WINDING OAK DEVELOPMENT

TCEQ CONTRIBUTING ZONE PLAN

Prepared for:

Zoomers Investment Group, LLC
1137 Prescott Dr.
Rochester Hills, MI 48609

Prepared by:

Gray Civil
8834 Capital of Texas Highway, Suite 140
Austin, Texas 78759
TBPE Firm #2946

OCT 2025

GEI No. 1688-11573

Edwards Aquifer Application Cover Page

(TCEQ-20705)

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.

6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

Technical Review

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

2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

clearly marked, features identified in the geologic assessment should be flagged, roadways marked and the alignment of the Sewage Collection System and manholes should be staked at the time the application is submitted. If the site is not marked the application may be returned.

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.

4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

- If the technical review has begun your application can be denied/withdrawn, your fees will be forfeited, and the plan will have to be resubmitted.
- TCEQ can continue the technical review of the application as it was submitted, and a modification application can be submitted at a later time.

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

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

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

1. Regulated Entity Name: Winding Oak Development						**2. Regulated Entity No.:**			
3. Customer Name: Zoomers Investment Group, LLC						**4. Customer No.:**			
5. Project Type: **(Please circle/check one)**	New		Modification			Extension		Exception	
6. Plan Type: **(Please circle/check one)**	WPAP	CZP	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		Non-residential			**8. Site (acres):**			4.61 acres
9. Application Fee:	$4,000		**10. Permanent BMP(s):**			Yes, Underground Detention with BayFilter			
11. SCS (Linear Ft.):	N/A		**12. AST/UST (No. Tanks):**			N/A			
13. County:	Williamson		**14. Watershed:**			Brushy Creek			

Application Distribution

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

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

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

Austin Region			
County:	**Hays**	**Travis**	**Williamson**
Original (1 req.)	___	___	X
Region (1 req.)	___	___	X
County(ies)	___	___	X
Groundwater Conservation District(s)	___Edwards Aquifer Authority ___Barton Springs/ Edwards Aquifer ___Hays Trinity ___Plum Creek	___Barton Springs/ Edwards Aquifer	NA
City(ies) Jurisdiction	___Austin ___Buda ___Dripping Springs ___Kyle ___Mountain City ___San Marcos ___Wimberley ___Woodcreek	___Austin ___Bee Cave ___Pflugerville ___Rollingwood ___Round Rock ___Sunset Valley ___West Lake Hills	___Austin ___Cedar Park ___Florence ___Georgetown ___Jerrell X Leander ___Liberty Hill ___Pflugerville ___Round Rock

San Antonio Region					
County:	**Bexar**	**Comal**	**Kinney**	**Medina**	**Uvalde**
Original (1 req.)	___	___	___	___	___
Region (1 req.)	___	___	___	___	___
County(ies)	___	___	___	___	___
Groundwater Conservation District(s)	___ Edwards Aquifer Authority ___Trinity-Glen Rose	___Edwards Aquifer Authority	___Kinney	___EAA ___Medina	___EAA ___Uvalde
City(ies) Jurisdiction	___Castle Hills ___Fair Oaks Ranch ___Helotes ___Hill Country Village ___Hollywood Park ___San Antonio (SAWS) ___Shavano Park	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Steven Minor, P.E.
Print Name of Customer/Authorized Agent  10/8/2025 Signature of Customer/Authorized Agent Date

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

Contributing Zone Plan Application

(TCEQ-10257)

Contributing Zone Plan Application

Texas Commission on Environmental Quality

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), 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 **Contributing Zone Plan Application** is hereby submitted for TCEQ review and Executive Director approval. The application was prepared by:

Print Name of Customer/Agent: Steven Minor, P.E

Date: 10/8/2025

Signature of Customer/Agent:



Regulated Entity Name: Winding Oak Development

Project Information

1. County: Williamson
2. Stream Basin: Brushy Creek
3. Groundwater Conservation District (if applicable): N/A
4. Customer (Applicant):

   Contact Person: Chiranjeevi Melam
   Entity: Zoomers Investment Group, LLC
   Mailing Address: 9918 Lavon Bnd.
   City, State: Austin, TX Zip: 78717
   Telephone: 512-949-9489 Fax: N/A
   Email Address: chiranjeevi.melam@gmail.com

5. Agent/Representative (If any):

Contact Person: Steven Minor, P.E.
Entity: Gray Civil
Mailing Address: 8834 N. Capital of Texas Highway, Suite 140
City, State: Austin, TX Zip: 78759
Telephone: 512-851-8311 Fax: 512-454-9933
Email Address: sminor@gray-civil.com

6. Project Location:

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

7. ☒ The location of the project site is described below. Sufficient detail and clarity has been provided so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

The site is located approximately 0.2 miles west of the intersection of Ronald Reagan Blvd. and Hero Way. Along Winding Oak Trail

8. ☒ **Attachment A - Road Map**. A road map showing directions to and the location of the project site is attached. The map clearly shows the boundary of the project site.

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

☒ Project site boundaries.
☒ USGS Quadrangle Name(s).

10. ☒ **Attachment C - Project Narrative**. A detailed narrative description of the proposed project is attached. The project description is consistent throughout the application and contains, at a minimum, the following details:

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

11. 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/Not cleared)
☐ Other: _____

12. The type of project is:

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

13. Total project area (size of site): 4.61 Acres

Total disturbed area: 4.61 Acres

14. Estimated projected population: N/A

15. The amount and type of impervious cover expected after construction is complete is shown below:

Table 1 - Impervious Cover

Impervious Cover of Proposed Project	*Sq. Ft.*	*Sq. Ft./Acre*	*Acres*
Structures/Rooftops	31,743	÷ 43,560 =	.73
Parking	104,450	÷ 43,560 =	2.40
Other paved surfaces	24,923	÷ 43,560 =	.57
Total Impervious Cover	161,172	÷ 43,560 =	3.7

Total Impervious Cover 3.70 **÷ Total Acreage** 4.61 **X 100 =** 80**% Impervious Cover**

16. ☒ **Attachment D - Factors Affecting Surface Water Quality**. A detailed description of all factors that could affect surface water quality is attached. If applicable, this includes the location and description of any discharge associated with industrial activity other than construction.

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

For Road Projects Only

Complete questions 18 - 23 if this application is exclusively for a road project.

☒ N/A

18. 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.

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

- ☐ Concrete
- ☐ Asphaltic concrete pavement
- ☐ Other: _____

20. Right of Way (R.O.W.):

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

21. Pavement Area:

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

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

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

23. ☐ 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

24. ☒ **Attachment E - 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 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

25. ☐ Wastewater is to be discharged in the contributing zone. Requirements under 30 TAC §213.6(c) relating to Wastewater Treatment and Disposal Systems have been satisfied.

☒ N/A

26. Wastewater will be disposed of by:

☐ On-Site Sewage Facility (OSSF/Septic Tank):

☐ **Attachment F - 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):

The sewage collection system will convey the wastewater to the Leander Wastewater Treatment Plan (name) Treatment Plant. The treatment facility is:

☒ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

Complete questions 27 - 33 if this project includes the installation of AST(s) with volume(s) greater than or equal to 500 gallons.

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
1			
2			
3			
4			
5			

Total x 1.5 = _____ Gallons

28. ☐ The AST will be placed within a containment structure that is sized to capture one and one-half (1 1/2) times the storage capacity of the system. For facilities with more than

one tank system, the containment structure is sized to capture one and one-half (1 1/2) times the cumulative storage capacity of all systems.

☐ **Attachment G - Alternative Secondary Containment Methods**. Alternative methods for providing secondary containment are proposed. Specifications showing equivalent protection for the Edwards Aquifer are attached.

29. Inside dimensions and capacity of containment structure(s):

Table 3 - Secondary Containment

Length (L)(Ft.)	*Width(W)(Ft.)*	*Height (H)(Ft.)*	*L x W x H = (Ft3)*	*Gallons*

Total: _____ Gallons

30. Piping:

☐ All piping, hoses, and dispensers will be located inside the containment structure.
☐ Some of the piping to dispensers or equipment will extend outside the containment structure.
☐ The piping will be aboveground
☐ The piping will be underground

31. ☐ The containment area must be constructed of and in a material impervious to the substance(s) being stored. The proposed containment structure will be constructed of: _____.

32. ☐ **Attachment H - AST Containment Structure Drawings**. A scaled drawing of the containment structure is attached that shows the following:

☐ Interior dimensions (length, width, depth and wall and floor thickness).
☐ Internal drainage to a point convenient for the collection of any spillage.
☐ Tanks clearly labeled
☐ Piping clearly labeled
☐ Dispenser clearly labeled

33. ☐ Any spills must be directed to a point convenient for collection and recovery. Spills from storage tank facilities must be removed from the controlled drainage area for disposal within 24 hours of the spill.

☐ In the event of a spill, any spillage will be removed from the containment structure within 24 hours of the spill and disposed of properly.

☐ In the event of a spill, any spillage will be drained from the containment structure through a drain and valve within 24 hours of the spill and disposed of properly. The drain and valve system are shown in detail on the scaled drawing.

Site Plan Requirements

Items 34 - 46 must be included on the Site Plan.

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

    Site Plan Scale: 1" = 30'.

35. 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): National Flood Insurance Program, Flood Insurance Rate Map, Williamson County, Texas and Incorporated Areas Panel 455 of 750, Map Number 481536C04455F, Map Revised December 20, 2019.

36. ☒ 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, etc. are shown on the site plan.

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

37. ☒ A drainage plan showing all paths of drainage from the site to surface streams.

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

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

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

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

42. ☐ Surface waters (including wetlands).

    ☒ N/A

43. ☐ Locations where stormwater discharges to surface water.

    ☒ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

☒ Temporary aboveground storage tank facilities will not be located on this site.

45. ☐ Permanent aboveground storage tank facilities.

☒ Permanent aboveground storage tank facilities will not be located on this site.

46. ☒ Legal boundaries of the site are shown.

Permanent Best Management Practices (BMPs)

Practices and measures that will be used during and after construction is completed.

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

☐ N/A

48. ☒ 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

49. ☒ 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

50. 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.

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

☐ **Attachment I - 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.

52. ☒ **Attachment J - BMPs for Upgradient Stormwater**.

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

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

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

53. ☒ **Attachment K - BMPs for On-site Stormwater**.

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

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

54. ☒ **Attachment L - BMPs for Surface Streams**. A description of the BMPs and measures that prevent pollutants from entering surface streams is attached.

☒ N/A

55. ☒ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and

dated. Construction plans for the proposed permanent BMPs and measures are attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

56. ☒ **Attachment N - Inspection, Maintenance, Repair and Retrofit Plan**. A site and BMP specific plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is attached. The plan fulfills all of the following:

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

    ☐ N/A

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

    ☒ N/A

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

    ☒ N/A

Responsibility for Maintenance of Permanent BMPs and Measures after Construction is Complete.

59. ☒ 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.

60. ☒ 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.

Administrative Information

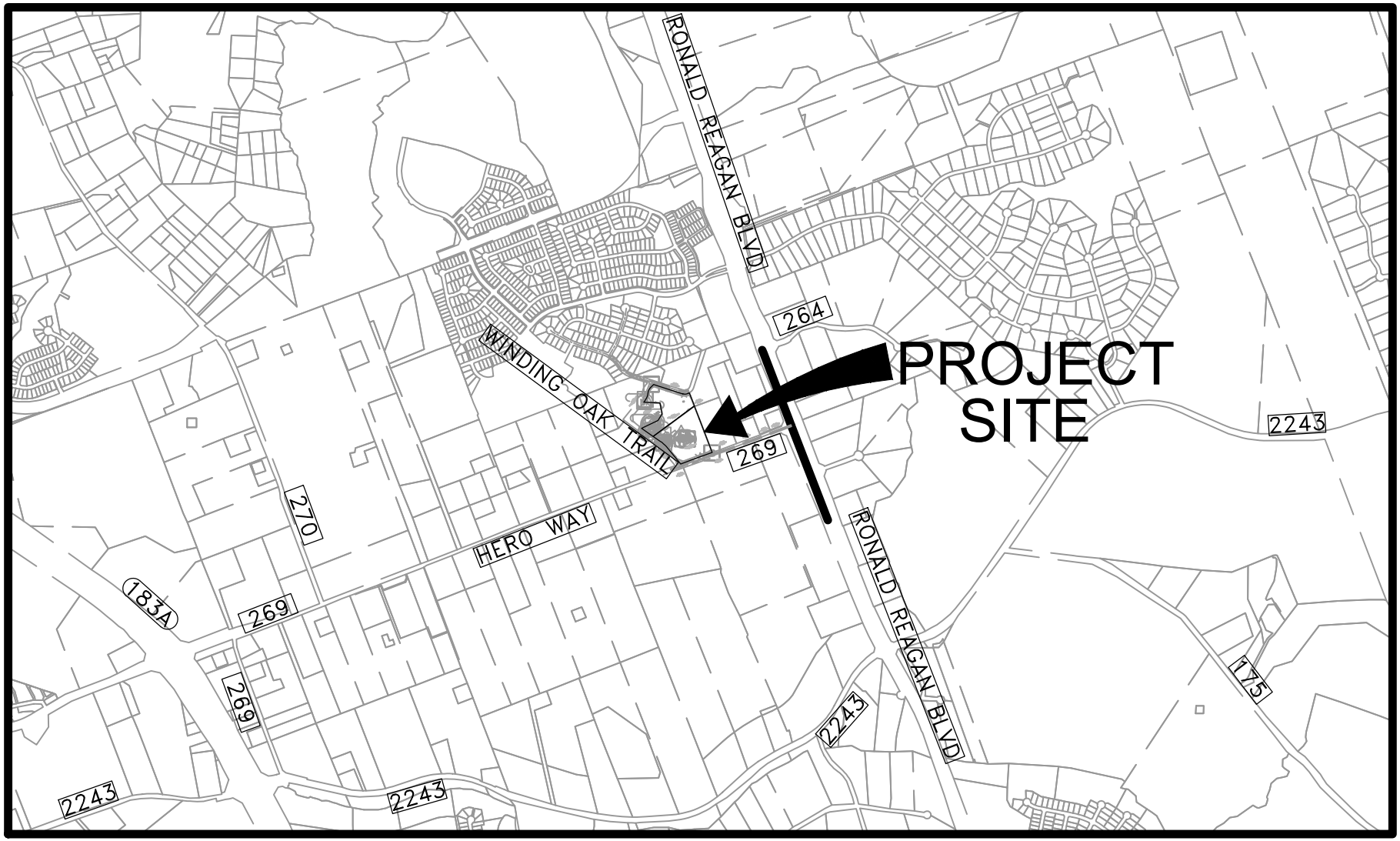
61. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.

62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

63. ☐ The site description, controls, maintenance, and inspection requirements for the storm water pollution prevention plan (SWPPP) developed under the EPA NPDES general permits for stormwater discharges have been submitted to fulfill paragraphs 30 TAC §213.24(1-5) of the technical report. All requirements of 30 TAC §213.24(1-5) have been met by the SWPPP document.

☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

ATTACHMENT A – ROAD MAP



LOCATION MAP

1" = 2000'

PROJECT NO.	1688-11572	DRAWN BY:	LGL
DATE:	12/18/2024	CHECKED BY:	SM

GRAY ENGINEERING

8834 N. Capital of Texas Hwy.
Austin, Texas 78759
Suite 140
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\ADMIN\SUBMITTALS\TCEQ\2. CONTRIBUTING ZONE PLAN APPLICATION (TCEQ-10257)\ATTACHMENT

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

The National Map US Topo

LEANDER QUADRANGLE
TEXAS
7.5-MINUTE SERIES

PROJECT SITE

LEANDER
Walkerton
White Stone
CEDAR PARK
ROUND ROCK
AUSTIN

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.

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

Wetlands.....FWS National Wetlands Inventory 1982

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

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

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

QUADRANGLE LOCATION

ADJOINING QUADRANGLES
1 Liberty Hill
2 Leander NE
3 Georgetown
4 Nameless
5 Round Rock
6 Mansfield Dam
7 Jollyville
8 Pflugerville West

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

LEANDER, TX
2019

MSN_764301639698 1
NGA REF NO. USGSX24K25238

Attachment C
Project Narrative

Winding Oak Development lies within the Brushy Creek Watershed and Edwards Aquifer Contributing Zone within the City of Leander, approximately 0.2 miles west of the intersection of Ronald Reagan Blvd. and Hero Way. The proposed 4.61 acre development consists of 3 Commercial retail buildings with total square footage approximately 32,000 square feet. The impervious cover created by the site is approximately 80 percent including buildings, streets, and other paved surfaces.

During construction, Temporary Best Management Practices (BMPs) will include the use of a temporary stabilized construction entrance/exit, silt fencing, rock berms, and a staging area/spoil site (see construction plans, Attachment M, Erosion and Sedimentation Control Sheet) Location and type of temporary BMPs have been selected to control erosion and sedimentation in accordance with RG-348 - Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices. The previous site consisted of a house and an auxiliary building for an office. Both will be demolished in preparation for the development. The permanent BMP proposed for the site will be an underground detention pond with the use of a BayFilter Stormwater Treatment System. The combined underground detention pond and BayFilter system will follow the requirements of the RG-348. Additionally, the amount of impervious cover required to treat with the permanent BMP will be reduced by the use of a rainwater harvesting tank, which will be utilized to convey drainage from the building's rooftops and used as future irrigation.

In the existing condition this site accepts offsite flows from north of the property. The site is designed to keep flow patterns as close as possible to existing conditions, therefore the site will continue to accept these offsite flows in the proposed condition. However, some of the flows have been rerouted from flowing through the site to around the site reaching the same point of termination. Thus, no offsite flow will enter the permanent BMP.

Attachment D
Factors Affecting Surface Water Quality

The water quality may be affected during construction by rainfall runoff carrying sediment, vehicle oils, waxes, paint, concrete curing compounds, trash and any other customary construction site pollutants from the open construction area. During construction, Temporary Best Management Practices (BMPs) will include the use of a temporary stabilized construction entrance/exit, silt fencing, rock berms, and a staging area/spoil site (see construction plans, Attachment M, Erosion and Sedimentation Control Sheet). Location and type of temporary BMPs have been selected to control erosion and sedimentation in accordance with RG-348 - Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices.

After construction, runoff from the impervious cover areas carrying sediment, vehicle oils, waxes, herbicides, pesticides, and any other normal pollutants attributed to Commercial sites may affect the water quality.

Attachment E
Volume and Character of Stormwater

The proposed site is designed to maintain existing flow patterns. Stormwater from this site currently drains directly into a channel along Hero Way into a local creek before depositing into Brushy Creek and will continue to do so.
The impervious cover for the developed project is contained in the following table.

Total Impervious Area	3.7 ac
Structures/Roof	.73 ac
Parking/Pavement	2.40 ac
Other Paved	0.57 ac
Impervious Cover %	80%

See construction plan set (Attachment M) for individual drainage areas for pre-developed and post-developed flows. The expected flow was calculated using the Atlas 14 method. The tables used for calculating the time of concentration, and flow for each drainage can also be found in Attachment M.

It is expected that the character of surface water and ground water run-off would be consistent with commercial development. Runoff from the impervious cover areas may include sediment, vehicle oils, waxes, herbicides, pesticides, landscaping mulch, building products and any other normal pollutants attributed to commercial sites.

The site will utilize an underground detention pond with a Bayfilter system to capture the TSS created from the proposed development as well as the increase in runoff from the additional impervious cover. Additionally, the site will utilize a rainwater harvesting tank for the 0.73 Acres of rooftop impervious cover to be distributed over 1.22 acres of landscaped area.

ATTACHMENT J
BMPs FOR UP-GRADIENT STORMWATER

In the existing condition this site accepts offsite flows from north of the property. These flows bypass the site and do not flow across the site or to any permanent BMPs. Flows have not been altered to keep flow patterns as close as possible to existing conditions.

ATTACHMENT K
BMPs FOR ONSITE STORMWATER

During construction, Temporary Best Management Practices (BMPs) will include the use of a temporary stabilized construction entrance/exit, silt fencing, inlet protections/sediment traps, rock berms, and a staging area/spoil site (see construction plans, Erosion and Sedimentation Control Plan, Sheet 5 of 43). Location and type of temporary BMPs have been selected to control erosion and sedimentation in accordance with RG-348 - Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices.

This site will be used for commercial development and will have approximately 80% impervious cover. In the contributing zone, a permanent BMP will consist of one (1) underground detention pond with a BayFilter Stormwater Treatment System both designed in accordance with TCEQ's Technical Guidance Manual (TGM) RG-348. This site will utilize a 35,000 gallon rainwater harvesting tank for .73 acres of rooftop impervious cover to be distributed over 1.22 acres of landscaped area.

The BayFilter is an offline design capable of treating the necessary TSS removal. The Stormtech chamber detention pond and Bayfilter details can be found on the Proposed Pond Plan and Pond Details sheets.

ATTACHMENT L
BMPs FOR SURFACE STREAMS

No streams run through this site. Portions of the existing drainage eventually flow into Brushy Creek located approximately .8 miles south of the site.

For protection of these surface streams, during construction, Temporary Best Management Practices (BMPs) will include the use of a temporary stabilized construction entrance/exit, silt fencing, rock berms, and a staging area/spoil site (see construction plans, Attachment M, Erosion and Sedimentation Control Sheet) Location and type of temporary BMPs have been selected to control erosion and sedimentation in accordance with RG-348 - Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices.

ATTACHMENT N
INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

Underground Detention Chambers

Inspections and Maintenance

Inspect every 6 months during the first year of operation. adjust the inspection interval based on previous observations of sediment accumulation and high-water elevations. Conduct jetting and vactoring annually or when inspection shows that maintenance is necessary.

Step 1) Inspect isolator row plus for sediment.
- a. Inspection ports (if present)
- a.1. Remove/open lid on nyloplast inline drain.
- a.2. Remove and clean flexstorm filter if installed.
- a.3. Using a flashlight and stadia rod, measure depth of sediment and record on maintenance log
- a.4. Lower a camera into isolator row plus for visual inspection of sediment levels (optional)
- a.5. If sediment is at, or above, 3" (80 mm) proceed to step 2. If not, proceed to step 3.
  - b. All isolator plus rows
  - b.1. Remove cover from structure at upstream end of isolator row plus
  - b.2. Using a flashlight, inspect down the isolator row plus through outlet pipe.
    - i) Mirrors on poles or cameras may be used to avoid a confined space entry
    - ii) Follow Osha regulations for confined space entry if entering manhole
  - b.3. If sediment is at, or above, 3" (80 mm) proceed to step 2. If not, proceed to step 3.

Step 2) Clean out isolator row plus using the jetvac process.
- a. A fixed culvert cleaning nozzle with rear facing spread of 45" (1.1 m) or more is preferred.
- b. Apply multiple passes of jetvac until backflush water is clean.
- c. Vacuum structure sump as required.

Step 3) Replace all covers, grates, filters, and lids, record observations and actions.

Step 4) Inspect and clean basins and manholes upstream of the Stormtech system.

BayFilter

Inspection

The BayFilter system requires periodic maintenance to continue operating at its peak efficiency design. The maintenance process comprises the removal and replacement of each BayFilter

cartridge and the cleaning of the vault or manhole with a vacuum truck. for best results, BayFilter maintenance should be performed by a certified maintenance contractor. a quick call an ads engineer or customer service representative will provide you with a list of reliable contractors in your area. When the BayFilter is initially installed, we recommend that an inspection be performed on the system in the first six (6) months. After that, the inspection cycle typically falls into a biannual pattern given normal storm occurrence and actual solids loads. When BayFilter exhibits flows below design levels, the system should be inspected and maintained as soon as practical. Replacing a BayFilter cartridge should be considered at or above the level of the manifold.

Maintenance Procedures

1. Remove the manhole covers and open all access hatches.
2. Before entering the system make sure the air is safe per Osha standards or use a breathing apparatus. use low o2, high co, or other applicable warning devices per regulatory requirements.
3. Using a vacuum truck, remove any liquid and sediments that can be removed prior to entry.
4. Using a small lift or the boom of the vacuum truck, remove the used cartridges by lifting them out.
5. Any cartridges that cannot be readily lifted can be easily slid along the floor to a location they can be lifted via a boom lift.
6. When all the cartridges have been removed, it is now practical to remove the balance of the solids and water. loosen the stainless clamps on the fernco couplings for the manifold and remove the drainpipes as well. carefully cap the manifold and the fernco's and rinse the floor, washing away the balance of any remaining collected solids.
7. Clean the manifold pipes, inspect, and reinstall.
8. Install the exchange cartridges and close all covers.
9. The used cartridges must be sent back to ads for exchange/recycling and credit on undamaged units.

The owner is responsible for operation and maintenance of the detention/water quality pond after the improvements have been constructed and accepted. All inspections, maintenance and repair will be documented, and accurate records of maintenance and repair work shall be kept by the owner.

I, Chiranjeevi Melam, the owner of the underground detention pond and Bayfilter, have read these procedures and am aware that these items need to be taken care of in order to keep the underground pond and Bayfilter functioning properly. I will implement these inspections, and perform maintenance as required to meet the intent of the IMMR Plan.

Signature

10/08/25

Date

Attachment P
Measures for Minimizing Surface Stream Contamination

No surface streams exist adjacent to Singleton Ranch Commercial Development; however this project is within the Brushy Creek watershed. For protection of these surface streams, during construction, Temporary Best Management Practices (BMPs) will include the use of a temporary stabilized construction entrance/exit, silt fencing, rock berms, and a staging area/spoil site (see construction plans, Attachment M, Erosion and Sedimentation Control Sheet) Location and type of temporary BMPs have been selected to control erosion and sedimentation in accordance with RG-348 - Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices. Once all site grading activities have been completed all disturbed areas will be hydro mulched and seeded to revegetate all exposed soil areas. All controls will remain in place until the revegetated areas have become permanently stabilized.

After construction, the permanent BMPs as presented in Attachment K, will serve to prevent erosion, and prevent potential contamination of the Edwards Aquifer and any associated surface water.

Temporary Stormwater Section

(TCEQ-0602)

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Steven Minor, P.E

Date: 10/8/2025

Signature of Customer/Agent:



Regulated Entity Name: Winding Oak Development

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: Brushy Creek

Temporary Best Management Practices (TBMPs)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

11. ☐ **Attachment H - Temporary Sediment Pond(s) Plans and Calculations**. Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are attached.

☒ N/A

12. ☒ **Attachment I - Inspection and Maintenance for BMPs.** A plan for the inspection of each temporary BMP(s) and measure(s) and for their timely maintenance, repairs, and, if necessary, retrofit is attached. A description of the documentation procedures, recordkeeping practices, and inspection frequency are included in the plan and are specific to the site and/or BMP.

13. ☒ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. ☒ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. ☒ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. ☒ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

Soil Stabilization Practices

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

17. ☒ **Attachment J - Schedule of Interim and Permanent Soil Stabilization Practices**. A schedule of the interim and permanent soil stabilization practices for the site is attached.

18. ☒ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. ☒ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

Administrative Information

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

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until 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

First, the spill must be contained, and the area staked off and/or rock and earth berms constructed as required, to prevent further contamination. Then, any spill of reportable quantity, as shown at the end of this attachment, should be reported to the TCEQ as soon as possible (no later than 24 hours from the occurrence) to one of the following:

1. The Region 11 Office, 512-339-2929
2. The TCEQ toll free number, 1-800-832-8224
3. The TCEQ 24-hour location, 512-463-7727 or 512-239-2507

The information to be reported should include: the reporter's name, address and telephone number, the date, time and location of the spill, an identification of what substance or substances have been spilled and the approximate amount, the approximate duration of the spill, the name of the surface water or description of the waters of the state that are affected by the spill, the sources of the spill, an approximate description of the extent of water pollution or impacts to the environment that the spill may have, a description of any environmentally sensitive areas or natural resources at risk, a description of any and all actions being taken to contain the spill, any anticipated health risks, any other governmental representatives and local authorities that are responding to the spill, and any other pertinent information regarding the spill.

All site personnel should also be made aware of the manufacturer's recommended methods for spill cleanup and the location of the information and supplies. Materials and equipment necessary for spill clean-up will be kept onsite in an accessible location. All spills will be cleaned up upon discovery and any spill of hydrocarbons or hazardous substances greater than 25 gallons will require notification of the Fire Departments Hazardous Materials team as well as the TCEQ.

After the spill has been contained and cleaned up, site personnel should make any necessary follow-up reports with the TCEQ.

The reportable quantities are:

Reportable Quantities (RQ's) According to the Spill Rule (copied from TNRCC Reg. Guidance. RG-285)

	Site of Spill	
Type of spill	**On Land**	**In Water**
Hazardous Substance		
If CERCLA RQ = 1-100 lb	CERCLA RQ	CERCLA RQ
If CERCLA RQ > 100 lb	CERCLA RQ	100 lb
Crude Oil	210 gal	Enough to form a sheen
Used Oil or petroleum product		
At a PST exempt facility*	210 gal	Enough to form a sheen
All others	25 gal	Enough to form a sheen
Oil other than crude oil, used oil or petroleum product	210 gal	Enough to form a sheen
Other Substances	No RQ	100 lb
Industrial solid waste	No RQ	100 lb

Note: This table applies only to the reporting of spills and discharges according to the spill rule, 30 TAC §§327.1-327.5. To find values of CERCLA RQs for hazardous substances, please refer to 40 CFR Table 302.4

* The term "PST exempt facility" refers to facilities that are exempt from the Aboveground Storage Tank Program. Petrochemical plants, petroleum refineries, and electricity generation, transmission, and distribution facilities are some examples of PST exempt facilities.

CERCLA refers to the Comprehensive Emergency Response, Compensation and Liability Act

Attachment B
Potential Sources of Contamination

Potential sources of contamination include fueling of construction vehicles, gasoline, diesel, and hydraulic fluid from construction equipment, asphalt products, construction materials, tracking mud onto the roadway, trash and debris, short-term storage and use of fertilizers for use in establishing vegetation paint, concrete, and gypsum from sheet rock. All materials shall be hauled in a manner consistent with the manufacturer's recommendations. Disposal of waste material shall be in conformance with Local Laws. Contractor will provide receipts from landfill as verification of proper disposal of waste material. The contractor will not be allowed to dispose of any waste material on-site. All activities will be conducted in a manner to minimize the potential for impact to the environment.

Attachment C
Sequence of Major Activities

The estimated total area to be disturbed during construction is shown in the plan set on the "Erosion and Sedimentation Control Plan" as the limits of construction, which is approximately 4.61 acres. With stormwater deposits to make it to Brushy Creek. The sequence of construction is as follows:

1) Call Department of Public works and Transportation, Development engineer construction department, and the environmental and construction services department 48 hours prior to beginning any work. Call the One Call center for utility locations.
2) Install temporary erosion control measures according to the plans and specifications prior to any clearing, grading, excavating, etc.
3) Hold pre-construction conference with contractor, design engineer/permit applicant.
4) Begin construction of project as follows:
    a) Demolition of existing facilities (.5 acre)
    b) Place materials (4.61 acres)
    c) Excavate (4.61 acres)
    d) Install all utilities and underground detention pond and then Bayfilter cartridges (4.61 acres)
    e) Inspect temporary erosion controls on a regular basis and adjust the controls and/or remove any sediment buildup.
    f) Complete all rough grading, underground utilities, and ensure that all underground utility crossings are completed. (4.61 acres)
    g) Lay final pavement and install all pavement markings & signs according to plans (4.61 acres)
    h) Complete all necessary final grading and dress up of areas disturbed during construction. (4.61 acres)
    i) Ensure areas are revegetated and stabilized (4.61 acres)
    j) Remove and dispose of temporary erosion control devices.
5) Hold post-construction conference on site with the contractor, design engineer, owner's representative and the county's inspector.
6) Provide as-built mark-up drawings to the engineer

Attachment D
Temporary Best Management Practices and Measures

Silt fencing will be used during the periods of construction near the perimeter of the disturbed area to intercept sediment while allowing water to percolate through. prevent excessive sediment build up, and prevent sediment from escaping around edges of silt fence. This silt fence will remain in place until the disturbed area is permanently stabilized. Temporary berms will be used in place of silt fence in areas of greater discharge.

A stabilized pad of crushed stone will be placed at the points where traffic will be entering and leaving the construction site to eliminate the tracking or flowing of sediment onto public rights-of-way. The entrance may require periodic top dressing with additional sediment. All sediment spoiled, dropped, washed or tracked onto public right-of-way must be removed immediately by the contractor.

Concrete washout areas will be placed to prevent or reduce the discharge of pollutants to stormwater from concrete waste. Concrete washout areas shall be at least 50 feet from sensitive features, storm drains, open ditches, or water bodies. Onsite concrete wastes will be washed into the temporary washout areas where the concrete can set, be broken up, and be disposed of properly.

Dust control can prevent blowing and movement of dust from exposed soil surfaces, reduce on-site and off-site damage, health hazards and improve traffic safety. Dust control will be implemented at the site during all phases of construction.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of the work can begin within a phase, the clearing and grading contractor will be responsible for the installation of all on-site control measures within that phase. The methodology for pollution prevention of on-site stormwater will include: (1) erection of silt fences along the downgradient boundary of construction activities for temporary erosion and sedimentation controls, (2) installation of stabilized construction entrance/exit(s), as necessary to reduce the dispersion of sediment from the site. Then lay utilities and install the detention pond followed by the Bayfilter cartridges, which should be installed in the vault toward the end of construction in order to prevent heavy sediment loads from rain events before the site is stabilized.

BMP measures utilized in this plan are intended to allow stormwater to continue downstream after passing through the BMPs. This will allow stormwater runoff to continue downgradient to features that may exist downstream of the BMP.

Post construction of improvements and prior to project acceptance, the limits of disturbance shall be revegetated.

Attachment E
Request to Temporarily Seal a Feature

N/A

Attachment F
Structural Practices

The following structural measures will be put in place prior to the installation of site preparation activities.

- Erection of silt fences along the downgradient boundary of construction activities and rock berms for secondary protection.
- Installation of stabilized construction entrance/exit(s) as necessary

Attachment G
Drainage Area Map

An exhibit has been included that depicts the existing site topography as well as the proposed erosion and sedimentation control locations. Please refer to the "Overall Drainage Area Map" Sheets of the attached construction plan set for the Drainage Area Map.

Attachment H
Temporary Sediment Pond Plans and Calculations

N/A

Attachment I
Inspection and Maintenance for BMPs

Best Management Practices installed during construction will be maintained in accordance with the recommendations found in the TCEQ Technical Guidance Manual. The following maintenance procedures shall be followed until permanent stabilization occurs.

Silt Fence

a. Inspect weekly or after each rainfall event and repair or replacement shall be made promptly as needed.
b. Silt fence shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.
c. Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.

Rock Berm

a. Inspect weekly or after each rain and the stone and/or fabric core-woven sheathing shall be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc. event and repair or replacement shall be made promptly as needed.
b. When silt reaches a depth equal to one-third the height of the berm or 6", whichever is less, the silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.
c. Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of on an approved site and in such a manner that will not contribute to additional siltation.
d. Severe service rock berms shall be inspected daily. Silt shall be removed when it reaches a depth of 6"
e. Rock berms shall be removed when the site is completely stabilized so as to not block or impede storm flow or drainage.

Stabilized Construction Entrance

a. The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public roadway. This may require periodic top dressing with additional stone as conditions demand, as well as repair and clean out of any devices used to trap sediment.
b. Entrance must be properly graded to incorporate a drain swale or a similar measure to prevent runoff from leaving the construction site.

Concrete Washout

a. Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
b. Avoid mixing excess amounts of fresh concrete.
c. Perform washout of concrete trucks in designated areas only.
d. Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
e. Do not allow excess concrete to be dumped onsite, except in designated areas

Maintenance and Corrective Actions – Maintenance of erosion control facilities shall consist of the minimum requirements as follows:

A. In ongoing construction areas inspect erosion control improvements to confirm facilities are in place and operable. Where facilities have been temporarily set aside or damaged due to construction activity, place facilities in service before leaving job site.

B. If weather forecast predicts possibility of rain, check entire facilities throughout site to ensure that they are in place and operable. If job site weather conditions indicate high probability of rain, make special inspection of erosion control facilities.

C. After rainfall events, review erosion control facilities as soon as site is accessible. Clean rock berms, construction entrances, and other structural facilities. Determine where additional facilities or alternative techniques are needed to control sediment leaving site.

D. After portions of site have been seeded, review these areas on regular basis in accordance with project specifications to assure proper watering until grass is established. Re-seed areas where grass is not well-established.

E. Spills are to be handled as specified by the manufacturer of the product in a timely and safe manner by qualified personnel. The site superintendent will be responsible for coordinating spill prevention and cleanup operations.

F. Concrete trucks will discharge extra concrete or wash out drum only at an approved location on site. Residual product shall be properly disposed of.

G. Inspect vehicle entrance and exits for evidence of off-site tracking and correct

as needed.

H. Remove sediment from traps/ponds no later than when the design capacity has been reduced by 50% and from rock berms when buildup reaches 6 inches.

I. If sediment escapes the site, the contractor, where feasible and where access is available, shall collect and remove sedimentation material by appropriate non-damaging methods. Additionally, the contractor shall correct the condition causing discharges.

J. If inspections or other information sources reveal a control has been used incorrectly, that a control is performing inadequately, or a control is no longer functioning as intended, the contractor must replace, correct, or modify the control as soon as practical after discovery of the deficiency.

K. Controls shall be left in place until all upstream areas are stabilized and accumulated silt has been removed.

Attachment J
Schedule of Interim and Permanent Soil Stabilization Practices

The following is a schedule of interim and permanent soil stabilization practices:

- Prior to site disturbance

  Install all temporary erosion and sedimentation control features.

- During construction

Maintain all temporary erosion and sedimentation control structures. Inspect all temporary erosion and sedimentation control structures on a weekly and/or daily basis and after all rain events.

- After completion of construction

  Install all permanent erosion and sedimentation controls.

- After completion of permanent controls

  Remove all temporary erosion and sedimentation control features.

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbance by exposing the smallest practical area of land required for the shortest period of time and maximizing use of natural vegetation. As soon as practical, all disturbed soil will be stabilized as per project specifications in accordance with TCEQ's Technical Guidance Manual (TGM). Mulching, netting, erosion blankets and seeding are acceptable.

Bare soils should be seeded or otherwise stabilized within 14 calendar days after final grading or where construction activity has temporarily ceased for more than 21 days.

Contactor shall keep all temporary BMPs in place until the disturbed areas become permanently stabilized.

Construction - Inspection Report Form

TO BE COMPLETED EVERY 7 DAYS or EVERY 14 DAYS AND WITHIN 24 HOURS OF
A RAINFALL EVENT OF 0.5 INCHES OR MORE

Section A

By: _____ Date: _____

Qualifications: _____ Time: _____

Weather Conditions:

Inspection for evidence of, or the potential for, pollutants entering the drainage system.
Areas of concern include:

- Exposed Materials storage areas
- Fuel storage/dispensing areas
- Disturbed areas of the site that have not been finally stabilized
- Structural controls (berms, ponds, sumps, diversion ditches, silt fences, aggregate filters, etc.)
- Maintenance areas
- Vehicle and equipment parking areas

Section B

VISUAL INSPECTION CHECKLIST

DID YOU OBSERVE (check the boxes that are applicable):	**Location**
☐ Evidence of erosion?	_____
☐ Discharge(s) of sediment or pollution from the site?	_____
☐ Sediment and Erosion controls **not** operating correctly?	_____
☐ Additional Control(s) needed?	_____
☐ Control(s) in need of repair or maintenance?	_____
☐ Intentionally disabled, run-over, or removed control(s)?	_____
☐ Silt fencing - Is there evidence of washout or overtopping?	_____
☐ Rock Rubble Dam - Is there evidence of washout or overtopping?	_____
☐ Earth Dike - Is there evidence of washout or overtopping?	_____
☐ Earth dike not stabilized?	_____
☐ Sediment basin - Is there evidence of overtopping or washout?	_____
☐ Sediment basin capacity less than 50% than original design?	_____
☐ Evidence of off-site tracking from entrance/exit?	_____
☐ Evidence of poor Housekeeping?	_____
☐ (Other) _____	
_____	
_____	
_____	
_____	

☐ **Check this box if no incidents of noncompliance were noted during the inspection and refer to Section E.**

WHO WAS NOTIFIED: _____ DATE NOTIFIED? _____

SIGNATURE: _____

Section C

CORRECTIVE ACTION TAKEN:

If BMPs must be modified or additional BMPs are necessary, include implementation schedule.

Section D

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true and accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Date: _____

Copy of Notice of Intent

(NOI)

TCEQ Office Use Only
Permit No:
CN:
RN:

Notice of Intent (NOI) for an Authorization for Stormwater Discharges Associated with Construction Activity under TPDES General Permit TXR150000

IMPORTANT INFORMATION

Please read and use the General Information and Instructions prior to filling out each question in the NOI form.

Use the NOI Checklist to ensure all required information is completed correctly. **Incomplete applications delay approval or result in automatic denial.**

Once processed your permit authorization can be viewed by entering the following link into your internet browser: http://www2.tceq.texas.gov/wq_dpa/index.cfm or you can contact TCEQ Stormwater Processing Center at 512-239-3700.

ePERMITS

Effective September 1, 2018, this paper form must be submitted to TCEQ with a completed electronic reporting waiver form (TCEQ–20754).

To submit an NOI electronically, enter the following web address into your internet browser and follow the instructions: https://www3.tceq.texas.gov/steers/index.cfm

APPLICATION FEE AND PAYMENT

The application fee for submitting a paper NOI is $325. The application fee for electronic submittal of a NOI through the TCEQ ePermits system (STEERS) is $225.

Payment of the application fee can be submitted by mail or through the TCEQ ePay system. The payment and the NOI must be mailed to separate addresses. To access the TCEQ ePay system enter the following web address into your internet browser: http://www.tceq.texas.gov/epay.

Provide your payment information for verification of payment:

- If payment was mailed to TCEQ, provide the following:
  - Check/Money Order Number: Click here to enter text
  - Name printed on Check: Click here to enter text
- If payment was made via ePay, provide the following:
  - Voucher Number: Click here to enter text
  - A copy of the payment voucher is attached to this paper NOI form.

RENEWAL (This portion of the NOI is not applicable after June 3, 2018)

Is this NOI for a renewal of an existing authorization? ☐ Yes ☒ No

If Yes, provide the authorization number here: TXR15 Click here to enter text.

NOTE: If an authorization number is not provided, a new number will be assigned.

SECTION 1. OPERATOR (APPLICANT)

a) If the applicant is currently a customer with TCEQ, what is the Customer Number (CN) issued to this entity? CN To be issued with CZP Application

(Refer to Section 1.a) of the Instructions)

b) What is the Legal Name of the entity (applicant) applying for this permit? (The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.)

Zoomers Investment Group LLC

c) What is the contact information for the Operator (Responsible Authority)?

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Chiranjeevi Melam Suffix: N/A

Title: Owner Credentials: N/A

Phone Number: 512-949-9489 Fax Number: N/A

E-mail: chiranjeevi.melam@gmail.com

Mailing Address: 9918 Lavon Bnd.

City, State, and Zip Code: Austin, TX 78717

Mailing Information if outside USA:

Territory: Click here to enter text.

Country Code: Click here to enter text. Postal Code: Click here to enter text.

d) Indicate the type of customer:

☐ Individual	☐ Federal Government
☐ Limited Partnership	☐ County Government
☐ General Partnership	☐ State Government
☐ Trust	☐ City Government
☐ Sole Proprietorship (D.B.A.)	☐ Other Government
☒ Corporation	☐ Other: Click here to enter text.
☐ Estate	

e) Is the applicant an independent operator? ☐ Yes ☒ No

(If a governmental entity, a subsidiary, or part of a larger corporation, check No.)

f) Number of Employees. Select the range applicable to your company.

☒ 0-20 ☐ 251-500

☐ 21-100 ☐ 501 or higher

☐ 101-250

g) Customer Business Tax and Filing Numbers: (**Required** for Corporations and Limited Partnerships. **Not Required** for Individuals, Government, or Sole Proprietors.)

State Franchise Tax ID Number: 32077345570

Federal Tax ID: 86-1479412

Texas Secretary of State Charter (filing) Number: 0803893779

DUNS Number (if known): N/A

SECTION 2. APPLICATION CONTACT

Is the application contact the same as the applicant identified above?

☐ Yes, go to Section 3

☒ No, complete this section

Prefix (Mr. Ms. Miss): Mr.

First and Last Name: Steven Minor Suffix: N/A

Title: Principal Credential: P.E.

Organization Name: Gray Civil

Phone Number: (512) 851-8311 Fax Number: (512) 454-9933

E-mail: sminor@gray-civil.com

Mailing Address: 8834 North Capital of Texas Highway, Suite 140

Internal Routing (Mail Code, Etc.): N/A

City, State, and Zip Code: Austin, Texas 78759

Mailing information if outside USA:

Territory: Click here to enter text.

Country Code: Click here to enter text. Postal Code: Click here to enter text.

SECTION 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) If this is an existing permitted site, what is the Regulated Entity Number (RN) issued to this site? RN To be issued with CZP Application

(Refer to Section 3.a) of the Instructions)

b) Name of project or site (the name known by the community where it's located): Winding Oak Development

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): Retail Commercial development

d) County or Counties (if located in more than one): Williamson

e) Latitude: 30°35'40.6"N Longitude: 97°49'03.6"W

f) Site Address/Location

If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753, complete *Section A*.

If the site does not have a physical address, provide a location description in *Section B*. Example: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

Section A:

Street Number and Name: 100 Winding Oak Trail

City, State, and Zip Code: Leander, TX 78641

Section B:

Location Description: Click here to enter text

City (or city nearest to) where the site is located: Click here to enter text

Zip Code where the site is located: Click here to enter text

SECTION 4. GENERAL CHARACTERISTICS

a) Is the project or site located on Indian Country Lands?

☐ Yes, do not submit this form. You must obtain authorization through EPA Region 6.

☒ No

b) Is your construction activity associated with a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources?

☐ Yes. Note: The construction stormwater runoff may be under jurisdiction of the Railroad Commission of Texas and may need to obtain authorization through EPA Region 6.

☒ No

c) What is the Primary Standard Industrial Classification (SIC) Code that best describes the construction activity being conducted at the site? **1521**

d) What is the Secondary SIC Code(s), if applicable? N/A

e) What is the total number of acres to be disturbed? 4.61 Acres

f) Is the project part of a larger common plan of development or sale?

☐ Yes

☒ No. The total number of acres disturbed, provided in e) above, must be 5 or more. If the total number of acres disturbed is less than 5, do not submit this form. See the requirements in the general permit for small construction sites.

g) What is the estimated start date of the project? April 2026

h) What is the estimated end date of the project? December 2026

i) Will concrete truck washout be performed at the site? ☒ Yes ☐ No

j) What is the name of the first water body(ies) to receive the stormwater runoff or potential runoff from the site? Brushy Creek Tributary 1

k) What is the segment number(s) of the classified water body(ies) that the discharge will eventually reach? 1244

l) Is the discharge into a Municipal Separate Storm Sewer System (MS4)?

☐ Yes ☒ No

If Yes, provide the name of the MS4 operator: Click here to enter text

Note: The general permit requires you to send a copy of this NOI form to the MS4 operator.

m) Is the discharge or potential discharge from the site within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, as defined in 30 TAC Chapter 213?

☒ Yes, complete the certification below.

☐ No, go to Section 5

I certify that the copy of the TCEQ-approved Plan required by the Edwards Aquifer Rule (30 TAC Chapter 213) that is included or referenced in the Stormwater Pollution Prevention Plan will be implemented. ☐ Yes

SECTION 5. NOI CERTIFICATION

a) I certify that I have obtained a copy and understand the terms and conditions of the Construction General Permit (TXR150000). ☒ Yes

b) I certify that the full legal name of the entity applying for this permit has been provided and is legally authorized to do business in Texas. ☒ Yes

c) I understand that a Notice of Termination (NOT) must be submitted when this authorization is no longer needed. ☒ Yes

d) I certify that a Stormwater Pollution Prevention Plan has been developed, will be implemented prior to construction and to the best of my knowledge and belief is compliant with any applicable local sediment and erosion control plans, as required in the Construction General Permit (TXR150000). ☒ Yes

Note: For multiple operators who prepare a shared SWP3, the confirmation of an operator may be limited to its obligations under the SWP3, provided all obligations are confirmed by at least one operator.

SECTION 6. APPLICANT CERTIFICATION SIGNATURE

Operator Signatory Name: Steven Minor, P.E.

Operator Signatory Title: Principal

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signature (use blue ink):  Date: 10/8/2025

NOTICE OF INTENT CHECKLIST (TXR150000)

Did you complete everything? Use this checklist to be sure!

Are you ready to mail your form to TCEQ? Go to the General Information Section of the Instructions for mailing addresses.

Confirm each item (or applicable item) in this form is complete. This checklist is for use by the applicant to ensure a complete application is being submitted. **Missing information may result in denial of coverage under the general permit.** (See NOI process description in the General Information and Instructions.)

APPLICATION FEE

If paying by check:

☐ Check was mailed **separately** to the TCEQs Cashier's Office. (See Instructions for Cashier's address and Application address.)

☐ Check number and name on check is provided in this application.

If using ePay:

☐ The voucher number is provided in this application and a copy of the voucher is attached.

RENEWAL

☐ If this application is for renewal of an existing authorization, the authorization number is provided.

OPERATOR INFORMATION

☐ Customer Number (CN) issued by TCEQ Central Registry

☐ Legal name as filed to do business in Texas. (Call TX SOS 512-463-5555 to verify.)

☐ Name and title of responsible authority signing the application.

☐ Phone number and e-mail address

☐ Mailing address is complete & verifiable with USPS. www.usps.com

☐ Type of operator (entity type). Is applicant an independent operator?

☐ Number of employees.

☐ For corporations or limited partnerships – Tax ID and SOS filing numbers.

☐ Application contact and address is complete & verifiable with USPS. http://www.usps.com

REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

☐ Regulated Entity Number (RN) (if site is already regulated by TCEQ)

☐ Site/project name and construction activity description

☐ County

☐ Latitude and longitude http://www.tceq.texas.gov/gis/sqmaview.html

☐ Site Address/Location. Do not use a rural route or post office box.

GENERAL CHARACTERISTICS

☐ Indian Country Lands –the facility is not on Indian Country Lands.

☐ Construction activity related to facility associated to oil, gas, or geothermal resources

☐ Primary SIC Code that best describes the construction activity being conducted at the site. www.osha.gov/oshstats/sicser.html

☐ Estimated starting and ending dates of the project.

☐ Confirmation of concrete truck washout.

☐ Acres disturbed is provided and qualifies for coverage through a NOI.

☐ Common plan of development or sale.

☐ Receiving water body or water bodies.

☐ Segment number or numbers.

☐ MS4 operator.

☐ Edwards Aquifer rule.

CERTIFICATION

☐ Certification statements have been checked indicating Yes.

☐ Signature meets 30 Texas Administrative Code (TAC) §305.44 and is original.

Instructions for Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity under TPDES General Permit (TXR150000)

GENERAL INFORMATION

Where to Send the Notice of Intent (NOI):

By Regular Mail:
TCEQ
Stormwater Processing Center (MC228)
P.O. Box 13087
Austin, Texas 78711-3087

By Overnight or Express Mail:
TCEQ
Stormwater Processing Center (MC228)
12100 Park 35 Circle
Austin, TX

Application Fee:

The application fee of $325 is required to be paid at the time the NOI is submitted. Failure to submit payment at the time the application is filed will cause delays in acknowledgment or denial of coverage under the general permit. Payment of the fee may be made by check or money order, payable to TCEQ, or through EPAY (electronic payment through the web).

Mailed Payments:

Use the attached General Permit Payment Submittal Form. The application fee is submitted to a different address than the NOI. Read the General Permit Payment Submittal Form for further instructions, including the address to send the payment.

ePAY Electronic Payment: http://www.tceq.texas.gov/epay

When making the payment you must select Water Quality, and then select the fee category "General Permit Construction Storm Water Discharge NOI Application". You must include a copy of the payment voucher with your NOI. Your NOI will not be considered complete without the payment voucher.

TCEQ Contact List:

Application – status and form questions:	512-239-3700, swpermit@tceq.texas.gov
Technical questions:	512-239-4671, swgp@tceq.texas.gov
Environmental Law Division:	512-239-0600
Records Management - obtain copies of forms:	512-239-0900
Reports from databases (as available):	512-239-DATA (3282)
Cashier's office:	512-239-0357 or 512-239-0187

Notice of Intent Process:

When your NOI is received by the program, the form will be processed as follows:

- **Administrative Review**: Each item on the form will be reviewed for a complete response. In addition, the operator's legal name must be verified with Texas Secretary of State as valid and active (if applicable). The address(es) on the form must be verified with the US Postal service as receiving regular mail delivery. Do not give an overnight/express mailing address.

- **Notice of Deficiency:** If an item is incomplete or not verifiable as indicated above, a notice of deficiency (NOD) will be mailed to the operator. The operator will have 30 days to respond to the NOD. The response will be reviewed for completeness.
- **Acknowledgment of Coverage:** An Acknowledgment Certificate will be mailed to the operator. This certificate acknowledges coverage under the general permit.

  or

  Denial of Coverage: If the operator fails to respond to the NOD or the response is inadequate, coverage under the general permit may be denied. If coverage is denied, the operator will be notified.

General Permit (Your Permit)

For NOIs submitted **electronically** through ePermits, provisional coverage under the general permit begins immediately following confirmation of receipt of the NOI form by the TCEQ.

For **paper** NOIs, provisional coverage under the general permit begins **7 days after a completed NOI is postmarked for delivery** to the TCEQ.

You should have a copy of your general permit when submitting your application. You may view and print your permit for which you are seeking coverage, on the TCEQ web site http://www.tceq.texas.gov. Search using keyword TXR150000.

Change in Operator

An authorization under the general permit is not transferable. If the operator of the regulated project or site changes, the present permittee must submit a Notice of Termination and the new operator must submit a Notice of Intent. The NOT and NOI must be submitted no later than 10 days prior to the change in Operator status.

TCEQ Central Registry Core Data Form

The Core Data Form has been incorporated into this form. Do not send a Core Data Form to TCEQ. After final acknowledgment of coverage under the general permit, the program will assign a Customer Number and Regulated Entity Number, if one has not already been assigned to this customer or site.

For existing customers and sites, you can find the Customer Number and Regulated Entity Number by entering the following web address into your internet browser: http://www15.tceq.texas.gov/crpub/ or you can contact the TCEQ Stormwater Processing Center at 512-239-3700 for assistance. On the website, you can search by your permit number, the Regulated Entity (RN) number, or the Customer Number (CN). If you do not know these numbers, you can select “Advanced Search” to search by permittee name, site address, etc.

The Customer (Permittee) is responsible for providing consistent information to the TCEQ, and for updating all CN and RN data for all authorizations as changes occur. For this permit, a Notice of Change form must be submitted to the program area.

INSTRUCTIONS FOR FILLING OUT THE NOI FORM

Renewal of General Permit. Dischargers holding active authorizations under the expired General Permit are required to submit a NOI to continue coverage. The existing permit number is required. If the permit number is not provided or has been terminated, expired, or denied, a new permit number will be issued.

Section 1. OPERATOR (APPLICANT)

a) Customer Number (CN)

TCEQ's Central Registry will assign each customer a number that begins with CN, followed by nine digits. **This is not a permit number, registration number, or license number**.

If the applicant is an existing TCEQ customer, the Customer Number is available at the following website: http://www15.tceq.texas.gov/crpub/. If the applicant is not an existing TCEQ customer, leave the space for CN blank.

b) Legal Name of Applicant

Provide the current legal name of the applicant. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, as filed in the county. You may contact the SOS at 512-463-5555, for more information related to filing in Texas. If filed in the county, provide a copy of the legal documents showing the legal name.

c) Contact Information for the Applicant (Responsible Authority)

Provide information for the person signing the application in the Certification section. This person is also referred to as the Responsible Authority.

Provide a complete mailing address for receiving mail from the TCEQ. The mailing address must be recognized by the US Postal Service. You may verify the address on the following website: https://tools.usps.com/go/ZipLookupAction!input.action.

The phone number should provide contact to the applicant.

The fax number and e-mail address are optional and should correspond to the applicant.

d) Type of Customer (Entity Type)

Check only one box that identifies the type of entity. Use the descriptions below to identify the appropriate entity type. Note that the selected entity type also indicates the name that must be provided as an applicant for an authorization.

Individual

An individual is a customer who has not established a business, but conducts an activity that needs to be regulated by the TCEQ.

Partnership

A customer that is established as a partnership as defined by the Texas Secretary of State Office (TX SOS). If the customer is a 'General Partnership' or 'Joint Venture' filed in the county (not filed with TX SOS), the legal name of each partner forming the 'General Partnership' or 'Joint Venture' must be provided. Each 'legal entity' must apply as a co-applicant.

Trust or Estate

A trust and an estate are fiduciary relationships governing the trustee/executor with respect to the trust/estate property.

Sole Proprietorship (DBA)

A sole proprietorship is a customer that is owned by only one person and has not been incorporated. This business may:

1. be under the person's name
2. have its own name (doing business as or DBA)
3. have any number of employees.

If the customer is a Sole Proprietorship or DBA, the 'legal name' of the individual business 'owner' must be provided. The DBA name is not recognized as the 'legal name' of the entity. The DBA name may be used for the site name (regulated entity).

Corporation

A customer that meets all of these conditions:

1. is a legally incorporated entity under the laws of any state or country
2. is recognized as a corporation by the Texas Secretary of State
3. has proper operating authority to operate in Texas

The corporation's 'legal name' as filed with the Texas Secretary of State must be provided as applicant. An 'assumed' name of a corporation is not recognized as the 'legal name' of the entity.

Government

Federal, state, county, or city government (as appropriate)

The customer is either an agency of one of these levels of government or the governmental body itself. The government agency's 'legal name' must be provided as the applicant. A department name or other description of the organization is not recognized as the 'legal name'.

Other

This may include a utility district, water district, tribal government, college district, council of governments, or river authority. Provide the specific type of government.

e) Independent Entity

Check No if this customer is a subsidiary, part of a larger company, or is a governmental entity. Otherwise, check Yes.

f) Number of Employees

Check one box to show the number of employees for this customer's entire company, at all locations. This is not necessarily the number of employees at the site named in the application.

g) Customer Business Tax and Filing Numbers

These are required for Corporations and Limited Partnerships. These are not required for Individuals, Government, and Sole Proprietors.

State Franchise Tax ID Number

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter the Tax ID number.

Federal Tax ID

All businesses, except for some small sole proprietors, individuals, or general partnerships should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Sole proprietors, individuals, or general partnerships do not need to provide a federal tax ID.

TX SOS Charter (filing) Number

Corporations and Limited Partnerships required to register with the Texas Secretary of State are issued a charter or filing number. You may obtain further information by calling SOS at 512-463-5555.

DUNS Number

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

Section 2. APPLICATION CONTACT

Provide the name and contact information for the person that TCEQ can contact for additional information regarding this application.

Section 3. REGULATED ENTITY (RE) INFORMATION ON PROJECT OR SITE

a) Regulated Entity Number (RN)

The RN is issued by TCEQ's Central Registry to sites where an activity is regulated by TCEQ. This is not a permit number, registration number, or license number. Search TCEQ's Central Registry to see if the site has an assigned RN at http://www15.tceq.texas.gov/crpub/. If this regulated entity has not been assigned an RN, leave this space blank.

If the site of your business is part of a larger business site, an RN may already be assigned for the larger site. Use the RN assigned for the larger site.

If the site is found, provide the assigned RN and provide the information for the site to be authorized through this application. The site information for this authorization may vary from the larger site information.

An example is a chemical plant where a unit is owned or operated by a separate corporation that is accessible by the same physical address of your unit or facility. Other examples include industrial parks identified by one common address but different corporations have control of defined areas within the site. In both cases, an RN would be assigned for the physical address location and the permitted sites would be identified separately under the same RN.

b) Name of the Project or Site

Provide the name of the site or project as known by the public in the area where the site is located. The name you provide on this application will be used in the TCEQ Central Registry as the Regulated Entity name.

c) Description of Activity Regulated

In your own words, briefly describe the primary business that you are doing that requires this authorization. Do not repeat the SIC Code description.

d) County

Provide the name of the county where the site or project is located. If the site or project is located in more than one county, provide the county names as secondary.

e) Latitude and Longitude

Enter the latitude and longitude of the site in degrees, minutes, and seconds or decimal form. For help obtaining the latitude and longitude, go to: http://www.tceq.texas.gov/gis/sqmaview.html.

f) Site Address/Location

If a site has an address that includes a street number and street name, enter the complete address for the site in *Section A*. If the physical address is not recognized as a USPS delivery address, you may need to validate the address with your local police (911 service) or through an online map site used to locate a site. Please confirm this to be a complete and valid address. Do not use a rural route or post office box for a site location.

If a site does not have an address that includes a street number and street name, provide a complete written location description in *Section B.* For example: "The site is located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1."

Provide the city (or nearest city) and zip code of the site location.

Section 4. GENERAL CHARACTERISTICS

a) Indian Country Lands

If your site is located on Indian Country Lands, the TCEQ does not have authority to process your application. You must obtain authorization through EPA Region 6, Dallas. Do not submit this form to TCEQ.

b) Construction activity associated with facility associated with exploration, development, or production of oil, gas, or geothermal resources

If your activity is associated with oil and gas exploration, development, or production, you may be under jurisdiction of the Railroad Commission of Texas (RRC) and may need to obtain authorization from EPA Region 6.

Construction activities associated with a facility related to oil, gas or geothermal resources may include the construction of a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility; and a gathering, transmission, or distribution

pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel.

Where required by federal law, discharges of stormwater associated with construction activities under the RRC's jurisdiction must be authorized by the EPA and the RRC, as applicable. Activities under RRC jurisdiction include construction of a facility that, when completed, would be associated with the exploration, development, or production of oil or gas or geothermal resources, such as a well site; treatment or storage facility; underground hydrocarbon or natural gas storage facility; reclamation plant; gas processing facility; compressor station; terminal facility where crude oil is stored prior to refining and at which refined products are stored solely for use at the facility; a carbon dioxide geologic storage facility under the jurisdiction of the RRC; and a gathering, transmission, or distribution pipeline that will transport crude oil or natural gas, including natural gas liquids, prior to refining of such oil or the use of the natural gas in any manufacturing process or as a residential or industrial fuel. The RRC also has jurisdiction over stormwater from land disturbance associated with a site survey that is conducted prior to construction of a facility that would be regulated by the RRC. Under 33 U.S.C. §1342(l)(2) and §1362(24), EPA cannot require a permit for discharges of stormwater from field activities or operations associated with {oil and gas} exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities unless the discharge is contaminated by contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the facility. Under §3.8 of this title (relating to Water Protection), the RRC prohibits operators from causing or allowing pollution of surface or subsurface water. Operators are encouraged to implement and maintain best management practices (BMPs) to minimize discharges of pollutants, including sediment, in stormwater during construction activities to help ensure protection of surface water quality during storm events.

For more information about the jurisdictions of the RRC and the TCEQ, read the Memorandum of Understanding (MOU) between the RRC and TCEQ at 16 Texas Administrative Code, Part 1, Chapter 3, Rule 3.30, by entering the following link into an internet browser: http://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=30 or contact the TCEQ Stormwater Team at 512-239-4671 for additional information.

c) Primary Standard Industrial Classification (SIC) Code

Provide the SIC Code that best describes the construction activity being conducted at this site.

Common SIC Codes related to construction activities include:

- 1521 - Construction of Single Family Homes
- 1522 - Construction of Residential Buildings Other than Single Family Homes
- 1541 - Construction of Industrial Buildings and Warehouses

- 1542 - Construction of Non-residential Buildings, other than Industrial Buildings and Warehouses
- 1611 - Highway and Street Construction, except Highway Construction
- 1622 - Bridge, Tunnel, and Elevated Highway Construction
- 1623 - Water, Sewer, Pipeline and Communications, and Power Line Construction

For help with SIC Codes, enter the following link into your internet browser: http://www.osha.gov/pls/imis/sicsearch.html or you can contact the TCEQ Small Business and Local Government Assistance Section at 800-447-2827 for assistance.

d) Secondary SIC Code

Secondary SIC Code(s) may be provided. Leave this blank if not applicable. For help with SIC Codes, enter the following link into your internet browser: http://www.osha.gov/pls/imis/sicsearch.html or you can contact the TCEQ Small Business and Environmental Assistance Section at 800-447-2827 for assistance.

e) Total Number of Acres Disturbed

Provide the approximate number of acres that the construction site will disturb. Construction activities that disturb less than one acre, unless they are part of a larger common plan that disturbs more than one acre, do not require permit coverage. Construction activities that disturb between one and five acres, unless they are part of a common plan that disturbs more than five acres, do not require submission of an NOI. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

If you have any questions about this item, please contact the stormwater technical staff by phone at 512-239-4671 or by email at swgp@tceq.texas.gov.

f) Common Plan of Development

Construction activities that disturb less than five acres do not require submission of an NOI unless they are part of a common plan of development or for sale where the area disturbed is five or more acres. Therefore, the estimated area of land disturbed should not be less than five, unless the project is part of a larger common plan that disturbs five or more acres. Disturbed means any clearing, grading, excavating, or other similar activities.

For more information on what a common plan of development is, refer to the definition of "Common Plan of Development" in the Definitions section of the general permit or enter the following link into your internet browser: www.tceq.texas.gov/permitting/stormwater/common_plan_of_development_steps.html

For further information, go to the TCEQ stormwater construction webpage enter the following link into your internet browser: www.tceq.texas.gov/goto/construction and search for "Additional Guidance and Quick Links". If you have any further questions about the Common Plan of Development you can contact the TCEQ Stormwater Team at 512-239-4671 or the TCEQ Small Business and Environmental Assistance at 800-447-2827.

g) Estimated Start Date of the Project

This is the date that any construction activity or construction support activity is initiated at the site. If renewing the permit provide the original start date of when construction activity for this project began.

h) Estimated End Date of the Project

This is the date that any construction activity or construction support activity will end and final stabilization will be achieved at the site.

i) Will concrete truck washout be performed at the site?

Indicate if you expect that operators of concrete trucks will washout concrete trucks at the construction site.

j) Identify the water body(s) receiving stormwater runoff

The stormwater may be discharged directly to a receiving stream or through a MS4 from your site. It eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. You must provide the name of the water body that receives the discharge from the site (a local stream or lake).

If your site has more than one outfall you need to include the name of the first water body for each outfall, if they are different.

k) Identify the segment number(s) of the classified water body(s)

Identify the classified segment number(s) receiving a discharge directly or indirectly. Enter the following link into your internet browser to find the segment number of the classified water body where stormwater will flow from the site: www.tceq.texas.gov/waterquality/monitoring/viewer.html or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

You may also find the segment number in TCEQ publication GI-316 by entering the following link into your internet browser: www.tceq.texas.gov/publications/gi/gi-316 or by contacting the TCEQ Water Quality Division at (512) 239-4671 for assistance.

If the discharge is into an unclassified receiving water and then crosses state lines prior to entering a classified segment, select the appropriate watershed:

- 0100 (Canadian River Basin)
- 0200 (Red River Basin)
- 0300 (Sulfur River Basin)
- 0400 (Cypress Creek Basin)
- 0500 (Sabine River Basin)

Call the Water Quality Assessments section at 512-239-4671 for further assistance.

l) Discharge into MS4 – Identify the MS4 Operator

The discharge may initially be into a municipal separate storm sewer system (MS4). If the stormwater discharge is into an MS4, provide the name of the entity that operates the MS4 where the stormwater discharges. An MS4 operator is often a city, town, county, or utility district, but possibly can be another form of government. Please note that the Construction General Permit requires the Operator to supply the MS4 with a

copy of the NOI submitted to TCEQ. For assistance, you may call the technical staff at 512-239-4671.

m) Discharges to the Edwards Aquifer Recharge Zone and Certification

The general permit requires the approved Contributing Zone Plan or Water Pollution Abatement Plan to be included or referenced as a part of the Stormwater Pollution Prevention Plan.

See maps on the TCEQ website to determine if the site is located within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer by entering the following link into an internet browser: www.tceq.texas.gov/field/eapp/viewer.html or by contacting the TCEQ Water Quality Division at 512-239-4671 for assistance.

If the discharge or potential discharge is within the Recharge Zone, Contributing Zone, or Contributing Zone within the Transition Zone of the Edwards Aquifer, a site-specific authorization approved by the Executive Director under the Edwards Aquifer Protection Program (30 TAC Chapter 213) is required before construction can begin.

For questions regarding the Edwards Aquifer Protection Program, contact the appropriate TCEQ Regional Office. For projects in Hays, Travis and Williamson Counties: Austin Regional Office, 12100 Park 35 Circle, Austin, TX 78753, 512-339-2929. For Projects in Bexar, Comal, Kinney, Medina and Uvalde Counties: TCEQ San Antonio Regional Office, 14250 Judson Rd., San Antonio, TX 78233-4480, 210-490-3096.

Section 5. NOI CERTIFICATION

Note: Failure to indicate Yes to all of the certification items may result in denial of coverage under the general permit.

a) Certification of Understanding the Terms and Conditions of Construction General Permit (TXR150000)

Provisional coverage under the Construction General Permit (TXR150000) begins 7 days after the completed paper NOI is postmarked for delivery to the TCEQ. Electronic applications submitted through ePermits have immediate provisional coverage. You must obtain a copy and read the Construction General Permit before submitting your application. You may view and print the Construction General Permit for which you are seeking coverage at the TCEQ web site by entering the following link into an internet browser: www.tceq.texas.gov/goto/construction or you may contact the TCEQ Stormwater processing Center at 512-239-3700 for assistance.

b) Certification of Legal Name

The full legal name of the applicant as authorized to do business in Texas is required. The name must be provided exactly as filed with the Texas Secretary of State (SOS), or on other legal documents forming the entity, that is filed in the county where doing business. You may contact the SOS at 512-463 5555, for more information related to filing in Texas.

c) Understanding of Notice of Termination

A permittee shall terminate coverage under the Construction General Permit through the submittal of a NOT when the operator of the facility changes, final stabilization has

been reached, the discharge becomes authorized under an individual permit, or the construction activity never began at this site.

d) Certification of Stormwater Pollution Prevention Plan

The SWP3 identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter stormwater, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. You must develop this plan in accordance with the TCEQ general permit requirements. This plan must be developed and implemented before you complete this NOI. The SWP3 must be available for a TCEQ investigator to review on request.

Section 6. APPLICANT CERTIFICATION SIGNATURE

The certification must bear an original signature of a person meeting the signatory requirements specified under 30 Texas Administrative Code (TAC) §305.44.

If you are a corporation:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(1) (see below). According to this code provision, any corporate representative may sign an NOI or similar form so long as the authority to sign such a document has been delegated to that person in accordance with corporate procedures. By signing the NOI or similar form, you are certifying that such authority has been delegated to you. The TCEQ may request documentation evidencing such authority.

If you are a municipality or other government entity:

The regulation that controls who may sign an NOI or similar form is 30 Texas Administrative Code §305.44(a)(3) (see below). According to this code provision, only a ranking elected official or principal executive officer may sign an NOI or similar form. Persons such as the City Mayor or County Commissioner will be considered ranking elected officials. In order to identify the principal executive officer of your government entity, it may be beneficial to consult your city charter, county or city ordinances, or the Texas statute(s) under which your government entity was formed. An NOI or similar document that is signed by a government official who is not a ranking elected official or principal executive officer does not conform to §305.44(a)(3). The signatory requirement may not be delegated to a government representative other than those identified in the regulation. By signing the NOI or similar form, you are certifying that you are either a ranking elected official or principal executive officer as required by the administrative code. Documentation demonstrating your position as a ranking elected official or principal executive officer may be requested by the TCEQ.

If you have any questions or need additional information concerning the signatory requirements discussed above, please contact the TCEQ's Environmental Law Division at 512-239-0600.

30 Texas Administrative Code

§305.44. Signatories to Applications

(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the

corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Texas Commission on Environmental Quality
General Permit Payment Submittal Form

Use this form to submit your Application Fee only if you are mailing your payment.

Instructions:

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- *Do not mail this form with your NOI form.*
- *Do not mail this form to the same address as your NOI.*

Mail this form and your check to either of the following:

By Regular U.S. Mail
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

By Overnight or Express Mail
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: GPA General Permit: TXR150000

1. Check or Money Order No: Click here to enter text
2. Amount of Check/Money Order: Click here to enter text
3. Date of Check or Money Order: Click here to enter text
4. Name on Check or Money Order: Click here to enter text
5. NOI Information:

   If the check is for more than one NOI, list each Project or Site (RE) Name and Physical Address exactly as provided on the NOI. **Do not submit a copy of the NOI with this form, as it could cause duplicate permit application entries!**

   If there is not enough space on the form to list all of the projects or sites the authorization will cover, then attach a list of the additional sites.

   Project/Site (RE) Name: Click here to enter text

   Project/Site (RE) Physical Address: Click here to enter text

Staple the check or money order to this form in this space.

Agent Authorization Form

(TCEQ-0599)

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

I Chiranjeevi Melam,
Print Name

Managing Member,
Title - Owner/President/Other

of Zoomers Investment Group, LLC,
Corporation/Partnership/Entity Name

have authorized Steven Minor, P.E.
Print Name of Agent/Engineer

of Gray Civil
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

10/08/25
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Chiranjeevi Madam 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 8th day of October, 2025.

KAREN DIANE BRADFORD
Notary Public, State of Texas
Comm. Expires 08-23-2028
Notary ID 13029171-7

Karen Diane Bradford
NOTARY PUBLIC

Karen Diane Bradford
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 08/23/2028

Application Fee Form

(TCEQ-0574)

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Winding Oak Development
Regulated Entity Location: Leander, Texas
Name of Customer: Zoomers Investment Group LLC
Contact Person: Steven Minor Phone: 512-851-8311
Customer Reference Number (if issued):CN N/A
Regulated Entity Reference Number (if issued):RN N/A

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment**. This payment is being submitted to:

☐ Austin Regional Office
☐ Mailed to: TCEQ - Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ San Antonio Regional Office
☐ Overnight Delivery to: TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
(512)239-0357

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	4.61 Acres	$ 4,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 10/8/2025

Application Fee Schedule

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

Project	*Cost per Linear Foot*	*Minimum Fee-Maximum Fee*
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

Project	*Cost per Tank or Piping System*	*Minimum Fee-Maximum Fee*
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

Core Data Form

(TCEQ-10400)

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN		**RN**

SECTION II: Customer Information

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

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
Zoomers Investment Group LLC	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0803893779	32077345570	86-1479412	N/A

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

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

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☐ **Yes** ☒ **No**

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

☒ Owner ☐ Operator ☐ Owner & Operator ☐ Other:
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:	9918 Lavon Bnd.						
	City	Austin	**State**	TX	**ZIP**	78717	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	chiranjeevi.melam@gmail.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(248) 890-5897	0	(N/A) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Singleton Ranch Commercial

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	100 Winding Oak Trail							
	City	Leander	**State**	TX	**ZIP**	78641	**ZIP + 4**	
24. County	Williamson							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	

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

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	30.594611		**28. Longitude (W) In Decimal:**	97.817667	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
1521	N/A	455219	N/A

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

Miscellaneous commercial retail stores

34. Mailing Address:	**9918 Lavon Bnd.**							
	City	**Austin**	**State**	**TX**	**ZIP**	**78717**	**ZIP + 4**	
35. E-Mail Address:	**chiranjeevi.melam@gmail.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 949-9489	**N/A**	**(N/A) -**

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Lucas Lahaug	**41. Title:**	E.I.T.

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512 **)** 452-0371		**( )** -	llahaug@gray-civil.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:	Gray Civil	**Job Title:**	Principal
Name *(In Print):*	Steven Minor	**Phone:**	**(** 512 **)** 851- **8311**
Signature:		**Date:**	10/8/2025

WINDING OAK

SITE DEVELOPMENT PLAN

PROJECT NUMBER SD-25-0333

SUBMITTED BY:

10-10-25
DATE

STEVEN M. MINOR, P.E. 133778
GRAY ENGINEERING, INC.
8834 N. CAPITAL OF TEXAS HWY.
SUITE 140
AUSTIN, TEXAS 78759
(512) 452-0371
TBPELS FIRM #2946

APPROVED BY:

DATE
ROBIN M. GRIFFIN, AICP,
EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICES

DATE
EMILY TRUMAN P.E., CFM, CITY ENGINEER

DATE
ASHLEA BOYLE, CPRE, DIRECTOR OF PARKS AND RECREATION

DATE
CHIEF JOSHUA DAVIS, FIRE MARSHAL

PROJECT INFORMATION	
SUBMITTAL DATE	01/22/2025
FILING DATE	06/10/2025
PROPERTY ZONING	WINDING OAK PUD PER ORDINANCE 23-015-00 (GC-2-A)
FUTURE LAND USE DESIGNATION	ACTIVITY CENTER
PROPOSED USE	MIXED-USE COMMERCIAL
ASSOCIATED PROJECTS	FP-25-0235, PICP-25-0223, CP-22-0010

ZONING DISTRICT	WINDING OAK PUD	
SITE AREA	200,780.28 ft²	4.61 ac
BUILDING IMPERVIOUS COVER	31,743 ft²	.73 ac
TOTAL IMPERVIOUS COVER	161,172 ft²	3.70 ac
IMPERVIOUS COVER(%)	80.27%	

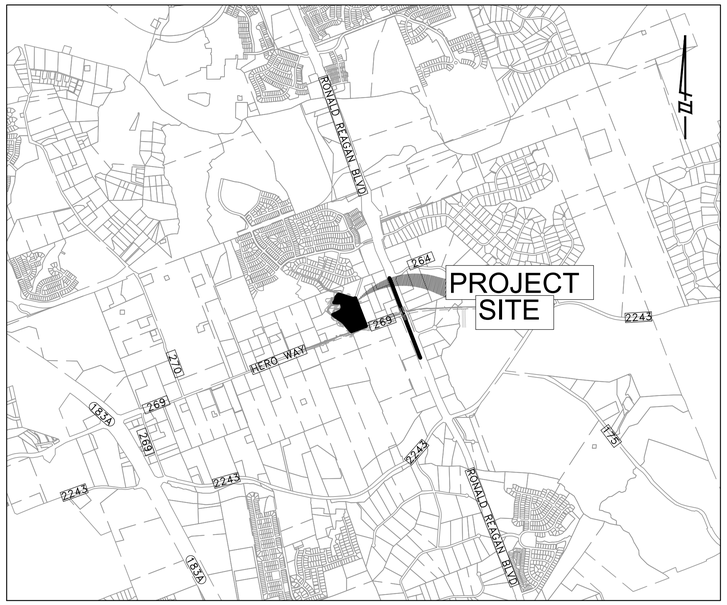
NOTES:

1. THE ENGINEER-OF-RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY, REGULATORY COMPLIANCE, AND ADEQUACY OF THESE PLANS AND/OR SPECIFICATIONS WHETHER OR NOT THE PLANS AND/OR SPECIFICATIONS WERE REVIEWED BY THE CITY ENGINEER(S).
2. THIS PLAN SET WILL NOT BE APPROVED PRIOR TO THE APPROVAL OF PICP-25-0223.
3. THIS PLAN SET IS REVIEWED AND APPROVED BASED ON THE FUTURE HERO WAY EXPANSION PROJECT THAT WILL BE A JOINT CITY AND COUNTY ENDEAVOR. SHOULD THE SCOPE AND LINE SIZES FOR THE HERO WAY PROJECT CHANGE, THIS DEVELOPMENT IS RESPONSIBLE FOR PROVIDING REVISIONS TO ADJUST THEIR CONNECTION INTO THIS PROJECT

BENCHMARK :
ELEV: 984.77' (NAVD88)

TEPORARY BENCHMARK
BOX CUT IN CURB
NORTHING: 3087563.80 EASTING: 10189723.32

REVISIONS/CORRECTIONS				
NUMBER	DESCRIPTION	REVISE (R), ADD (A), VOID (V) SHEET NO.S	TOTAL # SHEETS IN PLAN SET	CITY OF LEANDER APPROVAL - DATE



LOCATION MAP
1" = 2000'

OWNER/DEVELOPER:
ASHOK GUDI
ZOOMERS INVESTMENT GROUP, LLC
1137 PRESCOTT DR.
ROCHESTER HILLS, MI 48609
(248)-890-5897

ENGINEER:
GRAY ENGINEERING INC.
8834 N. CAPITAL OF TEXAS HWY., SUITE 140
AUSTIN, TEXAS 78759
(512) 452-0371
FAX (512) 454-9933
TBPELS FIRM #2946

SURVEYOR:
TEXAS LAND SURVEYING, INC.
3613 WILLIAMS DRIVE
GEORGETOWN, TEXAS 78628
(512) 930-1600
TBPLS FIRM #10056200

ARCHITECT:
OPEN STUDIO ARCHITECTURE PLLC
6122 DE ZAVALA ROAD
SAN ANTONIO, TEXAS 78249
(210) 417-4307

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES
3	FINAL PLAT (1 OF 3)
4	FINAL PLAT (2 OF 3)
5	FINAL PLAT (3 OF 3)
6	EXISTING CONDITIONS & DEMOLITION PLAN
7	EROSION AND SEDIMENTATION CONTROL PLAN
8	PROPOSED GRADING PLAN (1 OF 3)
9	PROPOSED GRADING PLAN (2 OF 3)
10	PROPOSED GRADING PLAN (3 OF 3)
11	EXISTING DRAINAGE
12	PROPOSED DRAINAGE PLAN
13	SITE PLAN
14	ADDRESS PLAN
15	FIRE ACCESS PLAN
16	OVERALL WATER DISTRIBUTION PLAN
17	OVERALL WASTEWATER DISTRIBUTION PLAN
18	WW 'A', 'B', AND 'C' PLAN AND PROFILES
19	STORM SEWER 'A' & 'B' & 'C' & 'K' 1+00-END
20	STORM SEWER CULVERTS 'D' & 'E' & 'F' 1+00-END
21	STORM SEWER 'G' & 'H' & 'I' & 'L'1+00-END
22	CHANNEL SECTION VIEWS
23	STORMTECH CHAMBER & BAYFILTER NOTES
24	STORMTECH CHAMBER SYSTEM LAYOUT
25	STORMTECH CHAMBER & BAYFILTER DETAILS
26	STORMTECH CHAMBER DETAILS
27	POND ROUTINGS
28	TCEQ CALCULATIONS
29	RAINWATER HARVESTING TANK AND PUMP HOUSE PLAN
30	ROAD AND SIDEWALK CLOSURE PLAN
31	SITE PLAN DETAILS 1
32	SITE PLAN DETAILS 2
33	SITE PLAN DETAILS 3
34	EROSION CONTROL AND DRAINAGE DETAILS 1
35	EROSION CONTROL AND DRAINAGE DETAILS 2
36	STORM DRAIN DETAILS
37	WATER AND WASTEWATER DETAILS 1
38	WATER AND WASTEWATER DETAILS 2
39	WATER AND WASTEWATER DETAILS 3
40	TREE PRESERVATION PLAN
41	LANDSCAPE PLAN (1 OF 6)
42	LANDSCAPE PLAN (2 OF 6)
43	LANDSCAPE PLAN (3 OF 6)
44	LANDSCAPE PLAN (4 OF 6)
45	LANDSCAPE PLAN (5 OF 6)
46	LANDSCAPE PLAN (6 OF 6)
47	MAJOR CORRIDOR STREETSCAPE PLAN (1 OF 2)
48	MAJOR CORRIDOR STREETSCAPE PLAN (2 OF 2)

UTILITY PROVIDERS:
WATER TO BE PROVIDED BY CITY OF LEANDER
WASTEWATER WILL BE PROVIDED BY CITY OF LEANDER
ELECTRIC TO BE PROVIDED BY PEDERNALES ELECTRIC COMPANY

LEGAL DESCRIPTION:

BEING 4.61 ACRES OF LAND, MORE OR LESS, OUT OF THE TALBOT CHAMBERS SURVEY, ABSTRACT NO. 125, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF THAT TRACT CALLED TRACT 5, OUT OF THE AMENDED PLAT OF KITTIE HILL ACRES TRACT 5 AND TRACT 6, SAID PLAT RECORDED IN CABINET X, SLIDE 378, PLAT RECORDS, WILLIAMSON COUNTY, TEXAS, AS SURVEYED ON THE GROUND BY TEXAS LAND SURVEYING, INC. ON DECEMBER 13TH 2021, AND FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

811 !!! CAUTION !!! !!! CAUTION !!!
IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

COVER SHEET

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 1 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - COVER.DWG DATE: 10/10/2025 10:02 AM BY: LLAHAUG

GENERAL NOTES FOR SUBDIVISIONS AND SITE DEVELOPMENT PLANS

REVISED JULY 22, 2024

CITY CONTACTS:
ENGINEERING MAIN LINE: 512-528-2721
PLANNING DEPARTMENT:512-528-2750
PUBLIC WORKS MAIN LINE:512-259-2640
STORMWATER INSPECTIONS:512-285-0055
UTILITIES MAIN LINE:512-259-1142
UTILITIES ON-CALL:512-690-4760

PEC CONTACTS:
PUBLIC SAFETY LINE:1-888-343-7702
CUSTOMER OUTAGE LINE:1-800-396-9037

GENERAL:

1. CONTRACTORS SHALL HAVE AN APPROVED SET OF PLANS WITH APPROVED REVISIONS ON SITE AT ALL TIMES. FAILURE TO HAVE APPROVED PLANS ON SITE MAY RESULT IN ISSUANCE OF WORK STOPPAGE.
2. CONTACT 811 SYSTEM FOR EXISTING WATER AND WASTEWATER LOCATIONS 48 HOURS PRIOR TO CONSTRUCTION.
   a. **REFRESH ALL LOCATES *BEFORE* 14 DAYS -** LOCATE REFRESH REQUESTS MUST INCLUDE A COPY OF YOUR 811 TICKET. TEXAS PIPELINE DAMAGE PREVENTION LAWS REQUIRE THAT A LOCATE REFRESH REQUEST BE SUBMITTED BEFORE 14 DAYS, OR IF LOCATION MARKERS ARE NO LONGER VISIBLE.
   b. **REPORT PIPELINE DAMAGE IMMEDIATELY -** IF YOU WITNESS OR EXPERIENCE PIPELINE EXCAVATION DAMAGE, PLEASE CONTACT THE CITY OF LEANDER BY PHONE AT 512-259- 2640.
3. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR 48 HOURS BEFORE:
   a. BEGINNING EACH PHASE OF CONSTRUCTION. CONTACT ASSIGNED CITY INSPECTOR.
   b. ANY TESTING. CONTRACTOR SHALL PROVIDE QUALITY TESTING FOR ALL INFRASTRUCTURES TO BE ACCEPTED AND MAINTAINED BY THE CITY OF LEANDER AFTER COMPLETION.
   c. PROOF ROLLING SUB-GRADE AND EVERY LIFT OF ROADWAY EMBANKMENT, IN-PLACE DENSITY TESTING OF EVERY BASE COURSE, AND ASPHALT CORES. ALL OF THIS TESTING MUST BE WITNESSED BY A CITY OF LEANDER REPRESENTATIVE.
   d. CONNECTING TO THE EXISTING WATER LINES.
   e. THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET ROW. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S ROW MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.
4. ALL RESPONSIBILITILY FOR THE ACCURACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
5. **EXCESS SOIL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. NOTIFY THE CITY OF LEANDER IF THE DISPOSAL SITE IS INSIDE THE CITY'S JURISDICTIONAL BOUNDARIES.**
6. BURNING IS PROHIBITED.
7. NO WORK IS TO BE PERFORMED BETWEEN THE HOURS OF 9:00 P.M. AND 7:00 A.M. OR WEEKENDS. THE CITY INSPECTOR RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO UNCOVER ALL WORK PERFORMED WITHOUT INSPECTION.
8. CONTACT THE CITY INSPECTOR 4 DAYS PRIOR TO WORK FOR APPROVAL TO SCHEDULE ANY INSPECTIONS ON WEEKENDS OR CITY HOLIDAYS.
9. NO BLASTING IS ALLOWED.
10. ANY CHANGES OR REVISIONS TO THESE PLANS MUST FIRST BE SUBMITTED TO THE CITY BY THE DESIGN ENGINEER FOR REVIEW AND WRITTEN APPROVAL PRIOR TO CONSTRUCTION OF THE REVISION. ALL CHANGES AND REVISIONS SHALL USE REVISION CLOUDS TO HIGHLIGHT ALL REVISIONS AND CHANGES WITH EACH SUBMITTAL. REVISION TRIANGLE MARKERS AND NUMBERS SHALL BE USED TO MARK REVISIONS. ALL CLOUDS AND TRIANGLE MARKERS FROM PREVIOUS REVISIONS MUST BE REMOVED. REVISION INFORMATION SHALL BE UPDATED ON COVER SHEET AND AFFECTED PLAN SHEET TITLE BLOCK.
11. THE CONTRACTOR AND ENGINEER SHALL KEEP ACCURATE RECORDS OF ALL CONSTRUCTION THAT DEVIATES FROM THE PLANS. THE ENGINEER SHALL FURNISH THE CITY OF LEANDER
    ACCURATE "RECORD DRAWINGS" FOLLOWING THE COMPLETION OF ALL CONSTRUCTION. THESE "RECORD DRAWINGS" SHALL MEET THE SATISFACTION OF THE ENGINEERING DEPARTMENTS PRIOR TO FINAL ACCEPTANCE.
12. THE CONTRACTOR WILL REIMBURSE THE CITY FOR ALL REPAIR AND/OR COST INCURRED AS A RESULT OF ANY DAMAGE TO ANY PUBLIC INFRASTRUCTURE WITHIN CITY EASEMENT OR PUBLIC RIGHT-OF-WAY, REGARDLESS OF THESE PLANS.
13. WHEN CONSTRUCTION IS BEING CARRIED OUT WITHIN EASEMENTS, THE CONTRACTOR SHALL CONFINE HIS WORK TO WITHIN THE PERMANENT AND TEMPORARY EASEMENTS. PRIOR TO ACCEPTANCE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TRASH AND DEBRIS WITHIN THE PERMANENT EASEMENTS. CLEANUP SHALL BE TO THE SATISFACTION OF THE ENGINEER OF RECORD AND CITY.
14. CONTRACTOR TO LOCATE, PROTECT, AND MAINTAIN BENCHMARKS, MONUMENTS, CONTROL POINTS AND PROJECT ENGINEERING REFERENCE POINTS. RE-ESTABLISH DISTURBED OR DESTROYED ITEMS BY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, AT NO ADDITIONAL COST TO THE PROPERTY OWNER.
15. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 1033 LA POSADA DR. SUITE 375, AUSTIN, TEXAS 78752-3832.
16. ALL MANHOLE FRAMES/COVERS AND WATER VALVE/METER BOXES MUST BE ADJUSTED TO FINISHED GRADE AT THE OWNER'S EXPENSE BY THE CONTRACTOR FOR CITY CONSTRUCTION INSPECTOR INSPECTION. ALL UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO FINAL
    PAVING. CONTRACTOR SHALL BACKFILL AROUND MANHOLES AND VALVE BOXES WITH CLASS A CONCRETE.
17. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL CITY OF LEANDER DETAILS AND CITY OF AUSTIN STANDARD SPECIFICATIONS.
18. PROJECT SPECIFICATIONS TAKE PRECEDENCE OVER PLANS AND SPECIAL CONDITIONS GOVERN OVER TECHNICAL SPECIFICATIONS.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
20. THE CONTRACTOR MUST OBTAIN A CONSTRUCTION WATER METER FOR ALL WATER USED DURING CONSTRUCTION. A COPY OF THIS PERMIT MUST BE CARRIED AT ALL TIMES BY ALL WHO USE WATER.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADS AND DRIVES ADJACENT TO AND NEAR THE SITE FREE FROM SOIL, SEDIMENT AND DEBRIS. CONTRACTOR WILL NOT REMOVE SOIL, SEDIMENT OR DEBRIS FROM ANY AREA OR VEHICLE BY MEANS OF WATER. ONLY SHOVELING AND SWEEPING WILL BE ALLOWED. THE CONTRACTOR WILL BE RESPONSIBLE FOR DUST CONTROL FROM THE SITE. THE CONTRACTOR SHALL KEEP THE SITE AREA CLEAN AND MAINTAINED AT ALL TIMES, TO THE SATISFACTION OF THE CITY. THE SUBDIVISION (OR SITE) WILL NOT BE ACCEPTED (OR CERTIFICATE OF OCCUPANCY ISSUED) UNTIL THE SITE HAS BEEN CLEANED TO THE SATISFACTION OF THE CITY.
22. TREES IN EXISTING ROW SHOULD BE PROTECTED OR NOTED IN THE PLANS TO BE REMOVED.

SEQUENCE OF CONSTRUCTION

1. REACH OUT TO THE CITY FOR PRE-CONSTRUCTION MEETING AND CONSTRUCTION PERMIT.
2. INSTALL EROSION CONTROLS AND TREE PROTECTION PER APPROVED PLANS. EROSION CONTROLS MAY BE REVISED AS NECESSARY TO COMPLY WITH INSPECTORS DIRECTIVES. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS AND AFTER RAINFALL EVENTS, AS NEEDED.
3. LOCATE AND DISCONNECT ALL EXISTING UTILITIES AS NEEDED FOR DEMOLITION OF EXISTING STRUCTURES. REMOVE BUILDINGS, CONCRETE SLABS, AND ANY ASSOCIATED DEBRIS AND DISPOSE ALL DEMOLITION MATERIAL TO AN APPROVED OFF-SITE FACILITY.
4. BEGIN SITE CLEARING.
5. IMPORT AND EMBANK FILL AS NECESSARY TO ACCOMMODATE SITE GRADING PLAN.
6. CONSTRUCT WATER QUALITY AND DETENTION POND.
7. ROUGH-CUT DRIVEWAY, PARKING AND BUILDING AREAS.
8. INSTALL SITE UTILITIES.
9. INSTALL BASE COURSE.
10. CONSTRUCT BUILDING FOUNDATIONS.
11. INSTALL CURB & GUTTER.
12. INSTALL PAVING.
13. INSTALL LANDSCAPING.
14. REVEGETATE DISTURBED AREA OR COMPLETE A DEVELOPERS CONTRACT FOR THE REVEGETATION ALONG WITH ENGINEER'S CONCURRENCE LETTER.

EROSION CONTROL NOTES

1. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES
   AND SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
2. THE TEMPORARY SPOILS DISPOSAL SITE IS TO BE SHOWN IN THE EROSION CONTROL MAP.
3. ANY ON-SITE SPOILS DISPOSAL SHALL BE REMOVED PRIOR TO ACCEPTANCE UNLESS SPECIFICALLY SHOWN ON THE PLANS. THE DEPTH OF SPOIL SHALL NOT EXCEED 10 FEET IN ANY AREA.
4. ALL AREAS DISTURBED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED WITH A MINIMUM OF 6 INCHES OF TOPSOIL AND COMPOST BLEND. TOPSOIL ON SINGLE FAMILY LOTS MAY BE INSTALLED WITH HOME CONSTRUCTION. THE TOPSOIL AND COMPOST BLEND SHALL CONSIST OF 75% TOPSOIL AND 25% COMPOST.
5. SEEDING FOR REESTABLISHING VEGETATION SHALL COMPLY WITH THE AUSTIN GROW GREEN GUIDE OR WILLIAMSON COUNTY'S PROTOCOL FOR SUSTAINABLE ROADSIDES (SPEC 164--WC001 SEEDING FOR EROSION CONTROL). RESEEDING VARIETIES OF BERMUDA SHALL NOT BE USED.
6. STABILIZED CONSTRUCTION ENTRANCE IS REQUIRED AT ALL POINTS WHERE CONSTRUCTION TRAFFIC IS EXITING THE PROJECT ONTO EXISTING PAVEMENT. LINEAR CONSTRUCTION PROJECTS MAY REQUIRE SPECIAL CONSIDERATION. ROADWAYS SHALL REMAIN CLEAR OF SILT AND MUD.
7. TEMPORARY STOP SIGNS SHOULD BE INSTALLED AT ALL CONSTRUCTION ENTRANCES WHERE A STOP CONDITION DOES NOT ALREADY EXIST.
8. IN THE EVENT OF INCLEMENT WEATHER THAT MAY RESULT IN A FLOODING SITUATION, THE CONTRACTOR SHALL REMOVE INLET PROTECTION MEASURES UNTIL SUCH TIME AS THE WEATHER EVENT HAS PASSED.

WATER AND WASTEWATER NOTES

WATER AND WASTEWATER GENERAL NOTES

1. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AND ORGANIZATION ACCREDITED BY ANSI.
2. ALL WATER SERVICE, WASTEWATER SERVICE AND VALVE LOCATIONS SHALL BE APPROPRIATELY STAMPED AS FOLLOWS:

   WATER SERVICE "W" ON TOP OF CURB
   WASTEWATER SERVICE "S" ON TOP OF CURB
   VALVE "V" ON TOP OF CURB

3. OPEN UTILITIES SHALL NOT BE PERMITTED ACROSS THE EXISTING PAVED SURFACES. WATER AND WASTEWATER LINES ACROSS THE EXISTING PAVED SURFACES SHALL BE BORED AND INSTALLED IN STEEL ENCASEMENT PIPES. BELL RESTRAINTS SHALL BE PROVIDED AT JOINTS.
4. INTERIOR SURFACES OF ALL DUCTILE IRON POTABLE OR RECLAIMED WATER PIPE SHALL BE CEMENT-MORTAR LINED AND SEAL COATED AS REQUIRED BY AWWA C104.
5. SAND, AS DESCRIBED IN AUSTIN 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 SAND, A NATURALLY OCCURRING OR
   MANUFACTURED STONE MATERIAL CONFORMING TO ASTM C33 FOR STONE QUALITY AND MEETING THE FOLLOWING GRADATION SPECIFICATION:

   SIEVE SIZE PERCENT RETAINED BY WEIGHT

   1/2"03/8"0-2#440-85#1095-100
6. DENSITY TESTING FOR TRENCH BACKFILL SHALL BE DONE IN MAXIMUM 12" LIFTS.

WATER

1. SAMPLING TAPS SHALL BE BROUGHT UP TO 3 FEET ABOVE GRADE AND SHALL BE EASILY
   ACCESSIBLE FOR CITY PERSONNEL. AT THE CONTRACTORS' REQUEST, AND IN HIS PRESENCE, SAMPLES FOR BACTERIOLOGICAL TESTING WILL BE COLLECTED BY THE CITY OF LEANDER NOT LESS THAN 24 HOURS AFTER THE TREATED LINE HAS BEEN FLUSHED OF THE CONCENTRATED CHLORINE SOLUTION AND CHARGED WITH WATER APPROVED BY THE CITY.
2. CITY PERSONNEL WILL OPERATE OR AUTHORIZE THE CONTRACTOR TO OPERATE ALL WATER VALVES THAT WILL PASS THROUGH THE CITY'S POTABLE WATER. THE CONTRACTOR MAY BE FINED $500 OR MORE, INCLUDING ADDITIONAL THEFT OF WATER FINES, IF A WATER VALVE IS OPERATED IN AN UNAUTHORIZED MANNER, REGARDLESS OF WHO OPERATED THE VALVE.
3. 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 AM AND 6 AM AFTER COORDINATING WITH CITY CONSTRUCTION INSPECTORS AND INFORMING AFFECTED PROPERTIES.
4. PRESSURE TAPS OR HOT TAPS SHALL BE IN ACCORDANCE WITH CITY OF LEANDER STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION AND SHALL FURNISH, INSTALL AND AIR TEST THE SLEEVE AND VALVE. A CITY OF LEANDER INSPECTOR MUST BE PRESENT WHEN THE CONTRACTOR MAKES A TAP, AND/OR ASSOCIATED TESTS. A MINIMUM OF TWO (2) WORKING DAYS NOTICE IS REQUIRED. "SIZE ON SIZE" TAPS SHALL NOT BE PERMITTED UNLESS MADE BY THE USE OF AN APPROVED FULL-CIRCLE GASKETED TAPPING SLEEVE. CONCRETE THRUST BLOCKS SHALL BE PLACED BEHIND AND UNDER ALL TAP SLEEVES A MINIMUM OF 24 HOURS PRIOR TO THE BRANCH BEING PLACED INTO SERVICE. THRUST BLOCKS SHALL BE INSPECTED PRIOR TO BACKFILL.
5. FIRE HYDRANTS ON MAINS UNDER CONSTRUCTION SHALL BE SECURELY WRAPPED WITH A BLACK POLY WRAP BAG AND TAPED INTO PLACE. THE POLY WRAP SHALL BE REMOVED WHEN THE MAINS ARE ACCEPTED AND PLACED INTO SERVICE.
6. THRUST BLOCKS OR RESTRAINTS SHALL BE IN ACCORDANCE WITH THE CITY OF LEANDER STANDARD SPECIFICATIONS AND REQUIRED AT ALL FITTINGS PER DETAIL OR MANUFACTURER'S RECOMMENDATION. ALL FITTINGS SHALL HAVE BOTH THRUST BLOCKS AND RESTRAINTS.
7. ALL DEAD END WATER MAINS SHALL HAVE "FIRE HYDRANT ASSEMBLY" OR "BLOW-OFF VALVE AND THRUST BLOCK" OR "BLOW-OFF VALVE AND THRUST RESTRAINTS". THRUST RESTRAINTS SHALL BE INSTALLED ON THE MINIMUM LAST THREE PIPE LENGTHS (STANDARD 20' LAYING LENGTH). ADDITIONALL THRUST RESTRAINTS MAY BE REQUIRED BASED UPON THE
   MANUFACTURERS RECOMMENDATION AND/OR ENGINEER'S DESIGN.
8. PIPE MATERIAL FOR PUBLIC WATER MAINS SHALL BE PVC (AWWA C900-DR14 MIN. 305 PSI PRESSURE RATING). WATER SERVICES (2" OR LESS) SHALL BE POLYETHYLENE TUBING (BLACK, 200PSI, AND SDR-(9)). COPPER PIPES AND FITTINGS ARE NOT ALLOWED IN THE PUBLIC RIGHT OF WAY. ALL PLASTIC PIPES FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW).
9. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE (AWWA C115/C151 PRESSURE CLASS 350).
10. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH MINIMUM 8-MIL POLYETHYLENE.
11. LINE FLUSHING OR ANY ACTIVITY USING A LARGE QUANTITY OF WATER MUST BE COORDINATED WITH THE PUBLIC WORKS DEPARTMENT.
12. ALL WATER METER BOXES SHALL BE:
    a. SINGLE, 1" METER AND BELOW DFW37F-12-1CA, OR EQUAL
    b. DUAL, 1" METERS AND BELOW DFW39F-12-1CA, OR EQUAL
    c. 1.5" SINGLE METER DFW65C-14-1CA, OR EQUAL
    d. 2" SINGLE METER DFW1730F-12-1CA, OR EQUAL
13. ALL WATER VALVE COVERS ARE TO BE PAINTED BLUE.

WASTEWATER

1. CURVILINEAR WASTEWATER DESIGN LAYOUT IS NOT PERMITTED.
2. MANDREL TESTING SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
3. MANHOLES SHALL BE COATED PER CITY OF AUSTIN SPL WW-511 (RAVEN 405 OR SPRAYWALL). PENETRATIONS TO EXISTING WASTEWATER MANHOLES REQUIRE THE CONTRACTOR TO RECOAT THE ENTIRE MANHOLE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD SPECIFICATIONS SECTION NO. 506.5.
4. RECLAIMED AND RECYCLED WATER LINE SHALL BE CONSTRUCTED OF "PURPLE PIPE." ALL RECLAIMED AND RECYCLED WATER VALVE COVERS SHALL BE SQUARE AND PAINTED PURPLE.
5. FORCE MAIN PIPES NEED TO HAVE SWEEPING WYES FOR JOINTS.

STREET AND DRAINAGE NOTES

1. THE CITY OF LEANDER HAS NOT REVIEWED THESE PLANS FOR COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA). IT IS THE RESPONSIBILITY OF THE OWNER TO PROVIDE COMPLIANCE WITH ALL LEGISTATION RELATED TO ACCESSIBLITY WITHIN THE LIMITS OF CONSTRUCTION SHOWN IN THESE PLANS. ALL SIDEWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT AND TEXAS ACCESSIBILITY STANDARS (TAS).
2. BACKFILL BEHIND THE CURB SHALL BE COMPACTED TO OBTAIN A MINIMUM OF 95% MAXIMUM DENSITY TO WITHIN 6" OF TOP OF CURB. MATERIAL USED SHALL BE PRIMARILY GRANULAR
   WITH NO ROCKS LARGER THAN 6" IN THE GREATEST DIMENSION. THE REMAINING 6" SHALL BE
   CLEAN TOPSOIL FREE FROM ALL CLODS AND SUITABLE FOR SUSTAINING PLANT LIFE.
3. A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED BETWEEN THE CURB AND RIGHT-OF-WAY AND IN ALL DRAINAGE CHANNELS EXCEPT CHANNELS CUT IN STABLE ROCK.
4. DEPTH OF COVER FOR ALL CROSSINGS UNDER PAVEMENT, INCLUDING GAS, ELECTRIC
   TELEPHONE, CABLE TV, ETC., SHALL BE A MINIMUM OF 36" BELOW SUBGRADE.
5. STREET RIGHT-OF-WAY SHALL BE GRADED AT A SLOPE OF ¼" PER FOOT TOWARD THE CURB UNLESS OTHERWISE INDICATED.
6. ALL DRAINAGE PIPE IN PUBLIC RIGHT OF WAY OR EASEMENTS SHALL BE REINFORCED CONCRETE PIPE MINIMUM CLASS III OF TONGUE AND GROOVE OR O-RING JOINT DESIGN. CORRUGATED METAL PIPE IS NOT ALLOWED IN PUBLIC RIGHT OR WAY OR EASEMENTS.
7. THE CONTRACTOR MUST PROVIDE A PNEUMATIC TRUCK PER TXDOT SPEC FOR PROOF ROLLING.
8. ALL STRIPING, WITH THE EXCEPTION OF STOP BARS, CROSS WALKS, WORDS AND ARROWS, IS TO BE TYPE II (WATER BASED). STOP BARS, CROSS WALKS, WORDS AND ARROWS REQUIRE TYPE I THERMOPLASTIC.
9. MANHOLE FRAMES, COVERS, VALVES, CLEAN-OUTS, ETC. SHALL BE RAISED TO GRADE PRIOR TO FINAL PAVEMENT CONSTRUCTION.
10. A STOP BAR SHALL BE PLACED AT ALL STOP SIGN LOCATIONS.
11. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE FOR COMPLIANCE WITH THE DESIGN ASSUMPTIONS MADE DURING PREPARATION OF THE SOILS REPORT. ANY ADJUSTMENTS THAT ARE REQUIRED SHALL BE MADE THROUGH REVISIONS OF THE APPROVED CONSTRUCTION PLANS.
12. GEOTECHNICAL INVESTIGATION INFORMATION AND PAVEMENT RECOMMENDATIONS WERE PROVIDED BY **INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, L.P.**
    PAVEMENT RECOMMENDATIONS ARE AS FOLLOWS:
    a. PROVIDE RECOMMENDATIONS.
       PAVEMENT SECTIONS
       PARKING AREAS AND DRIVES MAY BE DESIGNED WITH EITHER A FLEXIBLE OR RIGID PAVEMENT. PAVEMENT SECTIONS FOR BOTH
       RIGID AND FLEXIBLE TYPES ARE RECOMMENDED AS FOLLOWS FOR DRIVE AREAS AND PARKING AREAS. LIMESTONE SUBGRADES
       ARE ANTICIPATED. PAVEMENT RECOMMENDATIONS PRESENTED HERE ARE BASED ON EXISTING SOIL CONDITIONS. IF THE
       SUBGRADE CONDITION IS DIFFERENT FROM THE ANTICIPATED BROWN CLAYS, PLEASE CONTACT US.

Table No. 8 – Concrete Pavement

	Parking Areas	Drive Areas	Heavy Duty
Reinforced Concrete (inches)	5 ½	6 ½	8
Moisture conditioned subgrade (inches)	6	6	6

Table No. 9 – Asphalt Pavement

	Parking Areas	Drive Areas
Hot Mix Asphaltic Concrete-HMAC (inches)	2	3
Aggregate Base (inches)	8	8
Subgrade (Marl to Limestone)	Compacted Subgrade	Compacted Subgrade

- CONCRETE PAVEMENT IS RECOMMENDED IN AREAS WHICH RECEIVE REPETITIVE TRAFFIC SUCH AS DRIVE-THROUGH
  LANES AND ENTRY /EXIT RAMPS EVEN IF ASPHALTIC CONCRETE PAVEMENT IS USED IN OTHER AREAS.
- A CONCRETE PAD OF AT LEAST 8 INCHES IS RECOMMENDED IN FRONT OF TRASH DUMP DUE TO HIGH WHEEL AND
  IMPACT LOADS THAT THIS AREA RECEIVES.
- IT IS OUR UNDERSTANDING THAT EMERGENCY VEHICLES, WEIGHING UP TO 85,000 LBS, WILL ALSO USE THE
  PAVEMENT AT THIS SITE. THE RECOMMENDED PAVEMENT SECTIONS FOR DRIVE AREAS AND HEAVY DUTY
  AREAS MAY BE USED FOR THE USE OF EMERGENCY VEHICLES.

13. A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CITY OF AUSTIN TRANSPORATION CRITERIA MANUAL, CITY OF LEANDER STANDARD DETAILS AND TEXAS DEPARTMENT OF TRANSPORTATION CRITERIA, SHALL BE SUBMITTED TO THE CITY OF LEANDER FOR REVIEW AND APPROVAL PRIOR TO ANY PARTIAL OR COMPLETE ROADWAY CLOSURES. TRAFFIC CONTROL PLANS MUST BE SITE SPECIFIC AND SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
14. ALL LANE CLOSURES SHALL OCCUR ONLY BETWEEN THE HOURS OF 9 AM AND 4 PM UNLESS OTHERWISE NOTED ON THE PLANS. ANY NIGHT TIME LANE CLOSURES REQUIRE APPROVAL OF THE CITY ENGINEER AND SHALL OCCUR BETWEEN THE HOURS OF 8 PM AND 6 AM. LANE CLOSURES OBSERVED BY THE CITY DURING PEAK HOURS OF 6 AM TO 9 AM OR 4 PM TO 8 PM WILL BE SUBJECT TO A FINE AND/OR SUBSEQUENT ISSUANCE OF WORK STOPPAGE.
15. TEMPORARY ROCK CRUSHING IS NOT ALLOWED. ALL SOURCES OF FLEXIBLE BASE MATERIAL ARE REQUIRED TO BE APPROVED BY THE CITY. PRIOR TO BASE PLACEMENT ALL CURRENT TRIAXIAL TEST REPORTS FOR PROPOSED STOCK PILES ARE TO BE SUBMITTED TO THE CITY CONSTRUCTION INSPECTOR FOR REVIEW AND APPROVAL.
16. AT ROAD INTERSECTIONS THAT HAVE A VALLEY GUTTER, THE CROWN TO THE INTERSECTING ROAD WILL BE CULMINATED AT A DISTANCE OF 40 FEET FROM THE INTERSECTING CURB LINE UNLESS OTHERWISE NOTED.
17. NO PONDING OF WATER SHALL BE ALLOWED TO COLLECT ON OR NEAR THE INTERSECTION OF PRIVATE DRIVEWAYS AND PUBLIC STREETS. RECONSTRUCTION OF THE DRIVEWAY APPROACH SHALL BE AT THE CONTRACTOR'S EXPENSE.
18. ALL DRIVEWAY APPROACHES SHALL HAVE A UNIFORM TWO PERCENT SLOPE WITHIN THE PUBLIC RIGHT OF WAY UNLESS APPROVED IN WRITING BY THE ENGINEERING DEPARTMENT.
19. IMPROVEMENTS THAT INCLUDE RECONSTRUCTION OF AN EXISTING TYPE II DRIVEWAY SHALL BE DONE IN A MANNER WHICH RETAINS OPERATIONS OF NOT LESS THAN HALF OF THE DRIVEWAY TO REMAIN OPEN AT ALL TIMES. FULL CLOSURE OF SUCH DRIVEWAY CAN BE CONSIDERED WITH WRITTEN AUTHORIZATION OBTAINED BY THE CONTRACTOR FROM ALL PROPERTY OWNERS AND ACCESS EASEMENT RIGHT HOLDERS ALLOWING THE FULL CLOSURE OF THE DRIVEWAY.
20. CONTRACTOR MUST CLEAR FIVE (5) FEET BEYOND ALL PUBLIC RIGHT OF WAY TO PREVENT FUTURE VEGETATIVE GROWTH INTO THE SIDEWALK AREAS.
21. SLOPE OF NATURAL GROUND ADJACENT TO THE PUBLIC RIGHT OF WAY SHALL NOT EXCEED 3:1 SLOPE. IF A 3:1 SLOPE IS NOT POSSIBLE, SLOPE PROTECTION OR RETAINING WALL MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE.
22. THERE SHALL BE NO WATER, WASTEWATER OR DRAINAGE APPURTENANCES, INCLUDING BUT NOT LIMITED TO VALVES, FITTINGS, METERS, CLEAN-OUTS, MANHOLES, OR VAULTS IN ANY DRIVEWAY, SIDEWALK, TRAFFIC OR PEDESTRIAN AREA.
23. PUBLIC SIDEWALKS SHALL NOT USE CURB INLETS AS PARTIAL WALKING SURFACE. SIDEWALKS SHALL NOT USE TRAFFIC CONTROL BOXES, METERS, CHECK VALVE VAULTS, COMMUNICATION VAULTS, OR OTHER BURIED OR PARTIALLY BURIED INFRASTRUCTURE AS A VEHICULAR OR PEDESTRIAN SURFACE.
24. ALL WET UTILITIES SHALL BE INSTALLED AND ALL DENSITIES MUST HAVE PASSED INSPECTION(S) PRIOR TO THE INSTALLATION OF DRY UTILITIES.
25. DRY UTILITIES SHALL BE INSTALLED AFTER SUBGRADE IS CUT AND BEFORE THE FIRST COURSE OF BASE. NO TRENCHING COMPACTED BASE. IF NECESSARY DRY UTILITIES INSTALLED AFTER FIRST COURSE BASE SHALL BE BORED ACROSS THE FULL WIDTH OF THE PUBLIC RIGHT-OF-WAY.
26. A MINIMUM OF SEVEN (7) DAYS OF CURE TIME IS REQUIRED FOR HMAC PRIOR TO THE INTRODUCTION OF VEHICULAR TRAFFIC TO ALL STREETS.

TRENCH SAFETY NOTES

1. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT ARE DESCRIBED IN ITEM 5095 "TRENCH SAFETY SYSTEMS" OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS AND SHALL BE IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATION SAFETY AND HEALTH ADMINISTRATION REGULATIONS.

GRADING NOTES

1. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
2. THE CONTRACTOR SHALL CONSTRUCT EARTHEN EMBANKMENTS WITH SLOPES NO STEEPER THAN 3:1 AND COMPACT SOIL TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
3. AREAS OF SOIL DISTURBANCE ARE LIMITED TO GRADING AND IMPROVEMENTS SHOWN. ALL OTHER AREAS WILL NOT BE DISTURBED.

BENCHMARK NOTES

1. TEMPORARY BENCHMARK BOX CUT IN CURB

ELEV: 984.77' (NAVD88)

NORTHING: 3087563.80 EASTING: 10189723.32

TEXAS COMMISSION OF ENVIRONMENTAL QUALITY CONTRIBUTING ZONE 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 GOVERMMENTAL 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 A

FINAL PLAT OF

AMENDING FINAL PLAT OF TRACT 5 OF AMENDED PLAT OF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT

WILLIAMSON COUNTY, TEXAS

LEGAL DESCRIPTION:

AMENDING FINAL PLAT OF TRACT 5 OF AMENDED PLAT OF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT – 11.81 ACRES 11.81 ACRES OF LAND, OUT OF AND A PART OF THE TALBOT CHAMBERS SURVEY, ABSTRACT NO. 125, WILLIAMSON COUNTY, TEXAS, BEING TRACT 5, OUT OF THE AMENDED PLAT OF KITTIE HILL ACRES, TRACT 5 & 6, SAID PLAT RECORDED IN CABINET X, SLIDE 378, PLAT RECORDS, WILLIAMSON COUNTY, TEXAS, SAVE AND EXCEPT THAT 0.176 ACRE TRACT AS CONVEYED TO WILLIAMSON COUNTY, TEXAS, AND RECORDED IN DOCUMENT NO. 2023087245, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND TRACT 6A, OUT OF KITTIE HILL ACRES, TRACT 6B & TRACT 6A REPLAT, SAID PLAT RECORDED IN DOCUMENT NO. 201502916, OF SAID OFFICIAL PUBLIC RECORDS.

FINAL PLAT OF
OF TRACT 5 OF AMENDED PLATOF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT

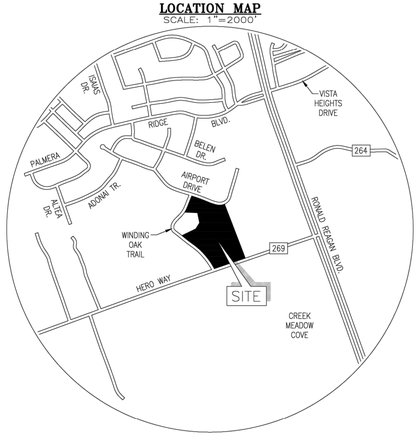
TOTAL ACREAGE: 11.81 ACRES
NO. OF BLOCKS: 1
NO. OF LOTS: 2
NEW STREETS: NONE
SUBMISSION DATE: 06-03-2025
2ND SUBMITTAL:
3RD SUBMITTAL:
PROJECT NUMBER: FP-25-0235

ENGINEER:
STEVEN MINOR, P.E.
GRAY ENGINEERING
8834 NORTH CAPITAL OF TEXAS HIGHWAY,
STE 140, AUSTIN, TX 78759
(512) 452-0371

OWNER/SUBDIVIDER:
ZOOMERS INVESTMENT GROUP LLC
1137 PRESCOTT DRIVE
ROCHESTER HILLS, MI 48309
(248) 890-5897
GUDIASHOK@GMAIL.COM

SURVEYOR:
DANNY J. STARK
TEXAS LAND SURVEYING, INC.
3613 WILLIAMS DRIVE, SUITE 903
GEORGETOWN, TEXAS 78628
(512) 930-1600

LOCATION MAP
SCALE: 1"=2000'



SHEET 1: COVER SHEET
SHEET 2: PLAT
SHEET 3: SIGNATURE PAGE

DATE OF PLAT PREPARATION: JULY 17, 2023

Texas Land Surveying, Inc.
–A Land Surveying Firm–
3613 Williams Drive, Suite 903 – Georgetown, Texas 78628
(512) 930-1600 www.texas-ls.com
TBPELS LAND SURVEYING FIRM NO.10056200

SHEET 1 OF 3

IF THIS DOCUMENT DOES NOT CONTAIN THE STAMP AND SIGNATURE OF THE UNDERSIGNED SURVEYOR, IT IS AN UNAUTHORIZED/ILLEGAL COPY. TEXAS LAND SURVEYING, INC. ASSUMES NO LIABILITY FROM THE USE OF ANY UNAUTHORIZED/ILLEGAL DOCUMENT.

© COPYRIGHT 2025 BY TEXAS LAND SURVEYING, INC. THIS SURVEY PROVIDED SOLELY FOR THE USE OF THE CURRENT PARTIES AND NO LICENSE HAS BEEN CREATED, EXPRESSED OR IMPLIED, TO COPY THE SURVEY EXCEPT AS NECESSARY IN CONJUNCTION WITH THE ORIGINAL TRANSACTION, WHICH SHALL TAKE PLACE WITHIN 90 DAYS OF THE COMPLETION OF THE SURVEY.

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

FINAL PLAT (1 OF 3)

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 3 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - FINAL PLAT.DWG DATE: 10/10/2025 10:02 AM BY: LLAHAUG

LINE TABLE			RECORD LINE TABLE			
NUMBER	DIRECTION	DISTANCE	NUMBER	DIRECTION	DISTANCE	
L1	N 55°10'37" W	106.77'	L1	N 53°10'54" W	107.05'	–(CABINET X, SLIDE 238)
L2	N 55°27'45" W	92.57'	L2	N 55°23'54" W	92.53'	–(#2015029916)
L3	N 32°14'27" E	100.12'	L3	S 32°16'05" W	100.32'	–(#2015029916)
L4	N 11°35'35" W	146.92'	L4	S 11°33'32" E	146.85'	–(#2015029916)
L5	N 39°48'15" E	16.43'	L5	N 39°43'39" E	16.38'	–(#2015029916)
L6	N 10°51'59" E	42.23'	L6	N 10°47'14" E	42.35'	–(#2015029916)
L7	N 45°13'06" E	59.04'	L7	N 45°28'54" E	59.13'	–(#2015029916)
L8	N 47°09'26" E	50.39'	L8	NO RECORD		–
L9	N 55°10'37" W	15.87'	L9	N 53°10'54" W	107.05'	–OVERALL (CABINET X, SLIDE 238)
L10	N 55°10'37" W	90.90'	L10	N 53°10'54" W	107.05'	–OVERALL (CABINET X, SLIDE 238)
L11	S 20°59'50" E	19.19'				
L12	S 39°29'04" E	16.75'				

FINAL PLAT OF

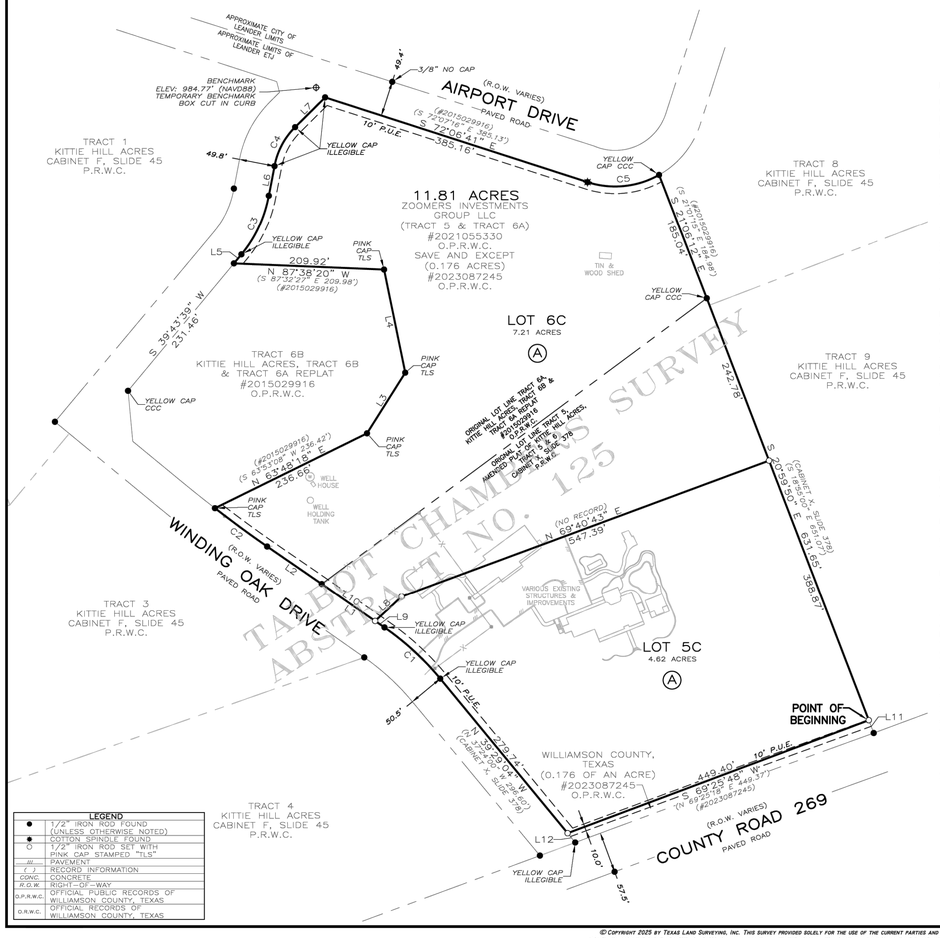
AMENDING FINAL PLAT OF TRACT 5 OF AMENDED PLAT OF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT

WILLIAMSON COUNTY, TEXAS

CURVE TABLE					
NUMBER	DELTA	RADIUS	ARC	CHORD	DIRECTION
C1	15°41'43"	387.65'	106.19'	105.86'	N 47°25'30" W
C2	2°50'31"	1823.33'	90.44'	90.43'	N 53°40'43" W
C3	29°24'47"	178.47'	91.62'	90.62'	N 24°56'19" E
C4	34°46'41"	102.97'	62.50'	61.55'	N 27°52'04" E
C5	47°24'09"	125.00'	103.42'	100.49'	N 84°16'21" E
RECORD CURVE TABLE					
NUMBER	DELTA	RADIUS	ARC	CHORD	DIRECTION
C1	15°41'26"	387.65'	106.16'	105.83'	N 45°16'25" W –(CABINET X, SLIDE 238)
C2	–	1823.33'	–	–	–(#2015029916)
C3	29°24'12"	178.47'	91.59'	90.59'	N 24°54'37" E –(#2015029916)
C4	34°42'23"	102.97'	62.37'	61.47'	N 27°53'13" E –(#2015029916)
C5	47°26'21"	125.00'	103.50'	100.56'	N 84°14'53" E –(#2015029916)

LEGAL DESCRIPTION:

AMENDING FINAL PLAT OF TRACT 5 OF AMENDED PLAT OF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT – 11.81 ACRES
11.81 ACRES OF LAND, OUT OF AND A PART OF THE TALBOT CHAMBERS SURVEY, ABSTRACT NO. 125, WILLIAMSON COUNTY, TEXAS, BEING TRACT 5, OUT OF THE AMENDED PLAT OF KITTIE HILL ACRES, TRACT 5 & 6, SAID PLAT RECORDED IN CABINET X, SLIDE 378, PLAT RECORDS, WILLIAMSON COUNTY, TEXAS, SAVE AND EXCEPT THAT 0.176 ACRE TRACT AS CONVEYED TO WILLIAMSON COUNTY, TEXAS, AND RECORDED IN DOCUMENT NO. 2023087245, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND TRACT 6A, OUT OF KITTIE HILL ACRES, TRACT 6B & TRACT 6A REPLAT, SAID PLAT RECORDED IN DOCUMENT NO. 2015029916, OF SAID OFFICIAL PUBLIC RECORDS.



LEGEND	
●	1/2" IRON ROD FOUND (UNLESS OTHERWISE NOTED)
●	COTTON SPINDLE FOUND
○	1/2" IRON ROD SET WITH PINK CAP STAMPED "TLS"
	PAVEMENT
( )	RECORD INFORMATION
CONC.	CONCRETE
R.O.W.	RIGHT-OF-WAY
O.P.R.W.C.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
O.R.W.C.	OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS

100 0 100 200

Scale: 1" = 100'

Bearing Base:
Texas State Plane Coordinate System
(Central Zone) NAD83

PERIMETER FIELD NOTES:

BEING 11.81 ACRES OF LAND, OUT OF AND A PART OF THE TALBOT CHAMBERS SURVEY, ABSTRACT NO. 125, WILLIAMSON COUNTY, TEXAS, BEING TRACT 5, OUT OF THE AMENDED PLAT OF KITTIE HILL ACRES, TRACT 5 & 6, SAID PLAT RECORDED IN CABINET X, SLIDE 378, PLAT RECORDS, WILLIAMSON COUNTY, TEXAS, SAVE AND EXCEPT THAT 0.176 ACRE TRACT AS CONVEYED TO WILLIAMSON COUNTY, TEXAS, AND RECORDED IN DOCUMENT NO. 2023087245, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND TRACT 6A, OUT OF KITTIE HILL ACRES, TRACT 6B & TRACT 6A REPLAT, SAID PLAT RECORDED IN DOCUMENT NO. 2015029916, OF SAID OFFICIAL PUBLIC RECORDS, AS SURVEYED ON THE GROUND BY TEXAS LAND SURVEYING, INC. ON APRIL 11TH, 2023, AND FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING at a 1/2 inch iron rod with pink cap stamped "TLS" set, in the north line of County Road 269, also in the west line of Tract 9, out of Kittie Hill Acres, said plat recorded in Cabinet F, Slide 45, of said Plat Records, marking the northeast corner of said Williamson County tract, for the southeast corner of the herein described tract, from which a 1/2 inch iron rod found, marking the southeast corner of said Williamson County tract, also marking the southwest corner of said Tract 5, also marking the southwest corner of said Tract 9, bears S 20°59'50" W, 19.19 feet;

THENCE; S 69°25'48" W, with the north line of said County Road 269 and said Williamson County tract and crossing said Tract 5, for a distance of 449.40 feet, to a 1/2 inch iron rod with pink cap stamped "TLS" set, at the intersection of the north line of said County Road 269 and the east line of Winding Oak Drive, marking the northwest corner of said Williamson County tract, for the southwest corner of the herein described tract, from which an iron rod with illegible yellow cap found, marking the southwest corner of said Williamson County tract, also marking the southwest corner of said Tract 5, bears S 39°29'04" E, 16.75 feet;

THENCE; N 39°29'04" W, with the east line of said Winding Oak Drive and the west line of said Tract 5, for a distance of 279.74 feet, to an iron rod with illegible yellow cap found, marking an angle point of said Tract 5, for an angle point of the herein described tract;

THENCE; with the east line of said Winding Oak Drive and the west line of said Tract 5, along a curve to the left having a central angle of 15°41'43", radius of 387.65, whose chord bears N 47°25'30" W, 105.86 feet, for an arc distance of 106.19 feet, to an iron rod with illegible yellow cap found, marking an angle point of said Tract 5, for an angle point of the herein described tract;

THENCE; N 55°10'37" W, with the east line of said Winding Oak Drive and the west line of said Tract 5, for a distance of 106.77 feet, to a 1/2 inch iron rod found, marking the northwest corner of said Tract 5, also marking the southwest corner of said Tract 6A, for an angle point of the herein described tract;

THENCE; N 55°27'45" W, with the east line of said Winding Oak Drive and the west line of said Tract 6A, for a distance of 92.57 feet, to a 1/2 inch iron rod found, marking an angle point of said Tract 6A, for an angle point of the herein described tract;

THENCE; with the east line of said Winding Oak Drive and the west line of said Tract 6A, along a curve to the right having a central angle of 2°50'31", radius of 1823.33, whose chord bears N 53°40'43" W, 90.43 feet, for an arc distance of 90.44 feet, to a 1/2 inch iron rod with pink cap stamped "TLS" found, marking an angle point of said Tract 6A, also marking the southwest corner of Tract 6B, out of said Kittie Hill Acres, Tract 6B & Tract 6A Replat, for an angle point of the herein described tract;

THENCE; N 63°48'18" E, with the east–west running west line of said Tract 6A and the sound line of said Tract 6B, for a distance of 236.66 feet, to a 1/2 inch iron rod with pink cap stamped "TLS" found, marking an angle point of said Tract 6A, also marking the southeast corner of said Tract 6B, for an angle point of the herein described tract;

THENCE; N 32°14'27" E, with the west line of said Tract 6A and the east line of said Tract 6B, for a distance of 100.12 feet, to a 1/2 inch iron rod with pink cap stamped "TLS" found, marking an angle point of said Tract 6A, also marking an angle point of said Tract 6B, for an angle point of the herein described tract;

THENCE; N 11°35'35" W, with the west line of said Tract 6A and the east line of said Tract 6B, for a distance of 146.92 feet, to a 1/2 inch iron rod with pink cap stamped "TLS" found, marking an angle point of said Tract 6A, also marking the northeast corner of said Tract 6B, for an angle point of the herein described tract;

THENCE; N 87°38'20" W, with the east–west running west line of said Tract 6A and the north line of said Tract 6B, for a distance of 209.92 feet, to a 1/2 inch iron rod found, in the east line of said Winding Oak Drive, marking an angle point of said Tract 6A, also marking the northwest corner of said Tract 6B, for an angle point of the herein described tract, from which an iron rod with yellow cap stamped "CCC" found, marking an angle point of said Tract 6B, bears S 39°43'39" W, 231.46 feet;

THENCE; N 39°48'15" E, with the east line of said Winding Oak Drive and the west line of said Tract 6A, for a distance of 16.43 feet, to an iron rod with illegible yellow cap found, marking an angle point of said Tract 6A, for an angle point of the herein described tract;

THENCE; with the east line of said Winding Oak Drive and the west line of said Tract 6A, along a curve to the left having a central angle of 29°24'47", radius of 178.47, whose chord bears N 24°56'19" E, 90.62 feet, for an arc distance of 91.62 feet, to a 1/2 inch iron rod found, marking an angle point of said Tract 6A, for an angle point of the herein described tract;

THENCE; N 10°51'59" E, with the east line of said Winding Oak Drive and the west line of said Tract 6A, for a distance of 42.23 feet, to an iron rod with illegible yellow cap found, marking an angle point of said Tract 6A, for an angle point of the herein described tract;

THENCE; with the east line of said Winding Oak Drive and the west line of said Tract 6A, along a curve to the right having a central angle of 34°46'41", radius of 102.97, whose chord bears N 27°52'04" E, 61.55 feet, for an arc distance of 62.50 feet, to an iron rod with illegible yellow cap found, marking an angle point of said Tract 6A, for an angle point of the herein described tract;

THENCE; N 45°13'06" E, with the east line of said Winding Oak Drive and the west line of said Tract 6A, for a distance of 59.04 feet, to an iron rod with illegible yellow cap found, at the intersection of the east line of said Winding Oak Drive and the south line of Airport Drive, marking the northwest corner of said Tract 6A, for the northwest corner of the herein described tract;

THENCE; S 72°06'41" E, with the south line of said Airport Drive and the north line of said Tract 6A, for a distance of 385.16 feet, to a cotton spindle found, marking an angle point of said Tract 6A, for an angle point of the herein described tract;

THENCE; with the south line of said Airport Drive and the north line of said Tract 6A, along a curve to the left having a central angle of 47°24'09", radius of 125.00, whose chord bears N 84°16'21" E, 100.49 feet, for an arc distance of 103.42 feet, to an iron rod with yellow cap stamped "CCC" found, marking the northwest corner of Tract 8, out of said Kittie Hill Acres, also marking the northeast corner of said Tract 6A, for the northeast corner of the herein described tract;

THENCE; S 21°06'12" E, with the west line of said Tract 8 and the east line of said Tract 6A, for a distance of 185.04 feet, to an iron rod with yellow cap stamped "CCC" found, marking the northeast corner of said Tract 5, also marking the southeast corner of said Tract 6A, for an angle point of the herein described tract;

THENCE; S 20°59'50" E, in part with the west line of said Tract B and said Tract 9 and with the east line of said Tract 5, for a distance of 631.65 feet, to the PLACE OF BEGINNING, containing 11.99 acres of land area.

DATE OF PLAT PREPARATION: JULY 17, 2023

Texas Land Surveying, Inc.
–A Land Surveying Firm–
3613 Williams Drive, Suite 903 – Georgetown, Texas 78628
(512) 930–1600 www.texas–ls.com
TBPELS LAND SURVEYING FIRM NO.10056200

IF THIS DOCUMENT DOES NOT CONTAIN THE STAMP AND SIGNATURE OF THE UNDERSIGNED SURVEYOR, IT IS AN UNAUTHORIZED/ILLEGAL COPY. TEXAS LAND SURVEYING, INC. ASSUMES NO LIABILITY FROM THE USE OF ANY UNAUTHORIZED/ILLEGAL DOCUMENT.

SHEET 2 OF 3

© Copyright 2025 by Texas Land Surveying, Inc. This survey provided solely for the use of the current parties and no license has been created, expressed or implied, to copy the survey except as necessary in conjunction with the original transaction, which shall take place within 90 days of the completion of the survey.

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

FINAL PLAT (2 OF 3)

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

DRAWN BY: JM

CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 4 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - FINAL PLAT.DWG DATE: 10/10/2025 10:02 AM BY: LLAHAUG

FINAL PLAT OF

AMENDING FINAL PLAT OF TRACT 5 OF AMENDED PLAT OF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT

WILLIAMSON COUNTY, TEXAS

LEGAL DESCRIPTION:

AMENDING FINAL PLAT OF TRACT 5 OF AMENDED PLAT OF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT – 11.81 ACRES 11.81 ACRES OF LAND, OUT OF AND A PART OF THE TALBOT CHAMBERS SURVEY, ABSTRACT NO. 125, WILLIAMSON COUNTY, TEXAS, BEING TRACT 5, OUT OF THE AMENDED PLAT OF KITTIE HILL ACRES, TRACT 5 & 6, SAID PLAT RECORDED IN CABINET X, SLIDE 378, PLAT RECORDS, WILLIAMSON COUNTY, TEXAS, SAVE AND EXCEPT THAT 0.176 ACRE TRACT AS CONVEYED TO WILLIAMSON COUNTY, TEXAS, AND RECORDED IN DOCUMENT NO. 2023087245, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY, TEXAS, AND TRACT 6A, OUT OF KITTIE HILL ACRES, TRACT 6B & TRACT 6A REPLAT, SAID PLAT RECORDED IN DOCUMENT NO. 2015029916, OF SAID OFFICIAL PUBLIC RECORDS.

OWNER'S SIGNATURE

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

That I, Zoomers Investment Group LLC, a Texas Limited Liability Company, as the owner of that certain 11.81 acre tract of land, recorded in Cabinet X, Slide 378, of the Plat Records of Williamson County, Texas, save and except that 0.176 acre tract as conveyed to Williamson County, Texas, and recorded in Document No. 2023087245, of the Official Public Records of Williamson County, Texas, and Document No. 2015029916, of said Official Public Records, do hereby certify that there are no lien holders and dedicate to the public forever use of all additional ROW, streets, alleys, easements, parks, and all other lands intended for public dedication, or when the subdivider has made provision for perpetual maintenance thereof, to the inhabitants of the subdivision as shown hereon to be known as AMENDING FINAL PLAT OF TRACT 5 OF AMENDED PLAT OF KITTIE HILL ACRES, TRACTS 5 AND 6, AND TRACT 6A OF KITTIE HILL ACRES, TRACT 6B AND 6A REPLAT.

Zoomers Investment Group LLC

_____
Ashok Gudi
Owner

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

BEFORE ME, the undersigned authority, a Notary Public in and for said County and State, on this the ____ day of _____, 20____, personally appeared Ashok Gudi as Owner of Zoomers Investment Group LLC, a Texas Limited Liability Company, on behalf of said Zoomers Investment Group LLC, a duly authorized agent with authority to sign said document, personally known to me (and proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE of this the _____ day of _____, 20____.

_____
Notary Public – State of Texas

_____
Notary Public – State of Texas

My Commission expires on: _____.

WILLIAMSON COUNTY FLOOD PLAIN ADMINISTRATOR CERTIFICATION:

Based upon the above representations of the Engineer or Surveyor whose seal is affixed hereto, and after a review of the plat as represented by the said Engineer or Surveyor, I find that this plat complies with the Williamson County Floodplain Regulations. This certification is made solely upon such representations and should not be relied upon for verifications of the facts alleged. Williamson County disclaims any responsibility to any member of the public for independent verifications of the representations, factual or otherwise, contained in this plat and the documents associated with it.

_____ _____
Adam D. Boatright, P.E. Date
Williamson County Floodplain Administrator

CITY CERTIFICATION

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

Approved this the ____ day of _____, 20____, A.D. and authorized to be filed for record by the County Clerk of _____ County.

ATTEST:

_____ _____
Robin M. Griffin, AICP Dara Crabtree
Executive Director of Development Services City Secretary
City of Leander, Texas City of Leander, Texas

GENERAL PLAT NOTES

1. This subdivision is wholly contained with the City Limits of the City of Leander, Texas
2. No lot in this subdivision shall be occupied until connected to the City of Leander water distribution and wastewater collection facilities.
3. A Building Permit is required from the City of Leander prior to construction of any building or site improvements on any lot in this subdivision.
4. No buildings, fences, landscaping or other structures are permitted within drainage easements shown except as approved by the City of Leander Public Works Department.
5. Property owner shall provide access to drainage easement as may be necessary and shall not prohibit access by the City of Leander.
6. All easements on private property shall be maintained by the property owner or his or her assigns.
7. In addition to the easement shown hereon, a ten (10') foot wide public utility easement is dedicated along and adjacent to all right-of-way and a two and a half (2.5') foot wide public utility easement is dedicated along all side lot lines.
8. No portion of this tract is within a flood hazard area as shown on the Flood Insurance Rate Map Panel #48491C0455F, for Williamson County, effective 12-20-2019.
9. Building setbacks not shown hereon shall comply with the most current zoning ordinance of the City of Leander.
10. Sidewalks shall be installed on the subdivision side of Airport Drive, Winding Oak Trail and County Road 269. Those sidewalks not abutting a residential, commercial or industrial lot (including sidewalks along street frontages of lots proposed for schools, churches, park lots, detention lots, drainage lots, landscape lots, or similar lots), sidewalks on arterial streets to which access is prohibited, sidewalks on double frontage lots on the side to which access is prohibited, and all sidewalks on safe school routes shall be installed when the adjoining street is constructed.
11. All utility lines must be located underground.
12. This amended plat does not remove any restrictions. This subdivision is subject to all general notes and restrictions appearing on the plat of Kittie Hill Acres, recorded at Cabinet F, Slide 45, of the Plat Records of Williamson County, also appearing on the plat of The Amended Plat of Kittie Hill Acres, Tract 5 & 6, recorded at Cabinet X, Slide 378, of the Plat Records of Williamson County, also appearing on the plat of Kittie Hill Acres, Tract 6B & Tract 6A Replat, recorded at Document No. 2015029916, of the Official Public Records of Williamson County.
13. Approval of this final plat does not constitute the approval of variances or waiver to ordinance requirements.
13. Plat is being amended to move the common lot line of Tract 6A and Tract 5.
14. All drive lanes, fire lanes, and driveways within this subdivision shall provide for reciprocal access for ingress and egress to all other lots within the subdivision and to adjacent properties.

SURVEYOR'S CERTIFICATION

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

That I, Danny J. Stark, am authorized under the laws of the State of Texas to practice the profession of land surveying and hereby state that I prepared this plat from an actual and accurate on-the-ground survey of the land and that the corner monuments shown thereon were properly placed under my personal supervision, in accordance with all City of Leander Ordinance and Codes, and that all existing easements of record as found on the Title Policy provided by First American Title, GF# 2930676-099, issued April 29, 2025, have been shown or noted hereon.

_____
Danny J. Stark
Registered Professional Land Surveyor No. 5602
State of Texas

ENGINEER'S CERTIFICATION

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

That I, Steven Minor, am authorized under the laws of the State of Texas to practice the profession of engineering, and do hereby state that this plat conforms with the applicable ordinances of the City of Leander, Texas.

_____
GRAY ENGINEERING
8834 North Capital of Texas Highway, Suite 140
Austin, TX 78759
Steven Minor, P.E.
Registered Professional Engineer No. 133778
State of Texas

COUNTY CLERK'S CERTIFICATION:

STATE OF TEXAS §
§ KNOW ALL MEN BY THESE PRESENTS;
COUNTY OF WILLIAMSON §

I, Nancy Rister, Clerk of the County Court of said County, do hereby certify that the foregoing instrument in writing, with its certificate of authentication was filed for record in my office on the _____ day of _____, 20___ A.D., at ___o'clock __M. and duly recorded this _____ day of _____, 20____, A.D., at ___ o'clock ____M., in the Official Public Records of said County, in Instrument No. _____.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL at the County Court of said County, at my office in Georgetown, Texas, the date last shown above written.

Nancy E. Rister, Clerk County Court of Williamson County, Texas

By: _____, Deputy

DATE OF PLAT PREPARATION: JULY 17, 2023

Texas Land Surveying, Inc.
–A Land Surveying Firm–
3613 Williams Drive, Suite 903 – Georgetown, Texas 78628
(512) 930-1600 www.texas-ls.com
TBPELS LAND SURVEYING FIRM NO.10056200

IF THIS DOCUMENT DOES NOT CONTAIN THE STAMP AND SIGNATURE OF THE UNDERSIGNED SURVEYOR, IT IS AN UNAUTHORIZED/ILLEGAL COPY. TEXAS LAND SURVEYING, INC. ASSUMES NO LIABILITY FROM THE USE OF ANY UNAUTHORIZED/ILLEGAL DOCUMENT.

SHEET 3 OF 3

© COPYRIGHT 2025 BY TEXAS LAND SURVEYING, INC. THIS SURVEY PROVIDED SOLELY FOR THE USE OF THE CURRENT PARTIES AND NO LICENSE HAS BEEN CREATED, EXPRESSED OR IMPLIED, TO COPY THE SURVEY EXCEPT AS NECESSARY IN CONJUNCTION WITH THE ORIGINAL TRANSACTION, WHICH SHALL TAKE PLACE WITHIN 90 DAYS OF THE COMPLETION OF THE SURVEY.

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

FINAL PLAT (3 OF 3)

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 5 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - FINAL PLAT.DWG DATE: 10/10/2025 10:02 AM BY: LLAHAUG

BENCHMARK:
ELEV: 984.77' (NAVD88)
TEMPORARY BENCHMARK
BOX CUT IN CURB

SCALE: 1"=50'
GRAPHIC SCALE IN FEET
0 25 50 75 100

LEGEND	
	EXISTING TREE TO BE REMOVED
	EXISTING TREE TO REMAIN

LINE TABLE		
NUMBER	DISTANCE	DIRECTION
L1	8.61	N55° 10' 36.94"W
L2	7.26	N55° 10' 36.94"W

CURVE TABLE						
NUMBER	DELTA	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	15°41'43"	53.43	387.65	106.19	105.86	N47° 25' 29.58"W

3.64 ACRES
JSHTDH #1 LLC
DOC. NO. 2020074275
O.P.R.W.C.T.

4.47 ACRES
JSHTDH #1 LLC
DOC. NO. 2019023970
O.P.R.W.C.T.

4.99 ACRES
ZOOMERS INVESTMENT GROUP, LLC
DOC. NO. 2021055332
O.P.R.W.C.T.

2.08 ACRES
TERRANCE D. SLACK
DOC. NO. 2017009292
O.P.R.W.C.T.

5.15 ACRES
DAVID HERSHAL JOHNSON & PRICE
DOC. NO. 2022013295
O.P.R.W.C.T.

5.21 ACRES
HERSHAL JOHNSON & PRICE
DOC. NO. 2022013295
O.P.R.W.C.T.

11.50 ACRES
DAVID HERSHAL JOHNSON & PRICE
DOC. NO. 2003065503
O.P.R.W.C.T.

5.07 ACRES
TDW JOHNSON HOMESTEAD, LLC
DOC. NO. 2023027390
O.P.R.W.C.T.

4.99 ACRES
ZOOMERS INVESTMENT GROUP
DOC. NO. 2021055331
O.P.R.W.C.T.

11.61 ACRES
VIVEK MAHENDRU
DOC. NO. 2021182866
O.P.R.W.C.T.

11.60 ACRES
VIVEK MAHENDRU
DOC. NO. 2021182868
O.P.R.W.C.T.

WALLACE D. SHELDON
ET AL
DOC. NO. 2007085394
O.P.R.W.C.T.

WINDING OAK DR.

HERO WAY

DEMOLISH EXISTING ASPHALT
DEMOLISH EXISTING BUILDING
DEMOLISH EXISTING POOL AND CONC.
EXISTING FENCE TO REMAIN
END REMOVAL OF 380LF OF EXISTING FENCE
DEMOLISH EXISTING CONC. WALKWAYS
DEMOLISH EXISTING BUILDING
DEMOLISH EXISTING BLOCK WALL
DEMOLISH EXISTING BUILDING
DEMOLISH EXISTING ASPHALT
DEMOLISH EXISTING DRIVEWAY AND CULVERT
START REMOVAL OF 380LF OF EXISTING FENCE
DEMOLISH EXISTING DRIVEWAY AND CULVERT

S20° 59' 49.90"E
2.502

S69° 44' 22.45"E
349.611

S20° 59' 49.90"E
374.920

N47° 09' 26.25"E
48.006

449.383
S69° 25' 18.00"W

N35° 29' 04.23"W
279.863

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

EXISTING CONDITIONS & DEMOLITION PLAN

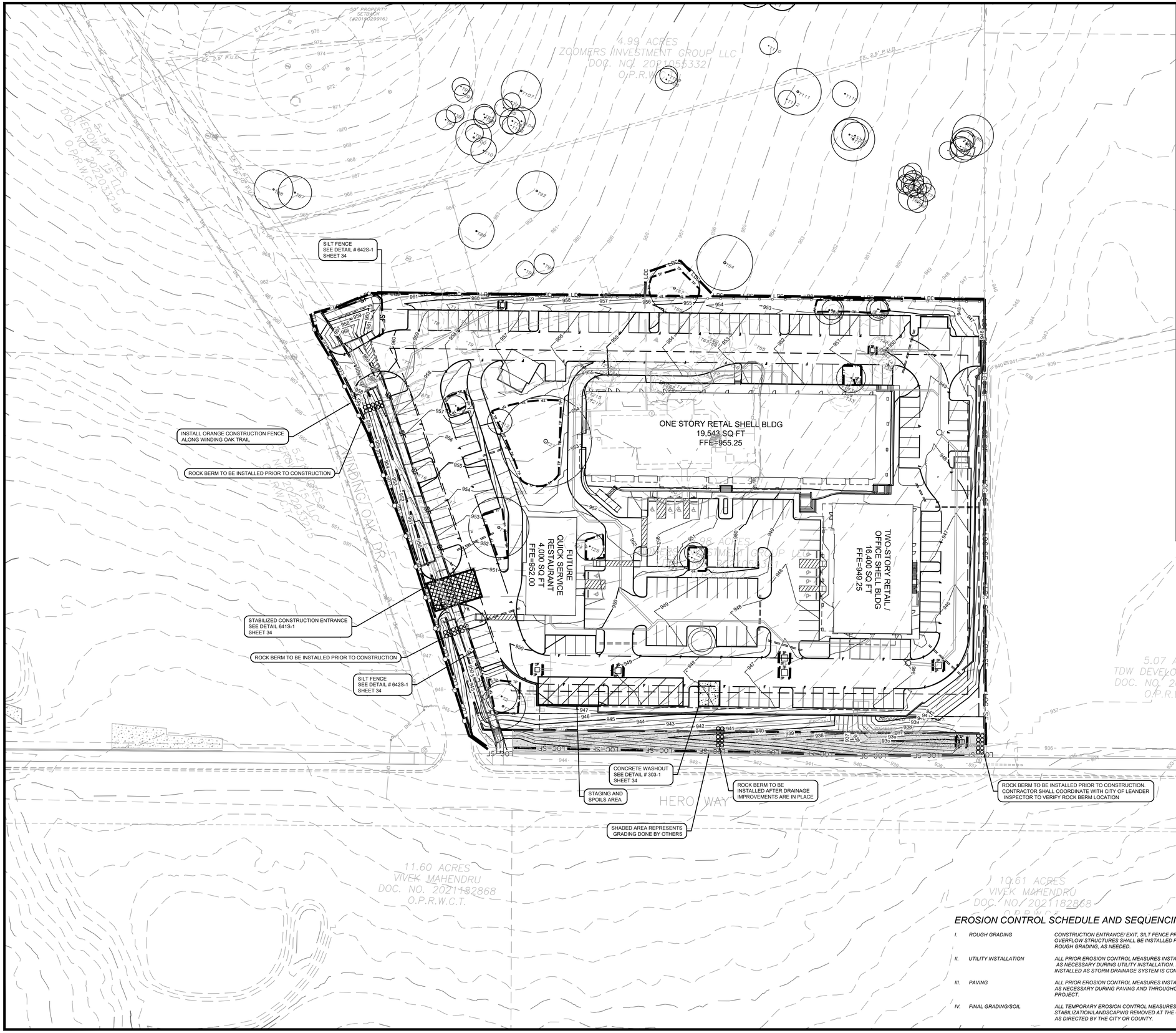
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 6 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - EXISTING CONDITIONS & DEMOLITION PLAN.DWG DATE: 10/10/2025 10:02 AM BY: JMARTINEZ



SCALE: 1"=40'
GRAPHIC SCALE IN FEET
0 20 40 60 80

LEGEND	
	PROPERTY BOUNDARY
LOC LOC	LIMITS OF CONSTRUCTION
SF SF	SILT FENCE
TP TP TP TP	TREE PROTECTION
LOC–SF	LIMITS OF CONSTRUCTION & SILT FENCE
	ORANGE CONSTRUCTION FENCE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
IP	INLET PROTECTION
	EXISTING TREE TO BE REMOVED
	EXISTING TREE TO REMAIN
	ROCK BERM

EROSION CONTROL SCHEDULE AND SEQUENCING

I.	ROUGH GRADING	CONSTRUCTION ENTRANCE/ EXIT, SILT FENCE PROTECTION, AND STONE OVERFLOW STRUCTURES SHALL BE INSTALLED PRIOR TO THE INITIATION OF ROUGH GRADING, AS NEEDED.
II.	UTILITY INSTALLATION	ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING UTILITY INSTALLATION. INLET PROTECTION SHALL BE INSTALLED AS STORM DRAINAGE SYSTEM IS CONSTRUCTED.
III.	PAVING	ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING PAVING AND THROUGHOUT THE REMAINDER OF THE PROJECT.
IV.	FINAL GRADING/SOIL	ALL TEMPORARY EROSION CONTROL MEASURES TO BE STABILIZATION/LANDSCAPING REMOVED AT THE CONCLUSION OF THE PROJECT AS DIRECTED BY THE CITY OR COUNTY.

NOTE:

1. *THE CITY OF LEANDER ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD OR MODIFY EROSION/SEDIMENT CONTROLS ON SITE THROUGHOUT THE DURATION OF THE PROJECT.*
2. *ON-SITE EROSION CONTROL MEASURES TO BE ESTABLISHED AND MAINTAINED AROUND TEMPORARY/PERMANENT SPOILS LOCATION, CONCRETE WASHOUT AND CONTRACTOR STAGING AREAS.*
3. *DESIGN CULVERT TO BE PLACED CONCURRENTLY WITH E&S CONTROLS AND PRIOR TO ENTRANCE CONSTRUCTION*
4. *ALL EROSION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR*
5. *SEE SHEET 40 - TREE PRESERVATION PLAN FOR TREE REMOVAL / PROTECTION*

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

EROSION AND SEDIMENTATION CONTROL PLAN

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

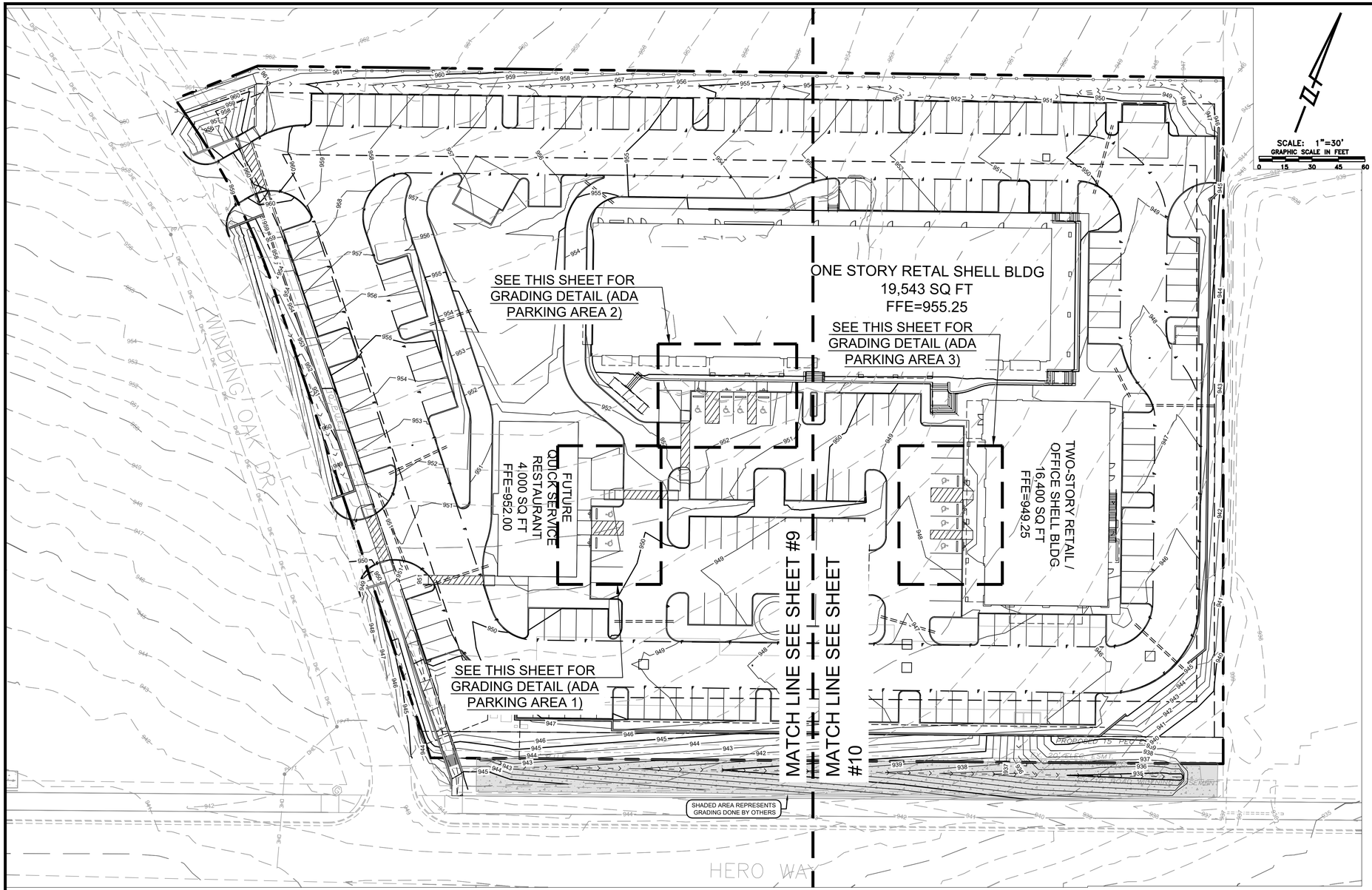
DRAWN BY: JM

CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - EROSION AND SEDIMENTATION CONTROL PLAN.DWG DATE: 10/10/2025 10:02 AM BY: LLAHAUG



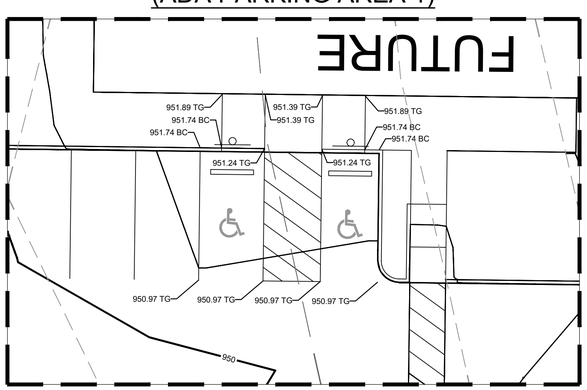
SCALE: 1"=30'
GRAPHIC SCALE IN FEET
0 15 30 45 60

LEGEND	
	FIRE LINE STRIPING
	PROPERTY BOUNDARY
	STANDARD CURB AND GUTTER
	A.D.A. ACCESSIBLE ROUTE
	DRIVE CENTERLINE
	EXISTING TREE
	EXISTING EASEMENT LINE
	EXISTING SIDEWALK
	EXISTING CURB AND GUTTER
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	PROPOSED FIRE HYDRANT ASSEMBLY
	EXISTING FIRE HYDRANT ASSEMBLY
	PROPOSED GATE VALVE
	EXISTING WASTEWATER MANHOLE
	PAVEMENT STRIPING
	PROPOSED AREA INLET
× 0.00 HP	HIGH POINT
× 0.00 LP	LOW POINT
× 0.00 TP	TOP OF PAVEMENT
× 0.00 TW	TOP OF WALL
× 0.00 BW	BOTTOM OF WALL
× 0.00 FL	FLOW LINE
× 0.00 GB	GRADE BREAK
× 0.00 TG	TOP OF GRADE
× 0.00 BC	BACK OF CURB
× 0.00 EX. EP	EXISTING EDGE OF PAVEMENT

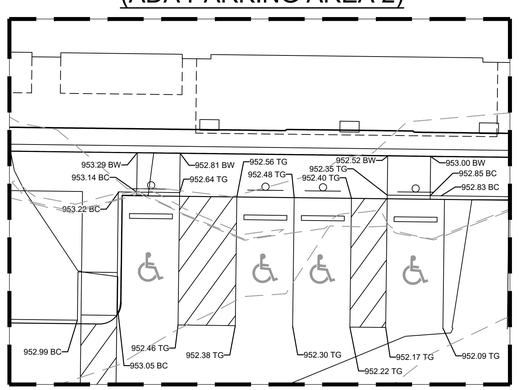
NOTES:

1. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
2. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN. THE MAXIMUM HORIZONTAL PROJECTION IS 30 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:12 AND 1:15, AND 40 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:16 AND 1:20.
3. ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50.
4. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
5. ALL CURB TO BE SPILL CURB AND GUTTER UNLESS OTHERWISE NOTED

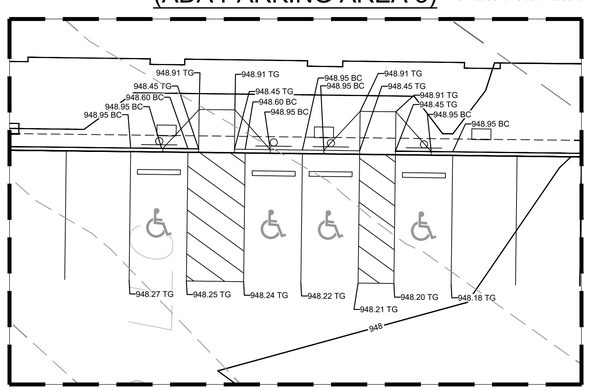
(ADA PARKING AREA 1)



(ADA PARKING AREA 2)



(ADA PARKING AREA 3)



8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

PROPOSED GRADING PLAN (1 OF 3)

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 8 OF 48

H:\PROJECTS\11688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - SITE OVERALL GRADING PLAN.DWG DATE: 10/10/2025 10:03 AM BY: LLAHAUG

MATCH LINE SEE SHEET #10

FUTURE
QUICK SERVICE
RESTAURANT
4,000 SQ FT
FFE=952.00

SHADED AREA REPRESENTS GRADING DONE BY OTHERS

SCALE: 1"=20'
GRAPHIC SCALE IN FEET
0 10 20 30 40

LEGEND	
	FIRE LINE STRIPING
	PROPERTY BOUNDARY
	STANDARD CURB AND GUTTER
	A.D.A. ACCESSIBLE ROUTE
	DRIVE CENTERLINE
	EXISTING TREE
	EXISTING EASEMENT LINE
	EXISTING SIDEWALK
	EXISTING CURB AND GUTTER
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	PROPOSED FIRE HYDRANT ASSEMBLY
	EXISTING FIRE HYDRANT ASSEMBLY
	PROPOSED GATE VALVE
	EXISTING WASTEWATER MANHOLE
	PAVEMENT STRIPING
	PROPOSED AREA INLET
× 0.00 HP	HIGH POINT
× 0.00 LP	LOW POINT
× 0.00 TP	TOP OF PAVEMENT
× 0.00 TW	TOP OF WALL
× 0.00 BW	BOTTOM OF WALL
× 0.00 FL	FLOW LINE
× 0.00 GB	GRADE BREAK
× 0.00 TG	TOP OF GRADE
× 0.00 BC	BACK OF CURB
× 0.00 EX. EP	EXISTING EDGE OF PAVEMENT

NOTES:

1. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
2. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN. THE MAXIMUM HORIZONTAL PROJECTION IS 30 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:12 AND 1:15, AND 40 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:16 AND 1:20.
3. ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50.
4. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
5. ALL CURB TO BE SPILL CURB AND GUTTER UNLESS OTHERWISE NOTED

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

PROPOSED GRADING PLAN (2 OF 3)

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

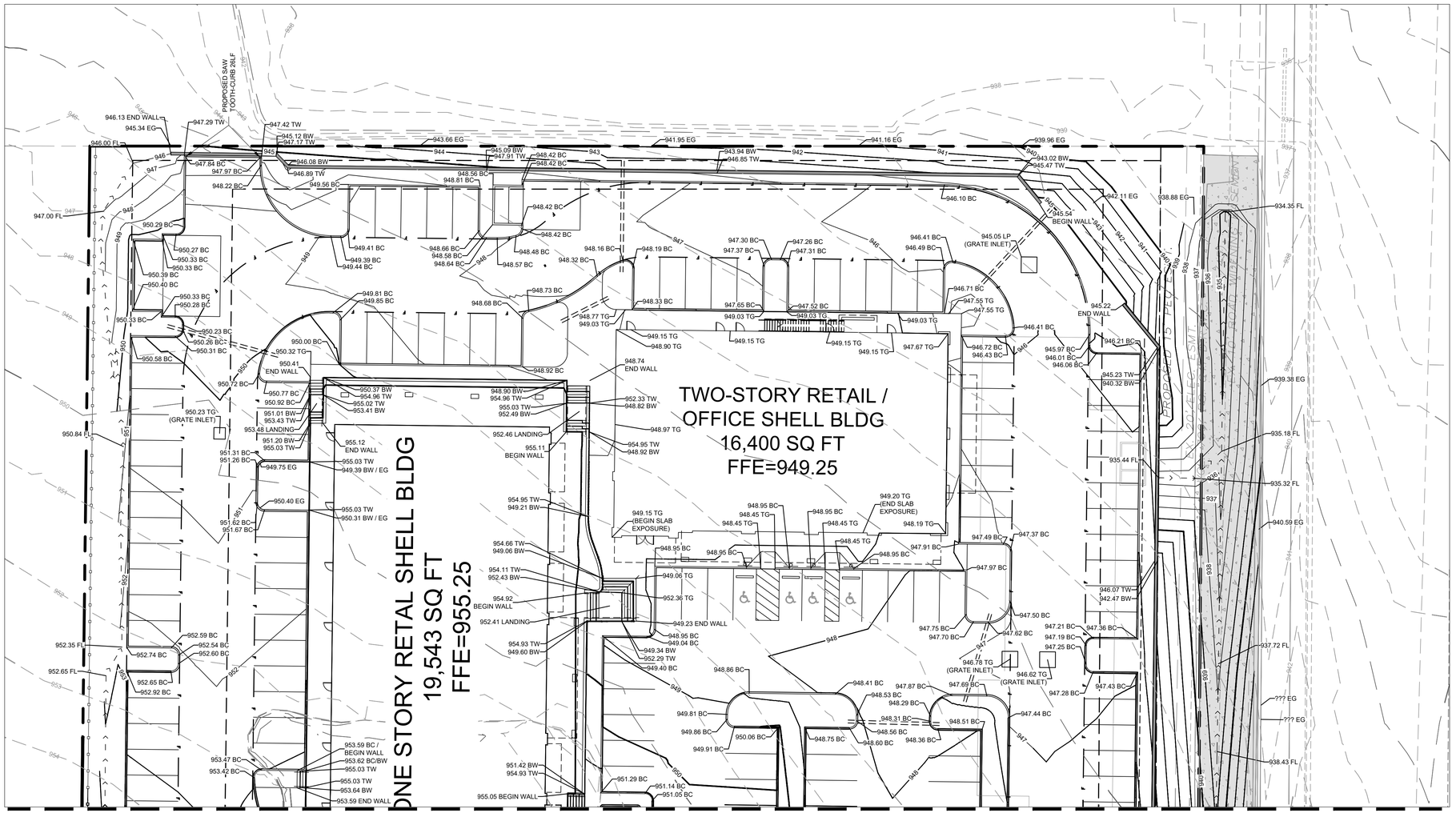
DRAWN BY: JM

CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - SITE OVERALL GRADING PLAN.DWG DATE: 10/10/2025 10:03 AM BY: LLAHAUG



MATCH LINE SEE SHEET #9

SCALE: 1"=20'
GRAPHIC SCALE IN FEET
0 10 20 30 40

LEGEND	
	FIRE LINE STRIPING
	PROPERTY BOUNDARY
	STANDARD CURB AND GUTTER
	A.D.A. ACCESSIBLE ROUTE
	DRIVE CENTERLINE
	EXISTING TREE
	EXISTING EASEMENT LINE
	EXISTING SIDEWALK
	EXISTING CURB AND GUTTER
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	PROPOSED FIRE HYDRANT ASSEMBLY
	EXISTING FIRE HYDRANT ASSEMBLY
	PROPOSED GATE VALVE
	EXISTING WASTEWATER MANHOLE
	PAVEMENT STRIPING
	PROPOSED AREA INLET
× 0.00 HP	HIGH POINT
× 0.00 LP	LOW POINT
× 0.00 TP	TOP OF PAVEMENT
× 0.00 TW	TOP OF WALL
× 0.00 BW	BOTTOM OF WALL
× 0.00 FL	FLOW LINE
× 0.00 GB	GRADE BREAK
× 0.00 TG	TOP OF GRADE
× 0.00 BC	BACK OF CURB
× 0.00 EX. EP	EXISTING EDGE OF PAVEMENT

NOTES:

1. SLOPES ON ACCESSIBLE ROUTES MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
2. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP RUN IS 30 IN. THE MAXIMUM HORIZONTAL PROJECTION IS 30 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:12 AND 1:15, AND 40 FEET FOR A RAMP WITH A SLOPE BETWEEN 1:16 AND 1:20.
3. ACCESSIBLE PARKING SPACES MUST BE LOCATED ON A SURFACE WITH A SLOPE NOT EXCEEDING 1:50.
4. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50.
5. ALL CURB TO BE SPILL CURB AND GUTTER UNLESS OTHERWISE NOTED

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

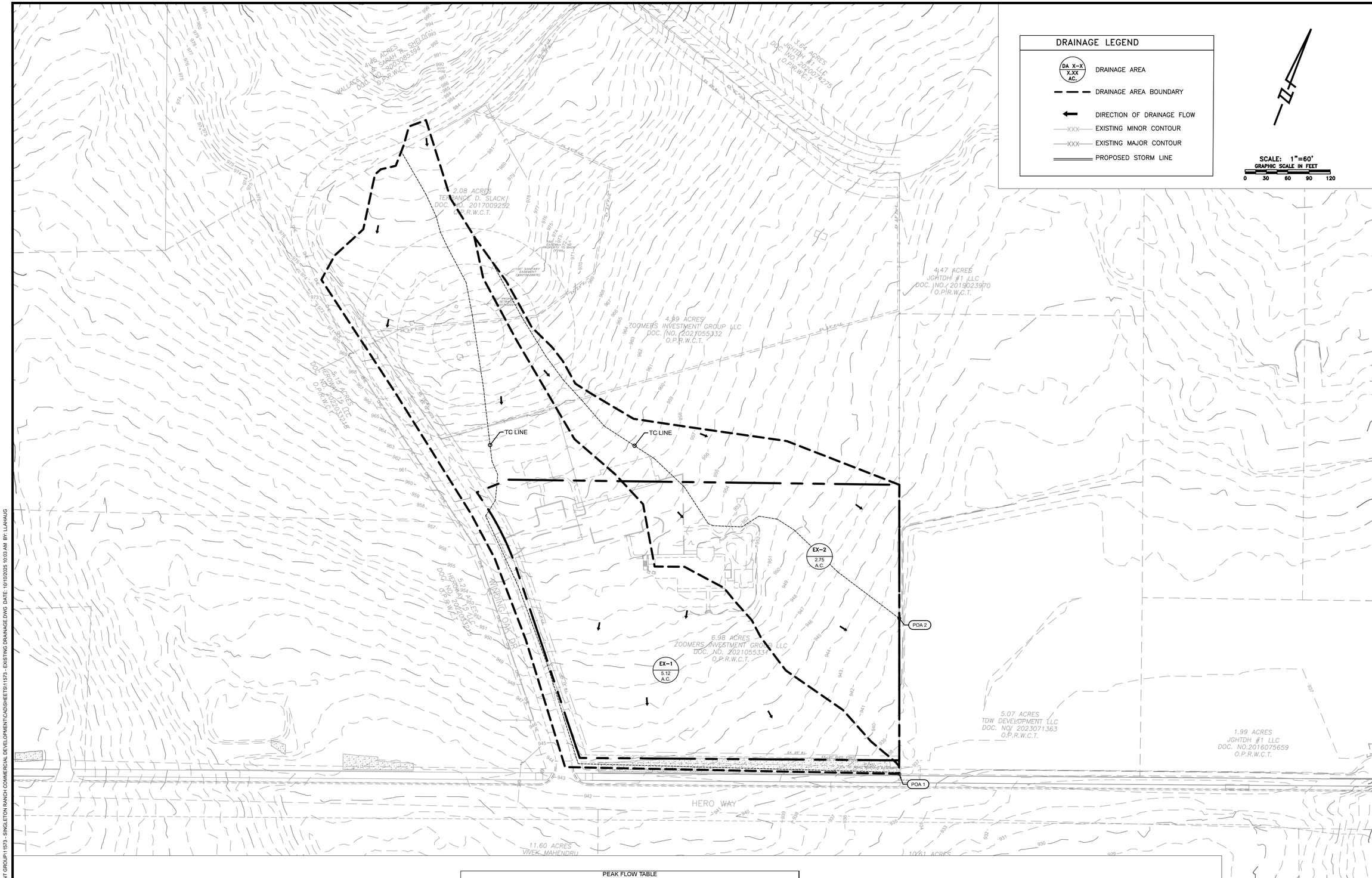
PROPOSED GRADING PLAN (3 OF 3)

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - SITE OVERALL GRADING PLAN.DWG DATE: 10/10/2025 10:03 AM BY: LLAHAUG



PEAK FLOW TABLE								
Drainage Area	Area (Acre)	Impervious (%)	Pervious(%)	Time of Concentration (min.)	2 Year Q (ft³/s)	10 Year Q (ft³/s)	25 Year Q (ft³/s)	100 Year Q (ft³/s)
EX-1	**5.12**	**12%**	**88%**	**11.91**	**11.97**	**26.57**	**35.55**	**50.27**
EX-2	**2.75**	**11%**	**89%**	**9.59**	**6.89**	**15.37**	**20.56**	**29.07**
Total	**7.87**	**11.52%**	**88.48%**					

Drainage Area	Sheet Flow					Shallow Concentrated Flow							Time of Concentration (min.)
						Unpaved			Paved			Total	
	Surface Type	n	Length (ft)	Slope (%)	Tt (min.)	Length (ft)	Slope (%)	Tt (min.)	Length (ft)	Slope (%)	Tt (min.)	Tt (min.)	Tc (min.)
EX-1	Grass (Short-grass prairie)	**0.15**	100	2.6%	**8.48**	442	5.0%	**2.04**	823	2.5%	**1.39**	**3.43**	**11.91**
EX-2	Grass (Short-grass prairie)	**0.15**	100	6.1%	**6.05**	712	4.3%	**3.53**				**3.53**	**9.59**

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

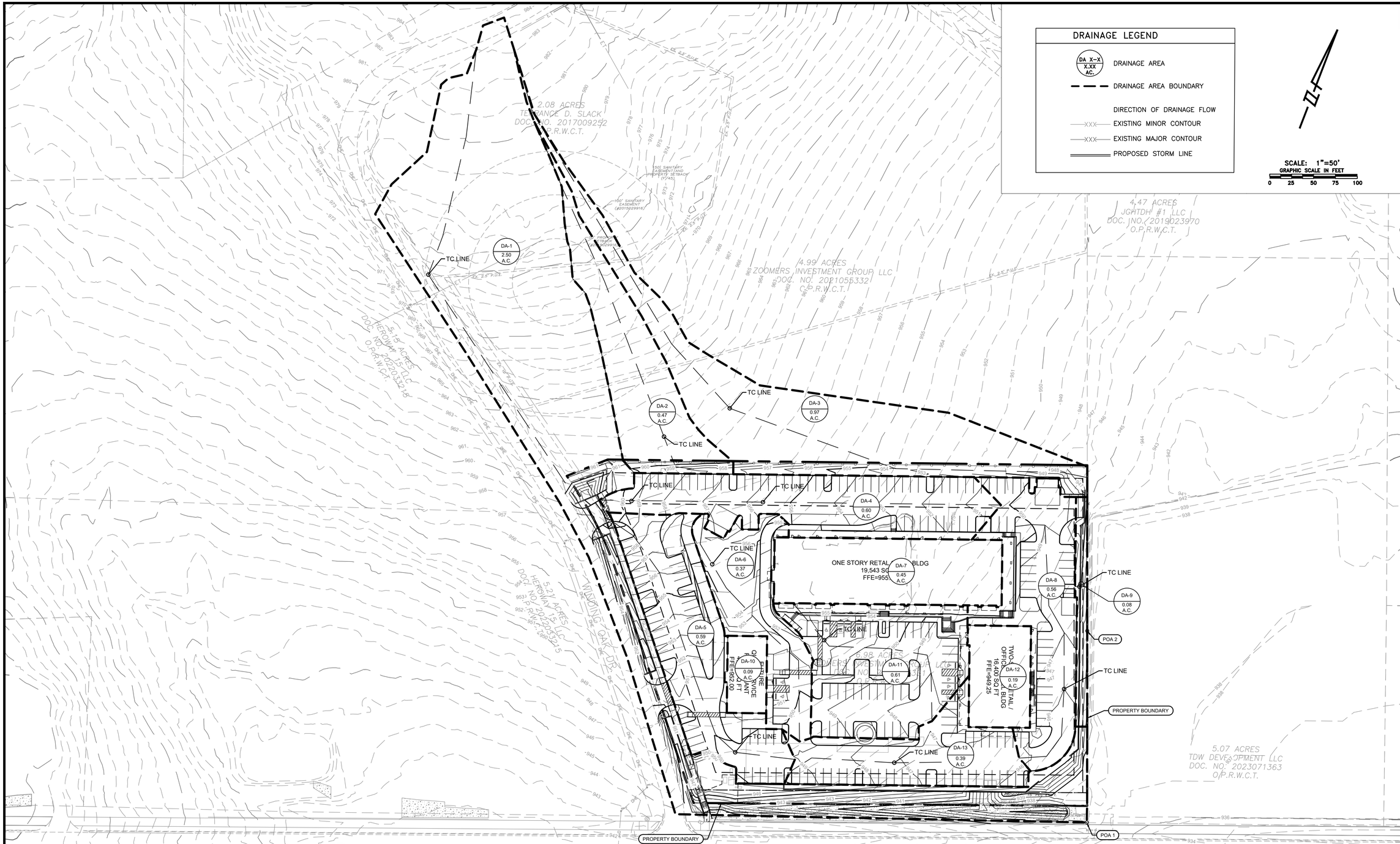
EXISTING DRAINAGE

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.



H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - EXISTING DRAINAGE.DWG DATE: 10/10/2025 10:03 AM BY: LLAHAUG



Drainage Area	Sheet Flow					Shallow Concentrated Flow							Time of Concentration (min.)
						Unpaved			Paved			Total	
	Surface Type	n	Length (ft)	Slope (%)	Tt (min.)	Length (ft)	Slope (%)	Tt (min.)	Length (ft)	Slope (%)	Tt (min.)	Tt (min.)	Tc (min.)
DA-1	Grass (Short-grass prairie)	**0.15**	100	2.9%	**8.15**	164	4.9%	**0.76**	1140	3.0%	**1.76**	**2.52**	**10.67**
DA-2	Grass (Short-grass prairie)	**0.15**	68	3.5%	**5.53**	278	5.4%	**1.24**	20	1.0%	**0.05**	**1.29**	**6.83**
DA-3	Grass (Short-grass prairie)	**0.15**	100	5.2%	**6.47**	582	3.3%	**3.31**	220	3.6%	**0.31**	**3.62**	**10.08**
DA-4	Grass (Short-grass prairie)	**0.15**							458	2.2%	**0.83**	**0.83**	**5.00**
DA-5	Grass (Short-grass prairie)	**0.15**	27	5.7%	**2.17**				346	2.9%	**0.54**	**0.54**	**5.00**
DA-6	Grass (Short-grass prairie)	**0.15**	34	0.8%	**5.71**	175	3.6%	**0.96**	91	1.7%	**0.19**	**1.15**	**6.86**
DA-7									324	0.5%	**1.22**	**1.22**	**5.00**
DA-8	Grass (Short-grass prairie)	**0.15**	18	6.1%	**1.54**				321	1.1%	**0.82**	**0.82**	**5.00**
DA-9	Grass (Short-grass prairie)	**0.15**	30	16.4%	**1.55**								**5.00**
DA-10									212	0.5%	**0.80**	**0.80**	**5.00**
DA-11									250	3.1%	**0.38**	**0.38**	**5.00**
DA-12									168	0.5%	**0.63**	**0.63**	**5.00**
DA-13	Grass (Short-grass prairie)	**0.15**	17	5.5%	**1.53**				204	1.2%	**0.51**	**0.51**	**5.00**

PEAK FLOW TABLE

Drainage Area	Area (Acre)	Impervious (%)	Pervious(%)	Time of Concentration (min.)	2 Year Q (ft³/s)	10 Year Q (ft³/s)	25 Year Q (ft³/s)	100 Year Q (ft³/s)
DA-1	**2.50**	**11%**	**89%**	**10.67**	**6.03**	**13.44**	**17.96**	**25.40**
DA-2	**0.47**	**1%**	**99%**	**6.83**	**1.20**	**2.81**	**3.80**	**5.43**
DA-3	**0.97**	**2%**	**98%**	**10.08**	**2.22**	**5.17**	**6.98**	**9.96**
DA-4	**0.60**	**94%**	**6%**	**5.00**	**2.91**	**4.97**	**6.20**	**8.24**
DA-5	**0.59**	**81%**	**19%**	**5.00**	**2.68**	**4.72**	**5.94**	**7.97**
DA-6	**0.38**	**41%**	**59%**	**6.86**	**1.28**	**2.54**	**3.30**	**4.55**
DA-7	**0.45**	**100%**	**0%**	**5.00**	**2.23**	**3.77**	**4.68**	**6.20**
DA-8	**0.56**	**88%**	**12%**	**5.00**	**2.64**	**4.58**	**5.74**	**7.66**
DA-9	**0.08**	**0%**	**100%**	**5.00**	**0.21**	**0.50**	**0.67**	**0.96**
DA-10	**0.09**	**100%**	**0%**	**5.00**	**0.46**	**0.77**	**0.95**	**1.26**
DA-11	**0.61**	**90%**	**10%**	**5.00**	**2.88**	**4.97**	**6.22**	**8.29**
DA-12	**0.19**	**100%**	**0%**	**5.00**	**0.93**	**1.57**	**1.95**	**2.59**
DA-13	**0.39**	**92%**	**8%**	**5.00**	**1.84**	**3.16**	**3.95**	**5.26**
Total	**7.87**	**46%**	**54%**					

Storm Event	POA 01		
	Pre (cfs)	Post (cfs)	Δ (cfs)
2 yr	11.97	10.85	-1.12
10 yr	26.57	24.32	-2.25
25 yr	35.55	33.16	-2.38
100 yr	50.27	49.61	-0.66
Storm Event	POA 02		
	Pre (cfs)	Post (cfs)	Δ (cfs)
2 yr	6.89	2.39	-4.50
10 yr	15.37	5.57	-9.80
25 yr	20.56	7.52	-13.04
100 yr	29.07	10.72	-18.35

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

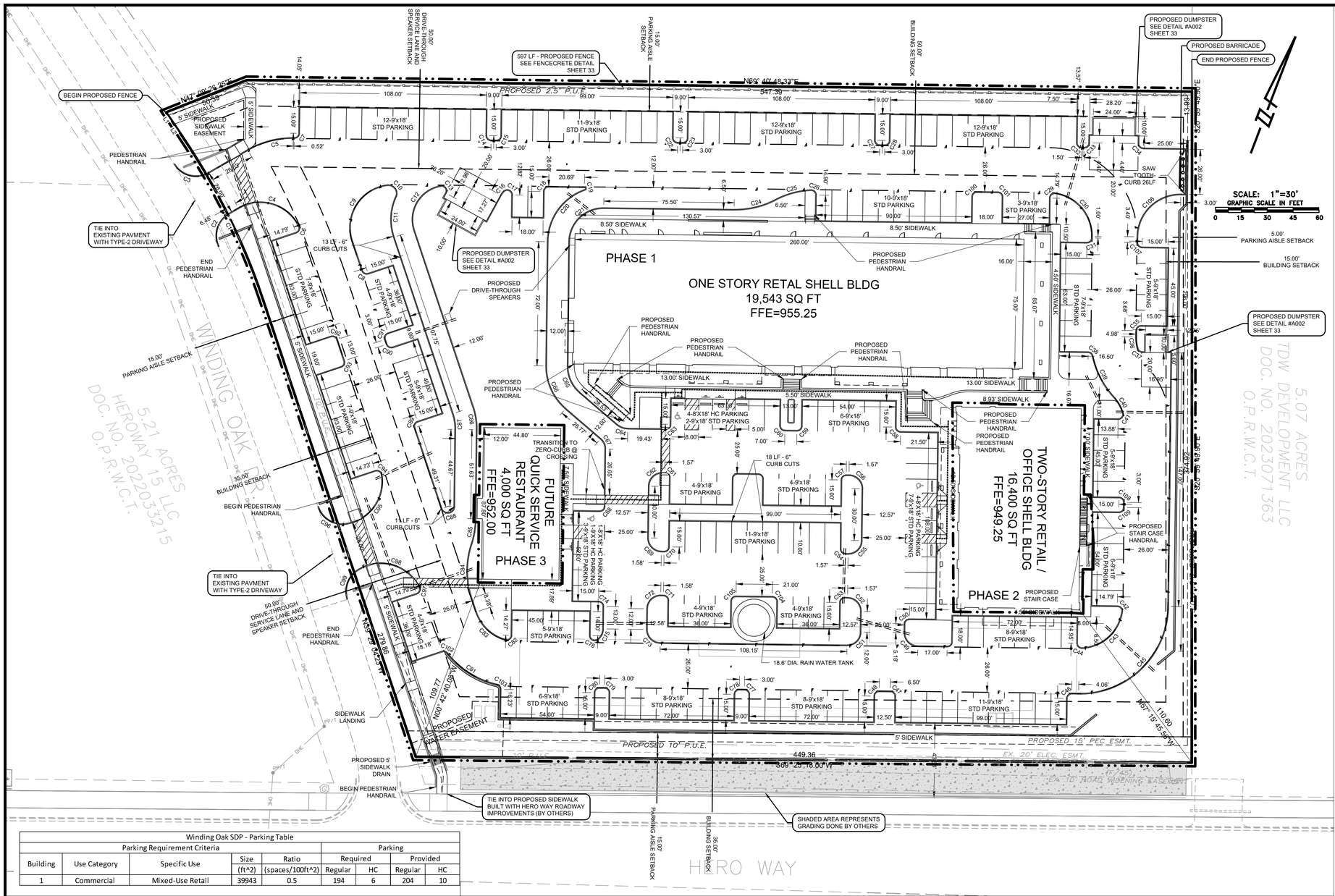
PROPOSED DRAINAGE PLAN

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - PROPOSED DRAINAGE PLAN.DWG DATE: 10/10/2025 10:03 AM BY: LLAHAVG



Winding Oak SDP - Parking Table								
Parking Requirement Criteria					Parking			
Building	Use Category	Specific Use	Size (ft^2)	Ratio (spaces/100ft^2)	Required Regular	Required HC	Provided Regular	Provided HC
1	Commercial	Mixed-Use Retail	39943	0.5	194	6	204	10

LEGEND	
	FIRE LINE STRIPING
	PROPERTY BOUNDARY
	STANDARD CURB AND GUTTER
	A.D.A. ACCESSIBLE ROUTE
	DRIVE CENTERLINE
	EXISTING TREE
	EXISTING EASEMENT LINE
	EXISTING SIDEWALK
	EXISTING CURB AND GUTTER
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	PROPOSED FIRE HYDRANT ASSEMBLY
	EXISTING FIRE HYDRANT ASSEMBLY
	PROPOSED GATE VALVE
	EXISTING WASTEWATER MANHOLE
	PAVEMENT STRIPING
	PROPOSED AREA INLET
	PHASE LINE

NOTE:

- *ALL STREET DIMENSIONS REFLECT FACE OF CURB TO FACE OF CURB VALUES*
- ALL ADA PARKING SIGNS NEED TO BE INSTALLED AT A MINIMUM OF 60" FROM THE BOTTOM OF THE SIGN PER DETAIL SEE SHEET 25
- *CONSTRUCTION DETAILS FOR SIDEWALKS ARE FOUND ON SHEET 32 DETAIL (4323S-1) TO BE USED FOR ANYWHERE SIDE WALK IS PLACED*
- *ALL EASEMENTS OF RECORD AS INDICATED ON THE MOST RECENT TITLE RUN (DATED DECEMBER 12, 2021 CONDUCTED BY TEXAS LAND SURVEYING, INC.) FOR THIS PROPERTY ARE SHOWN ON THIS SITE PLAN.*
- *ALL SITE UTILITY LINES ARE PROPOSED TO BE LOCATED UNDERGROUND.*
- *EXTERIOR LIGHTING SHALL BE SHIELDED SUCH THAT THE LIGHT SOURCE IS NOT DIRECTLY VISIBLE FROM THE PUBLIC ROW OR ADJACENT RESIDENTIAL DISTRICTS OR USES AT THE PROPERTY LINE. UNSHIELDED "WALL PACK" LIGHTING IS NOT PROPOSED.*
- *AL CLAWSON DISPOSAL, INC. SHALL BE THE SOLE PROVIDER OF WASTE HAULING FOR THIS SITE BOTH DURING AND AFTER CONSTRUCTION.*
- *AIR CONDITIONING UNITS ARE NOT PROPOSED FORWARD THE FRONT WALL OF THE BUILDING.*
- *GARBAGE DUMPSTERS ARE LOCATED NO CLOSER TO A ROADWAY THAN THE FRONT WALL OF THE PRINCIPAL STRUCTURE LOCATED CLOSEST TO THE ROADWAY. GARBAGE DUMPSTERS ARE SCREENED BY A WALL (COMPRISED OF MASONRY COMPATIBLE WITH THE STRUCTURE OR WOODCRETE) AT LEAST AS HIGH AS THE CONTAINER. THE OPEN SIDE TO THE DUMPSTER OR OTHER TRASH RECEPTACLE IS A GATE CONSTRUCTED OF SOLID WOOD OR METAL. THE DUMPSTER IS ORIENTED FOR PICKUP BY A FRONT LOAD GARBAGE TRUCK.*
- *FOR 90 GALLON ROLL OUT CONTAINER STORED OUTSIDE, IT IS REQUIRED TO BE ENCLOSED BY PRIVACY FENCE.*
- *FIRE LANE STRIPING: FIRE APPARATUS ACCESS ROADS SHALL BE CONTINUOUSLY MARKED BY PAINTED LINES OF RED TRAFFIC PAINT SIX INCHES (6") IN WIDTH TO SHOW THE BOUNDARIES OF THE LANE. THE WORDS "**FIRE LANE TOW AWAY ZONE**" OR "**FIRE ZONE TOW AWAY ZONE**" SHALL APPEAR IN FOUR INCH (4") WHITE LETTERS AT 25 FEET INTERVALS OR LESS, ON THE RED BORDER MARKINGS ALONG BOTH SIDES OF THE FIRE LANES. WHERE A CURB IS AVAILABLE, THE STRIPING SHALL BE ON THE VERTICAL FACE OF THE CURB.*
- *DRIVE-THROUGH SERVICE IS PROHIBITED DURING THE HOURS OF 10 P.M. TO 6 A.M.*
- *PHASING - PHASE 1 TO INCLUDE 19,543 SQ-FT BUILDING, PAVEMENT, UTILITY LINES, AND ALL OTHER IMPROVEMENTS OUTSIDE OF BUILDING 2 AND 3. TIMELINE FOR COMPLETION 1 YEAR. PHASE 2 TO INCLUDE TWO-STORY 16,400 SQ-FT BUILDING. TIMELINE 6 MONTHS. PHASE 3 TO INCLUDE 4,000 SQ-FT QUICK SERVICE RESTAURANT BUILDING. TIMELINE 6 MONTHS.*

CURVE TABLE					
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD DIRECTION	CHORD LENGTH
C101	4.71'	3.00'	90°00'48"	S65° 19' 16.5771"E	4.24'
C102	3.68'	3.00'	70°14'22"	N85° 38' 06.5485"E	3.45'
C103	4.07'	3.00'	77°45'21"	S59° 11' 57.1065"E	3.77'
C104	4.71'	3.00'	90°00'00"	S65° 19' 16.5772"E	4.24'
C105	4.71'	3.00'	90°00'00"	N24° 40' 43.4228"E	4.24'

CURVE TABLE					
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD DIRECTION	CHORD LENGTH
C1	106.19'	387.65'	15°41'43"	N47° 25' 29.5828"W	105.86'
C2	22.24'	15.00'	84°57'42"	S3° 44' 45.9507"E	20.26'
C3	23.25'	15.00'	88°48'01"	N83° 08' 05.2701"E	20.99'
C4	40.99'	25.00'	93°56'36"	S85° 42' 22.8619"W	36.55'
C5	27.54'	51.00'	30°56'39"	S54° 12' 24.1509"W	27.21'
C6	5.12'	3.00'	97°50'15"	N1° 35' 48.3084"E	4.52'
C7	4.71'	3.00'	90°00'00"	N24° 40' 43.4227"E	4.24'
C8	4.71'	3.00'	90°00'00"	S84° 29' 04.2282"E	4.24'
C9	44.08'	25.00'	101°01'36"	S11° 01' 43.7883"W	38.59'
C10	10.62'	5.00'	121°42'45"	N57° 36' 05.7072"W	8.73'
C11	23.87'	32.00'	42°44'21"	S18° 06' 53.7233"E	23.32'
C12	34.41'	20.00'	98°35'26"	S9° 48' 38.7576"W	30.32'
C13	6.73'	3.00'	128°34'22"	N56° 36' 27.4171"W	5.41'
C14	4.71'	3.00'	90°00'00"	S65° 19' 16.5772"E	4.24'
C15	4.71'	3.00'	90°00'00"	N24° 40' 43.4228"E	4.24'
C16	2.72'	10.00'	15°33'53"	S15° 27' 39.9036"W	2.71'
C17	7.14'	3.00'	136°26'07"	N88° 32' 20.0964"W	5.57'
C18	4.71'	3.00'	90°00'00"	S24° 40' 43.4228"W	4.24'
C19	2.79'	1.00'	159°57'00"	N30° 20' 46.5340"W	1.97'
C20	39.07'	32.00'	69°57'00"	S14° 39' 13.4660"W	36.69'

CURVE TABLE					
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD DIRECTION	CHORD LENGTH
C21	31.42'	20.00'	90°00'00"	S24° 40' 43.4227"W	28.28'
C22	4.71'	3.00'	90°00'00"	S65° 19' 16.5772"E	4.24'
C23	4.71'	3.00'	90°00'00"	N24° 40' 43.4228"E	4.24'
C24	24.75'	50.00'	28°21'27"	N55° 29' 59.6770"E	24.49'
C25	21.55'	50.00'	24°41'53"	S53° 40' 12.2794"W	21.39'
C26	4.90'	3.00'	93°39'35"	N67° 09' 03.9748"W	4.38'
C27	4.71'	3.00'	90°00'00"	S65° 19' 16.5772"E	4.24'
C28	4.71'	3.00'	90°00'00"	N24° 40' 43.4227"E	4.24'
C29	5.12'	3.00'	97°50'15"	S28° 35' 50.8862"W	4.52'
C30	35.85'	25.00'	82°09'45"	N61° 24' 09.1139"W	32.86'
C31	4.71'	3.00'	90°00'00"	N24° 40' 43.4227"E	4.24'
C32	4.71'	3.00'	90°00'00"	S65° 19' 16.5773"E	4.24'
C33	4.71'	3.00'	90°00'00"	N24° 40' 43.4227"E	4.24'
C34	4.71'	3.00'	90°00'00"	S65° 19' 16.5775"E	4.24'
C35	4.71'	3.00'	90°00'00"	S24° 40' 43.4228"W	4.24'
C36	6.81'	25.00'	15°37'05"	S28° 07' 49.3182"E	6.79'
C37	3.89'	3.00'	74°22'55"	S73° 07' 49.3183"E	3.63'
C38	4.04'	3.00'	77°14'37"	N71° 41' 57.9531"W	3.75'
C39	26.94'	51.00'	30°15'43"	S48° 12' 30.6873"E	26.62'
C40	10.76'	25.00'	24°40'06"	N51° 00' 19.2355"W	10.68'

CURVE TABLE					
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD DIRECTION	CHORD LENGTH
C41	5.67'	3.00'	108°21'00"	N15° 30' 13.4985"E	4.86'
C42	5.12'	3.00'	97°50'15"	N61° 24' 09.1137"W	4.52'
C43	34.14'	25.00'	78°15'11"	N26° 38' 33.6720"E	31.55'
C44	4.92'	3.00'	93°54'34"	S67° 16' 33.7915"E	4.38'
C45	80.11'	51.00'	90°00'00"	N24° 40' 43.4228"E	72.12'
C46	4.66'	3.00'	88°56'20"	S24° 08' 53.4541"W	4.20'
C47	4.71'	3.00'	90°00'00"	N65° 19' 16.5774"W	4.24'
C48	4.71'	3.00'	90°00'00"	S24° 40' 43.4227"W	4.24'
C49	12.57'	8.00'	90°00'00"	S65° 19' 16.5773"E	11.31'
C50	4.71'	3.00'	90°00'00"	S24° 40' 43.4227"W	4.24'
C51	12.57'	8.00'	90°00'00"	N24° 40' 43.4227"E	11.31'
C52	12.57'	8.00'	90°00'00"	N65° 19' 16.5772"W	11.31'
C53	4.71'	3.00'	90°00'00"	S24° 40' 43.4227"W	4.24'
C54	4.71'	3.00'	90°00'00"	S65° 19' 16.5772"E	4.24'
C55	12.57'	8.00'	90°00'00"	N24° 40' 43.4227"E	11.31'
C56	12.57'	8.00'	90°00'00"	N65° 19' 16.5772"W	11.31'
C57	4.71'	3.00'	90°00'00"	S24° 40' 43.4227"W	4.24'
C58	4.71'	3.00'	90°00'00"	S65° 19' 16.5772"E	4.24'
C59	4.71'	3.00'	90°00'00"	N24° 40' 43.4227"E	4.24'
C60	4.71'	3.00'	90°00'00"	S65° 19' 16.5773"E	4.24'

CURVE TABLE					
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD DIRECTION	CHORD LENGTH
C61	4.71'	3.00'	90°00'00"	N65° 19' 16.5774"W	4.24'
C62	12.57'	8.00'	89°59'36"	S24° 40' 55.3832"W	11.31'
C63	4.71'	3.00'	90°00'00"	N24° 40' 43.4228"E	4.24'
C64	6.98'	10.00'	40°00'00"	N89° 40' 43.4227"E	6.84'
C65	17.45'	20.00'	50°00'00"	S45° 19' 16.5773"E	16.90'
C66	27.93'	32.00'	50°00'00"	S45° 19' 16.5772"E	27.05'
C67	6.98'	8.00'	50°00'24"	N45° 19' 04.6168"W	6.76'
C68	4.71'	3.00'	90°00'00"	N24° 41' 07.3437"E	4.24'
C69	12.57'	8.00'	90°00'24"	S65° 19' 04.6168"E	11.31'
C70	4.71'	3.00'	90°00'00"	N24° 40' 43.4228"E	4.24'
C71	4.71'	3.00'	90°00'00"	N65° 19' 16.5771"W	4.24'
C72	12.57'	8.00'	89°59'36"	S24° 40' 55.3832"W	11.31'
C73	12.57'	8.00'	90°00'24"	S65° 19' 04.6168"E	11.31'
C74	4.71'	3.00'	90°00'00"	N65° 18' 52.6563"W	4.24'
C75	7.42'	8.00'	53°07'24"	N6° 14' 49.5674"E	7.15'
C76	6.64'	3.00'	126°52'12"	S83° 45' 22.3932"E	5.37'
C77	4.71'	3.00'	90°00'00"	N65° 19' 16.5773"W	4.24'
C78	4.71'	3.00'	90°00'00"	S24° 40' 43.4228"W	4.24'
C79	4.71'	3.00'	90°00'00"	N65° 19' 16.5773"W	4.24'
C80	4.71'	3.00'	90°00'00"	S24° 40' 43.4228"W	4.24'

CURVE TABLE					
CURVE#	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD DIRECTION	CHORD LENGTH
C81	34.57'	51.00'	38°49'55"	S78° 39' 40.1554"E	33.91'
C82	5.49'	3.00'	104°45'43"	N32° 03' 35.1182"E	4.75'
C83	24.47'	25.00'	56°04'29"	S67° 31' 18.7071"E	23.50'
C84	31.84'	50.00'	36°29'17"	S21° 14' 25.8222"E	31.31'
C85	15.11'	50.00'	17°19'05"	N11° 39' 20.0164"W	15.06'
C86	13.38'	40.00'	19°10'12"	N29° 53' 58.4421"W	13.32'
C87	9.37'	28.00'	19°10'12"	N29° 53' 58.4421"W	9.32'
C88	11.23'	4.00'	160°49'48"	N60° 06' 01.5579"E	7.89'
C89	4.71'	3.00'	90°00'00"	S5° 30' 55.7721"W	4.24'
C90	4.71'	3.00'	90°00'00"	S84° 29' 04.2280"E	4.24'
C91	4.71'	3.00'	90°00'00"	S5° 30' 55.7721"W	4.24'
C92	4.71'	3.00'	90°00'00"	N84° 29' 04.2280"W	4.24'
C93	4.71'	3.00'	90°00'00"	N5° 30' 55.7720"E	4.24'
C94	5.18'	3.00'	99°01'15"	N79° 58' 26.6794"W	4.56'
C95	38.81'	25.00'	88°56'59"	N14° 00' 40.2345"E	35.03'
C96	21.61'	15.00'	82°32'07"	S80° 14' 46.6934"E	19.79'
C97	5.12'	3.00'	97°50'15"	N1° 35' 48.3085"E	4.52'
C98	41.83'	25.00'	95°51'47"	S84° 44' 47.2270"W	37.12'
C99	19.59'	15.00'	74°48'36"	S0° 35' 24.2931"E	18.22'
C100	4.71'	3.00'	89°59'12"	N24° 40' 43.4227"E	4.24'

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L2	N55°10'36.94"W	8.61
L1	N55°10'36.94"W	7.26

BENCHMARK:

ELEV: 984.77' (NAVD88)
TEMPORARY BENCHMARK
BOX CUT IN CURB

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

SITE PLAN

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

DRAWN BY: JM

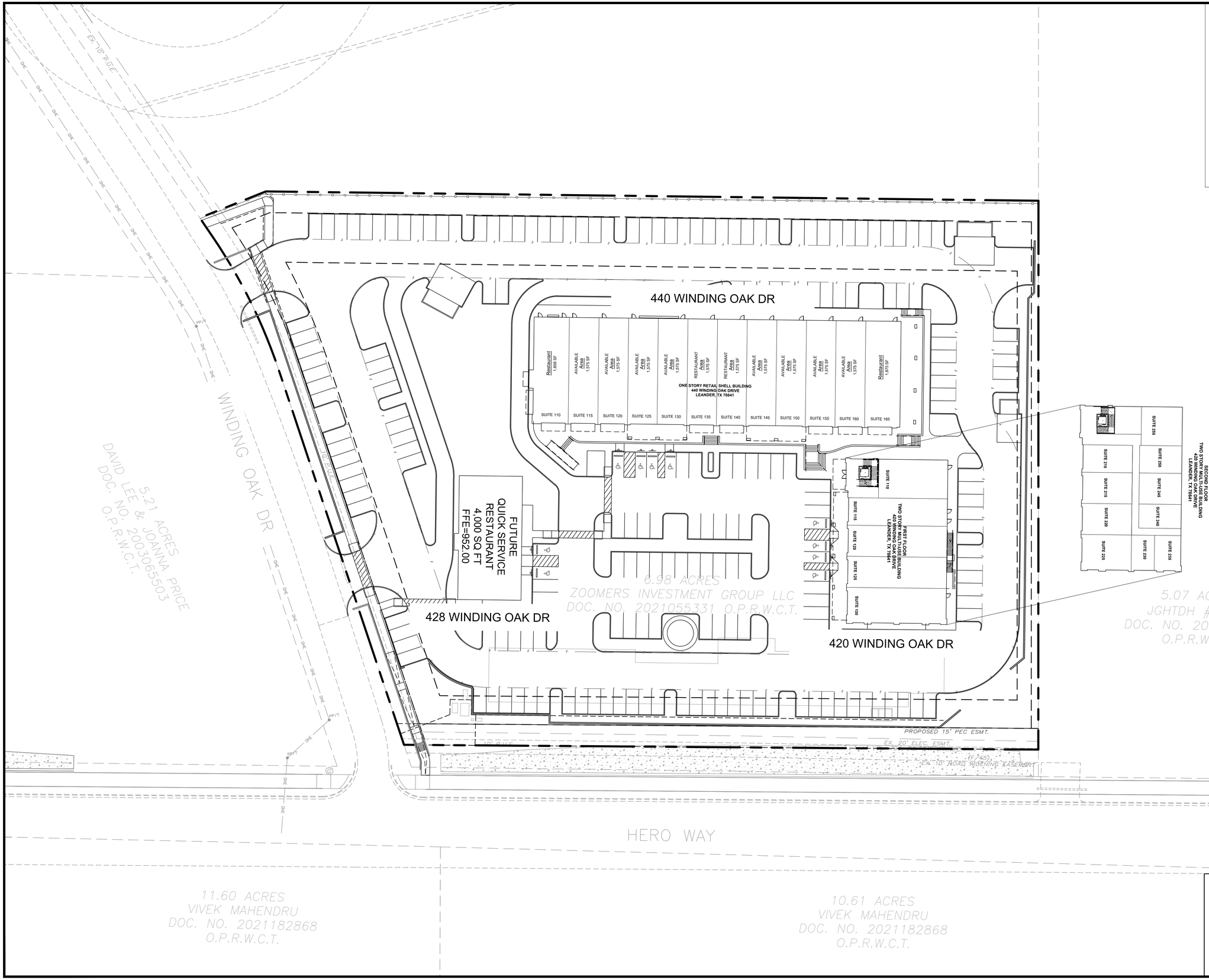
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 13 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - SITE PLAN.DWG DATE: 10/10/2025 10:04 AM BY: LLAHAUG



8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

ADDRESS PLAN

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

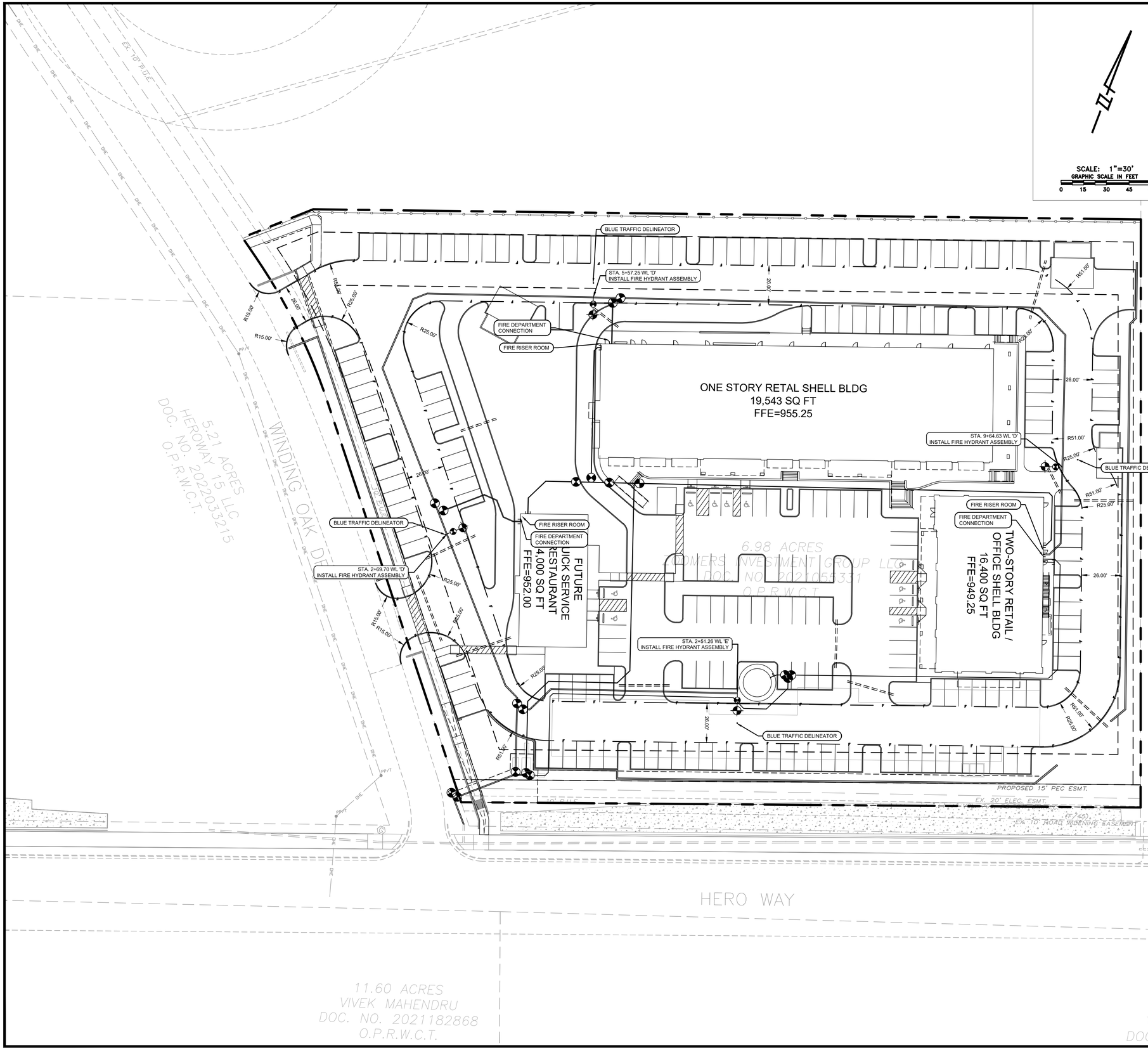
DRAWN BY: JM

CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - ADDRESS PLAN.DWG DATE: 10/10/2025 10:04 AM BY: LLAHAUG



NOTE:

1. APPLICABLE CODE FOLLOWS 2021 IFC WITH LOCAL AMENDMENTS
2. "FIRE LANE TOW-AWAY ZONE" SHALL APPEAR IN FOUR INCH WHITE LETTERS AT THIRTY FIVE FT INTERVALS ON THE RED BORDER MARKINGS ALONG BOTH SIDES OF FIRE LANES. CURB FACING SHALL BE USED WHEN AVAILABLE. FIRE LANE STRIPING SHALL BE CONTINUOUS THROUGHOUT THE DESIGNATED FIRE LANE AND SHALL LAY DOWN ALONG BACKSIDE OF HEAD IN PARKING SPACES.

** THE CURB FACE MUST BE USED WHEN PRESENT; LAY DOWN STRIPING IS ONLY APPROPRIATE WHEN NO CURB EXISTS.

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

FIRE ACCESS PLAN

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

DRAWN BY: JM

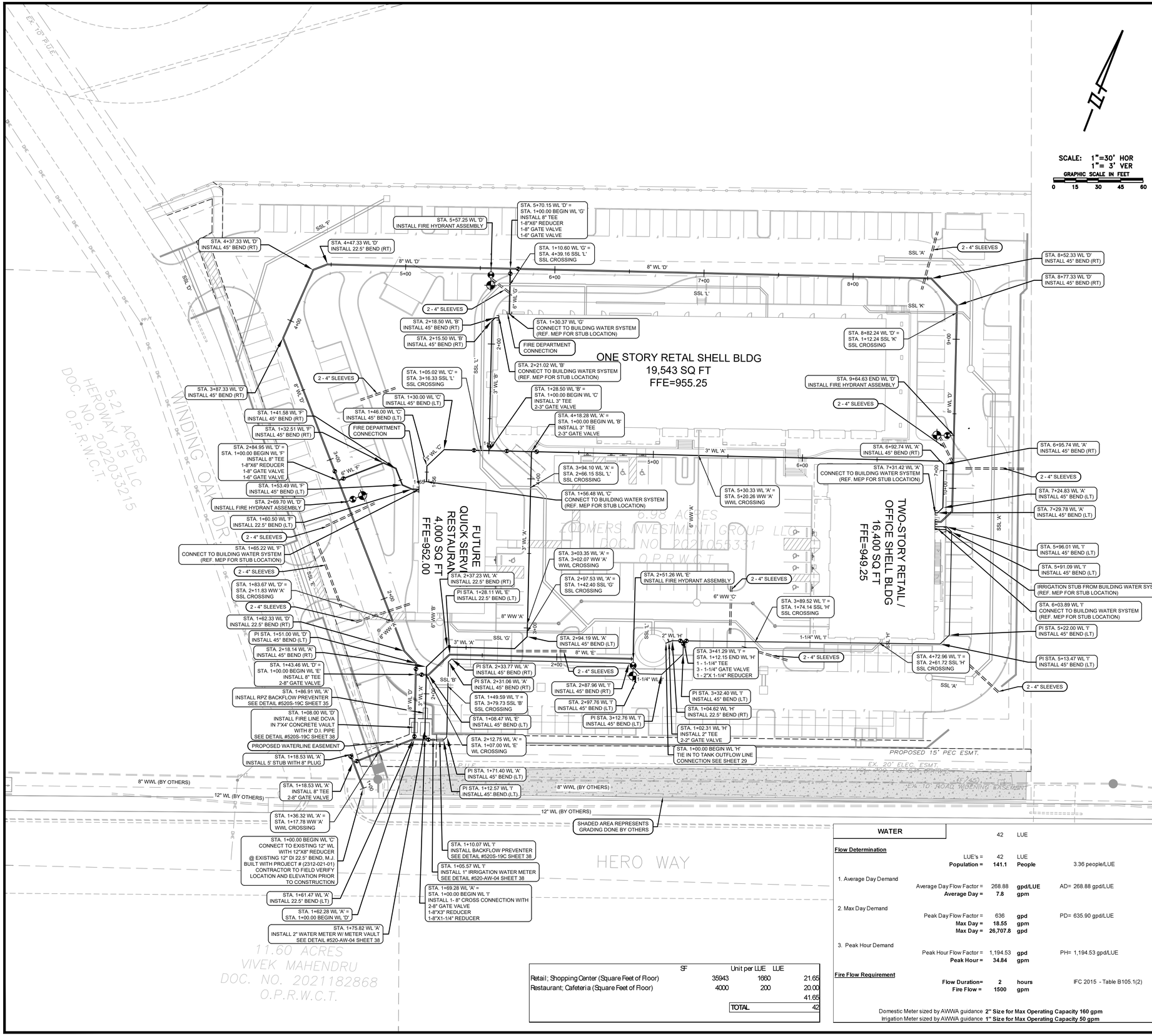
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 15 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - FIRE ACCESS PLAN.DWG DATE: 10/10/2025 10:04 AM BY: LLAHAUG

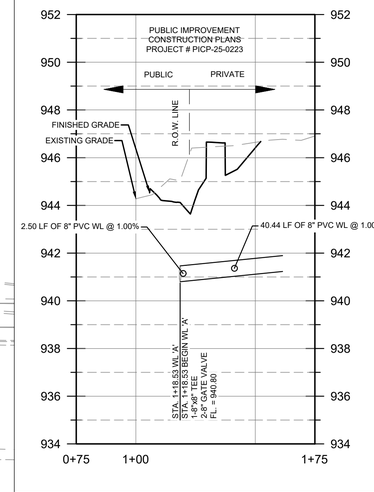


LEGEND	
	WATER EASEMENT
	AIR RELEASE VALVE
	FIRE HYDRANT ASSEMBLY
	EXISTING EASEMENT LINE
	EXISTING STREET CENTERLINE
	EXISTING SIDEWALK
	EXISTING CURB AND GUTTER
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
OHE-3	EXISTING OVERHEAD ELECTRIC
	EXISTING FIRE HYDRANT ASSEMBLY
	EXISTING STORM SEWER INLET
	EXISTING TREE
	EXISTING WASTEWATER MANHOLE
S	EXISTING STORMSEWER MANHOLE
	EXISTING LANDSCAPING
	EXISTING MONUMENT WALL
	EXISTING LANDSCAPE LIGHTING
	EXISTING GATE VALVE
	EXISTING CURB INLET
G	EXISTING GAS FACILITIES
R	EXISTING TRAFFIC SIGN

NOTE:

- *UTILITIES WILL TIE INTO PICP-25-0223*

WL 'A'



WATER			
	42	LUE	
Flow Determination			
LUE's =	42	LUE	
Population =	**141.1**	**People**	3.36 people/LUE
1. Average Day Demand			
Average Day Flow Factor =	268.88	**gpd/LUE**	AD= 268.88 gpd/LUE
Average Day =	**7.8**	**gpm**	
2. Max Day Demand			
Peak Day Flow Factor =	636	**gpd**	PD= 635.90 gpd/LUE
Max Day =	**18.55**	**gpm**	
Max Day =	**26,707.8**	**gpd**	
3. Peak Hour Demand			
Peak Hour Flow Factor =	1,194.53	**gpd**	PH= 1,194.53 gpd/LUE
Peak Hour =	**34.84**	**gpm**	
Fire Flow Requirement			
Flow Duration=	**2**	**hours**	IFC 2015 - Table B105.1(2)
Fire Flow =	**1500**	**gpm**	

Domestic Meter sized by AWWA guidance **2" Size for Max Operating Capacity 160 gpm**
Irrigation Meter sized by AWWA guidance **1" Size for Max Operating Capacity 50 gpm**

	SF	Unit per LUE	LUE
Retail; Shopping Center (Square Feet of Floor)	35943	1660	21.65
Restaurant; Cafeteria (Square Feet of Floor)	4000	200	20.00
			41.65
		TOTAL	42

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

OVERALL WATER DISTRIBUTION PLAN

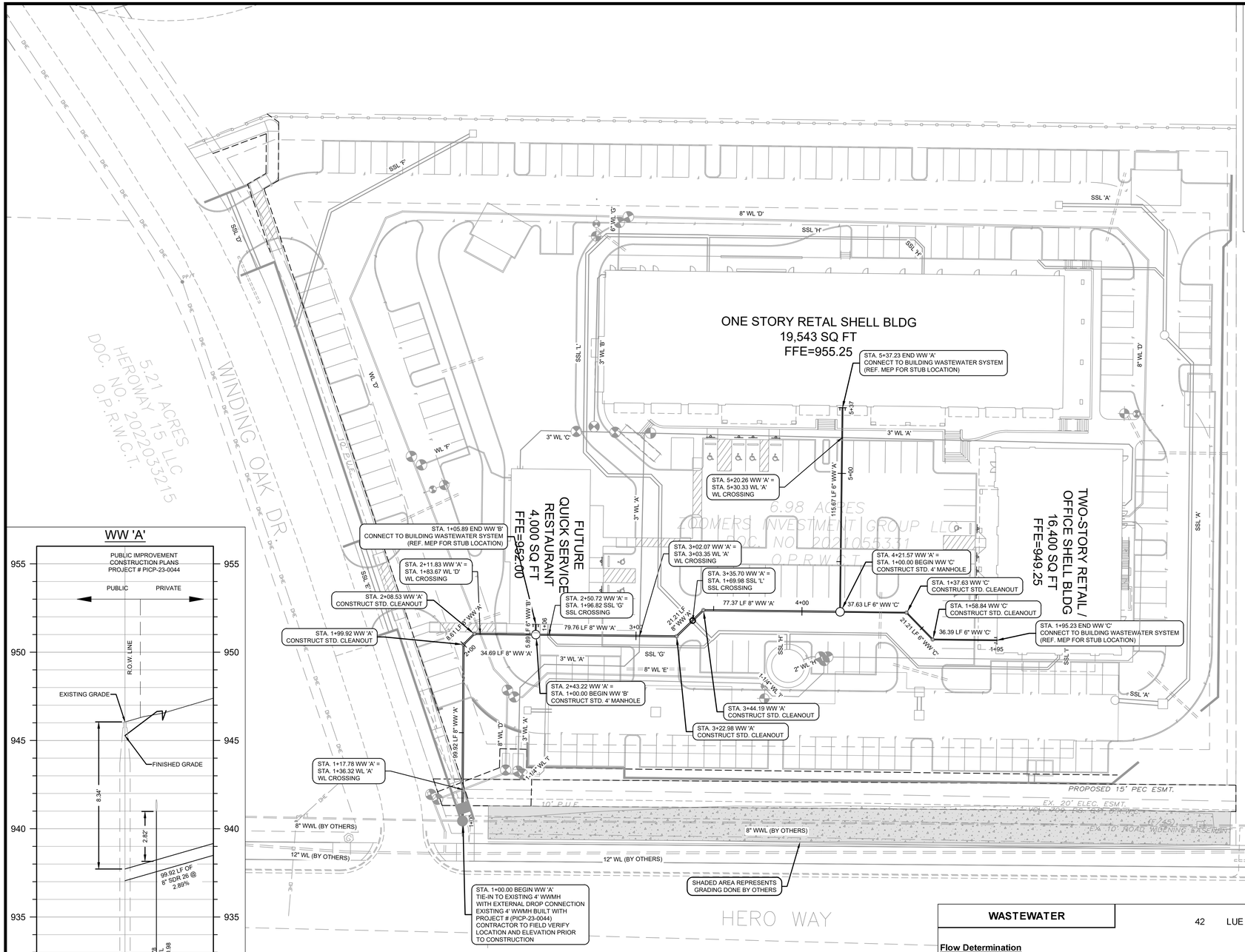
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

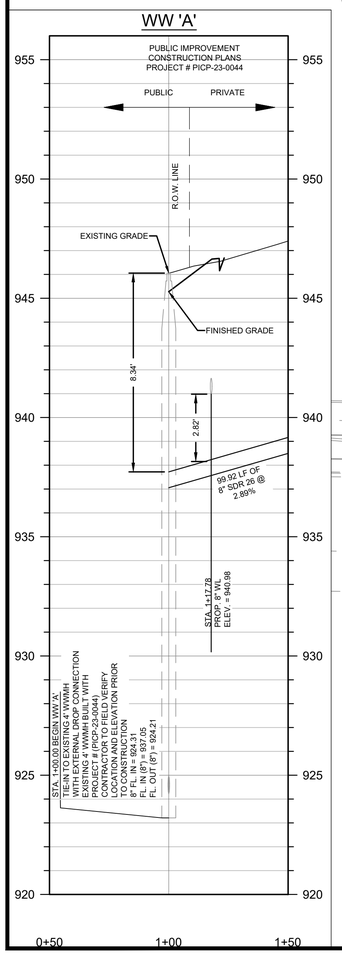
NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 16 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - OVERALL WATER DISTRIBUTION PLAN.DWG DATE: 10/10/2025 10:04 AM BY: LLAHAUG





SCALE: 1"=30' HOR
1"= 3' VER
GRAPHIC SCALE IN FEET
0 15 30 45 60

LEGEND	
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING EASEMENT LINE
	EXISTING STREET CENTERLINE
	EXISTING SIDEWALK
	EXISTING CURB AND GUTTER
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
OHE-3	EXISTING OVERHEAD ELECTRIC
	EXISTING FIRE HYDRANT ASSEMBLY
	EXISTING STORM SEWER INLET
	EXISTING TREE
	EXISTING WASTEWATER MANHOLE
S	EXISTING STORMSEWER MANHOLE
	EXISTING LANDSCAPING
	EXISTING MONUMENT WALL
	EXISTING LANDSCAPE LIGHTING
	EXISTING GATE VALVE
	EXISTING CURB INLET
G	EXISTING GAS FACILITIES
	EXISTING TRAFFIC SIGN
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER CLEANOUT

	SF	Unit per LUE	LUE
Retail; Shopping Center (Square Feet of Floor)	35943	1660	21.65
Restaurant; Cafeteria (Square Feet of Floor)	4000	200	20.00
			41.65
TOTAL			42

WASTEWATER

42 LUE

Flow Determination

1. Average Dry Weather Flow

LUE's =	**42**	**LUE**	
	200	**gpd/LUE**	200 gpd/LUE (1 LUE ≈ 3 people)
Avg Dry Weather Flow (BWF) =	**5.8**	**gpm**	
	8,400	**gpd**	
	0.0084	**MGD**	

2. Dry Weather Peaking Factor

Peaking Factor =	4.22		PF= $\frac{(18 + (0.0206 * ADDF)^{.5})}{(4 + 0.0206 * ADDF)^{.5}}$
Peak Dry Weather Flow (PDWF) =	**24.6**	**gpm**	

3. Minimum Dry Weather Flow

Min Flow Factor =	0.122		MFF = 0.2 x (0.0144 x BWF)0.198
Min Flow =	**0.71**	**gpm**	Fmin = BWF x MFF

4. Rainfall-Dependent Inflow and Infiltration

Total Acreage =	4.61	Acres	RDII= 750 gal/ac/day
RDII =	**2.4**	**gpm**	

5. Peak Wet Wastewater Flow

Peak Wet Weather Flow (PWWF) =	**27.0**	**gpm**	Q= PDWF + 750 gpd/acre

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK SITE DEVELOPMENT PLAN

OVERALL WASTEWATER DISTRIBUTION PLAN

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
137778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 17 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - OVERALL WASTEWATER DISTRIBUTION PLAN.DWG DATE: 10/10/2025 10:04 AM BY: LLAHAUG

LEGEND	
	WATER EASEMENT
	PROPOSED GATE VALVE
	FIRE HYDRANT ASSEMBLY
	EXISTING EASEMENT LINE
	EXISTING STREET CENTERLINE
	EXISTING SIDEWALK
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	FIRE LINE STRIPING
	PROPOSED WASTEWATER MANHOLE
	PROPOSED WASTEWATER CLEANOUT
	EXISTING TREE
	EXISTING WASTEWATER MANHOLE
	EXISTING GATE VALVE
	PROPOSED AREA INLET

WW 'A'

WW 'B'

WW 'C'

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

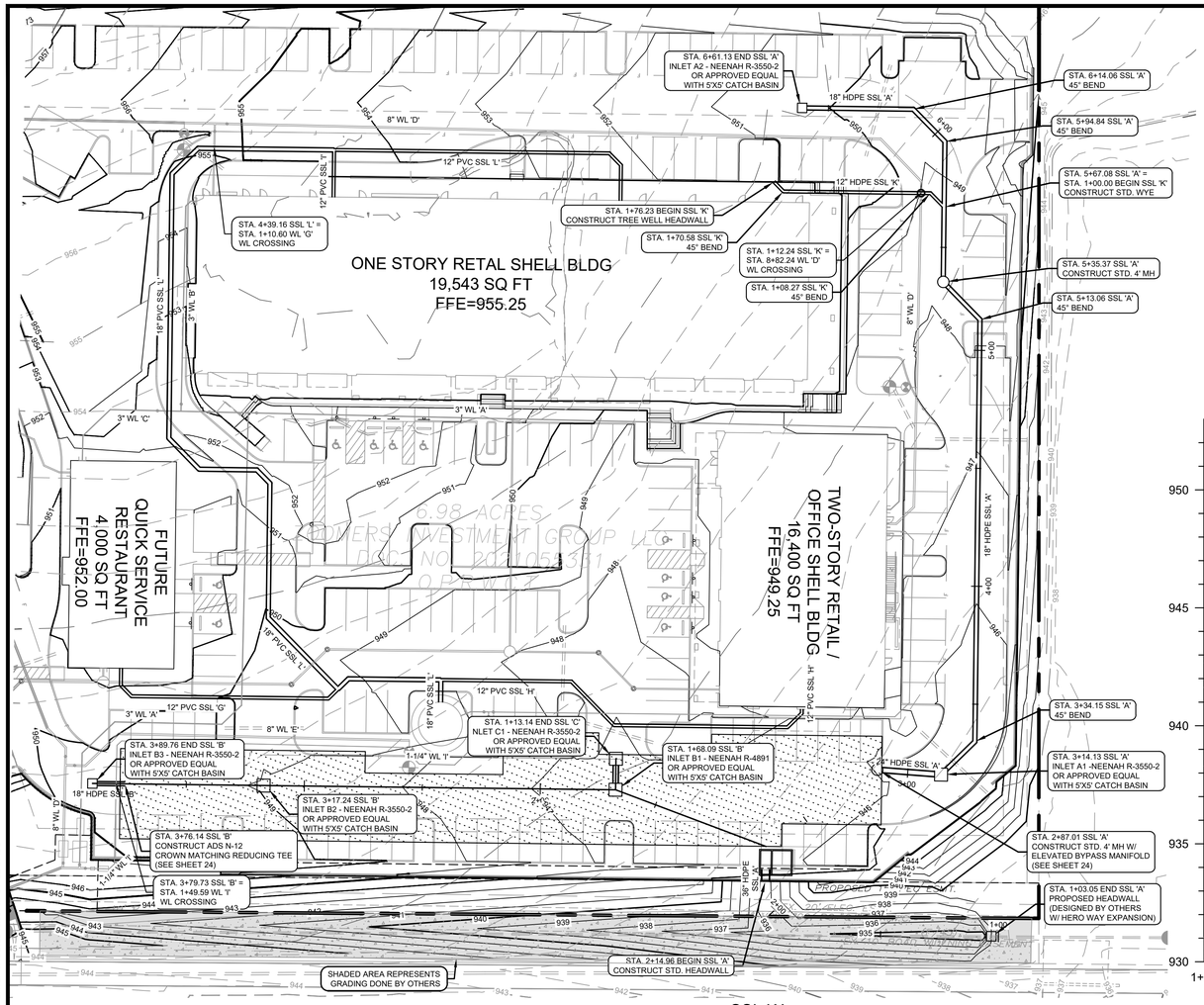
WINDING OAK
SITE DEVELOPMENT PLAN

WW 'A', 'B', AND 'C' PLAN AND PROFILES

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

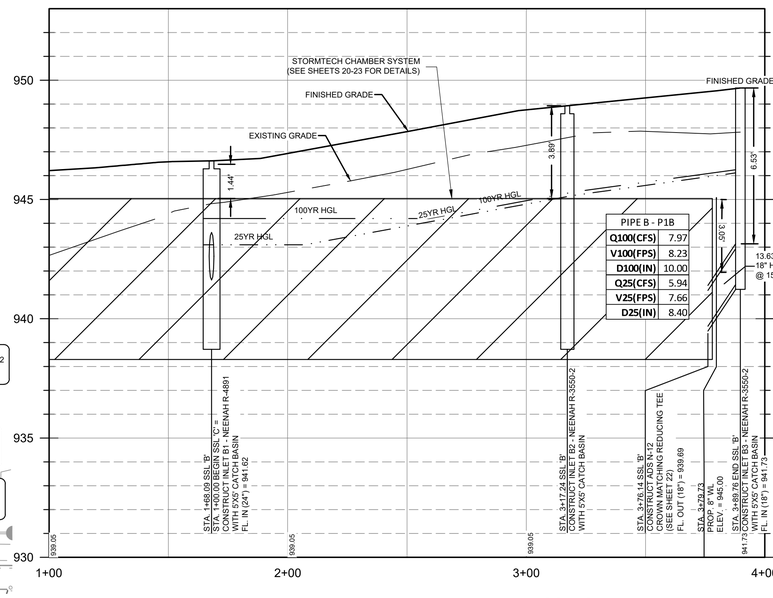
H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - WW A.DWG DATE: 10/10/2025 10:04 AM BY: LLAHAUG



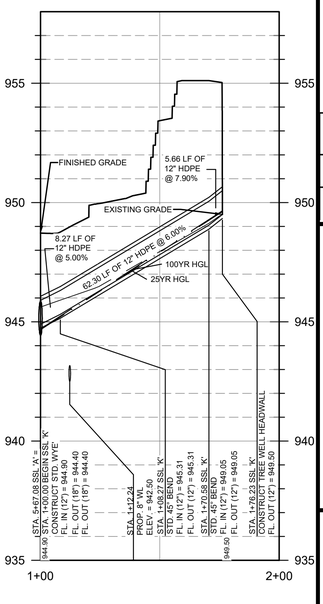
SCALE: 1"=30' HOR
1"= 3' VER
GRAPHIC SCALE IN FEET
0 15 30 45 60

LEGEND			
	PROPOSED GATE VALVE		EXISTING WASTEWATER LINE
	PROPOSED FIRE HYDRANT		STORM SEWER MANHOLE
	STREET CENTERLINE		STORM SEWER INLET
	SIDEWALK		EXISTING STORM SEWER INLET
	PROPOSED CURB AND GUTTER		EXISTING TREE
	PROPOSED WATER LINE		
	PROPOSED WASTEWATER LINE		EXISTING TREE TO BE REMOVED
	EXISTING WATER LINE		

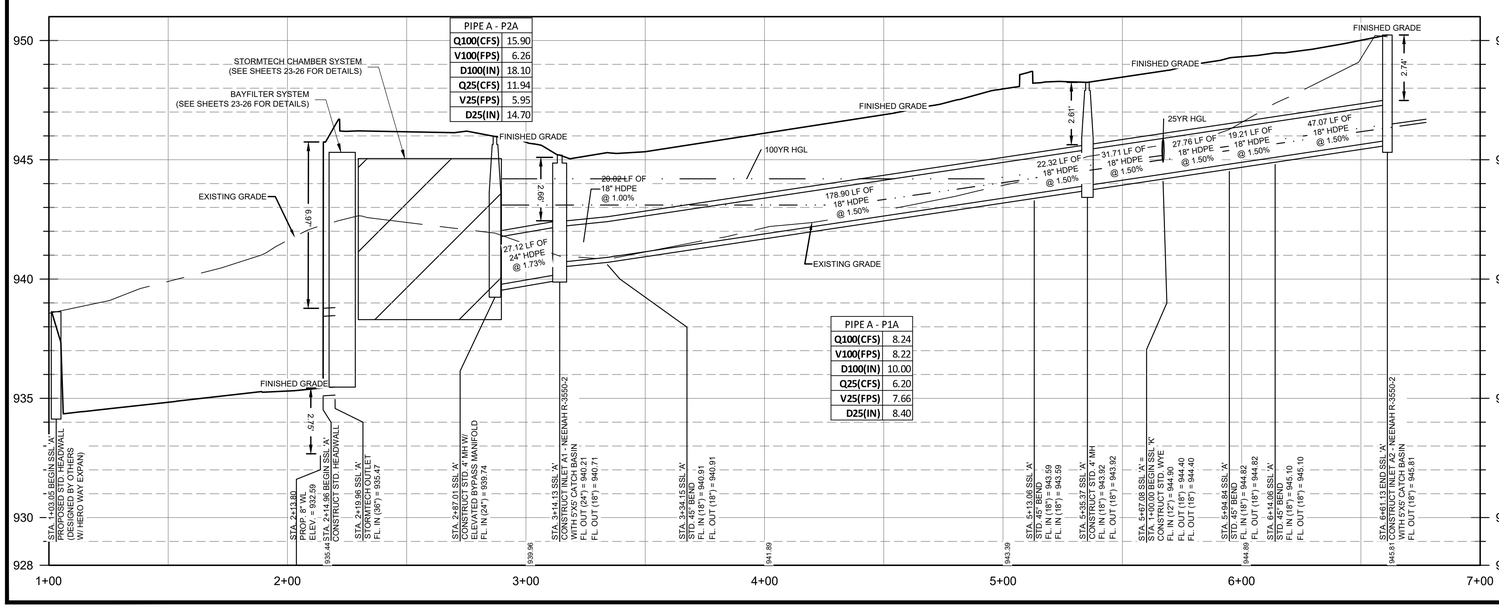
SSL 'B'



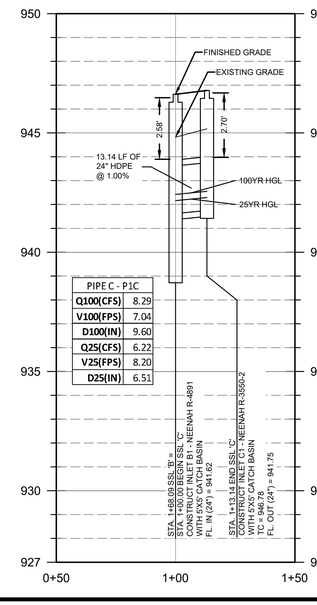
SSL 'K'



SSL 'A'



SSL 'C'



8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

STORM SEWER 'A' & 'B' & 'C' & 'K'
1+00-END

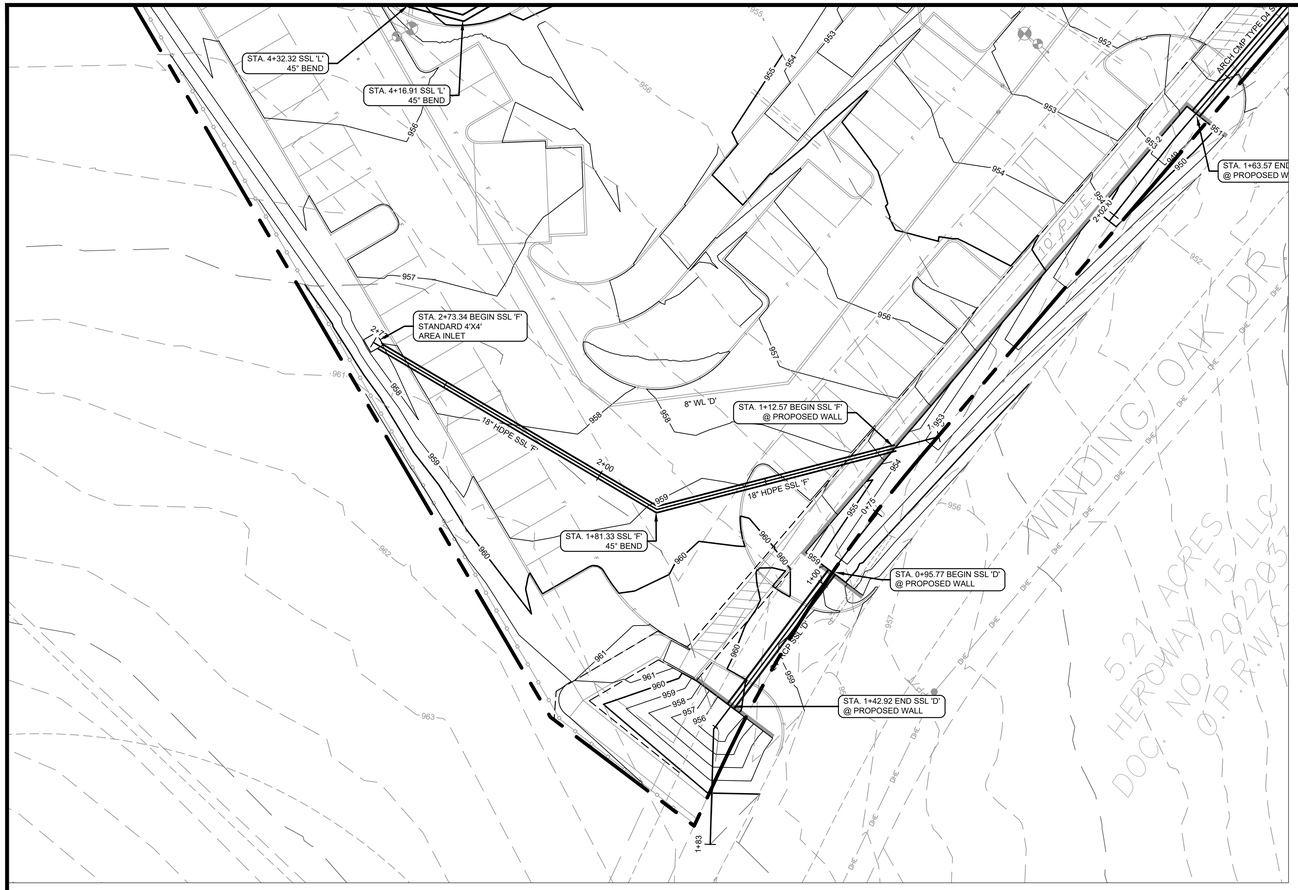
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

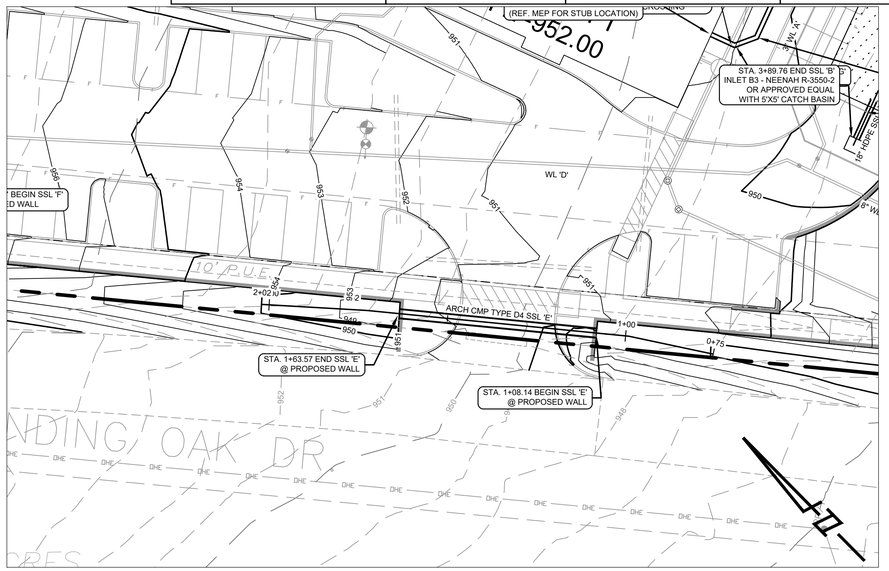
SHEET 19 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - STORM SEWER 'A'- 'C'.DWG DATE: 10/10/2025 10:05 AM BY: LLAHAUG



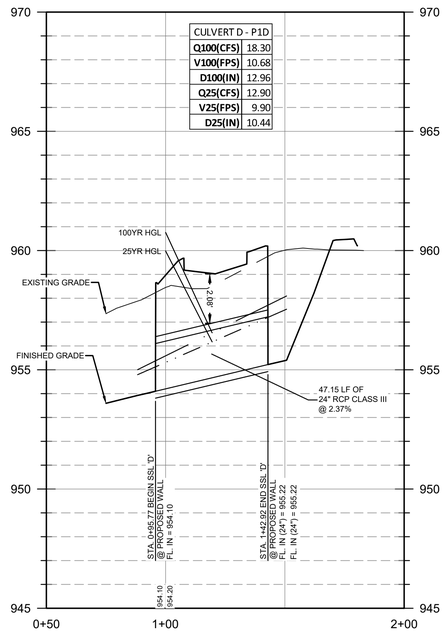
SCALE: 1"=20'
GRAPHIC SCALE IN FEET
0 10 20 30 40

LEGEND			
	PROPOSED GATE VALVE		EXISTING WASTEWATER LINE
	PROPOSED FIRE HYDRANT		STORM SEWER MANHOLE
	STREET CENTERLINE		STORM SEWER INLET
	SIDEWALK		EXISTING STORM SEWER INLET
	PROPOSED CURB AND GUTTER		EXISTING TREE
	PROPOSED WATER LINE		
	PROPOSED WASTEWATER LINE		EXISTING TREE TO BE REMOVED
	EXISTING WATER LINE		

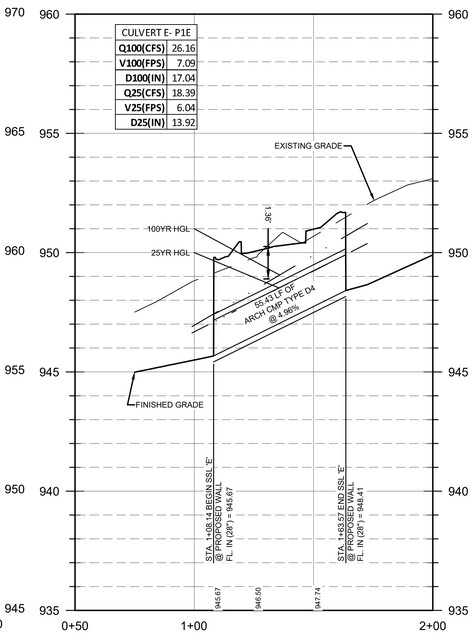


SCALE: 1"=30' HOR
1"= 3' VER
GRAPHIC SCALE IN FEET
0 15 30 45 60

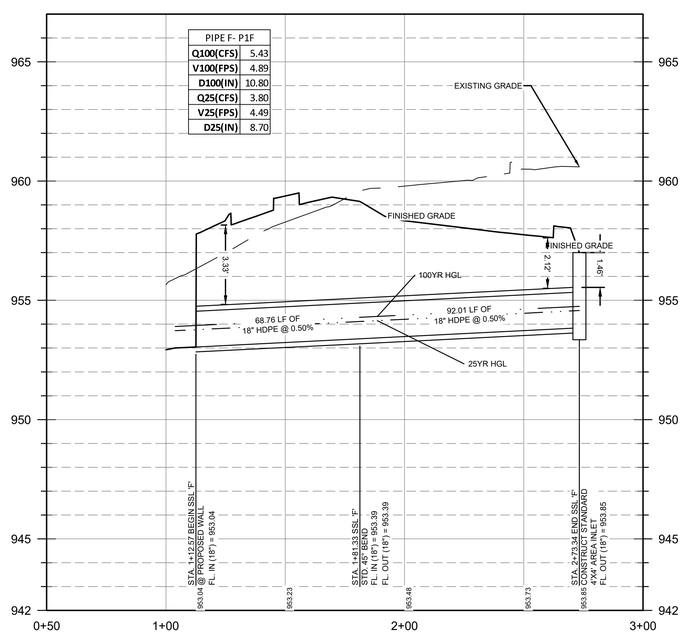
SSL 'D'



SSL 'E'



SSL 'F'



8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

STORM SEWER CULVERTS 'D' & 'E' & 'F' 1+00-END

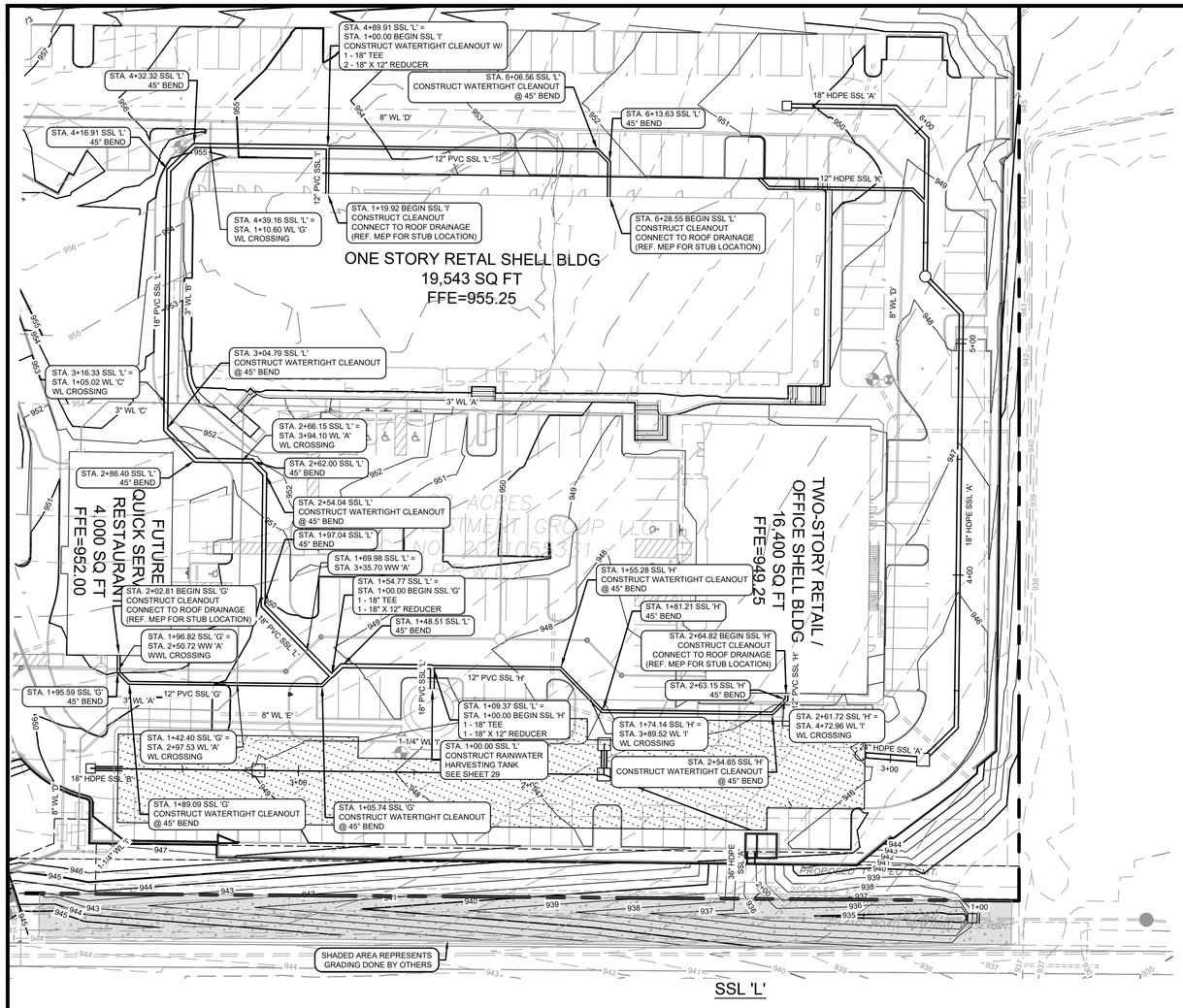
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 20 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - STORM SEWER A'-'C' DWG DATE: 10/10/2025 10:05 AM BY: LLAHAUG

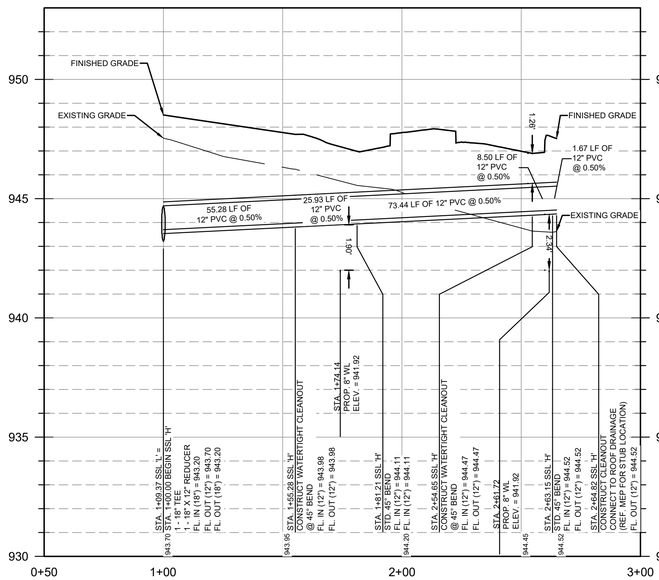


SSL 'L'

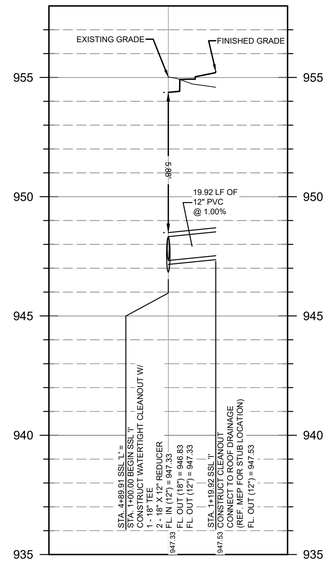
SCALE: 1"=30'
GRAPHIC SCALE IN FEET
0 15 30 45 60

LEGEND			
	PROPOSED GATE VALVE		EXISTING WASTEWATER LINE
	PROPOSED FIRE HYDRANT		STORM SEWER MANHOLE
	STREET CENTERLINE		STORM SEWER INLET
	SIDEWALK		EXISTING STORM SEWER INLET
	PROPOSED CURB AND GUTTER		EXISTING TREE
	PROPOSED WATER LINE		
	PROPOSED WASTEWATER LINE		EXISTING TREE TO BE REMOVED
	EXISTING WATER LINE		

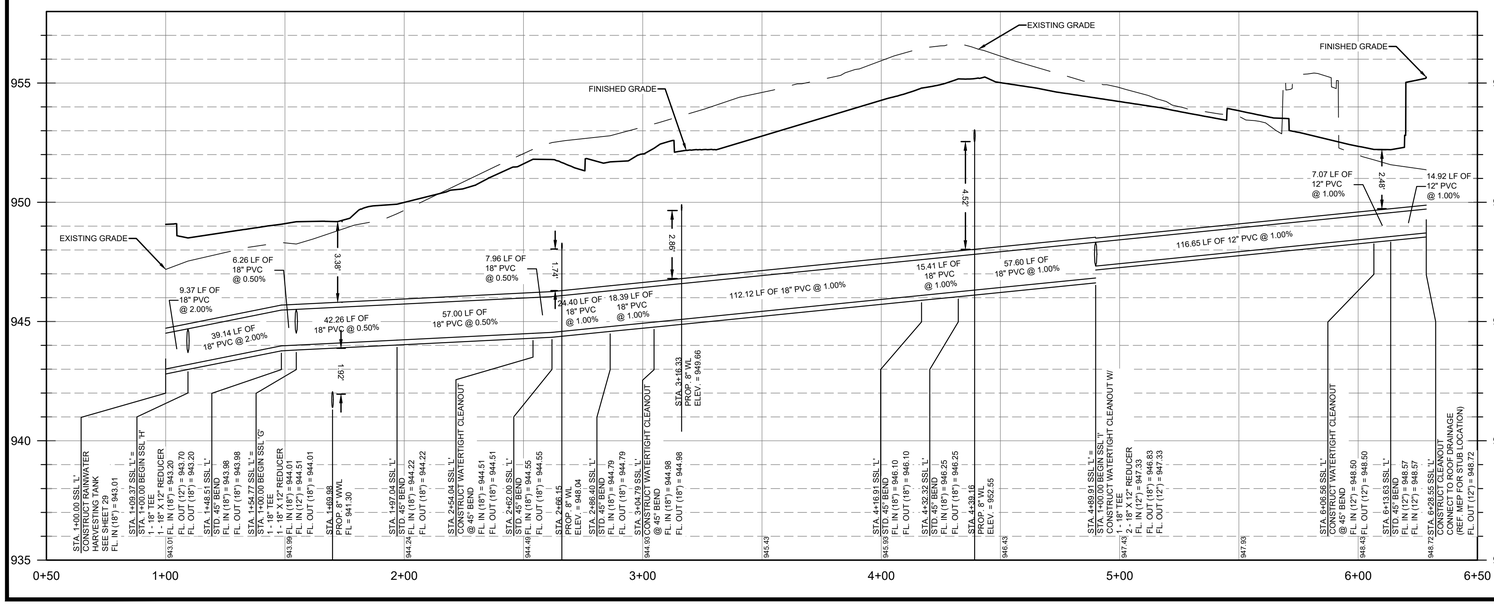
SSL 'H'

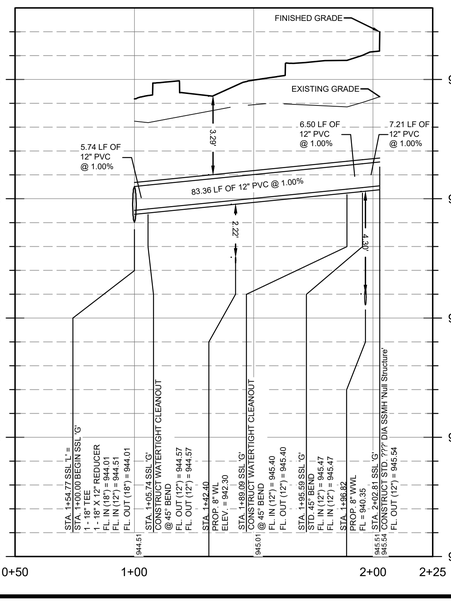


SSL 'I'



SSL 'G'





SCALE: 1"=30' HOR
1"= 3' VER
GRAPHIC SCALE IN FEET
0 15 30 45 60

NOTE:

ALL RAINWATER HARVESTING LINES NOTED AS PVC TO BE SCHEDULE 80 OR APPROVED EQUAL

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY
ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

STORM SEWER 'G' & 'H' & 'I' &
'L'1+00-END

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

DRAWN BY: JM

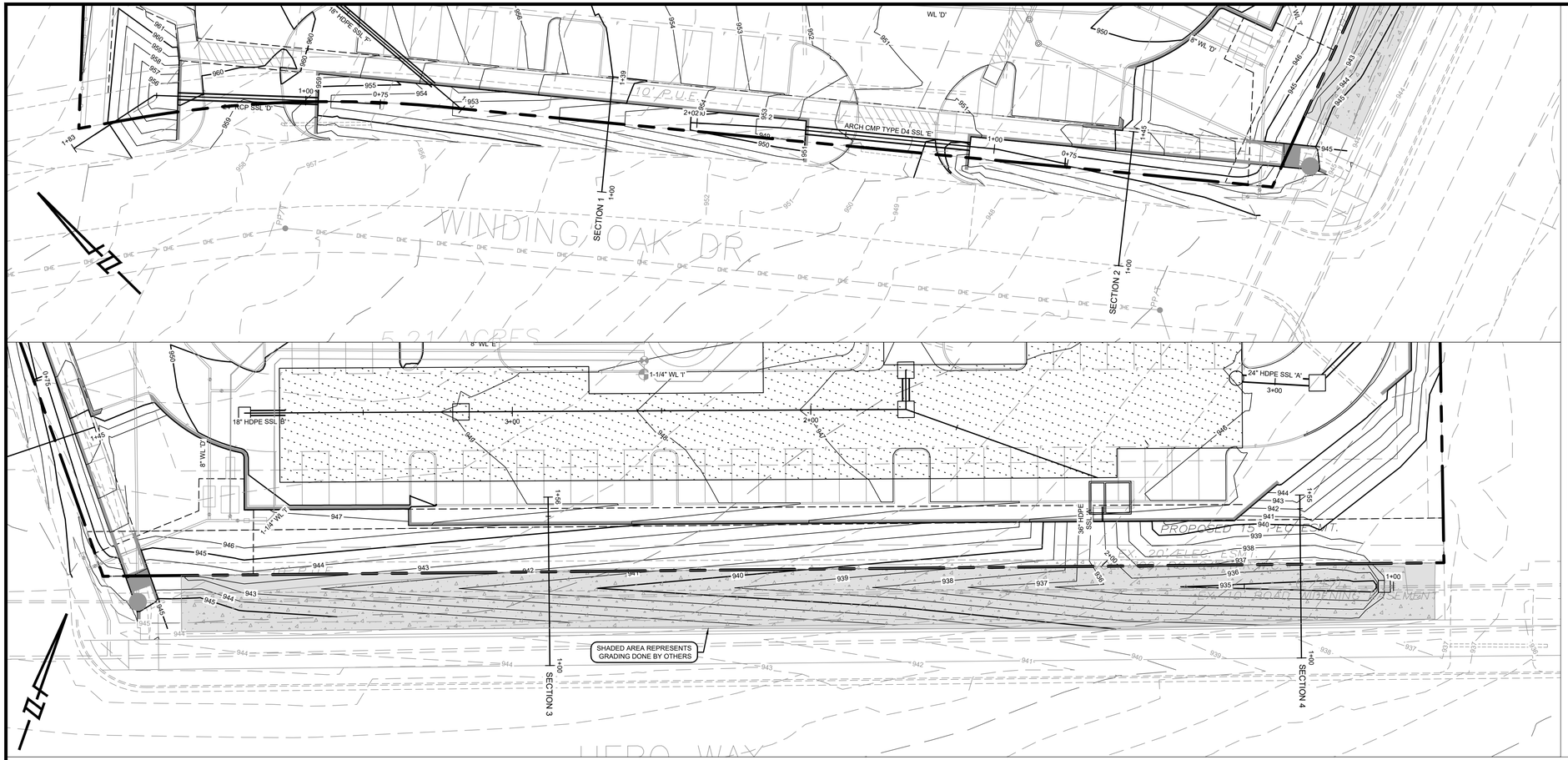
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 21 OF 48

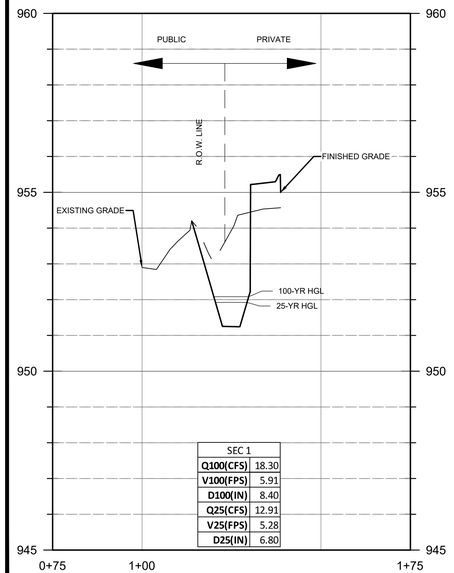
H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - STORM SEWER 'A'- 'C' DWG DATE: 10/10/2025 10:05 AM BY: LLAHAUG



LEGEND	
	PROPOSED GATE VALVE
	PROPOSED FIRE HYDRANT
	STREET CENTERLINE
	SIDEWALK
	PROPOSED CURB AND GUTTER
	PROPOSED WATER LINE
	PROPOSED WASTEWATER LINE
	EXISTING WATER LINE
	EXISTING WASTEWATER LINE
	STORM SEWER MANHOLE
	STORM SEWER INLET
	EXISTING STORM SEWER INLET
	EXISTING TREE
	EXISTING TREE TO BE REMOVED

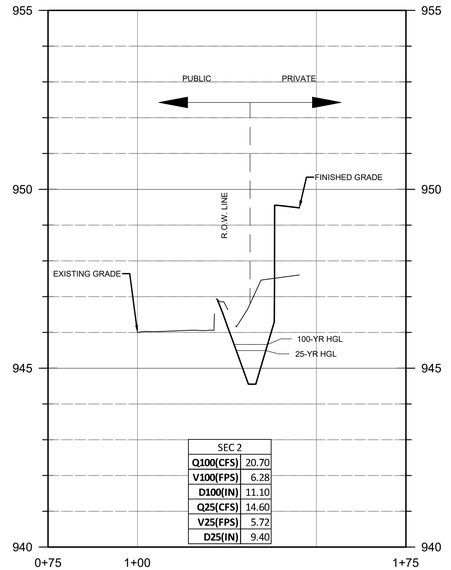
SCALE: 1"=30'
GRAPHIC SCALE IN FEET
0 15 30 45 60

SEC 1



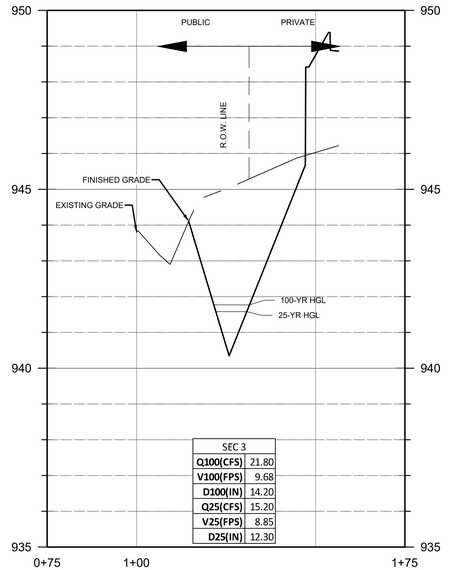
SEC 1	
Q100(CFS)	18.30
V100(FPS)	5.91
D100(IN)	8.40
Q25(CFS)	12.91
V25(FPS)	5.28
D25(IN)	6.80

SEC 2



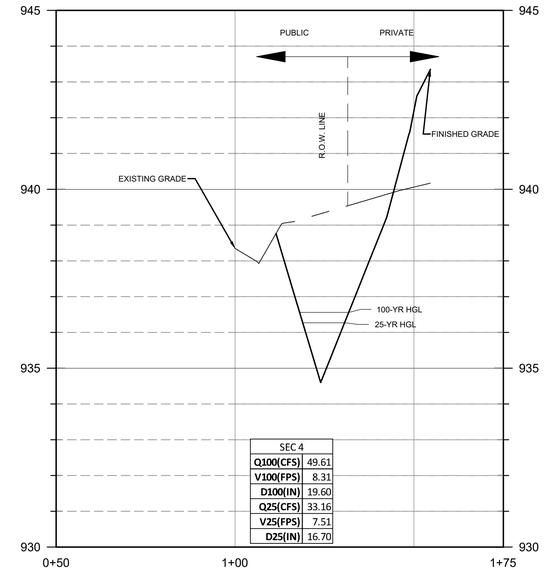
SEC 2	
Q100(CFS)	20.70
V100(FPS)	6.28
D100(IN)	11.10
Q25(CFS)	14.60
V25(FPS)	5.72
D25(IN)	9.40

SEC 3



SEC 3	
Q100(CFS)	21.80
V100(FPS)	9.68
D100(IN)	14.20
Q25(CFS)	15.20
V25(FPS)	8.85
D25(IN)	12.30

SEC 4



SEC 4	
Q100(CFS)	49.61
V100(FPS)	8.31
D100(IN)	19.60
Q25(CFS)	33.16
V25(FPS)	7.51
D25(IN)	16.70

SCALE: 1"=20' HOR
1"= 2' VER
GRAPHIC SCALE IN FEET
0 10 20 30 40

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

CHANNEL SECTION VIEWS

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 22 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - STORM SEWER A-'C' DWG DATE: 10/10/2025 10:05 AM BY: LLAHAUG

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	BENNETT LOWERY 512-571-2338 BENNETT.LOWERY@ADSPIPE.COM
ADS SALES REP:	DANIEL CONAWAY 830-388-9788 DANIEL.CONAWAY@ADSPIPE.COM
PROJECT NO:	S445634

Advanced Drainage Systems, Inc.

ADS SiteAssist®
FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR WEBSITE

WINDING OAK SITE DEVELOPMENT

LEANDER, TX

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-7200.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT/% THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

©2024 ADS, INC.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

BAYSAVER BAYFILTER SPECIFICATIONS

PRODUCTS

A. INTERNAL COMPONENTS: ALL COMPONENTS INCLUDING CONCRETE STRUCTURE(S), PVC MANIFOLD PIPING AND FILTER CARTRIDGES, SHALL BE PROVIDED BY BAYSAVER TECHNOLOGIES LLC, 1030 DEER HOLLOW DRIVE, MOUNT AIRY, MD (800.229.7283).

B. PVC MANIFOLD PIPING: ALL INTERNAL PVC PIPE AND FITTINGS SHALL MEET ASTM D1785. MANIFOLD PIPING SHALL BE PROVIDED TO THE CONTRACTOR PARTIALLY PRE-CUT AND PRE-ASSEMBLED.

C. FILTER CARTRIDGES: EXTERNAL SHELL OF THE FILTER CARTRIDGES SHALL BE SUBSTANTIALLY CONSTRUCTED OF POLYETHYLENE OR EQUIVALENT MATERIAL ACCEPTABLE TO THE MANUFACTURER. FILTRATION MEDIA SHALL BE ARRANGED IN A SPIRAL LAYERED FASHION TO MAXIMIZE AVAILABLE FILTRATION AREA. AN ORIFICE PLATE SHALL BE SUPPLIED WITH EACH CARTRIDGE TO RESTRICT THE FLOW RATE TO A MAXIMUM OF 45 GPM.

D. FILTER MEDIA: FILTER MEDIA SHALL BE BY BAYSAVER TECHNOLOGIES LLC AND SHALL CONSIST OF THE FOLLOWING MIX: A BLEND OF ZEOLITE, PERLITE AND ACTIVATED ALUMINA.

E. PRECAST CONCRETE VAULT: CONCRETE STRUCTURES SHALL BE PROVIDED ACCORDING TO ASTM C. THE MATERIALS AND STRUCTURAL DESIGN OF THE DEVICES SHALL BE PER ASTM C478, C857 AND C858. PRECAST CONCRETE SHALL BE PROVIDED BY BAYSAVER TECHNOLOGIES, LLC.

PERFORMANCE

A. THE STORMWATER FILTER SYSTEM SHALL BE AN OFFLINE DESIGN CAPABLE OF TREATING 100% OF THE REQUIRED TREATMENT FLOW AT FULL SEDIMENT LOAD CONDITIONS.
B. THE STORMWATER FILTER SYSTEM'S CARTRIDGES SHALL HAVE NO MOVING PARTS.
C. THE STORMWATER TREATMENT UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 87% OF SUSPENDED SOLIDS (TCEQ REGULATORY GUIDANCE 348). TOTAL PHOSPHORUS, TURBIDITY, TOTAL COPPER, AND ZINC BASED UPON LOCAL APPROVALS AND INDEPENDENT TESTING.
D. THE STORMWATER FILTRATION CARTRIDGE SHALL BE EQUIPPED WITH A HYDRODYNAMIC BACKWASH MECHANISM TO EXTEND THE FILTER'S LIFE AND OPTIMIZE ITS PERFORMANCE.
E. THE STORMWATER FILTRATION SYSTEM'S CARTRIDGES SHALL HAVE A TREATED SEDIMENT CAPACITY FOR 87% TSS REMOVAL OF 262 LBS FOR 545 AND 530 CARTRIDGES, AND 131 LBS FOR 522 CARTRIDGE.

BAYFILTER MAINTENANCE

THE BAYFILTER SYSTEM REQUIRES PERIODIC MAINTENANCE TO CONTINUE OPERATING AT ITS PEAK EFFICIENCY DESIGN. THE MAINTENANCE PROCESS COMPRISES THE REMOVAL AND REPLACEMENT OF EACH BAYFILTER CARTRIDGE AND THE CLEANING OF THE VAULT OR MANHOLE WITH A VACUUM TRUCK. FOR BEST RESULTS, BAYFILTER MAINTENANCE SHOULD BE PERFORMED BY A CERTIFIED MAINTENANCE CONTRACTOR. A QUICK CALL TO AN ADS ENGINEER OR CUSTOMER SERVICE REPRESENTATIVE WILL PROVIDE YOU WITH A LIST OF RELIABLE CONTRACTORS IN YOUR AREA.

WHEN BAYFILTER IS INITIALLY INSTALLED, WE RECOMMEND THAT AN INSPECTION BE PERFORMED ON THE SYSTEM IN THE FIRST SIX (6) MONTHS. AFTER THAT, THE INSPECTION CYCLE TYPICALLY FALLS INTO A BIANNUAL PATTERN GIVEN NORMAL STORM OCCURRENCE AND ACTUAL SOLIDS LOADS.

WHEN BAYFILTER EXHIBITS FLOWS BELOW DESIGN LEVELS, THE SYSTEM SHOULD BE INSPECTED AND MAINTAINED AS SOON AS PRACTICAL. REPLACING A BAYFILTER CARTRIDGE SHOULD BE CONSIDERED AT OR ABOVE THE LEVEL OF THE MANIFOLD.

MAINTENANCE PROCEDURES

1. REMOVE THE MANHOLE COVERS AND OPEN ALL ACCESS HATCHES.
2. BEFORE ENTERING THE SYSTEM MAKE SURE THE AIR IS SAFE PER OSHA STANDARDS OR USE A BREATHING APPARATUS. USE LOW O2, HIGH CO, OR OTHER APPLICABLE WARNING DEVICES PER REGULATORY REQUIREMENTS.
3. USING A VACUUM TRUCK, REMOVE ANY LIQUID AND SEDIMENTS THAT CAN BE REMOVED PRIOR TO ENTRY.
4. USING A SMALL LIFT OR THE BOOM OF THE VACUUM TRUCK, REMOVE THE USED CARTRIDGES BY LIFTING THEM OUT.
5. ANY CARTRIDGES THAT CANNOT BE READILY LIFTED CAN BE EASILY SLID ALONG THE FLOOR TO A LOCATION THEY CAN BE LIFTED VIA A BOOM LIFT.
6. WHEN ALL THE CARTRIDGES HAVE BEEN REMOVED, IT IS NOW PRACTICAL TO REMOVE THE BALANCE OF THE SOLIDS AND WATER. LOOSEN THE STAINLESS CLAMPS ON THE FERNCO COUPLINGS FOR THE MANIFOLD AND REMOVE THE DRAINPIPES AS WELL. CAREFULLY CAP THE MANIFOLD AND THE FERNCO'S AND RINSE THE FLOOR, WASHING AWAY THE BALANCE OF ANY REMAINING COLLECTED SOLIDS.
7. CLEAN THE MANIFOLD PIPES, INSPECT, AND REINSTALL.
8. INSTALL THE EXCHANGE CARTRIDGES AND CLOSE ALL COVERS.
9. THE USED CARTRIDGES MUST BE SENT BACK TO ADS FOR EXCHANGE/RECYCLING AND CREDIT ON UNDAMAGED UNITS.

BAYFILTER INSTALLATION NOTES

1. CONTACT UTILITY LOCATOR TO MARK ANY NEARBY UNDERGROUND UTILITIES AND MAKE SURE IT IS SAFE TO EXCAVATE.
2. REFERENCE THE SITE PLAN AND STAKE OUT THE LOCATION OF THE BAYFILTER VAULT.
3. EXCAVATE THE HOLE, PROVIDING ANY SHEETING AND SHORING NECESSARY TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY REGULATIONS.
4. LEVEL THE SUB-GRADE TO THE PROPER ELEVATION. VERIFY THE ELEVATION AGAINST THE MANHOLE DIMENSIONS, THE INVERT ELEVATIONS, AND THE SITE PLANS. ADJUST THE BASE AGGREGATE, IF NECESSARY.
5. HAVE THE SOIL BEARING CAPACITY VERIFIED BY A LICENSEDENGINEER FOR THE REQUIRED LOAD BEARING CAPACITY, ON SOLID SUB-GRADE, SET THE FIRST SECTION OF THE BAYFILTER PRE-CAST VAULT.
6. CHECK THE LEVEL AND ELEVATION OF THE FIRST SECTION TO ENSURE IT IS CORRECT BEFORE ADDING ANY RISER SECTIONS.
7. IF ADDITIONAL SECTION(S) ARE REQUIRED, ADD A WATERTIGHT SEAL TO THE FIRST SECTION OF THE BAYFILTER VAULT. SET ADDITIONAL SECTION(S) OF THE VAULT, ADDING A WATERTIGHT SEAL TO EACH JOINT.
8. INSTALL THE PVC OUTLET MANIFOLD.
9. INSTALL THE PVC OUTLET PIPE IN BAYFILTER VAULT.
10. INSTALL THE INLET PIPE TO THE BAYFILTER VAULT.
11. AFTER THE SITE IS STABILIZED, REMOVE ANY ACCUMULATED SEDIMENT OR DEBRIS FROM THE VAULT AND INSTALL THE FLOW DISKS, DRAINDOWN MODULES (IF APPLICABLE), AND THE BAYFILTER CARTRIDGES.
12. PLACE FULL SET OF HOLD DOWN BARS AND BRACKETS INTO PLACE.

©2024 ADS, INC.

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

STORMTECH CHAMBER & BAYFILTER NOTES

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

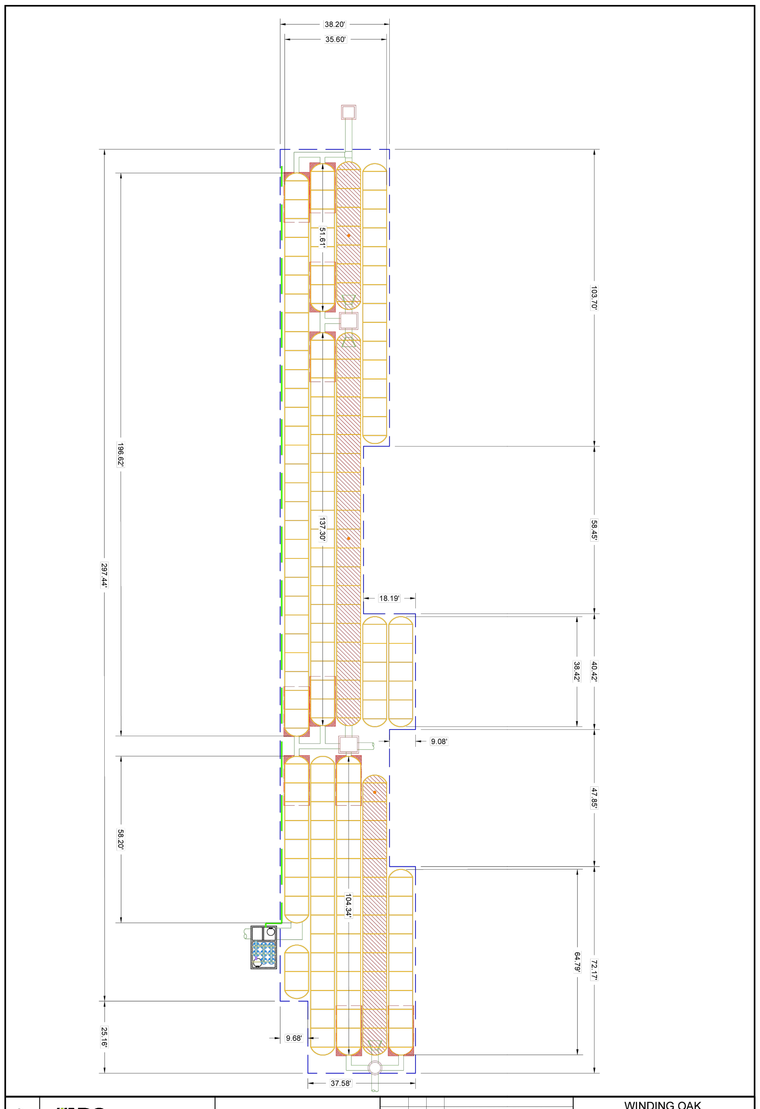
NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 23 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - POND LAYOUT.DWG DATE: 10/10/2025 10:05 AM BY: LLAHAUG

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - POND LAYOUT.DWG DATE: 10/10/2025 10:05 AM BY: LLAHAUG



4 OF 8 SHEET	4640 TRUEMAN BLVD HILLIARD, OH 43026	StormTech® Chamber System		WINDING OAK SITE DEVELOPMENT LEANDER, TX
	0 25' 50'	1-800-821-6710 | WWW.STORMTECH.COM		DATE: 12-09-24 DRAWN: TSG
				PROJECT #: S445634 CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION
07/10/25	DHC	NSL	REDREW BAYFILTER PER NEW VAULT SIZE
06/02/25	MV	MV	RENAMED PROJECT
01/29/25	PME		RELOCATED CHAMBERS
01/15/25	PME	NSL	REVISE CHAMBER LAYOUT PER MARKUP
01-10-25	TSG	NSL	INCREASE DETENTION VOLUME AND ELEVATIONS

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (TEOR) OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

PROPOSED LAYOUT

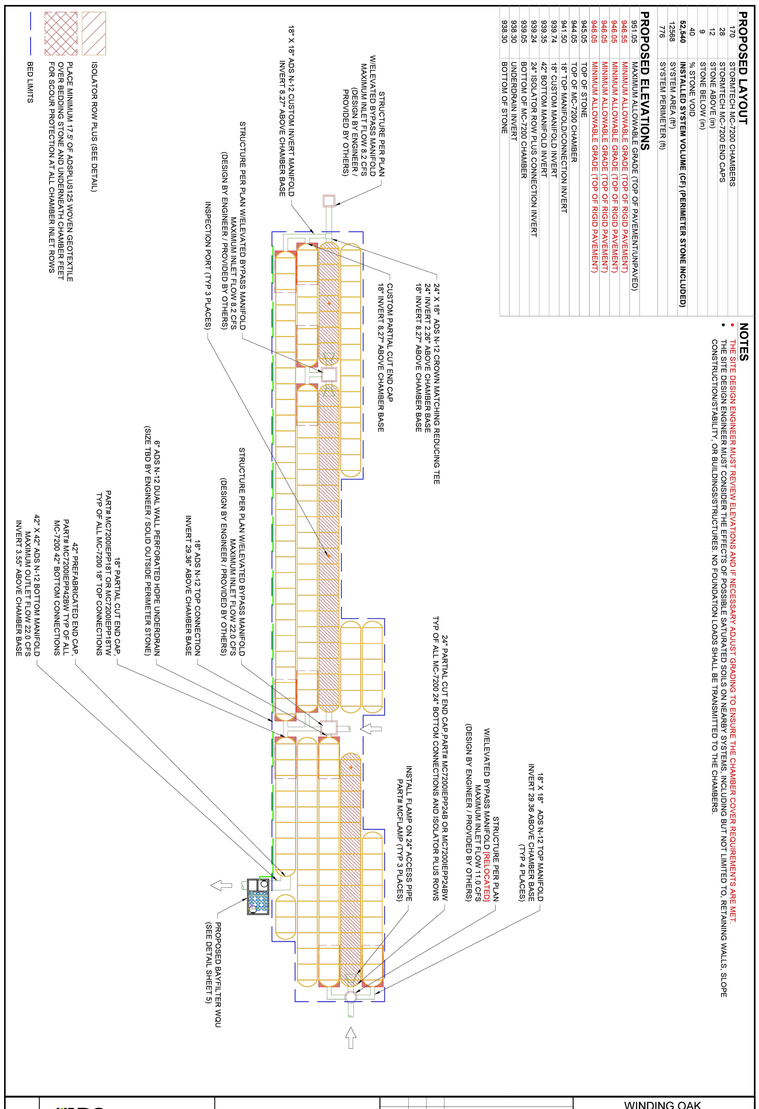
QUANTITY	STORMTECH MC-7200 CHAMBERS
QUANTITY	STORMTECH MC-7200 END CAPS
STONE ABOVE (in)	12
STONE BELOW (in)	9
% STONE VOID	40
INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)	62,440
SYSTEM AREA (ft²)	12566
SYSTEM PERIMETER (ft)	776

PROPOSED ELEVATIONS

950.55	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
950.55	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
946.55	MAXIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
944.55	TOP OF MC-7200 CHAMBER
941.50	18" TOP MANIFOLD/CONNECTION INVERT
939.35	42" BOTTOM MANIFOLD INVERT
939.24	24" ISOLATOR ROW PLUS CONNECTION INVERT
938.55	UNDERDRAIN INVERT
938.30	BOTTOM OF STONE

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- CONSTRUCTION TRAFFIC OVER BUILDINGS/STRUCTURES. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS.



3 OF 8 SHEET	4640 TRUEMAN BLVD HILLIARD, OH 43026	StormTech® Chamber System		WINDING OAK SITE DEVELOPMENT LEANDER, TX
	0 30' 60'	1-800-821-6710 | WWW.STORMTECH.COM		DATE: 12-09-24 DRAWN: TSG
				PROJECT #: S445634 CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION
07/10/25	DHC	NSL	REDREW BAYFILTER PER NEW VAULT SIZE
06/02/25	MV	MV	RENAMED PROJECT
01/29/25	PME		RELOCATED CHAMBERS
01/15/25	PME	NSL	REVISE CHAMBER LAYOUT PER MARKUP
01-10-25	TSG	NSL	INCREASE DETENTION VOLUME AND ELEVATIONS

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (TEOR) OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 24 OF 48

STEVEN M. MINOR — 133778 — LICENSED PROFESSIONAL ENGINEER — STATE OF TEXAS — 11-10-25

NOTICE: ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER AUTHORIZATION AND RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT

CHECKED BY: SM

DRAWN BY: JM

DESIGNED BY: LL

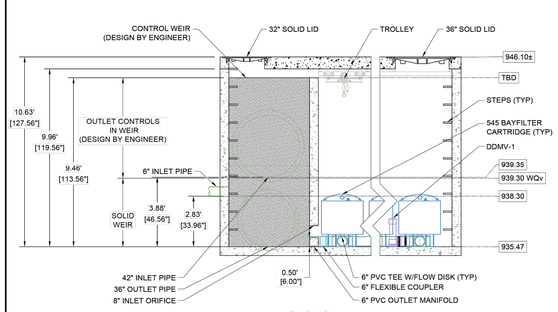
PROJECT NO: 1688 - 11573

STORMTECH CHAMBER SYSTEM LAYOUT

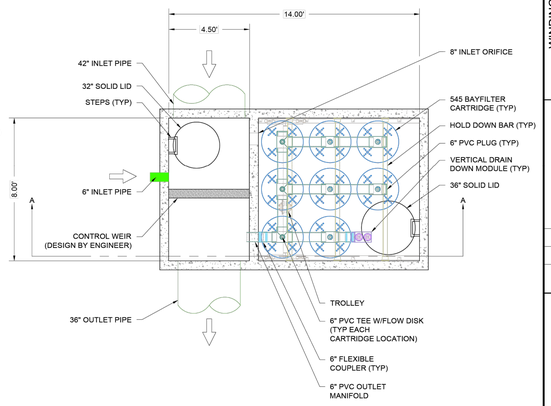
WINDING OAK SITE DEVELOPMENT PLAN

NO.	BY	DATE	REVISION DESCRIPTION

GRAY ENGINEERING
8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

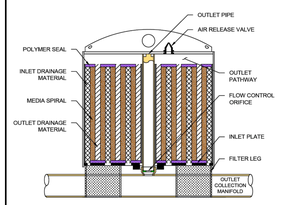


SECTION A-A
SCALE : 1/4" = 1'



PLAN VIEW
SCALE : 1/4" = 1'

NOTE: THIS DETAIL SHOWS A FUNCTIONAL FILTER DESIGN PER SITE SPECIFIC INFORMATION PROVIDED. THE FINAL APPROVED PRECAST DRAWINGS WILL DETERMINE THE FINAL SIZE, INCLUDING BUT NOT LIMITED TO; OVERALL DIMENSIONS, RISER SIZE, RISER TYPE & HEIGHT AND FRAMES & COVERS BEING PROVIDED.



545 BAYFILTER 8-14-8	WQU
WATER QUALITY VOLUME	6,240 CF
DRAINAGE AREA	4.6 ACRES
CARTRIDGE DESIGN VOLUME	2500 CF
# BAYFILTER CARTRIDGES	8
TREATED SEDIMENT CAPACITY*	2,096 LBS
WQv PROVIDED IN VAULT	184 CF

THE BAYFILTER STORMWATER MANAGEMENT SYSTEM IS A STORMWATER FILTRATION DEVICE DESIGNED TO REMOVE FINE SEDIMENTS, HEAVY METALS, AND PHOSPORUS. THE BAYFILTER SYSTEM RELIES ON A SPIRAL WOUND MEDIA FILTER CARTRIDGE WITH APPROXIMATELY 90 SQUARE FEET OF FILTRATION AREA. THE FILTER CARTRIDGES ARE HOUSED IN A CONCRETE STRUCTURE THAT EVENLY DISTRIBUTES THE FLOW BETWEEN CARTRIDGES. THE SYSTEM IS INLINE WITH AN INTERNAL BYPASS THAT ROUTES HIGH INTENSITY STORMS AROUND THE CARTRIDGES. THE FILTER CARTRIDGES REMOVE POLLUTANTS FROM RUNOFF BY FILTRATION (INTERCEPTION/ATTACHMENT) AND ADSORPTION.
*TREATED SEDIMENT CAPACITY IS CALCULATED IN ACCORDANCE WITH TCEQ REGULATOR GUIDANCE 348.

WINDING OAK
SITE DEVELOPMENT
LEANDER, TX

NO.	DATE	BY	REVISION DESCRIPTION
1	07/10/25	CHC	REDRAW BAYFILTER PER NEW VAULT SIZE
2	08/02/25	MV	REVISED PROJECT
3	08/04/25	MV	REVISED MANUFACTURERS
4	01/10/25	PME	REVISE CHAMBER LAYOUT PER MARKUP
5	01-10-25	TSG	INCREASE DETENTION VOLUME AND ELEVATIONS

DATE: 12-05-24 DRAWN: TSG
PROJECT #: 5446534 CHECKED: KLJ

BayFilter®
Stormwater Media Filters

4640 TRUEMAN BLVD
HILLIARD, OH 43026

AS NOTED

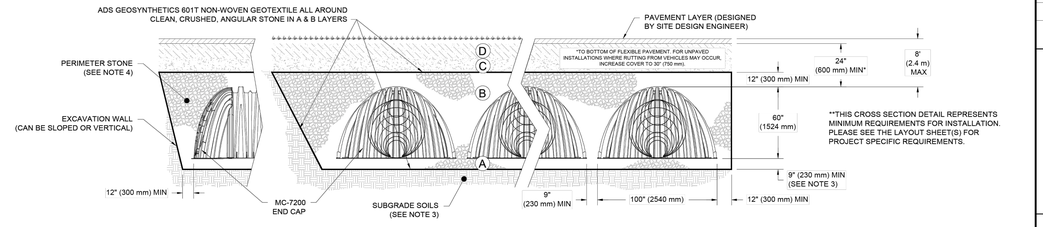
SHEET 5 OF 8

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD. THE DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE ENGR'S PRIOR APPROVAL. ENGR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE ENGR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

WINDING OAK
SITE DEVELOPMENT
LEANDER, TX

NO.	DATE	BY	REVISION DESCRIPTION
1	07/10/25	CHC	REDRAW BAYFILTER PER NEW VAULT SIZE
2	08/02/25	MV	REVISED PROJECT
3	08/04/25	MV	REVISED MANUFACTURERS
4	01/10/25	PME	REVISE CHAMBER LAYOUT PER MARKUP
5	01-10-25	TSG	INCREASE DETENTION VOLUME AND ELEVATIONS

DATE: 12-05-24 DRAWN: TSG
PROJECT #: 5446534 CHECKED: KLJ

StormTech®
Chamber System

1-800-821-6710 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

SHEET 6 OF 8

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD. THE DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE ENGR'S PRIOR APPROVAL. ENGR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE ENGR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY
ENGINEERING

WINDING OAK
SITE DEVELOPMENT PLAN

STORMTECH CHAMBER &
BAYFILTER DETAILS

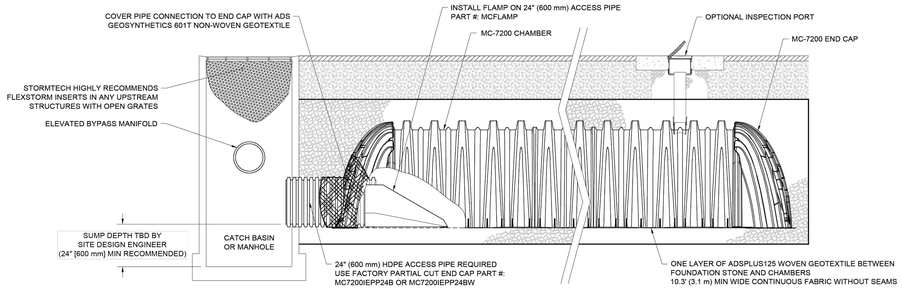
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 25 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - POND LAYOUT.DWG DATE: 10/10/2025 10:06 AM BY: LLAHAUG



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

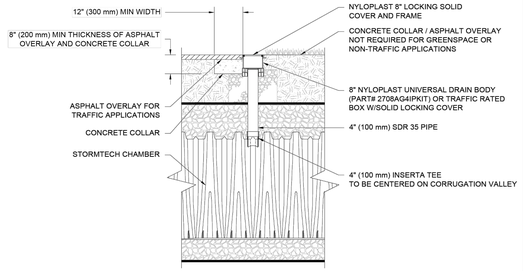
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

WINDING OAK
SITE DEVELOPMENT
LEANDER, TX

DATE: 12-05-24 | DRAWN: TSG | CHECKED: KLJ | PROJECT #: 5446534

NO.	DATE	BY	REVISION DESCRIPTION
1	07/10/25	CHC	REVISED BAYFILTER PER NEW VAULT SIZE
2	06/02/25	MV	REVISED PROJECT
3	03/03/25	MV	REVISED CHAMBERS
4	01/10/25	PME	REVISE CHAMBER LAYOUT PER MARKUP
5	01-10-25	TSG	INCREASE DETENTION VOLUME AND ELEVATIONS

DATE: 12/05/2024 | DESIGNED: MV | DRAWN: TSG | CHECKED: KLJ | DESCRIPTION: THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE ENTIRE PROJECT MANUAL AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS

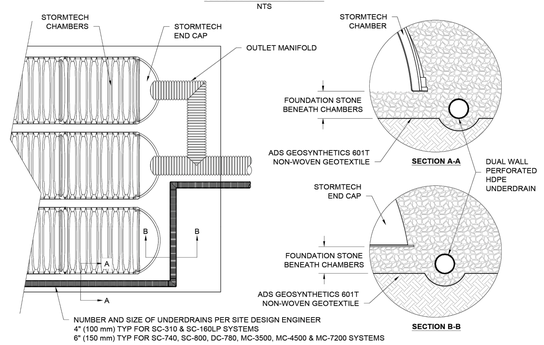
StormTech® Chamber System
1-800-821-6710 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

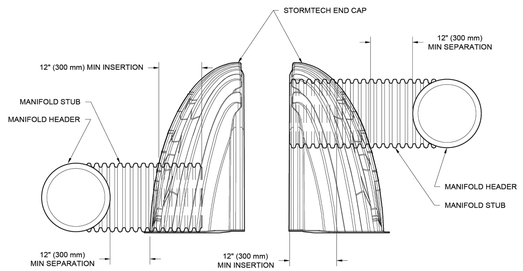
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD. IT IS INTENDED FOR USE IN BIDDING OR CONSTRUCTION ONLY AFTER PRODUCT SELECTION HAS BEEN MADE BY THE OWNER AND/OR THE OWNER'S REPRESENTATIVE. THE ENGINEER OF RECORD SHOULD REVIEW THIS DRAWING PRIOR TO APPROVAL, SIGN AND SEAL BELOW. THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

7 SHEET OF 8

UNDERDRAIN DETAIL
NTS

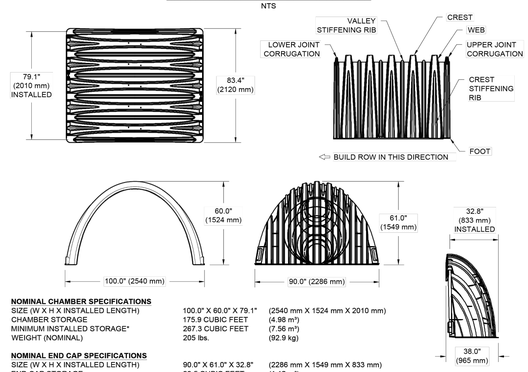


MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-7200 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

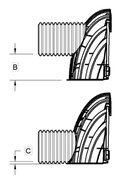
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

WINDING OAK
SITE DEVELOPMENT
LEANDER, TX

DATE: 12-05-24 | DRAWN: TSG | CHECKED: KLJ | PROJECT #: 5446534

NO.	DATE	BY	REVISION DESCRIPTION
1	07/10/25	CHC	REVISED BAYFILTER PER NEW VAULT SIZE
2	06/02/25	MV	REVISED PROJECT
3	03/03/25	MV	REVISED CHAMBERS
4	01/10/25	PME	REVISE CHAMBER LAYOUT PER MARKUP
5	01-10-25	TSG	INCREASE DETENTION VOLUME AND ELEVATIONS

DATE: 12/05/2024 | DESIGNED: MV | DRAWN: TSG | CHECKED: KLJ | DESCRIPTION: THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE ENTIRE PROJECT MANUAL AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS

StormTech® Chamber System
1-800-821-6710 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD. IT IS INTENDED FOR USE IN BIDDING OR CONSTRUCTION ONLY AFTER PRODUCT SELECTION HAS BEEN MADE BY THE OWNER AND/OR THE OWNER'S REPRESENTATIVE. THE ENGINEER OF RECORD SHOULD REVIEW THIS DRAWING PRIOR TO APPROVAL, SIGN AND SEAL BELOW. THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

8 SHEET OF 8

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY ENGINEERING

WINDING OAK
SITE DEVELOPMENT PLAN

STORMTECH CHAMBER DETAILS

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 26 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - POND LAYOUT.DWG DATE: 10/10/2025 10:06 AM BY: LLAHAUG

Global Summary Results for Run "a-2yr"

Project: Singleton Com Simulation Run: a-2yr

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:01
Compute Time: 20Jan2025, 14:29:30
Basin Model: Basin 1
Meteorologic Model: a-2yr
Control Specifications: Control 1

Show Elements: All Elements Volume Units: IN AC-FT Sorting: Alphabetic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
CULVERT 1 FLOW	0.0026696	4.27329	01Jan2000, 12:07	0.24808
CULVERT 2 FLOW	.00029	0.62973	01Jan2000, 12:04	0.03327
DA-1	0.0039067	6.02508	01Jan2000, 12:08	0.37337
DA-10	.000143329	0.45514	01Jan2000, 12:04	0.02636
DA-11	.000950179	2.88100	01Jan2000, 12:04	0.16535
DA-12	.000293329	0.93146	01Jan2000, 12:04	0.05394
DA-13	.000601675	1.84157	01Jan2000, 12:04	0.10589
DA-2	.000734828	1.20260	01Jan2000, 12:06	0.06323
DA-3	0.0015132	2.21908	01Jan2000, 12:08	0.13163
DA-4	.000941212	2.90781	01Jan2000, 12:04	0.16751
DA-5	.000922776	2.67880	01Jan2000, 12:04	0.15238
DA-6	.000588917	1.27970	01Jan2000, 12:05	0.07395
DA-7	.0007033	2.23332	01Jan2000, 12:04	0.12934
DA-8	.000879591	2.64174	01Jan2000, 12:04	0.15133
DA-9	.000121234	0.21109	01Jan2000, 12:04	0.01032
EX-1	0.0080061	11.96801	01Jan2000, 12:09	0.77528
EX-2	0.0042948	6.88926	01Jan2000, 12:07	0.41180
EX - POA-1	0.0080061	11.96801	01Jan2000, 12:09	0.77528
EX - POA-2	0.0042948	6.88926	01Jan2000, 12:07	0.41180
PROP - POA 1	0.0095259	10.84790	01Jan2000, 12:08	1.22733
PROP - POA 2	0.0016344	2.38674	01Jan2000, 12:07	0.14194
Rainwater Tank	0.0011400	3.61992	01Jan2000, 12:04	0.20964
Stormtech Detention ...	0.0048844	4.32097	01Jan2000, 12:16	0.79074

Global Summary Results for Run "b-10yr"

Project: Singleton Com Simulation Run: b-10yr

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:01
Compute Time: 20Jan2025, 14:29:31
Basin Model: Basin 1
Meteorologic Model: b-10yr
Control Specifications: Control 1

Show Elements: All Elements Volume Units: IN AC-FT Sorting: Alphabetic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
CULVERT 1 FLOW	0.0026696	9.63270	01Jan2000, 12:07	0.60154
CULVERT 2 FLOW	.00029	1.29558	01Jan2000, 12:04	0.07302
DA-1	0.0039067	13.43915	01Jan2000, 12:08	0.89273
DA-10	.000143329	0.76766	01Jan2000, 12:04	0.04811
DA-11	.000950179	4.96851	01Jan2000, 12:04	0.30757
DA-12	.000293329	1.57105	01Jan2000, 12:04	0.09846
DA-13	.000601675	3.16144	01Jan2000, 12:04	0.19620
DA-2	.000734828	2.81357	01Jan2000, 12:05	0.15947
DA-3	0.0015132	5.16933	01Jan2000, 12:07	0.33004
DA-4	.000941212	4.96941	01Jan2000, 12:04	0.30918
DA-5	.000922776	4.71982	01Jan2000, 12:04	0.28875
DA-6	.000588917	2.53543	01Jan2000, 12:05	0.15602
DA-7	.0007033	3.76684	01Jan2000, 12:04	0.23608
DA-8	.000879591	4.57708	01Jan2000, 12:04	0.28261
DA-9	.000121234	0.49546	01Jan2000, 12:04	0.02617
EX-1	0.0080061	26.57386	01Jan2000, 12:08	1.84166
EX-2	0.0042948	15.37388	01Jan2000, 12:07	0.98310
EX - POA-1	0.0080061	26.57386	01Jan2000, 12:08	1.84166
EX - POA-2	0.0042948	15.37388	01Jan2000, 12:07	0.98310
PROP - POA 1	0.0095259	24.32515	01Jan2000, 12:08	2.55647
PROP - POA 2	0.0016344	5.57118	01Jan2000, 12:07	0.35621
Rainwater Tank	0.0011400	6.10555	01Jan2000, 12:04	0.38266
Stormtech Detention ...	0.0048844	9.31055	01Jan2000, 12:13	1.50427

Global Summary Results for Run "c-25yr"

Project: Singleton Com Simulation Run: c-25yr

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:01
Compute Time: 20Jan2025, 14:29:33
Basin Model: Basin 1
Meteorologic Model: c-25yr
Control Specifications: Control 1

Show Elements: All Elements Volume Units: IN AC-FT Sorting: Alphabetic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
CULVERT 1 FLOW	0.0026696	12.90583	01Jan2000, 12:07	0.84860
CULVERT 2 FLOW	.00029	1.70086	01Jan2000, 12:04	0.10034
DA-1	0.0039067	17.96471	01Jan2000, 12:08	1.25501
DA-10	.000143329	0.95419	01Jan2000, 12:04	0.06235
DA-11	.000950179	6.21813	01Jan2000, 12:04	0.40128
DA-12	.000293329	1.95280	01Jan2000, 12:04	0.12761
DA-13	.000601675	3.95107	01Jan2000, 12:04	0.25563
DA-2	.000734828	3.80339	01Jan2000, 12:05	0.22710
DA-3	0.0015132	6.98436	01Jan2000, 12:07	0.46940
DA-4	.000941212	6.20206	01Jan2000, 12:04	0.40228
DA-5	.000922776	5.94480	01Jan2000, 12:04	0.37914
DA-6	.000588917	3.29731	01Jan2000, 12:05	0.21197
DA-7	.0007033	4.68212	01Jan2000, 12:04	0.30596
DA-8	.000879591	5.73628	01Jan2000, 12:04	0.36923
DA-9	.000121234	0.66988	01Jan2000, 12:04	0.03732
EX-1	0.0080061	35.54753	01Jan2000, 12:08	2.58477
EX-2	0.0042948	20.55782	01Jan2000, 12:07	1.38150
EX - POA-1	0.0080061	35.54753	01Jan2000, 12:08	2.58477
EX - POA-2	0.0042948	20.55782	01Jan2000, 12:07	1.38150
PROP - POA 1	0.0095259	33.16418	01Jan2000, 12:08	3.46012
PROP - POA 2	0.0016344	7.52165	01Jan2000, 12:07	0.50672
Rainwater Tank	0.0011400	7.58911	01Jan2000, 12:04	0.49593
Stormtech Detention ...	0.0048844	12.91818	01Jan2000, 12:12	1.97801

Global Summary Results for Run "d-100yr"

Project: Singleton Com Simulation Run: d-100yr

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:01
Compute Time: 20Jan2025, 14:29:34
Basin Model: Basin 1
Meteorologic Model: d-100yr
Control Specifications: Control 1

Show Elements: All Elements Volume Units: IN AC-FT Sorting: Alphabetic

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
CULVERT 1 FLOW	0.0026696	18.30590	01Jan2000, 12:06	1.30395
CULVERT 2 FLOW	.00029	2.36903	01Jan2000, 12:04	0.15034
DA-1	0.0039067	25.40084	01Jan2000, 12:07	1.92214
DA-10	.000143329	1.26346	01Jan2000, 12:04	0.08788
DA-11	.000950179	8.28824	01Jan2000, 12:04	0.56972
DA-12	.000293329	2.58573	01Jan2000, 12:04	0.17985
DA-13	.000601675	5.25940	01Jan2000, 12:04	0.36239
DA-2	.000734828	5.43013	01Jan2000, 12:05	0.35205
DA-3	0.0015132	9.96261	01Jan2000, 12:07	0.72675
DA-4	.000941212	8.24477	01Jan2000, 12:04	0.56944
DA-5	.000922776	7.97256	01Jan2000, 12:04	0.54206
DA-6	.000588917	4.55288	01Jan2000, 12:05	0.31401
DA-7	.0007033	6.19967	01Jan2000, 12:04	0.43121
DA-8	.000879591	7.65628	01Jan2000, 12:04	0.52502
DA-9	.000121234	0.95680	01Jan2000, 12:04	0.05793
EX-1	0.0080061	50.27362	01Jan2000, 12:08	3.95267
EX-2	0.0042948	29.06729	01Jan2000, 12:07	2.11508
EX - POA-1	0.0080061	50.27362	01Jan2000, 12:08	3.95267
EX - POA-2	0.0042948	29.06729	01Jan2000, 12:07	2.11508
PROP - POA 1	0.0095259	49.61313	01Jan2000, 12:08	5.10777
PROP - POA 2	0.0016344	10.72047	01Jan2000, 12:07	0.78468
Rainwater Tank	0.0011400	10.04885	01Jan2000, 12:04	0.69894
Stormtech Detention ...	0.0048844	20.73422	01Jan2000, 12:11	2.83358

Summary Results for Reservoir "Stormtech Detention Pond"

Project: Singleton Com
Simulation Run: c-25yr Reservoir: Stormtech Detention Pond

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:01
Compute Time: 20Jan2025, 14:29:33
Basin Model: Basin 1
Meteorologic Model: c-25yr
Control Specifications: Control 1

Volume Units: IN AC-FT

Computed Results

Peak Inflow :	31.22872 (CFS)	Date/Time of Peak Inflow :	01Jan2000, 12:04
Peak Outflow :	12.91818 (CFS)	Date/Time of Peak Outflow :	01Jan2000, 12:12
Total Inflow :	7.75 (IN)	Peak Storage :	0.96227 (AC-FT)
Total Outflow :	7.59 (IN)	Peak Elevation :	943.1 (FT)

Summary Results for Reservoir "Stormtech Detention Pond"

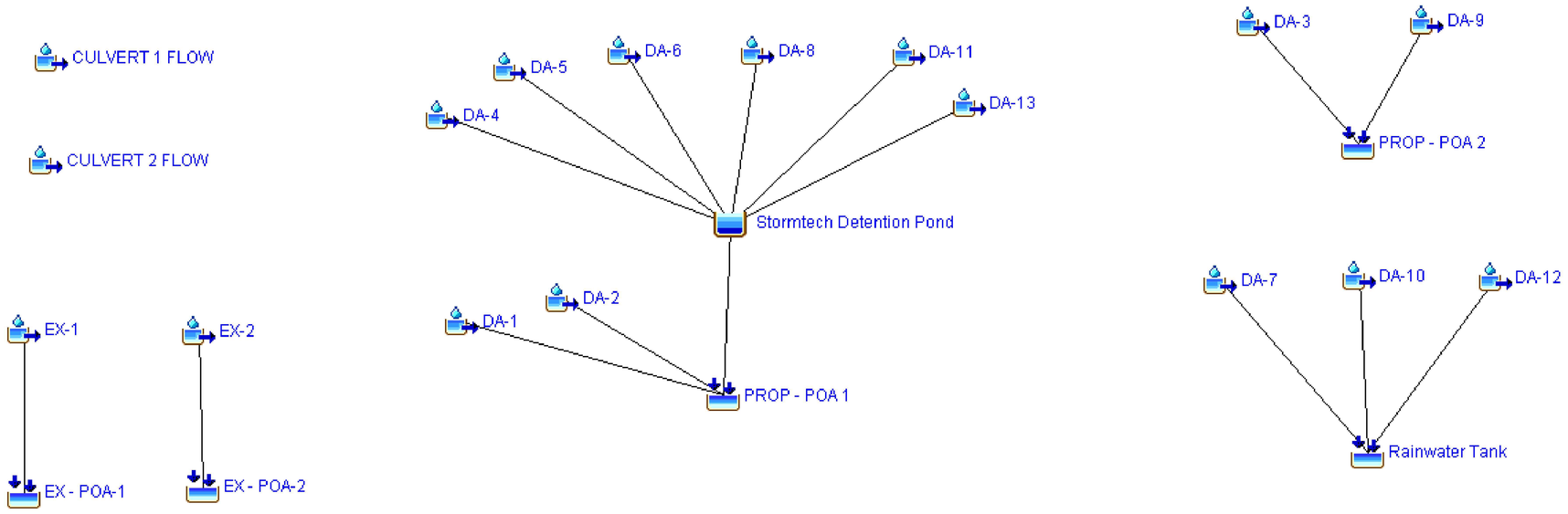
Project: Singleton Com
Simulation Run: d-100yr Reservoir: Stormtech Detention Pond

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:01
Compute Time: 20Jan2025, 14:29:34
Basin Model: Basin 1
Meteorologic Model: d-100yr
Control Specifications: Control 1

Volume Units: IN AC-FT

Computed Results

Peak Inflow :	41.81448 (CFS)	Date/Time of Peak Inflow :	01Jan2000, 12:04
Peak Outflow :	20.73422 (CFS)	Date/Time of Peak Outflow :	01Jan2000, 12:11
Total Inflow :	11.07 (IN)	Peak Storage :	1.10486 (AC-FT)
Total Outflow :	10.88 (IN)	Peak Elevation :	944.2 (FT)



8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

POND ROUTINGS

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - POND OUTLET STRUCTURE.DWG DATE: 10/10/2025 10:06 AM BY: IHULL

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Winding Oak Site Development
Date Prepared: 1/21/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the 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: $L_M = 27.2(A_N \times P)$

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

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

County =	Williamson	
Total project area included in plan * =	4.61	acres
Predevelopment impervious area within the limits of the plan * =	0.64	acres
Total post-development impervious area within the limits of the plan* =	2.68	acres
Total post-development impervious cover fraction * =	0.58	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	1776	lbs.

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

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

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

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	3.87	acres
Predevelopment impervious area within drainage basin/outfall area =	0.44	acres
Post-development impervious area within drainage basin/outfall area =	2.69	acres
Post-development impervious fraction within drainage basin/outfall area =	0.69	
$L_{M\ THIS\ BASIN}$ =	1950	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = BayFilter
Removal efficiency = 80 percent

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

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

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

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

A_C =	3.87	acres
A_I =	2.68	acres
A_P =	1.19	acres
L_R =	2390	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 1776 lbs.

F = 0.74

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

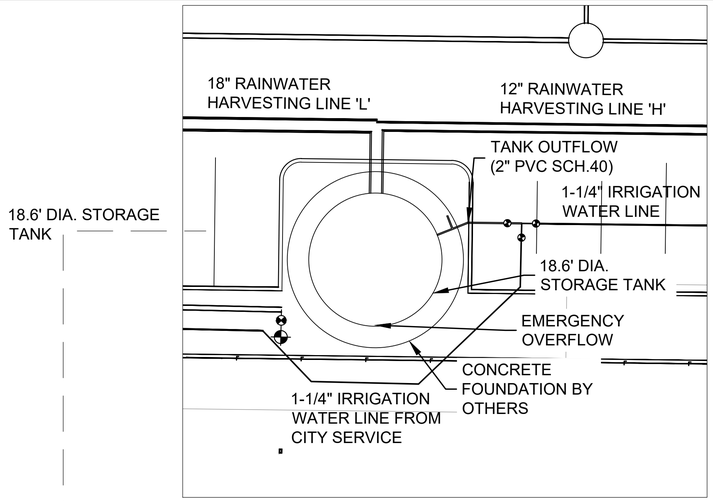
TCEQ CALCULATIONS

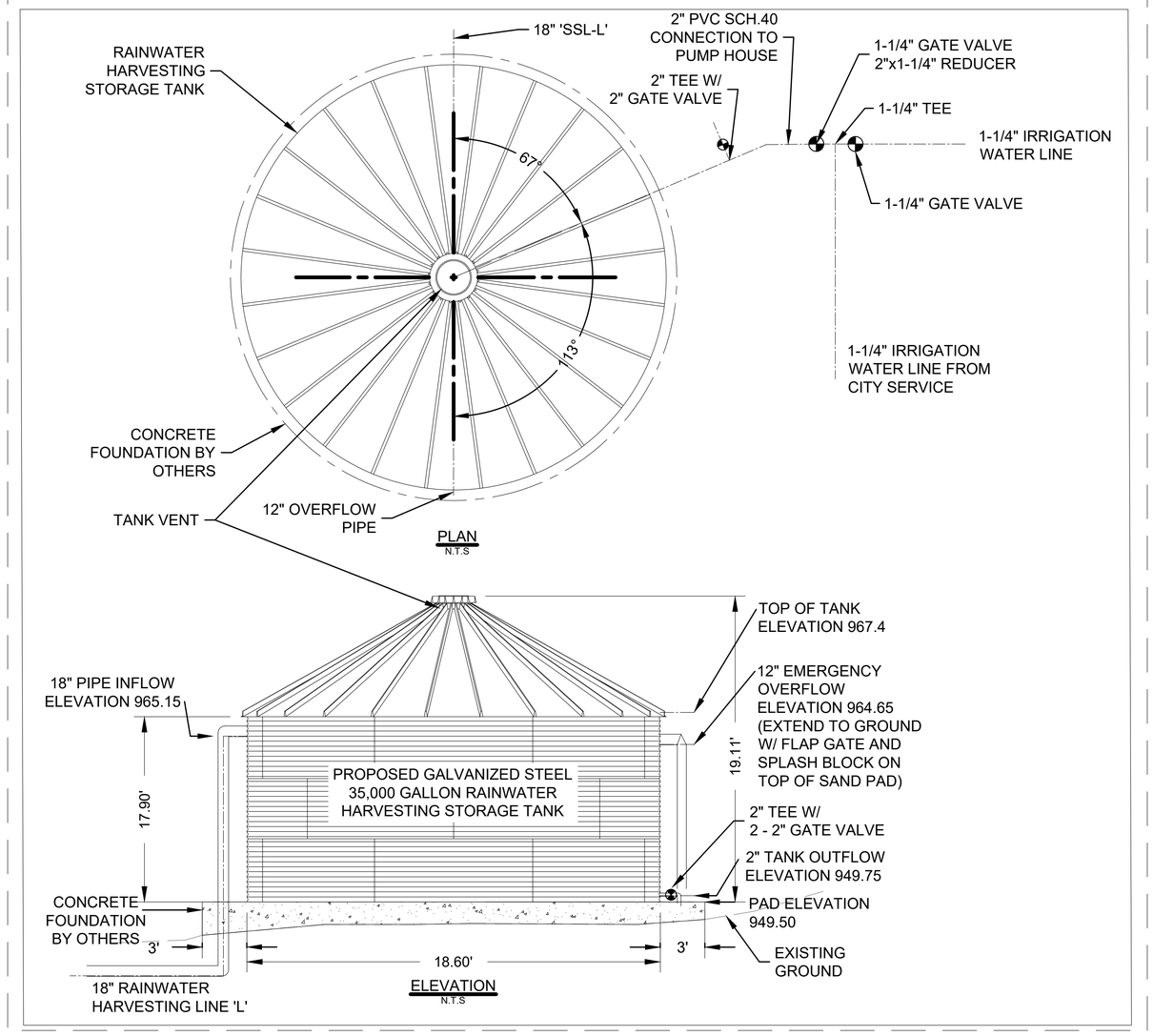
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

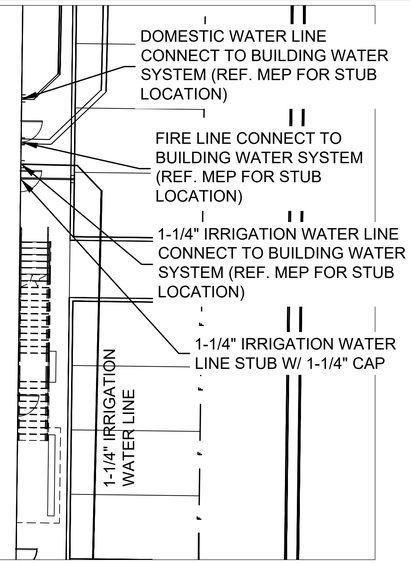
H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - POND OUTLET STRUCTURE.DWG DATE: 10/10/2025 10:06 AM BY: IHULL

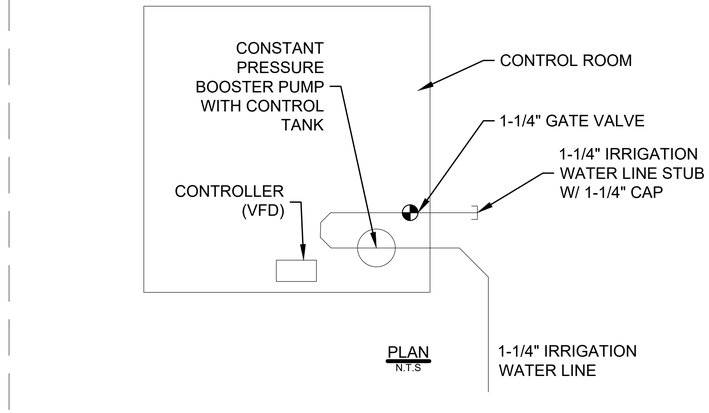




SCALE: 1"=10'
GRAPHIC SCALE IN FEET
0 5 10 15 20

TWO-STORY RETAIL / OFFICE SHELL BLDG
16,400 SQ FT





8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

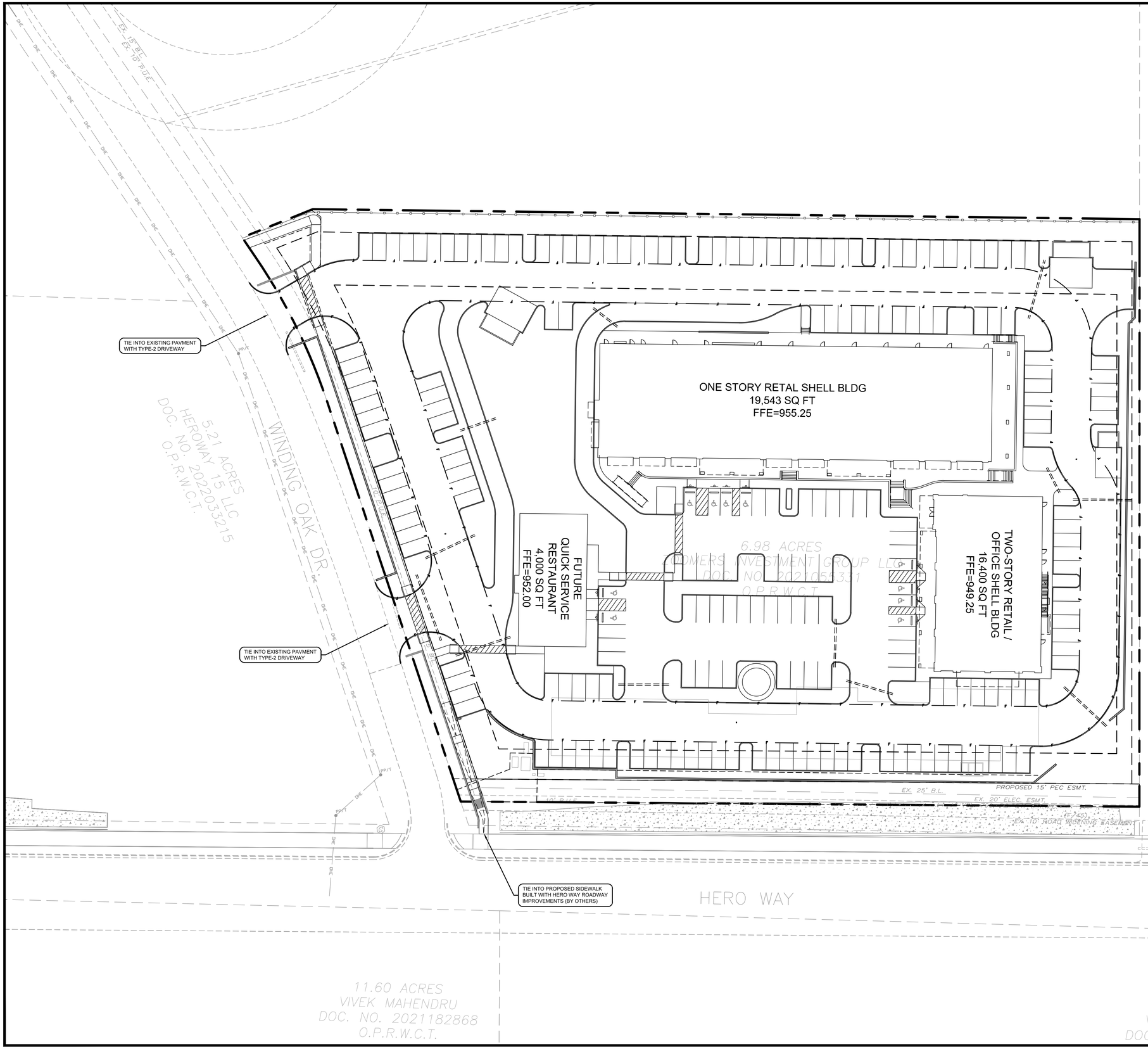
RAINWATER HARVESTING TANK AND PUMP HOUSE PLAN

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - RAINWATER HARVESTING TANK AND PUMP HOUSE PLAN.DWG DATE: 10/10/2025 10:06 AM BY: LLANUS



8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

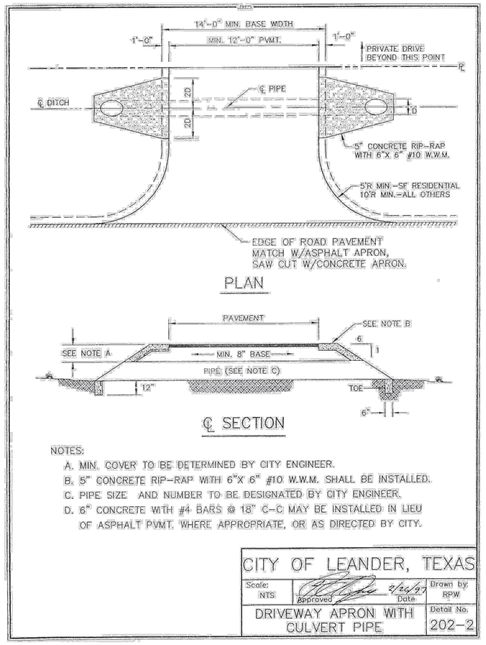
ROAD AND SIDEWALK CLOSURE PLAN

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

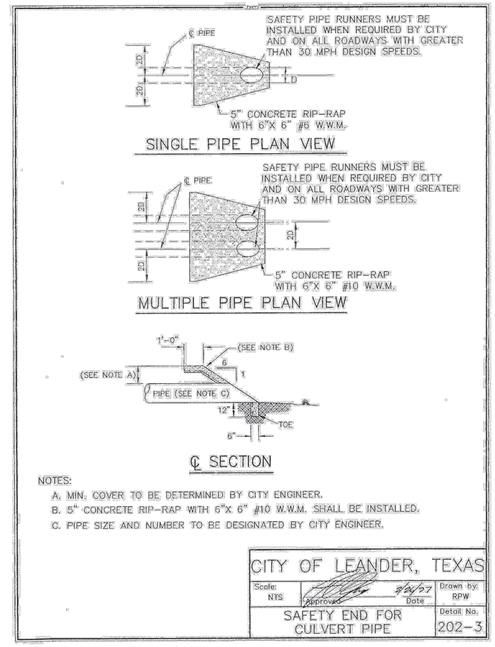
H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - ROAD AND SIDEWALK CLOSURE PLAN.DWG DATE: 10/10/2025 10:06 AM BY: JMARTINEZ



NOTES:

A. MIN. COVER TO BE DETERMINED BY CITY ENGINEER.
B. 5" CONCRETE RIP-RAP WITH 6"X 6" #10 W.W.M. SHALL BE INSTALLED.
C. PIPE SIZE AND NUMBER TO BE DESIGNATED BY CITY ENGINEER.
D. 6" CONCRETE WITH #4 BARS @ 18" C-C MAY BE INSTALLED IN LIEU OF ASPHALT PVMT. WHERE APPROPRIATE, OR AS DIRECTED BY CITY.

CITY OF LEANDER, TEXAS			
Scale: NTS	Approved 2/24/97 Date	Drawn by: RPW	
DRIVEWAY APRON WITH CULVERT PIPE		Detail No. 202-2	



NOTES:

A. MIN. COVER TO BE DETERMINED BY CITY ENGINEER.
B. 5" CONCRETE RIP-RAP WITH 6"X 6" #10 W.W.M. SHALL BE INSTALLED.
C. PIPE SIZE AND NUMBER TO BE DESIGNATED BY CITY ENGINEER.

CITY OF LEANDER, TEXAS			
Scale: NTS	Approved 2/24/97 Date	Drawn by: RPW	
SAFETY END FOR CULVERT PIPE		Detail No. 202-3	

ARTERIAL ROADWAYS	
DROPOFF HEIGHT/ CONDITION	RAIL OPTIONS
< 30" DROPOFF	TXDOT PRD-13 TY C or TY E
≥ 30" DROPOFF OR ALONG BICYCLE PATH	TXDOT PRD-13 TY E

ALL OTHER ROADWAY CLASSIFICATIONS	
DROPOFF HEIGHT/ CONDITION	RAIL OPTIONS
< 30" DROPOFF	TXDOT PRD-13 TY C, TXDOT PRD-13 TY E, or COA 707S-2
≥ 30" DROPOFF OR ALONG BICYCLE PATH	TXDOT PRD-13 TY E or COA 707S-2

NOTES:

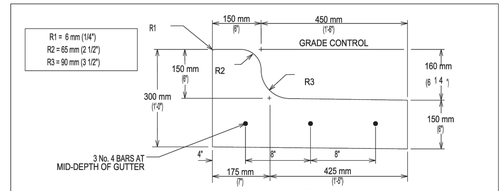
1. BICYCLE PATHS INCLUDE ALL SIDEWALKS OR PATHS GREATER THAN SIX FEET (6') IN WIDTH.
2. HANDRAIL TYPE AND FINISH SHALL REMAIN CONSISTENT AT EACH INSTALLATION LOCATION (CULVERT CROSSING, DROPOFF, ETC.).
3. ALL HANDRAIL INSTALLED ALONG ARTERIAL ROADWAYS SHALL BE GALVANIZED.
4. HANDRAIL INSTALLED ALONG ALL OTHER ROADWAYS SHALL BE GALVANIZED OR FACTORY POWDER-COATED BLACK.

REFERENCES:

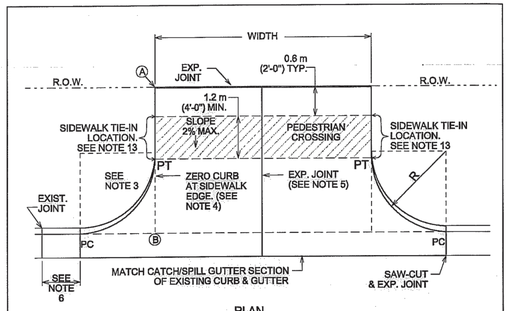
1. CITY OF AUSTIN STANDARD NO. 707S-2 PEDESTRIAN HANDRAIL OPTION 1.
2. TEXAS DEPARTMENT OF TRANSPORTATION PEDESTRIAN HANDRAILS DETAIL PRD-13.

STATE OF TEXAS MICHAEL LAFFERTY 118709 LICENSED PROFESSIONAL ENGINEER
2020-04-07

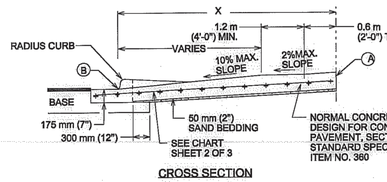
City Of Leander, Texas
DETAIL #202-4
PEDESTRIAN HANDRAIL



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		REINFORCED CURB AND GUTTER SECTION	
RECORD COPY SIGNED BY SAM ANGOORI	01/04/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 430S-2

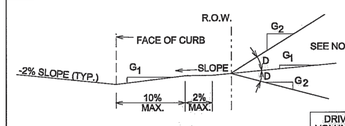


NOTE: ALL DRIVEWAYS SHALL BE SLOPED TOWARDS THE STREET FROM THE R.O.W. LINE. ELEVATION OF POINT (A) ABOVE POINT (B) IS, TYPICALLY A MINIMUM OF 150 mm (6") PLUS 20 mm/m (¼" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE II DRIVEWAY	
	2/24/16 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 1 OF 2

USE	THICKNESS	REINFORCEMENT
DRIVEWAYS FOR PASSENGER VEHICLE PARKING LOTS	150 mm (6") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS
ALL OTHERS	175 mm (7") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS



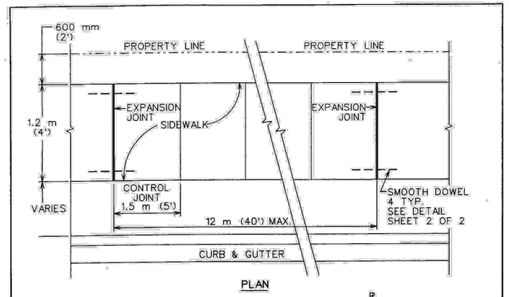
ALLOWABLE GRADES

DRIVEWAY VOLUME (ADT)	D=GRADE CHANGE STD.	MAX
>1500	0%	3%
500-1500	3%	6%
<500	6%	15%

NOTES:

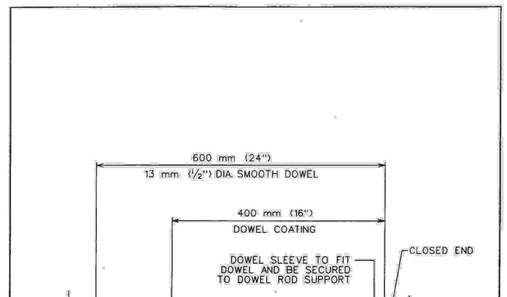
1. ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
2. DRIVEWAY WIDTHS AND RADII DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE, SUBJECT TO SITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 9 "DRIVEWAYS".
3. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
4. "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
5. PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
6. IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
7. IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
8. TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 80% OF PARCEL FRONTAGE AT 30 METERS (100 FEET); WHICHEVER IS LESS.
9. DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
10. WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2 IS GREATER THAN 15%.
11. USE 12 MM (1/2") ASPHALT BOARD OR OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS. SIDEWALK AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 5.
12. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
13. THE SIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
14. WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE II DRIVEWAY	
	2/24/16 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 2 OF 2



POLYPROPYLENE FIBRILLATED FIBERS, OR 150 mm X 150 mm X MW9 X MW9 (6" X 6" X W1.4 X W1.4) WELDED WIRE FABRIC OR ONE LAYER 10M (#3) BARS PLACED NOT MORE THAN 450 mm (18") C.C. BOTH DIRECTIONS. REINFORCEMENT SHALL ACCURATELY PLACED AT SLAB MID-DEPTH AND HELD FIRMLY IN PLACE BY MEANS OF BAR SUPPORTS OF ADEQUATE STRENGTH AND NUMBER THAT WILL PREVENT DISPLACEMENT AND KEEP THE STEEL AT ITS PROPER POSITION DURING THE PLACEMENT OF THE P.C. CONCRETE. IN NO INSTANCE SHALL THE STEEL BE PLACED DIRECTLY ON THE SUBGRADE OR SAND CUSHION LAYER.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		SIDEWALK	
Bill Gardner	3/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 1 OF 3



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		SIDEWALK	
Bill Gardner	3/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 2 OF 3

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

SITE PLAN DETAILS 1

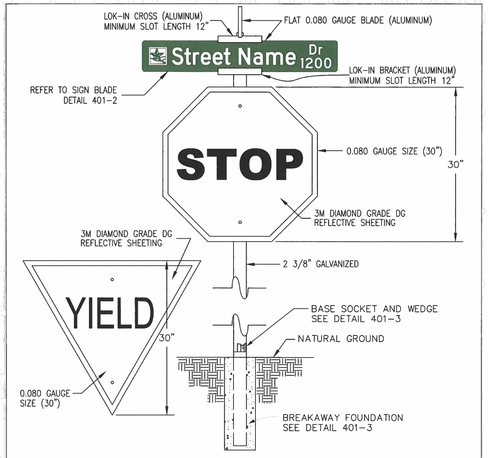
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS STEVEN M. MINOR 133778 LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 31 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - SITE PLAN DETAILS 1.DWG DATE: 10/10/2025 10:06 AM BY: JMARTINEZ

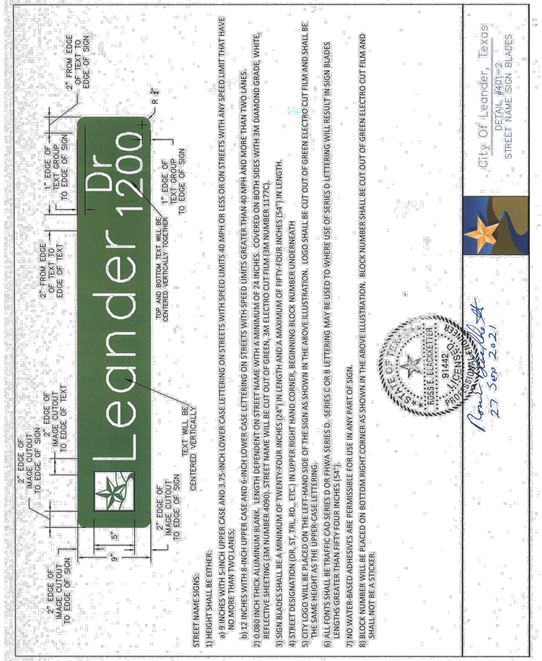


NOTES:
1. 7'-FOOT MIN. HEIGHT FROM GROUND TO BOTTOM OF SIGN.
2. ALL SIGNS TO BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
3. ALL SIGNAGE SHEETINGS SHALL BE 3M DIAMOND GRADE DG REFLECTIVE SHEETING.

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

WAYNE S. WATTS 86134 LICENSED PROFESSIONAL ENGINEER
Wayne S. Watts 01/06/2021

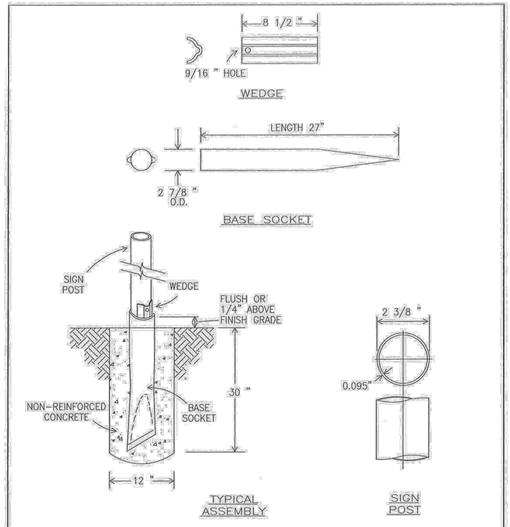
City Of Leander, Texas
DETAIL #401-1
STREET SIGNS



STREET NAME SIGNS:
1) HEIGHT SHALL BE EITHER:
   a) 9 INCHES WITH 5-INCH UPPER CASE AND 3.75-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS 40 MPH OR LESS OR ON STREETS WITH ANY SPEED LIMIT THAT HAVE NO MORE THAN TWO LANES;
   b) 12 INCHES WITH 8-INCH UPPER CASE AND 6-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS GREATER THAN 40 MPH AND MORE THAN TWO LANES.
2) 0.080 INCH THICK ALUMINUM BLANK. LENGTH DEPENDENT ON STREET NAME WITH A MINIMUM OF 24 INCHES. COVERED ON BOTH SIDES WITH 3M DIAMOND GRADE, WHITE, REFLECTIVE SHEETING (3M NUMBER 4090). STREET NAME WILL BE CUT OUT OF GREEN, 3M ELECTRO CUT FILM (3M NUMBER 1177C).
3) SIGN BLADES SHALL BE A MINIMUM OF TWENTY-FOUR INCHES (24") IN LENGTH AND A MAXIMUM OF FIFTY-FOUR INCHES (54") IN LENGTH.
4) STREET DESIGNATION (DR, ST, TRL, RD., ETC.) IN UPPER RIGHT HAND CORNER, BEGINNING BLOCK NUMBER UNDERNEATH
5) CITY LOGO WILL BE PLACED ON THE LEFT-HAND SIDE OF THE SIGN AS SHOWN IN THE ABOVE ILLUSTRATION. LOGO SHALL BE CUT OUT OF GREEN ELECTRO CUT FILM AND SHALL BE 3" HIGH X 3" WIDE. 3M ELECTRO CUT FILM (3M NUMBER 1177C).
6) ALL FONTS SHALL BE TRAFFIC CAD SERIES B OR FHWA SERIES D. SERIES C OR B LETTERING MAY BE USED TO WHERE USE OF SERIES D LETTERING WILL RESULT IN SIGN BLADES LENGTHS GREATER THAN FIFTY FOUR INCHES (54").
7) NO WATER-BASED ADHESIVES ARE PERMISSIBLE FOR USE IN ANY PART OF SIGN.
8) BLOCK NUMBER WILL BE PLACED ON BOTTOM RIGHT CORNER AS SHOWN IN THE ABOVE ILLUSTRATION. BLOCK NUMBER SHALL BE CUT OUT OF GREEN ELECTRO CUT FILM AND SHALL NOT BE A STICKER.

STATE OF TEXAS BRANDON J. WISENBAKER 91442 LICENSED PROFESSIONAL ENGINEER
27 Sep 2021

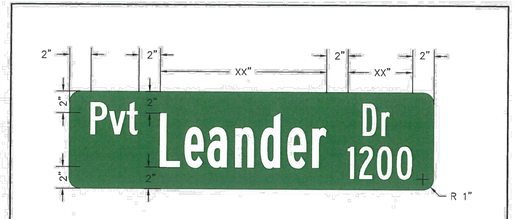
City Of Leander, Texas
DETAIL #401-2
STREET NAME SIGN BLADES



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

WAYNE S. WATTS 86134 LICENSED PROFESSIONAL ENGINEER
Wayne S. Watts 05/27/14

City Of Leander, Texas
401-3
POZ-LOC FOUNDATION

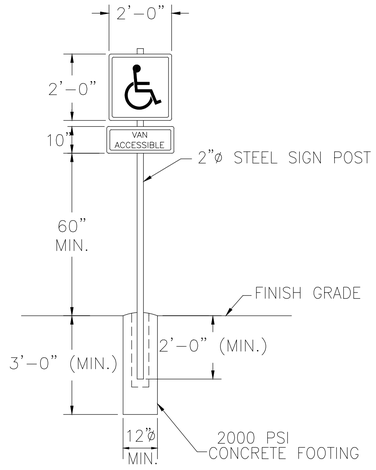


STREET NAME SIGNS:

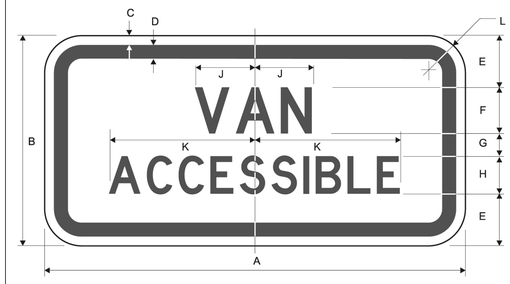
1) HEIGHT SHALL BE EITHER:
   a) 9 INCHES WITH 5-INCH UPPER CASE AND 3.75-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS 40 MPH OR LESS OR ON STREETS WITH ANY SPEED LIMIT THAT HAVE NO MORE THAN TWO LANES;
   b) 12 INCHES WITH 8-INCH UPPER CASE AND 6-INCH LOWER CASE LETTERING ON STREETS WITH SPEED LIMITS GREATER THAN 40 MPH AND MORE THAN TWO LANES.
2) 0.080 INCH THICK ALUMINUM BLANK. LENGTH DEPENDENT ON STREET NAME WITH A MINIMUM OF 24 INCHES. COVERED ON BOTH SIDES WITH 3M DIAMOND GRADE, WHITE, REFLECTIVE SHEETING (3M NUMBER 4090). STREET NAME WILL BE CUT OUT OF GREEN, 3M ELECTRO CUT FILM (3M NUMBER 1177C).
3) STREET DESIGNATION (DR, ST, TRL, RD, ETC.) IN UPPER RIGHT-HAND CORNER, BEGINNING BLOCK NUMBER UNDERNEATH.
   A. ALL FONTS SHALL BE TRAFFIC CAD SERIES B OR FHWA SERIES B.
   B. NO WATER-BASED ADHESIVES ARE PERMISSIBLE FOR USE IN ANY PART OF SIGN.
4) PRIVATE STREET ABBREVIATION SHALL BE IN UPPER LEFT-HAND CORNER AS SHOWN WITH THREE-INCH (3") UPPER-CASE LETTERING AND 2-1/4 INCH (2.25") LOWER-CASE LETTERING.

WAYNE S. WATTS 86134 LICENSED PROFESSIONAL ENGINEER
Wayne S. Watts 08/10/18

City Of Leander, Texas
DETAIL #401-4
PRIVATE STREET NAME SIGN BLADES



HANDI-CAP SIGN DETAIL
N.T.S.



R7-8P

	A	B	C	D	E	F	G	H	J	K	L
TEXAS ▸	12	6	.375	.438	1.5	1.5 D	.5	1 D	1.871	3.859	1.5



R7-8T



NOTES:
1. INSTALL 4" DIAMETER STAINLESS STEEL "NO DUMPING – DRAINS TO CREEK" MARKER, FACTORY PAINTED BLUE AS SHOWN, 2" ABOVE VERTICAL FACE OF INLET AT MIDPOINT OF ALL INLETS.
2. MARKER SHALL BE AFFIXED TO SURFACE WITH ADHESIVE PER MANUFACTURER'S RECOMMENDATIONS.
3. MARKER SHALL BE MANUFACTURED BY ALMATEK INDUSTRIES OR APPROVED EQUAL:
   ALMATEK INDUSTRIES, INC.
   2 JOY DRIVE
   HACKETTSTOWN, NJ 07840
   (800) 248-2080
   WWW.ALMATEK.COM

WAYNE S. WATTS 86134 LICENSED PROFESSIONAL ENGINEER
Wayne S. Watts 06/20/18

City Of Leander, Texas
DETAIL #503-3
STORM DRAIN MARKERS

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

SITE PLAN DETAILS 2

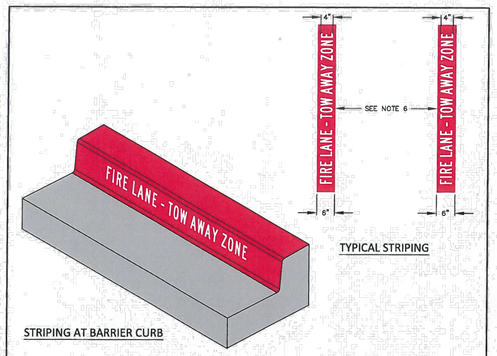
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS STEVEN M. MINOR 133778 LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 32 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - SITE PLAN DETAILS 2.DWG DATE: 10/10/2025 10:06 AM BY: JMARTINEZ



TYPICAL STRIPING

STRIPING AT BARRIER CURB

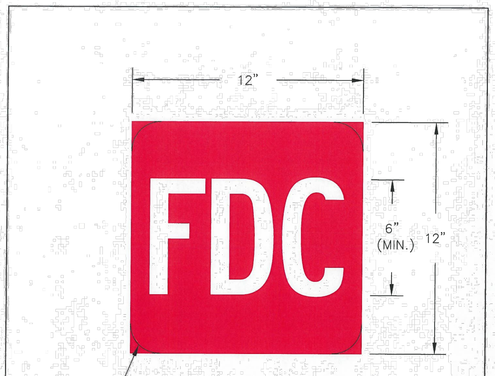
NOTES:

1. ALL FIRE LANE STRIPING SHALL COMPLY WITH THE CURRENT INTERNATIONAL FIRE CODE, AS ADOPTED BY THE CITY OF LEANDER, AND CITY OF LEANDER CODE OF ORDINANCES.
2. FIRE LANES SHALL BE CONTINUOUSLY MARKED BY RED TRAFFIC PAINT THAT IS MINIMUM SIX INCHES (6") IN WIDTH TO SHOW THE BOUNDARIES OF THE LANE.
3. "FIRE LANE - TOW AWAY ZONE" SHALL APPEAR IN FOUR INCH (4") TYPE D WHITE BLOCK LETTERS AT TWENTY-FIVE FOOT (25') INTERVALS, OR LESS, ON THE RED BORDER MARKINGS ALONG BOTH SIDES OF THE FIRE LANE.
4. WHERE A 6" BARRIER CURB EXISTS, THE FIRE LANE STRIPING SHALL BE ON BOTH THE VERTICAL FACE OF THE CURB AND TOP OF CURB. "FIRE LANE - TOW AWAY ZONE" SHALL BE MARKED IN 4" WHITE BLOCK LETTERS ON FACE OF CURB ONLY.
5. WHERE A FIRE LANE IS ADJACENT TO PARKING SPACES THE FIRE LANE STRIPING SHALL BE AN 8" RED STRIPE PAINTED ON THE DRIVE SURFACE WITH 4" WHITE LETTERS STATING "FIRE LANE NO PARKING TOW-AWAY ZONE." FIRE LANE STRIPING SHALL EXTEND BEHIND ALL PARKING SPACES.
6. WHERE A FIRE HYDRANT, FIRE DEPARTMENT CONNECTION, OR OTHER FIRE PROTECTION EQUIPMENT IS LOCATED ON A FIRE LANE, THE FIRE LANE SHALL BE A MINIMUM OF TWENTY-SIX FEET (26') IN WIDTH, EXCLUSIVE OF SHOULDERS.

*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.

STATE OF TEXAS · MICHAEL LAFFERTY · 118728 · LICENSED · 2017-01-28 · FIRE MARSHAL

City Of Leander, Texas
DETAIL #501-2
FIRE LANE STRIPING



OPTIONAL 1 1/2" RADIUS CORNERS

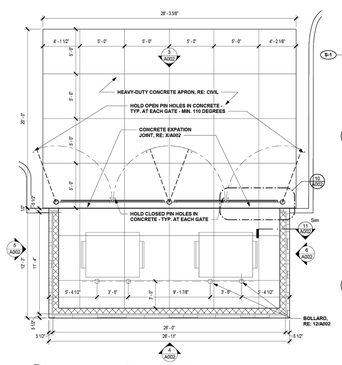
NOTES:

1. 12-INCH BY 12-INCH, 0.080 INCH THICK ALUMINUM BLANKS. COVERED WITH 3M DIAMOND GRADE, WHITE, REFLECTIVE SHEETING. LETTERING SHALL BE UPPER CASE, MINIMUM OF 6" IN HEIGHT WITH 1-1/4" LETTER STROKE, AND CUT FROM RED 3M ELECTRO CUT FILM.
2. ALL FONTS SHALL BE TRAFFIC CAD SERIES B OR FHWA SERIES B.
3. ON BUILDINGS, WHERE THE FIRE DEPARTMENT CONNECTION (FDC) IS NOT VISIBLE FROM THE FIRE LANE, THE FDC SHALL BE INDICATED BY AN APPROVED SIGN MOUNTED AS DIRECTED BY THE FIRE MARSHAL.
4. SIGN SHALL BE INSTALLED WITH ITS HORIZONTAL CENTERLINE A MINIMUM OF FOUR FEET (4') ABOVE THE FIRE DEPARTMENT CONNECTION AND PROVIDING AN UNOBSTRUCTED VIEW FROM THE FIRE DEPARTMENT ACCESS ROAD, TO INCLUDE CONSIDERATION FOR FUTURE VEGETATIVE GROWTH.
5. NO WATER-BASED ADHESIVES ARE PERMISSIBLE FOR USE IN ANY PART OF THE SIGN.

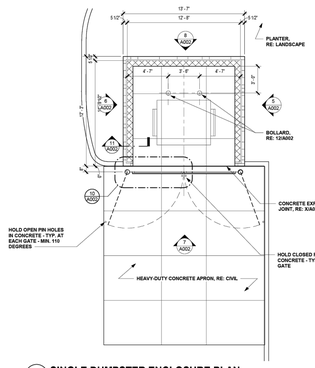
*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.

STATE OF TEXAS · MICHAEL LAFFERTY · 118728 · LICENSED · 2017-01-28 · FIRE MARSHAL

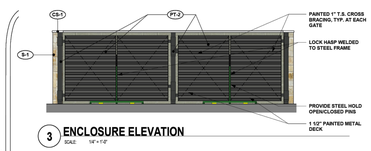
City Of Leander, Texas
DETAIL #501-4
FIRE DEPARTMENT CONNECTION SIGN



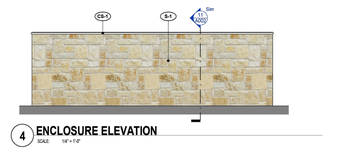
1 DOUBLE DUMPSTER ENCLOSURE PLAN
SCALE: 1/8" = 1'-0"



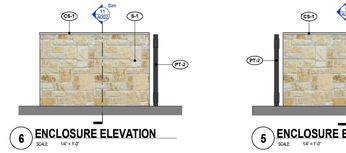
2 SINGLE DUMPSTER ENCLOSURE PLAN
SCALE: 1/8" = 1'-0"



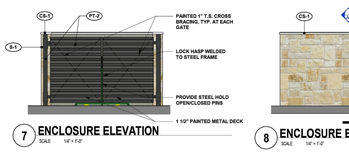
3 ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



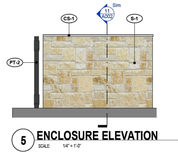
4 ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



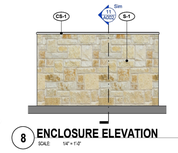
6 ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



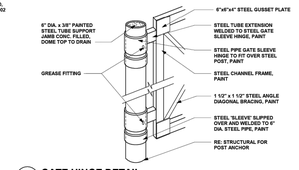
7 ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



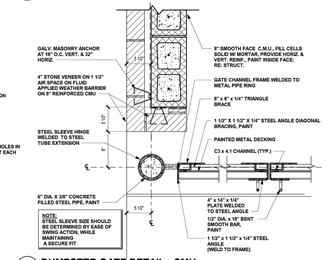
5 ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



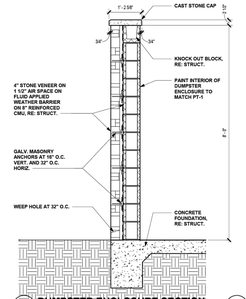
8 ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



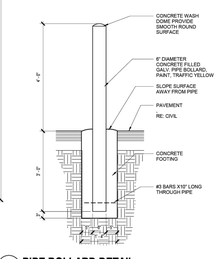
9 GATE HINGE DETAIL
SCALE: 1 1/2" = 1'-0"



10 DUMPSTER GATE DETAIL - CMU
SCALE: 1 1/2" = 1'-0"



11 DUMPSTER ENCLOSURE SECTION
SCALE: 3/4" = 1'-0"



12 PIPE BOLLARD DETAIL
SCALE: 3/4" = 1'-0"

NOTE: SCALE HALVED TO FIT PAGE

Open studio architecture
6122 DeZavala Rd.
San Antonio, Texas 78249
Tel: 210.417.4307
www.openstudio-usa.com

STATE OF TEXAS · REGISTERED · ARCHITECT · 12.12.24

Revisions

Number	Description	Date
1		

Open Studio Architecture, PLLC © 2024
All Rights Reserved

THIS DRAWING IS PROVIDED AS AN INSTRUMENT OF SERVICE BY THE ARCHITECT AND IS INTENDED FOR USE ON THIS PROJECT ONLY. THE DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SHALL BE RETURNED TO HIM/HER UPON COMPLETION OF THE CONSTRUCTION WORK. THE DRAWING IS PROTECTED BY FEDERAL COPYRIGHT PROTECTION ACT OF 1990. ALL DRAWINGS, SPECIFICATIONS, IDEAS, AND DESIGNS, AND ARRANGEMENTS OF THE BUILDING SHOWN AND COMPONENTS OF THE SERVICES AND ELEMENTS APPEARING HEREIN, CONSTITUTE THE COPYRIGHT PROPERTY OF THE ARCHITECT. ANY REPRODUCTION, USE, OR DISCLOSURE OF INFORMATION CONTAINED HEREIN WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT IS STRICTLY PROHIBITED.

WINDING OAK TRAIL DEVELOPMENT

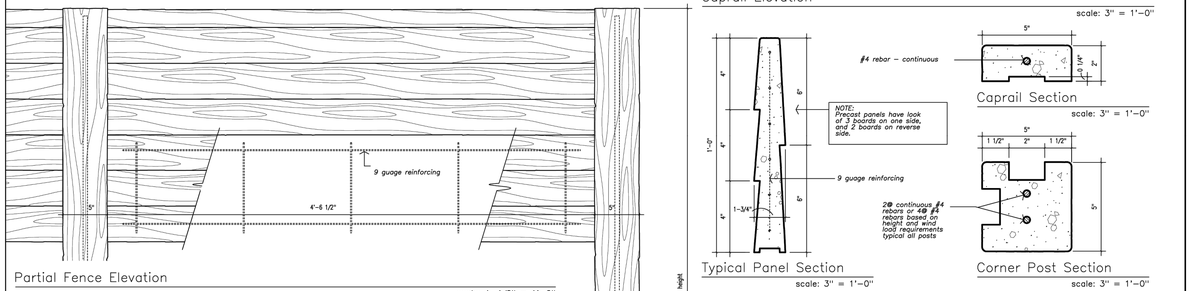
HERO WAY & WINDING OAK TRAIL
LEANDER, TEXAS 78641

project #: 24.039
date: 12.12.24
drawn by: JC
checked by: JG
drawing title:
ARCHITECTURAL SITE DETAILS

drawing number:
A002



Caprail Elevation
scale: 3" = 1'-0"



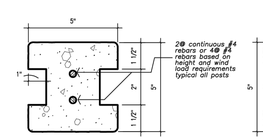
Partial Fence Elevation
scale: 1-1/2" = 1'-0"



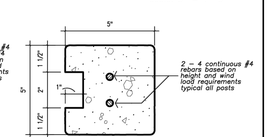
Wood Style Concrete Fence

Typical Panel Section
scale: 3" = 1'-0"

scale: 3" = 1'-0"



Running Post Section
scale: 3" = 1'-0"



Stop Post Section
scale: 3" = 1'-0"

notes:

1. The column height can be from 0 to a maximum of 10'-0". Additional heights are available upon special order.
2. All concrete shall be 5000 p.s.i.
3. All reinforcement shall be A.S.T.M. 615 grade 60. Special reinforcement is available upon special order.
4. Footing – 2 feet deep (min.) footing standard per column, 12" – 18" diameter. Depth and diameter can vary per local soil conditions.
5. Color: Tan / Brown. Any other specific color will be produced upon special order.
6. Texture: All exposed sides have heavy wood-grained texture.
7. Gates: Shall have additional steel supports adjacent to concrete columns.
8. All steel reinforcement is prewelded with steel spacers so as to allow for maximum concrete coverage.
9. A special silicone sealant is used to lock the caprail in place. This sealant requires special tools for removal.

We reserve the right to alter the design or specifications without incurring any obligation, all rights reserved.
Fencecrete America, Inc.

FENCECRETE AMERICA, INC.
manufacturers of precast concrete fencing and masonry wall systems
15089 tradesmen drive san antonio, texas 78249 210-492-7911 800-229-7811 www.fencecrete.com

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946

GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

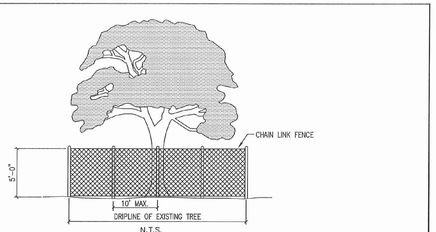
SITE PLAN DETAILS 3

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS · STEVEN M. MINOR · 133778 · LICENSED · PROFESSIONAL ENGINEER
10-10-25

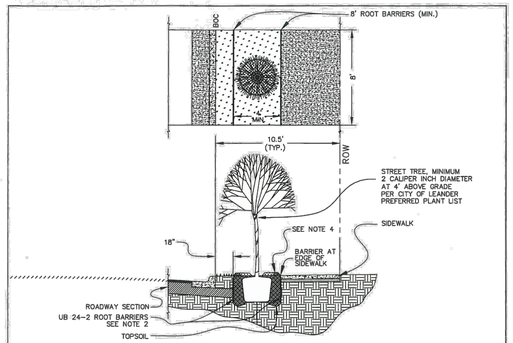
H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - SITE PLAN DETAILS 3.DWG DATE: 10/10/2025 10:06 AM BY: LLAHAJG



1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; SHALL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS.
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
   C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
   D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
   B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.
4. CRITICAL ROOT ZONE REQUIREMENTS
   A. NO CONSTRUCTION OR DISTURBANCE SHALL OCCUR WITHIN AN AREA THAT CONSTITUTES MORE THAN FIFTY (50%) OF THE TOTAL CRITICAL ROOT ZONE AND ONE HALF THE RADIAL DISTANCE OF THE CRITICAL ROOT ZONE FOR EACH TREE BEING PRESERVED INCLUDING SIGNIFICANT TREES, HERITAGE TREES, AND ANY OTHER TREES FOR WHICH PRESERVATION IS TO BE CREDITED. THE REMAINING CRITICAL ROOT ZONE SHALL CONSIST OF AT LEAST ONE HUNDRED (100) SQUARE FEET.
   B. THIS DEFINED AREA SHALL BE FLAGGED AND ENCIRCLED WITH PROTECTIVE FENCING DURING CONSTRUCTION. THE PLANNING DIRECTOR MAY APPROVE CONSTRUCTION CLOSER TO THE TRUNK THAN ONE HALF (½) THE RADIAL DISTANCE, DEPENDING ON THE SIZE, SPACING, OR SPECIES OF THE TREE, THE TYPE OF DISTURBANCE PROPOSED, AND UNIQUENESS OF THE SITUATION.
   C. CUT OR FILL THAT IS GREATER THAN FOUR (4) INCHES IN DEPTH AND THE SEVERING OF MAJOR ROOTS SHALL BE CONSIDERED DISTURBANCE FOR THE PURPOSES OF THIS ORDINANCE.
   D. WITHIN THE PROTECTED CRITICAL ROOT ZONE, ONLY FLATWORK, DECKING, OR SIMILAR CONSTRUCTION, MAY BE APPROVED AND SHALL NOT AFFECT THE BRANCHING OF THE TREE.
   E. IF PROPOSED OR ACTUAL PROTECTION OF THE CRITICAL ROOT ZONE OF A TREE DOES NOT MEET THE REQUIREMENTS OF THIS SECTION, THEN THE TREE SHALL BE CONSIDERED REMOVED AND SHALL REQUIRE MITIGATION IN ACCORDANCE WITH THIS ORDINANCE.

STATE OF TEXAS · WAYNE S. WATTS · 86134 · LICENSED PROFESSIONAL ENGINEER · Wayne S. Watts 08/21/15

City Of Leander, Texas
303-2
TREE PROTECTION

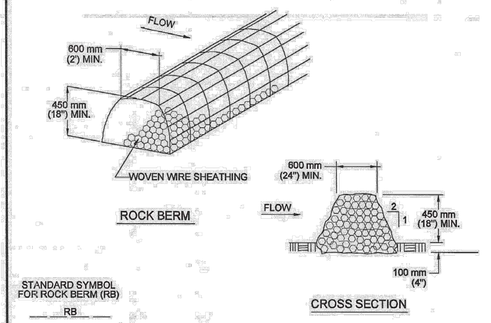


NOTES:
1. CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ALL DAMAGE THAT RESULTS FROM HIS WORK, INCLUDING ANY DAMAGE TO ROADWAY STRUCTURAL ELEMENTS SUCH AS CURB, FLEXIBLE BASE, GEOGRID, ETC.
2. "DEEPROOT" ROOT BARRIERS, OR APPROVED EQUAL, A MINIMUM OF TWENTY-FOUR INCHES (24") IN HEIGHT AND EIGHT FEET IN LENGTH (8') SHALL BE PROVIDED PARALLEL TO CURBLINE ON BOTH SIDES OF STREET TREES. ROOT BARRIERS SHALL BE PLACED WITH TOP OF ROOT BARRIER TWO INCHES (2") BELOW FINISHED GRADE AND RIBS FACING TOWARDS THE TREE.
3. TREES SHALL BE PLACED A MINIMUM OF TEN FEET (10') FROM ALL EXISTING AND PROPOSED WASTEWATER LINES, WATER SERVICES, STORM SEWER LINES, AND CURB INLETS.
4. A WATER RETENTION BASIN THREE INCHES (3") IN HEIGHT AND FOUR FEET (4') IN DIAMETER FORMED WITH TOPSOIL SHALL BE PROVIDED AROUND ALL TREES. INTERIOR OF BASIN SHALL BE FILLED WITH THREE INCH (3") LAYER OF SHREDDED BARK MULCH HELD THREE INCHES (3") BACK FROM THE TRUNK.
5. ALL TREES SHALL BE STAKED WITH 7' LENGTH STEEL "T" POSTS, PAINTED DARK GREEN. LOCATE POSTS 6" +/- FROM ROOTBALL. DO NOT DISTURB ROOTBALL. POSTS SHALL BE DRIVEN 2' INTO GROUND WITH 5' EXPOSED ABOVE GROUND. POSTS SHALL BE CONSISTENT HEIGHT AND ALIGNED PARALLEL TO ADJACENT CURBS. USE 12-GAUGE STRANDED CABLE WITH HOSE TO PROTECT TRUNK. ENSURE THERE IS NO SLACK IN WIRES.
6. IF SOLID ROCK IS ENCOUNTERED AT DEPTHS LESS THAN TWENTY-SIX INCHES (26") FROM FINISHED GRADE, INSTALL ROOT BARRIER TO TOP OF ROCK LAYER AND TRIM EXCESS LENGTH.

*THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. DRAWING NOT TO SCALE.

STATE OF TEXAS · WAYNE S. WATTS · 86134 · LICENSED PROFESSIONAL ENGINEER · Wayne S. Watts 08/07/13

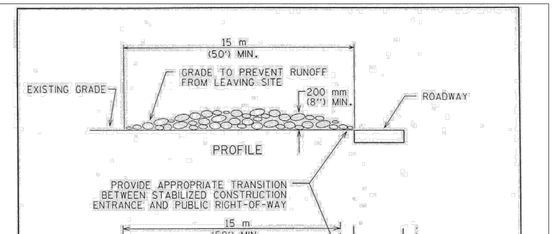
City Of Leander, Texas
DETAIL #204-4
STREET TREE INSTALLATION



STANDARD SYMBOL FOR ROCK BERM (RB)
RB

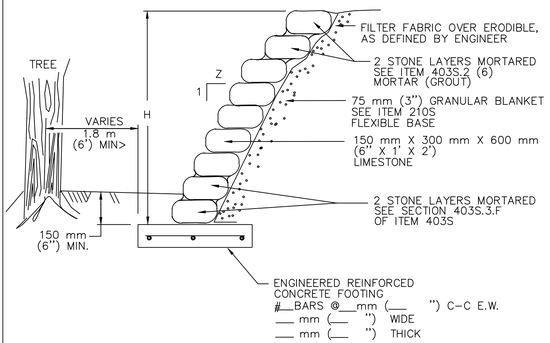
NOTES:
1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS. THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ROCK BERM	
Mary S. Myer P.E. 8/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S-1



NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

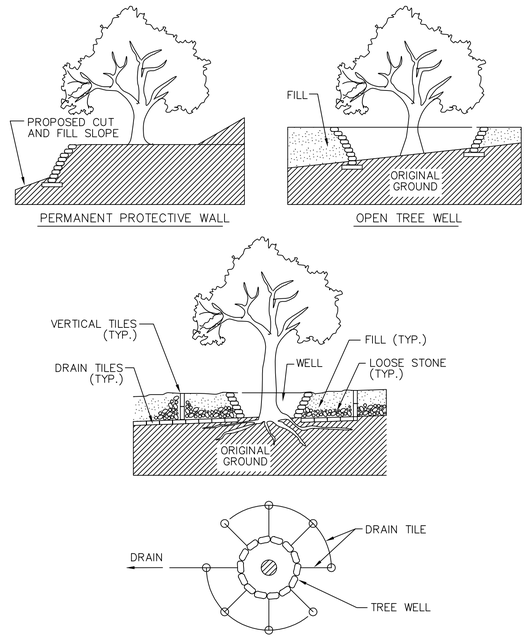
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE	
Leon Barba 5/23/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S-1



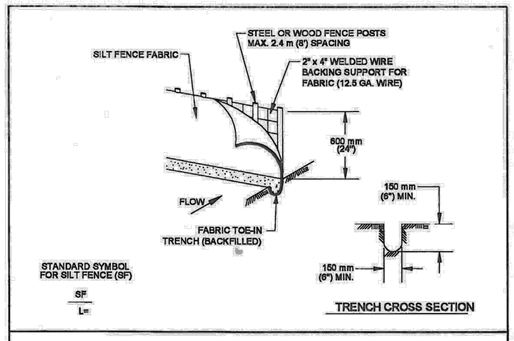
THIS STANDARD APPLIES ONLY UNDER THE FOLLOWING CONDITIONS:
A. H AND Z ARE SPECIFIED ON THE DRAWING.
B. GROUNDWATER IS NO HIGHER THAN THE BOTTOM OF THE FOOTING.
C. THE MATERIAL BELOW THE FOOTING IS FIRM AND STABLE.
D. THE MATERIAL BEHIND THE WALL HAS A LEVEL SURFACE.
E. THE MATERIAL IN FRONT OF THE WALL HAS A SLOPE NO STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL.
F. THE FACE OF THE WALL IS NO STEEPER THAN 1 HORIZONTAL TO 2 VERTICAL.
G. SURCHARGE LOADS BEHIND THE WALL ARE NO CLOSER THAN DISTANCE H FROM THE TOP OF WALL.

NOTES:
1. DESIGN AND CONSTRUCTION OF ROCK WALL SHALL CONFORM TO THE REQUIREMENTS OF CITY CODE 16-7-2, PLACEMENT OF FENCES IN STREET CORNER AREAS, AND THE CITY OF AUSTIN TRANSPORTATION CRITERIA MANUAL FOR MINIMIM SIGHT DISTANCE.
2. CONCRETE SHALL CONFORM TO ITEM 403S, "CONCRETE FOR STRUCTURES".

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	SLOPE PROTECTION AND TREE WELLS		
RECORD COPY SIGNED BY J. PATRICK MURPHY 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-6 1 OF 2	



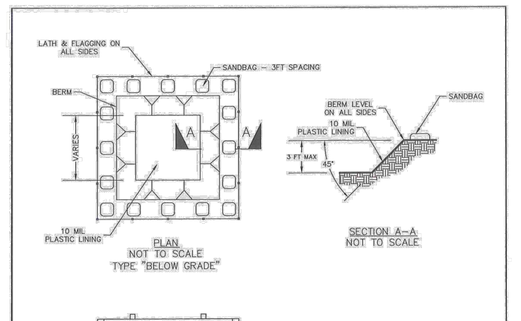
CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	SLOPE PROTECTION AND TREE WELLS		
RECORD COPY SIGNED BY J. PATRICK MURPHY 03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-6 2 OF 2	



STANDARD SYMBOL FOR SILT FENCE (SF)
SF
L=

1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A GRADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MUST BE A MINIMUM OF 150 mm (6 inches) DEEP AND 150 mm (6 inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
Mary S. Myer 9/1/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S-1



NOTES
1. ACTUAL LAYOUT DETERMINED IN FIELD

STATE OF TEXAS · WAYNE S. WATTS · 86134 · LICENSED PROFESSIONAL ENGINEER · Wayne S. Watts 01/30/15

City Of Leander, Texas
303-1
CONCRETE WASHOUT

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

EROSION CONTROL AND DRAINAGE DETAILS 1

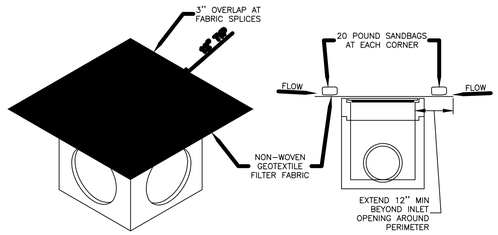
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS · STEVEN M. MINOR · 133778 · LICENSED PROFESSIONAL ENGINEER · 10-10-25

SHEET 34 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - EROSION CONTROL AND DRAINAGE DETAILS 1.DWG DATE: 10/10/2025 10:06 AM BY: LLAHAUG



ISOMETRIC

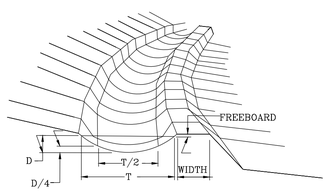
CROSS SECTION

NOTES:

1. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
2. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY CLEAN THE INLET PROTECTION IF EXCESSIVE PONDING OCCURS.
3. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

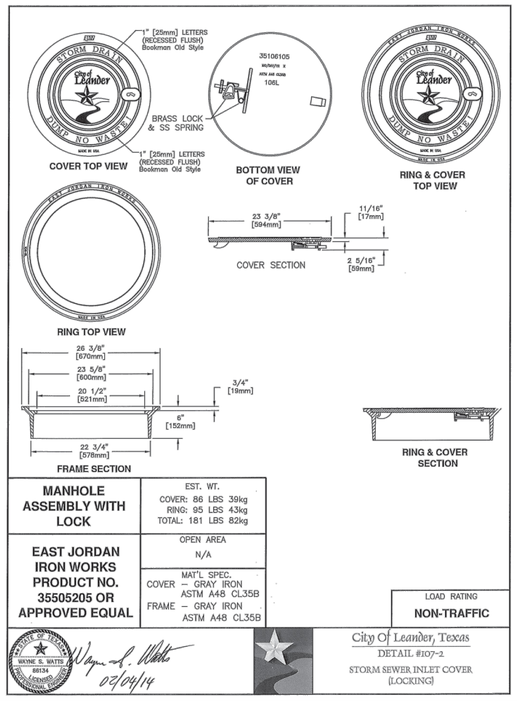
RECORD SIGNED COPY ON FILE AT PUBLIC WORKS	CITY OF ROUND ROCK	DRAWING NO: EC-15
APPROVED 03-25-11 DATE	AREA INLET PROTECTION DETAIL	ROUND ROCK, TEXAS PLEDGE, PRIDE, PROGRESS
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

TRAPEZOIDAL CROSS SECTION



PARABOLIC CROSS SECTION

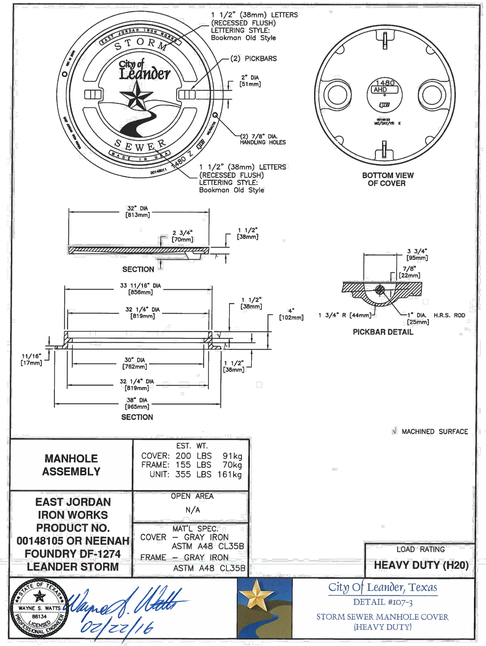
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	DIVERSION	
RECORD COPY SIGNED BY J. PATRICK MURPHY 3/27/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 621S-1



MANHOLE ASSEMBLY WITH LOCK	EST. WT. COVER: 86 LBS 39kg RING: 95 LBS 43kg TOTAL: 181 LBS 82kg
EAST JORDAN IRON WORKS PRODUCT NO. 35505205 OR APPROVED EQUAL	OPEN AREA N/A
	MAT'L SPEC. COVER – GRAY IRON ASTM A48 CL35B FRAME – GRAY IRON ASTM A48 CL35B
	LOAD RATING NON-TRAFFIC

STATE OF TEXAS WAYNE S. WATTS 88134 LICENSED PROFESSIONAL ENGINEER
02/04/14

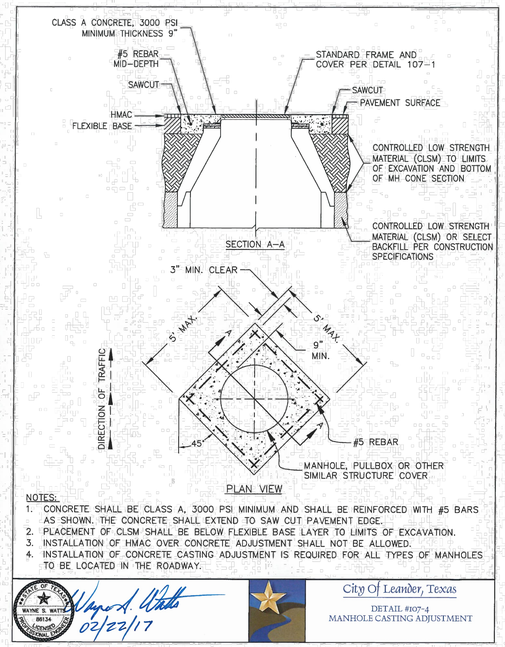
City Of Leander, Texas
DETAIL #107-2
STORM SEWER INLET COVER (LOCKING)



MANHOLE ASSEMBLY	EST. WT. COVER: 200 LBS 91kg FRAME: 155 LBS 70kg UNIT: 355 LBS 161kg
EAST JORDAN IRON WORKS PRODUCT NO. 00148105 OR NEENAH FOUNDRY DF-1274 LEANDER STORM	OPEN AREA N/A
	MAT'L SPEC. COVER – GRAY IRON ASTM A48 CL35B FRAME – GRAY IRON ASTM A48 CL35B
	LOAD RATING HEAVY DUTY (H20)

STATE OF TEXAS WAYNE S. WATTS 88134 LICENSED PROFESSIONAL ENGINEER
02/22/16

City Of Leander, Texas
DETAIL #107-3
STORM SEWER MANHOLE COVER (HEAVY DUTY)



NOTES:

1. CONCRETE SHALL BE CLASS A, 3000 PSI MINIMUM AND SHALL BE REINFORCED WITH #5 BARS AS SHOWN. THE CONCRETE SHALL EXTEND TO SAW CUT PAVEMENT EDGE.
2. PLACEMENT OF CLSM SHALL BE BELOW FLEXIBLE BASE LAYER TO LIMITS OF EXCAVATION.
3. INSTALLATION OF HMAC OVER CONCRETE ADJUSTMENT SHALL NOT BE ALLOWED.
4. INSTALLATION OF CONCRETE CASTING ADJUSTMENT IS REQUIRED FOR ALL TYPES OF MANHOLES TO BE LOCATED IN THE ROADWAY.

STATE OF TEXAS WAYNE S. WATTS 88134 LICENSED PROFESSIONAL ENGINEER
02/22/17

City Of Leander, Texas
DETAIL #107-4
MANHOLE CASTING ADJUSTMENT

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

EROSION CONTROL AND DRAINAGE DETAILS 2

PROJECT NO: 1688 - 11573

DESIGNED BY: LL

DRAWN BY: JM

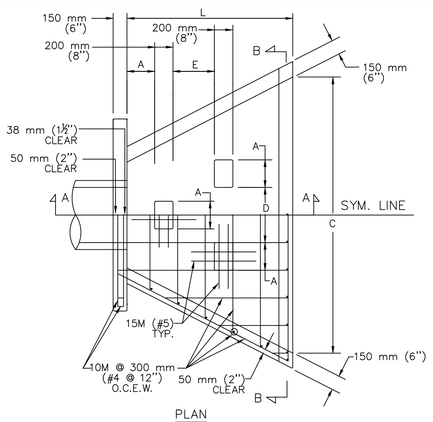
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

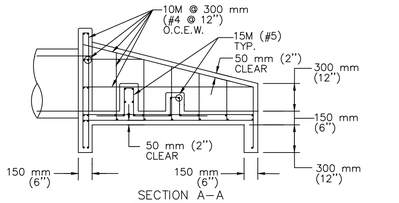
STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 35 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - EROSION CONTROL AND DRAINAGE DETAILS 2.DWG DATE: 10/10/2025 10:07 AM BY: JMARTINEZ

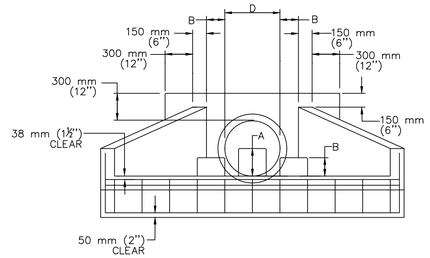


PLAN



SECTION A–A

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		STANDARD HEADWALL AND ENERGY DISSIPATORS	
RECORD COPY SIGNED BY BILL GARDNER	08/20/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–13 1 OF 2



SECTION B–B

NOTES:

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

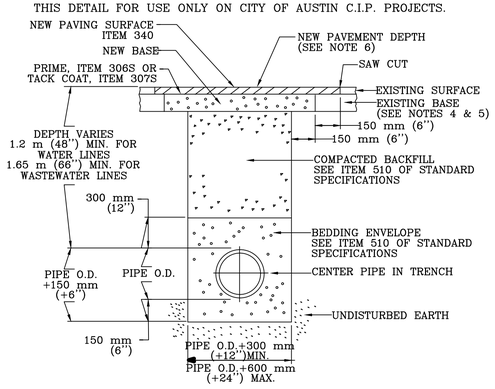
D	457 mm (18")	533 mm (21")	610 mm (24")	685 mm (27")	765 mm (30")	838 mm (33")	914 mm (36")	1.067 m (42")	1.219 m (48")	1.372 m (54")	1.524 m (60")
A	225 mm (9")	250 mm (10")	300 mm (12")	350 mm (14")	375 mm (15")	400 mm (16")	450 mm (18")	525 mm (21")	600 mm (24")	675 mm (27")	750 mm (30")
B	150 mm (6")	175 mm (7")	200 mm (8")	225 mm (9")	250 mm (10")	275 mm (11")	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")
C	2.29 m (90")	2.67 m (105")	3.05 m (120")	343 m (135")	3.81 m (150")	4.19 m (165")	4.57 m (180")	5.33 m (210")	6.10 m (240")	6.86 m (270")	7.62 m (300")
L	1.37 m (54")	1.60 m (63")	1.83 m (72")	2.06 m (81")	2.29 m (90")	2.51 m (99")	2.74 m (108")	3.20 m (126")	3.66 m (144")	4.11 m (162")	4.57 m (180")
E	300 mm (12")	350 mm (14")	400 mm (16")	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	700 mm (28")	800m (32")	900 mm (36")	1000 mm (40")

DIMENSIONS IN MILLIMETERS, METERS AND (INCHES).

DISCHARGE VELOCITIES GREATER THAN 3 METERS/SECOND (10 fps) REQUIRE ROCK OUTLET PROTECTION.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		STANDARD HEADWALL AND ENERGY DISSIPATORS	
RECORD COPY SIGNED BY BILL GARDNER	08/20/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–13 2 OF 2

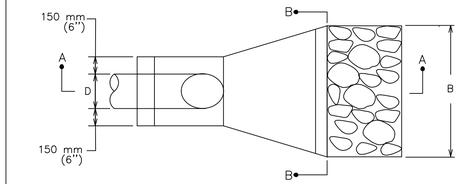
THIS DETAIL FOR USE ONLY ON CITY OF AUSTIN C.I.P. PROJECTS.



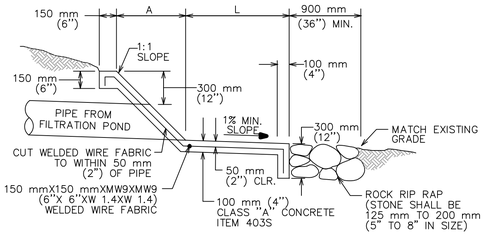
NOTES:

1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 300 mm (12") WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. ANY CONCRETE PAVING SHALL BE SAW CUT 150 mm (6") WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
3. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX ASPHALTIC CONCRETE.
4. ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS, OR MINIMUM BASE THICKNESS OF 250 mm (10"), WHICHEVER IS GREATER.
5. ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 200 mm (8") OF BASE OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER.
6. SURFACE PAVEMENT SHALL BE OF THE KIND AND THICKNESS AS EXISTING, OR MINIMUM 50 mm (2"), WHICHEVER IS GREATER.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY		TYPICAL TRENCH WITH PAVED SURFACE	
RECORD COPY SIGNED BY KATHI L. FLOWERS	*8/19/02* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S–3

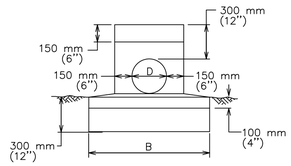


PLAN



SECTION A – A

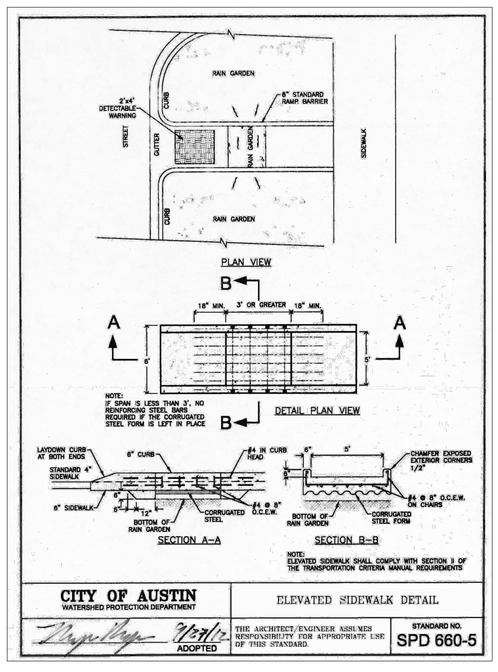
CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.	
RECORD COPY SIGNED BY GEORGE E. OSWALD	3/15/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–15 1 OF 2



SECTION B – B

A	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	675 mm (27")
B	750 mm (30")	800 mm (32")	850 mm (34")	1.05 m (42")	1.27 m (51")
D	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")	375 mm (15")
L	600 mm (24")	600 mm (24")	750 mm (30")	900 mm (36")	1.2 m (48")

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW		HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.	
RECORD COPY SIGNED BY GEORGE E. OSWALD	3/15/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S–15 2 OF 2



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		ELEVATED SIDEWALK DETAIL	
	2/27/12 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. SPD 660-5

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

STORM DRAIN DETAILS

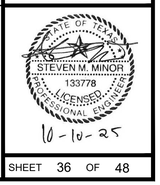
PROJECT NO: 1688 - 11573

DESIGNED BY: LL

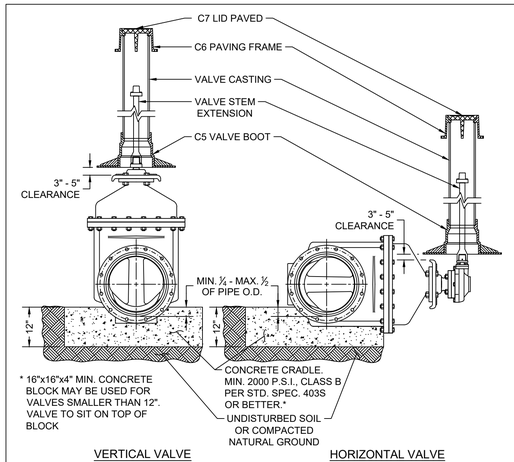
DRAWN BY: JM

CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.



H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CADSHEETS\11573 - STORM DRAIN DETAILS.DWG DATE: 10/10/2025 10:07 AM BY: JMARTINEZ



VERTICAL VALVE

HORIZONTAL VALVE

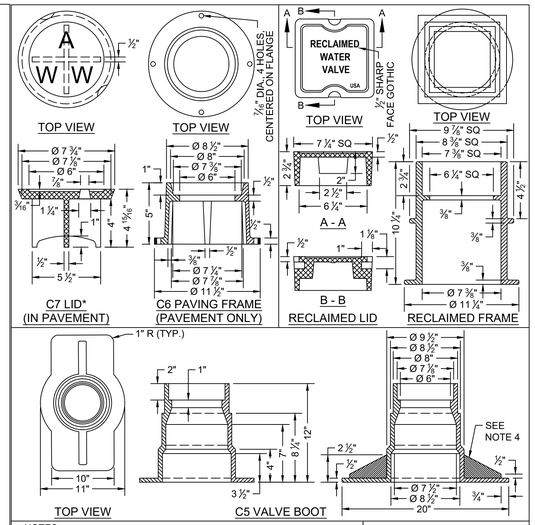
ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS.

NOTES:

1. WELD SOCKET 2½" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT. [SCH. 80 FOR LENGTHS OVER 10']
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 1 OF 4



NOTES:

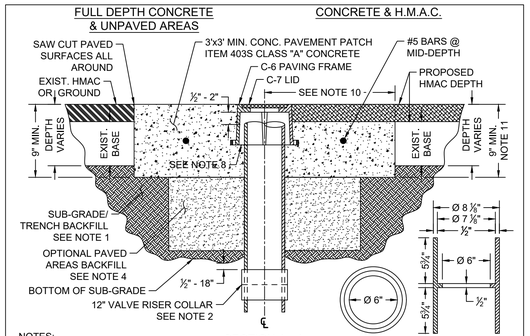
1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

WEIGHTS:

C7 LID: 13 LBS
RECLAIMED LID: 15 LBS
C6 FRAME: 23 LBS
RECLAIMED FRAME: 33 LBS
C5 BASE: 78 LBS

* LETTERING SHALL BE 1 ½" 2 PICK BAR SLOTS REQUIRED

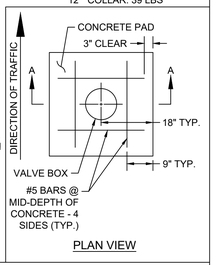
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 2 OF 4



NOTES:

1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED ½" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.

12" VALVE RISER COLLAR
* 12" COLLAR: 39 LBS

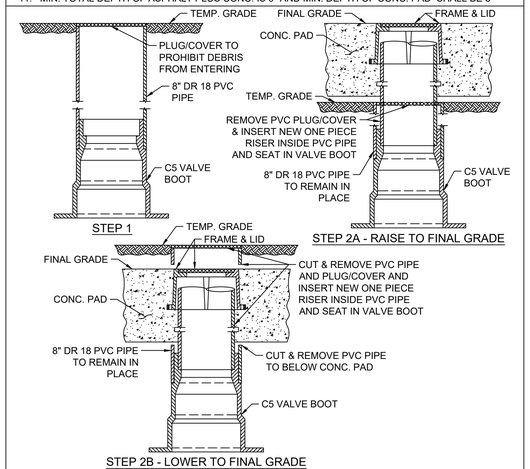


PLAN VIEW

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 3 OF 4

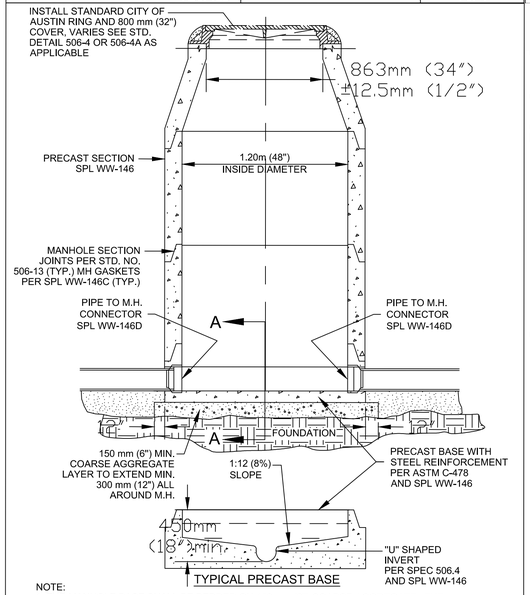
NOTES (CON'T):

8. PAVING FRAME SHALL BE FLUSH WITH THE CONC. PAD AND PLACED ½" - 2" ABOVE RISER PIPE (FRAME SHALL NOT REST ON RISER.)
9. IN UNPAVED AREAS, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE PAD. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.
10. VALVE SHALL TYPICALLY BE CENTERED IN CONCRETE DIAMOND BUT MAY BE OFFSET WITH A MIN. OF 12" FROM CENTER OF VALVE LID TO EDGE OF CONCRETE IN ALL DIRECTIONS.
11. MIN. TOTAL DEPTH OF ASPHALT PLUS CONC. IS 9" AND MIN. DEPTH OF CONC. PAD SHALL BE 5"



OPTIONAL ONE PIECE VALVE CASTING INSTALLATION

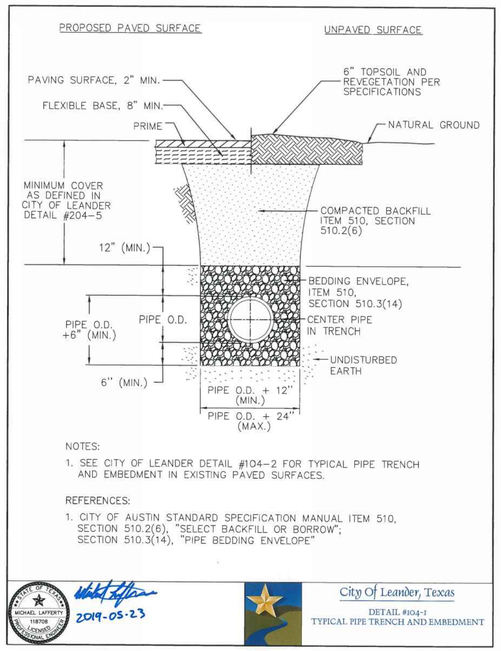
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
RECORD COPY SIGNED BY KATHI L FLOWERS 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 4 OF 4



NOTE:

1. THE MANHOLE BASE SHALL BE BEDDED ON 150 mm (6") COARSE AGGREGATE. THE CONTRACTOR SHALL LEVEL AND PLUMB THE BASE PRIOR TO SETTING THE PRECAST MANHOLE RISER SECTIONS ON THE PRECAST CONCRETE BASE.
2. MH FOUNDATION SHALL MEET OR EXCEED STD. SPEC. 506.5B.

CITY OF AUSTIN AUSTIN WATER UTILITY	WASTEWATER MANHOLE ON PRECAST BASE	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	STANDARD NO. 506S-10



NOTES:

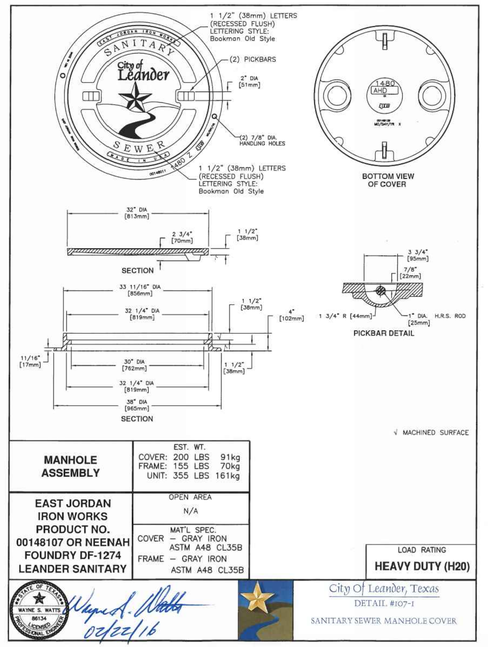
1. SEE CITY OF LEANDER DETAIL #104–2 FOR TYPICAL PIPE TRENCH AND EMBEDMENT IN EXISTING PAVED SURFACES.

REFERENCES:

1. CITY OF AUSTIN STANDARD SPECIFICATION MANUAL ITEM 510, SECTION 510.2(6), "SELECT BACKFILL OR BORROW"; SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

MICKAEL LAFFERTY 118708 LICENSED ENGINEER STATE OF TEXAS
2019-05-23

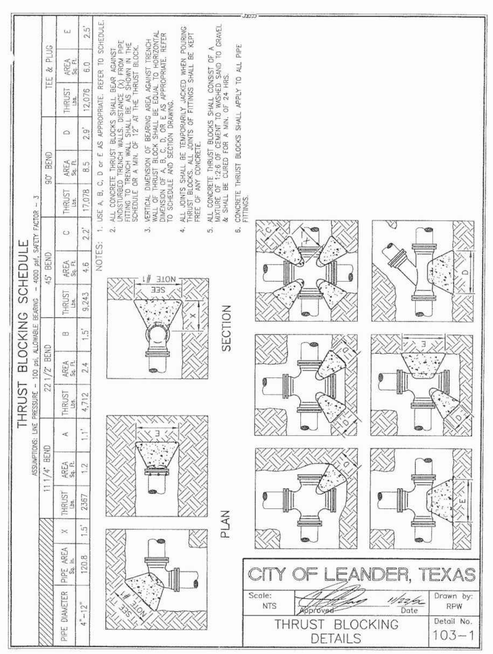
City Of Leander, Texas
DETAIL #104-1
TYPICAL PIPE TRENCH AND EMBEDMENT



MANHOLE ASSEMBLY	EST. WT. COVER: 200 LBS 91kg FRAME: 155 LBS 70kg UNIT: 355 LBS 161kg
EAST JORDAN IRON WORKS PRODUCT NO. 00148107 OR NEENAH FOUNDRY DF-1274 LEANDER SANITARY	OPEN AREA N/A MAT'L SPEC. COVER – GRAY IRON ASTM A48 CL35B FRAME – GRAY IRON ASTM A48 CL35B LOAD RATING HEAVY DUTY (H20)

WAYNE S. WATTS 86134 LICENSED ENGINEER STATE OF TEXAS
02/22/16

City Of Leander, Texas
DETAIL #107-1
SANITARY SEWER MANHOLE COVER



8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

WATER AND WASTEWATER DETAILS
1

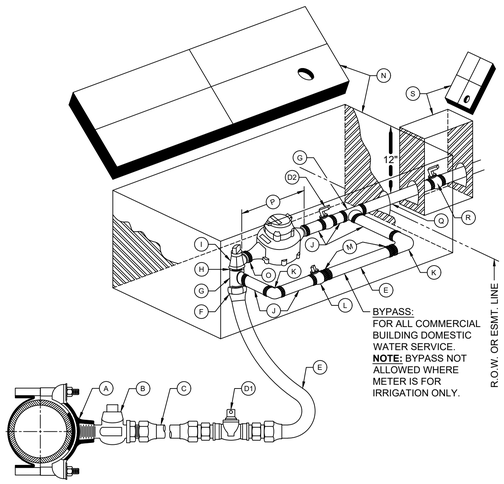
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED EAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS STEVEN M. MINOR 133778 LICENSED PROFESSIONAL ENGINEER
10-10-25

SHEET 37 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CADD\SHEETS\11573 - WATER AND WASTEWATER DETAILS 1.DWG DATE: 10/10/2025 10:07 AM BY: JMARTINEZ



MATERIALS LIST:

A. 2" SERVICE CLAMP
B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
C. 2" HDPE WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
D1. 2" BALL VALVE, SPL WW-275
D2. 2" BALL VALVE, SPL WW-275
E. 2" HDPE SERVICE TUBING
F. 2" BRASS COUPLING - COMPRESSION TO MALE IPT
G. 2" BRASS TEE
H. 2" BRASS CLOSE-NIPPLE
I. 2" ANGLE METER STOP; SERVICE TUBING INLET x FLANGED OUTLET
J. 2" BRASS NIPPLE
K. 2" BRASS ELBOW
L. 2" LOCKABLE CURB STOP - FEMALE IPT INLET BY COMPRESSION OUTLET
M. 2" BRASS COUPLING - SERVICE TUBING TO MALE IPT
N. RECTANGULAR METER BOX AND COVER, SPL WW-145A
O. BRASS ADAPTER (2" x 1 ½") FOR 1 ½" METER ONLY
P. WATER METER, LENGTH 13", (PURCHASED FROM AUSTIN WATER)
Q. 2" HDPE SERVICE TUBING (PRIVATE PLUMBING PER CODE)
R. CUSTOMER CUT-OFF VALVE
S. CUSTOMER VALVE BOX AND LID

NOTES:

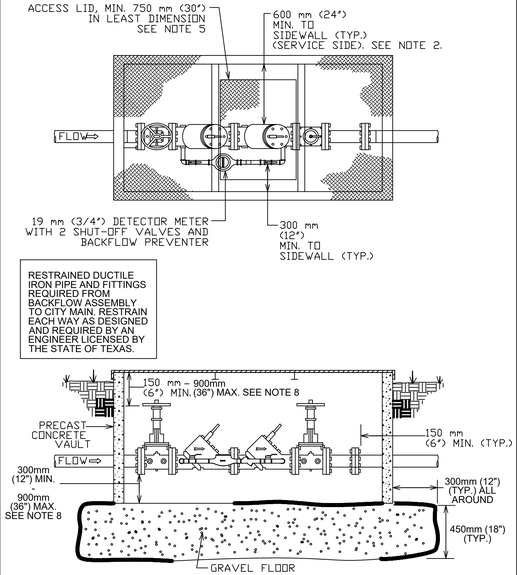
1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF BOXES SHOULD BE 1" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D1" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 24" HORIZONTALLY FROM METER BOX OR 36" BELOW FINAL GRADE.
7. COPPER SERVICE SHALL BE COPPER TUBING SIZE ANNEALED SEAMLESS TYPE "K" MEETING ASTM B88 WITH NO SWEAT OR SOLDERED JOINTS.

RECLAIMED WATER:

FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED PURPLE TUBING. ALL OTHER TUBING AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL TUBING AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE **"RECLAIMED WATER"** CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	1 ½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	
RECORD COPY SIGNED BY KATHI L FLOWERS *05/18/2016* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-04 1 OF 2

CITY OF AUSTIN AUSTIN WATER	1 ½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	
RECORD COPY SIGNED BY KATHI L FLOWERS *05/18/2016* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-04 2 OF 2

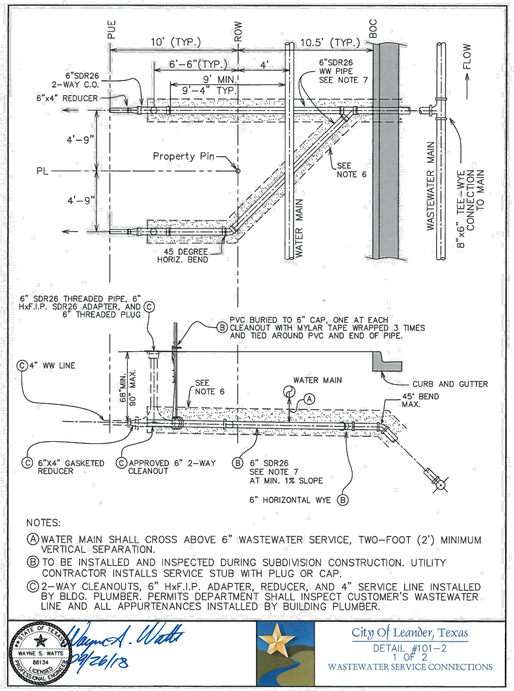


NOTES:

1. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE LAB AND FIELD APPROVAL FROM THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.
2. ALL TEST PORTS SHALL BE DIRECTED UPWARD AND PLUGGED. TEST PORTS ARE LOCATED ON SERVICE SIDE. PLUGS SHALL BE NON-FERROUS.
3. BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED IN THE UPRIGHT HORIZONTAL POSITION, UNLESS OTHERWISE APPROVED. BACKFLOW PREVENTION ASSEMBLIES SHALL NOT BE ROTATED ON THEIR AXIS.
4. CLEARANCE SHALL BE AS INDICATED,AND IN THE STANDARD CROSS CONNECTION ORDINANCES AND UCM.
5. ACCESS OPENING MUST BE LARGE ENOUGH TO REMOVE LARGEST PORTION OF BACKFLOW PREVENTER, BUT NOT LESS THAN 750 mm (30") IN LEAST DIMENSION.
6. TEST AND MAINTENANCE REPORT SHALL BE RECEIVED BY AUSTIN WATER UTILITY'S SPECIAL SERVICE DIVISION WITHIN 5 DAYS AFTER BEING INSTALLED.
7. VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREA.
8. VAULT DEPTH MAY NOT EXCEED 1.8m (72"), BOTTOM OF LID TO TOP OF FLOOR.
9. HAND WHEELS SHALL BE HORIZONTALLY LOCATED WITHIN 300mm (12") OF ACCESS OPENING.
10. FOR ACCESS DOORS SEE SPL WW-614 OR APPROVED EQUAL (H20 LOADING REQUIRED).
11. FOR VAULT SEE SPL WW-298 OR APPROVED EQUAL (H20 LOADING REQUIRED).
12. VAULT PIPE WALL VOIDS SHALL BE SEALED WITH NON-SHRINK GROUT OR SEALANT PER SPL WW-146A OR APPROVED EQUAL.
13. THE TOP OF THE METER VAULT SHALL BE AT AN ELEVATION SUCH THAT THE SURROUNDING GROUND SLOPES AWAY FROM THE VAULT. ADDITIONAL DRAINAGE CONSIDERATION SUCH AS CONNECTION OF VAULT TO STORM SEWER, LATERAL DRAIN LINES FROM GRAVEL BED OR OTHER MEANS SHALL BE REQUIRED IF CONDITIONS CAUSE WATER TO COLLECT IN VAULT.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	STANDARD FIRE LINE INSTALLATION WITHOUT MASTER METER	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520S-19C 1 OF 2

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	STANDARD FIRE LINE INSTALLATION WITHOUT MASTER METER	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520S-19C 2 OF 2



NOTES:

(A) WATER MAIN SHALL CROSS ABOVE 6" WASTEWATER SERVICE, TWO-FOOT (2') MINIMUM VERTICAL SEPARATION.

(B) TO BE INSTALLED AND INSPECTED DURING SUBDIVISION CONSTRUCTION. UTILITY CONTRACTOR INSTALLS SERVICE STUB WITH PLUG OR CAP.

(C) 2-WAY CLEANOUTS, 6" HxF.I.P. ADAPTER, REDUCER, AND 4" SERVICE LINE INSTALLED BY BLDG. PLUMBER. PERMITS DEPARTMENT SHALL INSPECT CUSTOMER'S WASTEWATER LINE AND ALL APPURTENANCES INSTALLED BY BUILDING PLUMBER.

STATE OF TEXAS WAYNE S. WATTS 88134 LICENSED PROFESSIONAL ENGINEER
Wayne A. Watts 9/26/18

City Of Leander, Texas
DETAIL #101-2
1 OF 2
WASTEWATER SERVICE CONNECTIONS

NOTES

1. DURING SUBDIVISION CONSTRUCTION, UTILITY CONTRACTOR INSTALLS WASTEWATER CONNECTION TO MAIN, 6" HORIZONTAL WYE FOR DOUBLE SERVICES, 6" SERVICE BRANCH, AND PLUG(S) FOR 6" SERVICE BRANCH STUB. CONTRACTOR TIES MYLAR TAPE TO END OF 6" STUB, WRAPS 3 TIMES AROUND LENGTH OF PVC BURIED TO THE DEPTH OF THE 6" STUB AND TIES TO TOP OF PVC EXTENDING A MINIMUM OF 2 FEET ABOVE GROUND.

   ALL WASTEWATER PIPING SHALL HAVE ELASTOMERIC GASKET TYPE JOINTS AND SHALL SLOPE DOWNWARD TO MAIN 1% (1/8" PER FOOT) MINIMUM TO 45° MAXIMUM. DEPTH OF SERVICE STUB AT PROPERTY LINE WILL BE SHOWN ON PLANS BY ENGINEER IF GREATER THAN 8', OTHERWISE THE INSTALLED DEPTH WILL TYPICALLY BE 6' TO 8'. IF WASTEWATER SERVICE LINE TO MAIN REQUIRES DEFLECTION EXCEEDING 45°, REFER TO DETAIL 520-6. ALL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH INFORMATION SHOWN ON APPLICABLE STANDARD DRAWINGS AND WILL BE INSPECTED BY CITY OF LEANDER CONSTRUCTION INSPECTION PERSONNEL.

2. CUSTOMER REMOVES PLUG FROM 6" SERVICE LINE STUB, INSTALLS 6" 2-WAY CLEANOUT, 6" BY 4" REDUCER, RISER FOR CLEANOUT, 6" HxF.I.P. ADAPTER, 6" THREADED PLUG, AND 4" SERVICE LINE TO STRUCTURE. IF WASTEWATER WILL NOT SATISFACTORILY FLOW BY GRAVITY FROM STRUCTURE TO SEWER SERVICE STUB & WASTEWATER MAIN, PUMP EQUIPMENT MUST BE PROVIDED BY THE CUSTOMER AS PART OF CUSTOMER'S WASTEWATER SYSTEM.

3. CUSTOMER IS RESPONSIBLE FOR PUBLIC PIPING SYSTEM UNTIL WASTEWATER IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY CUSTOMER WHO SHALL GUARANTEE FOR A PERIOD OF TWO (2) YEARS FROM DATE OF ACCEPTANCE, THAT CONNECTIONS TO CITY SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIAL. CUSTOMER ALSO HAS THE RESPONSIBILITY TO ASSURE THAT ALL 2-WAY-CLEANOUTS REMAIN CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS.

4. CITY OF LEANDER ACTIVITY IS LIMITED TO INSPECTION OF CONNECTIONS TO THE CITY'S WASTEWATER SYSTEM. FOR MAINTENANCE PURPOSES, THE CITY'S RESPONSIBILITY ENDS AT THE CUSTOMER'S WASTEWATER CONNECTION TO THE 2-WAY-CLEANOUT.

5. PIPING AND TUBING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY CITY OF AUSTIN STANDARD SPECIFICATION SECTION 510.3 (14) UNLESS OTHERWISE NOTED ON THIS DETAIL; MATERIALS SHALL BE AS SPECIFIED IN 510.2 (2)(A) AND (3)(B); BACKFILL ABOVE THE GRANULAR BEDDING SHALL BE AS REQUIRED BY SECTION 510.3 (25). SERVICE LINES IN THESE AREAS SHALL HAVE A MINIMUM COVER BELOW FINAL STREET GRADE OF 42". ANY EXCEPTION MUST BE SPECIFICALLY APPROVED BY THE ENGINEER.

6. ALL SANITARY SEWER PIPE WITHIN 9' OF WATER MAINS SHALL BE BEDDED IN CEMENT STABILIZED SAND PER TCEQ CHAPTER 217 & 290 REQUIREMENTS. BEDDING SHALL EXTEND A MINIMUM OF 12" ABOVE PIPE, 4" BELOW PIPE, AND 12" BEYOND JOINTS AT EACH END.

7. PIPE MATERIAL FOR WASTEWATER SERVICES SHALL BE 6" SDR-26 PVC D2241 160 PSI RATED.

8. NO METER BOX OR CLEAN OUT SHALL BE SET IN SIDEWALK OR DRIVEWAY AREA WITHOUT WRITTEN APPROVAL FROM THE CITY ENGINEERING DEPT.

9. NO JOINTS SHALL BE PERMITTED BETWEEN THE 6"x6" HORIZONTAL WYE AND THE 6" 2-WAY CLEANOUT EXCEPT FOR THE 6" 45-DEGREE BEND REQUIRED FOR DOUBLE SERVICES.

STATE OF TEXAS WAYNE S. WATTS 88134 LICENSED PROFESSIONAL ENGINEER
Wayne A. Watts 9/26/18

City Of Leander, Texas
DETAIL #101-2
2 OF 2
WASTEWATER SERVICE CONNECTIONS

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

WATER AND WASTEWATER DETAILS
2

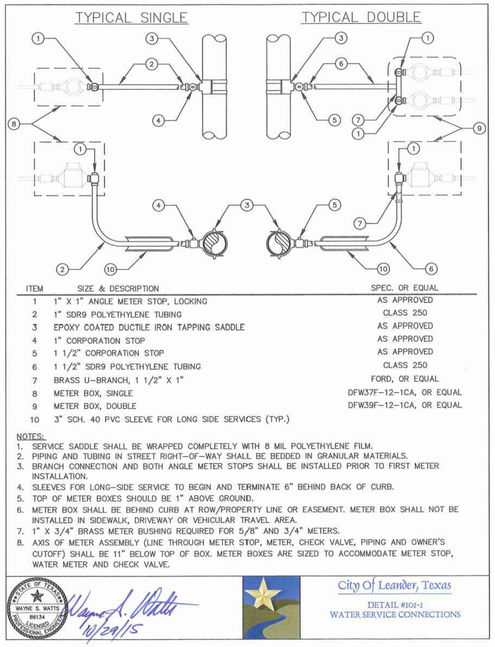
PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
STEVEN M. MINOR
133778
LICENSED
PROFESSIONAL ENGINEER
10-10-25

SHEET 38 OF 48

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - WATER AND WASTEWATER DETAILS 2.DWG DATE: 10/10/2025 10:07 AM BY: JMARTINEZ



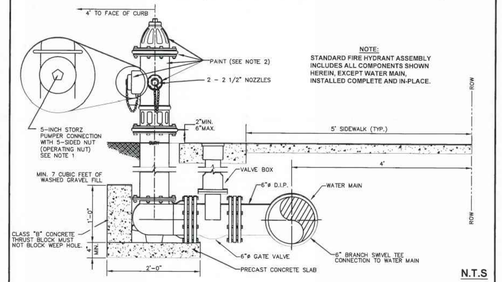
ITEM	SIZE & DESCRIPTION	SPEC. OR EQUAL
1	1" X 1" ANGLE METER STOP, LOCKING	AS APPROVED
2	1" SDR9 POLYETHYLENE TUBING	CLASS 250
3	EPOXY COATED DUCTILE IRON TAPPING SADDLE	AS APPROVED
4	1" CORPORATION STOP	AS APPROVED
5	1 1/2" CORPORATION STOP	AS APPROVED
6	1 1/2" SDR9 POLYETHYLENE TUBING	CLASS 250
7	BRASS U-BRANCH, 1 1/2" X 1"	FORD, OR EQUAL
8	METER BOX, SINGLE	DFW37F-12-1CA, OR EQUAL
9	METER BOX, DOUBLE	DFW39F-12-1CA, OR EQUAL
10	3" SCH. 40 PVC SLEEVE FOR LONG SIDE SERVICES (TYP.)	

NOTES:
1. SERVICE SADDLE SHALL BE WRAPPED COMPLETELY WITH 8 MIL POLYETHYLENE FILM.
2. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS.
3. BRANCH CONNECTION AND BOTH ANGLE METER STOPS SHALL BE INSTALLED PRIOR TO FIRST METER INSTALLATION.
4. SLEEVES FOR LONG-SIDE SERVICE TO BEGIN AND TERMINATE 6" BEHIND BACK OF CURB.
5. TOP OF METER BOXES SHOULD BE 1" ABOVE GROUND.
6. METER BOX SHALL BE BEHIND CURB AT ROW/PROPERTY LINE OR EASEMENT. METER BOX SHALL NOT BE INSTALLED IN SIDEWALK, DRIVEWAY OR VEHICULAR TRAVEL AREA.
7. 1" X 3/4" BRASS METER BUSHING REQUIRED FOR 5/8" AND 3/4" METERS.
8. AXIS OF METER ASSEMBLY (LINE THROUGH METER STOP, METER, CHECK VALVE, PIPING AND OWNER'S CUTOFF) SHALL BE 11" BELOW TOP OF BOX. METER BOXES ARE SIZED TO ACCOMMODATE METER STOP, WATER METER AND CHECK VALVE.

STATE OF TEXAS · WAYNE S. WATTS · 88134 · LICENSED · PROFESSIONAL ENGINEER
11/29/15

City Of Leander, Texas
DETAIL #101-1
WATER SERVICE CONNECTIONS

FIRE HYDRANTS LACKING INTEGRAL STORZ CONNECTOR SHALL BE REJECTED (NO STORZ ADAPTERS ALLOWED)



N.T.S

NOTES:
1. FIRE HYDRANT SHALL BE CLOW MEDALLION F2545, AMERICAN DARLING B-84-B-5, MUELLER SUPER CENTURION, EJ 5CD250 WATERMASTER, KENNEDY K81D GUARDIAN, AVK 2780, OR APPROVED EQUAL VIA SUBMITTAL PROCESS. THE PRIMARY FEATURES REQUIRED INCLUDE: FACTORY INSTALLED INTEGRAL 5-INCH STORZ PUMPER NOZZLE; 1.5-INCH PENT OPERATING NUT ON NOZZLE CAP; OPEN LEFT; FACTORY PAINTED.
2. HYDRANTS SHALL BE FACTORY PAINTED WITH FLYNT ALUMINUM SILVER PAINT OR SHERWIN WILLIAMS SILVER B59S11. HYDRANTS WILL NOT BE ACCEPTED IF PAINTED AFTER DELIVERY OR IF PAINT IS FLAT IN APPEARANCE.
3. ALL DUCTILE OR CAST IRON FITTINGS AND/OR PIPE SHALL BE POLYWRAPPED.
4. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. ALL FITTINGS SHALL BE EQUIPPED WITH JOINT RESTRAINT "MEGALUG" OR APPROVED EQUAL. ALL ANCHOR FITTING TO BE CONCRETE THRUST BLOCKED.
5. BLUE, BI-DIRECTIONAL REFLECTIVE PAVEMENT MARKER, ULTIMATE WET NIGHT VISIBILITY SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATION AT THE CORRESPONDING ROADWAY STATION OFFSET 6" (SIX INCHES) FROM CENTER OF STREET TO THE SIDE HYDRANT IS LOCATED. AT INTERSECTIONS, MARKERS SHALL BE PLACED ON BOTH ROADWAYS ADJACENT TO HYDRANT.

LOCATION:
6. SET F.H. ON LOT LINE (EXTENDED WHEN POSSIBLE)
7. F.H. LOCATED AT STREET INTERSECTIONS SHALL BE PLACED A MINIMUM OF TEN FEET (10') FROM RADIUS TANGENT POINT
8. NO OBSTRUCTIONS SHALL BE PERMITTED WITHIN THREE FEET (3') IN ALL DIRECTIONS FROM F.H.
9. 5-INCH STORZ PUMPER NOZZLE SHALL FACE THE FIRE LANE OR TRAVEL WAY UNLESS OTHERWISE NOTED.

STATE OF TEXAS · WAYNE S. WATTS · 88134 · LICENSED · PROFESSIONAL ENGINEER
02/05/19

City Of Leander, Texas
DETAIL #101-4
STANDARD FIRE HYDRANT ASSEMBLY

AMERICAN AVK RESILIENT SEATED DUCTILE IRON GATE VALVE 65/MMN
250 PSI, Tested to AWWA C515 (NRS) MJxMJ
Mechanical Joint Ends - Valve Sizes 3" - 12"

Use:
For water and neutral liquids to maximum 160ºF.

Tests:
Hydraulic test:
Shell Test: 500 PSI
Seat Test: 250 PSI
Operating Torque Test

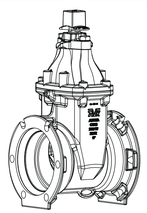
Optional Materials:

Stem	Low zinc bronze ASTM B763
Anti Friction Washers	Polyamide
Bolting	ASTM A164 zinc coated steel, Stainless Steel - 316

Standard Materials:

Body, Bonnet, Gland Flange, Wrench Nut	Ductile iron ASTM A536 (Wrench Nut-painted black for open left, red for open right)
Coating	VeloCorr™ Coating; fusion-bonded epoxy-resin process exceeds AWWA C550. Certified Holiday-Free, interior coating
Stem	Standard: Stainless steel ASTM A582
Wedge	Ductile iron ASTM A536 encapsulated with EPDM-rubber compound
Wedge Nut, Thrust Collar	Bronze
Bonnet Bolts	Stainless Steel - 304 sealed with hot melt
Gland Bolts	Stainless Steel - 304 Hexagon bolt
Bonnet Gasket, Wiper Ring, O-Ring Stem Seals, O-Ring Gland Seal	ASTM D2000 Buna "N" nitrile rubber

Approvals:
Certified to:
ANSI/NSF 61, ANSI/NSF 372



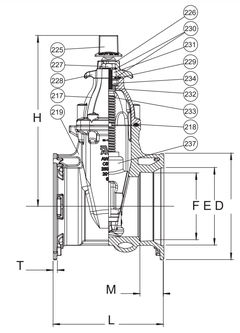
American AVK Company - 2155 Meridian Blvd., Minden, NV 89423 - USA - Tel.: 775.552.1400 - Email: sales@avkus.com - www.americanavk.com
American AVK Company an ISO 9001 and ISO 14001 registered company COPYRIGHT©AVK GROUP A/S 2015

DS S65/MMN MJMJ
Subject to change without notice. (rev. 01/15)

AMERICAN AVK RESILIENT SEATED DUCTILE IRON GATE VALVE 65/MMN
250 PSI, Tested to AWWA C515 (NRS) MJxMJ
Mechanical Joint Ends - Valve Sizes 3" - 12"

Component List:

217. Bonnet	227. Gland Flange Bolt	232. Lower Stem Seal O-Ring
218. Bonnet Gasket	228. Gland Flange	233. NRS Stem
219. Body	229. Gland O-Ring	234. Thrust Collar
225. Wrench Nut	230. Upper Stem Seal O-Rings	237. Wedge
226. Wiper Ring	231. Stem Seal Bushing	



Ref No.	Size	D	E	F	H	L	M	T	Turns to Open	Weight (lbs.)
65-080-MMN	3"	7.72"	4.96"	4.08"	12.30"	8.50"	2.50"	0.65"	15.5	42
65-100-MMN	4"	9.12"	6.00"	4.90"	13.82"	10.00"	2.50"	0.39"	17.5	52
65-150-MMN	6"	11.12"	8.12"	7.00"	17.86"	11.50"	2.50"	0.39"	24.5	93
65-200-MMN	8"	13.37"	10.27"	9.15"	21.83"	11.50"	2.50"	0.47"	27.5	129
65-250-MMN	10"	15.69"	12.34"	11.20"	25.06"	13.00"	2.50"	0.47"	34.5	195
65-300-MMN	12"	17.88"	14.44"	13.30"	27.97"	14.00"	2.50"	0.50"	41.5	279

DS S65/MMN MJMJ
Subject to change without notice. (rev. 01/15)

8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
(512)452-0371
FAX(512)454-9933
TBPELS FIRM #2946
GRAY ENGINEERING

NO.	BY	DATE	REVISION DESCRIPTION

WINDING OAK
SITE DEVELOPMENT PLAN

WATER AND WASTEWATER DETAILS
3

PROJECT NO: 1688 - 11573
DESIGNED BY: LL
DRAWN BY: JM
CHECKED BY: SM

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS · STEVEN M. MINOR · 133778 · LICENSED · PROFESSIONAL ENGINEER
10-10-25

H:\PROJECTS\1688 - ZOOMERS INVESTMENT GROUP\11573 - SINGLETON RANCH COMMERCIAL DEVELOPMENT\CAD\SHEETS\11573 - WATER AND WASTEWATER DETAILS 2.DWG DATE: 10/10/2025 10:07 AM BY: JMARTINEZ

EXISTING TREE INVENTORY - City of Leander TX

August 12, 2025

TAG #	SPECIES	SIZE	SIGNIFICANT PRESERVED 8-18 INCHES	SIGNIFICANT REMOVED 8-18 INCHES	SIGNIFICANT PRESERVED >18-26 INCHES	SIGNIFICANT REMOVED >18-26 INCHES	HERITAGE PRESERVED	HERITAGE REMOVED	PROTECTED CAL. INCHES EXEMPT	COMMENTS
1	LIVE OAK	20			20					
2	LIVE OAK	14	14							
3	LIVE OAK	8		8						
4	LIVE OAK	19				19				
5	LIVE OAK	8		8						
6	LIVE OAK	8		8						
7	LIVE OAK	17		17						
8	LIVE OAK	10		10						
9	LIVE OAK	10		10						
10	LIVE OAK	8		8						
11	LIVE OAK	8		8						
12	LIVE OAK	11	11							
13	LIVE OAK	9	9							
14	LIVE OAK	16		16						
15	LIVE OAK	15	15							
16	LIVE OAK	13		13						
17	LIVE OAK	8		8						
18	LIVE OAK	27					27			
19	LIVE OAK	8		8						
20	LIVE OAK	11		11						
21	LIVE OAK	41					41			
24	LIVE OAK	8		8						
25	LIVE OAK	13	13							
26	LIVE OAK	8		8						
27	LIVE OAK	9		9						
28	LIVE OAK	11	11							
29	LIVE OAK	9	9							
30	LIVE OAK	11		11						
31	LIVE OAK	13		13						
32	LIVE OAK	14		14						
33	LIVE OAK	14		14						
34	LIVE OAK	14		14						
35	LIVE OAK	8		8						
36	LIVE OAK	9		9						
37	LIVE OAK	12		12						
38	LIVE OAK	13	13							
39	LIVE OAK	12		12						
40	LIVE OAK	10		10						
41	LIVE OAK	8		8						
42	LIVE OAK	12		12						
43	LIVE OAK	11		11						
44	LIVE OAK	10		10						
45	LIVE OAK	9		9						
46	LIVE OAK	20				20				
47	LIVE OAK	8	8							
48	LIVE OAK	10	10							
49	LIVE OAK	13		13						
50	LIVE OAK	8		8						
51	LIVE OAK	9	9							
52	LIVE OAK	13	13							
53	LIVE OAK	11		11						
55	LIVE OAK	23				23				
56	LIVE OAK	14		14						
57	LIVE OAK	14		14						
58	LIVE OAK	11		11						
59	LIVE OAK	12		12						
60	LIVE OAK	18		18						
61	LIVE OAK	20				20				
62	LIVE OAK	9		9						
63	LIVE OAK	10		10						
64	LIVE OAK	8		8						
65	LIVE OAK	17		17						
66	LIVE OAK	21				21				
67	LIVE OAK	23							23	Offsite: Preserved
210	LIVE OAK	10		10						
211	LIVE OAK	20				20				
212	LIVE OAK	19				19				
213	LIVE OAK	10		10						
214	LIVE OAK	10		10						
215	LIVE OAK	16		16						
216	LIVE OAK	10		10						
TOTALS		914	135	526	20	142	68	0	23	

TREE PRESERVATION SUMMARY	
TOTAL CAL. INCHES ON-SITE:	914
PROTECTED CAL. INCHES ON-SITE:	891
SIGNIFICANT CLASS: 8-18 CAL. INCHES	
Significant Cal. Inches On-Site:	661
Significant Cal. Inches Preserved:	135
Significant Cal. Inches Exempt:	23
Significant Class Preservation Ratio:	20.42%
Required Significant Preservation Ratio:	50%
Significant Class Excess / (Mitigation):	**(263.0)**
SIGNIFICANT CLASS: 19-26 CAL. INCHES	
Significant Cal. Inches Removed:	142
Significant Class Mitigation Ratio:	2:1
Significant Class Excess / (Mitigation):	**(284.0)**
HERITAGE CAL. INCHES ON-SITE:	68
Heritage Cal. Inches Removed:	0
Heritage Class Mitigation Ratio:	3:1
Heritage Class Excess / (Mitigation):	**0.0**
TOTAL EXCESS / (MITIGATION)	**(547)**

TREE CALIPER INCHES

SIZE RANGE	TOTAL INCHES	SAVED INCHES	SAVED INCHES %	REMOVED INCHES	REMOVED INCHES %
8"-18"	661	135	20.42%	526	79.58%
>18"-25"	162	20	12.35%	142	87.65%
>26"	68	68	100.00%	0	0.00%

TOTAL TREES

SIZE RANGE	TOTAL TREES	SAVED TREES	SAVED TREES %	REMOVED TREES	REMOVED TREES %
8"-18"	60	12	20.00%	48	80.00%
>18"-25"	8	1	12.50%	7	87.50%
>26"	2	2	100.00%	0	0.00%

TOTAL TREES

SIZE RANGE	>50% REMOVAL	1:1 REPLACEMENT	2:1 REMPLACEMENT	3:1 REMPLACEMENT	FEES
8"-18"	263	263			$39,450.00
>18"-25"			284		$42,600.00
>26"				0	$0.00

TREE MITIGATION SUMMARY

MITIGATION REQUIRED PER TREE INVENTORY: **547.0 Cal. Inches**

MITIGATION PROVIDED:

FULL CREDIT NEW TREES:

(7) 3" CEDAR ELMS:	21 Cal. Inches
(6) 3" SHUMARD OAKS:	18 Cal. Inches
(4) 3" LIVE OAKS:	12 Cal. Inches
(1) 3" MEXICAN SYCAMORE:	3 Cal. Inches
(3) 2" MOUNTAIN LAURELS:	6 Cal. Inches
(2) 2" TEXAS REDBUDS:	4 Cal. Inches
TOTAL MITIGATION PROVIDED:	**65.0 Cal. Inches**
NET MITIGATION REQUIRED:	**482.0 Cal. Inches**
X $150 PER CAL. INCH:	**$72,300 Due to City Tree Mitigation Fund**

EXISTING TREE LEGEND

- 007 = EXISTING PROTECTED TREE TO BE PRESERVED
- 007 = EXISTING PROTECTED TREE TO BE REMOVED
- 007 = EXISTING EXEMPT TREE TO BE PRESERVED
- 007 = EXISTING EXEMPT TREE TO BE REMOVED
- 007 = EXISTING OFF-SITE TREE

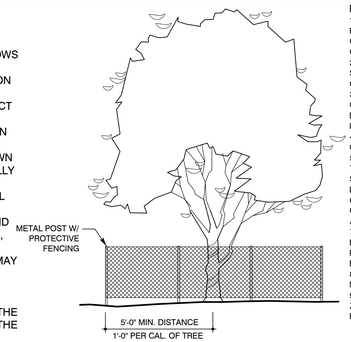
MITIGATION TREES

- = 3" CAL. TREE
- = 2" CAL. TREE
- = 2" CAL. TREE

TREE SURVEY DATE: DECEMBER 20, 2021

EXISTING TREE PRESERVATION AND REMOVAL NOTES:

1. UNLESS OTHERWISE SPECIFICALLY INDICATED, THIS DOCUMENT SHOWS ONLY EXISTING PROTECTED-SIZE TREES AS DEFINED BY THE CITY OF SAN ANTONIO UNIFIED DEVELOPMENT CODE (THE "UDC") IN EFFECT ON THE DATE HEREOF.
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSPECTING THE PROJECT SITE AND DETERMINING FOR HIMSELF IF OTHER EXISTING TREES, SHRUBS, OR VEGETATION ARE PRESENT WHICH MUST BE REMOVED IN ORDER TO CONSTRUCT THE IMPROVEMENTS PROPOSED HEREBY.
3. BY ACT OF SUBMITTING A BID TO REMOVE THE EXISTING TREES SHOWN ON THIS PLAN, CONTRACTOR WARRANTS THAT HE (A) HAS PERSONALLY VISITED THE PROJECT SITE, (B) HAS INVESTIGATED THE EXISTING CONDITIONS SUFFICIENTLY TO DETERMINE WHAT, IF ANY, ADDITIONAL EXISTING TREES, SHRUBS, AND VEGETATION MUST BE REMOVED IN ORDER TO CONSTRUCT THE IMPROVEMENTS PROPOSED HEREBY, AND (C) HAS A CLEAR UNDERSTANDING OF THE TERMS "PROTECTED TREE, SIGNIFICANT TREE, HERITAGE TREE, AND FLOOD PLAIN, AND OF ANY OTHER CITY GUIDELINES, STANDARDS, AND REQUIREMENTS WHICH MAY IMPACT REMOVAL OF THE EXISTING TREES DEPICTED ON THIS PLAN.
4. IN THE EVENT CONTRACTOR ENCOUNTERS ADDITIONAL EXISTING TREES, SHRUBS, AND VEGETATION NOT SHOWN ON THIS PLAN, BUT WHICH MUST REASONABLY BE REMOVED IN ORDER TO CONSTRUCT THE IMPROVEMENTS PROPOSED HEREBY, CONTRACTOR SHALL REMOVE THE ADDITIONAL EXISTING TREES, SHRUBS, AND VEGETATION AT NO ADDITIONAL COST TO THE OWNER, SUBJECT TO ANY APPLICABLE REQUIREMENTS, GUIDELINES, STIPULATIONS, OR APPROVALS ENFORCED BY THE CITY OF SAN ANTONIO.



TREE PROTECTION DETAIL

NOT TO SCALE

NOTES:

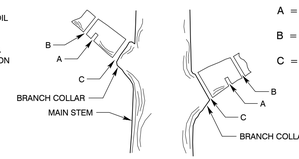
1. LANDSCAPE SUBCONTRACTOR TO PROVIDE PRUNING AND FERTILIZATION FOR ALL EXISTING TREES TO BE PRESERVED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED AND I.S.A CERTIFIED ARBORIST.
2. APPLY APPROVED SLOW-RELEASE FERTILIZER INJECTED INTO SOIL BEFORE CONSTRUCTION COMMENCES AND AGAIN AFTER CONSTRUCTION IS COMPLETE.
3. ALL PRUNING OF EXISTING TREES MUST COMPLY WITH THE CITY OF SAN ANTONIO'S APPROVED PRUNING DETAIL AND IS TO BE DONE UNDER THE FIELD DIRECTION OF THE OWNER AND/OR LANDSCAPE ARCHITECT.
4. PROTECTIVE FENCING MUST BE IN PLACE BEFORE ANY CONSTRUCTION ACTIVITIES MAY COMMENCE.
5. PROTECTIVE FENCING TO BE A MIN. 4'-0" HT. EXTENDING FROM TRUNK 12" PER CALIPER INCH OF TREE (MINIMUM 5'-0" ON ONE SIDE ONLY). THE OPTIMUM DISTANCE IS TO INSTALL FENCE DIRECTLY BENEATH DRIPLINE OF TREE AS SHOWN.
6. PROTECTIVE FENCING TO BE STAKED IN FIELD BY CONTRACTOR AND APPROVED BY OWNER AND/OR LANDSCAPE ARCHITECT.
7. DURING CONSTRUCTION, NO EXCESS SOIL, FILL MATERIAL, EQUIPMENT, LIQUIDS, OR CONSTRUCTION DEBRIS SHALL BE PLACED WITHIN THE PROTECTIVE FENCING, NOR SHALL ANY SOIL BE REMOVED FROM WITHIN THE FENCING.
8. APPLY COARSE GROUND OR SHREDDED ORGANIC BARK MULCH TO 6" DEPTH @ ALL EXISTING TREES TO BE PRESERVED.
9. THE PROPOSED FINISH GRADE WITHIN THE ROOT PROTECTION ZONE ("RPZ") OF ANY TREE TO BE PRESERVED SHALL NOT BE RAISED OR LOWERED MORE THEN THREE (3) INCHES.

IRRIGATION NOTES:

1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

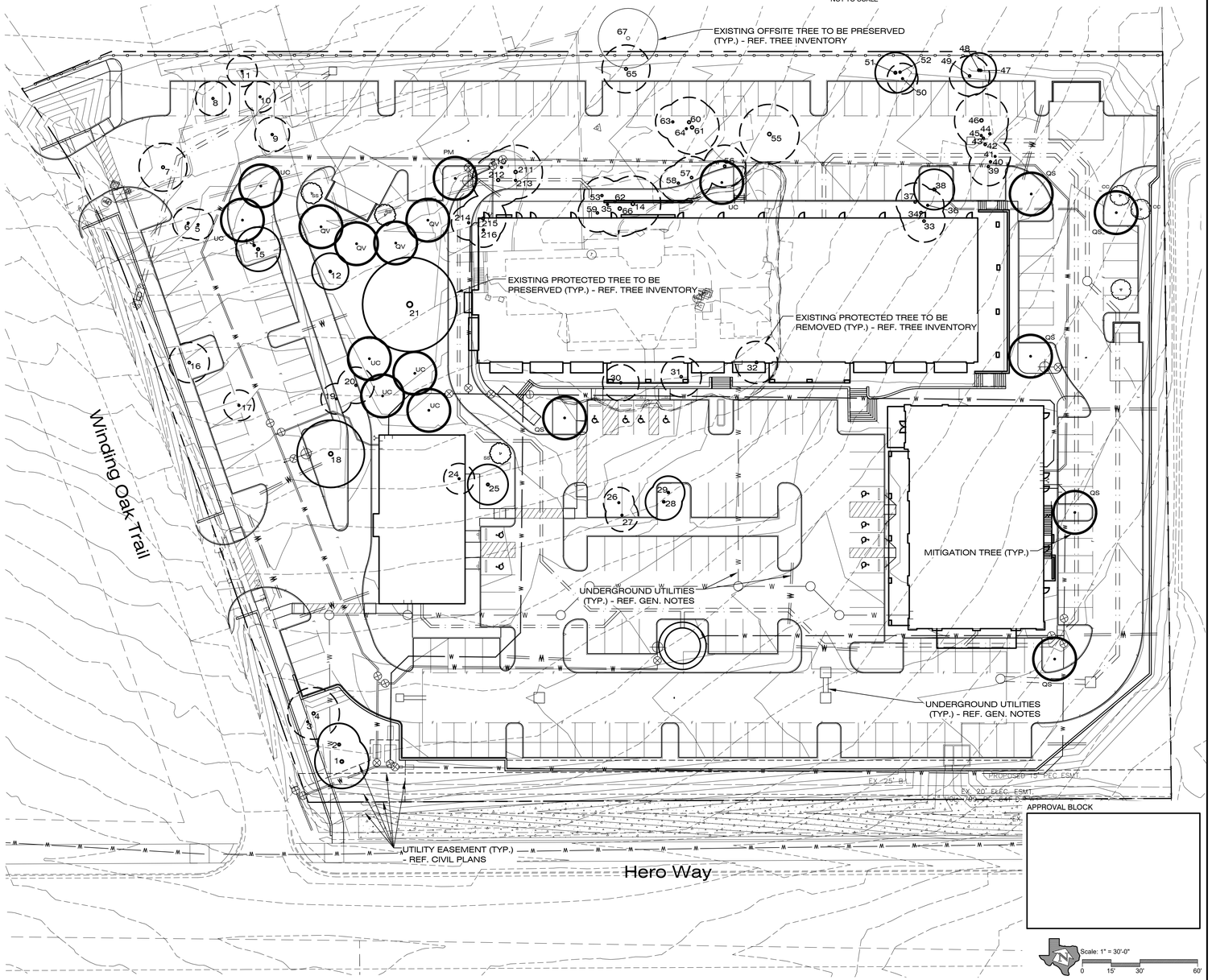
PRUNING NOTES:

1. ALL PRUNING IS TO BE DONE BY A LICENSED ARBORIST UNDER THE FIELD DIRECTION OF THE OWNER AND/OR LANDSCAPE ARCHITECT.
2. WHERE FEASIBLE, PRUNE TREES BEFORE COMMENCEMENT OF CONSTRUCTION.
3. PAINT ALL WOUNDS ON OAK TREES WITHIN 30 MINUTES OF PRUNING.



TREE PRUNING DETAIL

NOT TO SCALE



HORIZON
DESIGN AND DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT JON ROBINSON 2375 STATE OF TEXAS

8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER

Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT

Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

Drawn By: bk

Checked By: jr

Sheet Title:

ALTERNATIVE TREE PRESERVATION PLAN

SHEET 40 OF 48

Issue Date:

January 16, 2025

GENERAL NOTES:

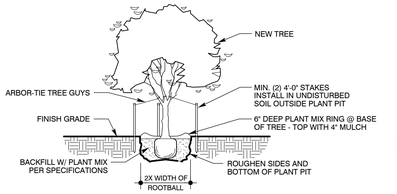
1. THE DEVELOPER AND SUBSEQUENT OWNERS OF THE LANDSCAPED PROPERTY, OR THE MANAGER OR AGENT OF THE OWNER, SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE AREAS. SAID AREAS SHALL BE MAINTAINED SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE AT ALL TIMES AND SHALL BE KEPT FREE OF REFUSE AND DEBRIS. ALL PLANTED AREAS SHALL BE PROVIDED WITH AN AUTOMATIC IRRIGATION SYSTEM AND WATERED AS NECESSARY TO ENSURE CONTINUOUS HEALTHY GROWTH AND DEVELOPMENT. MAINTENANCE SHALL INCLUDE THE REPLACEMENT OF ALL DEAD PLANT MATERIAL IF THAT MATERIAL WAS USED TO MEET THE REQUIREMENTS OF THE LANDSCAPE ORDINANCE.
2. TREE CALIPER IS THE TRUNK DIAMETER OF A TREE AT TWELVE (12") INCHES ABOVE NATURAL GRADE PER THE COMPOSITE ZONING ORDINANCE.
3. ALL NEW LANDSCAPES (NON-RESIDENTIAL AND RESIDENTIAL) ARE REQUIRED TO HAVE A MINIMUM OF SIX INCHES (6") OF SOIL DEPTH IN AREAS PLANTED WITH TURFGRASS. THIS SIX-INCH (6") MINIMUM SOIL DEPTH WILL CONSIST OF 75 PERCENT SOIL BLENDED WITH 25 PERCENT COMPOST. THE SOIL/COMPOST BLEND SHALL BE INCORPORATED INTO THE TOP TWO INCHES OF THE NATIVE SOIL. THE SIX-INCH (6") DEPTH REQUIREMENT DOES NOT APPLY TO THE AREA BETWEEN THE DRIP LINE AND TRUNK OF EXISTING TREES, SHRUB BEDS OR WILDSCAPE AREAS. AREAS WITH EXISTING NATIVE VEGETATION THAT REMAIN UNDISTURBED SHALL BE EXEMPT FROM THE SOIL DEPTH PROVISION; PROVIDED THAT NATIVE SOIL AND VEGETATION IN SUCH AREA IS FENCED DURING CONSTRUCTION AND PROTECTED FROM DISTURBANCE AND COMPACTION DURING THE CONSTRUCTION PROCESS.
4. ALL DISTURBED AREAS AND ROW WILL BE RE-VEGETATED BY THE DEVELOPER.
5. ALL INVASIVE SPECIES SHALL BE REMOVED FROM THE PROPERTY.
6. NO MORE THAN 50% OF THE SAME SPECIES MAY BE PLANTED TO MEET THE TREE PLANTING REQUIREMENTS.
7. IN THE EVENT OF A CONFLICT WITH TREE REMOVAL/PRESERVATION CALL OUTS ON PLAN SHEET(S) VERSUS TREE REMOVAL/PRESERVATION MATRIX, THE TREE REMOVAL/PRESERVATION MATRIX SHALL APPLY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY WITH CITY STAFF SHOULD ANY INCONSISTENCY EXIST WITHIN AN APPROVED PLAN SET. NO IN-FIELD CHANGES ARE MADE TO APPROVED PLANS, NO EXCEPTIONS.
8. A MINIMUM PERVIOUS AREA 3 FEET IN RADIUS AND NOT LESS THAN 50% OF THE CALCULATED DRIP LINE AREA IS PROVIDED AROUND THE TRUNKS OF ALL EXISTING AND PROPOSED TREES.
9. NO LANDSCAPING OVER 3 FEET HIGH IS LOCATED WITHIN 40 FEET OF THE INTERSECTION OF ANY STREET. (MEASURED FROM THE EDGE OF PAVEMENT AS IF THE CURBS OR PAVEMENT EDGES ARE NOT ROUNDED OFF AND INTERSECT AT A RIGHT ANGLE).
10. REFER TO SPECIFICATIONS FOR ALL CONTRACT PLANTING.
11. INSTALL APPROVED IMPORTED PLANTING MIX TO MIN. DEPTH OF 6" IN ALL AREAS SCHEDULED AS LANDSCAPE PLANTING AREAS.
12. INSTALL APPROVED IMPORTED TOPSOIL TO 4" DEPTH IN ALL TURFGRASS AREAS.
13. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES IN THE FIELD PRIOR TO INSTALLATION AND MUST REPORT ANY DEVIATION IN SITE CONDITIONS TO THE LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH WORK IN THE AFFECTED AREA.
14. WHERE SHOWN ON THESE PLANS, UTILITY INFORMATION IS PROVIDED FOR REFERENCE ONLY. REF. CIVIL AND MEP PLANS FOR ALL UTILITY INFORMATION.
15. VERIFY LOCATION AND DEPTH OF ALL EXISTING AND PROPOSED UTITILIES PRIOR TO ANY EXCAVATION. IN THE EVENT POTENTIAL CONFLICT(S) OCCUR BETWEEN UTILITIES AND LANDSCAPE IMPROVEMENTS, IMMEDIATELY CEASE WORK IN THE AFFECTED AREA, REPORT THE CONFLICT(S) TO THE OWNER'S REPRESENTATIVE, AND DO NOT PROCEED UNTIL RECEIPT OF SPECIFIC WRITTEN DIRECTION.

URBAN DEER NOTES:

1. AT THE TIME THESE DOCUMENTS WERE PREPARED THE LANDSCAPE ARCHITECT WAS NOT AWARE OF A LOCAL URBAN DEER POPULATION.
2. IN THE EVENT AN URBAN DEER POPULATION IS DISCOVERED, CONTRACTOR IS SOLELY RESPONSIBLE FOR PROTECTING ALL NEWLY-INSTALLED PLANTS THROUGH THE 30-DAY MAINTENANCE PERIOD.
3. APPLY "LIQUID FENCE" (OR APPROVED EQUAL) TO ALL PLANTS AS NEEDED TO DISCOURAGE BROWSING BY DEER.
4. ANY NEWLY-INSTALLED PLANTS EATEN OR BROWSED BY DEER PRIOR TO THE EXPIRATION OF THE 30-DAY MAINTENANCE PERIOD SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.

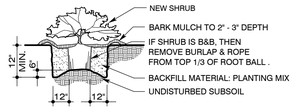
OVERHEAD ELECTRIC NOTES:

1. ALL PROPOSED LARGE SPECIES TREES (AS DEFINED BY THE UNIFIED DEVELOPMENT CODE IN EFFECT HEREOF) SHALL BE PLANTED NO CLOSER THAN 20' TO ALL OVERHEAD ELECTRIC UTILITY LINES.
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL OVERHEAD ELECTRIC UTILITY LINES AND ENSURING THAT NO LARGE SPECIES TREES ARE PLANTED WITHIN 20' OF ANY OVERHEAD ELECTRIC UTILITY LINES.
3. WHERE CITY INSPECTORS FIND ANY PROPOSED LARGE SPECIES TREES TO BE IN VIOLATION OF PROXIMITY TO OVERHEAD ELECTRIC UTILITY LINES, THE CONTRACTOR SHALL RELOCATE TREES AT NO ADDITIONAL COST TO THE OWNER.



TREE PLANTING DETAIL

NEW TREES
1/8" = 1'-0"



SHRUB PLANTING DETAIL

NEW SHRUBS
1/8" = 1'-0"

PLANT SCHEDULE							SIZE = CALIPER OR SPREAD
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	HGT.	SIZE	CONDITION	REMARKS
TREES							
17	CC	Cercis canadensis var. 'texana'	TEXAS REDBUD	–	2" CAL.		DECIDUOUS/ MULTI-TRUNKED
7	PM	Platanus mexicana	MEXICAN SYCAMORE	-	3" CAL.	B and B	DECIDUOUS / SINGLE STEM
19	QS	Quercus shumardii	SHUMARD OAK	-	3" CAL.	B and B	DECIDUOUS / SINGLE STEM
17	QV	Quercus virginiana	LIVE OAK	-	3" CAL.	B and B	EVERGREEN / SINGLE STEM
22	SS	Sophora secundiflora	MOUNTAIN LAUREL	-	2" CAL.	B and B	EVERGREEN / MULTI-TRUNKED
18	UC	Ulmus crassifolia	CEDAR ELM	-	3" CAL.	B and B	DECIDUOUS / SINGLE STEM
SHRUBS							
	CAP	Caesalpinna pulcherimma	RED BIRD OF PARADISE	-	5 GAL.		ACCENT / PLANT AS SHOWN
	HP	Hesperaloe parviflora	RED YUCCA	-	5 GAL.		ACCENT / PLANT AS SHOWN
	ICB	Ilex cornuta 'Burfordii-Nana'	DWARF BURFORD HOLLY	-	5 GAL.		EVERGREEN / PLANT AT 3'-0" O.C.
	LGC	Leucophyllum frutescens 'Gn. Cloud'	'GREEN CLOUD' CENIZO	-	5 GAL.		EVERGREEN / PLANT AT 4'-0" O.C.
	LMY	Lantana montevidensis 'New Gold'	'NEW GOLD' LANTANA	-	1 GAL.		PERENNIAL / PLANT AT 30" O.C.
	ML	Muhlenbergia lindheimeri	DEER GRASS	-	5 GAL.		ACCENT / PLANT AS SHOWN
	ROP	Rosmarinus officianallis 'Prostrata'	PROSTRATE ROSEMARY	-	1 GAL.		EVERGREEN / PLANT @ 24" O.C.
	SG	Salvia greggii	RED SALVIA	-	3 GAL.		EVERGREEN / PLANT AT 30" O.C.
	SL	Salvia leucantha	MEXICAN BUSH SAGE	-	5 GAL.		EVERGREEN / PLANT AT 3'-0" O.C.
	TS	Tecoma stans	ESPERANZA	-	5 GAL.		ACCENT / PLANT AS SHOWN
	VS	Viburnum suspensum	SANDANKWA VIBURNUM	-	5 GAL.		EVERGREEN / PLANT AT 4'-0" O.C.
GROUNDCOVERS AND GRASSES							
		Cynodon dactylon '419'	'419' HYBRID BERMUDAGRASS	-		SOLID SOD	SEE SPECIFICATIONS
		Cynodon dactylon 'Blackjack'	'BLACKJACK' BERMUDAGRASS	-		HYDROMULCH	SEE SPECIFICATIONS
			DECOMPOSED GRANITE	-		APPLY TO 3" COMPACTED DEPTH OVER SUBGRADE W/ GEO-TEXTILE WEED BARRIER AND PRE-EMERGENT HERBICIDE. FILL UNDER ADJACENT SHRUBS.	
			3" - 4" 'TEXAS BLEND' RIVER ROCK	-		APPLY TO 4" DEPTH OVER COMPACTED SUBGRADE W/ GEO-TEXTILE WEED BARRIER AND PRE-EMERGENT HERBICIDE. FILL UNDER ADJACENT SHRUBS.	
			ORGANIC BARK MULCH	-		PROVIDE TO 6" DEPTH @ EXISTING TREES TO BE PRESERVED	

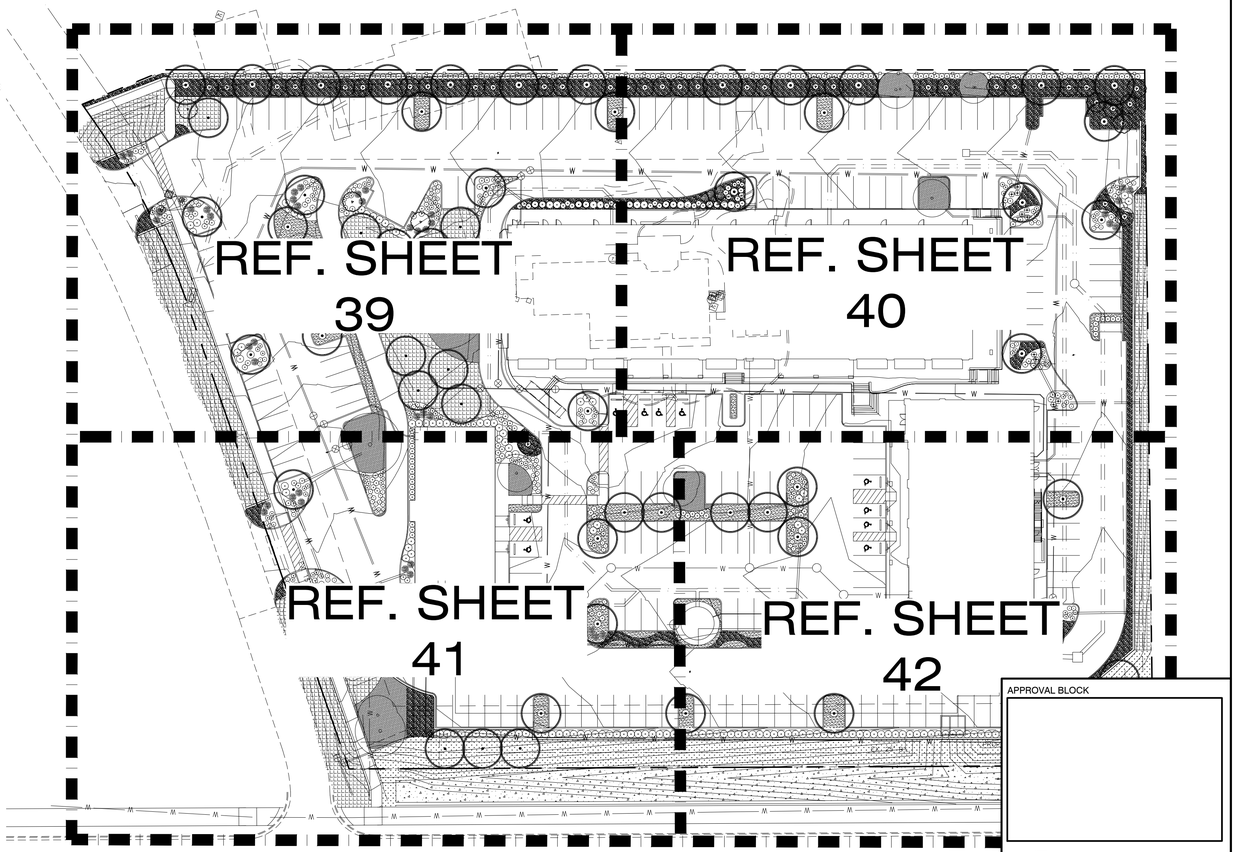
IRRIGATION NOTES:

1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

LANDSCAPE ORDINANCE COMPLIANCE

	REQUIRED	PROVIDED
1. OVERALL REQUIRED LANDSCAPE		
TOTAL SITE AREA = 200,780 SF x 15%:	30,117 SF	53,254 SF (26.5%)
TOTAL REQUIRED TREES, (2) 2 IN. CAL TREES PER 600 SF.:	**101**	**116**
TOTAL REQUIRED SHRUBS, (4) 5 GAL. SHRUBS PER 600 SF.:	**201**	**588**
2. FRONT YARD LANDSCAPE (50% MIN. OF OVERALL LANDSCAPE REQUIREMENT)		
30,117 SF X 50%:	15,059 SF	29,111 SF
101 TREES X 50%:	51	72
201 SHRUBS X 50%:	101	391
3. SETBACK AREAS		
FRONT (HERO WAY):		
TOTAL SETBACK AREA:	6778 SF	
TOTAL REQUIRED TREES, (1) 2 IN. CAL TREES PER 600 SF.:	12	12
CAL. INCHES:	24	50
TOTAL REQUIRED SHRUBS, (4) 5 GAL. SHRUBS PER 600 SF.:	46	46
STREET SIDE (WINDING OAK TRAIL):		
TOTAL SETBACK AREA:	5835 SF	
TOTAL REQUIRED TREES, (1) 2 IN. CAL TREES PER 600 SF.:	10	10
CAL. INCHES:	20	100
TOTAL REQUIRED SHRUBS, (4) 5 GAL. SHRUBS PER 600 SF.:	39	49
REAR:		
TOTAL SETBACK AREA:	11,530 SF	
TOTAL REQUIRED TREES, (2) 2 IN. CAL TREES PER 600 SF.:	39	39
CAL. INCHES:	78	110
TOTAL REQUIRED SHRUBS, (4) 5 GAL. SHRUBS PER 600 SF.:	77	174
4. COMPATIBILITY LANDSCAPE BUFFER		
NORTHERN PROPERTY IS RESIDENTIAL ZONED.		
REF. CIVIL. PLANS FOR MASONRY WALL REQUIREMENT.		
TOTAL BUFFER AREA:	4763 SF	
TOTAL REQUIRED TREES, (2) 2 IN. CAL TREES PER 600 SF.:	16	16
CAL. INCHES:	32	49
5. TURF GRASS SF BREAKDOWN (50% MAX)		
TOTAL LOT AREA = 200,780 SF x 50%:	100,390 SF	13,476 SF

6. REQUIRED TREE PERCENTAGE BREAKDOWN	SMALL TREES	LARGE TREES
TOTAL REQUIRED LARGE SPECIES TREES	-	77
TREES PROVIDED IN SETBACK AREAS:	31	19
RESIDENTIAL LANDSCAPE BUFFER:		
TOTAL TREES PROVIDED:	11	5
75% REQUIRED LARGE/SHADE TREES		
75% MUST BE LARGE TREES/SHADE TREES:	-	
TOTAL PROVIDED LARGE/SHADE TREES:	-	77 (76.2%)



APPROVAL BLOCK

Scale: 1" = 40'-0"
0 20' 40' 80'

HORIZON
DESIGN and DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS

8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER
Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT
Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

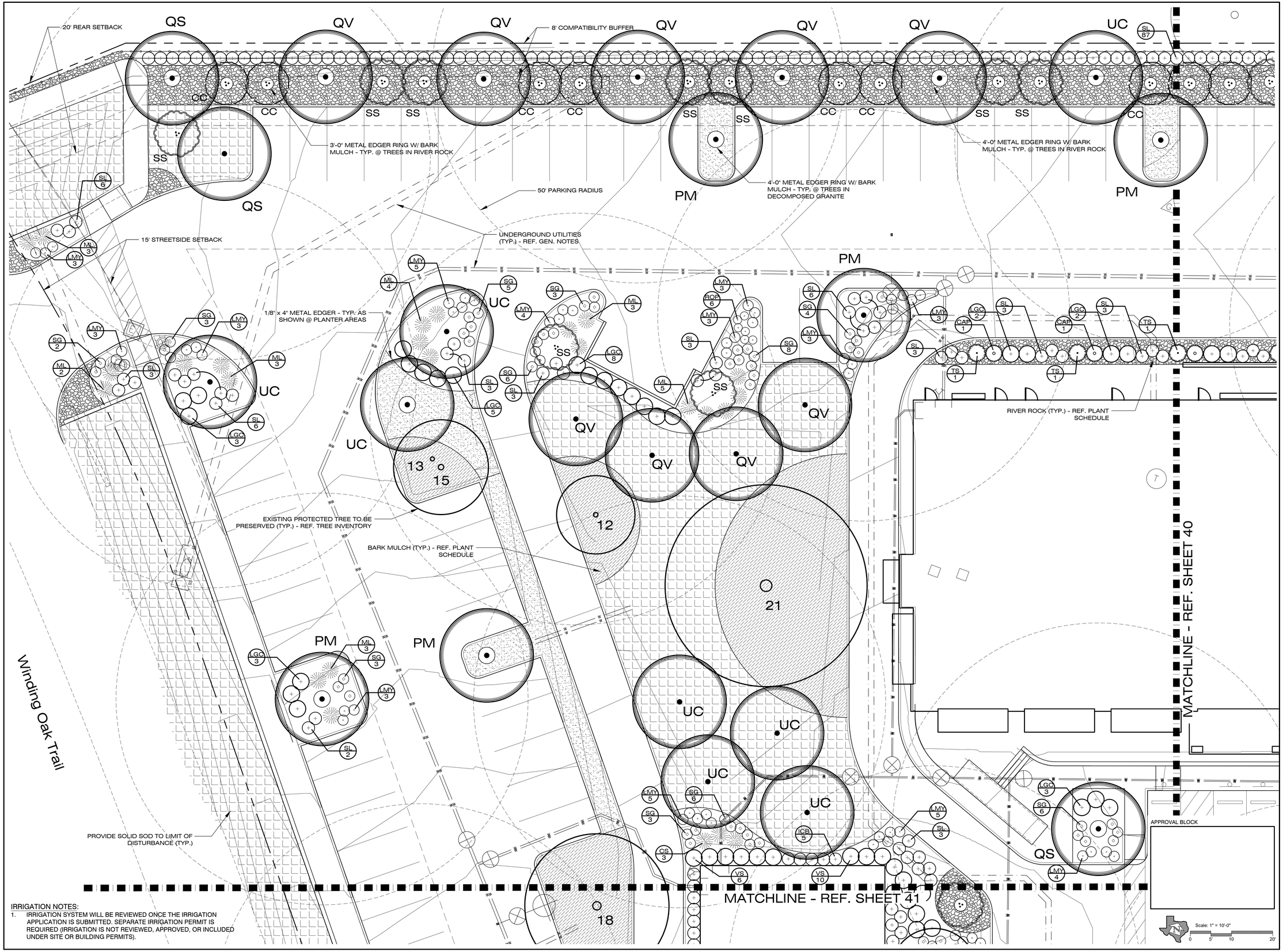
Drawn By: bk

Checked By: jr

Sheet Title:
OVERALL ALTERNATIVE LANDSCAPE PLAN

SHEET 41 OF 48

Issue Date:
January 16, 2025



IRRIGATION NOTES:

1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

HORIZON
DESIGN AND DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS

8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER
Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT
Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

Drawn By: bk

Checked By: jr

Sheet Title:
ENLARGED ALTERNATIVE LANDSCAPE PLAN

SHEET 42 OF 48

Issue Date:
January 16, 2025

IRRIGATION NOTES:
1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

67
EXISTING OFFSITE TREE TO BE PRESERVED (TYP.) - REF. TREE INVENTORY
UC
SL 49
51
52
8' COMPATIBILITY BUFFER
SL 9
BARK MULCH (TYP.) - REF. PLANT SCHEDULE
QS
20' REAR SETBACK
SL 29
CC
SS
4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN RIVER ROCK
PM
DECOMPOSED GRANITE (TYP.) - REF. PLANT SCHEDULE
4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @TREES IN DECOMPOSED GRANITE
EXISTING PROTECTED TREE TO BE PRESERVED (TYP.) - REF. TREE INVENTORY
48
47
50' PARKING RADIUS
RIVER ROCK (TYP.) - REF. PLANT SCHEDULE
UNDERGROUND UTILITIES (TYP.) - REF. GEN. NOTES
38
SG 3
SL 8
LGC 2
SL 3
CAP 1
ML 4
TS 1
LMY 2
HP 3
LMY 3
ML 3
LGC 3
SL 2
ML 8
PROPOSED BUILDING
PROVIDE SOLID SOD TO LIMIT OF DISTURBANCE (TYP.)
SG 2
HP 2
4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN DECOMPOSED GRANITE
APPROVAL BLOCK
MATCHLINE - REF. SHEET 39
MATCHLINE - REF. SHEET 42
Scale: 1" = 10'-0"
0 5' 10 20'

HORIZON
DESIGN AND DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS
8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER
Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT
Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

Drawn By: bk
Checked By: jr

Sheet Title:
ENLARGED ALTERNATIVE LANDSCAPE PLAN

SHEET 43 OF 48

Issue Date:
January 16, 2025

MATCHLINE - REF. SHEET 39

MATCHLINE - REF. SHEET 42

PROPOSED BUILDING

Winding Oak Trail

Hero Way

15' STREETSIDE SETBACK

15' FRONT SETBACK

PM

QS

QV

UC

18

25

28

29

2

10

1/8" x 4" METAL EDGER - TYP. AS SHOWN @ PLANTER AREAS

4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN RIVER ROCK

4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN DECOMPOSED GRANITE

UNDERGROUND UTILITIES (TYP.) - REF. GEN. NOTES

50' PARKING RADIUS

DECOMPOSED GRANITE (TYP.) - REF. PLANT SCHEDULE

BARK MULCH (TYP.) - REF. PLANT SCHEUDLE

EXISTING PROTECTED TREE TO BE PRESERVED (TYP.) - REF. TREE INVENTORY

RIVER ROCK (TYP.) - REF. PLANT SCHEUDLE

PROVIDE SOLID SOD TO LIMIT OF DISTURBANCE (TYP.)

HYDROMULCH TO LIMIT OF DISTURBANCE

IRRIGATION NOTES:

1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

APPROVAL BLOCK

Scale: 1" = 10'-0"

0 5' 10 20'

HORIZON
DESIGN AND DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS

8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER
Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT
Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

Drawn By: bk

Checked By: jr

Sheet Title:
ENLARGED ALTERNATIVE LANDSCAPE PLAN

SHEET 44 OF 48

Issue Date:
January 16, 2025

MATCHLINE - REF. SHEET 40

MATCHLINE - REF. SHEET 41

EXISTING PROTECTED TREE TO BE PRESERVED (TYP.) - REF. TREE INVENTORY

BARK MULCH (TYP.) - REF. PLANT SCHEDULE

PROPOSED BUILDING

UNDERGROUND UTILITIES (TYP.) - REF. GEN. NOTES

PROVIDE SOLID SOD TO LIMIT OF DISTURBANCE (TYP.)

RIVER ROCK (TYP.) - REF. PLANT SCHEUDLE

DECOMPOSED GRANITE (TYP.) - REF. PLANT SCHEDULE

4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN RIVER ROCK

4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN DECOMPOSED GRANITE

50' PARKING RADIUS

15' FRONT SETBACK

UNDERGROUND UTILITIES (TYP.) - REF. GEN. NOTES

HYDROMULCH TO LIMITS OF DISTURBANCE

APPROVAL BLOCK

Hero Way

IRRIGATION NOTES:

1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

Scale: 1" = 10'-0"

0 5' 10 20'

HORIZON
DESIGN AND DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT JON ROBINSON 2375 STATE OF TEXAS

8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER

Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT

Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

Drawn By: bk

Checked By: jr

Sheet Title:

ENLARGED ALTERNATIVE LANDSCAPE PLAN

SHEET 45 OF 48

Issue Date:

January 16, 2025

PART 1 - GENERAL

1.1 Work Included
A. Place and spread topsoil and planting mix.
B. Install edging at planter areas.
C. Excavate and prepare plant pits.
D. Place plants in pits and backfill with planting mix.
E. Prune plants.
F. Apply mulch to planter areas.
G. Install solid sod, hydromulch, or seed mix.
H. Guarantee plants.
I. Inspect plants during the Guarantee Period.

1.2 Reference Standards
A. Nomenclature and size. All plants must be true to name and size in conformance with the following standards:
B. American Joint Committee on Horticultural Nomenclature, 1942 ed. of Standardized Plant Names (Mount Pleasant Press, J. Horace McFarland Co., Harrisburg PA)
C. American Standard of Nursery Stock, 1973 ed. (American Association of Nurserymen, Inc., Washington DC)

1.3 Submittals
A. Submit weed control program in accordance with Sec. 01300
1. Indicate chemicals to be employed, manufacturer's printed instructions as to dilution and application, solution strength, application method, rates, and frequency, and frequency of manual weeding.
2. Submit chemical manufacturer's written certificate that material proposed for use meets local, state, and federal regulations for the type of material proposed and that the material is not toxic to humans and animals if applied per the manufacturer's written instructions.
B. Submit topsoil sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate topsoil supplier source.
2. Provide laboratory test results indicating compliance w/ topsoil composition requirements.
C. Submit planting mix sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate planting mix supplier source.
2. Provide laboratory test results indicating compliance w/ planting mixl composition requirements
D. Submit bark mulch sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate bark mulch supplier source.
E. Submit decomposed granite sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate decomposed granite supplier source.
F. Submit river rock sample (min. 1-gal. bag) in accordance with Sec. 01300
1. Indicate river rock supplier source.
F. Submit irrigation system product data in accordance with Sec. 01300.
1. Provide manufacturers' cut sheets indicating compliance with all equipment specified in the Irrigation Plans

1.4 Product Delivery, Storage, and Handling
D. Handle and store all materials in such a manner as to prevent damage.

1.5 Existing Conditions
A. Prior to commencement of work, investigate the site, locate and identify all existing underground utiliities that may conflict with the installation of the work described in the contract documents, and notify the Landscape Architect of the conflict and do not proceed with construction in the affected area without specific direction.
B. Protect identified utilities from damage during installation.

1.6 Guarantee
A. All plants will be guaranteed against defects, including death and unsatisfactory growth, for a period of 12 months following the date of Substantial Completion. If replacement plants are installed, they will be guaranteed for an additional 12 months following their installation.

1.7 Responsibilities of Owner and Contractor
A. The Contractor will provide monthly inspections of the project during construction and the guarantee period and immediately provide to the Owner and the Landscape Architect a written report identifying any irregularities which affect the guarantee.
B. The Contractor will monitor any construction, whether conducted by other trades or the Owner's employees, adjacent to new and existing plants. The Contractor will identify and document any damage to the plants and immediately notify the Landscape Architect of same. The Contractor will replace any damaged plants at no expense to the Owner. Any reimbursement from other trades or contractors shall be the sole responsibility of the Contractor.
C. The Contractor will remove and replace all dead plants.
D. The Contractor will ensure all plants are installed in an upright position and to proper finish grade and will reset any plants not installed accordingly.
E. The Contractor will have the sole responsibility for ensuring that all plants are maintained and watered adequately.

1.8 Final Inspection
A. At the conclusion of the guarantee period, the Landscape Architect will inspect the planting to assess the final acceptance of the installation. Only plants that are alive and healthy will be accepted. The Contractor will replace any plants that are dead or, in the sole opinion of the Landscape Architect, in an unhealthy or unsightly condition or have lost their natural form due to dead or removed branches. The Contractor will bear the cost of replacing any plants.

1.9 Quality Assurance
A. Before entering into a contract with any subcontractor, the General Contractor will investigate the proposed subcontractor's reputation and ability to perform the work and determine whether the subcontractor is stable, reputable, and skilled in this area of work. The General Contractor will require and review a minimum of the following submittals:
1. Experience. The subcontractor will be a single firm specializing in landscape installation with a minimum 5 years documented experience. Documentation will demonstrate a minimum 10 installations of equal or greater size. The subcontractor will furnish the name, address, and telephone number for both the General Contractor and Owner on these projects, as well as the contract price, the company name under which the work was performed, and completion date.
2. Personnel. The subcontractor will provide a list of the project manager and foreman proposed to complete the work, their years of experience in the industry, any formal training, and years of service with the current company. If a separate irrigation subcontractor is to be used, the same information will be provided.
3. Business Expertise. The subcontractor will submit a current audited financial statement, current insurance certificate, contact information for their insurance company, bonding capacity and bonding company, and contact information for their bonding company.
B. Should the subcontractor selected by the General Contractor default on the contract, fail to complete the work in conformance with the Contract Documents, or enter into bankruptcy, the Owner will pay the Landscape Architect as an additional service for any additional work occasioned by the subcontractor's default

PART 2 - PRODUCTS

2.1 Materials
A. Topsoil. Provided by the landscape subcontractor from local sources, sandy loam which is fertile, friable, surface soil. Topsoil will be free of rocks, stones, subsoil, building debris, weeds, grass, clay lumps, and other materials which would be detrimental to turfgrass growth. Topsoil composition will be not less than 7% nor more than 12% clay and not more than 12% silt.
B. Planting Mix. Plant mix composition will be 35% compost, 33% red sand, 16% composted topsoil, and 16% pine bark mulch.
C. Commercial Fertilizer. Complete fertilizer of neutral character, with some elements derived from organic sources and containing available plant nutrients in the following percentages:
1. For trees and shrubs - Woodace Top Dress Special (20–4-11, 8 - 9 month formula) at a rate of 5 to 10 lbs. per 100 SF.
2. For lawns - Min. 1 lb. of actual nitrogen per 100 SF of lawn area, min. 4% phosphoric acid, and min. 2% potassium. Provide nitrogen in a form that will be available to turfgrass during the initial period of growth and in a minimum 50% organic form.

2.2 Plant Materials
A. The drawings contain a complete list of plant species, quantities, sizes, and other requirements. In the event that discrepancies occur between the quantities of plants indicated on the plant list and as indicated on the drawings, the plant quantities shown on the drawings will be given precedence.
B. No substitutions of plants will be permitted without express prior written authorization by the Landscape Architect.
C. All plants will comply with state and federal inspection and diseases infestation laws.
D. All plants will be typical of their species or variety, with normal, well-developed branches and vigorous root systems.
E. All plants will be healthy and vigorous, free from defects, disfiguration, knots, abrasions, sunscald, diseases, insect eggs or larvae, borers, and all other forms of diseases or infestations.
F. All plants will be nursery stock. Any plants gathered from native stands must be kept under nursery conditions for a minimum of 1 full growing season, must be free from all foreign plants and weeds, and must meet all other requirements of the Contract Documents.
G. Container-grown plants must exhibit development of fibrous roots and have a root mass that will retain its shape when removed from the container. Plants grown in smaller containers must have root growth sufficient to reach the sides of the container. Root-bound container-grown plants will be rejected.
H. Container sizes of a large grade than listed in the American Standard for Nursery Stock (ASNS) shall be determined by the volume of the root ball specified in the ASNS for plants of the same size.
I. All bare root plants must have a heavy, fibrous root system and dormant buds at the time of planting.
J. All plants must have average height and spread proportions and branching habit in accordance with the appropriate sections of the ASNS.
K. All plants which have girdled roots, stem, or major branch, have deformities of the stem or major branch, lack symmetrical growth habits, have dead or defoliated portions, or have any defect, injury, or conditions which in the sole opinion of the Landscape Architect renders them unsuitable, will be rejected.
L. Balled and burlapped plants must have a solid ball of earth of minimum specified size held securely in place by burlap and stout rope. Oversized or exceptionally heavy plants will be accepted provided the size of the root ball or spread of the roots is increased proportionally. Root balls must be tight, unbroken, and free of weed or foreign plant growth. Root balls shall have the following depth-to-diameter ratios: root ball diameters of less than 20" = minimum depth of 75% of the diameter; root ball diameters of 20" to 30" = minimum depth of 2/3 of the diameter; root ball diameters over 30" = minimum depth of 60% of the diameter.
M. Plants delivered as a single unit of 25 or less of the same size, species, and variety must be clearly marked and tagged. Plants delivered in large quantities of more than 25 must be segregated as to variety, grade, and size, and 1 plant in each 25 plants, or fraction thereof, of each size, species, and variety, must be tagged.
N. Plants stored under temporary conditions will be the responsibility of the Contractor and must be protected at all times from extreme weather conditions by insulating the root balls with sawdust, soil, mulch, or other approved measure. Plants stored on paved areas must be separated from the pavement with an insulating layer.
O. Protecting stored plants from theft or vandalism will be the sole responsibility of the Contractor. Any stolen plants will be replaced at no cost to the Owner.

2.3 Miscellaneous Materials
A. Mulch. Shredded native mulch applied to a depth of 4" beneath all new trees and 4" beneath all shrubs.
B. Stakes. Sound new hardwood, treated softwood, or redwood stakes, free of knot holes and other defects, or metal stakes. Provide wire ties and guys of 2-strand, twisted, pliable galvanized iron wire, minimum 12-gauge, with zinc-coated turnbuckles. Provide minimum ½" diameter rubber or plastic hose, cut to required lengths and of uniform color, material, and size, to protect tree trunks and branches from damage by wires. All new trees are to be staked.
C. Anti-Dessicant: Emulsion type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's full identified containers and mix in accordance with manufacturer's instructions.
D. Plastic trunk protectors: Provide ArborGard+, AG 9-4+ by Deep Root Partners, L.P. (or equal), (1-800-458-7668) to protect new trees from damage by string trimmers and mowers.

PART 3 - EXECUTION

3.1 Inspection
A. Inspect existing site conditions and progress of other trades before commencing landscape installation.
B. Verify that construction has progressed to a point at which the landscape will not be adversely affected by subsequent construction and that existing conditions are acceptable for landscape installation.
C. Report adverse conditions to the Landscape Architect and do not proceed with the work until adverse conditions have been rectified.
D. Commencement of the landscape installation will constitute acceptance of the site conditions without qualification.

3.2 Preparation of Subsoil
A. Inspect subsoil for the presence of objectionable materials such as rocks (2" diameter and greater), concrete waste, building debris, weeds, grass, and other material that would be detrimental to the growth of plants and turfgrass. Protect existing underground improvements from damage.
B. Cultivate the subsoil to a depth of 3" or, if the subsoil is compacted due to heavy equipment traffic or storage, cultivate to a depth of 6".

3.3 Spreading Topsoil
A. See lawn installation for topsoil spreading procedures in turfgrass areas.
B. Spread topsoil and planting mix to required finish grades. Fill turfgrass areas with topsoil to a minimum depth of 4."
C. Cultivate with a mechanical tiller to break up clods and cultivate by hand in inaccessible areas. Rake until the surface is smooth.

D. Remove from the site any foreign or objectionable material collected during cultivation.
E. Grade to eliminate rough spots and low spots where ponding may occur, maintaining smooth and uniform grades that will encourage positive drainage. Continue to grade the topsoil until it is firm and settled with a smooth surface, watering, drying, and re-grading as necessary.
F. The landscape Contractor is solely responsible for ensuring positive drainage regardless of the condition of the subgrade. If extreme pr objectionable conditions exist, notify the Landscape Architect before proceeding.
G. Mix the specified soil amendments and fertilizers with topsoil at the specified rates. Do not mix fertilizers unless planting will follow the spreading of topsoil or planting mix within 48 hours.
H. All planting areas must be prepared so that they remain free of debris and weeds until planting occurs.
I. Weed control in the planting areas will consist of killing all weeds and maintaining a weed-free condition in accordance with the weed control program until completion of the project.
J. Protect adjacent plants from damage due to overspray of weed control chemicals.

3.4 Planting
A. The Contractor will begin planting when other work divisions such as topsoil spreading have progressed sufficiently to permit planting.
B. Planting will occur where it is shown on the Contract Documents unless obstruction overhead or underground are encountered or where changes in construction have been made. Prior to the excavation of shrub or tree pits, the Contractor will locate and identify all underground utility lines, electrical cables, irrigation lines, and conduits. If such obstructions are found, promptly notify the Landscape Architect and do not proceed without clear direction.
C. No planting pits will be excavated until the proposed locations and plant sizes have been reviewed and approved by the Landscape Architect. Each plant will be planted in an individual pit dug with straight vertical sides. All plants will be set such that their original soil level is equal to the ultimate finish grade. No filling will be done around the trunks and stems. All ropes, wires, staves, etc., will be removed from the sides and top of the root ball and removed from the pit before filling. Burlap will be properly cut and removed from the sides of the root ball. When a depth is specified for the plant pit, it will be construed as the depth below adjacent finish grade. Excess excavation from plant pits shall be either used elsewhere or removed from the site entirely.
D. The Landscape Architect will review and approve the location and orientation of all plants prior to excavation of their pits. All trees will be planted in pits a minimum 24" greater in diameter than the container size or spread of their roots. In the event that solid rock is encountered in the bottom of the pit, break up and loosen the sides and bottom of the pit so that water will drain effectively. The pit will be a minimum of 9" deeper than the depth of the root ball and will have a crown from the middle to the sides in order to direct drainage away from the root ball. Place planting mix in the bottom of the pit and tamp down to prevent settling. Backfill the pits with planting mix in layers no greater than 9" and tamp down to avoid settling. Provide enough planting mix to bring to finish grade and form a saucer with a minimum 4" lip around the perimeter of the tree's root ball so water will pond and soak into the root ball.
E. Stake trees immediately after planting, then remove the stakes after one (1) year.
F. If deciduous trees are planted in full-leaf, spray with anti-dessicant to provide an adequate film over the trunk, branches, stems, and foliage.
G. Shrubs will be planted in pits a minimum of 12" greater in width than the diameter of the root ball or container. In the event that solid rock is encountered in the bottom of the pit, break up and loosen the sides and bottom of the pit so that water will drain effectively. The depth of the pit will be sufficient to accommodate the root ball and to set the plant at finish grade. Backfill the pit with planting mix, tamp down and settle thoroughly, bring to finish grade, and form a slight saucer to hold additional water and soak the root ball. After planting has been approved, apply bark mulch to a depth of 2" around all plants in the planting area.
H. All ground cover material will be planted as follows:
1. One gallon material will be planted the same as one gallon shrubs.
2. 4" pot material will be planted in pits the same size as or larger than the root system, then firmly tamped by hand and watered in using a fine spray.
3. Where settlement occurs, backfill with additional planting mix to cover exposed roots and to bring to finish grade.
4. After planting has been reviewed and approved, apply decomposed granite to a compacted depth of 2".
5. Thoroughly water each plant using a root stimulator solution (Green Light or equal) mixed according to the manufacturer's recommendations.
6. Neatly prune and/or clip each plant as necessary to preserve the natural character. Conduct all pruning with sharp, clean tools and clip bruised or broken branches with a clean cut. Paint pruning cuts 2" in diameter and larger with an approved tree wound paint.
7. Apply water as required to keep the mulch damp at all times during germination and initial growth period or as directed by the Landscape Architect.

3.5 Lawn Installation
A. Do not commence lawn installation until after the irrigation system has been completely installed and is operational.
B. Do not commence any lawn installation until the Landscape Architect has reviewed and approved all areas prepared for sodding.

3.6 Sodded Lawns
A. Prior to spreading topsoil and in all areas to receive lawn, cultivate the subsoil to a minimum depth of 4". Cultivation may be conducted by disc, spring tooth harrow, rototiller, or similar mechanical means, and should be done in a direction perpendicular to the natural flow of water.
B. After the topsoil has been spread, mechanically till the area to a depth of 4", then roll rake and drag to remove all large clods, rocks, debris, and litter over 1" in diameter. Dispose of clutter at an off-site location.
C. Using a lightweight, water-filled roller, roll the raked topsoil in two (2) opposite directions.
D. Rake the rolled topsoil to a smooth, level surface, removing ridges and filling depressions. Remove all remaining rocks and debris over 1" in diameter.
E. Hoid the finish grade 1-1/2" below adjacent curbs, sidewalks, paving, and other hard surfaces.
F. Apply the fertilizer at a rate of 2 lbs. per 1000 SF.
G. Rake the fertilizer into the surface soil at a depth of ½" to 1".
H. Roll the fertilized topsoil in one (1) direction, water lightly of the surface soil is dry, then allow to dry.
I. Lay the sod within 24 hours of stripping. Working from plywood boards to avoid disturbing the topsoil or sod, but the ends and sides of sod strips without overlapping, stagger strips to offset joints in adjacent courses, and tamp or roll lightly to ensure good contact with the surface soil. Sift topsoil into minor cracks between sod pieces, then remove excess from the top. Do not lay dormant sod.
J. On slopes in excess of 20% (5:1), anchor sod with wooden stakes.
K. Water sod thoroughly with a fine spray immediately after application.
L. Erect a barrier of stakes and ropes around the perimeter of the sodded areas and post warning signs to deter foot traffic.
M. Water as necessary to keep the sod damp at all times through germination and initial growth period.

3.7 Hydromulch
A. Seed
1. Fresh, clean, new-crop seed, meeting USDA rules and regulations under the Federal Seed Act and Texas Seed Law for purity and germination.
2. Free of objectionable foreign material.
3. Treated with approved fungicide by a commercial or state laboratory not more than 6 months prior to the date of planting.
4. Wet, moldy, or damaged seed will not be accepted.
5. Seed Mixture:
i. If planting occurs between May 15 and September 1, provide Sultan bermudagrass seed at 2 lbs. PLS per 1000 SF of seeded area.
ii. If planting occurs between September 2 and May 14, provide Gulf annual ryegrass seed at 8 lbs. PLS per 1000 SF of seeded area. Return to jobsite between May 15 and May 30 after all ryegrass has died, till the hydromulch area, and re-apply the hydromulch with Sultan bermudagrass seed at 2 lbs. PLS per 1000 SF of seeded area.
iii. If planting in shaded areas between September 2 and May 14, provide Hound Dog Fescue seed at 3 lbs. PLS per 1000 SF of seeded area.
B. Accessories
1. Fertilizer: Commercial lawn fertilizer, water soluble, 50% slow release.
2. Water: Clean, fresh, and free from foreign substances or material.
3. Glue agent: Contractor's standard type, non-detrimental to seed.
4. Wood mulching agent: Contractor's standard type, non-detrimental to seed.
5. Stakes: Softwood lumber, chisel pointed.
6. String: Organic fiber.
C. Hydromulching Slurry Mix
1. Mix specified seed, fertilizer, and wood mulching agent in water, using equipment specifically designed for hydroseed application. Continue mixing until blended uniformly into a homogenous slurry suitable for hydraulic application.
2. Proportion slurry mix as follows:
i. Wood mulching agent: 45 lbs. per 1000 SF of seeded area
ii. Water soluble fertilizer: 5 lbs. per 1000 of seeded area
iii. Glue agent: 1 lb. per 1000 SF of seeded area
iv. Seed
D. Subsoil Preparation
1. Remove from subsoil all objectionable material such as concrete waste, building debris, rubbish, weeds, grass, stumps, and rocks greater than 1" in diameter.
2. Protect existing underground improvements.
3. Cultivate to a depth of 3" in areas to receive topsoil. If subsoil is compacted due to equipment traffic or storage, cultivate to a depth of 6".
E. Topsoil Spreading
1. Spread topsoil at minimum specified depth to required finish grade.
2. Cultivate topsoil with a mechanical tiller to break up clods. In areas inaccessible by tiller, cultivate by hand.
3. Rake until topsoil surface is smooth.
4. Remove from the site any objectionable materials collected during cultivation.
5. Fine grade to eliminate rough and low spots where ponding or marcelling would occur. Maintain smooth, uniform grades, working topsoil, watering, drying, and re-grading as necessary to produce a firm, smooth, and settled soil profile.
6. The landscape subcontractor shall be responsible for assuring positive drainage regardless of the subgrade condition. If extreme or objectionable subgrade conditions exist, notify the Landscape Architect prior to spreading topsoil.
7. Mix the specified soil amendments and fertilizer with topsoil at rates specified. Do not mix fertilizers if hydromulch will not be applied within 3 days.
8. Maintain all prepared planting areas free of weeds and debris.
9. Planting area weed control shall consist of removing all existing weeds and maintaining a weed-free condition in accordance with the approved weed control plan until project completion.
10. Protect adjacent vegetation from damage due to overspray or misplaced application of weed control chemicals. Replace all plants mistakenly treated with weed control chemicals at no cost to the Owner.

F. Hydroseeding
1. Examination
i. Verify that the topsoil profile has been prepared in accordance with this Section and is ready to receive the planting.
ii. Apply seeded slurry with a hydraulic seeder evenly in 2 intersecting directions.
iii. Identify seeded areas with stakes and string around the entire perimeter. Space stakes at max. 15 feet O.C. and set string height to 12" above adjacent finish grade.

G. Cleaning
1. Maintain the construction, storage, and planting areas free from the accumulation of waste materials and rubbish.
2. Clean all paved areas that become soiled during landscape installation. Remove dirt, planting materials, and debris.
3. Clean in accordance with Sections 01500 and 01700.

3.8 Cultivation and Cleanup
A. Upon completion of the planting, all excess material shall be removed and disposed of at a location off-site. Bring the finish grade in planter areas to a uniform grade, 1-1/2" below all adjacent paving or hard surfaces. Loosen the soil surrounding each individual plant to a distance of three (3) feet around each new tree and large shrub and 12" around each new small shrub and ground cover.

3.9 Maintenance and Restoration
A. The Contractor will ensure adequate and proper care of all plants and work done on this project until final acceptance, but in no case less than 30 days following Substantial Completion. This will include keeping all plants in a healthy growing condition by watering, cultivating, pruning, and spraying, keeping the planting areas free from insect infestation, weeds and grass, litter, and debris, and retaining the finish grade in a neat and uniform manner. Plant crowns, runners, and branches will be kept free of mulch at all times.
B. Protect all lawn areas from vehicle and pedestrian traffic.
C. Repair all sod areas damaged by any cause prior to final acceptance.
D. The lawn establishment period will begin immediately after the lawn planting area has been accepted by the Landscape Architect, will extend for a minimum of 30 days or until the end of the contract, and will consist of caring for all lawn areas within the project limits of work.
E. During the lawn establishment period, the Contractor will be responsible for ensuring healthy growth of the turfgrass. This responsibility includes all labor and materials necessary keep the project in a presentable condition, including, but not limited to, litter removal, mowing, trimming, weed control, removal of grass clipping, edging, and any necessary re-sodding and repair.
F. During the lawn establishment period the Contractor will as often as conditions dictate mow the turfgrass to a cutting height of 1-1/2". The turfgrass shall never exceed 3" in height and all clipping will be removed from the site.
G. During the months of March through September, the Contractor will edge at least once every month or as directed by the Landscape Architect.
H. During the months of March through September, the Contractor will apply water to sodded areas at an even rate of 1" of water per week, although the Landscape Architect may change this rate as conditions warrant.
I. Final acceptance of the lawn areas will be based on he presence of a uniform stand of grass at a uniform grade at the time of final inspection. Areas 24" square and large that are bare, have a poor stand of grass, or have an finish grade that is not uniform will be at the Contractor's expense re-graded, re-sodded, and fertilized as specified herein.
J. Upon completion of the initial planting, the Landscape Architect will make an inspection of all plantings and notify the Contractor in writing of any replacements or corrective actions necessary to meet the provisions of the Contract Documents. The Contract will then replace all the rejected or missing plants and perform the specified corrective measures.
K. All replacement plants will be of the same species, size, and quality. All rejected plants will be replaced within 30 days of notification.

3.10 Acceptance
A. Upon receipt of a written request from the Contractor at least seven (7) prior, the Landscape Architect will inspect the planting and maintenance to determine its completion and the beginning of the guarantee period. All plants must be alive and healthy in order for the installation to be considered complete. Where inspected work does not comply with the requirements of the Contract Documents, replace rejected work and continue to perform the specified maintenance until the Landscape Architect re-inspects the work and finds it acceptable. Remove rejected plants and materials from the site.

END OF SECTION

APPROVAL BLOCK

IRRIGATION NOTES:
1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

HORIZON
DESIGN and DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS
8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER
Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT
Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

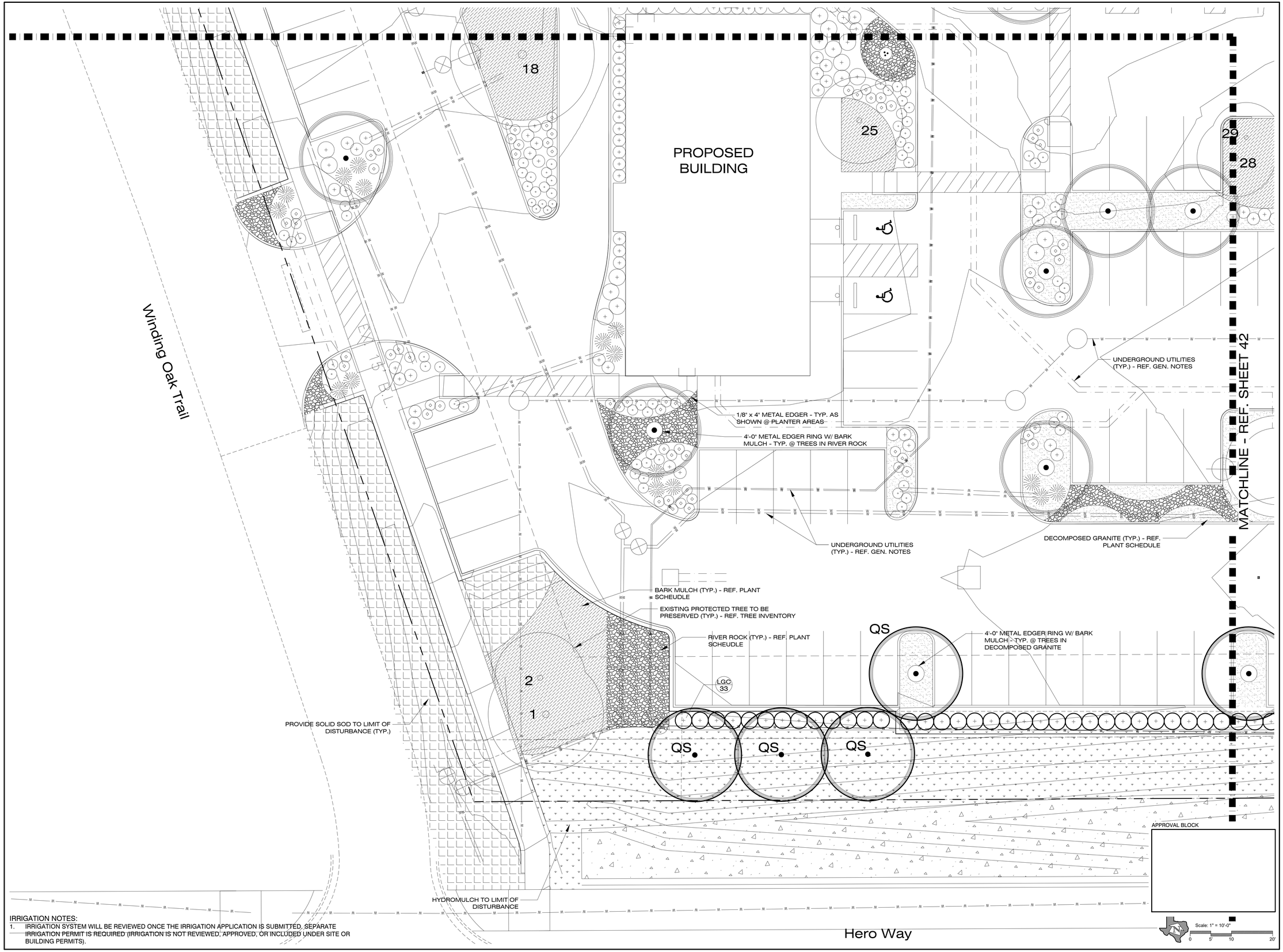
PROJECT NUMBER
2024-056

Drawn By: bk

Checked By: jr

Sheet Title:
LANDSCAPE SPECIFICATIONS

Issue Date:
January 16, 2025



IRRIGATION NOTES:

1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

HORIZON
DESIGN AND DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS

8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER
Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT
Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

Drawn By: bk

Checked By: jr

Sheet Title:
MAJOR CORRIDOR STREETSCAPE EXHIBIT

SHEET 47 OF 48

Issue Date:
January 16, 2025

EXISTING PROTECTED TREE TO BE PRESERVED (TYP.) - REF. TREE INVENTORY

BARK MULCH (TYP.) - REF. PLANT SCHEDULE

29

28

PROPOSED BUILDING

UNDERGROUND UTILITIES (TYP.) - REF. GEN. NOTES

PROVIDE SOLID SOD TO LIMIT OF DISTURBANCE (TYP.)

MATCHLINE - REF. SHEET 41

RIVER ROCK (TYP.) - REF. PLANT SCHEUDLE

DECOMPOSED GRANITE (TYP.) - REF. PLANT SCHEDULE

4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN RIVER ROCK

UNDERGROUND UTILITIES (TYP.) - REF. GEN. NOTES

QS

QS

4'-0" METAL EDGER RING W/ BARK MULCH - TYP. @ TREES IN DECOMPOSED GRANITE

LGC 13

UC

QV

UC

QV

QV

UC

EX. 25' B.L.

PROPOSED 15' PEC. ESM.T.

UNDERGROUND UTILITIES (TYP.) - REF. GEN. NOTES

HYDROMULCH TO LIMITS OF DISTURBANCE

Hero Way

IRRIGATION NOTES:

1. IRRIGATION SYSTEM WILL BE REVIEWED ONCE THE IRRIGATION APPLICATION IS SUBMITTED. SEPARATE IRRIGATION PERMIT IS REQUIRED (IRRIGATION IS NOT REVIEWED, APPROVED, OR INCLUDED UNDER SITE OR BUILDING PERMITS).

Scale: 1" = 10'-0"

0 5' 10 20'

APPROVAL BLOCK

HORIZON
DESIGN and DEVELOPMENT
PLANNING LANDSCAPE ARCHITECTURE
DEVELOPMENT CONSULTING
16414 San Pedro Ave., Suite 630
San Antonio, Texas 78232
210.233.9650 jrobinson@horizondesign-sa.com

REGISTERED LANDSCAPE ARCHITECT
JON ROBINSON
2375
STATE OF TEXAS

8.18.25

The user of this file agrees to assume all responsibility for any modifications to or use of this drawing file that is inconsistent with the requirements of the Rules and Regulations of the Texas Board of Architectural Examiners. No person may make any modifications to this electronic drawing file without the Landscape Architect's express written permission.

OWNER
Zoomers Investment Group, LLC c/o Chiranjeevi Melam

9918 Lavon Bend
Austin TX 78717

PROJECT
Winding Trail Retail
Leander TX

Winding Oak Trail & Hero Way
Leander TX 78641

REVISIONS

PROJECT NUMBER
2024-056

Drawn By: bk

Checked By: jr

Sheet Title:
MAJOR CORRIDOR STREETSCAPE EXHIBIT

SHEET 48 OF 48

Issue Date:
January 16, 2025