCATED OUTSIDE OF ANY TREE DRIPLINES AND IN THE TEMPORARY SPOILS AREA DESIGNATED ON THE APPROVED PLANS. ALL SURPLUS MATERIAL WILL BE DISPOSED
- 10. ALL DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE IN A MANNER NOT TO DAMAGE THE OWNER'S PROPERTY PRIOR TO ACCEPTANCE OF THE PROJECT.
- 11. IF CONTRACTOR ENCOUNTERS A VOID ON THE PROJECT, CONTRACTOR IS TO CONTACT ENGINEER AT (512) 872-6696 OR CRAIG CRAWFORD AT CAMBRIAN ENVIRONMENTAL AT (512) 705-5541 FOR EVALUATION OF THE FEATURE. ONCE CAMBRIAN ENVIRONMENTAL HAS VERIFIED THAT THE FEATURE IS NOT AN ENDANGERED

12. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATION (MOST CURRENT EDITION).

TRENCH SAFETY NOTES:

OF OFFSITE.

- 1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDED BY THE CONTRACTOR
- 2. IN ACCORDANCE WITH THE U. S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS,
- MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL. 3. CONSTRUCTION SHALL NOT PROCEED UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF GEORGETOWN.

SEQUENCE OF CONSTRUCTION

- INSTALL TREE PROTECTION AND INITIATE TREE MITIGATION MEASURES. INSTALL EROSION CONTROLS AND OFF-SITE EROSION CONTROLS AS INDICATED ON APPROVED PLANS. 3. CONTACT CITY OF GEORGETOWN AND WILLIAMSON COUNTY TO SCHEDULE PRE-CONSTRUCTION COORDINATION
- MFFTIN(4. EVALUATE TEMPORARY EROSION CONTROL INSTALLATION. REVIEW CONSTRUCTION SCHEDULE WITH THE EROSION
- CONTROL PLAN. 5. BEGIN SITE CLEARING AND GRADING. INSPECT AND MAINTAIN ALL CONTROLS AS PER GENERAL NOTES.
- 5. CONSTRUCT UTILITY LINES I.E. WATER, WASTEWATER, STORM DRAINAGE & PONDS. CONSTRUCT SIDEWALK RAMPS. 8. CONSTRUCT PAVING/STREETS.
- 9. REVEGETATE DISTURBED AREAS OR COMPLETE A DEVELOPERS CONTRACT FOR THE REVEGETATION ALONG WITH THE ENGINEERS CONCURRENCE LETTER.
- 10. PROJECT ENGINEER INSPECTS JOB AND WRITES CONCURRENCE LETTER TO THE CITY. FINAL INSPECTION IS SCHEDULED UPON RECEIPT OF LETTER.
- 11. REMOVE TEMPORARY EROSION/SEDIMENTATION CONTROLS AT GRASS GROWTH.

CITY OF GEORGETOWN NOTES:

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

SPECIES HABITAT, CONTRACTOR MAY PROCEED AS DIRECTED BY THE DETAILS ON THESE PLANS.

12. PUBLIC WATER SYSTEM MAINS SHALL BE 150 PSI C900 PVC AND TESTED BY THE CONTRACTOR AT 150 PSI FOR 4 HOURS.

WATER AND WASTEWATER NOTES:

- 1. PIPE MATERIAL FOR WATER MAINS SHALL BE PVC (AWWA C-900, MIN. CLASS 200), OR DUCTILE IRON (C-115, MIN. CLASS 200) UNLESS SPECIFIED OTHERWISE.
- 2. PIPE MATERIAL FOR GRAVITY WASTEWATER MAINS SHALL BE PVC (ASTM D3034, SDR-26) UNLESS SPECIFIED OTHERWISE.
- 3. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR TO COORDINATE UTILITY TIE-INS AND NOTIFY HIM AT
- LEAST 48 HOURS PRIOR TO CONNECTING TO EXISTING LINES. 4. ALL MANHOLES SHALL HAVE ECCENTRIC CONES AND SHALL BE CONCRETE WITH CAST IRON RING AND COVER. ALL MANHOLES LOCATED OUTSIDE OF THE PAVEMENT SHALL HAVE BOLTED COVERS. TAPPING OF FIBERGLASS MANHOLES SHALL NOT BE ALLOWED.
- 5. THE CONTRACTOR MUST OBTAIN A BULK WATER PERMIT OR PURCHASE AND INSTALL A WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER. CONTRACTOR TO INSTALL ABOVE GROUND WATER TANK WITH SUPPLY LINE AS INDICATD ON PLANS.
- 6. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE SCHEDULED WITH THE CITY INSPECTOR.
- 7. THE CONTRACTOR, AT HIS EXPENSE, SHALL PERFORM QUALITY TESTING FOR ALL WASTEWATER PIPE INSTALLED AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS. QUALITY AND PRESSURE TESTING SHALL BE MONITORED BY CITY OF GEORGETOWN PERSONNEL.
- 8. THE CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY OF INSPECTOR AND PROVIDE NO LESS THAN 24 HOURS NOTICE PRIOR TO PERFORMING STERILIZATION, QUALITY TESTING OR PRESSURE TESTING.
- 9. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES UNLESS AUTHORIZED BY THE CITY OF GEORGETOWN. 10. ALL VALVE BOXES AND COVERS SHALL BE CAST IRON.
- 11. TOOLS FOR MARKING THE CURB SHALL BE PROVIDED BY THE CONTRACTOR. OTHER APPROPRIATE MEANS OF MARKING SERVICE AND VALVE LOCATIONS SHALL BE PROVIDED IN AREAS WITHOUT CURBS. SUCH MEANS OF
- MARKING SHALL BE AS SPECIFIED BY THE ENGINEER AND ACCEPTED BY THE CITY OF GEORGETOWN.
- 12. CONTACT CITY OF GEORGETOWN INSPECTION DEPARTMENT FOR ASSISTANCE IN OBTAINING EXISTING WATER AND WASTEWATER LOCATIONS. 13. SAND, AS DESCRIBED IN SPECIFICATION ITEM 510 PIPE, SHALL NOT BE USED AS BEDDING FOR WATER AND WASTEWATER LINES. ACCEPTABLE BEDDING MATERIALS ARE PIPE BEDDING STONE, PEA GRAVEL AND IN LIEU OF

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SAND, A	NATU	RALLY	OCCUR	RING (DR MA	NUFA	CTURED	STONE	MATE	RIAL C	CONFORMI	NG TO	ASTM	C33	FOR
QUALITY	AND N	IEETING	THE	FOLLO	MING	GRAD	ATION S	PECIFIC/	ATION:						

<u>EVE SIZE</u>	PERCENT RETAINED BY WEIGHT
1/2"	0
3/8"	0-2
#4	40-85
<i>⋕</i> 10	95–100

- 15. THE CONTRACTOR IS HEREBY NOTIFIED THAT CONNECTING TO, SHUTTING DOWN, OR TERMINATING EXISTING UTILITY LINES MAY HAVE TO OCCUR AT OFF-PEAK HOURS. SUCH HOURS ARE USUALLY OUTSIDE NORMAL WORKING HOURS AND POSSIBLY BETWEEN 12 A.M. AND 6 A.M.
- 16. ALL WASTEWATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REGULATIONS, 30 TAC CHAPTER 313 AND 317, AS APPLICABLE. WHENEVER TCEQ AND CITY OF GEORGETOWN SPECIFICATIONS CONFLICT, THE MORE STRINGENT SHALL APPLY.
- 17. THE CONTRACTOR SHALL CONTACT THE "DIG TESS" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF GEORGETOWN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W. / EASEMENT LINES.
- 18. ALL MANHOLES IN UNPAVED AREAS PROVIDING DIRECT ACCESS TO A WASTEWATER LINE SHALL BE WATERTIGHT AND BEAR THE WORDING AND INSIGNIA FOR THE CITY OF GEORGETOWN.
- 19. THE OWNER IS RESPONSIBLE FOR ALL COST OF RELOCATION OR DAMAGE TO UTILITIES.
- 20. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS/HER FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
- 21. THE ENGINEER, IN PREPARING THESE PLANS HAS ATTEMPTED TO LOCATE ALL EXISTING UTILITIES IN THE AREAS OF EXPANSION OR NEW CONSTRUCTION. HOWEVER, THERE MAY BE UTILITIES THAT COULD NOT BE OR WERE NOT LOCATED. UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL CALL APPROPRIATE UTILITY COMPANIES FOR LOCATIONS OF THEIR UTILITIES AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION. IN THE EVENT THAT A UTILITY IS SITUATED SUCH THAT CONSTRUCTION CANNOT PROCEED AS SHOWN ON THE PLANS, THE CONSTRUCTION MANAGER/SUPERVISOR SHALL BE NOTIFIED IMMEDIATELY.
- 22. CONTRACTOR TO COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES AS DESIGNATED ON PLANS.
- 23. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER AND ASSOCIATED VALVING AND SEWER LINES AND ASSOCIATED MANHOLES, IS NINE (9) FEET OUTSIDE DIAMETER TO OUTSIDE DIAMETER. THE MINIMUM VERTICAL SEPARATION BETWEEN WATER AND SEWER LINES IS EIGHTEEN (18) INCHES.
- 24. THE TOP ELEVATION OF MANHOLES IN PAVED AREAS SHALL MATCH FINISH GRADE. THE TOP ELEVATION OF MANHOLES IN UNPAVED AREAS SHALL BE 3" (MIN.) ABOVE FINISH GRADE, UNLESS OTHERWISE NOTED ON PLANS.
- 25. CONTRACTOR SHALL COORDINATE INSPECTION OF UTILITY LINES WITH APPROPRIATE AUTHORITIES PRIOR TO BACKFILLING TRENCHES.
- 26. ALL WATER AND WASTEWATER LINES IN CITY R.O.W. AND EASEMENTS WILL MEET THE CITY OF GEORGETOWN WATER AND WASTEWATER DEPARTMENT DESIGN CRITERIA, AT A MINIMUM.
- 27. CITY MAINTENANCE OF UTILITIES ENDS AT THE PROPERTY LINE UNLESS IN AN EASEMENT.
- 28. EXTEND ALL EXISTING UTILITY MANHOLES, BOXES, COVERS, ETC. TO PROPOSED FINISH GRADE, UNLESS APPROVED OTHERWISE.
- 29. ALL UNDERGROUND UTILITY CONSTRUCTION WITHIN CITY R.O.W. OR PUBLIC EASEMENTS MUST BE ACCOMPLISHED IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD SPECIFICATIONS. 30. AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR APPROVED
- EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS. 31. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY MARKED AS FOLLOWS:

"W" ON TOP OF CURB WATER SERVICE WASTEWATER SERVICE "S" ON TOP OF CURB "V" ON FACE OF CURB "DU" ON FACE OF CURB DRY UTILITIES

VALVE

32. CENTER ONE 20-FOOT 150 PSI PRESSURE RATED WASTEWATER PIPE SECTION AT ALL WATERLINE CROSSINGS. 33. 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 CHAPTER 217 (DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS) OR 30 TAC CHAPTER 290 (PUBLIC DRINKING WATER).

- EROSION AND SEDIMENTATION CONTROL NOTES
- 1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTIVE FENCING PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).
- 2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
- 3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL ARFA PLAN.
- 4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND CITY INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS AND TREE/NATURAL AREA PROTECTION MEASURES AND PRIOR TO BEGINNING ANY SITE PRÉPARATION WORK. THE CONTRACTOR SHALL NOTIFY THE CITY OF GEORGETOWN, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE.
- 5. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
- 6. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

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•1000 TO 1500 GPM GREEN •500 - 999 GPM ORANGE LASS THAN 500 GPM RED

			DATE
NERAL NOTES:			⊢ E
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF GEORGETOWN STANDARD CONSTRUCTION SPECIFICATIONS AS ADOPTED AND AMENDED UNLESS OTHERWISE SPECIFIED.			
OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE CONSTRUCTION PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER.			
THE CONTRACTOR SHALL GIVE THE CITY OF GEORGETOWN 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE REVEGETATED IN ACCORDANCE WITH THE PLANS AND CITY OF GEORGETOWN STANDARD SPECIFICATIONS. REVEGETATION OF ALL DISTURBED OR EXPOSED AREAS SHALL CONSIST OF SODDING OR SEEDING, AT THE CONTRACTOR'S OPTION. HOWEVER, THE TYPE OF REVEGETATION MUST EQUAL OR EXCEED THE TYPE OF VEGETATION PRESENT BEFORE CONSTRUCTION UNLESS OTHERWISE REQUESTED BY THE OWNER.			
PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CONVENE A PRECONSTRUCTION CONFERENCE BETWEEN THE CITY OF GEORGETOWN, HIMSELF, THE ENGINEER, THE OWNER, THE ENVIRONMENTAL ENGINEER, GEOTECHNICAL ENGINEER, UTILITY COMPANIES, ANY AFFECTED BARDEES AND ANY OTHER ENTITY THE COUNTY OF ENCINEER MAY REQUIRE			
WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND ANY TEMPORARY EASEMENTS. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE			REVIG
AVAILABLE BENCHMARK(S) THAT MAY BE UTILIZED FOR THE CONSTRUCTION OF THIS PROJECT ARE DESCRIBED AS FOLLOWS:			
NAVD 88 (GEOID 12A) BM(1380)-221: COTTON CIN SPINDLE FOLIND IN THE SOUTH EDGE. OF A CONCRETE SIDEWALK			
ELEVATION = 962.21 FEET. BM(1380)-700100:			
MAGNAIL WITH WASHER STAMPED HR GREEN SET IN CONCRETE RIM OF WATER MANHOLE ELEVATION = 940.16 FEET. BM(1380)-700200:			Z
MAGNAIL WITH WASHER STAMPED HR GREENSET IN CONCRETE BASE OF BOLLARD ELEVATION = 890.30 FEET.		Ш	®
SIDEWALK RAMPS AND SIDEWALKS LOCATED IN FRONT OF COMMON AREAS TO BE INSTALLED WITH INFRASTRUCTURE CONSTRUCTION			
CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITY OR IMPROVEMENTS.	Know what Call	at's belo v before v	W. ou dia
RECOMMENDATIONS - PARKSIDE ON THE RIVER SECTIONS 8,9,&10 GEORGETOWN, TEXAS, DATED OCTOBER 2023 BY MLA GEOTECHNICAL, ENGINEER'S JOB# 23101123.001 FOR PAVEMENT DESIGN RECOMMENDATIONS. ANY CONFLICT BETWEEN THESE CONSTRUCTION PLANS AND THE GEOTECHNICAL REPORT SHALL BE RESOLVED IN FAVOR OF THE GEOTECHNICAL REPORT.			ou aigi
THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC. (KEN HEROY, PH: 512-989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO THE FOLLOWING:	290 WE	-	94101
2) BEGINNING EACH PHASE OF CONSTRUCTION 3) TESTING OF WATER AND/OR WASTEWATER LINES 4) EINAL WALK-THEOLICH OF FACILITIES	I GHWAY 150 ТХ 78	2. 6696 N. COM	NO: 101
WHEN REQUIRED, CONTRACTOR SHALL REMOVE PAVEMENT IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS, LATEST EDITION.	5508 H SUITE AUSTIN	512.87 HRGREE TRDF N	TBPLS
ALL PAVEMENT REMOVED SHALL BE DONE SUCH THAT THE REMAINING PAVEMENT IS LEFT WITH A CLEAN STRAIGHT EDGE.			L X
WHEN REQUIRED, CONTRACTOR SHALL REMOVE EXISTING PAVEMENT STRIPING BY SAND BLASTING FROM EXISTING PAVEMENT IN ACCORDANCE WITH ITEM 678 OF THE TXDOT LATEST EDITION.			F
EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH THE TADOT EATEST EDITION. SPECIFICATIONS AND THE GEOTECHNICAL STUDY.			N L
IF THE CONTRACTOR FINDS A DISCREPANCY WITH THE TOPOGRAPHIC INFORMATION ON THESE PLANS HE/SHE SHOULD CONTACT THE ENGINEER OR OWNER IMMEDIATELY.		Ū	0 P N
CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION. DESIGN OF MAJOR DRAINAGE WAYS THROUGH A SUBDIVISION AND MAJOR STRUCTURES SUCH AS BOX CULVERTS OR BRIDGES ACROSS A MAJOR DRAINAGE CHANNEL SHALL BE COORDINATED WITH THE REQUIREMENTS OF THE WILLIAMSON COUNTY HEALTH DISTRICT WHEN ANY PORTION OF THE SUBDIVISION LIES OUTSIDE THE CITY LIMITS, AND WHEN APPLICABLE, A LETTER REQUESTING A LOCAL FLOOD PLAIN MAP AMENDMENT FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) SHALL BE PROVIDED PRIOR TO FINAL CONSTRUCTION PLAN		- T	DEVEL
TRAFFIC MARKING NOTE			
1. ANY METHODS, STREET MARKINGS AND SIGNAGE NECESSARY FOR WARNING MOTORISTS, WARNING PEDESTRIANS OR DIVERTING TRAFFIC DURING CONSTRUCTION SHALL CONFORM TO THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS,	51.AT	E OF TETA	S × ×
2. ALL PAVEMENT MARKINGS, MARKERS, PAINT, TRAFFIC BUTTONS, TRAFFIC CONTROLS AND SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES AND, THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST FDITION.	SHER PROACSS	VIN NOOSH 96807 CENSEO ONAL ENG	N KER
	Sher	- roor	
ADDITIONAL NOTES 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOWING AND THE REMOVAL OF ALL LITTER		11/	/03/2023
WITHIN THE PROJECT LIMITS SO AS TO KEEP THE SITE OF THE WORK IN A NEAT AND PRESENTABLE CONDITION AT ALL TIMES. THIS WORK WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS BID ITEMS.			S A S
2. THE CONTRACTOR SHALL PROTECT ALL AREAS WHICH ARE NOT INCLUDED IN THE ACTUAL LIMITS OF THE PROPOSED CONSTRUCTION AREAS FROM DESTRUCTION. CARE SHALL BE EXERCISED TO PREVENT DAMAGE TO TREES, VEGETATION, FENCES, POWER POLES, AND OTHER NATURAL SURROUNDINGS. THE AREAS NOT TO BE DISTURBED INCLUDE ALL GOLF COURSE AREAS, UNLESS SPECIFIED OTHERWISE. THE CONTRACTOR SHALL, AT HIS EXPENSE, RESTORE ANY AREA DISTURBED AS A RESULT OF HIS OPERATIONS TO A CONDITION AS GOOD AS, OR	ហ	A Z N O	N, TE)
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MARKING EVERY 100 FOOT ROAD STATION, AND SHALL MAINTAIN THE MARKINGS FOR THE DURATION OF THE PROJECT. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE ITEMIZED CONSTRUCTION CONTRACT	Ц Ц Ц Ц		Σ Ω
4. THE SUPERINTENDENT SHALL BE AVAILABLE ON THE PROJECT AT ALL TIMES WHEN WORK IS BEING PERFORMED.			IA
5. NO BLASTING IS ALLOWED ON THIS PROJECT.		ິ ທີ –	
6. NO STORAGE OF HYDROCARBON OR HAZARDOUS MATERIAL IS ALLOWED ON SITE.	2		3
PARKSIDE ON THE RIVER M.U.D. NO. 2 NOTES	Ш 7	ה ה	Z
512-989-2200) SHALL BE CONTACTED 48 HOURS PRIOR TO: i) PRE-CONSTRUCTION MEETINGS;		الم م	
 iii) DEGININING EACH FINALE OF CONSTRUCTION iii) TESTING OF WATER AND/OR WASTEWATER LINES; AND, iv) FINAL WALK—THROUGH OF FACILITIES 2. REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO WATER, WASTEWATER, AND DRAINAGE, AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER. 		L P A I C D Z	R G E
GEORGETOWN FIRE DEPARTMENT NOTES			Ц Ц Ц
1. 1,500 GPM FIRE FLOW SHALL BE PROVIDED FOR THIS PROJECT. 2. AT THE CONCLUSION OF CONSTRUCTION AND AS PART OF THE PROCESS FOR THE CITY TO ACCEPT THIS PHASE:			ن
•THE FIRE HYDRANTS SHALL BE FLOWED AND TESTED •A COPY OF THE REPORT SHALL BE EMAILED INTO THE FIRE DEPARTMENT •THE HYDRANTS SHALL BE PAINTED AND COLOR CODED.	DESIGN DRAWN	ED BY:	CC TG/MKM
THE CAUTION : IF PRESSURE REDUCING VALVES WERE INSTALLED IN THIS PHASING THEY MUST BE SET PRIOR TO FIRE HYDRANT FLOW TESTING.	CHECKE	D BY:	SN
5. FER OFFE ORDINANCE SEC. 13.13.120, HIDRANT FLOW CODING STANDARDS. PUBLIC HYDRANTS WILL HAVE THE BARRELS PAINTED SILVER, THE HYDRANTS WILL BE FLOW TESTED, AND THE BONNET PAINTED USING THE HYDRANT FLOW STANDARD IN PARAGRAPH C. FLOW COLOR: •GREATER THAN 1500 GPM BLUE	APPROV	'ED BY: <u></u>	

SHEET **2** of **72**

2023-XX-CON

•NOT WORKING BLACK OR BAGGED

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

- 1. THIS ORGANIZED SEWAGE COLLECTION SYSTEM MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) EDWARDS AQUIFER RULES 30 TEXAS ADMINISTRATIVE CODE (TAC) §§213.5(C) AND 217.51 - 217.70 AND 30 TAC CHAPTER 217, SUBCHAPTER D, AND THE CITY OF ROUND ROCK STANDARD SPECIFICATIONS.
- 2. ALL CONTRACTORS CONDUCTING REGULATED ACTIVITIES ASSOCIATED WITH THIS PROPOSED REGULATED PROJECT MUST BE PROVIDED WITH COPIES OF THE SEWAGE COLLECTION SYSTEM 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. NO LATER THAN 48 HOURS PRIOR TO COMMENCING ANY REGULATED ACTIVITY, THE APPLICANT OR HIS AGENT MUST NOTIFY THE TCEQ AUSTIN REGIONAL OFFICE, IN WRITING, OF THE DATE ON WHICH THE REGULATED ACTIVITY WILL BEGIN.
- 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. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION, MUST BE MAINTAINED DURING CONSTRUCTION, AND MUST BE REMOVED WHEN SUFFICIENT VEGETATION IS ESTABLISHED TO CONTROL THE EROSION AND SEDIMENTATION AND THE CONSTRUCTION AREA IS STABILIZED.
- 6. THE SEWER LINE TRENCH DETAILS SHOWING THE CROSS SECTION WITH THE DIMENSIONS, PIPE PLACEMENT, AND BACKFILL INSTRUCTIONS ARE INCLUDED ON PLAN SHEET 80 OF 124 OF THESE PLANS. ALL SEWER PIPES JOINTS MUST MEET THE REQUIREMENTS IN 30 TAC §§217.53(C) AN 217.65.
- GRAVITY LINES MUST HAVE A SDR 35 OR LESS. PRESSURIZED SEWER SYSTEMS MUST HAVE PIPE WITH A MINIMUM WORKING PRESSURE RATING OF 150 PSI.

THE ASTM, ANSI, OR AWWA SPECIFICATION NUMBERS FOR THE PIPE(S) AND JOINTS ARE ASTM-D3034. THE PIPE MATERIAL, THE PRESSURE CLASSES, AND THE SDR AND/OR DR DESIGNATIONS ARE SDR-26.

- 7. 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 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY 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 WITHIN TWO WORKING DAYS. THE APPLICANT MUST SUBMIT A PLAN FOR ENSURING THE STRUCTURAL INTEGRITY OF THE SEWER LINE OR FOR MODIFYING THE PROPOSED COLLECTION SYSTEM ALIGNMENT AROUND THE FEATURE. THE REGULATED ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL THE EXECUTIVE DIRECTOR HAS REVIEWED AND APPROVED THE METHODS PROPOSED TO PROTECT THE SENSITIVE FEATURE AND THE EDWARDS AQUIFER FROM ANY POTENTIALLY ADVERSE IMPACTS TO WATER QUALITY WHILE MAINTAINING THE STRUCTURAL INTEGRITY OF
- 8. 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 SIX (6)
- 9. 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.
- 10. 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 75 & 77 OF 124.

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.

- 11. 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).
- 12. 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 USED: 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.

- 13. 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.
- 14. 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.
- 15. 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).
- 16. 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) OR A COLLECTION SYSTEM PIPE THAT WILL TRANSPORT WASTEWATER BY GRAVITY FLOW. THE DESIGN MÚST SPECIFY AN INFILTRATION AND EXFILTRATION TEST OR A LOW-PRESSURE AIR TEST. A TEST MUST

CONFORM TO THE FOLLOWING REQUIREMENTS: (1) LOW PRESSURE AIR TEST.

- (A) A LOW PRESSURE AIR TEST MUST FOLLOW THE PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-828, ASTM C-924, OR ASTM F-1417 OR OTHER PROCEDURE APPROVED BY THE EXECUTIVE DIRECTOR, EXCEPT AS TO TESTING TIMES AS REQUIRED IN TABLE C.3 IN SUBPARAGRAPH (C) OF THIS PARAGRAPH OR EQUATION C.3 IN SUBPARAGRAPH (B)(II) OF THIS PARAGRAPH. (B) FOR SECTIONS OF COLLECTION SYSTEM PIPE LESS THAN 36 INCH AVERAGE INSIDE
- DIAMETER, THE FOLLOWING PROCEDURE MUST APPLY, UNLESS A PIPE IS TO BE TESTED AS REQUIRED BY PARAGRAPH (2) OF THIS SUBSECTION. (I) A PIPE MUST BE PRESSURIZED TO 3.5 POUNDS PER SQUARE INCH (PSI) GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER ABOVE THE PIPE. (II) ONCE THE PRESSURE IS STABILIZED, THE MINIMUM TIME ALLOWABLE FOR THE PRESSURE TO DROP FROM 3.5 PSI GAUGE TO 2.5 PSI GAUGE IS COMPUTED FROM THE FOLLOWING EQUATION:

0.085 x D x K EQUATION C.3 T =

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

Q

- 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

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

FIRST 25% OF THE CALCULATED TESTING TIME

- TESTING PERIOD, THEN THE TEST MUST CONTINUE FOR THE ENTIRE TEST DURATION AS OUTLINED ABOVE OR UNTIL FAILURE.
- PROCEDURE OUTLINED IN THIS SECTION. MUST BE APPROVED BY THE EXECUTIVE DIRECTOR.

(2) INFILTRATION/EXFILTRATION TEST.

- (A) THE TOTAL EXFILTRATION, AS DETERMINED BY A HYDROSTATIC HEAD TEST, MUST NOT MANHOLE. PIPES ARE INSTALLED BELOW THE GROUNDWATER LEVEL.
- WHICHEVER IS GREATER
- PIPE PER 24 HOURS AT THE SAME MINIMUM TEST HEAD AS IN SUBPARGRAPH (C) OF THIS PARAGRAPH
- MEASUREMENT REQUIRES A RIGID MANDREL. (A) MANDREL SIZING.
- APPENDIX THE MANDREL MUST HAVE AN OD EQUAL TO 95% OF THE ID OF A PIPE. IN THIS CASE,
- CONTROLLED PIPE. (III) ALL DIMENSIONS MUST MEET THE APPROPRIATE STANDARD. (B) MANDREL DESIGN. THAT CAN WITHSTAND 200 PSI WITHOUT BEING DEFORMED.
- 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.
 - CASE-BY-CASE BASIS
- OTHER TEST METHODS MAY BE USED TO DETERMINE VERTICAL 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%).
- 18 ALL PRIVATE SERVICE LATERALS MUST BE INSPECTED AND CERTIFIED IN ACCORDANCE WITH 30 TAC
- SUPPLEMENTAL TCEQ NOTES:
- FOR CONNECTING PIPE TO MANHOLES.
- GEOLOGICAL OR GEOTECHNICAL PROFESSIONAL.
- 3. TRENCH WALLS MUST BE VERTICAL TO AT LEAST ONE FOOT ABOVE THE PIPE. TRENCH BACKFILL UNSTABLE MATERIAL.
- 4. ALL WASTEWATER PIPE MATERIAL PVC SDR26-ASTM-3034 USED MUST HAVE A MINIMUM ALLOWABLE TENSILE.

TABLE C.3:	

(D) AN OWNER MAY STOP A TEST IF NO PRESSURE LOSS HAS OCCURRED DURING THE (E) IF ANY PRESSURE LOSS OR LEAKAGE HAS OCCURRED DURING THE FIRST 25% OF A

(F) WASTEWATER COLLECTION SYSTEM PIPES WITH A 27 INCH OR LARGER AVERAGE INSIDE DIAMETER MAY BE AIR TESTED AT EACH JOINT INSTEAD OF FOLLOWING THE

(G) A TESTING PROCEDURE FOR PIPE WITH AN INSIDE DIAMETER GREATER THAN 33 INCHES

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

(B) AN OWNER SHALL USE AN INFILTRATION TEST IN LIEU OF AN EXFILTRATION TEST WHEN (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,

(D) FOR CONSTRUCTION WITHIN A 25-YEAR FLOOD PLAIN, THE INFILTRATION OR EXFILTRATION MUST NOT EXCEED 10 GALLONS PER INCH DIAMETER PER MILE OF

(E) IF THE QUANTITY OF INFILTRATION OR EXFILTRATION EXCEEDS THE MAXIMUM QUANTITY SPECIFIED, AN OWNER SHALL UNDERTAKE REMEDIAL ACTION IN ORDER TO REDUCE THE INFILTRATION OR EXFILTRATION TO AN AMOUNT WITHIN THE LIMITS SPECIFIED. AN OWNER SHALL RETEST A PIPE FOLLOWING A REMEDIATION ACTION. (F) 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 (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 (II) IF A MANDREL SIZING DIAMETER IS NOT SPECIFIED IN THE APPROPRIATE STANDARD,

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

(I) A RIGID MANDREL MUST BE CONSTRUCTED OF A METAL OR A RIGID PLASTIC MATERIAL

(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

(III) IF REQUESTED THE EXECUTIVE DIRECTOR MAY APPROVE THE USE OF A DEFLECTOMETER OR A MANDREL WITH REMOVABLE LEGS OR RUNNERS ON A

(2) FOR A GRAVITY COLLECTION SYSTEM PIPE WITH AN INSIDE DIAMETER 27 INCHES AND GREATER. (3) A DEFLECTION TEST METHOD MUST BE ACCURATE TO WITHIN PLUS OR MINUS 0.2% DEFLECTION.

(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.

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

§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.

1. WATERTIGHT, SIZE ON SIZE RESILIENT CONNECTORS CONFORMING TO ASTM C-923 ARE REQUIRED

2. IF FAULTS, CAVERNS, OR SUBSIDENCE ARE DISCOVERED DURING CONSTRUCTION, CONSTRUCTION SHOULD BE HALTED TO ALLOW THE FEATURES TO BE INSPECTED BY THE DESIGN ENGINEER OR

MUST BE FREE OF STONES GREATER THAN 6-INCHES AND FREE OF ORGANIC OR ANY OTHER

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1.	This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
2.	All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].
3.	Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF–pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
4.	No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
5.	All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].
6.	Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
7.	The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
8.	The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16–mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
9.	The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [$\S290.44(f)(1)$].
10.	When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
11.	 Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans. The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in
	use; $Q = \frac{LD\sqrt{P}}{148,000}$
	Where:
	 Q = the quantity of makeup water in gallons per hour, L = the length of the pipe section being tested in feet
	 D = the nominal diameter of the pipe in inches, and
	 P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
	• The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;
	$L = \frac{SD\sqrt{P}}{148.000}$
	Where:
	• L = the quantity of makeup water in gallons per hour,
	 S = the length of the pipe section being tested, in feet,
	 D = the nominal diameter of the pipe in inches, and P = the average test pressure during the hydrostatic test in pounds per square
	inch (psi).
12.	The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)–(4).
13.	The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine–foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five–foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
14.	Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
15.	Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
16.	Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
17.	The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651–14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
18.	Dechlorination of disinfecting water shall be in strict accordance with current AWWA

Standard C655–09 or most recent.

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

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

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

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include: - the name of the approved project;

- the activity start date; and
- the contact information of the prime contractor.

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

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

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.

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.

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,

Sediment must be removed from the sediment traps or sedimentation basins not later than when it occupies 50% of the basin's design capacity.

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

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.

If portions of the site will have a temporary or permanent cease in construction activity lastin 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.

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:

- 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;
- 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.

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3096
Fax (210) 545-4329

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

Abarkside sections 8. 9a & 10a/section 8/03 ACAD/Plans/sh2303297 PCOND.dwg. PROPOSED CONDITIONS PLAN. November 01. 5

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barkside sections 8, 9a & 10a\section 8\03_ACAD\Plans\sh2303297 EROS.dwg, EROSION & SEDIMENTATION CONT

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

NOTE: THIS SECTION IS INTENDED TO ASSIST THOSE PERSONS PREPARING WATER POLLUTION ABATEMENT PLANS (WPAP) OR STORM WATER POLLUTION PREVENTION PLANS (SW3P) THAT COMPLY WITH FEDERAL, STATE AND/OR LOCAL STORM WATER REGULATIONS. 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. MUST DE SUDMITTEU TU AND APPRUVEU BY THE UWNER'S MEPRESENTATIVE. 4. ALL PLANTING SHALL BE DONE BETWEEN MAY 1 AND SEPTEMBER 15 EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING. IF PLANTING IS AUTHORIZED TO BE DONE OUTSIDE THE DATES SPECIFIED, THE SEED SHALL BE PLANTED WITH THE ADDITION OF WINTER FESCUE (KENTUCKY 31) AT A RATE OF 1001b/ACRE. GRASS SHALL BE COMMON BERMUDA GRASS, HULLED, MINIMUM 82% PURE LIVE SEED. ALL GRASS SEED SHALL BE FREE FROM NOXIOUS WEED, GRADE "A" RECENT CROP, RECLEANED AND TREATED WITH APPORPARIE FUNCICIDE AT TIME OF MIXING. SEED SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS WITH DEALER'S GUARANTEED ANALYSIS. 5. ALL DISTURBED AREAS TO BE RESTORED AS NOTED IN THE WATER POLLUTION ABATEMENT PLAN. 6. THE PLANTED AREA TO BE IRRIGATED OR SPRINKLED IN A MANNER THAT WILL NOT ERODE THE TOPSOIL, BUT WILL SUFFICIENTLY SOAK THE SOIL TO A DEPTH OF FOUR (4) INCHES. THE IRRIGATON 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. 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. 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. 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. 13. TREES TO BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED. 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 STATUATION THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR STANDARDS OF THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR STANDARDS TOR STATUSTIC ON THE INDUSTRY (REFERENCE THE "NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR STANT THEY HAVE NOT BEEN SIGNIFANTLY 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 ERGION/SEDIMENTATION CONTROLS AND TO MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ASSURE CONTINUED EFFECTIVE OPERATION OF EACH DEVICE. INCIDION INCIDIONE INCLUSIONE OF AN APPROVED GRADE CHANGE, IMPERMENDED FLORIDATION DUTIDATIONE WELL, OR OTHER SUCH STIE 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 assume responsibility for appropriate use of this standard. MEMSION NOTE ADOPTED 6/21/2006

CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS

EC01A

PLACE THE EMBANKMENT MATERIAL IN 8 TO 12 INCH LIFTS AND MACHINE COMPACT. INSPECTION AND MAINTENANCE GUIDELINES: INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION ID INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE Contractor. Trash and other debris should be removed and the trap restored to its original dimensions when the sediment has accumulated to half of the design depth of the trap. - Sediment removed from the trap should be deposited in an approved spoils area and in such a manner that it will not cause additional sultation.

The Architect/Engineer assumes responsibility for appropriate

of this standard					
<i>j</i> 1110 oluntuuru.		Revision Note:	ADOPTE	D 6/21/2006	
4	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	DRAWING HOME		EC07	
Georgetown	SEDIMENT TRAF DETAIL	SOULE: NTS DRUM BY:	0472: 1/2003		
Georgetown Utility Systems Your Community Owned Utility		MRS	TRB		

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

3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES: A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA. B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

H. Triangular Sediment Filter Dikes.

(See Standard Specifications manual item 648S and Specifications manual item <u>648S</u> for detail)

1. Description. A temporary barrier constructed of wire mesh and geotextile fabric, installed along a flat area. 2. Purpose.

The purpose of a triangular sediment filter dike is to intercept and detain water-borne sediment from a stabilized construction entrance, roadway

2023-XX-CON

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	Existing Drainage Conditions							Time of Concentration Calculations																
		User Inputs			Auto-Ca	alculation	TOC Calcs		Routing Analy	sis Inputs		Contributing		Shee	t Flow		Shallow Con	centrated Flow	w(Unpaved) Shallow Co	oncentrated Fl	o w (P aved)	Pipe/Chan	nel Flow 1
Contributin Area	Area (sf)	CN (Pervious)	CN (Impervious)	Impervious Cover (sf)	Area (ac)	Impervious Cover (%)	TOC (min)	Area (sq. mi.)	Composite Curve Number	Lag Time	Reach Lag (if required)	Area	Length	Slope (ft/ft)	Roughness Coefficient	T _{sheet}	Length (ft)	Slope (ft/ft)	T _{unpaved}	Length (ft)	Slope (ft/ft)	T _{paved}	Length (ft) Veloc	ty (ft) T _{channel} (min)
E-01	483,952	77	98	0	11.11	0.0%	10.16	0.01736	77.0	6.10		E-01	100	0.046	0.150	6.77	733	0.050	3.39			0.00		0.00
E-02	49,658	77	98	0	1.14	0.0%	7.92	0.00178	77.0	4.75		E-02	100	0.044	0.150	6.89	280	0.079	1.03			0.00		0.00
E-03	1,789,009	77	98	61,768	41.07	3.5%	14.37	0.06417	77.7	8.62		E-03	100	0.034	0.150	7.64	601	0.062	2.49			0.00	1523 6	4.23

	Existing Conditions - Flows & Volumes - Atlas 14										
		Peak Flo	ows (cfs)		Volumes (ac-ft)						
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr			
E-01	19.29	41.09	57.82	88.44	1.63	3.46	4.92	7.66			
E-02	2.07	4.40	6.19	9.48	0.17	0.36	0.50	0.79			
E-03	67.28	141.94	199.29	304.14	6.22	13.05	18.46	28.63			
POI-1	19.29	41.09	57.82	88.44	1.63	3.46	4.92	7.66			
POI-2	2.07	4.40	6.19	9.48	0.17	0.36	0.50	0.79			
POI-3	67.28	141.94	199.29	304.14	6.22	13.05	18.46	28.63			

	Proposed (Interim) Conditions - Flows & Volumes - Atlas 14											
		Peak Flo	ows (cfs)			Volume	s (ac-ft)					
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr				
P-01	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20				
P-02	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95				
P-03	93.94	184.52	252.22	374.63	8.63	17.11	23.66	35.86				
POI-1	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20				
POI-2	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95				
POI-3	89.63	178.75	245.13	366.22	8.63	17.11	23.66	35.86				

	Fully-Developed Conditions - Flows & Volumes - Atlas 14										
		Peak Flo	ows (cfs)			Volume	s (ac-ft)				
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr			
P-01	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20			
P-02	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95			
P-03	140.71	257.76	343.72	498.23	12.70	23.78	32.18	47.67			
POI-1	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20			
POI-2	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95			
POI-3	135.48	250.17	335.34	488.49	12.70	23.78	32.18	47.67			

	F	low & Volu	me Compa	rison (Inter	rim - Existiı	n <mark>g) - Atl</mark> as 1	4	
		Peak Flo	ows (cfs)			Volume	es (ac-ft)	
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-1	-8.44	-21.44	-31.71	-50.74	-0.77	-1.85	-2.75	-4.46
POI-2	1.22	1.47	1.56	1.65	0.09	0.12	0.15	0.16
POI-3	22.35	36.81	45.84	62.08	2.41	4.06	5.20	7.23
	Flow	& Volume C	omparison	n (Fully-Dev	veloped - E	xisting) - A	tlas 14	
īD		Peak Flo	ows (cfs)			Volume	es (ac-ft)	
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-1	-8.44	-21.44	-31.71	-50.74	-0.77	-1.85	-2.75	-4.46
 POI-2	1.22	1.47	1.56	1.65	0.09	0.12	0.15	0.16
POI-3	68.20	108.23	136.05	184.35	6.48	10.73	13.72	19.04

NOTES:

× / / /

1. PLEASE REFER TO THE DETENTION WAIVER ANALYSIS ADDENDUM 1, SEALED JULY 28, 2023, SUBMITTED WITH THE 2023-22-PP.

SHEET **29** of **72**

2023-XX-CON

	Proposed (Interim) Drainage Conditions								Time of Concentration Calculations															
		User Inputs			Auto-Ca	alculation	TOC Calcs		Routing Analy	sis Inputs		Contributing		Shee	t Flow		ShallowCor	centrated Flo	w(Unpaved)	Shallow Concentrated Flo	w(Paved)	Pipe	e/Channel Flov	w1
Contributing Area	Area (sf)	CN (Pervious)	CN (Impervious)	Impervious Cover (sf)	Area (ac)	Impervious Cover (%)	TOC (min)	Area (sq. mi.)	Composite Curve Number	Lag Time	Reach Lag (if required)	Area	Length	Slope (ft/ft)	Roughness Coefficient	T _{sheet}	Length (ft)	Slope (ft/ft)	T _{unpaved}	Length (ft) Slope (ft/ft)	T _{paved}	Length (ft)	Velocity (ft)	T _{channel} (min)
P-01	174,240	77	98	83,600	4.00	48.0%	6.64	0.00625	87.1	3.99		P-01	35	0.020	0.240	5.94	96	0.020	0.70		0.00			0.00
P-02	50,965	77	98	27,399	1.17	53.8%	6.66	0.00183	88.3	4.00		P-02	35	0.020	0.240	5.94	98	0.020	0.72		0.00			0.00
P-03	2,096,978	77	98	498,420	48.14	23.8%	14.37	0.07522	82.0	8.62		P-03	100	0.034	0.150	7.64	601	0.062	2.49		0.00	1523	6	4.23

0	150 300
SCA	LE: 1" = 150'
I	EGEND
834	EXISTING MINOR CONTOUR
835	EXISTING MAJOR CONTOUR
834	PROPOSED MINOR CONTOUR
835	PROPOSED MAJOR CONTOUR
	BOUNDARY
	EASEMENT
	100YR FEMA ZONE A FLOODPLAIN
100YR FP	100YR FULLY DEVELOPED FLOODPLAIN
(SD)	PROPOSED STORM LINE
-¢-	FIRE HYDRANT
	WATER VALVE
(SD)	STORM SEWER MAHNOLE
	WASTEWATER MANHOLE
<u> </u>	CURB INLET
	TREES TO REMAIN HERITAGE

TREES TO REMAIN NON HERITAGE

Tc ------ TIME OF CONCENTRATION

		Existing	Condition	s - Flows &	Volumes -	Atlas 14		
		Peak Flo	ows (cfs)			Volume	s (ac-ft)	
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
E-01	19.29	41.09	57.82	88.44	1.63	3.46	4.92	7.66
E-02	2.07	4.40	6.19	9.48	0.17	0.36	0.50	0.79
E-03	67.28	141.94	199.29	304.14	6.22	13.05	18.46	28.63
POI-1	19.29	41.09	57.82	88.44	1.63	3.46	4.92	7.66
POI-2	2.07	4.40	6.19	9.48	0.17	0.36	0.50	0.79
POI-3	67.28	141.94	199.29	304.14	6.22	13.05	18.46	28.63

	Proposed (Interim) Conditions - Flows & Volumes - Atlas 14											
Ē		Peak Flo	ws (cfs)		Volumes (ac-ft)							
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr				
P-01	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20				
P-02	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95				
P-03	93.94	184.52	252.22	374.63	8.63	17.11	23.66	35.86				
POI-1	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20				
POI-2	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95				
POI-3	89.63	178.75	245.13	366.22	8.63	17.11	23.66	35.86				

	Fully-Developed Conditions - Flows & Volumes - Atlas 14											
П		Peak Flo	ows (cfs)			Volumes (ac-ft)						
U	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr				
P-01	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20				
P-02	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95				
P-03	140.71	257.76	343.72	498.23	12.70	23.78	32.18	47.67				
POI-1	10.85	19.65	26.11	37.70	0.86	1.61	2.17	3.20				
POI-2	3.29	5.87	7.75	11.13	0.26	0.48	0.65	0.95				
POI-3	135.48	250.17	335.34	488.49	12.70	23.78	32.18	47.67				

	F	low & Volu	me Compa	rison (Inte	rim - Existiı	ng) - Atlas 1	14	
Ē		Peak Flo	ows (cfs)			Volume	es (ac-ft)	
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-1	-8.44	-21.44	-31.71	-50.74	-0.77	-1.85	-2.75	-4.46
POI-2	1.22	1.47	1.56	1.65	0.09	0.12	0.15	0.16
POI-3	22.35	36.81	45.84	62.08	2.41	4.06	5.20	7.23
	Flow	& Volume C	Comparisor	n (Fully-Dev	/eloped - E	xisting) - A	tlas 14	
		Peak Flo	ows (cfs)			Volume	es (ac-ft)	
	2-yr	10-yr	25-yr	100-yr	2-yr	10-yr	25-yr	100-yr
POI-1	-8.44	-21.44	-31.71	-50.74	-0.77	-1.85	-2.75	-4.46
POI-2	1.22	1.47	1.56	1.65	0.09	0.12	0.15	0.16
POI-3	68.20	108.23	136.05	184.35	6.48	10.73	13.72	19.04

SHEET 30 OF 72

2023-XX-CON

NOTES:

1. PLEASE REFER TO THE DETENTION WAIVER ANALYSIS ADDENDUM 1, SEALED JULY 28, 2023, SUBMITTED WITH THE 2023-22-PP.

				Fully-D	eveloped D	Prainage Con	nditions										Time	e of Concentrat	tion Calcula	tions				
		User Inputs			Auto-Ca	Iculation	TOC Calcs		Routing Analy	sis Inputs		Contributing		Shee	t Flow		Shallow Cor	centrated Flov	v (Unpaved)	Shallow Concentrated Flo	ow (Paved)	Pip	e/Channel Flo	w 1
Contributing Area Ar	rea (sf)	CN (Pervious) (Imp	CN ervious)	Impervious Cover (sf)	Area (ac)	Impervious Cover (%)	TOC (min)	Area (sq. mi.)	Composite Curve Number	Lag Time	Reach Lag (if required)	Area	Length	Slope (ft/ft)	Roughness Coefficient	T _{sheet}	Length (ft)	Slope (ft/ft)	Tunpaved	Length (ft) Slope (ft/ft)	T _{paved}	Length (ft)	Velocity (ft)	T _{channel} (min)
P-01 1 ⁻	74,240	77	98	83,600	4.00	48.0%	6.64	0.00625	87.1	3.99		P-01	35	0.020	0.240	5.94	96	0.020	0.70		0.00			0.00
P-02 5	50,965	77	98	27,399	1.17	53.8%	6.66	0.00183	88.3	4.00		P-02	35	0.020	0.240	5.94	98	0.020	0.72		0.00			0.00
P-03 2,6	616,649	77	98	1,178,152	60.07	45.0%	13.20	0.09386	86.5	7.92		P-03	35	0.020	0.240	5.94	124	0.020	0.91		0.00	2287	6	6.35

NOTES:

ID

E-01

E-02

E-03

POI-1

POI-2

P-01

P-02

P-03

POI-1

POI-2

POI-3

ID

P-01

P-02

P-03

POI-1

POI-2

POI-3

ID

POI-1

POI-2

ID

POI-1

POI-2

POI-3

1. PLEASE REFER TO THE DETENTION WAIVER ANALYSIS ADDENDUM 1, SEALED JULY 28, 2023, SUBMITTED WITH THE 2023-22-PP.

APPROVED BY: _

SHEET **31** of **72**

2023-XX-CON

e magee\parkside sections 8, 9a & 10a\section 8\03 ACAD\Plans\sh2303297 pInletDAM.dwg, INLET DRAINAGE AREA MAP, November 01, 2023, 10:26 PM, tgarza

0	100' 200'
SCA	LE: 1" = 100'
I	EGEND
— — — 834 - — —	EXISTING MINOR CONTOUR
— — – 835 — — —	EXISTING MAJOR CONTOUR
834	PROPOSED MINOR CONTOUR
835	PROPOSED MAJOR CONTOUR
	BOUNDARY
	EASEMENT
	100YR FEMA ZONE A FLOODPLAIN
100YR FP	100YR FULLY DEVELOPED FLOODPLAIN
SD	PROPOSED STORM LINE
-ф-	FIRE HYDRANT
<i>•</i>	WATER VALVE
SD	STORM SEWER MAHNOLE
ŴŴ	WASTEWATER MANHOLE
0	CURB INLET
	TREES TO REMAIN HERITAGE
	TREES TO REMAIN NON HERITAGE
	DRAINAGE AREA
—— Тс ——	TIME OF CONCENTRATION

		1		ND. REVISION BY
D8 HIGHWAY 290 WEST ITE 150 STIN. TX 78735	2. 872. 6696 BREEN. COM	PE NO: 16384	PLS N0: 10194101	ig.
550 SUI		HHGREEN	TBP DEVELODMENT TY	
SHER PRORTSS	E OF VIN NO 9680 CENSI ONAL		* 1 3/20	• 23
INLET DRAINAGE AREA MAP	PARKSIDE SECTION 8	CONSTRUCTION PLANS	GEORGETOWN. WILLIAMSON. TEXAS	
DESIGN DRAWN CHECKE APPROV	ED E BY: C B'	3Y: Y: BY:		<u>с</u> КМ

			PARKSIDE ON THE RIVER SECTION 8																			PARKSIDE	ON THE I	RIVER SECTIC)N 8								
		RATIONAL METHOD FLOW CALCULATIONS FOR STORM INLETS																															
																			-				1										
BASIN	INLET	INLET	AREA	AREA	IMPERVIOUS (LOTS)	IMPERVIOUS (ROADS)	IMPERVIOUS	PERVIOUS	тс		2-YR			10-YR			25-YR			100-YR		Contributing		She	et Flow		Sha	llow Concentra	ted Flow (Unp	Javed)		Gutter Flow	
LABEL	LABEL	TYPE*	(SQ FT)	(AC)	(SF)	(SF)	%	%	(MIN)	с	I	Q	С	I	Q	с	1	Q	с	I	Q	Area	Length (ft)	Slope (ft/ft)	Roughness Coefficient	T _{sheet}	Length (f	t) Slope (ft/ft)	Roughness Coefficient	Tunpaved	Length (ft)	Velocity (ft/s)	Tpaved
1	A7	CSAG	17,497	0.40	0	14,199	81%	19%	5.0	0.82	6.48	2.12	0.82	8.64	2.86	0.83	9.84	3.28	0.84	11.88	4.00	1				0.00			1	0.00			0.00
2	B32	CGRD	22,063	0.51	0	16,318	74%	26%	5.0	0.77	6.48	2.51	0.78	8.64	3.39	0.78	9.84	3.90	0.80	11.88	4.79	2				0.00			,	0.00			0.00
3	B31	CGRD	31,922	0.73	16,000	5,421	67%	33%	7.3	0.72	5.91	3.10	0.73	7.94	4.25	0.74	9.10	4.93	0.76	11.03	6.11	3	35	0.02	0.24	1.41	187	0.02	0.24	5.29	227	6	0.63
4	B33	CGRD	44,209	1.01	16,000	11,204	62%	38%	8.2	0.68	5.72	3.93	0.69	7.71	5.42	0.70	8.86	6.33	0.72	10.75	7.89	4	35	0.02	0.24	1.41	240	0.02	0.24	6.79	0	6	0.00
5	B37	CGRD	33,661	0.77	10,000	8,714	56%	44%	5.0	0.63	6.48	3.18	0.65	8.64	4.36	0.67	9.84	5.06	0.69	11.88	6.32	5	35	0.02	0.24	1.41	70	0.02	0.24	1.98	92	6	0.26
6	B36	CGRD	35,300	0.81	15,600	3,100	53%	47%	6.6	0.62	6.08	3.04	0.63	8.16	4.20	0.65	9.33	4.91	0.67	11.29	6.15	6	35	0.02	0.24	1.41	175	0.02	0.24	4.95	76	6	0.21
7	C33	CGRD	47,291	1.09	20,800	3,108	51%	49%	7.4	0.60	5.90	3.84	0.62	7.93	5.33	0.63	9.09	6.25	0.66	11.02	7.88	7	35	0.02	0.24	1.41	203	0.02	0.24	5.74	76	6	0.21
8	C29	CSAG	37,520	0.86	10,800	15,156	69%	31%	5.6	0.73	6.32	3.98	0.74	8.45	5.41	0.75	9.64	6.25	0.77	11.65	7.71	8	35	0.02	0.24	1.41	128	0.02	0.24	3.62	201	6	0.56
9	C34	CGRD	11,735	0.27	0	8,712	74%	26%	5.0	0.77	6.48	1.34	0.78	8.64	1.81	0.79	9.84	2.08	0.80	11.88	2.55	9				0.00			,	0.00			0.00
10	C35	CGRD	43,733	1.00	20,800	3,102	55%	45%	7.1	0.63	5.97	3.76	0.65	8.02	5.20	0.66	9.18	6.08	0.68	11.12	7.62	10	35	0.02	0.24	1.41	192	0.02	0.24	5.43	76	6	0.21
11	C36	CGRD	38,378	0.88	10,800	10,103	54%	46%	6.6	0.63	6.07	3.35	0.64	8.14	4.62	0.66	9.31	5.40	0.68	11.27	6.76	11	35	0.02	0.24	1.41	177	0.02	0.24	5.01	79	6	0.22
12	C37	CGRD	18,254	0.42	0	13,532	74%	26%	5.0	0.77	6.48	2.08	0.78	8.64	2.81	0.78	9.84	3.23	0.80	11.88	3.97	12				0.00			ļ/	0.00	'	<u> </u>	0.00
13	C27	CGRD	31,940	0.73	14,000	6,549	64%	36%	5.0	0.70	6.48	3.31	0.71	8.64	4.51	0.72	9.84	5.21	0.74	11.88	6.44	13	35	0.02	0.24	1.41	38	0.02	0.24	1.07	283	6	0.79
14	C39	CGRD	29,020	0.67	15,600	3,647	66%	34%	5.2	0.71	6.42	3.04	0.72	8.57	4.14	0.73	9.77	4.78	0.75	11.80	5.91	14	35	0.02	0.24	1.41	123	0.02	0.24	3.48	113	6	0.31
15	C38	CGRD	32,914	0.76	15,600	4,777	62%	38%	5.3	0.68	6.40	3.29	0.69	8.55	4.49	0.71	9.74	5.20	0.73	11.77	6.45	15	35	0.02	0.24	1.41	119	0.02	0.24	3.37	181	6	0.50
16	C41	CGRD	24,640	0.57	10,000	3,586	55%	45%	5.0	0.63	6.48	2.31	0.65	8.64	3.17	0.66	9.84	3.69	0.69	11.88	4.61	16	35	0.02	0.24	1.41	77	0.02	0.24	2.18	100	6	0.28
17	B29	CGRD	40,343	0.93	15,600	5,200	52%	48%	5.1	0.61	6.47	3.63	0.63	8.63	5.00	0.64	9.82	5.82	0.66	11.86	7.30	17	35	0.02	0.24	1.41	116	0.02	0.24	3.28	128	6	0.36
18	B41	CGRD	14,945	0.34	0	11,135	75%	25%	5.0	0.77	6.48	1.71	0.78	8.64	2.31	0.79	9.84	2.66	0.80	11.88	3.26	18			+ +	0.00		<u> </u>	<u> </u>	0.00		<u> </u>	0.00
19	B40	CGRD	43,746	1.00	20,800	1,979	52%	48%	7.3	0.61	5.92	3.63	0.63	7.96	5.03	0.64	9.12	5.89	0.67	11.05	7.40	19	35	0.02	0.24	1.41	202	0.02	0.24	5.71	53	6	0.15
20	B39	CGRD	9,870	0.23	0	7,290	74%	26%	5.0	0.76	6.48	1.12	0.77	8.64	1.52	0.78	9.84	1.75	0.80	11.88	2.14	20			+ +	0.00		<u> </u>	<u> </u>	0.00	1	<u> </u>	
21	B38	CGRD	42,545	0.98	15,600	3,545	45%	55%	7.5	0.56	5.87	3.21	0.58	7.90	4.49	0.60	9.05	5.29	0.63	10.98	6.71	21	35	0.02	0.24	1.41	203	0.02	0.24	5.74	122	6	0.34

		COG C-Values		
	2	10	25	100
Impervious	0.95	0.95	0.95	0.95
Pervious	0.24	0.28	0.31	0.36

	COG IDF Cu	rve Values	
Year	а	b	c
2	106.29	16.81	0.9076
10	96.84	15.88	0.7952
25	111.07	17.23	0.7815
100	129.03	17.83	0.7625

										Curb	Inlets On	Grade Cal	culation	Summary	y: 25 year										
Drainage Area No.	Inlet No.	Q ₂₅ (cfs)	Q _{pass} (cfs)	Q _{total} (cfs)	Slope (%)	n	Ku	Street Width	Crown Height	Inlet Depression, a	ко	K1	K2	уO	a	b	Flow Spread, T	H1	H2	Qa/La	Length (ft)	Qa	Q _{pass}	% Captured	Bypass to Inlet
								(ft)	(ft)	(ft)				(ft)			(ft)	(ft)	(ft)	(cfs/ft)			(cfs)		
2	B32	3.90	0.00	3.90	7.50%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.28	0.0714	0.0026	4.62	0.69	0.42	0.73	10.00	7.28		100%	A7
3	B31	4.93	0.00	4.93	7.10%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.30	0.0714	0.0026	5.15	0.72	0.42	0.75	10.00	7.53		100%	A7
4	B33	6.33	0.00	6.33	1.50%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.42	0.0714	0.0026	8.45	0.84	0.42	0.88	10.00	8.82		100%	B31
5	B37	5.06	0.00	5.06	4.40%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.33	0.0714	0.0026	5.79	0.74	0.42	0.78	10.00	7.82		100%	B33
6	B36	4.91	0.00	4.91	4.30%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.33	0.0714	0.0026	5.73	0.74	0.42	0.78	10.00	7.80		100%	B33
7	C33	6.25	0.00	6.25	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.40	0.0714	0.0026	7.75	0.82	0.42	0.86	10.00	8.59		100%	B36
9	C34	2.08	0.00	2.08	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.28	0.0714	0.0026	4.68	0.70	0.42	0.73	10.00	7.31		100%	C29
10	C35	6.08	0.00	6.08	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.40	0.0714	0.0026	7.64	0.81	0.42	0.86	10.00	8.55		100%	C33
11	C36	5.40	0.00	5.40	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.38	0.0714	0.0026	7.18	0.80	0.42	0.84	10.00	8.39		100%	C35
12	C37	3.23	0.00	3.23	3.10%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.30	0.0714	0.0026	5.14	0.72	0.42	0.75	10.00	7.53		100%	OS
13	C27	5.21	0.00	5.21	6.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.31	0.0714	0.0026	5.47	0.73	0.42	0.77	10.00	7.68		100%	C39
14	C39	4.78	0.00	4.78	5.10%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.31	0.0714	0.0026	5.46	0.73	0.42	0.77	10.00	7.67		100%	C38
15	C38	5.20	0.00	5.20	3.80%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.34	0.0714	0.0026	6.05	0.76	0.42	0.79	10.00	7.93		100%	C36
16	C41	3.69	0.00	3.69	3.80%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.30	0.0714	0.0026	5.20	0.72	0.42	0.76	10.00	7.56		100%	C36
17	B29	5.82	0.00	5.82	4.70%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.34	0.0714	0.0026	6.07	0.76	0.42	0.79	10.00	7.94		100%	B41
18	B41	2.66	0.00	2.66	5.30%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.26	0.0714	0.0026	4.24	0.67	0.42	0.71	10.00	7.09		100%	B40
19	B40	5.89	0.00	5.89	5.60%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.33	0.0714	0.0026	5.87	0.75	0.42	0.79	10.00	7.85		100%	B38
20	B39	1.75	0.00	1.75	5.60%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.22	0.0714	0.0026	3.56	0.64	0.42	0.67	10.00	6.74		100%	B37
21	B38	5.29	0.00	5.29	4.60%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.33	0.0714	0.0026	5.84	0.75	0.42	0.78	10.00	7.84		100%	B37

										Curb	Inlets On	Grade Calc	ulation	Summary	: 100 yeaı	r									
Drainage Area No.	Inlet No.	Q ₁₀₀ (cfs)	Q _{pass} (cfs)	Q _{total} (cfs)	Slope (%)	n	Ku	Street Width	Crown Height	Inlet Depression, a	КО	К1	K2	уO	а	b	Flow Spread, T	H1	H2	Qa/La	Length (ft)	Qa	Q _{pass}	% Captured	Bypass to Inlet
								(ft)	(ft)	(ft)				(ft)			(ft)	(ft)	(ft)	(cfs/ft)			(cfs)		
2	B32	4.79	0.00	4.79	7.50%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.29	0.0714	0.0026	5.03	0.71	0.42	0.75	10.00	7.48		100%	A7
3	B31	6.11	0.00	6.11	7.10%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.32	0.0714	0.0026	5.66	0.74	0.42	0.78	10.00	7.76		100%	A7
4	B33	7.89	0.00	7.89	1.50%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.45	0.0714	0.0026	9.72	0.87	0.42	0.92	10.00	9.17		100%	B31
5	B37	6.32	0.00	6.32	4.40%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.35	0.0714	0.0026	6.40	0.77	0.42	0.81	10.00	8.08		100%	B33
6	B36	6.15	0.00	6.15	4.30%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.35	0.0714	0.0026	6.36	0.77	0.42	0.81	10.00	8.06		100%	B33
7	C33	7.88	0.00	7.88	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.43	0.0714	0.0026	8.84	0.85	0.42	0.89	10.00	8.94		100%	B36
9	C34	2.55	0.00	2.55	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.30	0.0714	0.0026	5.10	0.71	0.42	0.75	10.00	7.51		100%	C29
10	C35	7.62	0.00	7.62	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.43	0.0714	0.0026	8.67	0.84	0.42	0.89	10.00	8.89		100%	C33
11	C36	6.76	0.00	6.76	2.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.41	0.0714	0.0026	8.09	0.83	0.42	0.87	10.00	8.70		100%	C35
12	C37	3.97	0.00	3.97	3.10%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.32	0.0714	0.0026	5.61	0.74	0.42	0.77	10.00	7.74		100%	OS
13	C27	6.44	0.00	6.44	6.00%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.34	0.0714	0.0026	6.01	0.75	0.42	0.79	10.00	7.92		100%	C39
14	C39	5.91	0.00	5.91	5.10%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.34	0.0714	0.0026	6.00	0.75	0.42	0.79	10.00	7.91		100%	C38
15	C38	6.45	0.00	6.45	3.80%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.36	0.0714	0.0026	6.69	0.78	0.42	0.82	10.00	8.20		100%	C36
16	C41	4.61	0.00	4.61	3.80%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.33	0.0714	0.0026	5.73	0.74	0.42	0.78	10.00	7.80		100%	C36
17	B29	7.30	0.00	7.30	4.70%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.37	0.0714	0.0026	6.75	0.78	0.42	0.82	10.00	8.22		100%	B41
18	B41	3.26	0.00	3.26	5.30%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.27	0.0714	0.0026	4.61	0.69	0.42	0.73	10.00	7.27		100%	B40
19	B40	7.40	0.00	7.40	5.60%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.36	0.0714	0.0026	6.52	0.77	0.42	0.81	10.00	8.13		100%	B38
20	B39	2.14	0.00	2.14	5.60%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.24	0.0714	0.0026	3.85	0.65	0.42	0.69	10.00	6.90		100%	B37
21	B38	6.71	0.00	6.71	4.60%	0.015	0.560	28.00	0.500	0.42	2.85	0.50	3.03	0.36	0.0714	0.0026	6.52	0.77	0.42	0.81	10.00	8.13		100%	B37

							Curb In	nlets in Sump C	alculation Sum	nmary: 25 y	ear						
Drainage Area No.	Inlet No.	Q ₂₅ (cfs)	Qpass (cfs)	Qtotal (cfs)	W (ft)	Inlet Depression, a (ft)	Curb opening height, h (ft)	Street Width (ft)	Crown Height (%)	Clogging Factor (%)	Inlet Length (ft)	d _{weir} Above S _x (ft)	d _{oriflce} above S _x (ft)	а	b	Depth of Ponding over S _x , y0 (ft)	Ponded Width (ft)
1	A7	3.28	0.00	3.28	1.50	0.42	0.52	28.00	0.50	100%	10.00	0.23	0.00	0.07	0.00	0.23	3.76
8	C29	6.25	0.00	6.25	1.50	0.42	0.52	28.00	0.50	100%	10.00	0.36	0.00	0.07	0.00	0.31	5.35
							Curb In	lets in Sump Ca	alculation Sum	mary: 100 y	'ear				-		
Drainage		Q ₁₀₀	Qpass	Qtotal	W	Inlet	Curb In	lets in Sump Ca Street Width	Alculation Sum Crown Height	mary: 100 y Clogging	ear Inlet	d _{weir}	d _{oriflce}		Ŀ	Depth of Ponding	Ponded
Dramage	i iniet No. i		(cfs)	(cfs)		Depression, a	neight, n			Factor	Length	Above S _x	above S _x	а	a	over $S_{\rm v}$ v0 (ft)	141: 141. (64)
Area No.		(cts)	(013)	(013)	(ft)	(ft)	(ft)	(ft)	(%)	(%)	(ft)	(ft)	(ft)				wiath (ft)
Area No.	A7	(cfs) 4.00	0.00	4.00	(ft) 1.50	(ft) 0.42	(ft) 0.52	(ft) 28.00	(%) 0.50	(%) 100%	(ft) 10.00	(ft) 0.27	(ft) 0.00	0.07	0.00	0.27	4.42

SH	DF CH AF				Kno					
1E1 2 C			i PRO	5508 HIGHWAY 290 WEST	w C					
ет. 12				SUITE 150 AUSTIN TY 78735	whal					
3 -	e ed ve			512.872.6696	ať					
<u>з</u> хх	B D	PARKSIDE SECTION 8		HRGREEN. COM	s b efo					
. of <-(Y: BY	CONSTRUCTION PLANS		Gen [®]						
	<u></u> :			TBPE NO: 16384						
72]N	<u>3/M</u>	GEORGETOWN, WILLIAMSON, TEXAS		ENT T V TBPLS NO: 10194101	V. u d					
	<u>KM</u>				ig.	D Z	REVISION	ВΥ	<pre>DATE</pre>	

		MAX TSS				
DRAINAGE AREA	BMP TYPE	REMOVAL EFFICIENCY	DASIN AREA	I.C.	SECTION 8	
			AC	AC	AC	
BDP-01	BATCH DETENTION POND	91%	48.14	1.42	10.02	
VFS-01	VEGETATIVE FILTER STRIP	85%	4.00	0.00	1.92	
BP-01	BY-PASS	0%	1.17	0.00	0.63	
	TOTAL:		53.31	1.42	12.57	

1 - FOR THE GEORGETOWN TSS REMOVAL REQUIREMENT, WE CONSIDER 85% OF TSS REMOVAL FOR THE DRAINAGE AREA THAT DRAINS TOWARD THE BATCH DETENTION PONDS.

2023-XX-CON


DRAINAGE BMP TYPE R AREA EF		MAX TSS REMOVAL EFFICIENCY		PRE- DEVELOPMENT I.C.	PROPOSED I.C.						CITY OF GEORGETOW
	BMP TYPE		BASIN AREA		SECTION 8	SECTION 9A & 10A	SECTION 9B & 10B	FOST-DEVEL	OFMENT I.C.	REMOVAL	POND TSS LO. REMOVAL
		AC	AC	AC	AC	AC	AC	%	LB	LB	
BDP-01	BATCH DETENTION POND	91%	60.07	1.60	10.02	14.50	0.92	27.05	45%	22,152	23,536
VFS-01	VEGETATIVE FILTER STRIP	85%	4.00	0.00	1.92			1.92	48%	1,671	
BP-01	BY-PASS	0%	1.17	0.00	0.63			0.63	54%	548	
	TOTAL:		65.24	1.60	12.57	14.50	0.92	29.60	45%	24,371	
										DONDO	

BATCH DETENTION POND - BDP-02 (FULLY-DEVELOPED)

							· · · · · · · · · · · · · · · · · · ·
Texas Con	nmission on Environmental Quality			Parkside on th	ne River	Texas Com	mission on Environmental Quality
TSS Remov	al Calculations 04-20-2009			Project Name: Section 8		TSS Remova	l Calculations 04-20-2009
				Date Prepared: 11/3/2023			
Additional in	nformation is provided for cells with a red triang	le in the up	per right (corner. Place the cursor over th	e cell.	Additional in	iormation is provided for cells with a r
Characters s	shown in red are data entry fields.	Guidance	ivianuai - R	G-348.		Characters s	hown in red are data entry fields.
Characters s	shown in black (Bold) are calculated fields. Cha	nges to the	ese fields	will remove the equations used	in the spreadsheet.	Characters s	hown in black (Bold) are calculated fi
. The Require	d Load Reduction for the total project:	Calculations f	rom RG-348	Pages 3-27 to 3-30)	1. The Required	I Load Reduction for the total project:
		07.0 <i>(</i> 4. D)					
	Page 3-29 Equation 3.3: $L_{\rm M}$ =	27.2(A _N x P)					Page 3-29 Equatio
where:	L _{M TOTAL PROJECT} =	Required TSS	removal res	ulting from the proposed development = 80	0% of increased load	where:	L _{M TOT}
	A _N = P =	Net increase i Average annu	in impervious al precipitatio	area for the project			
Site Data:	Determine Required Load Removal Based on the Entire Project	t				Site Data: F	etermine Required Load Removal Rased on the I
one Daid.	County =	William son	•				
Pi	Total project area included in plan * = redevelopment impervious area within the limits of the plan * =	41.26 0.00	acres acres			Pro	Total project area included edevelopment impervious area within the limits of
Total pos	st-development impervious area within the limits of the plan * =	12.57	acres			Total post	-development impervious area within the limits of t
	P =	32	inches				Total post-development impervious cover
		40044	lhe				
The values e	LM TOTAL PROJECT =	10941	IDS.			* The values e	LM TOTA Itered in these fields should be for the total n
	and the second project the						in the second provide the second provide
Num	nber of drainage basins / outfalls areas leaving the plan area =	3				Num	per of drainage basins / outfalls areas leaving the
. Drainage Ba	sin Parameters (This information should be provided for	each basin):				<u>2. Drainage Bas</u>	in Parameters (This information should be pr
	Drainage Basin/Outfall Area No. =	BDP-01	•				Drainage Basin/Outfall
	Total drainace basin/outfall area =	48.14	acres				Total drainage basin/o
Predev	velopment impervious area within drainage basin/outfall area =	1.42	acres			Predev	elopment impervious area within drainage basin/or
Post-develo	popment impervious area within drainage basin/outrall area =	0.24	acres			Post-develo	proprient impervious area within drainage basin/or prient impervious fraction within drainage basin/or
	L _{M THIS BASIN} =	8723	lbs.				L _M
I. Indicate the	proposed BMP Code for this basin.					3. Indicate the	proposed BMP Code for this basin.
	Proposed BMP =	Batch Detent	ion				Propa
Colorist 17	Removal efficiency =	91	percent				Removal
. Calculate Ma	aximumi 195 Load Removed (L _R) for this Drainage Basin	by the select	ea BIVIP TY			4. Calculate Ma	ximum 155 Load Removed (L _R) for this Drain
	RG-348 Page 3-33 Equation 3.7: L_R =	(BMP efficien	cy) x P x (A _l	x 34.6 + A _P x 0.54)			RG-348 Page 3-33 Equation
where:	A _c =	Total On-Site	drainage are	a in the BMP catchment area		where:	
	A ₁ =	Impervious are	ea proposed	in the BMP catchment area			
		Pervious area	remaining in	the BMP catchment area			
	L _R =	100 LUAU IEI	ioved norm tr	is vaterment area by the proposed BMP			
	A _c =	48.14	acres				
	$A_i = \Delta_{c} =$	11.44 36.70	acres				
	L _R =	12103	lbs				
Calculate F-	action of Annual Dunoff to Treat the drains as he size (fall area				5 Calaulata Pro	otion of Annual Dunoff to Tract the Justice and
. Carculate Fr	action of Annual Runon to Treat the Grainage Dasin / OUD	all alta				5. Calculate Fra	CONTRACTOR RUNON to Treat the Grainage
	Desired L _{M THIS BASIN} =	11650	lbs.				Desired L _M
	F =	0.96	•				
i. Calculate Ca	apture Volume required by the BMP Type for this drainag	e basin / out	fall area	Calculations from RG-348	Pages 3-34 to 3-36	6. Calculate Ca	pture Volume required by the BMP Type for t
. Valodiale Vé		- washi yuu				v. Carculate Ca	
	Rainfall Depth =	2.80	inches				Rain
	Post Development Runoff Coefficient =	0.22	cubic feet				Post Development Runoff C
	On-site Water Quality Volume =	103003					
		Calculations f	rom RG-348	Pages 3-36 to 3-37			
	Offaita area dminina ta DMD -	0.00	acrec				Officito area desisia
	Off-site Impervious cover draining to BMP =	0.00	acres				Off-site Impervious cover drainin
	Impervious fraction of off-site area = Off-site Runoff Coefficient =	0 0.00					Impervious fraction of off Off-site Runoff (
	Off-site Water Quality Volume =	0	cubic feet				Off-site Water Qualit
	Storage for Sediment =	21933					Storage for

1/2 WQV = 65799

1/2 V

				Parkside on the	e River	
			Project Name:	Section 8		
			Date Prepared:	11/3/2023		
d triand	le in the unr	er right c	orner Place the	cursor over the	cell	
Fochnica	Cuidance N	Annual PC	2 3/8		ocn.	
rechinca		na nuai - r.v.	J-040.			
		C-1-1			41	-1 - 1 4
as. Cha	inges to the	se tielas v	will remove the ed	quations used ii	n the sprea	asneet.
	Calculations fro	5m RG-348		Pages 3-27 to 3-30		
3.3: L _M =	27.2(A _N x P)					
PROJECT =	Required TSS	removal resu	lting from the propose	d development = 809	℅ of increased	load
A _N =	Net increase in	impervious	area for the project			
P =	Average annua	I precipitatio	n, inches			
County -	Nilliom con 7					
n nlan * =	41.26	acres				
e plan * =	0.00	acres				
e plan * =	12.57	acres				
action * =	0.30					
P =	32	inches				
PROJECT =	10941	lbs.				
ject area	L.					
an area =	3					
	-					
vided for	each hasin):					
	cuen businj.					
ea No. =	BDP-01					
all area =	60.07	acres				
all area =	1.60	acres				
all area =	27.05	acres				
	0.45	lha				
IIS BASIN -	22131	105.				
d BMP =	Batch Detenti	on				
ficiency =	91	percent				
ge Basin	by the selecte	d BMP Type	<u>e.</u>			
3.7: L _R =	(BMP efficiency	y)xPx(A _I)	(34.6 + A _P x 0.54)			
A _C =	Total On-Site o	frainage area	in the BMP catchme	nt area		
A ₁ =	Impervious area	a proposed in	n the BMP catchment	area		
A _P =	Pervious area r	remaining in t	the BMP catchment a	rea		
L _R =	TSS Load rem	oved from thi	s catchment area by t	he proposed BMP		
A _C =	60.07	acres				
A ₁ =	27.05	acres				
A⊳ =	33.02	acres				
L _R =	27774	lbs				
ncin /4	fall area					
a SHI/OUT	1411 4184					
	24500	lhs				
na dasin 🦈	27000					
F =	0.88					
-						
s drainag	e basin / outfa	all area.	Calculations from RG	-348	Pages 3-34 to	3-36
	4 50					
flicient =	1.50	mones				
Volume =	108416	cubic feet				
		Jabre reet				
	Calculations fro	om RG-348	Pages 3-36 to 3-37			
D						
OBMP =	0.00	acres				
ite area -	0.00	aures				
efficient =	0.00					
√olume =	0	cubic feet				
ediment =	21683					
x 1.20) =	130099	cubic feet				
2 WQV =	65049					

VEGETATIVE FILTER STRIP - VFS-01

Texas Commission on Environmental Quality					
				Parkside on the R	iver
TSS Removal Calculations 04-20-2009			Project Name:	Section 8	
			Date Prepared:	11/3/2023	
Additional information is provided for cells with a red triar	ngle in the u	pper right c	orner. Place the	cursor over the ce	II.
Text shown in blue indicate location of instructions in the Techni	ical Guidance	Manual - RO	G-348.		
Characters shown in red are data entry fields.					
Characters shown in black (Bold) are calculated fields. C	hanges to th	iese fields v	vill remove the e	quations used in th	ne spreadsheet.
1. The Required Load Reduction for the total project:	Calculations	from RG-348		Pages 3-27 to 3-30	
Page 3-29 Equation 3.3: L _M	$_{\rm A} = 27.2({\rm A}_{\rm N} \ge {\rm P})$				
	Required TS	S removal resu	ting from the propose	d development = 80% of	increased load
MICIE. LM TOTAL PROJECT	r = Net increase	in impenious	area for the propose	a development – 60 % of	Increased load
	P = Average ann	ual precipitation	aiea loi tile project		
	- Average ann	ual precipitation	i, inches		
Site Data: Determine Required Load Removal Based on the Entire Pro	oject				
County	/ = Williamson	n `			
I otal project area included in plan * Predevelopment imperious area within the limits of the plan *	= 41.26 = 0.00	acres			
Total post-development impervious area within the limits of the plan	= 12.57	acres			
Total post-development impervious cover fraction *	= 0.30				
Р	9 = 32	inches			
	T = 10941	lbs.			
* The values entered in these fields should be for the total project ar	rea.				
Number of drainage basins / outfalls areas leaving the plan area	a = <u> </u>				
2. Drainage Basin Parameters (This information should be provided f	for each basin)	<u>:</u>			
Drainage Basin/Outfall Area No.	= VFS-01	•			
Total drainage basin/outfall area	a = 4.00	acres			
Predevelopment impervious area within drainage basin/outfall area	u = 0.00	acres			
Post-development impervious fraction within drainage basin/outfall area	a = 0.48	acies			
	. = 1671	lbs.			
3. Indicate the proposed BMP Code for this basin.					
Proposed BME) – Vegetated I	Ther Strine			
Removal efficiency	/ = 85	percent			
4. Calculate Maximum TSS Load Removed (L _R) for this Drainage Bas	sin by the selec	ted BMP Type	<u>e.</u>		
RG-348 Page 3-33 Equation 3.7: L _R	e = (BMP efficie	ncy)xPx(A _l)	(34.6 + A _P x 0.54)		
	T				
where: A _C	= Iotal On-Sit	e drainage area	in the BMP catchme	nt area	
A,	= Impervious a	rea proposed ir	n the BMP catchment	area	
A _F	= Pervious are	a remaining in I	the BMP catchment a	irea	
L _R	e = ISS Load re	moved from thi	s catchment area by f	the proposed BMP	
Λ	= 4.00	20100			
	= 4.00 = 4.00	acres			
Δ	= 2.02	acree			
	= 1838	lhs			
	- 1030	163			
		_			
5. Calculate Fraction of Annual Runoff to Treat the drainage basin / o	outfall area				
Desired	- 4000	lbe			
Desired L _M This Basin	1 - 1030	105.			
7	= 1.00	•			
	1.00	1	1	1	I

	BYP	ASS -	BP-01				
	511	//00					
Texas Con	nmission on Environmental Quality						
	· · · · · ·				Parkside on the	River	
TSS Remov	al Calculations 04-20-2009			Project Name:	Section 8		
1001101				Data Branaradi	11/2/2022		
				Date Frepareu.	1113/2023		
Additional in	formation is provided for cells with a red triang	le in the up	per right co	rner. Place the	cursor over the	cell.	
Text shown in	blue indicate location of instructions in the Technica	I Guidance I	Manual - RG	-348.			
Characters :	shown in red are data entry fields.						
Characters	shown in black (Bold) are calculated fields. Cha	inges to the	se fields w	ill remove the e	quations used in	n the spre	adsheet.
1. The Require	d Load Reduction for the total project:	Calculations fi	om RG-348		Pages 3-27 to 3-30		
	.						
	Page 3-29 Equation 3.3: $L_{M} =$	27.2(A _N x P)					
	-						
where:	L _{M TOTAL PROJECT} =	Required TSS	removal result	ing from the propose	d development = 80%	6 of increase	ed load
	$A_{hl} =$	Net increase i	n impervious a	rea for the project	•		
	P =	Average annua	al precipitation.	inches			
		, j					
Site Data:	Determine Required Load Removal Based on the Entire Project	t					
	County =	Williamson					
	Total project area included in plan * =	41.26	acres				
Tatalaaa	redevelopment impervious area within the limits of the plan * =	0.00	acres				
lotal pos	total pact development impervious area within the limits of the plan * =	12.37	acres				
	P =	32	inches				
			interies				
		10941	lbs				
* The values e	intered in these fields should be for the total project area						
The values o	incred in these nerus should be for the total project area						
Nue	abor of dminage basing / outfalls areas leaving the plan area –	2	•				
INUI	iber of dramage basins / outlans areas reaving the plan area –	3					
2 Drainage Pa	vin Parameters (This information should be provided for	each hadin):					
z. Dramaye Ba	ISH FALAMETERS (THIS INVINATION SHOULD BE PROVIDED TOF	each bash):					
	Drainage Basin/Outfall Area No. =	BP-01					
	Total drainage basin/outfall area =	1.17	acres				
Prede	velopment impervious area within drainage basin/outfall area =	0.00	acres				
Post-de	velopment impervious area within drainage basin/outfall area =	0.63	acres				
Post-devel	opment impervious fraction within drainage basin/outfall area =	0.54					
	Lm this basin =	548	IDS.				









SECTION B-B



			Pond \	/olume				
Elevation -	Area		Volu	me	Cumulativ	Commente		
	SF	ac	cf	ac*ft	cf	ac*ft	Comments	
862	0	0.00						
863	7,571	0.17	3,786	0.09	3,786	0.09		
864	21,138	0.49	14,355	0.33	18,140	0.42		
865	27,889	0.64	24,514	0.56	42,654	0.98	Water Qualit	
866	30,599	0.70	29,244	0.67	71,898	1.65		
867	32,964	0.76	31,782	0.73	103,679	2.38		
868	35,384	0.81	34,174	0.78	137,853	3.16		
869	37,861	0.87	36,623	0.84	174,476	4.01	Douting	
870	40,391	0.93	39,126	0.90	213,602	4.90	Routing	
871	42,978	0.99	41,685	0.96	255,286	5.86	Freeboard	

 $Q = C_w L H^{1.5}$

Q - weir flow rate (cfs)



VERT. SCALE: 1" = 4' HORZ. SCALE: 1" = 40'



EXISTING GRADE - CENTERLINE (EG) PROPOSED GRADE - CENTERLINE (FG)
 VERT. SCALE

OUTFLOWS	TRUCTURE
Elevation	Flow
ft	cfs
868.00	0
868.50	67
869.00	190
869.50	349
870.00	537
870.50	750
871.00	986

 C_w - Weir Coefficient BROAD: 2.60 *L* - *horizontal length of weir crest (ft)* BROAD: 73 FT H - head above weir crest elevation (ft)

POND OUTFLOW







Table 3-6 Clay Liner Specifications (COA, 2004)

Property	Test Method	Unit	Specification
Permeability	ASTM D-2434	cm/sec	1 x 10 ⁻⁶
Plasticity Index of Clay	ASTM D-423 & D-424	%	Not less than 15
Liquid Limit of Clay	ASTM D-2216	%	Not less than 30
Clay Particles Passing	ASTM D-422	%	Not less than 30
Clay Compaction	ASTM D-2216	%	95% of Standard Proctor
			Density

CLAY LINER SPECIFICATIONS PER TCEQ SPECIFICATIONS 3.4.2

PANEL



ACTUATOR VALVE POWER & CONTROLLER CIRCUIT BLOCK DIAGRAM

Pipe Dia	ameter =	6.00	IN		W.Q.	V. =	137,85
Orifice Di	ameter =	3.50	IN		WQ E	lev =	868.0
Outflow Or	ifice Elev =	857.69	MSL		Pond Botto	om Elev =	862.0
Drainir	ng time	45.00	HR		Initial H	lead =	10.3 [,]
TIME	HEAD	OUTFLOW	VOL.	dV	Total dV	н	dH
HRS	FT	CFS	CF	CF	CF	FT	FT
0.00	10.31	1.03	137,853	3,719	3,719	0.16	10.15
1.00	10.15	1.02	134, 134	3,689	7,408	0.16	9.99
2.00	9.99	1.02	130,445	3,660	11,068	0.16	9.83
3.00	9.83	1.01	126,785	3,631	14,699	0.16	9.67
4.00	9.67	1.00	123, 154	3,601	18,300	0.16	9.51
5.00	9.51	0.99	119,553	3,572	21,873	0.16	9.36
6.00	9.36	0.98	115,980	3,543	25,415	0.15	9.20
7.00	9.20	0.98	112,438	3,514	28,929	0.15	9.05
8.00	9.05	0.97	108,924	3,484	32,413	0.15	8.90
9.00	8.90	0.96	105,440	3,455	35,868	0.15	8.75
10.00	8.75	0.95	101,985	3,426	39,294	0.15	8.60
11.00	8.60	0.94	98,559	3,396	42,690	0.15	8.45
12.00	8.45	0.94	95,163	3,367	46,057	0.15	8.31
13.00	8.31	0.93	91,796	3,338	49,395	0.15	8.16
14.00	8.16	0.92	88,458	3,308	52,703	0.14	8.02
15.00	8.02	0.91	85,150	3,279	55,982	0.14	7.87
16.00	7.87	0.90	81,871	3,250	59,232	0.14	7.73
17.00	7.73	0.89	78,621	3,220	62,452	0.14	7.59
8.00	7.59	0.89	75,401	3,191	65,643	0.14	7.45
19.00	7.45	0.88	72,210	3,162	68,805	0.14	7.32
20.00	7.32	0.87	69,048	3,132	71,937	0.14	7.18
21.00	7.18	0.86	65,916	3,103	75,040	0.14	7.04
2.00	7.04	0.85	62.813	3.074	78,114	0.13	6.91
23.00	6.91	0.85	59,739	3.044	81,158	0.13	6.78
24.00	6.78	0.84	56.695	3.015	84,173	0.13	6.65
25.00	6.65	0.83	53 680	2,986	87 159	0.13	6.52
26.00	6.52	0.82	50,694	2,000	90,116	0.13	6.39
27.00	6.39	0.81	47 737	2,000	93.043	0.13	6.26
28.00	6.26	0.80	44 810	2,898	95,940	0.13	6.13
29.00	6.13	0.80	41,913	2,868	98,809	0.12	6.10
30.00	6.01	0.79	39.044	2,839	101 648	0.12	5.89
31.00	5.89	0.78	36,205	2,810	104 458	0.12	5.30
32.00	5.00	0.77	33,395	2,310	107,100	0.12	5.64
33.00	5.64	0.76	30,615	2,750	109,989	0.12	5.52
34.00	5.52	0.76	27 864	2,701	112 711	0.12	5.02
35.00	5.02	0.75	25 1/2	2,722	115.403	0.12	5 20
36.00	5 29	0.73	22,142	2,002	118,405	0.12	5 17
37.00	5.20	0.74	19 787	2,000	120,700	0.12	5.06
38.00	5.06	0.73	17 153	2,004	123,700	0.11	1 9/
39.00	1 94	0.72	14 549	2,004	125,304	0.11	1.04
40.00	4.83	0.72	11 974	2,575	123,073	0.11	4.00
41 00		0.71	Q 42Q	2,040	130 9/1	0.11	1.12
42.00	7.72	0.70	6 012	2,310	133, 341	0.11	4.01
13.00	4.01	0.09	4.426	2,401	135,427	0.11	4.30
14.00	4.50	0.00	1 069	2,401	137 952	0.11	4.40
+++.00 45.00	4.40	10.07	1,900	2,420	137,653	0.11	4.31
+0.00	4.51	0.00	0	0	107,000	0.00	4.31
+0.00	4.31	0.00	0	0	137,853	0.00	4.31
+7.00	4.31	0.00	0	0	137,803	0.00	4.31
	21 X 1		, <u>(</u>) (11	1 1.57 853	() (<u>д 41</u>



CONCRETE FILLED FIXED SEDIMENT MARKER FOR BATCH DETENTION POND

NOTE:

- 1. BATCH DETENTION POND SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RG-348 MANUAL (ADDENDUM)
- 2. THE BATCH DETENTION POND AND RISER PIPE / TRASH RACK WILL FUNCTION AS THE DEWATERING OUTLET AND SHALL BE BE INSTALLED AND FUNCTIONAL
- 3. SYSTEM SHALL BE 12 VDC WITH SOLAR CHARGED 12 VDC BATTERY
- POWER WITH ENGINEERS APPROVAL. 4. ACTUATOR SHALL BE ELECTRONIC QUARTER-TURN WITH MANUAL OVERRIDE
- AND POSITION INDICATOR.
- ACTUATOR VALVE TO BE SET AT "NORMALLY CLOSED" POSITION.
- 7. CONTROLLER SHALL BE SET TO OPEN VALVE 12 HOURS AFTER INITIAL RAINFALL DETECTION. VALVE TO REMAIN OPEN UNTIL 2 HRS FOLLOWING BASIN EMPTY SIGNAL.
- 8. LOGIC CONTROLLER SYSTEM SHALL HAVE TEST SEQUENCE TO DEAL WITH LOW BATTERY/POWER OUTAGES, ON/OFF/RESET SWITCH AND THE PROGRAMMING SHALL BE FIELD UPLOADABLE.
- 9. CONTROLLER SHALL BE "MORNINGSTAR SOLAR CONTROLLER, 12V, 20 AMP" OR EQUIVALENT.
- ENGINEER FOR ADDITIONAL CONTROLLER SCHEMATICS. 11. CONTRACTOR TO INSTALL LIBERTY ALARM MODEL ALM-2W OR EQUIVALENT AT
- A CONTROLLER PANEL. 12. ATTACH ALARM RESPONSE SIGN TO CONTROLLER POLE. REFERENCE ALARM
- RESPONSE SIGN TO RIGHT. 13. HAZARDOUS MATERIAL THREAT (HMT) OPERATION - THE BASIN'S OUTLET VALVE IS NORMALLY CLOSED AND WILL DETAIN A HAZARDOUS MATERIAL SPILL. HOWEVER, AFTER A SPILL OCCURS, THE MANUAL CONTROLS ON THE CONTROLLER OR THE ACTUATOR/VALVE ARE USED TO PREVENT THE VALVE FROM AUTOMATICALLY OPENING PRIOR TO REMOVAL OF THE HAZARDOUS MATERIAL. ALTHOUGH NOT REQUIRED BY THE EDWARDS RULES, THE HMT OPERATION CAN BE USED TO COMPLY WITH APPENDIX A OF RG-348. IF A SPILL DOES OCCUR IN THE BASIN, ALL COMPONENTS OF THE CONTROLLER MUST BE INSPECTED AND CHECKED FOR PROPER OPERATION WITHIN 7 DAYS.
- 14. POWER THE POND CONTROL SYSTEM CONTROLLER AND ACTUATOR SHALL BE 12 VOLT POWERED OR 12 VOLT SOLAR POWERED WITH BACKUP BATTERY POWER TO RESPOND TO A LOSS OF POWER IN THE MIDDLE OF A CYCLE.
- 15. PARTS ENCLOSURE & ALARM SYSTEM THE PARTS ENCLOSURE SHALL BE LOCKABLE. AN ALARM SYSTEM CLEARLY VISIBLE TO INDICATE SYSTEM MALFUNCTION.
- 16. TEMPERATURE/WEATHER THE SYSTEM SHALL BE CAPABLE OF OPERATION FROM 0 TO 130 DEGREES FAHRENHEIT AND FROM 10 TO 90% HUMIDITY. 17. RELIABILITY - THE SYSTEM SHALL HAVE A MINIMUM RELIABILITY OF 40,000
- HOURS (4.6 YEARS).



SCALE: 1" = 40'

LEGEND

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- — - 835 - — -	EXISTING MAJOR CONTOUR
834	PROPOSED MINOR CONTOUR
835	PROPOSED MAJOR CONTOUR
	BOUNDARY
	EASEMENT
	100YR FEMA ZONE A FLOODPLAIN
—— 100YR FP ——	100YR FULLY DEVELOPED FLOODPLAIN
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-ф-	FIRE HYDRANT
	WATER VALVE
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ŴŴ	WASTEWATER MANHOLE
0	CURB INLET
	TREES TO REMAIN HERITAGE

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- NOTE: 1. ALL PROPOSED STORM SEWER PIPE LINES SHALL BE CLASS III REINFORCED CONCRETE UNLESS NOTED OTHERWISE.
- 2. FILL SHALL BE PLACED ACCORDING TO THE GEOTECHNICAL ENGINEERS RECOMMENDATION AND CITY OF GEORGETOWN SPECIFICATIONS.
- 3. VEGETATE ALL DISTURBED AREAS PER CITY OF GEORGETOWN SPECIFICATIONS.

TRENCH SAFETY NOTES:

- 1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDE BY THE CONTRACTOR.
- 2. IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, WHEN PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.
- 3. CONSTRUCTION SHALL NOT PROCEED UNTIL APPROPRIATE TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF GEORGETOWN.
- 4. DEEP EXCAVATIONS: ON EXCAVATIONS EXCEEDING 20 FEET IN DEPTH, TWO OR MORE MEANS OF EGRESS FROM THE EXCAVATION SHALL BE PROVIDED. THE CONTRACTOR SHALL CONSULT WITH A REGISTERED ENGINEER, EXPERIENCED IN TRENCH SAFETY SYSTEMS, REGARDING SPECIFIC MEANS AND METHODS EMPLOYED. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY PLAN SEALED BY A REGISTERED PROFESSIONAL ENGINEER AS REQUIRED BY THE CITY OF GEORGETOWN.



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Ding Labol	Slope	Q25	V25	D25	Q100	V100	D100
Pipe Laber	(%)	(cfs)	(ft/s)	(ft)	(cfs)	(ft/s)	(ft)
STORM A-1	3.32%	3.28	5.83	0.69	4.00	6.13	0.77
STORM A-2	3.32%	3.28	3.50	0.92	4.00	3.75	1.03
STORM A-3	3.32%	0.00	0.00	0.85	0.00	0.00	0.93
STORM A-4	2.00%	0.00	0.00	0.10	0.00	0.00	0.18
STORM A-5	2.00%	0.00	0.00	0.00	0.00	0.00	0.00
STORM A-6	10.00%	3.28	3.66	0.85	4.00	3.94	0.93







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	Pipe Label	Slope	Q25	V25	D25	Q100	V100	D100
		(%)	(cfs)	(ft/s)	(ft)	(cfs)	(ft/s)	(ft)
	STORM B-38	1.5%	4.91	2.89	2.36	6.15	3.48	2.87
	STORM B-39	3.0%	4.91	3.85	1.34	6.15	4.32	1.97
	STORM B-40	3.0%	4.91	4.06	1.15	6.15	4.47	1.30























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magee\parkside sections 8, 9a & 10a\section 8\03_ACAD\Plans\sh2303297 SDPP STORM C-1 LATS.dwg, STORM C-1 LATERALS SHEET 2, November 01, 2023, 10:53 PM, tgarza



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SHEET **52** of **72** 2023-XX-CON









STORM D-1





idDev Giobar.ciu 2_C3D2022.DWT ∿barkside sections 8, 9a & 10a\section 8\03_ACAD\Plans\sh2303297 DTLS.dwg. DRAINAGE DETAILS. November 01. 2023

Style: LandDev Global.ctb plate: LDC_C3D2022.DWT







magee\parkside sections 8. 9a & 10a\section 8\03 ACAD\Plans\sh2303297 WWOV, dwg. OVERALL WASTEWATER PLAN B. November 02. 2023. 8:45 AM.

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	NOTES:	5508 SUITE AUSTI	512.8 Hrgre Tbpe Tbpls
	1. REFER TO THE WATER AND WASTEWATER DETAIL SHEET(S) FOR TYPE S AND TYPE D SERVICE		
	2. UTILITIES ON THIS SITE TO BE BUILT PER THE APPROVED		
	UTILITY ASSIGNMENT SHOWN ON THE WATER AND WASTEWATER DETAIL SHEET.		
	 NO PORTION OF THE PROPOSED DEVELOPMENT LIES WITHIN THE FEMA 100-YR FLOODPLAIN. 	\sim	
	4. ALL PROPOSED GRAVITY WASTEWATER PIPES TO BE		
	 5. UNLESS OTHERWISE NOTED, CONTRACTOR TO ENSURE 		
	WW SERVICES ARE SET TO MAXIMUM DEPTH (PER DETAIL WW13) FOR ALL LOTS IN ORDER TO PROVIDE SUFFICIENT DEPTH TO CONNECT SERVICE.		DE
	6. ALL MANHOLES TO BE COATED PER CITY OF GEORGETOWN SPECIFICATIONS. EXISTING MANHOLES WITH PROPOSED CONNECTIONS TO BE COATED AS NEEDED.	A Star	E OF TEL
	7. IF THE HOME BUILDER CANNOT ACHIEVE THE MINIMUM FINISHED FLOOR ELEVATIONS SPECIFIED, THEN A WASTEWATER GRINDER PUMP SYSTEM MAY BE NEEDED TO CONNECT TO THE WASTEWATER MAIN.	SHER	VIN NOOSHIN 96807
	TRENCH SAFETY NOTES:	NO _A CA	CENSE P. CINC
	AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH	Sher	- room
	FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED SHORED SHEFTED		11/03/2023
	BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE		ហ
	EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED. TRENCH SAFETY SYSTEMS		X X
	TO BE UTILIZED FOR THIS PROJECT WILL BE PROVIDE BY THE CONTRACTOR.	Ľ	ក្ល ក្តា
	2. IN ACCORDANCE WITH THE U.S. OCCUPATIONAL SAFETY	Ц	
	PERSONS ARE IN TRENCHES 4-FEET DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS	\	ם בם
	MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.	> 	
	3. CONSTRUCTION SHALL NOT PROCEED UNTIL APPROPRIATE	ЦШ	
	TRENCH SAFETY SYSTEM DETAILS, AS DESIGNED BY A PROFESSIONAL ENGINEER, ARE RETAINED AND COPIES SUBMITTED TO THE CITY OF GEORGETOWN.	VA A N	
	4. DEEP EXCAVATIONS: ON EXCAVATIONS EXCEEDING 20 FEET		
	EXCAVATION SHALL BE PROVIDED. THE CONTRACTOR SHALL CONSULT WITH A REGISTERED ENGINEER,		ΩĽ Z
	EXPERIENCED IN TRENCH SAFETY SYSTEMS, REGARDING SPECIFIC MEANS AND METHODS EMPLOYED. CONTRACTOR	R A	Ϋ́υ ό
	SHALL PROVIDE A TRENCH SAFETY PLAN SEALED BY A REGISTERED PROFESSIONAL ENGINEER AS REQUIRED BY	Ц Ц	
	THE CITY OF GEORGETOWN.		
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STRUCTURAL GENERAL NOTES AND SPECIFICATIONS

GENERAL REQUIREMENTS

- 1 APPLICABLE CODES AND STANDARDS ALL CODES AND STANDARDS REFERENCED SHALL BE THE LATEST EDITION.
- 2 ANY REQUIRED CHANGES TO THE STRUCTURAL DRAWINGS DUE TO THE ACCEPTANCE OR INCLUSION OF ALTERNATES OR SUBSTITUTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- 3 THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS WITH THE CIVIL DRAWINGS AND REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
- 4 JOB SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL, AS A MINIMUM, ADHERE TO OCCUPATIONAL SAFETY AND HEALTH (OSHA) REGULATIONS TO PROTECT PERSONNEL.
- FOUNDATION NOTES
- 1 DESIGN LOADS ACTIVE LATERAL EARTH PRESSURE - EQUIVALENT FLUID PRESSURE OF 65 PCF.

SURCHARGE PRESSURE – 50 PSF ON RETENTION SIDE OF EARTH RETAINING WALLS.

- 2 DESIGN ALLOWABLE SOIL BEARING PRESSURE IS 2,000 PSF ON PROOF-ROLLED AND DENSITY TESTED EMBANKMENT MATERIAL THAT IS APPROVED BY THE GEOTECHNICAL ENGINEER.
- 3 THE GEOTECHNICAL INVESTIGATION FOR THIS PROJECT WAS PREPARED BY MLA LABS INC., 2804 LONGHORN BOULEVARD, AUSTIN, TX, 78758, MLA LABS JOB NUMBER 23101123.001, REPORT DATED OCTOBER, 2023. THE CONTRACTOR SHALL OBTAIN A COPY OF THIS REPORT AND REVIEW ITS CONTENTS TO BECOME FAMILIAR WITH THE GEOTECHNICAL CONDITIONS THAT EXIST AT THIS SITE AND THE RECOMMENDATIONS PRESENTED IN THE GEOTECHNICAL INVESTIGATION.
- 4 PRIOR TO COMMENCEMENT OF EXCAVATION OPERATIONS, FIELD LOCATE AND ADEQUATELY PROTECT ANY EXISTING STRUCTURES, TREES, UTILITIES AND/OR OTHER PERMANENT ELEMENTS TO REMAIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY DAMAGE RESULTING FROM CONSTRUCTION OPERATIONS.
- 5 THE CONTRACTOR SHALL PROVIDE AND ENSURE PROPER DRAINAGE OF THE SITE PRIOR TO BEGINNING CONSTRUCTION OF THE OUTLET STRUCTURE. DRAINAGE SHALL BE SUCH THAT SURFACE RUNOFF IS ROUTED AROUND OR AWAY FROM THE CONSTRUCTION AREA. MEASURES SHALL BE TAKEN TO PREVENT THE PONDING OF WATER WITHIN THE FOUNDATION AREA.
- 6 THE CONSTRUCTION AREA FOR THE POND OUTLET STRUCTURE SHALL BE STRIPPED OF ALL VEGETATION, LOOSE TOP SOIL, DEBRIS, ORGANICS AND OTHER DELETERIOUS MATERIAL. ROOTS AND STUMPS OF TREES WITHIN THE CONSTRUCTION AREA SHALL BE REMOVED FOR THEIR FULL DEPTH, INCLUDING THE DRY SOILS AROUND THE ROOT BULB. EXCAVATIONS IN CUT AREAS SHALL BE BENCHED.
- 7 FOOTINGS SHALL BE FOUNDED ON PROOF-ROLLED AND DENSITY TESTED EMBANKMENT MATERIAL THAT IS APPROVED BY THE GEOTECHNICAL ENGINEER. EXCAVATIONS SHALL BE NEAT AND FREE OF ALL LOOSE MATERIALS AND DEBRIS PRIOR TO PLACEMENT OF CONCRETE. CONTRACTOR SHALL USE CARE TO PROTECT EXCAVATIONS FROM CAVING AND SLOUGHING DUE TO TRAFFIC FROM EQUIPMENT OR WORKMEN.
- 8 ONCE FINAL SUBGRADE ELEVATIONS HAVE BEEN ACHIEVED, THE EXPOSED SUBGRADE SHALL BE CAREFULLY PROOFROLLED WITH A 15-TON PNEUMATIC ROLLER OR EQUIVALENT EQUIPMENT TO DETECT WEAK ZONES IN THE SUBGRADE. WEAK AREAS DETECTED DURING PROOFROLLING SHALL BE REMOVED AND REPLACED WITH SOILS EXHIBITING SIMILAR CLASSIFICATION, MOISTURE CONTENT AND DENSITY AS THE ADJACENT IN-SITU SOILS. PRIOR TO FOOTING CONSTRUCTION, THE SUBGRADE PREPARATION SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
- 9 ANY WATER ACCUMULATIONS IN EXCESS OF 1 INCH SHALL BE PUMPED OUT PRIOR TO PLACEMENT OF CONCRETE. REBAR AND CONCRETE FOR FOOTINGS SHALL BE PLACED AS SOON AS PRACTICAL FOLLOWING COMPLETION OF EXCAVATIONS TO PREVENT EXCESSIVE DRYING OR WETTING OF THE SUBGRADE.
- 10 ALL FILL UNDERNEATH AND BACKFILL BEHIND THE POND OUTLET STRUCTURE SHOULD CONSIST OF EMBANKMENT MATERIALS TESTED AND APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER. REFERENCE CIVIL DRAWINGS AND PROJECT GEOTECHNICAL REPORT FOR SPECIFICATIONS AND PLACEMENT REQUIREMENTS OF THE EMBANKMENT MATERIAL AND POND CLAY LINER (IF REQUIRED).
- 11 BACKFILLING OPERATIONS SHALL NOT BEGIN UNTIL CONCRETE WALLS HAVE CURED A MINIMUM OF 7 DAYS. FORMS SHALL REMAIN IN PLACE FOR A MINIMUM OF 7 DAYS. IF DESIRED, FORMS MAY BE REMOVED UPON SATISFACTORY EVIDENCE THAT CONCRETE HAS ACHIEVED 75% OF ITS SPECIFIED 28 DAY STRENGTH AND PROVIDED THAT CONCRETE IS CURED USING A SPRAY ON CURING COUMPOND FOR THE REMAINDER OF THE 7 DAY CURING PERIOD. UNDER NO CIRCUMSTANCES SHALL BACKFILLING COMMENCE IN LESS THAN 7 DAYS. THE BACKFILL PLACEMENT AND COMPACTION OPERATIONS SHALL BE CAREFULLY CONTROLLED TO PREVENT OVERCOMPACTION OR DAMAGE TO THE STRUCTURES.

REINFORCED CONCRETE NOTES

- 1 ALL CONCRETE SHALL BE CLASS C (3,600 PSI) NORMAL WEIGHT CONCRETE WITH A WATER/CEMENT RATIO OF NOT MORE THAN 0.45 AND A SLUMP IN THE RANGE OF 5 TO 8 INCHES. WATER CONTENT SHALL BE CLOSELY MONITORED DURING BATCHING. UNDER NO CIRCUMSTANCES SHALL THE WATER/CEMENT RATIO BE PERMITTED TO EXCEED THE SPECIFIED MAXIMUM. THE USE OF A MID RANGE WATER REDUCING ADMIXTURE IS RECOMMENDED TO IMPROVE WORKABILITY DURING PLACING OPERATIONS.
- 2 THE USE OF FLY ASH IS REQUIRED. CONCRETE SHALL BE PROPORTIONED WITH A FLY ASH CONTENT EQUAL TO 25 PERCENT OF THE TOTAL WEIGHT OF THE FLY ASH PLUS CEMENT. FLY ASH MAY BE CLASS F OR C, BUT CONCRETE MIXED WITH CLASS C FLY ASH SHALL BE SUBJECT TO THE FOLLOWING RESTRICTIONS:
- A COARSE AGGREGATE SHALL CONSIST OF CRUSHED LIMESTONE. THE USE OF RIVER GRAVEL AGGREGATE WILL NOT BE PERMITTED.
- B CEMENT SHALL BE TYPE II LA (LOW ALKALI) OR TYPE I/II LA. ALKALI CONTENT OF THE CEMENT SHALL BE LESS THAN 0.60%. CONTRACTOR SHALL SUBMIT EVIDENCE OF THE ALKALI CONTENT CERTIFIED BY AN INDEPENDENT TESTING LABORATORY.
- 3 REINFORCING STEEL SHALL BE ASTM/ANSI A615, GRADE 60. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, " ACI 315.

- 4 CONCRETE CONSTRUCTION, INCLUDING MINIMUM REINFORCING STEEL COVERAGE BY CONCRETE, SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, " ACI 318, UNLESS OTHERWISE NOTED.
- 5 PROVIDE SUPPORTS OR CHAIRS TO SUPPORT REBAR AT THE POSITIONS REQUIRED BY THE DRAWINGS. REINFORCEMENT FOR FOOTINGS SHALL BE SUPPORTED ON PRECAST CONCRETE BLOCKS OF A THICKNESS TO PROPERLY POSITION THE REBAR. BLOCKS SHALL BE PROVIDED AT 3'-O" MAXIMUM ON CENTERS.
- 6 LAP CONTINUOUS UNSCHEDULED REINFORCING BARS 40 BAR DIAMETERS UNLESS OTHERWISE NOTED.
- 7 THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SPECIFICALLY NOTED ON THESE DRAWINGS.
- 8 THE CONTRACTOR SHALL ENSURE THAT ALL EMBEDDED ITEMS ARE DELIVERED TO THE SITE IN A TIMELY FASHION AND INSTALLED IN THE FORMWORK PRIOR TO PLACEMENT OF CONCRETE.
- 9 FIELD CUTTING OF REINFORCEMENT SHALL BE BY SHEARING OR SAWING. FIELD CUTTING OF REINFORCEMENT BY TORCH WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER.
- 10 UNLESS OTHERWISE NOTED, ALL 90, 135 AND 180 DEGREE REINFORCING STEEL HOOKS SHALL BE STANDARD ACI HOOKS.
- 11 THE CONTRACTOR SHALL USE A TREMIE TO PLACE CONCRETE IN ALL AREAS WHERE THE FALL OF THE CONCRETE WILL EXCEED 5 FEET.
- 12 THE CONTRACTOR SHALL USE CARE TO PROPERLY VIBRATE CONCRETE DURING PLACING OPERATIONS TO ENSURE GOOD DENSITY OF CONCRETE AND TO MINIMIZE SURFACE DEFECTS.
- 13 CHAMFER ALL EXPOSED EDGES 3/4 INCH.
- 14 FORMWORK FOR SURFACES TO BE EXPOSED TO VIEW IN THE FINISHED CONSTRUCTION SHALL BE SMOOTH, EITHER WOOD OR METAL. SMOOTH FORMS SHALL BE FREE OF RAISED GRAIN, TORN SURFACES, WORN EDGES, PATCHES, DENTS OR OTHER DEFECTS. STRENGTH OF FORMS SHALL BE SUCH THAT NO WARPING, BULGING OR BOWING OCCUR UNDER THE WEIGHT OF THE WET CONCRETE. JOINTS SHALL BE SMOOTH AND MORTAR TIGHT. FORMS WHICH DO NOT PRESENT A SMOOTH SURFACE OR LINE UP PROPERLY SHALL NOT BE USED. FORMS SHALL BE FREE OF RUST, GREASE OR OTHER FOREIGN SURFACES THAT MAY DISCOLOR THE FINISHED CONCRETE.
- 15 WALL TIES AT RETAINING WALLS SHALL BE FABRICATED SO THAT ENDS OR END FASTENERS CAN BE REMOVED WITHOUT CAUSING SPALLING OF FACE OF CONCRETE. TIES SHALL BE PROVIDED WITH A WATER SEAL FEATURE. REMOVE ENDS OF FORM TIES SUCH THAT THE EMBEDDED PORTION OF TIE IS AT LEAST 3/4 INCH FROM THE FORMED CONCRETE FACE. PATCH TIE HOLES IMMEDIATELY AFTER REMOVAL OF FORMS.

CONCRETE FINISHING

- REPAIR OF SURFACE DEFECTS DEFECTIVE AREAS SHALL BE REPAIRED IMMEDIATELY AFTER REMOVAL OF FORMS. HONEYCOMBED AND OTHER DEFECTIVE AREAS SHALL BE REMOVED DOWN TO SOUND CONCRETE. THE DEFECTIVE AND SURROUNDING AREA SHALL BE DAMPENED AND A BONDING GROUT APPLIED TO THE AREA. BONDING GROUT SHALL CONSIST OF APPROXIMATELY ONE PART CEMENT TO ONE PART FINE SAND PASSING A NO. 30 SIEVE. MIX GROUT TO THE CONSISTENCY OF A THICK CREAM AND BRUSH THOROUGHLY INTO THE SURFACE.
- PATCHING MORTAR SHALL BE OF THE SAME MATERIALS AND APPROXIMATELY THE SAME PROPORTIONS AS CONCRETE EXCEPT THAT COARSE AGGREGATE SHALL BE OMITTED. PREPARE MORTAR WITH NO MORE THAN ONE PART CEMENT TO 2 1/2 PARTS SAND. USE WHITE PORTLAND CEMENT FOR PART OF THE GRAY CEMENT TO MIX A MORTAR OF A COLOR TO MATCH THE SURROUNDING CONCRETE. USE NO MORE WATER THAN NECESSARY AND MIX MORTAR TO THE STIFFEST CONSISTENCY THAT WILL PERMIT PLACING.

AFTER SURFACE WATER FROM THE BONDING GROUT HAS DISSAPATED, THOROUGHLY BRUSH PATCHING MORTAR INTO THE BONDING GROUT.

IN LIEU OF USE OF BONDING GROUT, A LATEX BONDING AGENT MAY BE USED.

2 ALL VERTICAL CONCRETE SURFACES EXPOSED TO VIEW SHALL RECEIVE A RUBBED FINISH. ALL HORIZONTAL CONCRETE SURFACES EXPOSED TO VIEW SHALL RECEIVE A SMOOTH TROWELED FINISH.

WATERSTOPS

1 ALL WATERSTOPS SHALL BE PREFORMED PLASTIC SEALING TYPE WATERSTOP SUCH AS SYNKO-FLEX. PLASTIC SEALING TYPE WATERSTOP SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

SEALANT

1 SEALANT AT JOINTS SHALL CONSIST OF POLYURETHANE BASED NON-SAG ELASTOMERIC SEALANT FOR USE IN WATER IMMERSION APPLICATIONS. SEALANT SHALL BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, INCLUDING USE OF A PRIMER AS REQUIRED. AN ACCEPTABLE PRODUCT IS SIKAFLEX 1A SEALANT WITH SIKAFLEX PRIMER 429 AS MANUFACTURED BY SIKA CORPORATION.

SUBMITTALS

THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. WORK ASSOCIATED WITH THESE ITEMS SHALL NOT COMMENCE UNTIL THE SUBMITTALS HAVE BEEN REVIEWED AND RETURNED BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT THE FOLLOWING:

- 1 TEST DATA AND MIX DESIGNS FOR EACH TYPE AND STRENGTH OF CONCRETE SPECIFIED.
- 2 REINFORCING STEEL SHOP DRAWINGS DETAILING REINFORCEMENT FABRICATION AND BAR PLACEMENT. SHOP DRAWINGS SHALL CLEARLY INDICATE THE LOCATION, SIZE, SPACING, SPLICES AND PIECEMARK FOR ALL REINFORCING STEEL. THE SHOP DRAWINGS SHALL PROVIDE SUFFICIENT DETAIL TO PERMIT PLACEMENT OF REINFORCEMENT WITHOUT THE USE OF THE DESIGN DRAWINGS. THE SHOP DRAWINGS SHALL INCLUDE A COMPLETE BILL OF MATERIALS FOR ALL REINFORCING STEEL. FABRICATION OF REINFORCING STEEL SHALL NOT COMMENCE UNTIL THE ENGINEER HAS COMPLETED THE REVIEW OF THE SHOP DRAWINGS.
- 3 PROPOSED LAYOUT AND LOCATION OF CONCRETE JOINTS.
- 4 PROPOSED METHOD OF CONCRETE CURING AND PRODUCT DATA FOR ANY CURING COMPOUNDS PROPOSED FOR USE ON THE PROJECT.
 - 5 LABORATORY TEST RESULTS FOR CONCRETE CYLINDER COMPRESSION TESTS AND SUBGRADE AND FILL COMPACTION TESTS.

TESTING LABORATORY REQUIREMENTS

THE CONTRACTOR SHALL SECURE THE SERVICES OF A COMMERCIAL TESTING LABORATORY TO PERFORM ALL REQUIRED MATERIALS TESTS AND INSPECTIONS.

- 1 ONE SET OF CONCRETE TEST CYLINDERS SHALL BE OBTAINED FOR EVERY 50 CUBIC YARDS OF CONCRETE PLACED, OR ANY PORTION THEREOF PLACED IN A SINGLE DAY, AS FOLLOWS:
 - A FIVE (5) CONCRETE TEST CYLINDERS SHALL BE MOLDED FROM EACH SAMPLE AND CURED ACCORDING TO ASTM C 31. COMPRESSIVE TESTS SHALL BE PERFORMED ON ONE CYLINDER AT 7 DAYS AND THREE CYLINDERS AT 28 DAYS. THE FIFTH CYLINDER SHALL BE RETAINED FOR 56 DAYS AND TESTED ONLY IF THE AVERAGE STRENGTH OF THE 28 DAYS TESTS DO NOT MEET THE MINIMUM REQUIRED COMPRESSIVE STRENGTH.
 - B A SLUMP TEST AND TEMPERATURE MEASUREMENT SHALL BE PERFORMED FOR EACH SAMPLE.
 - C COMPUTATION OF WATER/CEMENT RATIO, AS REQUIRED OR DIRECTED BY THE ENGINEER.
- 2 ADDITIONAL CYLINDERS MAY BE MADE AND TESTED, AS NECESSARY, FOR ACCELERATED REMOVAL OF FORMS OR ERECTION OF MEMBERS TO VERIFY THAT NECESSARY STRENGTHS HAVE BEEN OBTAINED. SUCH CYLINDERS SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
- 3 FIELD DENSITY TESTS SHALL BE PERFORMED ON THE SUBGRADE AND EACH LIFT OF FILL MATERIAL. ONE DENSITY TEST WILL BE REQUIRED FOR EACH 5,000 SQUARE FEET, BUT NOT LESS THAN THREE (3) TESTS PER LIFT.
- 4 REINFORCED CONCRETE CONSTRUCTION SERVICES ARE TO BE PROVIDED AS FOLLOWS:
- A INSPECT EXCAVATIONS AND REINFORCING STEEL PLACEMENT PRIOR TO CONCRETE POURS.
- 5 THE CONTRACTOR SHALL COOPERATE AND COORDINATE FULLY WITH THE TESTING LABORATORY.
- 6 IN THE EVENT THAT CONCRETE ELEMENTS OR MEMBERS DO NOT ACHIEVE THE SPECIFIED MINIMUM COMPRESSIVE STRENGTHS, THE ENGINEER MAY REQUIRE ADDITIONAL ANALYSIS, TESTING OR REMOVAL AND REPLACEMENT OF MEMBERS. ANY AND ALL SUCH ADDITIONAL ANALYSIS OR TESTING SHALL BE AT THE CONTRACTOR'S EXPENSE, WHETHER SUCH ANALYSIS OR TESTING DEMONSTRATES ADEQUATE STRENGTH OR NOT. REPLACEMENT OF ANY MEMBERS DEEMED QUESTIONABLE OR INADEQUATE BY THE ENGINEER SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 7 THE CONTRACTOR SHALL ARRANGE FOR COPIES OF THE INSPECTION AND TESTING REPORTS TO BE SENT TO THE ENGINEER. COPIES OF TEST AND INSPECTION REPORTS SHALL BE FORWARDED TO THE ENGINEER AS QUICKLY AS POSSIBLE FOLLOWING COMPLETION OF THE TESTS AND INSPECTIONS.











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	3½" WIDE x 1½" DEEP		Pickett, Kelm & Associates, Inc.	CONSUITING STRUCTURAI ENGINEERS Texas Registration No. F-1491 4100 Duval Road, Bldg. 4, Suite 103 Austin, Texas 78759 • Phone 512-345-5538
	<text></text>		PARKSIDE ON THE RIVER SECTION 8 POND OUTLET STRUCTURE	GEORGETOWN, TEXAS
			STRUCTURAL GENERAL NOTES	DETAILS
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