HAWKES LANDING NORTH PHASE 1

CONTRIBUTING ZONE PLAN MODIFICATION APPLICATION

PREPARED BY:
PAPE-DAWSON ENGINEERS, INC.
TBPE FIRM REGISTRATION #470
10801 N MoPac Expy., Bldg. 3, Suite 200
AUSTIN, TEXAS 78759

April 2023

PAPE-DAWSON ENGINEERS

Transportation | Water Resources | Land Development | Surveying | Environmental

HAWKES LANDING NORTH PHASE 1

CONTRIBUTING ZONE PLAN MODIFICATION APPLICATION

April 2023

PAPE-DAWSON ENGINEERS

April 26, 2023

Ms. Lillian Butler
Texas Commission on Environmental Quality
Region 11
12100 Park 35 Circle, Bldg. A
Austin, Texas 78753

Re: Hawkes Landing North Phase 1
Contributing Zone Plan Application

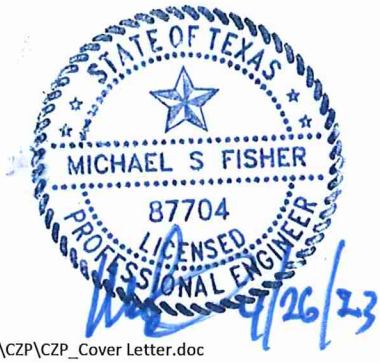
Dear Ms. Butler:

Please find attached one (1) original and one (1) copy of the Hawkes Landing North Phase 1 Contributing Zone Plan (CZP) Application. This plan has been prepared in accordance with the Texas Administrative Code (30 TAC 213) and current policies for development over the Edwards Aquifer Contributing Zone.

This CZP Application applies to an approximately 49.94-acre site as identified by the project limits. Please review the plan information for the items it is intended to address. If acceptable, please provide a written approval of the plan in order that construction may begin at the earliest opportunity.

Appropriate review fees ($6,500) and fee application form are included. If you have questions or require additional information, please call our office.

Sincerely,
Pape-Dawson Engineers, Inc.
Texas Board of Professional Engineers, Firm Registration # 470



Michael S. Fisher, P.E.
Senior Vice President

H:\Projects\511\67\02\301 Construction Documents\Documents\Reports\CZP\CZP_Cover Letter.doc

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.

<table>
<tr><td colspan="5">1. Regulated Entity Name: Hawkes Landing North Phase 1</td><td colspan="4">2. Regulated Entity No.:</td></tr>
<tr><td colspan="5">3. Customer Name: Brightland Homes, LTD</td><td colspan="4">4. Customer No.: 601574049</td></tr>
<tr><td>5. Project Type:
(Please circle/check one)</td><td>New</td><td colspan="3">Modification</td><td>Extension</td><td colspan="2">Exception</td><td></td></tr>
<tr><td>6. Plan Type:
(Please circle/check one)</td><td>WPAP</td><td>CZP</td><td>SCS</td><td>UST</td><td>AST</td><td>EXP</td><td>EXT</td><td>Technical Clarification</td><td>Optional Enhanced Measures</td></tr>
<tr><td>7. Land Use:
(Please circle/check one)</td><td colspan="2">Residential</td><td colspan="3">Non-residential</td><td colspan="2">8. Site (acres):</td><td>49.94</td></tr>
<tr><td>9. Application Fee:</td><td colspan="2">$6,500.00</td><td colspan="3">10. Permanent BMP(s):</td><td colspan="3">One (1) batch detention basin</td></tr>
<tr><td>11. SCS (Linear Ft.):</td><td colspan="2">N/A</td><td colspan="3">12. AST/UST (No. Tanks):</td><td colspan="3">N/A</td></tr>
</table>

13. County:	Williamson	14. Watershed:	North Fork 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	___Bulverde ___Fair Oaks Ranch ___Garden Ridge ___New Braunfels ___Schertz	NA	___San Antonio ETJ (SAWS)	NA

	__San Antonio (SAWS) __Shavano Park				

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. Michael Fisher, P.E.
Print Name of Customer/Authorized Agent
Signature of Customer/Authorized Agent 4/26/23 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):	

APPLICATION

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: Michael Fisher, P.E.

Date: 4/26/23

Signature of Customer/Agent:

Regulated Entity Name: Hawkes Landing North Phase 1

Project Information

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

   Contact Person: Kirsten Bolt
   Entity: Brightland Homes, LTD.
   Mailing Address: 3815 S. Capital of Texas Hwy, Suite 275
   City, State: Austin, Texas Zip: 78704
   Telephone: (512) 330-9366 Fax: (512) 330-9755
   Email Address: kbolt@brightlandhomes.com

5. Agent/Representative (If any):

Contact Person: Michael Fisher, P.E.
Entity: Pape-Dawson Engineers, Inc.
Mailing Address: 10801 N MoPac Expy., Bldg. 3, Suite 200
City, State: Austin, TX Zip: 78759
Telephone: (512) 454-8711 Fax: (512) 459-8867
Email Address: mfisher@pape-dawson.com

6. Project Location:

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

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.

From TCEQ's Regional Office, travel south along the IH-35 frontage road for approximately 0.7 miles. Merge onto IH-35 S and continue for approximately 2.7. Take the exit toward US-183 N, then turn right onto US-183 N and continue for approximately 19.7 miles. Take the exit toward RM2243/Hero Way, then turn left on Hero Way and continue for approximately 2.5 miles. Turn right on N Bagdad Road and continue for approximately 0.9 miles. The project site is located along the west side of N Bagdad Road.

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: 128
☐ Residential: # of Living Unit Equivalents: _____
☐ Commercial
☐ Industrial
☐ Other: _____

13. Total project area (size of site): 49.94 Acres

Total disturbed area: 15.00 Acres

14. Estimated projected population: 512 (Based on an assumed 4 persons per townhome)

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	175,740	÷ 43,560 =	4.03
Parking	4,295	÷ 43,560 =	0.10
Other paved surfaces	123,685	÷ 43,560 =	2.88
Total Impervious Cover	303,720	÷ 43,560 =	6.97

Total Impervious Cover 6.97 **÷ Total Acreage** 49.94 **X 100 =** 13.96**% 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 (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			

AST Number	*Size (Gallons)*	*Substance to be Stored*	*Tank Material*
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" = 400'.

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): FEMA DFIRM (Digital Flood Insurance Rate Map for Williamson County, Texas & Incorporated Areas) Panel Number 48491C0435F dated 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

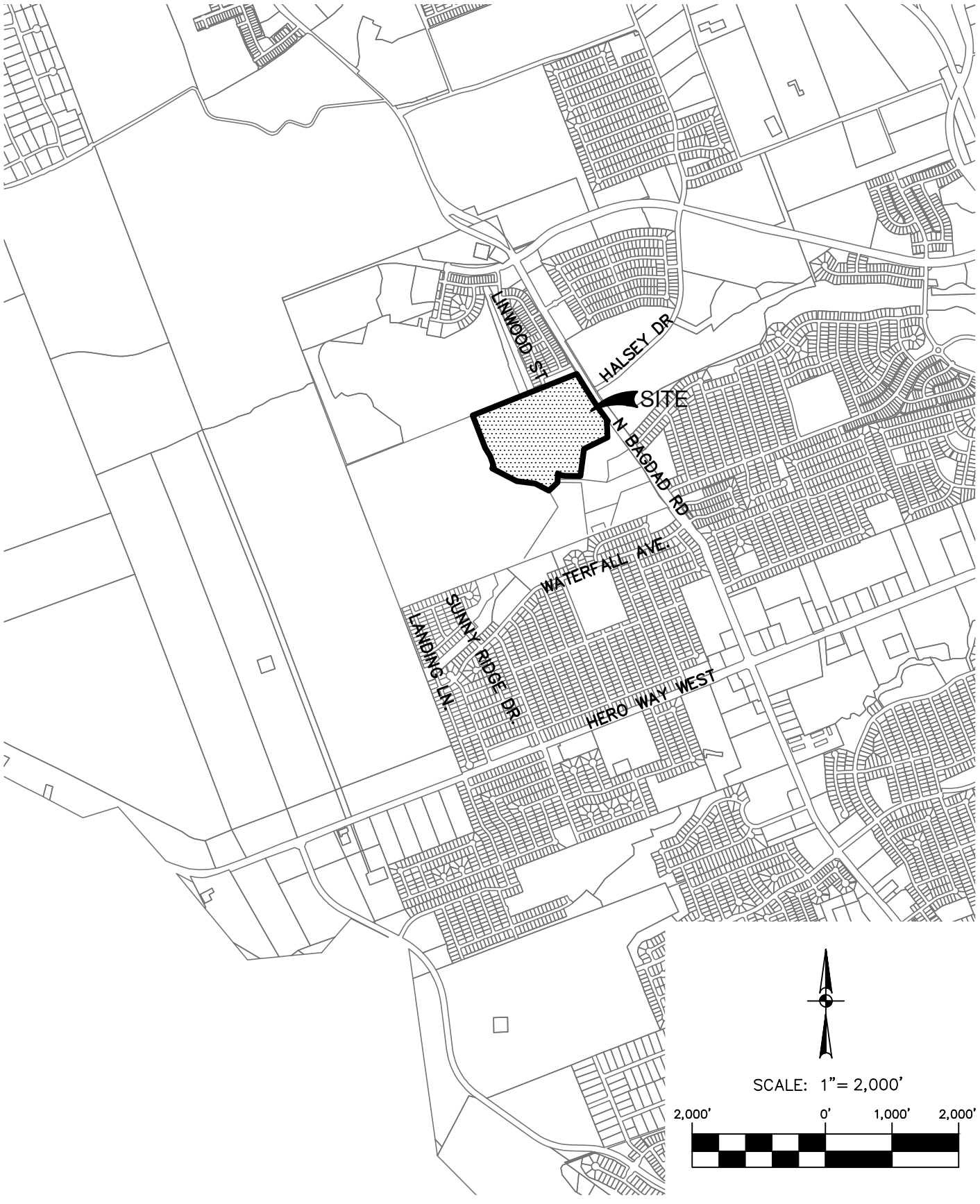
61. ☒ Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions.

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



SCALE: 1"= 2,000'

2,000' 0' 1,000' 2,000'

JOB NO. 51167-02
DATE APRIL 2023
DESIGNER
CHECKED AC DRAWN AD
SHEET 1 of 1

HAWKES LANDING NORTH PHASE 1

LEANDER, TEXAS

ATTACHMENT A - ROAD MAP

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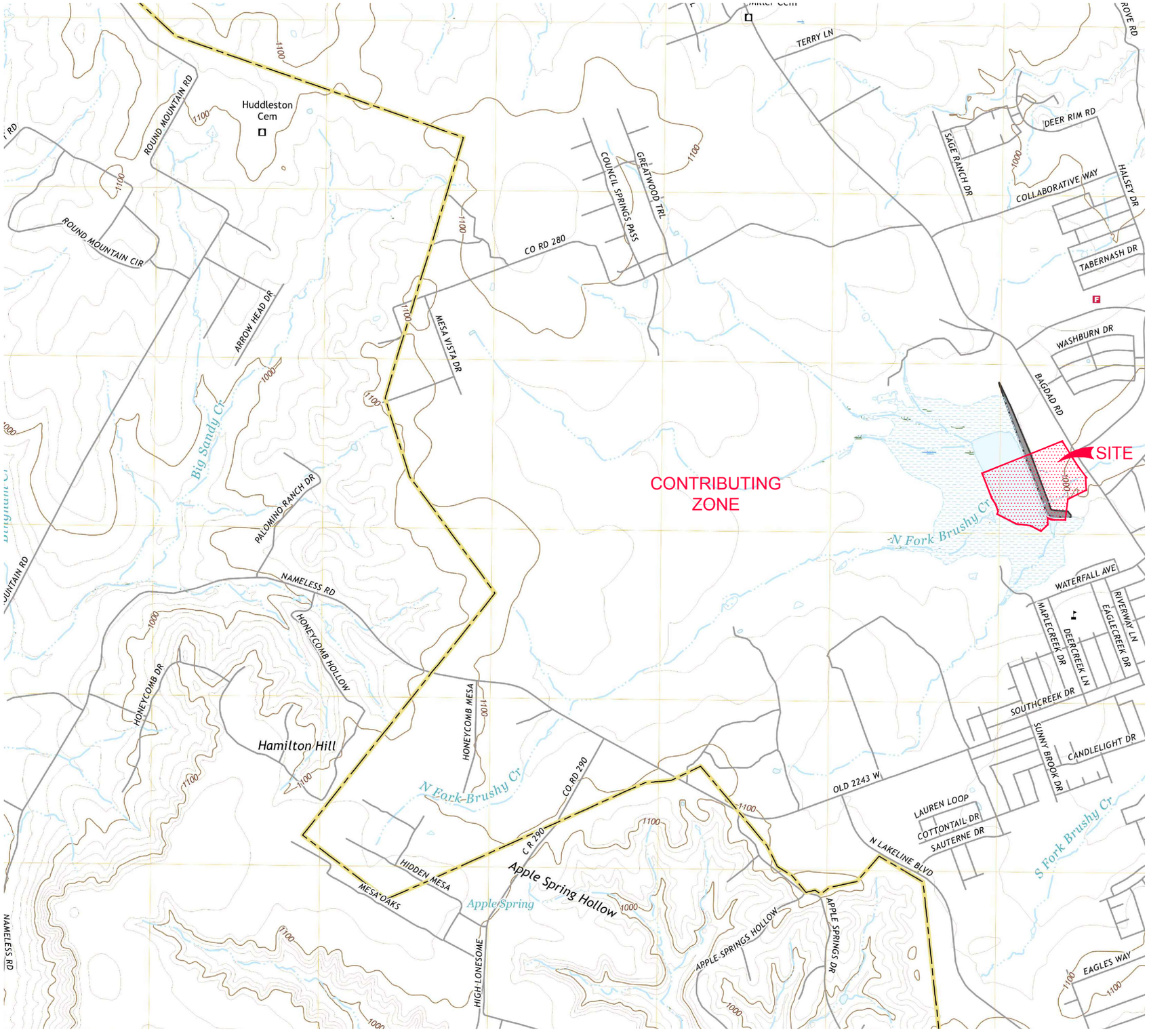
ATTACHMENT B



SCALE: 1"= 2,000'

2,000' 0' 1,000' 2,000'

PAPE-DAWSON ENGINEERS
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10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH PHASE 1

LEANDER, TEXAS

ATTACHMENT B - USGS QUAD MAP

JOB NO. 51167-02
DATE APRIL 2023
DESIGNER
CHECKED AC
DRAWN AD
SHEET 1 of 1

ATTACHMENT C

HAWKES LANDING NORTH PHASE 1
Contributing Zone Plan Application

PROJECT NARRATIVE

Hawkes Landing North Phase 1 is an approximately 49.94-acre single-family townhouse residential development proposed northwest of the intersection of North Bagdad Road and Ranch to Market 2243. The site is located within the city limits of the City of Leander, Texas and is entirely over the Edwards Aquifer Contributing Zone. The site contains a portion of Upper Brushy Creek WCID Dam No. 1. Cursory visual observation indicates that the site is covered with moderately dense vegetation.

The Hawkes Landing North Phase 1 Contributing Zone Plan (CZP) proposes clearing, grading, excavation, installation of utilities and drainage improvements, construction of streets, sidewalks, townhomes with associated driveways, miscellaneous improvements and one (1) batch detention basin. The Hawkes Landing North Phase 1 development includes the construction of 128 townhome units and miscellaneous improvements. Approximately 6.97 acres of impervious cover are proposed for this project, or 13.96% of the 49.94-acre project limits, which will require TSS removal.

One (1) batch detention basin (Batch Detention Pond 8) is proposed as the Permanent Best Management Practice (PBMP) for this development. There are six (6) uncaptured watersheds comprising 34.41 acres (0.81 acres of impervious cover) with the Hawkes Landing North Phase 1 development that are treated via overtreatment by Batch Detention Pond 8 where required. Batch Detention Pond 8 has been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site. Please see the Treatment Summary Table provided with the attached construction plan sheets for more detail.

Since this project is located entirely over the Edwards Aquifer Contributing Zone, a Geologic Assessment was not conducted and is not required by 30 TAC 213 regulations. Therefore, no naturally-occurring sensitive features are known to exist on-site.

Potable water will be supplied by the City of Leander. The proposed development will generate approximately 17,600 gallons per day (average flow) of domestic wastewater. Wastewater will be disposed of by conveyance to the existing Leander Wastewater Treatment Plant.

ATTACHMENT D

FACTORS AFFECTING SURFACE WATER QUALITY

Potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the construction site include:

- Soil erosion due to the clearing of the site for roads, residential homes, and drainage structures;
- Oil, grease, fuel, and hydraulic fluid contamination from construction equipment and vehicle drippings;
- Hydrocarbons from asphalt paving operations;
- Miscellaneous trash and litter from construction workers and material wrappings;
- Construction debris;
- Concrete truck washout; and
- Potential overflow/spills from portable toilets.

Potential sources of pollution that may be reasonably be expected to affect the quality of stormwater discharges from the site after development include:

- Oil, grease, fuel, and hydraulic fluid contamination from vehicle and maintenance equipment drippings;
- Dirt and dust which may fall off vehicles; and
- Miscellaneous trash and litter.

ATTACHMENT E

VOLUME AND CHARACTER OF STORMWATER

Stormwater runoff will increase as a result of this development. On-site drainage generally flows from the northwest to the southeast. The Hawkes Landing North Phase 1 development encroaches onto five watersheds: NFBC_030, NFBC_080, NFBC_090, NFBC_091 and NFBC_093. Stormwater flows leaving the project site for all drainage areas join at the junction J_NFBC_091. The comparison of peak flow runoff during the 100-year storm event for the pre-development compared to the post-development conditions is summarized in the below table including J_NFBC_091 for flows leaving the project site. Values are based on the frequency-based storm precipitation distribution using NOAA Atlas 14 values. Stormwater runoff from the development can be characterized as overland, shallow-concentrated, and channelized flow from a proposed single-family residential development.

	100-yr Pre-Development Peak Flow (cfs)	100 yr Post-Development Peak Flow (cfs)
NFBC_030	1771	1771
NFBC_080	463	463
NFBC_090	1692	1692
NFBC_091	530	541
NFBC_093	136	189
J_NFBC_091	920	920

Table 1: Peak Flow Comparison

ATTACHMENT J

BMPs FOR UPGRADIENT STORMWATER

Upgradient stormwater will cross the site from along the western and northern edges of the project limits. Off-site stormwater contributed by existing development to the north were included in the runoff calculations and additional volume provided in Batch Detention Pond 8.

One (1) batch detention basin is proposed as the Permanent Best Management Practice (PBMP) for this development. This PBMP have been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site.

ATTACHMENT K

BMPs FOR ON-SITE STORMWATER

One (1) batch detention basin is proposed as the Permanent Best Management Practice (PBMP) for this development. There are six (6) uncaptured watersheds, contributing approximately 0.81 acres of impervious cover for uncaptured portions of streets, homes, and sidewalk that will be treated via overtreatment provided by the batch detention basin.

This PBMP has been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site. Please see the Treatment Summary Table attached for more detail.

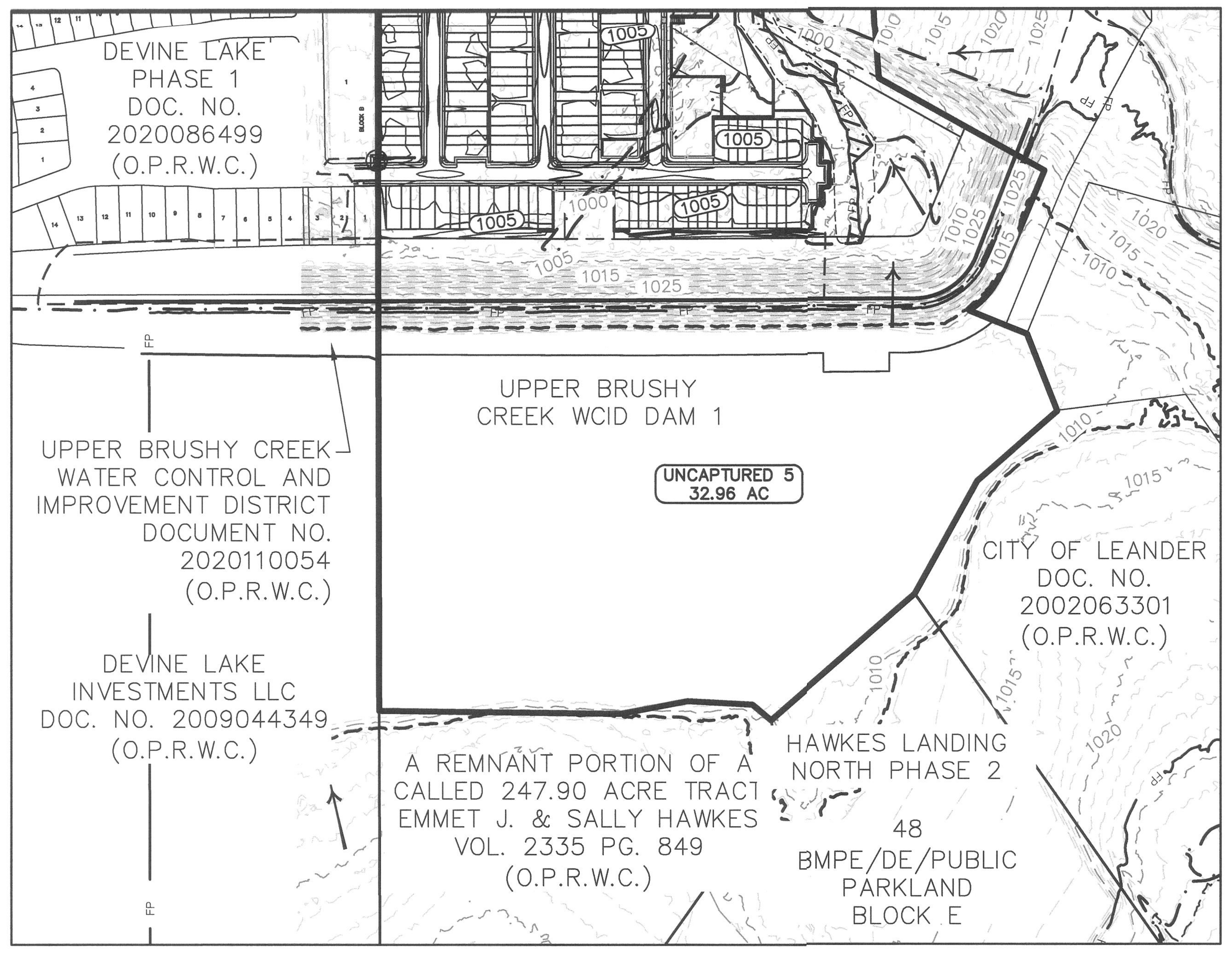
ATTACHMENT L

BMPs FOR SURFACE STREAMS

One (1) batch detention basin is proposed as the Permanent Best Management Practice (PBMP) for this development.

This PBMP has been designed in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance Manual (TGM) RG-348 (2005) to remove 80% of the increase in Total Suspended Solids (TSS) from the site. Runoff from impervious cover areas will be treated by the proposed water quality basin prior to discharge downstream into the North Fork of Brushy Creek.

ATTACHMENT M



UNCAPTURED 5
SCALE: 1" = 300'

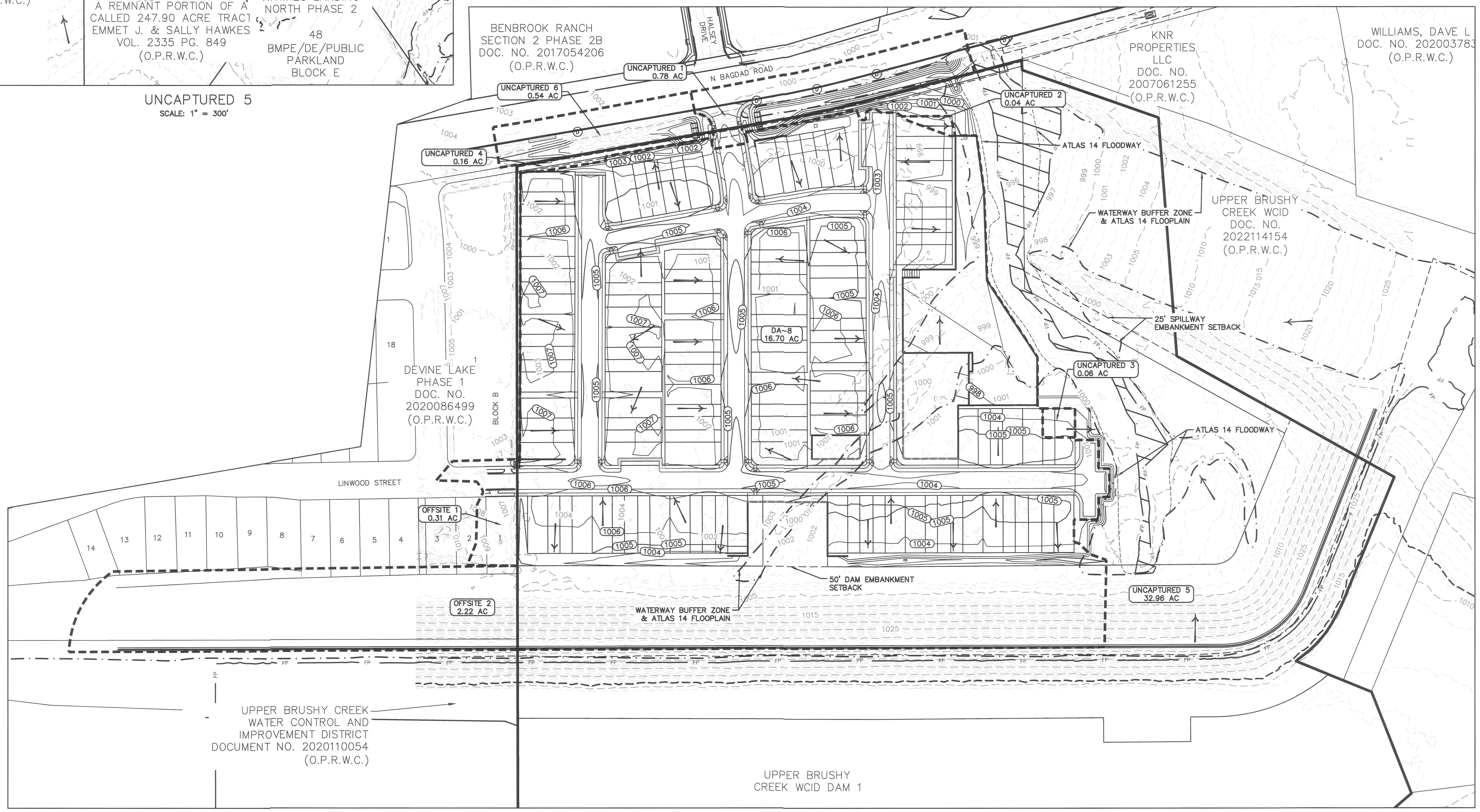
Treatment Summary Table							
Current Application - Hawkes Landing North Phase 1							
Watershed	Watershed Area (acres)	Total Existing Impervious Cover (acres)	Total Proposed Impervious Cover (acres)	Total Net Impervious Cover (acres)	BMP	Required TSS Removal (lbs./yr.)	Designed TSS Removal (lbs./yr.)
DA-8	16.70	0.00	6.85	6.85	BATCH DETENTION POND 8	5966	6069
UNCAPTURED 1	0.78	0.39	0.48	0.09	OVER TREATMENT BY BATCH DETENTION POND 8	74	0
UNCAPTURED 2	0.04	0.00	0.01	0.01	OVER TREATMENT BY BATCH DETENTION POND 8	7	0
UNCAPTURED 3	0.06	0.00	0.02	0.02	OVER TREATMENT BY BATCH DETENTION POND 8	21	0
UNCAPTURED 4	0.16	0.00	0.00	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
UNCAPTURED 5	32.96	0.08	0.08	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
UNCAPTURED 6	0.54	0.29	0.28	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
OFFSITE 1	0.31	0.13	0.13	0.00	CAPTURED OFFSITE - BATCH DETENTION BASIN 8 (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
OFFSITE 2	2.22	0.00	0.00	0.00	CAPTURED OFFSITE - BATCH DETENTION BASIN 8 (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
Total	53.76	0.88	7.85	6.97		6069	6069

SCALE: 1" = 100'

0' 100' 200' 300'

LEGEND

- PROPOSED WATERSHED
- OFFSITE 3A 3.92 AC — WATERSHED ACREAGE
- FLOW DIRECTION
- TREATED BY VEGETATIVE FILTER STRIP WITHIN POND WATERSHED AREA
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN



CITY OF LEANDER APPROVAL

MICHAEL S FISHER
87704
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

NO. | REVISION | DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
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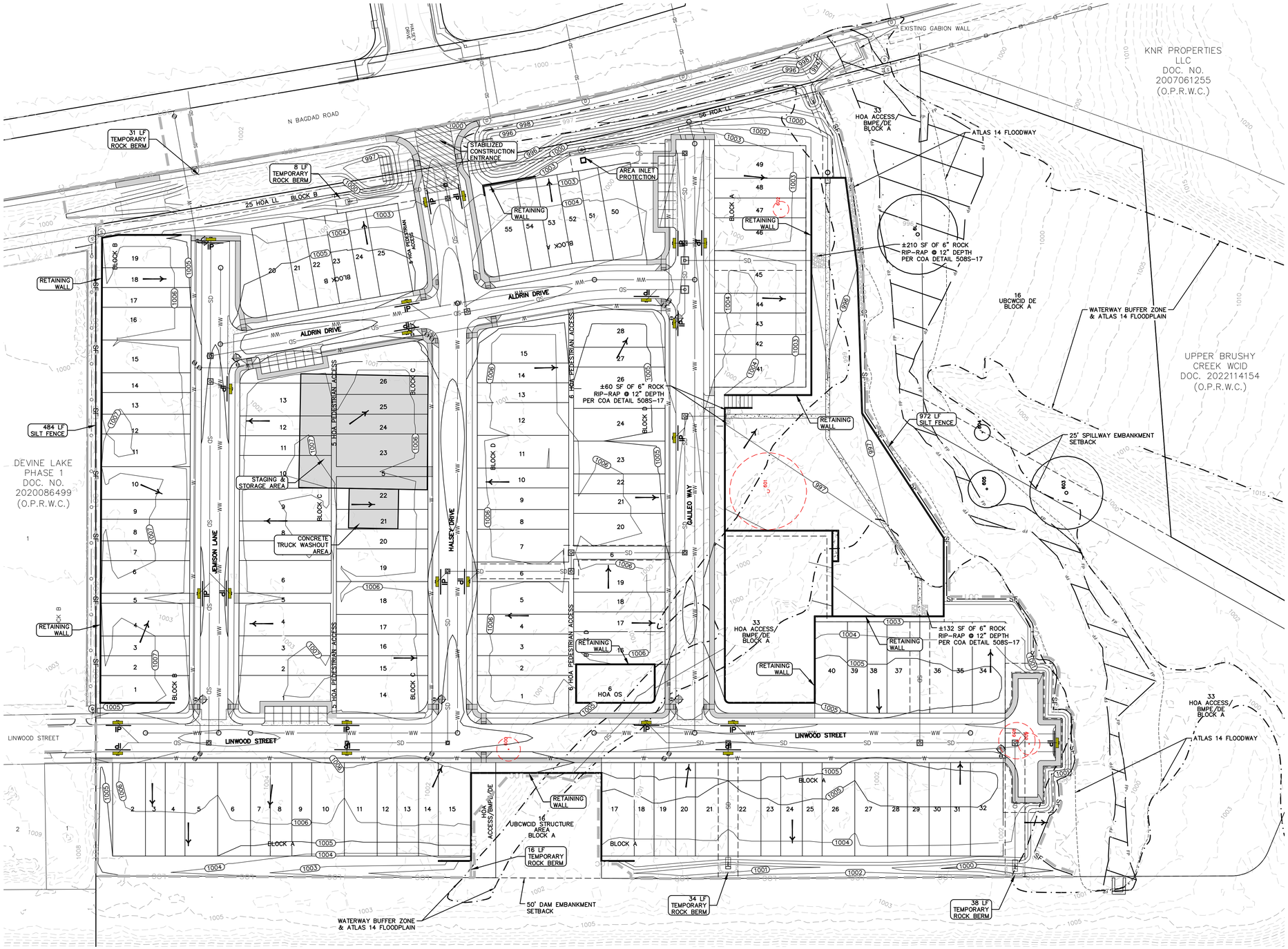
HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER QUALITY TREATMENT SUMMARY

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 33 OF 72

Date: Apr 18, 2023, 4:40pm User ID: andrewdook
File: H:\Projects\511\67\02\301 Construction Documents\Civil\WQ51167-02.dwg



LEGEND

- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- MB — MB — MULCH BERM
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- EROSION CONTROL MATTING (LANDLOK TRM 435)
- FP — FEMA 1% ANNUAL CHANCE FLOODPLAIN
- IP — INLET PROTECTION
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- FLOW ARROW
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTES

1. THE CITY OF LEANDER ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE SITE THROUGHOUT THE DURATION OF THE PROJECT.

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

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HAWKES LANDING NORTH

PHASE 1
CITY OF LEANDER, TEXAS
EROSION & SEDIMENTATION CONTROL PLAN

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 12 OF 72

23-PICP-XXX

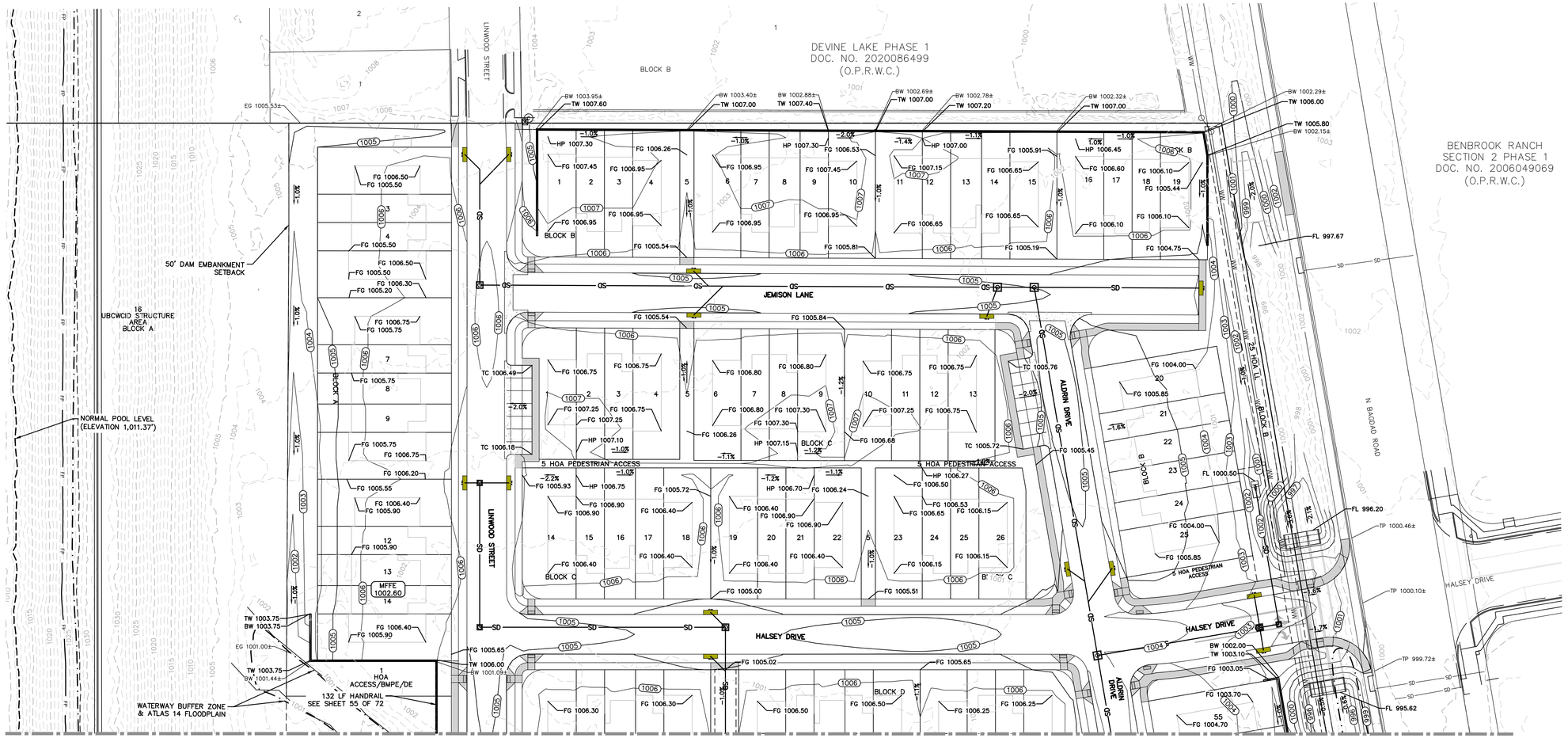
LEGEND

735	PROPOSED CONTOURS
735	EXISTING CONTOURS
	BOUNDARY LINE
MFFE 761.75	MINIMUM FINISHED FLOOR ELEVATION
	WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
	ATLAS 14 FLOODWAY
FP	FEMA 1% ANNUAL CHANCE FLOODPLAIN

EG XXXX.XX	EXISTING GROUND ELEVATION
FG XXXX.XX	FINISHED GRADE ELEVATION
HP XXXX.XX	HIGH POINT ELEVATION
TC XXXX.XX	TOP OF CONCRETE ELEVATION
TG XXXX.XX	TOP OF GROUND ELEVATION
TW XXXX.XX	TOP OF WALL ELEVATION
TP XXXX.XX	TOP OF PAVEMENT ELEVATION

SCALE: 1"= 40'

0' 40' 80' 120'



DATE	NO.	REVISION

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LICENSED PROFESSIONAL ENGINEER

4/11/23

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HAWKES LANDING NORTH

PHASE 1

CITY OF LEANDER, TEXAS

GRADING PLAN 1 OF 2

CITY OF LEANDER APPROVAL

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 21 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:17pm User ID: ACHAVEZ
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LEGEND

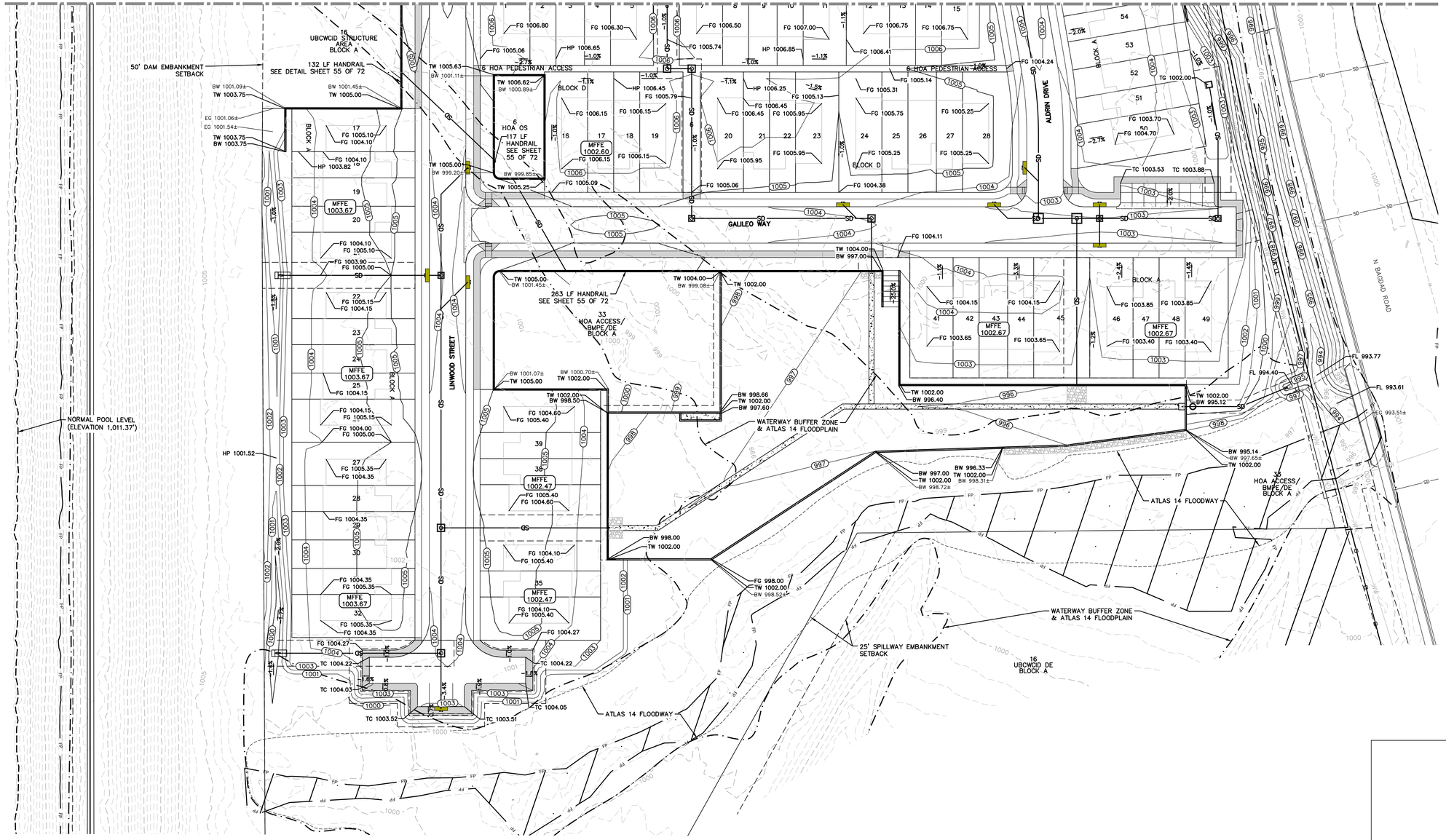
735	PROPOSED CONTOURS
735	EXISTING CONTOURS
	BOUNDARY LINE
MFFE 761.75	MINIMUM FINISHED FLOOR ELEVATION
	WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
	ATLAS 14 FLOODWAY
FP	FEMA 1% ANNUAL CHANCE FLOODPLAIN

EG XXXX.XX	EXISTING GROUND ELEVATION
FG XXXX.XX	FINISHED GRADE ELEVATION
HP XXXX.XX	HIGH POINT ELEVATION
TC XXXX.XX	TOP OF CONCRETE ELEVATION
TG XXXX.XX	TOP OF GROUND ELEVATION
TW XXXX.XX	TOP OF WALL ELEVATION
TP XXXX.XX	TOP OF PAVEMENT ELEVATION

SCALE: 1"= 40'

0' 40' 80' 120'

MATCHLINE– SEE SHEET 21 OF 72



CITY OF LEANDER APPROVAL

23-PICP-XXX

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87704
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4/11/23

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
GRADING PLAN 2 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
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SHEET 21 OF 72

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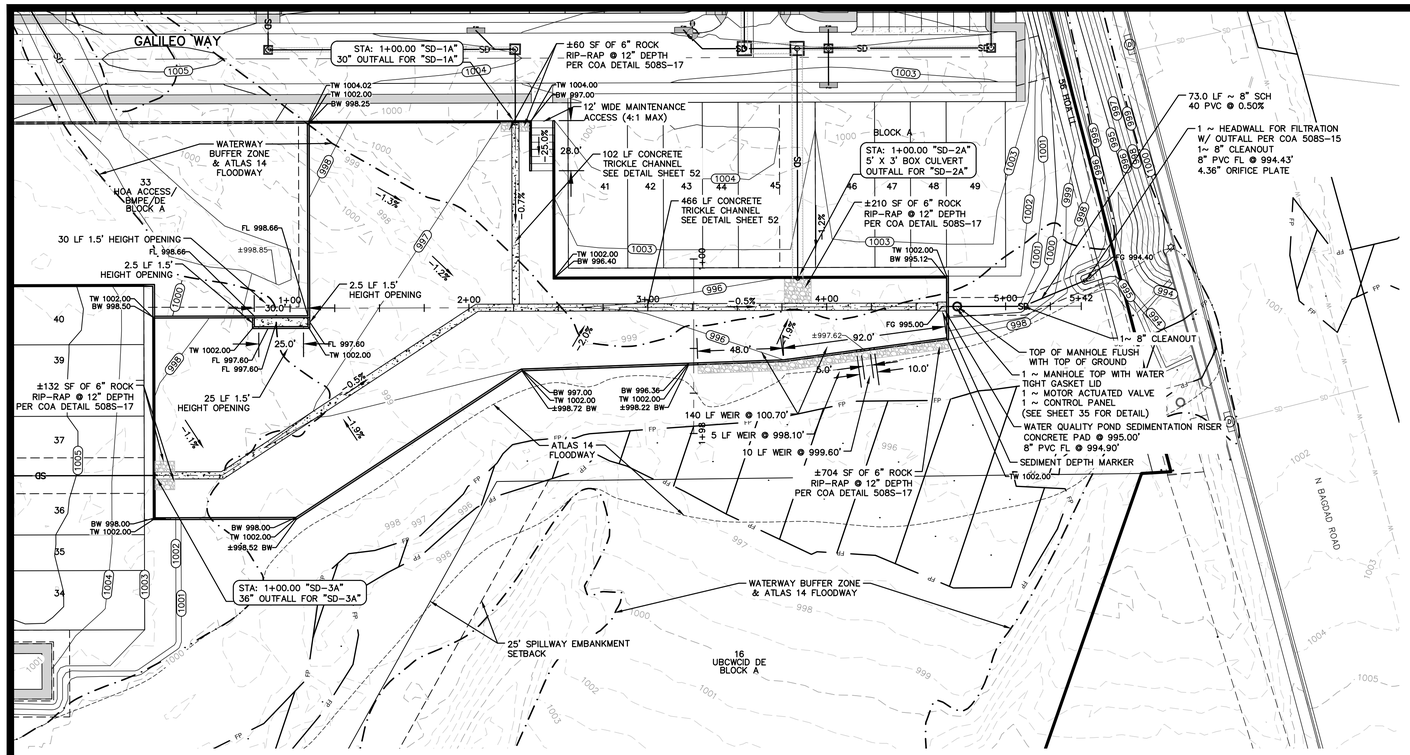
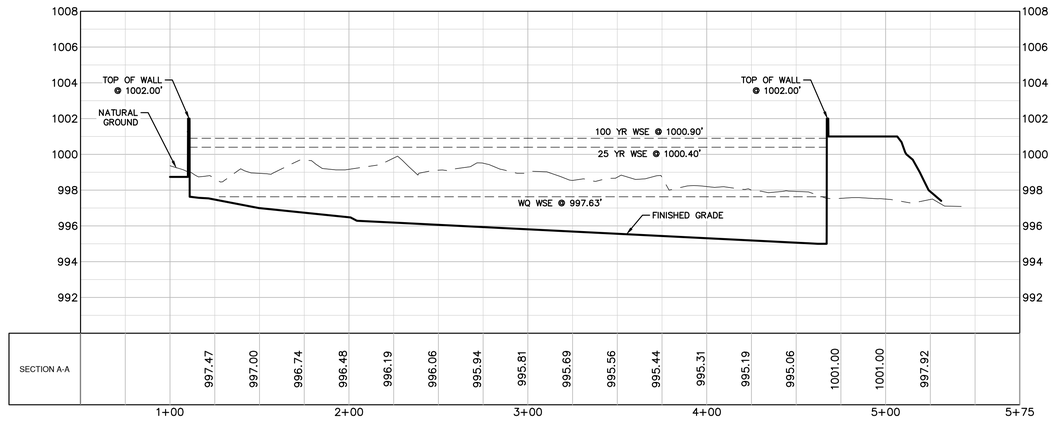


Batch Detention Pond 8 Elevation-Area-Storage Table

Stage	Water Quality Pond Area	Water Quality Pond Area	Incremental Height	Incremental Volume Avg. End Area	Cumulative Volume	Cumulative Volume	Comments	Peak Discharge
(ft. msl)	(sf)	(ac)	(ft)	(cf)	(cf)	(ac-ft)		(cfs)
995.00	25	0.00				0.00		
995.50	2,355	0.05	0.50	595	595	0.01		
996.00	5,771	0.13	0.50	2,032	2,627	0.06		
996.50	10,747	0.25	0.50	4,130	6,756	0.16		
997.00	21,315	0.49	0.50	8,016	14,772	0.34		
997.50	30,087	0.69	0.50	12,850	27,622	0.63		
997.63	31,407	0.72	0.13	3,997	31,619	0.73	Water Quality Volume	
998.00	40,242	0.92	0.37	13,255	44,874	1.03		
998.50	42,799	0.98	0.50	20,760	65,635	1.51		
999.00	42,954	0.99	0.50	21,438	87,073	2.00		
999.50	43,109	0.99	0.50	21,516	108,589	2.49		
1000.00	43,264	0.99	0.50	21,593	130,182	2.99		
1000.40	43,326	0.99	0.40	17,318	147,500	3.39	25-YR WSEL	76.40
1000.50	43,419	1.00	0.10	4,337	151,837	3.49		
1000.90	43,481	1.00	0.40	17,380	169,217	3.88	100-YR WSEL	151.30
1001.00	43,574	1.00	0.10	4,353	173,570	3.98		
1001.50	43,730	1.00	0.50	21,826	195,396	4.49		
1002.00	43,887	1.01	0.50	21,904	217,300	4.99		



CROSS SECTION A–A
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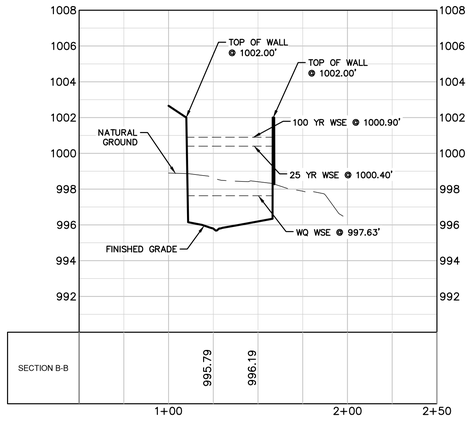
1" = 4' VERTICAL



CROSS SECTION B–B
1" = 40' HORIZONTAL
1" = 4' VERTICAL

CITY OF LEANDER APPROVAL

23-PICP-XXX

DATE

NO. REVISION

STATE OF TEXAS
MICHAEL S. FISHER
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LICENSED
PROFESSIONAL ENGINEER
4/11/23

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
BATCH DETENTION POND 8

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 34 OF 72

Date: Apr 11, 2023, 4:24pm User ID: ACHAVEZ
File: K:\Projects\51167-02\301 Construction Documents\Civil\PD51167-02.dwg

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: HAWKES LANDING NORTH PHASE 1
Date Prepared: 3/31/2023

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 * =	53.64	acres
Predevelopment impervious area within the limits of the plan * =	0.82	acres
Total post-development impervious area within the limits of the plan* =	7.79	acres
Total post-development impervious cover fraction * =	0.15	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	6069	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 =	16.70	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	6.85	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ =	5966	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention — Batch Detention
Removal efficiency = 91 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_C 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 =	16.70	acres
A_I =	6.85	acres
A_P =	9.84	acres
L_R =	7061	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 6069 lbs.

F = 0.86

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

Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.31	
On-site Water Quality Volume =	26091	cubic feet

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

Off-site area draining to BMP =	2.53	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	253	cubic feet
Storage for Sediment =	5269	
Total Capture Volume (required water quality volume(s) x 1.20) =	31613	cubic feet

ORIFICE DRAWDOWN BATCH DETENTION POND 8

Contour Elevation (ft)	Contour Area (ft^2)	Average End Area Method $V_{1,2} = \left[\frac{A_1 + A_2}{2}\right] * d$ Incremental Volume (ft^3)	Total Volume (ft^3)	Orifice Discharge (cfs)	Incremental Drawdown Time (hr)	Total Drawdown Time (hr)
997.63	31,407					0.0
997.50	30,087	3,997	3,997	0.86	1.3	1.3
997.00	21,315	12,850	16,848	0.81	4.4	5.7
996.50	10,747	8,016	24,863	0.73	3.1	8.7
996.00	5,771	4,130	28,993	0.64	1.8	10.5
995.50	2,355	2,032	31,024	0.53	1.1	11.6
995.00	25	595	31,619	0.40	0.4	12.0

ORIFICE DIAMETER	4.36	in
ORIFICE FL ELEV	994.43	
ORIFICE CENTROID ELEV	994.61	
ORIFICE AREA (Ao)	0.104	sf
ORIFICE COEFFICIENT	0.6	

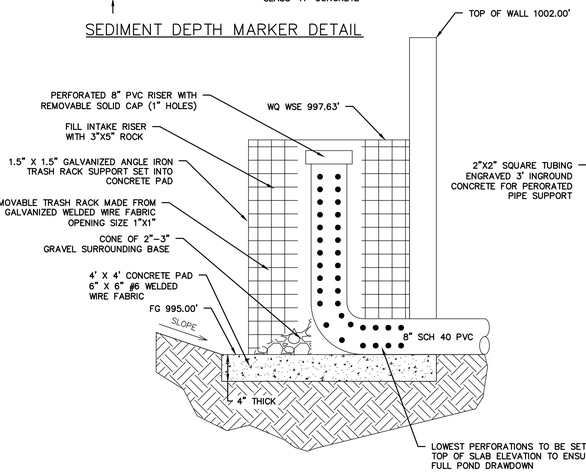
ORIFICE EQUATION $Q = CA_o\sqrt{2gH}$

Total Drawdown Time	12.0	hours
Total Hold + Drawdown Time (Max. 48 Hours)	24.0	hours
Orifice Discharge Rate (Average)	0.73	cfs

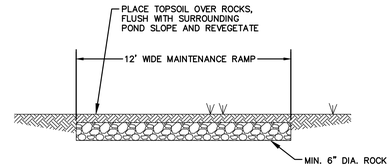
BATCH DETENTION POND 8 UNDERDRAIN SIZING CALCULATIONS

DRAIN LINE ID	WATER QUALITY VOLUME WQV (cf)	AVERAGE DRAWDOWN FLOWRATE FROM ORIFICE (VALVE) Q (cfs)	PIPE DIAMETER D (in)	MANNINGS N n	PIPE SLOPE S (ft/ft)	FULL FLOW CAPACITY Qcap	K	FRICTION SLOPE Sf (ft/ft)
POND DRAIN 8	31,619	0.73	8	0.010	0.005	1.11	15.71	0.0022

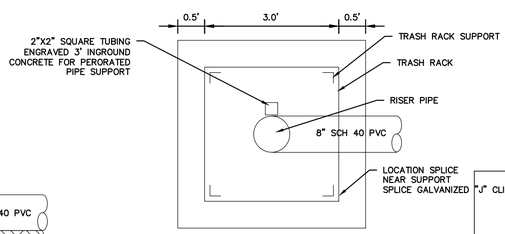
Overflow Weir (25 YR)		Overflow Weir (100 YR)	
H_{25} (ft)=	$Q_{25}/(CL))^{2/3}$	H_{100} (ft)=	$(Q_{100}/(CL))^{2/3}$
Q_{25} (ft^3/s) =	76.40	Q_{100} (ft^3/s) =	151.30
C =	2.70	C =	2.70
L (ft) =	10.00	L (ft) =	140.00
H_{25} (ft)=	2.00	H_{100} (ft)=	0.54
V_{25} (fps)=	3.82	V_{100} (fps)=	1.99



SEDIMENT DEPTH MARKER DETAIL



POND MAINTENANCE ACCESS SECTION
NTS



SEDIMENTATION RISER
N.T.S.

HOLE FREQUENCY OF PERFORATED RISER PIPE

RISER PIPE DIAMETER = 8"
HEIGHT OF RISER PIPE = 2.63'
DIAMETER OF PERFORATIONS = 1"
NUMBER OF PERFORATIONS PER ROW = 4"
VERTICAL SPACING BETWEEN ROWS (ON CENTER) = 4"

CITY OF LEANDER APPROVAL

NO. | REVISION | DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
BATCH DETENTION POND 8 DETAILS 1 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 35 OF 72

Date: Apr 11, 2023, 4:24pm User ID: ADAMKEZ
File: H:\Projects\51167-02\03_Construction Documents\Civil\P051167-02.dwg

Item # 37

Switch-Tek™ LP15 Guard Capacitance Level Switch

FLOWLINE®

Application

TRANSCAT ▶ Visit us at Transcat.com! 35 Vantage Point Drive // Rochester, NY 14624 // Call 1.800.800.3281

The general purpose guard capacitance point level switch provides reliable high or low liquid level detection of water based conductive liquids with light coating, crystallizing or scaling characteristics with a 1A relay output. Media examples include copper sulfate and brine. The RF guard circuit eliminates the coating signal path between the active and reference electrodes. The submersible polypropylene liquid level sensor is universally mounted through non-metallic tank walls or inside the tank as a high level alarm or low level alarm.

CE

Features

- Guard circuit optimizes performance in coating type media
- Submersible polypropylene sensor body and cable for corrosive liquids
- 60VA relay selectable NO or NC via power supply wiring polarity
- Compatible with Smart Trak and Switch-Pak installation fittings

Key Benefits

- Ideal for side wall or top mount
- Ideal for coating liquids
- Great for waste water applications

Compatible Products

Switch-Pro™
Remote Level Controller

LC4X

Application

Available in general purpose classification, the level controller is offered in three configurations for pump and valve control. The LC40 accepts one level sensor input and provides one 10A relay. The LC41 accepts two level sensor inputs and provides one latching 10A relay for automatic fill or empty control. The LC42 accepts three level sensor inputs with one latching 10A relay output for automatic fill or empty control, and a second non-latching 10A relay for high level alarm or low level alarm. For field mount installation, add a single or dual indicator NEMA box.

Switch-Pro™
Compact Level Controller

LC1X

Application

The general purpose level controller is offered in two configurations for pump and valve control. The LC10 accepts one level sensor input and provides one 16A relay for high level control or low level control. The LC11 accepts two level sensor inputs and provides one latching 16A relay for automatic fill or empty control. The optional flash alarm brings attention to level alarm conditions. Package this level controller with our liquid level switch sensors and fittings.

DS150412 REV A

Switch-Tek™ LP15 Guard Capacitance Level Switch

FLOWLINE®

Specifications

Orientation:	Universal
Accuracy:	± 1mm in water
Repeatability:	± 0.5mm in water
Dielectric range:	> 20 constants
Conductive range:	> 100 µ
Supply voltage:	12-36 VDC
Consumption:	25 mA maximum
Contact type:	(1) SPST relay
Contact rating:	60 VA, 1A maximum
Contact output:	Selectable NO / NC
Process temp:	F: -40° to 176°
	C: -40° to 80°
Pressure:	150 psi (10 bar) @ 25°
	C., derated @ 1.667
	psi (0.113 bar) per °C.
	above 25° C.
Sensor rating:	NEMA 6 (IP68)
Sensor material:	Polypropylene
Cable jack. mat.:	Polypropylene
Cable type:	4-conductor, shielded
	#22 AWG
Cable length:	10' (3m)
Process mount:	3/4" NPT (3/4" G)
Mount. gasket:	Viton® (G version only)
Classification:	General purpose
Compliance:	CE

Dimensions

Fittings

For optimum performance, install the level sensor using the below recommended or direct equivalent fittings.

P/N	Description
Switch-Pak Single-Point Switch Fitting	
LM45-7001	2" NPT Plug, 3/4" NPT Adapter & Nipple, PVC
LM45-1001	2" NPT Plug, 3/4" NPT Adapter & Nipple, PP
LM45-5001	2" NPT Plug, 3/4" NPT Adapter & Nipple, PVDF
Smart Trak Multi-Point Switch Fitting	
LM10-1201	2' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1401	4' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1601	6' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1801	8' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1001	10' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1101	1m Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1301	2m Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1701	3m Track, 2" NPT Plug, 3/4" NPT Nipple, PP
Smart Trak Level Switch Car Kit	
LM30-1001	Switch Car Kit, 3/4" NPT, Polypropylene
LM30-1061	Switch Car Kit, 3/4" Rp, Polypropylene
LM52-2890	2" NPT Bulkhead Fitting, PVC
Side-Mount Bracket	
LM50-1001	2" NPT Bracket, Polypropylene

Ordering

LP15-14□5

Process mount (1) (2)
0 *NPT (US)*
2 *G / Rp (Metric)*

Notes

1) To special order a 25' (7.6m) or 50' (15.2 m) level sensor cable, place the cable length at the end of the part number (ie: LP15-1405-25'). Add $20 for 25' (7.6m) or $40 for 50' (15.2m) to the price.
2) The metric level sensor has straight G threads on the sensing side and conical Rp threads on the cable side of the wrench flat.

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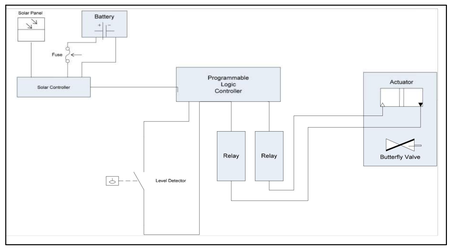
DS150412 REV A

CONTROLLER CIRCUIT DIAGRAM

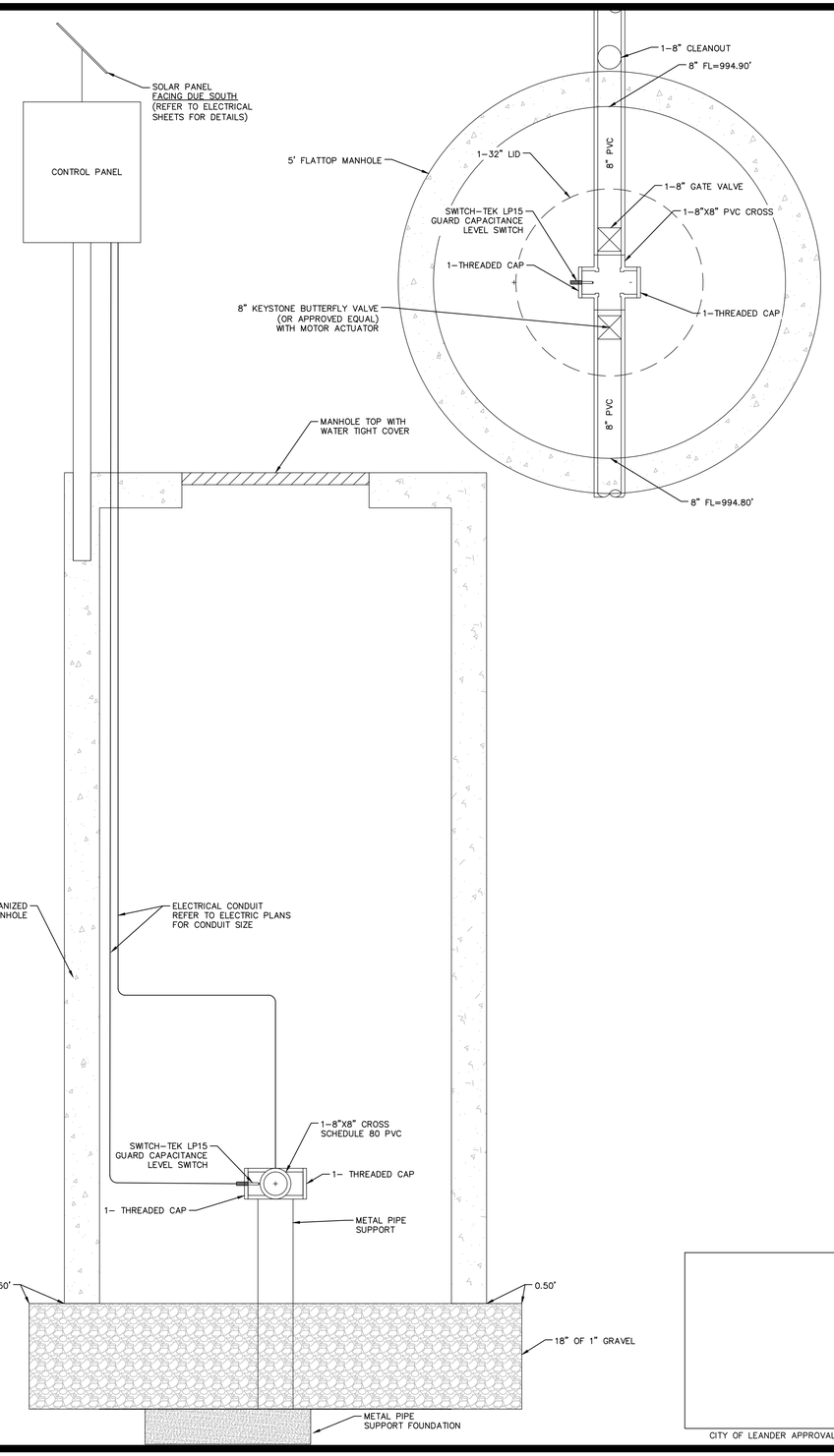
CONTROLLER NOTES:
1. REFER TO THE LOGIC CONTROLLER CYCLE OVERVIEW.
2. CLEARLY VISIBLE ALARM SYSTEM TO BE PROVIDED TO INDICATE SYSTEM MALFUNCTION.
3. SIGN TO BE POSTED WITH PHONE NUMBERS OF THE OWNER AND APPROPRIATE TCEQ REGIONAL OFFICE.



Batch Detention Pond Controller Information		
Component	Description	Voltage
Power System	Solar Charged 12 VDC Battery (Model MK Powered 8Gu1) (Or approved equal)	
Logic Controller	IDEC FL1C-H12RCE (Or approved equal)	12
Parts Enclosure	Southwest Photovoltaic Model BBG-1 (15.75" wide x 9.75" deep x 11.75" tall) (Or approved equal)	
Nature of Event Sensing	Anchor Scientific Float Switch (Or approved equal)	
Valve Type	Keystone 8" Butterfly Valve with over torque sensors and mechanical hand crank for physical override if necessary. Able to withstand 100 psi minimum. (Or approved equal)	
Actuator	EPI-6 12 VDC. Able to withstand 100 psi minimum. (Or approved equal)	12
Power Consumption (actuator, controller, relay, PLC)	242.58 W, 46.5 W-hours	

LOGIC CONTROLLER CYCLE OVERVIEW:

1. CASE 1: A SINGLE RAIN EVENT FILLS THE BATCH DETENTION BASIN. THE BASIN HOLDS THE DIVERTED STORM WATER FOR THE DETENTION TIME (12 HOURS) AND THE RELEASES THE WATER. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
2. CASE 2: A SINGLE RAIN EVENT OCCURS, BUT DOES NOT COMPLETELY FILL THE BATCH DETENTION BASIN. THE BASIN HOLDS THE WATER FOR THE DETENTION PERIOD (12 HOURS), AND THEN RELEASES IT. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
3. CASE 3: A SINGLE RAIN EVENT FILLS THE BATCH DETENTION BASIN UNDER THE TRIP POINT OF THE LEVEL SENSOR. THE LEVEL SENSOR DOES NOT TRIP. THE CAPTURED WATER IS HELD UNTIL IT INFILTRATES / EVAPORATES OR IS JOINED BY STORM WATER FROM A SUBSEQUENT STORM.
4. CASE 4: BEGINS THE SAME AS CASE 1. DURING THE DRAWDOWN PERIOD, ONE OR MORE ADDITIONAL RAIN EVENTS OCCUR CAUSING ADDITIONAL WATER TO ENTER THE BATCH DETENTION BASIN. THE VALVE REMAINS OPEN AND THE ADDITIONAL WATER VOLUME IS DRAINED. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
5. CASE 5: BEGINS THE SAME AS CASE 2. DURING THE DRAWDOWN PERIOD, ONE OR MORE ADDITIONAL RAIN EVENTS CAN OCCUR CAUSING ADDITIONAL WATER TO ENTER THE BASIN. THE VALVE REMAINS OPEN AND THE ADDITIONAL WATER VOLUME IS DRAINED. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
6. CASE 6: INTERMITTENT NUISANCE WATER LESS THAN THE FLOAT ON ELEVATION. TO ALLEVIATE SMALL FLOWS DUE TO IRRIGATION OUTSIDE OF STORM EVENTS, THE CONTROLLER WILL OPEN THE VALVE ONCE A WEEK FOR TWO HOURS TO DRAIN ANY NUISANCE WATER.



CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
BATCH DETENTION POND 8 DETAILS 2 OF 2

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 36 OF 72

23-PICP-XXX

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: HAWKES LANDING NORTH PHASE 1
Date Prepared: 3/31/2023

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 * =	53.76	acres
Predevelopment impervious area within the limits of the plan * =	0.88	acres
Total post-development impervious area within the limits of the plan* =	7.86	acres
Total post-development impervious cover fraction * =	0.15	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	6069	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 =	16.70	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	6.85	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ =	5966	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention
Removal efficiency = 91 percent

Batch Detention
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: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	16.70	acres
A_I =	6.85	acres
A_P =	9.84	acres
L_R =	7061	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 6069 lbs.

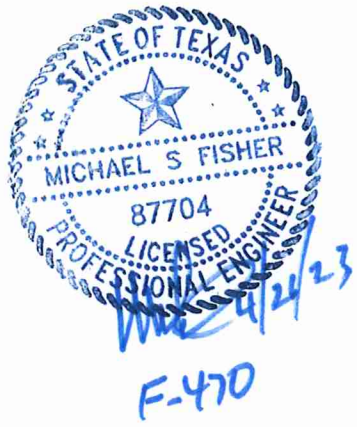
F = 0.86

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

Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.31	
On-site Water Quality Volume =	26091	cubic feet

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

Off-site area draining to BMP =	2.53	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	253	cubic feet
Storage for Sediment =	5269	
Total Capture Volume (required water quality volume(s) x 1.20) =	31613	cubic feet



F-470

ATTACHMENT N

MAINTENANCE PROCEDURES FOR PERMANENT BMPs

Note: Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5.

A written record will be kept of inspection results and maintenance performed.

3.5.20 Batch Detention Basin

Batch detention basins may have somewhat higher maintenance requirements than an extended detention basin since they are active stormwater controls. The maintenance activities are identical to those of extended detention basins with the addition of maintenance and inspections of the automatic controller and the valve at the outlet.

- *Inspections*. Inspections should take place a minimum of twice a year. One inspection should take place during wet weather to determine if the basin is meeting the target detention time of 12 hours and a drawdown time of no more than 48 hours. The remaining inspections should occur between storm events so that manual operation of the valve and controller can be verified. The level sensor in the basin should be inspected and any debris or sediment in the area should be removed. The outlet structure and the trash screen should be inspected for signs of clogging. Debris and sediment should be removed from the orifice and outlet(s) as described in previous sections. Debris obstructing the valve should be removed. During each inspection, erosion areas inside and downstream of this BMP should be identified and repaired/revegetated immediately.

- *Mowing*. The basin, basin side-slopes, and embankment of the basin must be mowed to prevent woody growth and control weeds. A mulching mower should be used, or the grass clippings should be caught and removed. Mowing should take place at least twice a year, or more frequently if vegetation exceeds 18 inches in height. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas.

- *Litter and Debris Removal*. Litter and debris removal should take place at least twice a year, as part of the periodic mowing operations and inspections. Debris and litter should be removed from the surface of the basin. Particular attention should be paid to floatable debris around the outlet structure. The outlet should be checked for possible clogging or obstructions and any debris removed.

- *Erosion control*. The basin side slopes and embankment all may periodically suffer from slumping and erosion. To correct these problems, corrective action, such as regrading and revegetation, may be necessary. Correction of erosion control should take place

whenever required based on the periodic inspections.

- *Nuisance Control*. Standing water or soggy conditions may occur in the basin. Some standing water may occur after a storm event since the valve may close with 2 to 3 inches of water in the basin. Some flow into the basin may also occur between storms due to spring flow and residential water use that enters the storm sewer system. Twice a year, the facility should be evaluated in terms of nuisance control (insects, weeds, odors, algae, etc.).

- *Structural Repairs and Replacement*. With each inspection, any damage to structural elements of the basin (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. An example of this type of repair can include patching of cracked concrete, sealing of voids, removal of vegetation from cracks and joints. The various inlet/outlet structures in a basin will eventually deteriorate and must be replaced.

- *Sediment Removal*. A properly designed batch detention basin will accumulate quantities of sediment over time. The accumulated sediment can detract from the appearance of the facility and reduce the pollutant removal performance of the facility. The sediment also tends to accumulate near the outlet structure and can interfere with the level sensor operation. Sediment shall be removed from the basin at least every 5 years, when sediment depth exceeds 6 inches, when the sediment interferes with the level sensor or when the basin does not drain within 48 hours. Care should be taken not to compromise the basin lining during maintenance.

- *Logic Controller*. The Logic Controller should be inspected as part of the twice yearly investigations. Verify that the external indicators (active, cycle in progress) are operating properly by turning the controller off and on, and by initiating a cycle by triggering the level sensor in the basin. The valve should be manually opened and closed using the open/close switch to verify valve operation and to assist in inspecting the valve for debris. The solar panel should be inspected and any dust or debris on the panel should be carefully removed. The controller and all other circuitry and wiring should be inspected for signs of corrosion, damage from insects, water leaks, or other damage. At the end of the inspection, the controller should be reset.

Signature

4/20/07
Date

ATTACHMENT P

MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

At any points where discharge from the site is concentrated and erosive velocities exist, appropriately-sized energy dissipators will be provided to reduce velocities to non-erosive levels.

TEMPORARY STORMWATER SECTION

Temporary Stormwater Section

Texas Commission on Environmental Quality

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

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

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

Signature

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

Print Name of Customer/Agent: Michael Fisher, P.E.

Date: 4/26/23

Signature of Customer/Agent:

Regulated Entity Name: Hawkes Landing North Phase 1

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: oil and petroleum products/substances

   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: North Fork 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

In the event of an accidental leak or spill:

- Spill must be contained and cleaned up immediately.
- Spills will not be merely buried or washed with water.
- Contractor shall take action to contain spill. Contractor may use sand or other absorbent material stockpiled on site to absorb spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms downgradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Spill containment/absorbent materials along with impacted media must be collected and stored in such a way so as not to continue to affect additional media (soil/water). Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. The impacted media and cleanup materials should be covered with plastic sheeting and the edges weighed down with paving bricks or other similarly dense objects as the material is being accumulated. This will prevent the impacted media and cleanup materials from becoming airborne in windy conditions or impacting runoff during a rain event. The stockpiled materials should not be located within an area of concentrated runoff such as along a curb line or within a swale.
- Contaminated soils and cleanup materials will be sampled for waste characterization. When the analysis results are known the contaminated soils and cleanup materials will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a significant hazardous/reportable quantity spill. Additional notifications as required by the type and amount of spill will be conducted by owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- The contractor will be required to report significant or hazardous spills in reportable quantities as soon as possible and within 24 hours to:
  - the National Response Center at (800) 424-8802
  - the Edwards Aquifer Authority at (210) 222-2204
  - the TCEQ Regional Office (512) 339-2929 (if during business hours: 8 AM to 5 PM) or
  - the State Emergency Response Center (800) 832-8224 (if after hours)
- Contaminated soils will be sampled for waste characterization. When the analysis results are known the contaminated soils will be removed from the site and disposed in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

ATTACHMENT B

POTENTIAL SOURCES OF CONTAMINATION

Potential Source
- Asphalt products used on this project.

Preventative Measure
- After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.

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

Preventative Measure
- Vehicle maintenance when possible will be performed within the construction staging area.
- Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.

Potential Source
- Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.

Preventative Measure
- Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures.
- Contractor's superintendent or representative overseer shall enforce proper spill prevention and control measures.
- Hazardous materials and wastes shall be stored in covered containers and protected from vandalism.
- A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.

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

Preventive Measure
- Trash containers will be placed throughout the site to encourage proper trash disposal.

Potential Source
- Construction debris.

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

Potential Source
- Spills/Overflow of waste from portable toilets

Preventative Measure
- Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets.
- Portable toilets will be placed on a level ground surface.
- Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

ATTACHMENT C

SEQUENCE OF MAJOR ACTIVITIES

The sequence of major activities which disturb soil during construction on this site are listed below.

Batch Detention Pond 8 (Total Watershed = 16.70 acres)

1) Set erosion controls – 97 LF of temporary rock berm
2) Clear and grub streets – 3.52 acres
3) Rough grade streets – 3.52 acres
4) Pond excavation – 1.01 acres
5) Trench utilities – 9,331 LF
6) Install water, wastewater, and storm – 9,331 LF
7) Install sub base/base for streets – 2.68 acres
8) Pave streets – 1.96 acres
9) Pond completion – 1.01 acres
10) Site cleanup – 16.70 acres
11) Remove erosion controls – 97 LF of temporary rock berm

ATTACHMENT D

TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

Please see the Erosion Control sheets included in the Construction Plans Section for TBMP layout and the responses below for more details.

Upgradient stormwater will cross the site from along the northern, southern, western, and eastern edges of the project limits. All upgradient areas contain existing development; no additional TBMPs are necessary. All TMBPs utilized are adequate for the drainage areas served.

Site preparation, which is the initiation of all activity on the project, will disturb the largest amount of soil. Therefore, before any of this work can begin, the clearing and grading contractor will be responsible for the installation of all on-site control measures. 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 rock berms downgradient from areas of concentrated stormwater flow for temporary erosion control, (3) installation of stabilized construction entrance/exit(s) to reduce the dispersion of sediment from the site, (4) installation of construction staging area(s), and (5) construction of temporary sediment basins.

Prior to the initiation of construction, all previously installed control measures will be repaired or reestablished for their designed or intended purpose. This work, which is the remainder of all activity on the project, may also disturb additional soil. The construction contractor will be responsible for the installation of all remaining on-site control measures that includes installation of the concrete truck washout pit(s), as construction phasing warrants.

Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter the aquifer, surface streams and/or sensitive features that may exist downstream of the site.

As the site is located entirely over the Edwards Aquifer Contributing Zone, a Geologic Assessment was not conducted and is not required by 30 TAC 213 regulations. Therefore, no naturally-occurring sensitive features are known to exist on the site. 30 TAC 213.5(f)(2) only applies to projects located on the Edwards Aquifer Recharge Zone. A combination of TBMPs including silt fence and rock berm are

proposed to capture sediment from onsite stormwater runoff and preserve the quality of the North Fork of Brushy Creek. Temporary measures are intended to provide a method of slowing the flow of runoff from the construction site in order to allow sediment and suspended solids to settle out of the runoff. By containing the sediment and solids within the site, they will not enter the aquifer, surface streams and/or sensitive features that may exist downstream of the site.

ATTACHMENT F

STRUCTURAL PRACTICES

The following structural measures will be installed prior to the initiation of site preparation activities:

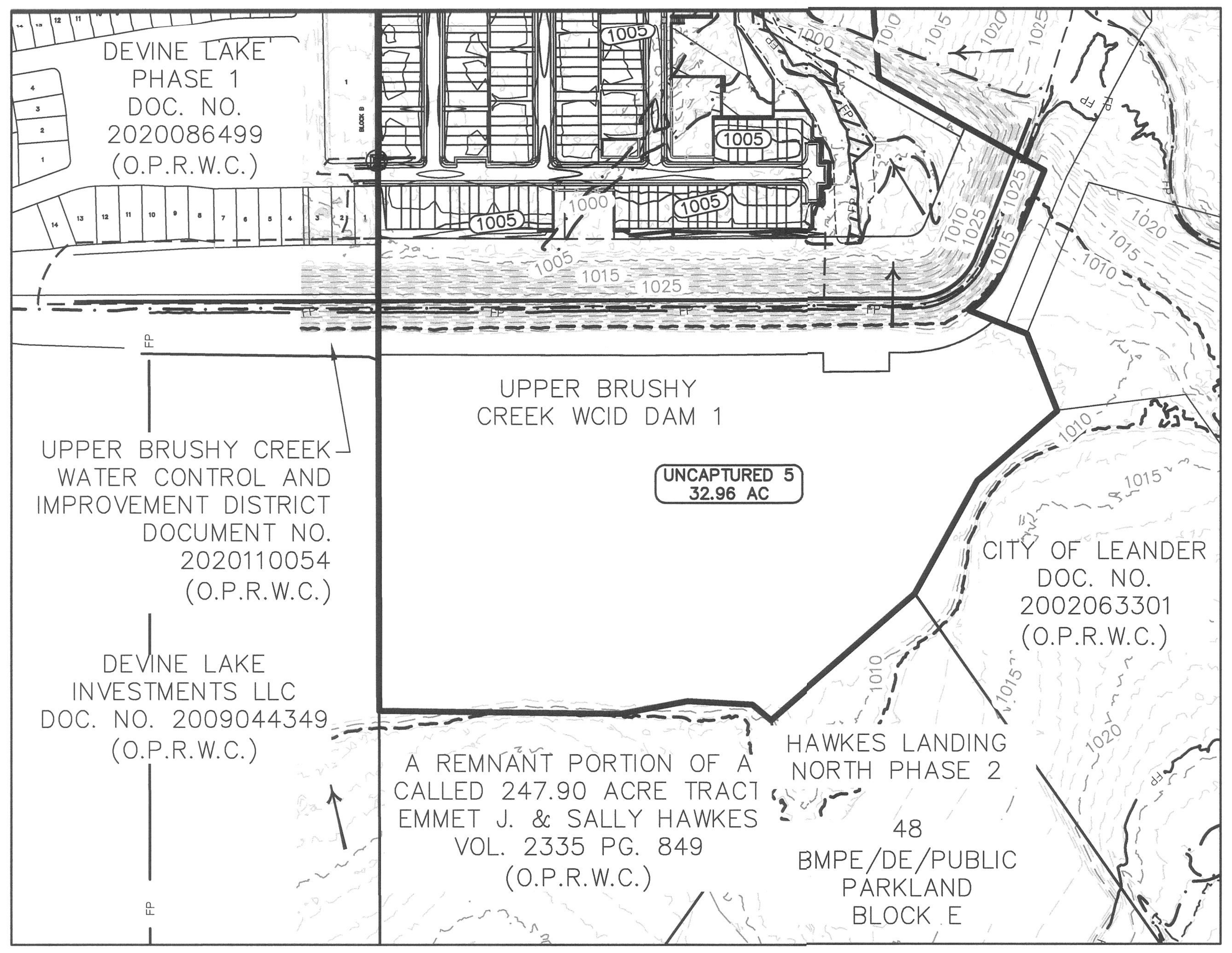
- Erection of silt fences along the downgradient boundary of construction activities and rock berms for secondary protection, as located on the Erosion Control Plan sheets and illustrated on the Construction Details - Erosion Control sheet.
- Installation of stabilized construction entrance/exit(s) and construction staging area(s), as located on the Erosion Control Plan sheets and illustrated on the Construction Details - Erosion Control sheet.

The following structural measures will be installed at the initiation of construction activities or as appropriate based on the construction sequencing:

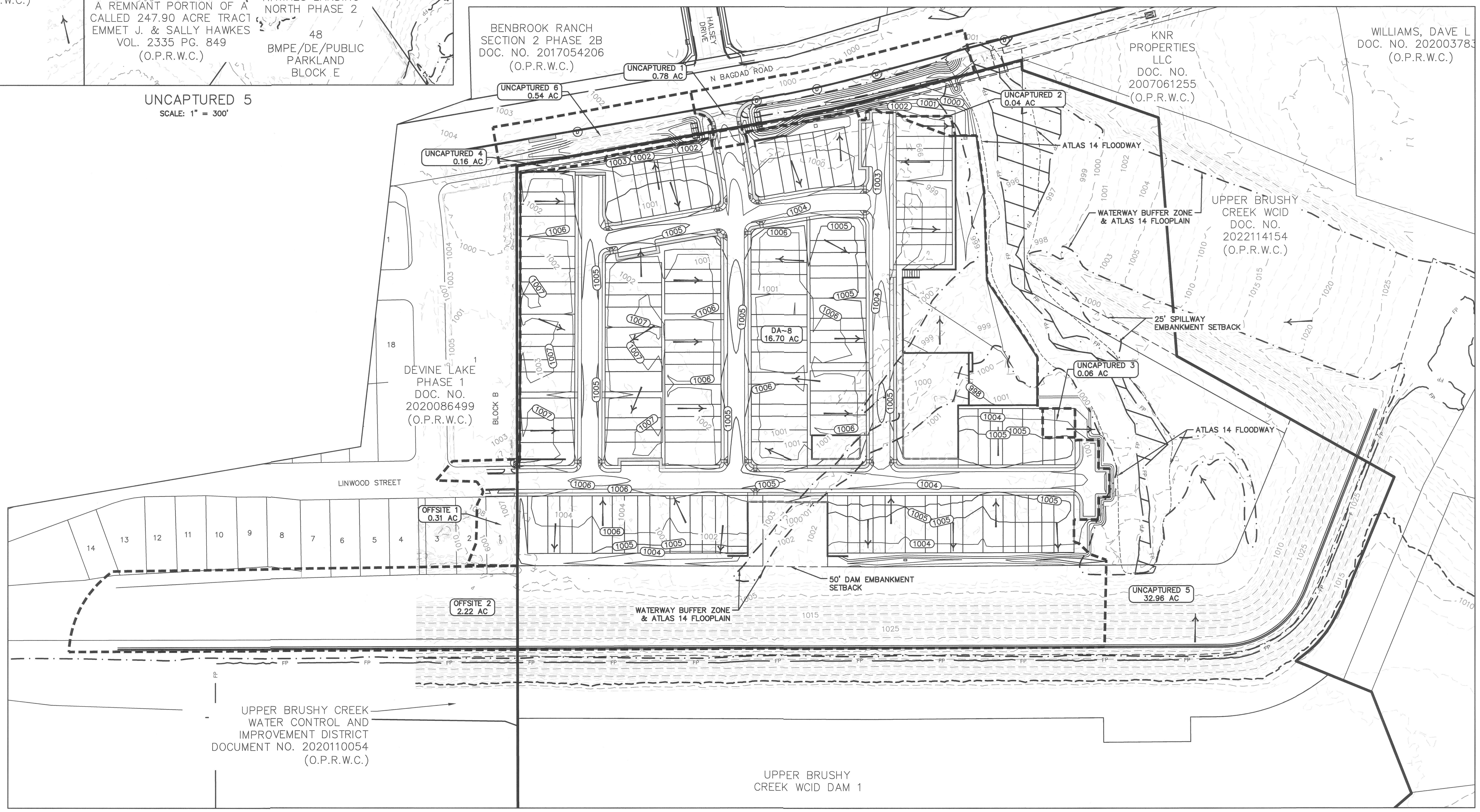
- Installation of inlet protection, as required and located on the Erosion Control Plan sheets and illustrated on the Construction Details - Erosion Control sheet.
- Installation of concrete truck washout pit(s), as required and located on the Erosion Control Plan sheets and illustrated on the Construction Details - Erosion Control sheet.

ATTACHMENT G

Treatment Summary Table							
Current Application - Hawkes Landing North Phase 1							
Watershed	Watershed Area (acres)	Total Existing Impervious Cover (acres)	Total Proposed Impervious Cover (acres)	Total Net Impervious Cover (acres)	BMP	Required TSS Removal (lbs./yr.)	Designed TSS Removal (lbs./yr.)
DA-8	16.70	0.00	6.85	6.85	BATCH DETENTION POND 8	5966	6069
UNCAPTURED 1	0.78	0.39	0.48	0.09	OVER TREATMENT BY BATCH DETENTION POND 8	74	0
UNCAPTURED 2	0.04	0.00	0.01	0.01	OVER TREATMENT BY BATCH DETENTION POND 8	7	0
UNCAPTURED 3	0.06	0.00	0.02	0.02	OVER TREATMENT BY BATCH DETENTION POND 8	21	0
UNCAPTURED 4	0.16	0.00	0.00	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
UNCAPTURED 5	32.96	0.08	0.08	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
UNCAPTURED 6	0.54	0.29	0.28	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
OFFSITE 1	0.31	0.13	0.13	0.00	CAPTURED OFFSITE - BATCH DETENTION BASIN 8 (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
OFFSITE 2	2.22	0.00	0.00	0.00	CAPTURED OFFSITE - BATCH DETENTION BASIN 8 (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
Total	53.76	0.88	7.85	6.97		6069	6069



UNCAPTURED 5
SCALE: 1" = 300'



SCALE: 1"= 100'
0' 100' 200' 300'

LEGEND

- PROPOSED WATERSHED
- OFFSITE 3A 3.92 AC — WATERSHED ACREAGE
- FLOW DIRECTION
- TREATED BY VEGETATIVE FILTER STRIP WITHIN POND WATERSHED AREA
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NO. | REVISION | DATE

STATE OF TEXAS
MICHAEL S FISHER
87704
LICENSED
PROFESSIONAL ENGINEER

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER QUALITY TREATMENT SUMMARY

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 33 OF 72

Date: Apr 18, 2023, 4:40pm User ID: andrewdook
File: H:\Projects\511\67\02\301 Construction Documents\Civil\WQ51167-02.dwg

ATTACHMENT H

TEMPORARY SEDIMENTATION POND(S) PLANS AND CALCULATIONS

The proposed batch detention basin will be used as a temporary sediment trap during site construction for the respective watershed, and the minimum drain time for the temporary basin will be 24 hours. The basin will be converted to a permanent basin after completion of the project improvements. The basin will be rough-cut in first sequence of construction.

Prior to final acceptance by the owner, the contractor will remove trash, debris, and accumulated silt from the batch detention basin and re-establish it to proper operating condition. After inspection of the finished batch detention basin, a licensed professional engineer will certify the basin in accordance with TCEQ requirements.

Minimum required volume (Batch Detention Pond 8):

16.70 acres disturbed @ 3,600 cf/acre disturbed = 60,120 cf
Volume provided = 147,500 cf

The volumes of the proposed basins exceed required.

ATTACHMENT I

INSPECTIONS & MAINTENANCE

Designated and qualified person(s) shall inspect Pollution Control Measures weekly and within 24 hours after a storm event. An inspection report that summarizes the scope of the inspection, names and qualifications of personnel conducting the inspection, date of the inspection, major observations, and actions taken as a result of the inspection will be recorded and maintained as part of Storm Water TPDES data for a period of three years after the Notice of Termination (NOT) has been filed. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

As a minimum, the inspector shall observe: (1) significant disturbed areas for evidence of erosion, (2) storage areas for evidence of leakage from the exposed stored materials, (3) structural controls (rock berm outlets, silt fences, drainage swales, etc.) for evidence of failure or excess siltation (over 6 inches deep), (4) vehicle exit point for evidence of off-site sediment tracking, (5) vehicle storage areas for signs of leaking equipment or spills, (6) concrete truck rinse-out pit for signs of potential failure, (7) embankment, spillways, and outlet of sediment basin (where applicable) for erosion damage, and (8) sediment basins (where applicable) for evidence that basin has accumulated 50% of its volume in silt. Deficiencies noted during the inspection will be corrected and documented within seven calendar days following the inspection or before the next anticipated storm event if practicable. Temporary sediment basins and permanent basins will be inspected until final stabilization of 70% within the basin watershed is achieved.

BMP inspection and maintenance requirements from Sections 1.3 and 1.4 of TCEQ's Technical Guidance Manual are detailed below.

Temporary Construction Entrance/Exit

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

Silt Fence

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

Rock Berms

- Inspection should be made weekly and after each rainfall by the responsible party. For installations in streambeds, additional daily inspections should be made.
- Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
- Repair any loose wire sheathing.
- The berm should be reshaped as needed during inspection.
- The berm should be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
- The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.

Inlet Protection

- Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
- Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
- Check placement of device to prevent gaps between device and curb.
- Inspect filter fabric and patch or replace if torn or missing. 1-100
- Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

Concrete Washout Areas

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.

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

Pollution Prevention Measure	d in Complia	Corrective Action Required	
		Description (use additional sheet if necessary)	Date Completed
Best Management Practices			
Natural vegetation buffer strips			
Temporary vegetation			
Permanent vegetation			
Sediment control basin			
Silt fences			
Rock berms			
Gravel filter bags			
Drain inlet protection			
Other structural controls			
Vehicle exits (off-site tracking)			
Material storage areas (leakage)			
Equipment areas (leaks, spills)			
Concrete washout pit (leaks, failure)			
General site cleanliness			
Trash receptacles			
Evidence of Erosion			
Site preparation			
Roadway or parking lot construction			
Utility construction			
Drainage construction			
Building construction			
Major Observations			
Sediment discharges from site			
BMPs requiring maintenance			
BMPs requiring modification			
Additional BMPs required			

_____ A brief statement describing the qualifications of the inspector is included in this SWP3.

"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 I am an authorized signatory in accordance with the provisions of 30 TAC §305.128."

Inspector's Name	Inspector's Signature	Date

PROJECT MILESTONE DATES

Date when major site grading activities begin:

Construction Activity	Date
Installation of BMPs	

Dates when construction activities temporarily or permanently cease on all or a portion of the project:

Construction Activity	Date

Dates when stabilization measures are initiated:

Stabilization Activity	Date
Removal of BMPs	

ATTACHMENT J

SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

Interim on-site stabilization measures, which are continuous, will include minimizing soil disturbances 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 via permanent revegetation. Details, such as installation, irrigation, and maintenance are provided below.

Installation:

- Final grading must be completed prior to seeding, minimizing all steep slopes. In addition, all necessary erosion structures such as dikes, swales, diversions, should also be installed.
- Seedbed should be well pulverized, loose, and uniform.
- Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet. Compost can be used instead of fertilizer and applied at the same time as the seed.

Irrigation:

- Temporary irrigation should be provided according to the schedule described below, or to replace moisture loss to evapotranspiration (ET), whichever is greater. Significant rainfall (on-site rainfall of ½" or greater) may allow watering to be postponed until the next scheduled irrigation.

Time Period	Irrigation Amount and Frequency
Within 2 hours of installation	Irrigate entire root depth, or to germinate seed
During the next 10 business days	Irrigate entire root depth every Monday, Wednesday, and Friday
During the next 30 business days or until Substantial Completion	Irrigate entire root depth a minimum of once per week, or as necessary to ensure vigorous growth
During the next 4 months or until Final Acceptance of the Project	Irrigate entire root depth once every two weeks, or as necessary to ensure vigorous growth

Inspection and Maintenance Guidelines:

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

Stabilization measures will be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and except as provided below, will be initiated no more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonably arid conditions, stabilization measures must be initiated as soon as practicable.

NOTICE OF INTENT

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 601574049

(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.)

Brightland Homes, LTD

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

Prefix (Mr. Ms. Miss): Ms.

First and Last Name:Kirsten Bolt Suffix: Click here to enter text.

Title: Project Manager Credentials: Click here to enter text.

Phone Number: (512) 330-9366 Fax Number: Click here to enter text.

E-mail: kbolt@brightlandhomes.com

Mailing Address: 3815 S. Capital of Texas Hwy. Suite 275

City, State, and Zip Code: Austin, TX 78704

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
☐ 21-100
☐ 101-250
☒ 251-500
☐ 501 or higher

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: 17525519892

Federal Tax ID: Click here to enter text.

Texas Secretary of State Charter (filing) Number: 7423210

DUNS Number (if known): Click here to enter text.

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): Click here to enter text.

First and Last Name: Click here to enter text. Suffix: Click here to enter text.

Title: Click here to enter text. Credential: Click here to enter text.

Organization Name: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text.

E-mail: Click here to enter text.

Mailing Address: Click here to enter text.

Internal Routing (Mail Code, Etc.): Click here to enter text.

City, State, and Zip Code: Click here to enter text.

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 Click here to enter text.

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

b) Name of project or site (the name known by the community where it's located): Hawkes Landing North Phase 1

c) In your own words, briefly describe the type of construction occurring at the regulated site (residential, industrial, commercial, or other): Construction of a single-family townhouse residential development and associated civil infrastructure.

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

e) Latitude: 30.587836° Longitude: -97.879582°

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: Click here to enter text.

City, State, and Zip Code: Click here to enter text.

Section B:

Location Description: Approximately 0.85 miles north of the intersection of N. Bagdad Road and RM 2243

City (or city nearest to) where the site is located: Leander, Texas

Zip Code where the site is located: 78641

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? 1623

e) What is the total number of acres to be disturbed? 15.00

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? November 2023

h) What is the estimated end date of the project? November 2024

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? North Fork Brushy Creek

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

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

☒ Yes ☐ No

If Yes, provide the name of the MS4 operator: City of Leander

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: Click here to enter text.

Operator Signatory Title: Click here to enter text.

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: _____

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: Hawkes Landing North Phase 1

   Project/Site (RE) Physical Address: Approximately 0.85 miles north of the intersection of N. Bagdad Road and RM 2243

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

AGENT AUTHORIZATION FORMS

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

I Chris Lynch,
Print Name

President of Land Operations,
Title - Owner/President/Other

of Brightland Homes LTD,
Corporation/Partnership/Entity Name

have authorized ***Michael Fisher, P.E.***
Print Name of Agent/Engineer

of ***Pape-Dawson Engineers, Inc.***
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For those submitting an application who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

4/20/23
Date

THE STATE OF Texas §

County of Travis §

BEFORE ME, the undersigned authority, on this day personally appeared Chris Lynch 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 20th day of April, ____.

NOTARY PUBLIC

Laura Dillon
Typed or Printed Name of Notary

Laura Mei Dillon
My Commission Expires
1/5/2026
Notary ID
133518031

MY COMMISSION EXPIRES: 1/5/26

APPLICATION FEE FORM

Application Fee Form

Texas Commission on Environmental Quality

Name of Proposed Regulated Entity: Hawkes Landing North Phase 1

Regulated Entity Location: Approx. 0.85 mi. north of intersection of N. Bagdad Rd. and RM 2243

Name of Customer: Brightland Homes, LTD

Contact Person: Kirsten Bolt Phone: (512) 330-9366

Customer Reference Number (if issued):CN 601574049

Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde

☐ Comal ☐ Kinney

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

☒ Austin Regional Office

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

☐ San Antonio Regional Office

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

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	*Size*	*Fee Due*
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	49.94 Acres	$ 6,500.00
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	Acres	$
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Signature: _____ Date: 4/24/23

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 Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 601574049		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:*

Brightland Homes, LTD

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
0007423210	17525519892		

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

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

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

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

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

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:

3815 S. Capital of Texas Hwy.
Suite 275

City	State	ZIP	ZIP + 4
Austin	TX	78704	

16. Country Mailing Information *(if outside USA)*

17. E-Mail Address *(if applicable)*
kbolt@brightlandhomes.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 330-9366		( ) -

SECTION III: Regulated Entity Information

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

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

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

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

Hawkes Landing North, Phase 1

23. Street Address of the Regulated Entity: *(No PO Boxes)*	Not yet assigned						
	City		**State**		**ZIP**		**ZIP + 4**
24. County	Williamson						

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	Approximately 0.85 miles north of the intersection of N. Bagdad Road and RM 2243				
26. Nearest City			**State**	**Nearest ZIP Code**	
Leander			TX	78641	
27. Latitude (N) In Decimal:	30.587836		**28. Longitude (W) In Decimal:**	-97.879582	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	35	16.2	-97	52	46.5

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	1623	236116	237110

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

Construction of townhomes and associated civil infrastructure

34. Mailing Address:	**3815 S. Capital of Texas Hwy**						
	Suite 275						
	City	**Austin**	**State**	**TX**	**ZIP**	**78704**	**ZIP + 4**

35. E-Mail Address:	**kbolt@brightlandhomes.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 330-9366		**( ) -**

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

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

SECTION IV: Preparer Information

40. Name:	Michael Fisher, P.E.	**41. Title:**	Senior Vice President

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 454-8711		(512) 459-8867	mfisher@pape-dawson.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.

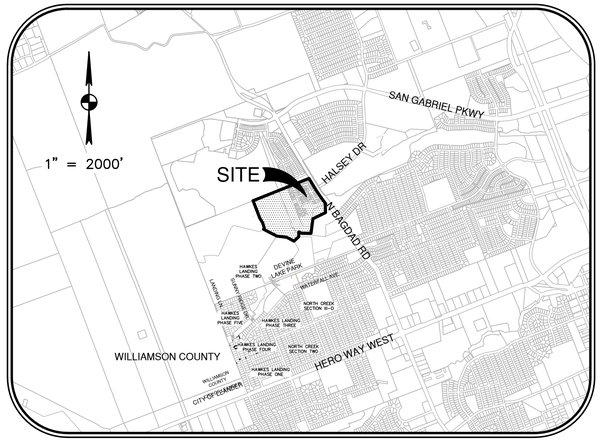
Company:	Pape-Dawson Engineers, Inc.	**Job Title:**	Senior Vice President
Name *(In Print):*	Michael Fisher, P.E.	**Phone:**	(512) 454-8711
Signature:		**Date:**	4/26/23

CONSTRUCTION PLANS

Revision #	Description	Approval

HAWKES LANDING NORTH
PHASE 1

PUBLIC IMPROVEMENT CONSTRUCTION PLANS
LEANDER, TEXAS
23-PICP-XXX
SUBMITTAL DATE: 04/11/2023



LOCATION MAP

SCALE: 1" = 2000'

A 49.941 ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134, BEING OUT OF A CALLED 116.114 ACRE TRACT OF LAND CONVEYED IN SPECIAL WARRANTY DEED TO GEHAN HOMES, LTD., RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	CONSTRUCTION NOTES 1 OF 2
3	CONSTRUCTION NOTES 2 OF 2
4	FINAL PLAT 1 OF 6
5	FINAL PLAT 2 OF 6
6	FINAL PLAT 3 OF 6
7	FINAL PLAT 4 OF 6
8	FINAL PLAT 5 OF 6
9	FINAL PLAT 6 OF 6
10	PRELIMINARY PLAT
11	EXISTING CONDITIONS AND DEMOLITION PLAN
12	EROSION & SEDIMENTATION CONTROL PLAN
13	TREE PRESERVATION PLAN
14	TREE PRESERVATION PLAN TREE LIST
15	LINWOOD STREET 1 OF 2
16	LINWOOD STREET 2 OF 2
17	JEMISON LANE
18	HALSEY DRIVE
19	GALILEO WAY
20	ALDRIN DRIVE
21	GRADING PLAN 1 OF 2
22	GRADING PLAN 2 OF 2
23	EXISTING CONDITIONS DRAINAGE MAP
24	PROPOSED CONDITIONS DRAINAGE MAP
25	STORM DRAIN DRAINAGE MAP
26	DRAINAGE CALCULATIONS
27	STORM DRAIN LAYOUT
28	STORM DRAIN PROFILES SD-1A & SD-2A 1 OF 3
29	STORM DRAIN PROFILES SD-2A 2 OF 3
30	STORM DRAIN PROFILES SD-2A 3 OF 3, SD-2B, SD- 2C & SD-2D
31	STORM DRAIN PROFILES SD-2E & SD-3A
32	STORM DRAIN PROFILES SD-3B, SD-3C, SD-4A & CULVERT
33	WATER QUALITY TREATMENT SUMMARY
34	BATCH DETENTION POND 8
35	BATCH DETENTION POND 8 DETAILS 1 OF 2
36	BATCH DETENTION POND 8 DETAILS 2 OF 2
37	WATER LAYOUT
38	WATER PLAN & PROFILE W-1A 1 OF 2
39	WATER PLAN & PROFILE W-1A 2 OF 2
40	WATER PLAN & PROFILE W-1B
41	WATER PLAN & PROFILE W-1C
42	WATER PLAN & PROFILE W-1D
43	WATER PLAN & PROFILE W-1E
44	WASTEWATER LAYOUT
45	WASTEWATER PLAN & PROFILE WW-1A 1 OF 2
46	WASTEWATER PLAN & PROFILE WW-1A 2 OF 2
47	WASTEWATER PLAN & PROFILE WW-1B
48	WASTEWATER PLAN & PROFILE WW-1C
49	WASTEWATER PLAN & PROFILE WW-1D & WW-1E
50	SIDEWALK SIGNAGE & STREET LIGHT PLAN
51	EROSION AND SEDIMENTATION CONTROL DETAILS
52	DRAINAGE DETAILS
53	PAVING & STREET DETAILS 1 OF 3
54	PAVING & STREET DETAILS 2 OF 3
55	PAVING & STREET DETAILS 3 OF 3
56	WASTEWATER DETAILS
57	WATER DETAILS
58	SITE LIGHTING DETAIL
59	SITE PLAN – ELECTRICAL
60	PHOTOMETRIC PLAN
61	CITY OF LEANDER STREET LIGHT DETAILS 1 OF 3
62	CITY OF LEANDER STREET LIGHT DETAILS 2 OF 3
63	CITY OF LEANDER STREET LIGHT DETAILS 3 OF 3
64	RETAINING WALL DETAILS
65	TRAFFIC CONTROL PLAN
66	LANDSCAPE DEVELOPMENT PLANS 1 OF 7
67	LANDSCAPE DEVELOPMENT PLANS 2 OF 7
68	LANDSCAPE DEVELOPMENT PLANS 3 OF 7
69	LANDSCAPE DEVELOPMENT PLANS 4 OF 7
70	LANDSCAPE DEVELOPMENT PLANS 5 OF 7
71	LANDSCAPE DEVELOPMENT PLANS 6 OF 7
72	LANDSCAPE DEVELOPMENT PLANS 7 OF 7

APPROVED BY:

Emily Truman, P.E., City Engineer — DATE
City of Leander, Texas

Robin Griffin, AICP, Executive Director of Development Services — DATE
City of Leander, Texas

Mark Tummons, Director of Parks and Recreation — DATE
City of Leander, Texas

Gina Ellison, P.E. Public Works Director — DATE
City of Leander, Texas

Chief Joshua Davis, Fire Marshal — DATE
City of Leander, Texas

THE FOLLOWING INFRASTRUCTURE IS TO BE OWNED AND MAINTAINED BY THE CITY OF LEANDER: STREETS, SIDEWALKS, STORM SEWER, WATERLINES AND WASTEWATER LINES.

DISTURBED ACREAGE: 15.000 ACRES

THIS PROJECT IS LOCATED ENTIRELY OVER THE EDWARDS AQUIFER CONTRIBUTING ZONE

ENGINEER / SURVEYOR:

PAPE-DAWSON ENGINEERS, INC.
10801 N MOPAC EXPY, BLDG 3, STE 200
AUSTIN, TEXAS 78759
(512) 454-8711
FAX (512) 459-8867

OWNER:

GEHAN HOMES, LTD.
3815 S. CAPITAL OF TEXAS HWY
SUITE 275
AUSTIN, TX 78704
(512) 330-9366
FAX (512) 330-9755

RELEASE OF THESE PLANS AND/OR SPECIFICATIONS DOES NOT CONSTITUTE A VERIFICATION OF DATA, CALCULATIONS, OR INFORMATION CONTAINED WITHIN THE PLANS AND/OR SPECIFICATIONS. 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).

SUBMITTED BY:

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER

4/11/23
DATE

PAPE-DAWSON ENGINEERS
MICHAEL FISHER, P.E. #87704
SENIOR VICE PRESIDENT

PAPE-DAWSON ENGINEERS

AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

CITY OF LEANDER APPROVAL

PD JOB NO. 51167-02 HAWKES LANDING NORTH - PHASE 1

DATE: Apr 20, 2020, 7:34AM USER ID: MNAVARRO
File: H:\PROJECTS\51167\02\301 CONSTRUCTION DOCUMENTS\CIVIL\TS51167-02.DWG

GENERAL NOTES

REVISED MARCH 27, 2023

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 RESPONSIBILITLY 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 SATISIFACTION OF THE CITY.

22. TREES IN EXISTING ROW SHOULD BE PROTECTED OR NOTED IN THE PLANS TO BE REMOVED.

CONSTRUCTION SEQUENCE

1. CALL CITY OF LEANDER PUBLIC WORKS DEPARTMENT AT 259-2640 48 HOURS PRIOR TO BEGINNING ANY WORK. CALL THE ONE CALL CENTER AT 472-2822 FOR UTILITY LOCATIONS AND OBTAIN PERMIT FOR ANY WORK WITHIN CITY OF LEANDER R.O.W.

2. THE CONTRACTOR SHALL INSTALL TEMPORARY EROSION/SEDIMENTATION CONTROL AND TREE PROTECTION MEASURES AS SHOWN WITHIN THESE PLANS.

3. THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE.

4. WITH THE APPROVAL OF ALL AFFECTED PARTIES, THE CONTRACTOR MAY BEGIN CLEARING AND GRUBBING.

5. ROUGH-CUT ALL REQUIRED OR NECESSARY PONDS. EITHER THE PERMANENT OUTLET STRUCTURE OR A TEMPORARY OUTLET MUST BE CONSTRUCTED PRIOR TO DEVELOPMENT OF ANY EMBANKMENT OR EXCAVATION THAT LEADS TO PONDING CONDITIONS. THE OUTLET SYSTEM MUST CONSIST OF A LOW-LEVEL OUTLET AND AN EMERGENCY OVERFLOW MEETING THE REQUIREMENTS OF THE DRAINAGE CRITERIA MANUAL (SECTION 8.3) AND/OR THE ENVIRONMENTAL CRITERIA MANUAL (SECTION 1.4.2.K) AS REQUIRED. THE OUTLET SYSTEM SHALL BE PROTECTED FROM EROSION AND SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION UNTIL FINAL RESTORATION IS ACHIEVED.

6. DELIVER APPROVED ROUGH CUT SHEETS TO THE CITY OF LEANDER PRIOR TO CLEARING AND GRUBBING.

7. ROUGH GRADE STREETS. NO DEVELOPMENT OF EMBANKMENT WILL BE PERMITTED AT THIS TIME, EXCEPT AS REQUIRED FOR UTILITY CONSTRUCTION. GEOTECHNICAL ENGINEER TO VERIFY SUBGRADE AND REQUIRED BASE THICKNESS.

8. DELIVER WATER & WASTEWATER CUT SHEETS TO CITY OF LEANDER.

9. INSTALL ALL UTILITIES TO BE LOCATED UNDER THE PROPOSED PAVEMENT.

10. DELIVER STORM SEWER CUT SHEETS TO CITY OF LEANDER.

11. BEGIN INSTALLATION OF STORM SEWER LINES. UPON COMPLETION, RESTORE AS MUCH DISTURBED AREA AS POSSIBLE, PARTICULARLY CHANNELS AND LARGE OPEN AREAS. INSTALL INLET PROTECTION AS PER PLANS.

12. DELIVER FINAL GRADE CUT SHEETS TO CITY OF LEANDER.

13. REGRADE STREETS TO SUBGRADE.

14. INSURE THAT ALL UNDERGROUND UTILITY CROSSINGS ARE COMPLETED. LAY FIRST COURSE BASE MATERIAL ON ALL STREETS.

15. INSTALL CURB AND GUTTER.

16. LAY FINAL BASE COURSE ON ALL STREETS.

17. LAY ASPHALT.

18. COMPLETE ALL ROUGH GRADING AND UNDERGROUND INSTALLATIONS WITHIN THE R.O.W.

19. COMPLETE FINAL GRADING AND INSTALL SIDEWALK IN R.O.W. ALONG AREAS DESIGNATED. RESTORE CONSTRUCTION SPOILS & STAGING AREA TO NATURAL GRADE.

20. COMPLETE PERMANENT EROSION CONTROL AND RESTORATION OF SITE VEGETATION.

21. REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROL, INCLUDING CONSTRUCTION SPOILS AREA.

22. COMPLETE ANY NECESSARY FINAL DRESS UP OF AREAS DISTURBED.

23. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.

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

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"	0
3/8"	0-2
#4	40-85
#10	95-100

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.

CITY OF LEANDER CONTACTS

ENGINEERING MAIN LINE:	512-528-2766
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
UTILITIES LOCATE REQUESTS:	locates@leandertx.gov

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER

4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
CONSTRUCTION NOTES 1 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 2 OF 72

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 . PAVEMENT RECOMMENDATIONS ARE AS FOLLOWS:
    a. PROVIDE RECOMMENDATIONS.
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 DRVIEWAY 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.

STREET	CLASSIFICATION	FLEX BASE	HMAC "TYPE D"	LIME STABILIZATION
LINWOOD STREET	LOCAL STREET	14.0"	2.0"	12.0"
JEMISON LANE	LOCAL STREET	14.0"	2.0"	12.0"
HALSEY DRIVE	LOCAL STREET	14.0"	2.0"	12.0"
GALILEO WAY	LOCAL STREET	14.0"	2.0"	12.0"
ALDRIN DRIVE	LOCAL STREET	14.0"	2.0"	12.0"

TRENCH SAFETY NOTES

1. TRENCH SAFETY SYSTEMS TO BE UTILIZED FOR THIS PROJECT ARE DESCRIBED IN ITEM 509S "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

BENCHMARK No. 110
SET CUT SQUARE IN CONCRETE STRUCTURE ON THE WEST SIDE OF DEVINE LAKE PARK ACCESS ROAD
GRID N: 10183438.0'
GRID E: 3067428.8'
ELEV: 1,024.97'
NAVD 88, (GEOID 03)

BENCHMARK No. 111
SET CUT SQUARE IN CURB INLET ON THE EAST SIDE OF SUNNY RIDGE DRIVE
GRID N: 10183103.2'
GRID E: 3066504.8'
ELEV: 1,040.67'
NAVD 88, (GEOID 03)

BENCHMARK No. 112
SET CUT SQUARE IN CURB INLET ON THE EAST SIDE OF LANDING LANE
GRID N: 10182892.0'
GRID E: 3065950.9'
ELEV: 1,044.58'
NAVD 88, (GEOID 03)

Texas Commission on 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 governmental entity to prevent, correct, or curtail activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any Edwards Aquifer Protection Plan containing "construction notes" is still responsible for compliance with Title 30, TAC, Chapters 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of plan implementation. Failure to comply with any condition of the ED's approval, whether or not in contradiction of any "construction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided under Title 30, TAC § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and injunction. The following/listed "construction notes" in no way represent an approved exception by the ED to any part of Title 30 TAC, Chapters 213 and 217, or any other TCEQ applicable regulation

1. A written notice of construction must be submitted to the TCEQ regional office at least 48 hours prior to the start of any ground disturbance or construction activities. This notice must include:
   - the name of the approved project;
   - the activity start date; and
   - the contact information of the prime contractor.
2. All contractors conducting regulated activities associated with this project should be provided with complete copies of the approved Contributing Zone Plan (CZP) and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractor(s) should keep copies of the approved plan and approval letter on-site.
3. No hazardous substance storage tank shall be installed within 150 feet of a water supply source, distribution system, well, or sensitive feature.
4. Prior to beginning any construction activity, all temporary erosion and sedimentation (E&S) control measures must be properly installed and maintained in accordance with the manufacturers specifications. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. These controls must remain in place until the disturbed areas have been permanently stabilized.
5. Any sediment that escapes the construction site must be collected and properly disposed of before the next rain event to ensure it is not washed into surface streams, sensitive features, etc.
6. Sediment must be removed from the sediment traps or sedimentation basins when it occupies 50% of the basin's design capacity.
7. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from being discharged offsite.
8. All excavated material that will be stored on-site must have proper E&S controls.
9. If portions of the site will have a cease in construction activity lasting longer than 14 days, soil stabilization in those areas shall be initiated as soon as possible prior to the 14th day of inactivity. If activity will resume prior to the 21st day, stabilization measures are not required. If drought conditions or inclement weather prevent action by the 14th day, stabilization measures shall be initiated as soon as possible.
10. The following records should be maintained and made available to the TCEQ upon request:
    - the dates when major grading activities occur;
    - the dates when construction activities temporarily or permanently cease on a portion of the site; and
    - the dates when stabilization measures are initiated.
11. The holder of any approved CZP must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:
    A. any physical or operational modification of any best management practices (BMPs) or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
    B. any change in the nature or character of the regulated activity from that which was originally approved;
    C. any change that would significantly impact the ability to prevent pollution of the Edwards Aquifer; or
    D. any development of land previously identified as undeveloped in the approved contributing zone plan.

Austin Regional Office 12100 Park 35 Circle, Building A Austin, Texas 78753-1808 Phone (512) 339-2929 Fax (512) 339-3795	San Antonio Regional Office 14250 Judson Road San Antonio, Texas 78233-4480 Phone (210) 490-3096 Fax (210) 545-4329

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

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
CONSTRUCTION NOTES 2 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 3 OF 72

FINAL PLAT
OF
HAWKES LANDING NORTH PHASE 1

A 49.941 ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134, BEING OUT OF A CALLED 116.114 ACRE TRACT OF LAND CONVEYED IN SPECIAL WARRANTY DEED TO GEHAN HOMES, LTD., RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

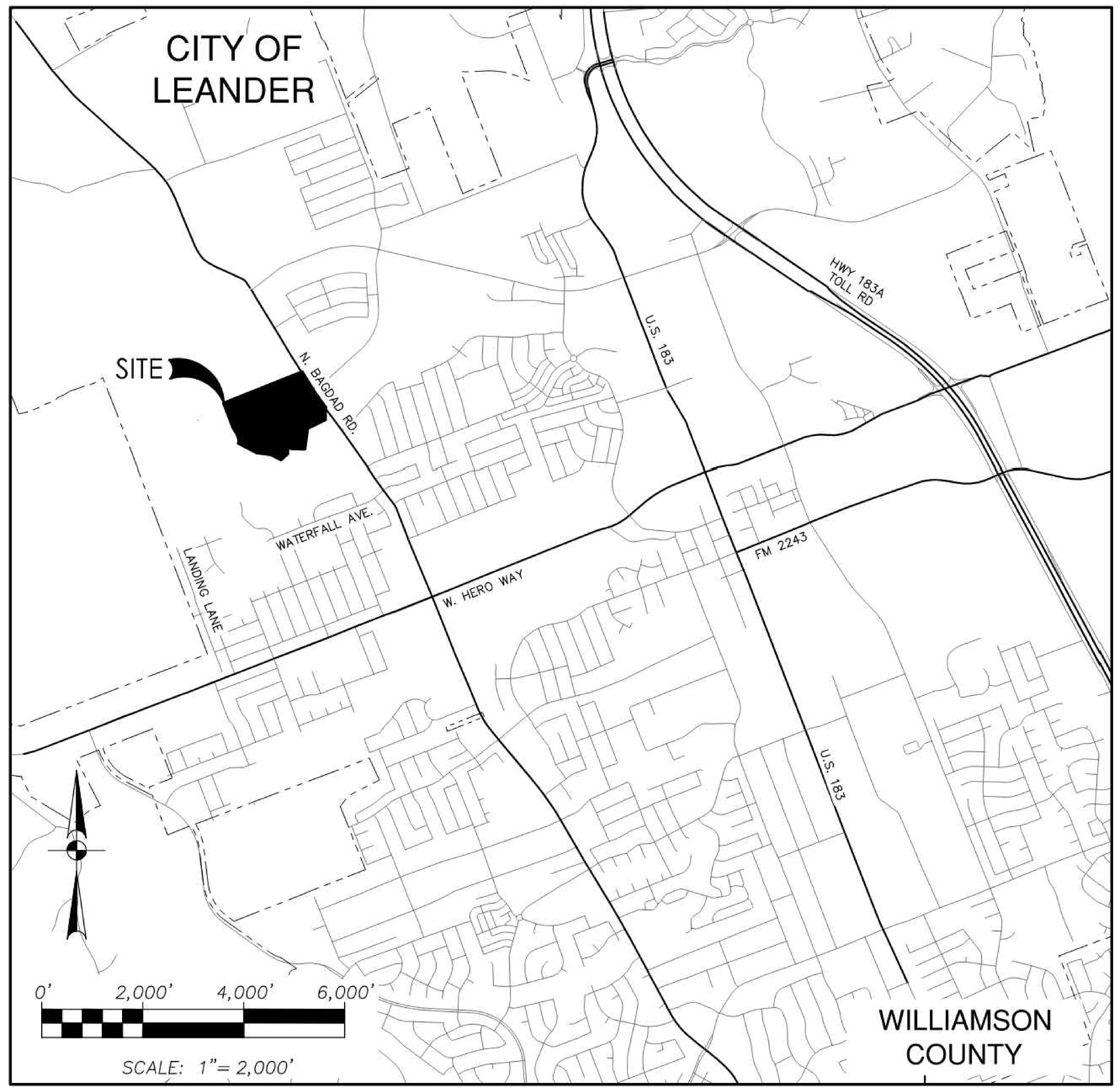
OWNER: GEHAN HOMES, LTD.
3815 S. CAPITAL OF TEXAS HWY
SUITE 275
AUSTIN, TX 78704
(512) 330-9366 P

SURVEYOR: PAPE-DAWSON ENGINEERS, INC.
10801 N MOPAC EXPY.
BLDG. 3, SUITE 200
AUSTIN, TX 78759
(512) 454-8711 P
(512) 459-8867 F

ENGINEER: PAPE-DAWSON ENGINEERS, INC.
10801 N MOPAC EXPY.
BLDG. 3, SUITE 200
AUSTIN, TX 78759
(512) 454-8711 P
(512) 459-8867 F

SUBMITTAL DATE: ________, 2023

LOCATION MAP



LOT SUMMARY

TOTAL ACREAGE:	49.941 ACRES
TOTAL NUMBER OF BLOCKS:	4
RESIDENTIAL DISTRICT LOTS:	128
HOA PEDESTRIAN ACCESS LOTS:	3
HOA ACCESS/BMPE/DE LOTS:	2
HOA LL LOTS:	2
PUBLIC PARKLAND:	1
UBCWCID AREA:	1
TOTAL LOTS:	137

LINEAR FEET OF NEW STREET

ALDRIN DRIVE:	486 LF
GALILEO WAY:	605 LF
RIDE ROAD:	579 LF
JEMISON LANE:	503 LF
LINWOOD STREET:	920 LF
TOTAL LINEAR FEET:	3093LF

SURVEY: CHARLES COCHRAN SURVEY
ABSTRACT NO. 134

BEARINGS ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 NAD 83 (NA 2011), EPOCH 2010.00, FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE CENTRAL ZONE.

COMBINED SCALE FACTOR:
0.99986254

BENCHMARKS:
BENCHMARK ELEVATIONS ARE BASED ON NAVD88, GEOID 03

BENCHMARK 110
SET CUT SQUARE IN CONCRETE STRUCTURE ON THE WEST SIDE OF DEVINE LAKE PARK ACCESS ROAD
GRID NORTH: 10183438.0
GRID EASTING: 3067428.8
ELEVATION: 1024.97

BENCHMARK 111
SET CUT SQUARE IN CURB INLET ON THE EAST SIDE OF SUNNY RIDGE DRIVE
GRID NORTH: 10183103.2
GRID EASTING: 3066504.8
ELEVATION: 1040.67

BENCHMARK 112
SET CUT SQUARE IN CURB INLET ON THE EAST SIDE OF LANDING LANE
GRID NORTH: 10182892.0
GRID EASTING: 3065950.9
ELEVATION: 1044.58

SHEET INDEX

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PAPE-DAWSON ENGINEERS
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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH PHASE 1
Civil Job No. 51167-02; Survey Job No. 51167-02

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
FINAL PLAT 1 OF 6

NO. REVISION DATE

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN

23-PICP-XXX

FINAL PLAT
OF
HAWKES LANDING NORTH PHASE 1

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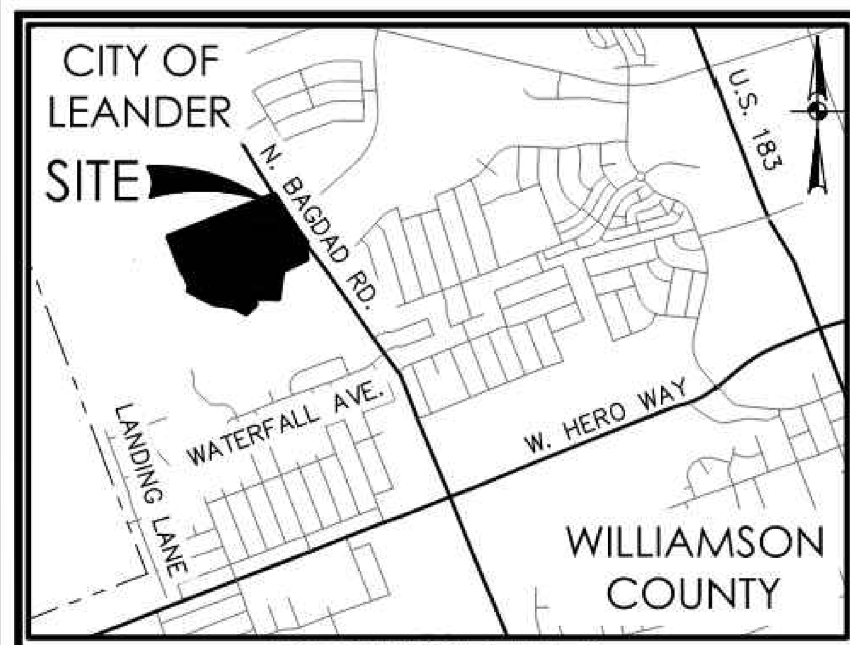

LOCATION MAP
SCALE: 1" = 3000'

0' 200' 400' 600'
SCALE: 1"= 200'

LEGEND

E.T.J.	EXTRA-TERRITORIAL JURISDICTION
DOC.	DOCUMENT
NO.	NUMBER
O.P.R.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
O.R.	OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS
D.R.	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
FD. I.R.	FOUND IRON ROD
R.O.W.	RIGHT OF WAY
VOL.	VOLUME
PG.	PAGE
CAB.	CABINET
DE	DRAINAGE EASEMENT
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P.U.E.	PUBLIC UTILITY EASEMENT
PAE	PUBLIC ACCESS EASEMENT
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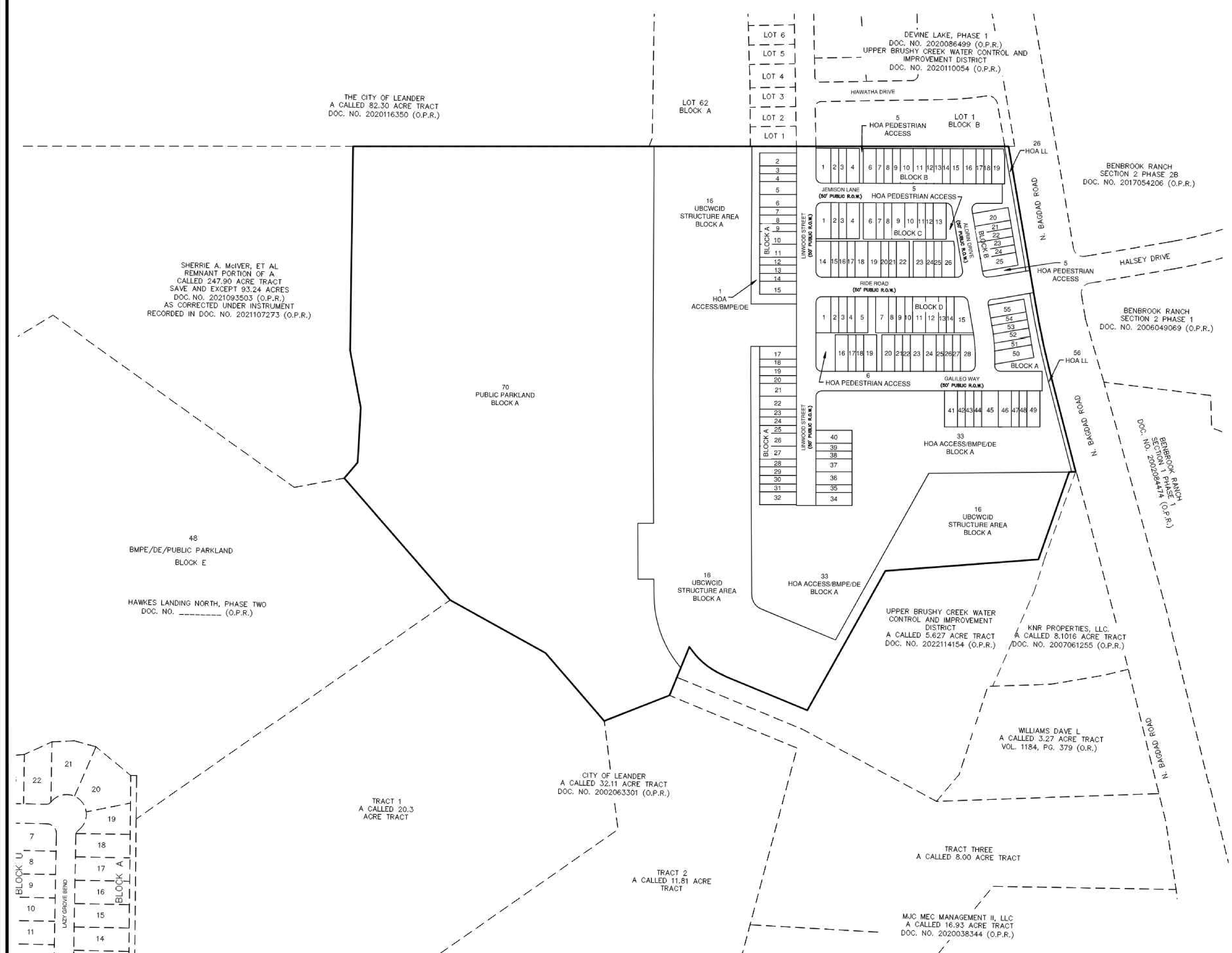
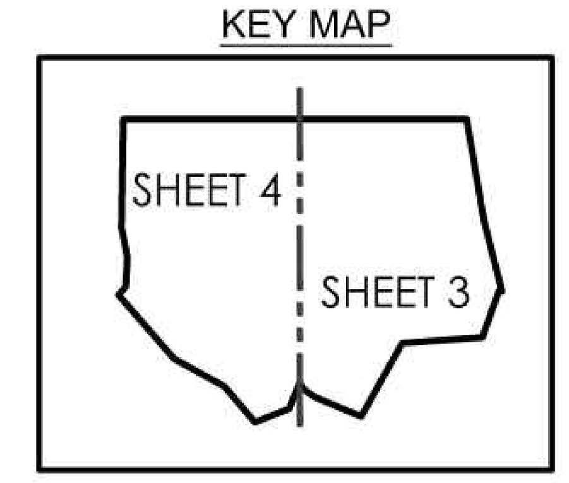
LL	LANDSCAPE LOT
(SURVEYOR) ●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
○	SET 1/2" IRON ROD (PD)
....	SIDEWALK
— · · —	FEMA 1% ANNUAL CHANCE FLOODPLAIN
— —	LEANDER CITY LIMIT
— · —	200' WATERWAY BUFFER ZONE



KEY MAP



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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

SHEET 2 OF 6

HAWKES LANDING NORTH PHASE 1

Civil Job No. 51167-02; Survey Job No. 51167-02

NO. | REVISION | DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
FINAL PLAT 2 OF 6

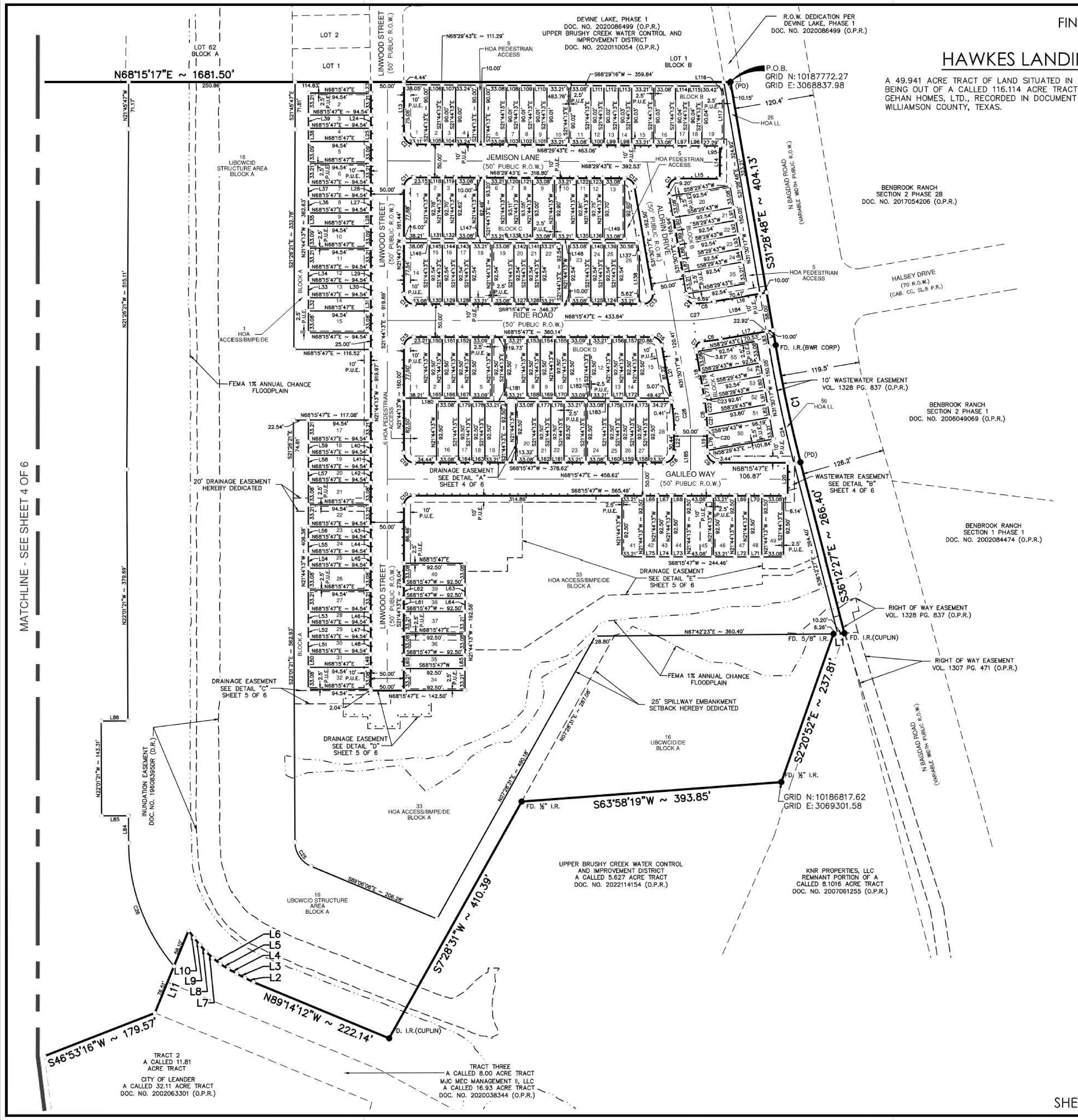
CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 5 OF 72

Date: Apr 11, 2023, 4:12pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\FP51167-02.dwg

FINAL PLAT OF HAWKES LANDING NORTH PHASE 1

A 49.941 ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134, BEING OUT OF A CALLED 116.114 ACRE TRACT OF LAND CONVEYED IN SPECIAL WARRANTY DEED TO GEHAN HOMES, LTD., RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.



0' 100' 200' 300'

SCALE: 1"= 100'

CURVE TABLE					
CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C1	2070.46'	005°00'29"	S33°42'12"E	180.91'	180.97'
C2	15.00'	089°46'04"	S66°37'15"E	21.17'	23.50'
C3	15.00'	100°00'00"	S18°29'43"W	22.98'	26.18'
C4	10.00'	083°31'52"	S73°16'13"E	13.32'	14.58'
C5	275.00'	006°23'17"	N61°46'13"E	30.64'	30.66'
C6	333.00'	004°54'45"	S61°01'57"W	28.54'	28.55'
C7	10.00'	094°59'37"	S15°59'31"W	14.74'	16.58'
C8	325.00'	009°46'04"	S26°37'15"E	55.34'	55.41'
C9	15.00'	090°00'00"	S66°44'13"E	21.21'	23.56'
C10	15.00'	090°00'00"	S23°15'47"W	21.21'	23.56'
C11	15.00'	090°13'56"	N23°22'45"E	21.26'	23.62'
C12	15.00'	080°00'00"	S71°30'17"E	19.28'	20.94'
C13	15.00'	099°46'04"	S18°22'45"W	22.94'	26.12'
C14	15.00'	090°00'00"	N66°44'13"W	21.21'	23.56'
C15	15.00'	090°00'00"	N23°15'47"E	21.21'	23.56'
C16	15.00'	080°13'56"	S71°37'15"E	19.33'	21.00'
C17	275.00'	009°46'04"	S26°37'15"E	46.83'	46.88'
C18	15.00'	090°00'00"	S23°15'47"W	21.21'	23.56'
C19	15.00'	090°00'00"	N66°44'13"W	21.21'	23.56'
C20	325.00'	001°10'41"	S22°19'33"E	6.68'	6.68'
C21	325.00'	003°33'06"	S24°41'26"E	20.14'	20.15'
C22	325.00'	003°51'46"	S28°23'52"E	21.91'	21.91'
C23	325.00'	001°10'32"	S30°55'01"E	6.67'	6.67'
C24	2080.46'	005°00'26"	S33°42'13"E	181.76'	181.82'
C25	40.00'	067°04'45"	S55°33'43"E	44.20'	46.83'
C26	290.86'	039°57'23"	N42°00'02"W	198.75'	202.84'
C27	300.00'	009°41'13"	N63°25'11"E	50.66'	50.72'
C28	300.00'	009°46'04"	N26°37'15"W	51.08'	51.14'
C29	21.50'	045°59'29"	S88°44'28"E	16.80'	17.26'
C30	21.50'	045°59'29"	N45°16'03"E	16.80'	17.26'

LEGEND

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DOC.	DOCUMENT
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PG.	PAGE
CAB.	CABINET
DE	DRAINAGE EASEMENT
P.O.B.	POINT OF BEGINNING
P.U.E.	PUBLIC UTILITY EASEMENT
PAE	PUBLIC ACCESS EASEMENT
BMPE	BEST MANAGEMENT PRACTICE EASEMENT
LL	LANDSCAPE LOT
(SURVEYOR) ●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
	SET 1/2" IRON ROD (PD)
············	SIDEWALK
—··—··—	FEMA 1% ANNUAL CHANCE FLOODPLAIN
— - - —	LEANDER CITY LIMIT
—·—	200' WATERWAY BUFFER ZONE

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

SHEET 3 OF 6

HAWKES LANDING NORTH PHASE 1

Civil Job No. 51167-02; Survey Job No. 51167-02

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
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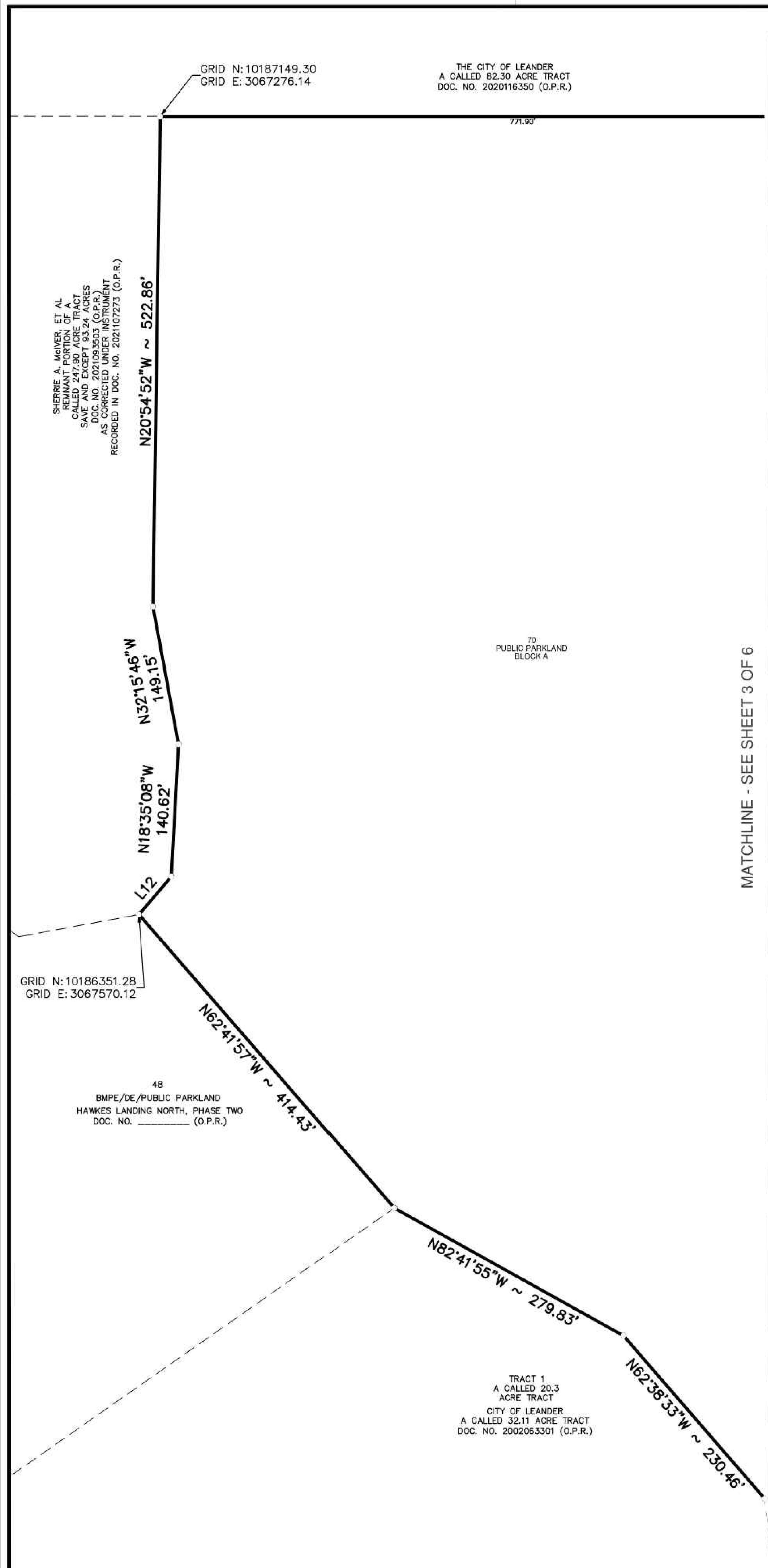
HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
FINAL PLAT 3 OF 6

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 6 OF 72

Date: Apr 11, 2023, 4:12pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\FP51167-02.dwg



FINAL PLAT OF HAWKES LANDING NORTH PHASE 1

A 49.941 ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134, BEING OUT OF A CALLED 116.114 ACRE TRACT OF LAND CONVEYED IN SPECIAL WARRANTY DEED TO GEHAN HOMES, LTD., RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

0' 100' 200' 300'

SCALE: 1"= 100'

LINE TABLE

LINE #	BEARING	LENGTH
L1	S65°06'19"W	16.46'
L2	N86°04'47"W	14.37'
L3	N83°38'28"W	13.97'
L4	N81°54'13"W	14.13'
L5	N78°52'33"W	14.41'
L6	N73°02'21"W	14.04'
L7	N69°32'04"W	14.21'
L8	N64°43'18"W	13.83'
L9	N59°55'16"W	13.73'
L10	N59°16'26"W	13.82'
L11	S00°27'18"W	134.62'
L12	N18°48'41"E	53.03'
L13	S21°44'13"E	79.50'
L14	S21°30'17"E	50.00'
L15	S68°29'43"W	62.70'
L16	N58°34'34"E	80.47'
L17	S58°34'34"W	80.53'
L18	S31°30'17"E	71.96'
L19	S21°44'13"E	30.44'
L20	S21°44'13"E	50.00'
L21	S31°30'17"E	86.70'
L22	S21°44'13"E	30.44'
L23	N21°44'13"W	16.97'
L24	N21°44'13"W	20.00'
L25	N21°44'13"W	20.00'
L26	N21°44'13"W	20.00'
L27	N21°44'13"W	21.87'
L28	N21°44'13"W	20.00'
L29	N21°44'13"W	20.00'
L30	N21°44'13"W	21.87'
L31	N21°44'13"W	20.00'
L32	N21°44'13"W	20.00'
L33	N21°44'13"W	21.87'
L34	N21°44'13"W	20.00'
L35	N21°44'13"W	20.00'
L36	N21°44'13"W	21.87'
L37	N21°44'13"W	20.00'
L38	N21°44'13"W	20.00'
L39	N21°44'13"W	20.00'
L40	N21°44'13"W	20.00'
L41	N21°44'13"W	21.87'
L42	N21°44'13"W	20.00'
L43	N21°44'13"W	20.00'
L44	N21°44'13"W	21.87'
L45	N21°44'13"W	20.00'
L46	N21°44'13"W	20.00'
L47	N21°44'13"W	21.87'
L48	N21°44'13"W	21.87'
L49	N21°44'13"W	20.00'
L50	N21°44'13"W	20.00'
L51	N21°44'13"W	21.87'
L52	N21°44'13"W	21.88'
L53	N21°44'13"W	20.00'
L54	N21°44'13"W	20.00'
L55	N21°44'13"W	21.88'
L56	N21°44'13"W	20.00'
L57	N21°44'13"W	20.00'
L58	N21°44'13"W	21.88'
L59	N21°44'13"W	20.00'
L60	S21°44'13"E	20.00'
L61	S21°44'13"E	20.00'
L62	S21°44'13"E	20.00'
L63	N21°44'13"W	20.00'
L64	N21°44'13"W	20.00'
L65	N21°44'13"W	20.00'
L66	S68°15'47"W	20.00'
L67	S68°15'47"W	21.87'
L68	S68°15'47"W	20.00'
L69	S68°15'47"W	20.00'
L70	S68°15'47"W	20.00'

LINE TABLE

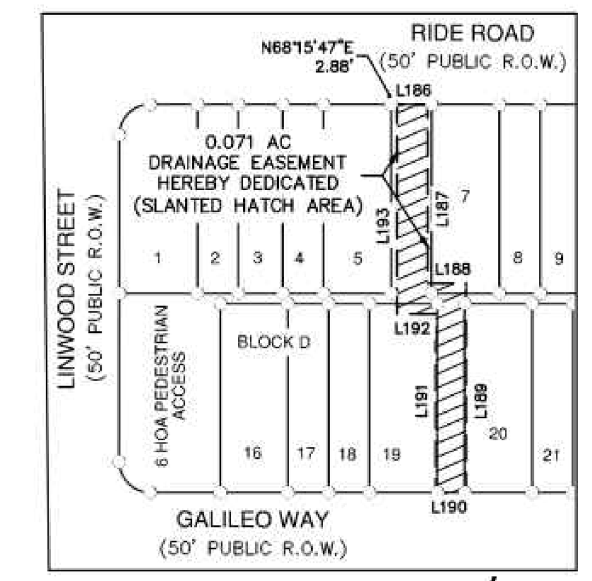
LINE #	BEARING	LENGTH
L71	S68°15'47"W	20.00'
L72	S68°15'47"W	20.00'
L73	S68°15'47"W	20.00'
L74	S68°15'47"W	21.87'
L75	S68°15'47"W	20.00'
L76	S21°44'13"E	27.01'
L77	S31°30'17"E	15.21'
L78	S31°30'17"E	20.00'
L79	N31°30'17"W	20.00'
L80	N31°30'17"W	21.88'
L81	N31°30'17"W	21.87'
L82	N31°30'17"W	20.00'
L83	S31°28'48"E	22.90'
L84	N22°01'21"W	41.20'
L85	S67°58'39"W	40.57'
L86	N67°58'39"E	40.57'
L87	S31°30'17"E	20.00'
L88	S31°30'17"E	21.87'
L89	S31°30'17"E	21.88'
L90	S31°30'17"E	20.00'
L91	N31°30'17"W	20.00'
L92	N31°30'17"W	21.87'
L93	N31°30'17"W	21.87'
L94	N31°30'17"W	20.00'
L95	N68°29'43"E	5.92'
L96	N68°29'43"E	20.00'
L97	N68°29'43"E	20.00'
L98	N68°29'43"E	20.00'
L99	N68°29'43"E	21.88'
L100	N68°29'43"E	20.00'
L101	N68°29'43"E	20.00'
L102	N68°29'43"E	21.88'
L103	N68°29'43"E	20.00'
L104	N68°29'43"E	20.00'
L105	N68°29'43"E	20.00'
L106	N68°29'43"E	20.00'
L107	N68°29'43"E	20.00'
L108	S68°29'16"W	20.00'
L109	S68°29'16"W	21.88'
L110	S68°29'16"W	20.00'
L111	S68°29'16"W	20.00'
L112	S68°29'16"W	21.88'
L113	S68°29'16"W	20.00'
L114	S68°29'16"W	20.00'
L115	S68°29'16"W	20.00'
L116	N31°21'25"W	16.69'
L117	N21°44'13"W	73.60'
L118	N68°29'43"E	20.00'
L119	N68°29'43"E	20.00'
L120	N68°29'43"E	20.00'
L121	N68°29'43"E	20.00'
L122	N68°29'43"E	20.00'
L123	N68°29'43"E	20.00'
L124	S68°15'47"W	20.00'
L125	S68°15'47"W	20.00'
L126	S68°15'47"W	20.00'
L127	S68°15'47"W	20.00'
L128	S68°15'47"W	20.00'
L129	S68°15'47"W	21.88'
L130	S68°15'47"W	20.00'
L131	N68°15'47"E	20.00'
L132	N68°15'47"E	20.00'
L133	N68°20'04"E	20.00'
L134	N68°20'04"E	20.00'
L135	N68°20'04"E	20.00'
L136	N68°20'04"E	20.00'
L137	S31°28'44"E	15.66'
L138	S21°44'13"E	77.10'
L139	N68°15'47"E	20.00'
L140	N68°15'47"E	20.00'

LINE TABLE

LINE #	BEARING	LENGTH
L141	N68°15'47"E	20.00'
L142	N68°15'47"E	20.00'
L143	N68°15'47"E	20.00'
L144	N68°15'47"E	21.87'
L145	N68°15'47"E	20.00'
L146	N68°15'47"E	111.29'
L147	N68°15'47"E	239.46'
L148	N68°20'04"E	212.58'
L149	N68°15'47"E	103.64'
L150	N68°15'47"E	20.00'
L151	N68°15'47"E	21.88'
L152	N68°15'47"E	20.00'
L153	N68°15'47"E	20.00'
L154	N68°15'47"E	21.88'
L155	N68°15'47"E	20.00'
L156	N68°15'47"E	20.00'
L157	N68°15'47"E	20.00'
L158	S68°15'47"W	20.00'
L159	S68°15'47"W	21.88'
L160	S68°15'47"W	20.00'
L161	S68°15'47"W	20.00'
L162	S68°15'47"W	20.00'
L163	S68°15'47"W	20.00'
L164	S68°15'47"W	20.00'
L165	N68°15'47"E	20.00'
L166	N68°15'47"E	21.87'
L167	N68°15'47"E	20.00'
L168	N68°15'47"E	20.00'
L169	N68°15'47"E	21.87'
L170	N68°15'47"E	20.00'
L171	N68°15'47"E	20.00'
L172	N68°15'47"E	20.00'
L173	N68°15'47"E	20.00'
L174	N68°15'47"E	21.88'
L175	N68°15'47"E	20.00'
L176	N68°15'47"E	20.00'
L177	N68°15'47"E	20.00'
L178	N68°15'47"E	20.00'
L179	N68°15'47"E	20.00'
L180	N68°15'47"E	133.17'
L181	N68°15'47"E	106.29'
L182	N68°15'47"E	235.52'
L183	N68°15'47"E	250.80'
L184	N58°34'34"E	80.57'
L185	N21°44'13"W	70.44'
L186	N68°15'47"E	15.00'
L187	S21°44'13"E	87.50'
L188	N68°15'47"E	18.85'
L189	S21°44'13"E	102.50'
L190	S68°15'47"W	15.00'
L191	N21°44'13"W	87.50'
L192	S68°15'47"W	18.85'
L193	N21°44'13"W	102.50'
L194	N53°36'18"E	12.76'
L195	S36°12'27"E	26.00'
L196	S53°36'18"W	19.47'
L197	N21°44'13"W	26.87'
L198	S22°01'21"E	20.00'
L199	N21°44'13"W	20.00'
L200	N68°15'47"E	53.07'
L201	N68°15'47"E	24.50'
L202	S21°44'13"E	33.00'
L203	S68°15'47"W	47.00'
L204	S21°44'13"E	18.00'
L205	S68°15'47"W	49.00'
L206	N21°44'13"W	18.00'
L207	S68°15'47"W	37.00'
L208	N21°44'13"W	33.00'
L209	N68°15'47"E	24.50'
L210	N68°17'43"E	74.21'

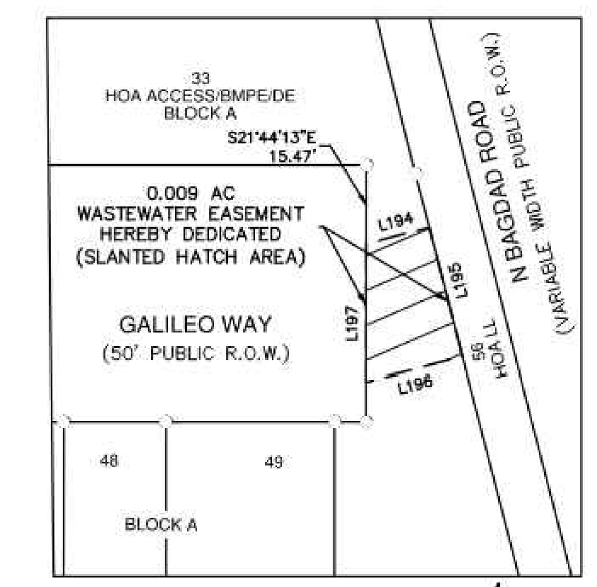
LINE TABLE

LINE #	BEARING	LENGTH
L211	S21°44'13"E	16.96'
L212	N68°15'50"E	40.82'
L213	N45°44'59"E	46.70'
L214	S36°12'27"E	10.10'
L215	S45°44'59"W	47.27'
L216	S68°15'50"W	42.81'
L217	S21°44'13"E	13.43'
L218	N21°44'13"W	14.66'
L219	N21°44'13"W	20.00'
L220	N21°44'13"W	84.01'
L221	N68°15'47"E	64.00'
L222	N21°44'13"W	19.90'
L223	N68°15'47"E	22.72'
L224	N21°44'13"W	10.00'
L225	N68°15'47"E	20.50'
L226	N68°15'47"E	20.00'



DETAIL "A"

SCALE: 1" = 100'



DETAIL "B"

SCALE: 1" = 40'

LEGEND

E.T.J.	EXTRA–TERRITORIAL JURISDICTION
DOC.	DOCUMENT
NO.	NUMBER
O.P.R.	OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS
O.R.	OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS
D.R.	DEED RECORDS OF WILLIAMSON COUNTY, TEXAS
FD. I.R.	FOUND IRON ROD
R.O.W.	RIGHT OF WAY
VOL.	VOLUME
PG.	PAGE
CAB.	CABINET
DE	DRAINAGE EASEMENT
P.O.B.	POINT OF BEGINNING
P.U.E.	PUBLIC UTILITY EASEMENT
PAE	PUBLIC ACCESS EASEMENT
BMPE	BEST MANAGEMENT PRACTICE EASEMENT
LL	LANDSCAPE LOT
(SURVEYOR) ●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
	SET 1/2" IRON ROD (PD)
....	SIDEWALK
—··—··—	FEMA 1% ANNUAL CHANCE FLOODPLAIN
— — —	LEANDER CITY LIMIT
—— · ——	200' WATERWAY BUFFER ZONE

FOR REVIEW ONLY, NOT FOR FINAL RECORDATION

PAPE-DAWSON ENGINEERS

AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

SHEET 4 OF 6

Civil Job No. 51167-02; Survey Job No. 51167-02

HAWKES LANDING NORTH PHASE 1

Date: Mar 08, 2023, 10:16am User ID: DRodriguez
File: H:\Survey\CIVIL\51167-02\Plat\Hawkes Landing North Townhomes\51167-02_Phase 1_R2.dwg

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
FINAL PLAT 4 OF 6

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

NO.	REVISION	DATE

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 7 OF 72

Date: Apr 11, 2023, 4:12pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\FP51167-02.dwg

FINAL PLAT
OF
HAWKES LANDING NORTH PHASE 1

A 49.941 ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134, BEING OUT OF A CALLED 116.114 ACRE TRACT OF LAND CONVEYED IN SPECIAL WARRANTY DEED TO GEHAN HOMES, LTD., RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

BLOCK A

LOT #	AREA (SQ. FT.)
1	12,450
2	3,140
3	1,891
4	1,891
5	3,128
6	3,140
7	1,891
8	2,068
9	1,891
10	3,128
11	3,140
12	1,891
13	2,068
14	1,891
15	3,128
16	487,547
17	3,140
18	1,891
19	2,068
20	1,891
21	3,128
22	3,140
23	1,891
24	2,068
25	1,891
26	3,128
27	3,140
28	1,891
29	2,068

BLOCK A

LOT #	AREA (SQ. FT.)
30	2,068
31	1,891
32	3,128
33	229,947
34	3,072
35	1,850
36	3,060
37	3,072
38	1,850
39	1,850
40	3,060
41	3,072
42	1,850
43	2,023
44	1,850
45	3,985
46	3,072
47	1,850
48	1,850
49	3,060
50	3,287
51	1,898
52	2,036
53	2,025
54	1,851
55	3,062
56	4,697
70	949,022

BLOCK B

LOT #	AREA (SQ. FT.)
1	3,377
2	1,800
3	1,800
4	2,992
5	12,101
6	2,978
7	1,800
8	1,969
9	1,800
10	2,989
11	2,978
12	1,800
13	1,969
14	1,801
15	2,990
16	2,979
17	1,801
18	1,801
19	2,967
20	3,062
21	1,851
22	2,024
23	2,024
24	1,851
25	3,073
26	3,241

BLOCK C

LOT #	AREA (SQ. FT.)
1	3,500
2	1,855
3	1,853
4	3,062
5	7,065
6	3,094
7	1,862
8	1,860
9	3,075
10	3,084
11	1,856
12	1,855
13	3,065
14	3,476
15	1,851
16	2,024
17	1,851
18	3,073
19	3,062
20	1,851
21	1,851
22	3,073
23	3,062
24	1,851
25	1,851
26	3,053

BLOCK D

LOT #	AREA (SQ. FT.)
1	3,486
2	1,850
3	2,023
4	1,850
5	3,061
6	9,603
7	3,072
8	1,850
9	2,023
10	1,850
11	3,061
12	3,072
13	1,850
14	1,850
15	3,803
16	3,060
17	1,850
18	1,850
19	3,072
20	3,060
21	1,850
22	1,850
23	3,072
24	3,060
25	1,850
26	2,023
27	1,850
28	3,433

FIELD NOTES
FOR

A 49.941 ACRE TRACT OF LAND SITUATED IN THE C. COCHRAN SURVEY, ABSTRACT NO. 134, BEING OUT OF A CALLED 116.114 ACRE TRACT OF LAND CONVEYED IN SPECIAL WARRANTY DEED TO GEHAN HOMES, LTD., RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS. SAID 49.941 ACRE TRACT BEING MORE FULLY DESCRIBED AS FOLLOWS, WITH BEARINGS BASED ON THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE CENTRAL ZONE FROM THE NORTH AMERICAN DATUM OF 1983 NAD 83 (NA2011) EPOCH 2010.00:

BEGINNING at a ½" iron rod with yellow cap marked "Pape-Dawson" found on a point in the west right-of-way line of North Bagdad Road, a variable width right-of-way, same being in the south boundary line of Devine Lake, Phase 1, a subdivision according to the plat recorded in Document No. 2020086499 of the Official Public Records of Williamson County, Texas, and same being the northeast corner of said 116.114 acre tract, for the northeast corner and POINT OF BEGINNING hereof;

THENCE, departing the south boundary line of said Devine Lake, Phase 1, with the west right-of-way line of said North Bagdad Road, same being the east boundary line of said 116.114 acre tract the following three (3) courses and distances:

1. S 31°28'48" E, a distance of 404.13 feet to an iron rod marked "BWR CORP" found for a point of non-tangent curvature hereof,
2. along the arc of a curve to the left, having a radius of 2070.46 feet, a central angle of 05°00'29", a chord bearing and distance of S 33°42'12" E, 180.91 feet, an arc length of 180.97 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" found for a point of non-tangency hereof, and
3. S 36°12'27" E, a distance of 266.40 feet to an iron rod marked "CUPLIN" found for a southeast corner hereof,

THENCE, departing the west right-of-way line of said North Bagdad Road, with the north boundary line of a called 5.627 acre tract, recorded in Document No. 2022114154 of said Official Public Records, same being the south boundary line of said 116.114 acre tract the following fourteen (14) courses and distances:

1. S 65°06'19" W, a distance of 16.46 feet to a to a ⅝" iron rod found for an angle point hereof,
2. S 02°20'52" E, a distance of 237.81 feet to a ½" iron rod found for an angle point hereof,
3. S 63°58'19" W, a distance of 393.85 feet to a ½" iron rod found for an angle point hereof,
4. S 07°28'31" W, a distance of 410.39 feet to an iron rod marked "CUPLIN" found for an angle point hereof,
5. N 89°14'12" W, a distance of 222.14 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
6. N 86°04'47" W, a distance of 14.37 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
7. N 83°38'28" W, a distance of 13.97 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
8. N 81°54'13" W, a distance of 14.13 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
9. N 78°52'33" W, a distance of 14.41 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
10. N 73°02'21" W, a distance of 14.04 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
11. N 69°32'04" W, a distance of 14.21 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
12. N 64°43'18" W, a distance of 13.83 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
13. N 59°55'16" W, a distance of 13.73 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
14. N 59°16'26" W, a distance of 13.82 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,

THENCE S 00°27'18" W, continuing with the north boundary line of said 5.627 acre tract, in part with the north boundary line of a called 8.00 acre tract, recorded in Document No. 2020038344 of said Official Public Records, a distance of 134.62 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for a point in a northwest corner of said 8.00 acre tract, same being the north corner of a called 11.81 acre tract, recorded in Document No. 2002063301 of said Official Public Records for an angle point hereof;

THENCE S 46°53'16" W, departing the west boundary line of said 8.00 acre tract, with the north boundary line of said 11.81 acre tract, same being the south boundary line of said 116.114 acre tract, a distance of 179.57 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for a point in a west corner of said 11.81 acre tract, same being a northeast corner of a called 20.3 acre tract, recorded in Document No. 2002063301 of said Official Public Records for an angle point hereof;

THENCE, departing the west boundary line of said 11.81 acre tract, with the north boundary line of said 20.3 acre tract, same being the south boundary line of said 116.114 acre tract, the following two (2) courses and distances:

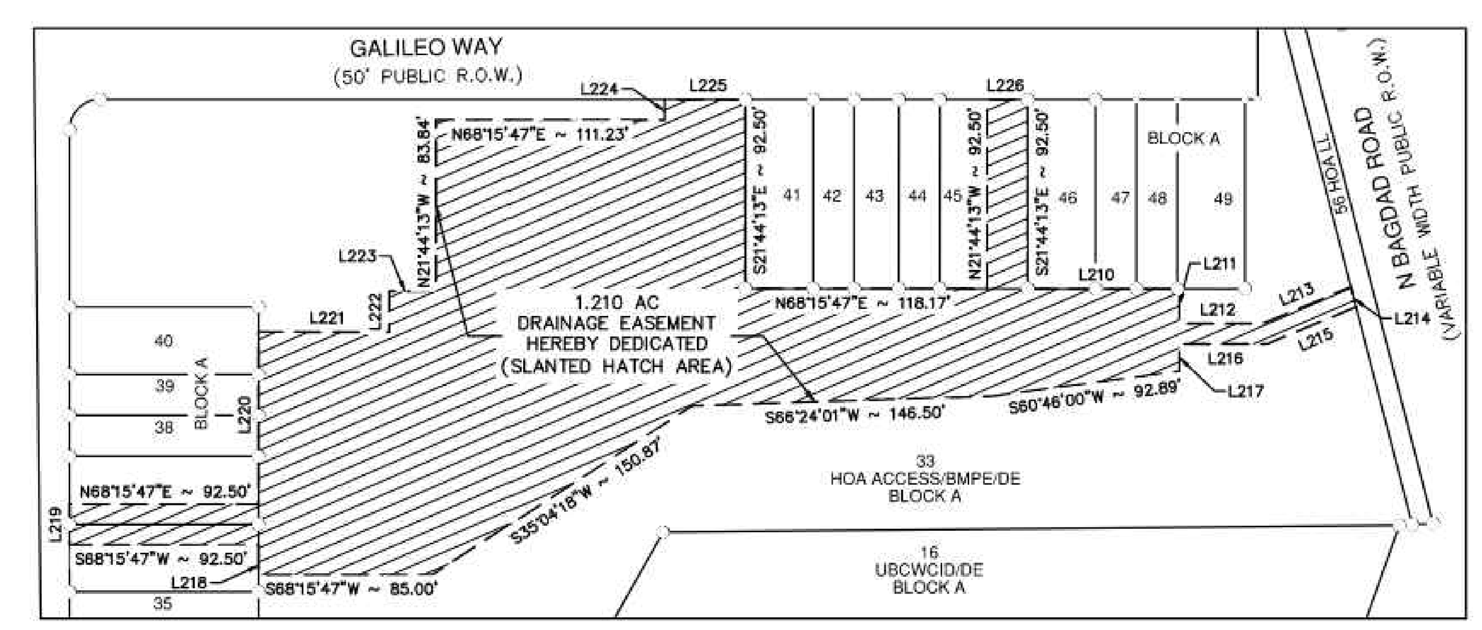
1. N 62°38'33" W, a distance of 230.46 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
2. N 82°41'55" W, a distance of 279.83 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for a point in a northwest corner of said 20.3 acre tract, same being a southeast corner of Hawkes Landing North, Phase Two, a subdivision according to the plat recorded in Document No. ___________ for an angle point hereof;

THENCE N 62°41'57" W, departing the west boundary line of said 20.3 acre tract, with the north line of said Hawkes Landing North, Phase Two, same being the south boundary line of said 116.114 acre tract, a distance of 414.43 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for a point in a northeast corner of said Hawkes Landing North, Phase Two, same being a southeast corner of a Remnant Portion of a called 247.90 acre tract recorded in Document No. 2021093503, as corrected in Document No. 2021107273, both of said Official Public Records for an angle point hereof;

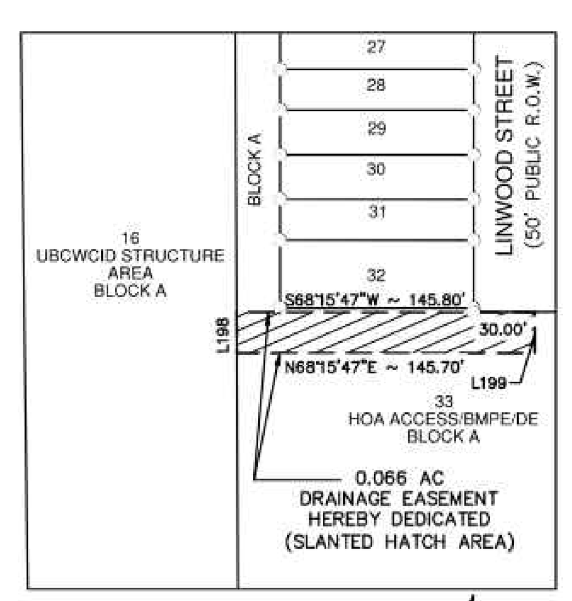
THENCE, departing the north boundary line of said Hawkes Landing North, Phase Two, with the east boundary line of the Remnant Portion of said 247.90 acre tract, same being the west boundary line of said 116.114 acre tract, the following four (4) courses and distances:

1. N 18°48'41" E, a distance of 53.03 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
2. N 18°35'08" W, a distance of 140.62 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
3. N 32°15'46" W, a distance of 149.15 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for an angle point hereof,
4. N 20°54'52" W, a distance of 522.86 feet to a ½" iron rod with yellow cap marked "Pape-Dawson" set for a point in the south boundary line of a called 82.30 acre tract, recorded in Document No. 2020116350 of said Official Public Records, same being the northeast corner of the Remnant Portion of said 247.90 acre tract, also being the northwest corner of said 116.114 acre tract for the northwest corner hereof,

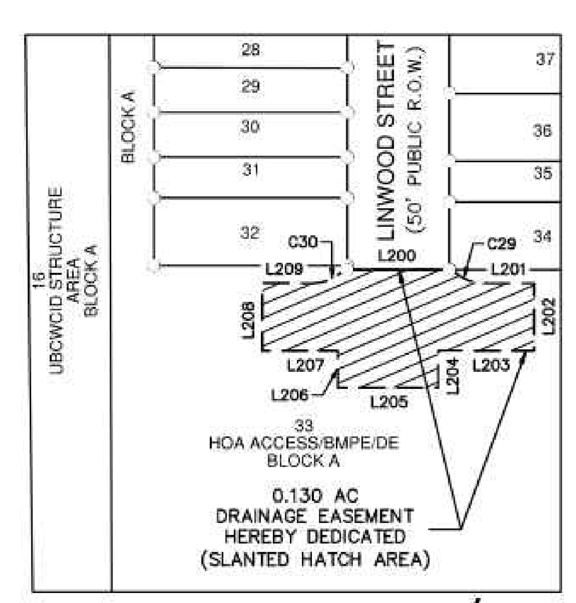
THENCE N 68°15'17" E, departing the east boundary line of the Remnant Portion of said 247.90 acre tract, with the south boundary line of said 82.30 ace tract, in part being with the south boundary line of said Devine Lake, Phase 1, same being the north boundary line of said 116.114 acre tract, a distance of 1681.50 feet to the POINT OF BEGINNING, and containing 49.941 acres in Williamson County, Texas. Said tract being described in accordance with a survey made on the ground and a survey map prepared by Pape-Dawson Engineers, Inc., under Job No. 51167-02.



DETAIL "E"
SCALE: 1" = 100'



DETAIL "C"
SCALE: 1" = 100'



DETAIL "D"
SCALE: 1" = 100'

FOR REVIEW ONLY, NOT FOR FINAL RECORDATION

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

SHEET 5 OF 6

Civil Job No. 51167-02; Survey Job No. 51167-02

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
FINAL PLAT 5 OF 6

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 8 OF 72

FINAL PLAT
OF
HAWKES LANDING NORTH PHASE 1

A 49.941 ACRE TRACT OF LAND SITUATED IN THE CHARLES COCHRAN SURVEY, ABSTRACT NO. 134, BEING OUT OF A CALLED 116.114 ACRE TRACT OF LAND CONVEYED IN SPECIAL WARRANTY DEED TO GEHAN HOMES, LTD., RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS.

STATE OF TEXAS
KNOW ALL BY THESE PRESENTS
COUNTY OF WILLIAMSON

THAT GEHAN HOMES, LTD., A TEXAS CORPORATION, AS THE OWNER OF THAT CERTAIN 49.941 ACRE TRACT BEING A PORTION OF A CALLED 116.114 ACRE TRACT OF LAND SHOWN HEREON AND DESCRIBED IN A SPECIAL WARRANTY DEED RECORDED IN DOCUMENT NO. 2021110699 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, DOES HEREBY CERTIFY THAT THEIR ARE NO LIEN HOLDERS, AND DEDICATES 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:

HAWKES LANDING NORTH PHASE 1

GEHAN HOMES, LTD.

BY: ____________________
CHRIS LYNCH
VICE-PRESIDENT OF LAND OPERATIONS
GEHAN HOMES, LTD.
STATE OF TEXAS
COUNTY OF WILLIAMSON

STATE OF TEXAS
COUNTY OF WILLIAMSON

BEFORE ME, THE UNDERSIGNED AUTHORITY, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS THE ________ DAY OF ______________, 2021, PERSONALLY APPEARED CHRIS LYNCH AS VICE-PRESIDENT OF LAND OPERATIONS, ON BEHALF OF SAID GEHAN HOMES, LTD., 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 PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE ON THIS THE _________ DAY OF _________ ________________, 2021, A.D.

____
NOTARY PUBLIC, STATE OF TEXAS

____
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS
MY COMMISSION EXPIRES: ____________________

APPROVED THIS THE _____ DAY OF ________, 20___ A.D. AT A PUBLIC MEETING OF THE PLANNING AND ZONING COMMISSION OF THE CITY OF LEANDER, TEXAS AND AUTHORIZED TO BE FILED FOR RECORD BY THE COUNTY CLERK OF WILLIAMSON COUNTY.

____
RON MAY, CHAIRMAN
PLANNING AND ZONING COMMISSION
CITY OF LEANDER, TEXAS

ATTEST: ______________________
ELLEN COUFAL, SECRETARY
PLANNING AND ZONING COMMISSION
CITY OF LEANDER, TEXAS

ENGINEER'S CERTIFICATION:

THAT I, MICHAEL S. FISHER, 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.

______________________ ______________
MICHAEL S. FISHER, P.E. No. 87704 DATE
ENGINEERING BY:
PAPE-DAWSON ENGINEERS, INC.
10801 N MOPAC EXPY., BLDG. 3, SUITE 200
AUSTIN, TEXAS 78759
(512) 454-8711
TBPE FIRM REGISTRATION NO. 470

SURVEYOR'S CERTIFICATION:

THAT I, PARKER J. GRAHAM, 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 COMMITMENT PROVIDED BY NATIONAL INVESTORS TITLE INSURANCE COMPANY, GF NO. 2020-22650-04 ISSUED JULY 9, 2021 HAVE BEEN SHOWN OR NOTED HERON.

______________________ ______________
PARKER J. GRAHAM, R.P.L.S. 5556 DATE
SURVEYING BY:
PAPE-DAWSON ENGINEERS, INC.
10801 N MOPAC EXPY., BLDG. 3, SUITE 200
AUSTIN, TEXAS 78759
(512) 454-8711
TBPLS FIRM REGISTRATION NO. 10028801

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

THAT 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 ON THE ______ DAY OF _____ __________________, 20_____,A.D., AT _____O'CLOCK, _____M, IN THE OFFICIAL PUBLIC RECORDS OF SAID COUNTY IN DOCUMENT NO.__________________________. WITNESS MY HAND AND SEAL OF THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

NANCY RISTER, CLERK, COUNTY COURT WILLIAMSON COUNTY, TEXAS

BY: ______________________________
DEPUTY

PLAT NOTES

1. THIS SUBDIVISION IS WHOLLY CONTAINED WITHIN THE CURRENT CORPORATE 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 FOR ACCESS TO DRAINAGE EASEMENTS 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 PUBLIC UTILITY EASEMENT IS DEDICATED ALONG ALL SIDE LOT LINES.
8. THE HOA WILL MAINTAIN THE FOLLOWING LOTS: LOT 1, BLOCK A, LOT 37 BLOCK A, LOT 66, BLOCK A, LOT 5, BLOCK B, LOT 25, BLOCK B, LOT 5, BLOCK C, LOT 6, BLOCK D.
9. BUILDING SETBACKS NOT SHOWN HEREON SHALL COMPLY WITH THE MOST CURRENT ZONING ORDINANCE OF THE CITY OF LEANDER. ADDITIONAL RESIDENTIAL GARAGE SETBACKS MAY BE REQUIRED AS LISTED IN THE CURRENT ZONING ORDINANCE.
10. 5' SIDEWALKS SHALL BE INSTALLED ON BOTH SIDES OF ALL LOCAL STREETS IN THE SUBDIVISION AND ON THE SUBDIVISION SIDE OF BOUNDARY STREETS. 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 PLAT CONFORMS TO THE PRELIMINARY PLAT APPROVED BY THE PLANNING & ZONING COMMISSION ON ___________, 2021.
13. APPROVAL OF THIS FINAL PLAT DOES NOT CONSTITUTE THE APPROVAL OF VARIANCES OR WAIVERS TO ORDINANCE REQUIREMENTS.
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 THE ADJACENT PROPERTIES.
15. AT THE TIME OF SITE DEVELOPMENT PERMIT, THE APPLICANT WILL PROVIDE A PAYMENT TO THE CITY IN LIEU OF A TRAFFIC IMPACT ANALYSIS (TIA), UNLESS A TIA FOR THE ENTIRE DEVELOPMENT INDICATES THAT AVERAGE DAILY TRIPS ARE ESTIMATED BELOW 2,000.
16. A PORTION OF THIS TRACT IS WITHIN A FLOOD HAZARD AREA AS SHOWN IN THE FLOOD INSURANCE RATE MAP PANEL NUMBER 48491C0435F FOR WILLIAMSON COUNTY, EFFECTIVE DECEMBER 20, 2019.
17. THE HOA BYLAWS ARE RECORDED IN THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS UNDER DOCUMENT NUMBER 2014080892.
18. THE HOMEOWNERS ASSOCIATION IS REQUIRED TO MOW AND MAINTAIN LANDSCAPING IN THE OPEN CHANNELS, DETENTION AND WATER QUALITY AREAS.
19. THE HOA SHALL OWN, OPERATE, AND MAINTAIN THE WATER QUALITY POND AND ALL OTHER DRAINAGE IMPROVEMENTS WITHIN THE POND. THE HOA SHALL BE FINANCIALLY RESPONSIBLE FOR ANY COST INCURRED BY THE CITY IN THE EVENT THE POND IS NOT PROPERLY MAINTAINED.
20. A PORTION OF THIS PROPERTY IS WITHIN THE UBC WCID SITE #1 RESERVOIR INUNDATION EASEMENT PER VOLUME 435, PAGE 293 (DOC. NO. 19608395DR) OF THE DEED RECORDS OF WILLIAMSON COUNTY, TEXAS AS DEFINED BY ELEVATION 1027.90 FEET ABOVE MAIN SEA LEVEL.

FOR REVIEW ONLY, NOT FOR FINAL RECORDATION

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

SHEET 6 OF 6

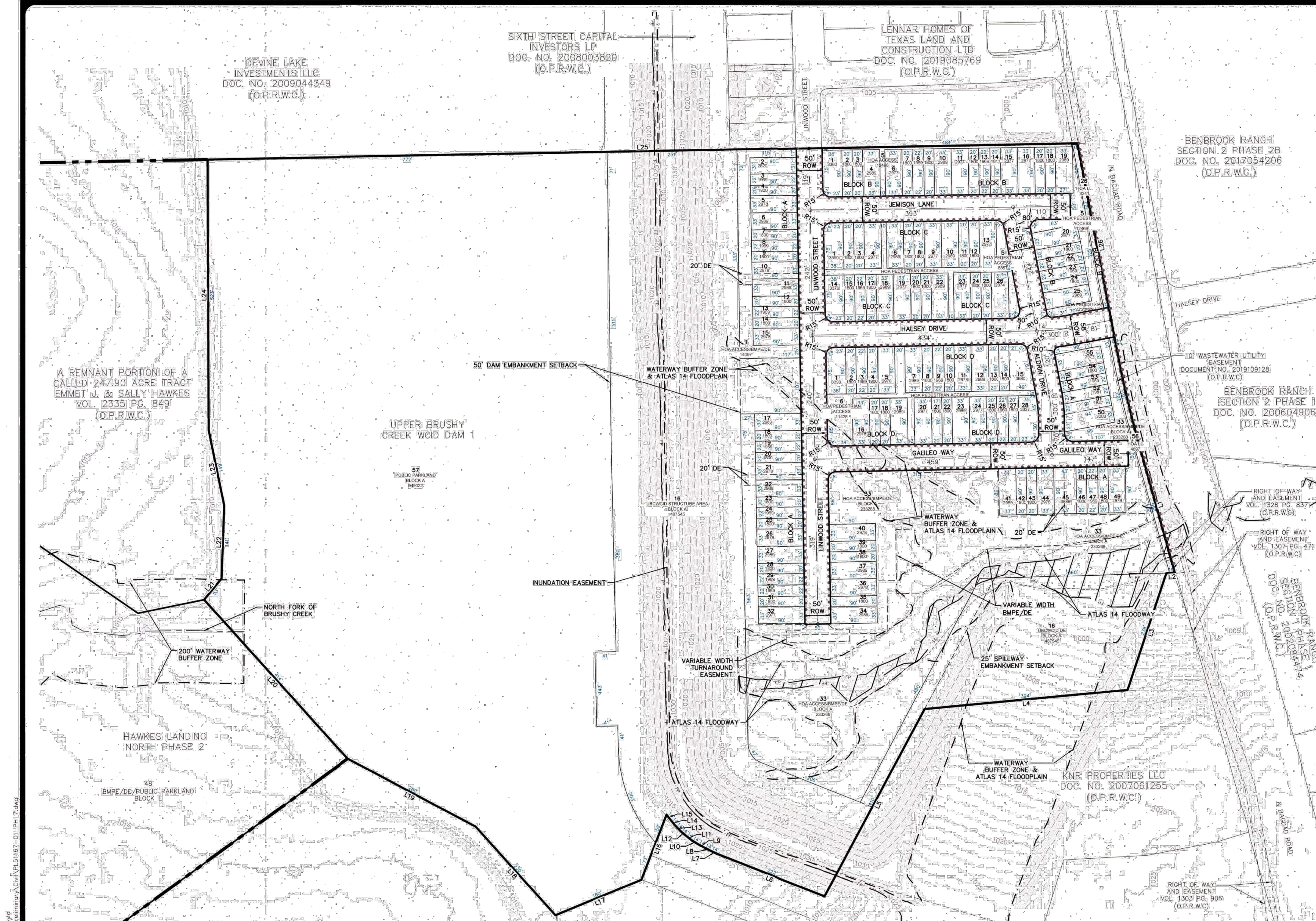
HAWKES LANDING NORTH PHASE 1

Civil Job No. 51167-02; Survey Job No. 51167-02

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
FINAL PLAT 6 OF 6

CITY OF LEANDER APPROVAL

CITY JOB No.	23-PICP-XXX
JOB NO.	51167-02
DATE	APRIL 2023
DESIGNER	ASB/BA
CHECKED	AC
DRAWN	MN
SHEET	9 OF 72



SCALE: 1"= 100'

0' 100' 200' 300'

LEGEND

- TRACT BOUNDARY
- PLAT BOUNDARY
- SIDEWALKS
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

BMPE = BEST MANAGEMENT PRACTICE EASEMENT
DE = DRAINAGE EASEMENT
DP = DETENTION POND
HOA = HOME OWNERS ASSOCIATION
LL = LANDSCAPE LOT
RWE = RECLAIMED WATER EASEMENT
UBCWCID = UPPER BRUSHY CREEK WATER CONTROL AND IMPROVEMENT DISTRICT
WQP = WATER QUALITY POND
WTRE = WATER EASEMENT
WWE = WASTEWATER EASEMENT

NOTES:

1. ALL EASEMENTS OF RECORD ARE SHOWN OR NOTED ON THE PLAT AS FOUND ON THE TITLE POLICY OR DISCOVERED WITH A TITLE SEARCH PREPARED FOR THE MOST RECENT PURCHASE OF PROPERTY.

SIDEWALK NOTES:

LOCAL STREETS – 5' SIDEWALK
N BAGDAD ROAD – 6' SIDEWALK

CURVE TABLE					
CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C1	2070.46'	005°00'29"	S33°42'12"E	180.91'	180.97'

LINE TABLE		
LINE #	LENGTH	BEARING
L1	266.40'	S36°12'27"E
L2	16.46'	S65°06'19"W
L3	237.81'	S02°20'52"E
L4	393.85'	S63°58'19"W
L5	410.39'	S07°28'31"W
L6	222.14'	N89°14'12"W
L7	14.37'	N86°04'47"W
L8	13.97'	N83°38'28"W
L9	14.13'	N81°54'13"W
L10	14.41'	N78°52'33"W
L11	14.04'	N73°02'21"W
L12	14.21'	N69°32'04"W
L13	13.83'	N64°43'18"W
L14	13.73'	N59°55'16"W
L15	13.82'	N59°16'26"W
L16	134.62'	S00°27'18"W
L17	179.57'	S46°53'16"W
L18	230.46'	N62°38'33"W
L19	279.83'	N82°41'55"W
L20	414.43'	N62°41'57"W
L21	53.03'	N18°48'41"E
L22	140.62'	N18°35'08"W
L23	149.15'	N32°15'46"W
L24	522.86'	N20°54'52"W
L25	1681.50'	N68°15'17"E
L26	404.13'	S31°28'48"E

PERIMETER BLOCK LENGTHS	
BLOCK DESIGNATION	LENGTH
BLOCK A	±5,875
BLOCK B	2,022
BLOCK C	1,083
BLOCK D	1,154

NOTE: ADMINISTRATIVE EXCEPTION WILL BE SUBMITTED FOR BLOCK A PER CHAPTER 10, ARTICLE III, SECTION 45(A)(7)

STREET INFORMATION			
STREET NAME	LENGTH	ROW WIDTH	ROAD WIDTH
HALSEY DRIVE	579	VARIABLE	VARIABLE
LINWOOD STREET	920	50	28' F-F
JEMISON LANE	503	50	28' F-F
GALIELO WAY	605	50	28' F-F
ALDRIN DRIVE	486	50	28' F-F

STATE OF TEXAS
MICHAEL S. FISHER
87704

PAPE-DAWSON ENGINEERS

AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
PRELIMINARY PLAT

CITY JOB No. XX-PP-XXX
JOB NO. 51167-01
DATE JULY 2022
DESIGNER
CHECKED DRAWN
SHEET 3 OF 12

21-PP-007

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
PRELIMINARY PLAT

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 10 OF 72

CITY OF LEANDER APPROVAL

NO. REVISION DATE

Date: Apr 11, 2023, 4:12pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\PH51167-02.dwg

Date: Jan 06, 2023, 4:12pm User ID: jprybyla
File: H:\Projects\511\67\01\212 Phase 1 Preliminary\Civil\PL51167-01_PH1.dwg

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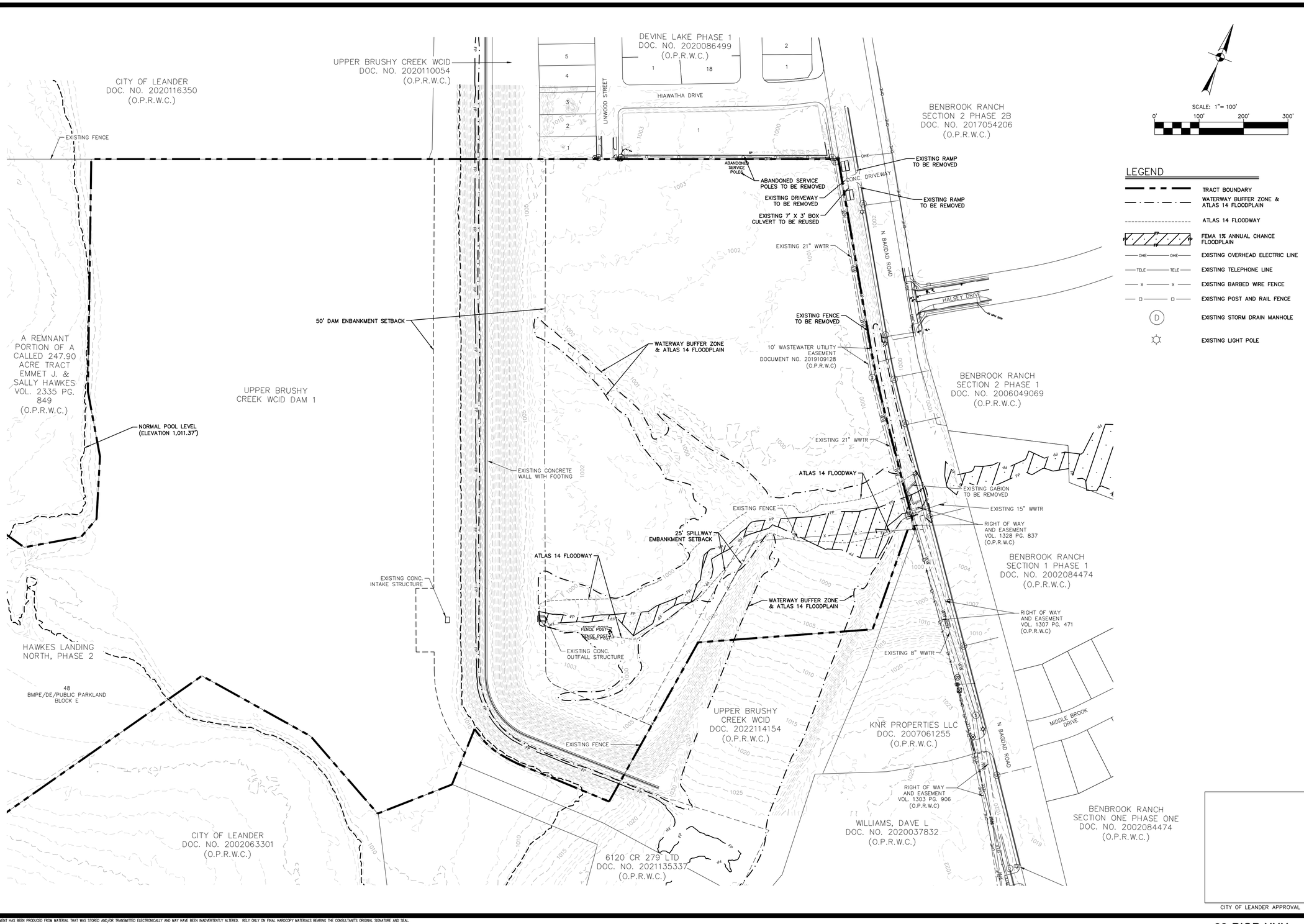
23-PICP-XXX



NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
EXISTING CONDITIONS AND DEMOLITION PLAN

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 11 OF 72

CITY OF LEANDER APPROVAL

23-PICP-XXX

Date: Apr 11, 2023, 4:13pm User ID: ACHAVEZ
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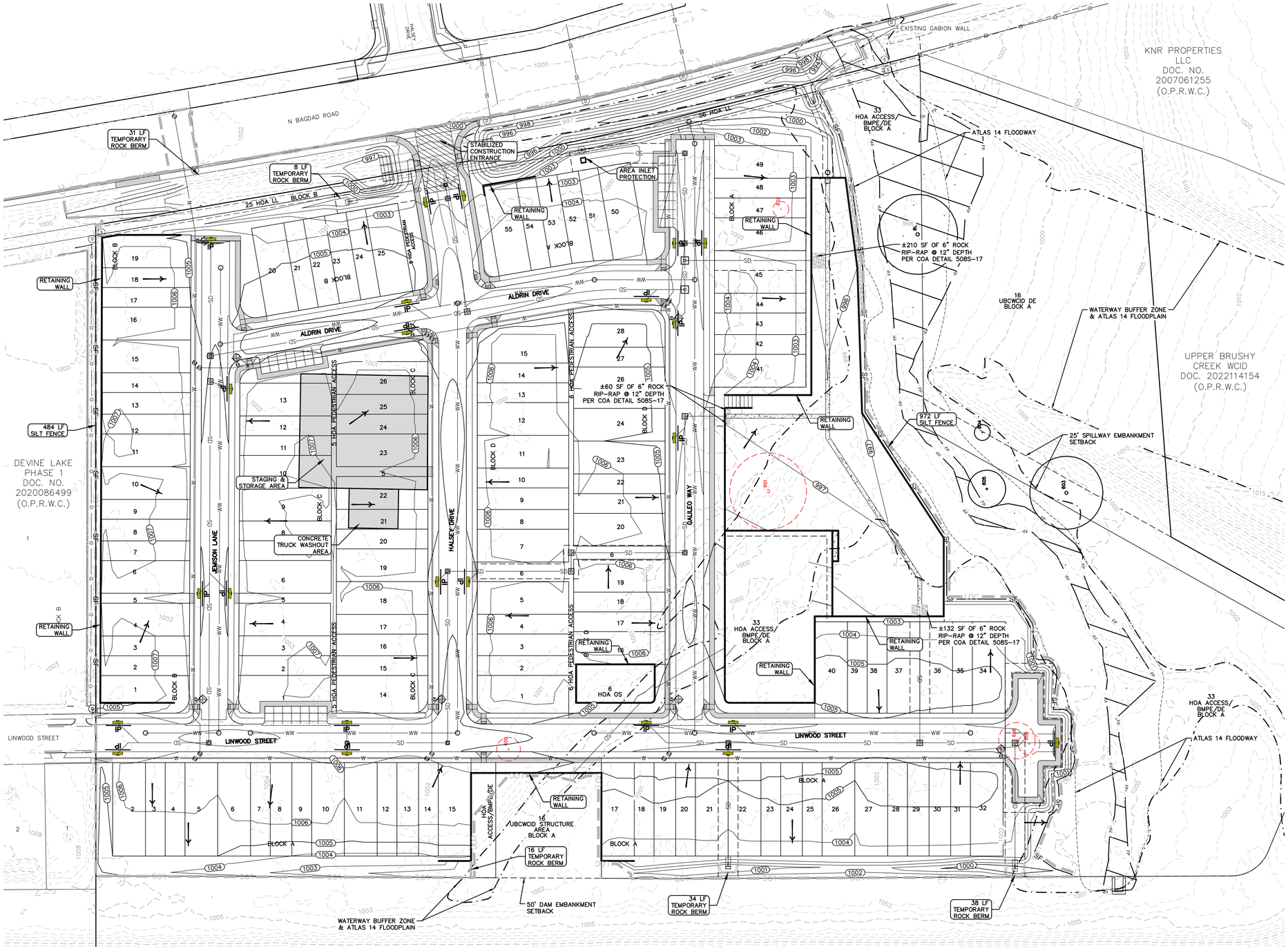

SCALE: 1" = 50'

0' 50' 100' 150'

LEGEND

- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- MB — MB — MULCH BERM
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK RIP-RAP
- ROCK BERM
- EROSION CONTROL MATTING (LANDLOK TRM 435)
- FP — FEMA 1% ANNUAL CHANCE FLOODPLAIN
- IP — INLET PROTECTION
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- FLOW ARROW
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTES

1. THE CITY OF LEANDER ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE SITE THROUGHOUT THE DURATION OF THE PROJECT.

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH

PHASE 1

CITY OF LEANDER, TEXAS

EROSION & SEDIMENTATION CONTROL PLAN

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 12 OF 72

23-PICP-XXX

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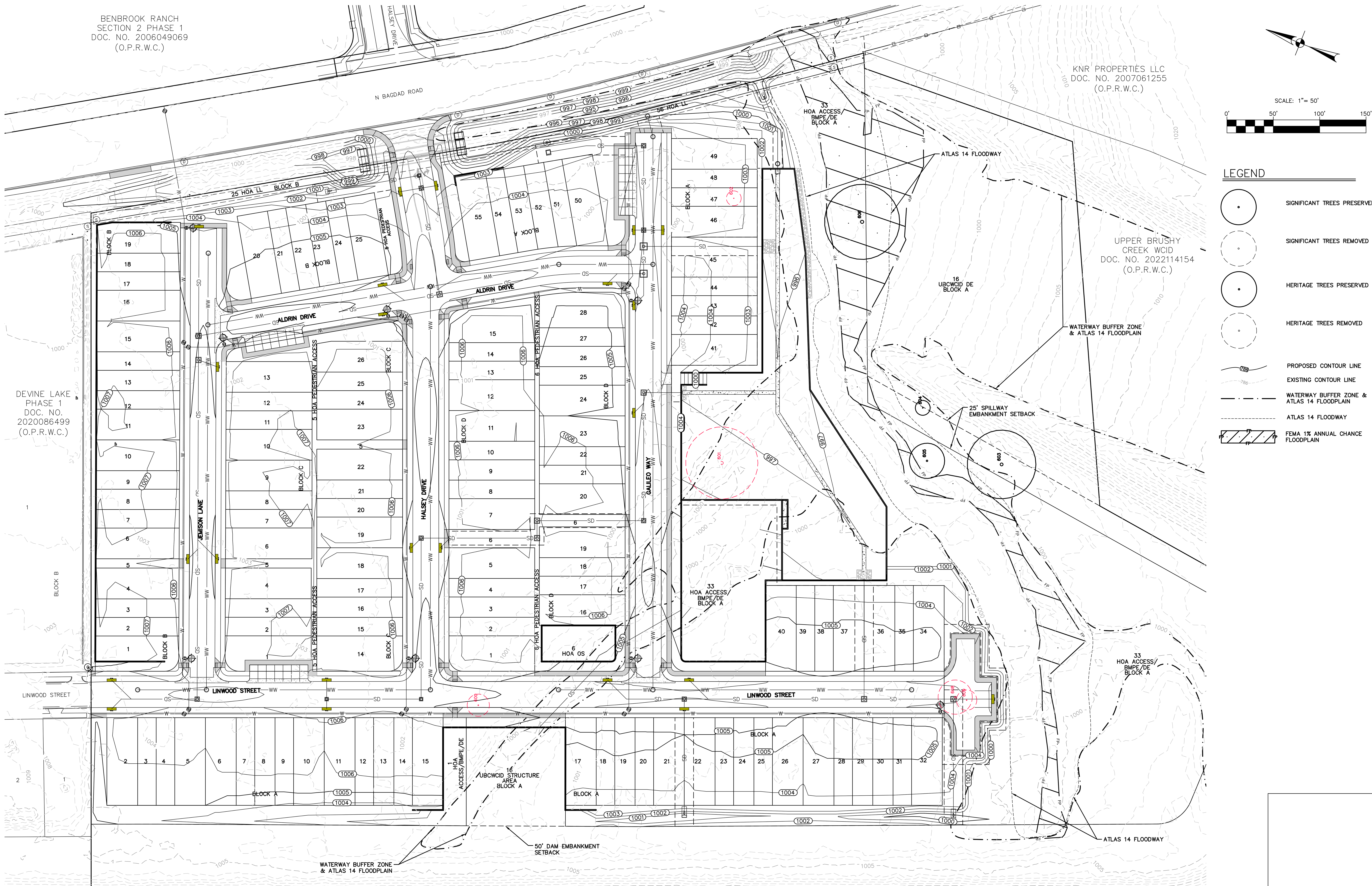

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS

TREE PRESERVATION PLAN

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 13 OF 72

Date: Apr 11, 2023, 4:13pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\TR51167-02.dwg

23-PICP-XXX

TREE NUMBER	TREE TYPE	CALIPER INCH	REMOVED	PROTECTED	8-18"	18.5"-26"	HERITAGE	REASON FOR REMOVAL	LOCATION
437	LOAK	39.5		39.5			Y		PHASE 2
438	LOAK	8		8	Y				PHASE 2
439	LOAK	14		14	Y				PHASE 2
440	LOAK	11.5		11.5	Y				PHASE 2
441	LOAK	13		13	Y				PHASE 2
442	LOAK	13		13	Y				PHASE 2
443	LOAK	16.5	16.5		Y			GRADING CONFLICT	PHASE 2
444	LOAK	18.5	18.5			Y		GRADING CONFLICT	PHASE 2
445	LOAK	10	10		Y			GRADING CONFLICT	PHASE 2
446	LOAK	8.5		8.5	Y				PHASE 2
447	LOAK	11	11		Y			LAYOUT CONFLICT	PHASE 2
448	LOAK	28.5	28.5				Y		PHASE 2
449	LOAK	24.5	24.5			Y			PHASE 2
450	LOAK	8		8	Y				PHASE 2
451	LOAK	11		11	Y				PHASE 2
452	LOAK	15	15		Y			HOUSEPAD	PHASE 2
453	LOAK	14	14		Y			LAYOUT CONFLICT	PHASE 2
454	LOAK	20.5	20.5			Y		HOUSEPAD	PHASE 2
455	LOAK	14	14		Y			LAYOUT CONFLICT	PHASE 2
456	LOAK	9	9		Y			LAYOUT CONFLICT	PHASE 2
457	LOAK	11.5	11.5		Y			LAYOUT CONFLICT	PHASE 2
458	LOAK	12.5	12.5		Y			LAYOUT CONFLICT	PHASE 2
459	LOAK	23	23			Y		LAYOUT CONFLICT	PHASE 2
460	LOAK	12.5		12.5	Y				PHASE 2
461	LOAK	16		16	Y				PHASE 2
462	LOAK	39	39				Y	GRADING CONFLICT	PHASE 2
463	CELM	10	10		Y			GRADING CONFLICT	PHASE 2
464	CELM	11	11		Y			GRADING CONFLICT	PHASE 2
465	CELM	12	12		Y			LAYOUT CONFLICT	PHASE 2
466	CELM	8	8		Y			LAYOUT CONFLICT	PHASE 2
468	CELM	9		9	Y				PHASE 2
469	CELM	13		13	Y				PHASE 2
470	CELM	8		8	Y				PHASE 2
471	CELM	8		8	Y				PHASE 2
472	AELM	16		16	Y				PHASE 2
473	CELM	8		8	Y				PHASE 2
474	CELM	9		9	Y				PHASE 2
475	AELM	9		9	Y				PHASE 2
476	CELM	8.5		8.5	Y				PHASE 2
477	CELM	8	8		Y			GRADING CONFLICT	PHASE 2
478	CELM	8		8	Y				PHASE 2
479	CELM	8		8	Y				PHASE 2
480	CELM	11		11	Y				PHASE 2
481	CELM	8		8	Y				PHASE 2
482	CELM	8	8		Y			GRADING CONFLICT	PHASE 2
483	CELM	8		8	Y				PHASE 2
484	CELM	8	8		Y			GRADING CONFLICT	PHASE 2
485	CELM	14		14	Y				PHASE 2
486	CELM	11.5		11.5	Y				PHASE 2
487	CELM	11		11	Y				PHASE 2
488	CELM	10		10	Y				PHASE 2
489	CELM	8		8	Y				PHASE 2
490	AELM	9		9	Y				PHASE 2
491	ASH	9		9	Y				PHASE 2
492	AELM	9		9	Y				PHASE 2
493	CELM	9		9	Y				PHASE 2
494	AELM	9		9	Y				PHASE 2
495	AELM	9		9	Y				PHASE 2
496	AELM	14		14	Y				PHASE 2
497	CELM	10		10	Y				PHASE 2
498	CELM	8		8	Y				PHASE 2
499	CELM	8		8	Y				PHASE 2
500	CELM	16.5		16.5	Y				PHASE 2
501	CELM	8		8	Y				PHASE 2
502	AELM	8		8	Y				PHASE 2
503	CELM	8		8	Y				PHASE 2
504	CELM	13		13	Y				PHASE 2
505	CELM	16.5		16.5	Y				PHASE 2
506	CELM	8		8	Y				PHASE 2
507	AELM	13		13	Y				PHASE 2
508	AELM	9		9	Y				PHASE 2
509	AELM	13		13	Y				PHASE 2
510	AELM	14		14	Y				PHASE 2
511	CELM	17		17	Y				PHASE 2
512	CELM	9		9	Y				PHASE 2
513	CELM	9		9	Y				PHASE 2
514	CELM	8		8	Y				PHASE 2
512	CELM	11		11	Y				PHASE 2
516	CELM	9		9	Y				PHASE 2
517	CELM	11		11	Y				PHASE 2
518	WILLOW	28.5		28.5			Y		PHASE 2
519	AELM	15		15	Y				PHASE 2
520	AELM	9		9	Y				PHASE 2
521	AELM	8		8	Y				PHASE 2
522	AELM	11		11	Y				PHASE 2
523	AELM	10		10	Y				PHASE 2
524	AELM	8		8	Y				PHASE 2
525	AELM	8		8	Y				PHASE 2
526	AELM	10		10	Y				PHASE 2
527	AELM	13		13	Y				PHASE 2
528	LOAK	13	13		Y			GRADING CONFLICT	PHASE 2
529	CELM	8		8	Y				PHASE 2
530	LOAK	8		8	Y				PHASE 2
531	CELM	8		8	Y				PHASE 2
532	CELM	11		11	Y				PHASE 2
533	CELM	13		13	Y				PHASE 2

	Surveyed		Removed		Mitigation			Credits			
	# of Trees	Total Inches	# of Trees	Total Inches	Percentage of Trees	eplacement Rat	uired Replacem	Inches Retained	Credit Ratio	Credit Inches	Credit 2" Trees
Trees 8"-18"	150	1,563.5	28	299.5	19%	1:1	0	1,264	1:1	482.3	241
Trees 18.5"-26"	8	163.0	5	105.0	63%	2:1	0	58			
Trees 26" +	10	311.0	4	135.5	40%	3:1	406.5	175.5			

Provided Mitigation	Required Replacement Inches	Preserved Tree Credit Inches
Preserved Trees Credit	406.5	482.3

Heritage Tree Mitigation Fees	Total Inches Removed	Cost per Caliper Inch	Total Mitigation Fee
Heritage Trees	135.5	$ 300.00	$ 40,650.00

Phase	Removed						Retained					
	Trees 8"-18"		Trees 18.5"-26"		Trees 26"+		Trees 8"-18"		Trees 18.5"-26"		Trees 26"+	
	# of Trees	Total Inches	# of Trees	Total Inches	# of Trees	Total Inches	# of Trees	Total Inches	# of Trees	Total Inches	# of Trees	Total Inches
1	3	31	1	18.5	1	39	1	8	1	19	3	77.5
2	25	268.5	4	86.5	3	96.5	121	1256	3	39	4	98

NOTES:

1. MITIGATION PROVIDED WITH EXISTING TREES WITH HAWKES LANDING NORTH, PHASE 2.
2. HERITAGE TREE MITIGATION TO BE PROVIDED WITH HAWKES LANDING NORTH, PHASE 2 AND HAWKES LANDING NORTH, PHASE 1.

TREE NUMBER	TREE TYPE	CALIPER INCH	REMOVED	PROTECTED	8-18"	18.5"-26"	HERITAGE	REASON FOR REMOVAL	LOCATION
534	CELM	8		8	Y				PHASE 2
535	CELM	11		11	Y				PHASE 2
536	CELM	8		8	Y				PHASE 2
537	LOAK	10	10		Y			GRADING CONFLICT	PHASE 2
538	LOAK	8	8		Y			GRADING CONFLICT	PHASE 2
539	LOAK	11	11		Y			GRADING CONFLICT	PHASE 2
540	LOAK	11	11		Y			GRADING CONFLICT	PHASE 2
541	CELM	11		11	Y			LAYOUT CONFLICT	PHASE 2
542	CELM	13		13	Y			LAYOUT CONFLICT	PHASE 2
543	CELM	8		8	Y			LAYOUT CONFLICT	PHASE 2
544	CELM	8		8	Y				PHASE 2
545	CELM	9		9	Y				PHASE 2
546	CELM	9		9	Y				PHASE 2
547	CELM	9		9	Y				PHASE 2
548	CELM	10		10	Y				PHASE 2
549	CELM	8		8	Y				PHASE 2
550	CELM	13		13	Y				PHASE 2
551	CELM	13		13	Y				PHASE 2
552	CELM	13		13	Y				PHASE 2
553	CELM	11		11	Y				PHASE 2
554	CELM	8		8	Y				PHASE 2
555	CELM	8		8	Y				PHASE 2
556	CELM	8		8	Y				PHASE 2
557	CELM	8		8	Y				PHASE 2
558	CELM	8		8	Y				PHASE 2
559	CELM	9		9	Y				PHASE 2
560	CELM	19		19		Y			PHASE 2
561	CELM	9		9	Y				PHASE 2
562	CELM	12		12	Y				PHASE 2
565	CELM	13		13	Y				PHASE 2
566	CELM	11		11	Y				PHASE 2
567	CELM	10		10	Y				PHASE 2
568	CELM	16		16	Y				PHASE 2
569	CELM	11		11	Y				PHASE 2
570	CELM	9		9	Y				PHASE 2
571	CELM	12		12	Y				PHASE 2
572	CELM	11		11	Y				PHASE 2
573	CELM	20		20		Y			PHASE 2
574	CELM	10		10	Y				PHASE 2
575	CELM	9		9	Y				PHASE 2
576	PECAN	9		9	Y				PHASE 2
577	CELM	9		9	Y				PHASE 2
578	CELM	8		8	Y				PHASE 2
579	CELM	13		13	Y				PHASE 2
580	CELM	10		10	Y				PHASE 2
581	CELM	10		10	Y				PHASE 2
582	CELM	17.5		17.5	Y				PHASE 2
583	CELM	11		11	Y				PHASE 2
584	CELM	9		9	Y				PHASE 2
585	CELM	9		9	Y				PHASE 2
586	CELM	12		12	Y				PHASE 2
587	CELM	15		15	Y				PHASE 2
588	CELM	9		9	Y				PHASE 2
589	CELM	14		14	Y				PHASE 2
590	CELM	8		8	Y				PHASE 2
591	WILLOW	30		30			Y		PHASE 2
592	CELM	12		12	Y				PHASE 2
593	LOAK	10	10		Y			LAYOUT CONFLICT	PHASE 2
594	CELM	8	8		Y			LAYOUT CONFLICT	PHASE 2
595	LOAK	8	8		Y			GRADING CONFLICT	PHASE 2
596	LOAK	11	11		Y			GRADING CONFLICT	PHASE 2
599	MESQ	29	29				Y	LAYOUT CONFLICT	PHASE 2
600	CELM	12	12		Y			LAYOUT CONFLICT	PHASE 1
601	WL	39	39				Y	LAYOUT CONFLICT	PHASE 1
602	PCN	8	8		Y			LAYOUT CONFLICT	PHASE 1
603	AELM	37		37			Y		PHASE 1
604	CELM	8		8	Y				PHASE 1
605	CELM	19		19		Y			PHASE 1
606	WL	40.5		40.5			Y		PHASE 1
608	LOAK	18.5	18.5			Y		LAYOUT CONFLICT	PHASE 1
609	LOAK	11	11		Y				PHASE 1

		PERCENTAGE OF TOTAL
TOTAL HERITAGE TREE INCHES REMOVED	135.5	43.57%
TOTAL HERITAGE TREE INCHES PRESERVED	175.5	56.43%
TOTAL HERITAGE TREE INCHES	311.0	100.00%
TOTAL NUMBER OF HERITAGE TREES REMOVED	4.0	40.00%
TOTAL NUMBER OF HERITAGE TREES PRESERVED	6.0	60.00%
TOTAL NUMBER OF HERITAGE TREES	10.0	100.00%
TOTAL SIGNIFICANT TREE INCHES REMOVED	404.5	23.43%
TOTAL SIGNIFICANT TREE INCHES PRESERVED	1,322.0	76.57%
TOTAL SIGNIFICANT TREE INCHES	1,726.5	100.00%

CITY OF LEANDER APPROVAL

NO. REVISION DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
TREE PRESERVATION PLAN TREE LIST

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 14 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:40pm User ID: ADHAVEZ
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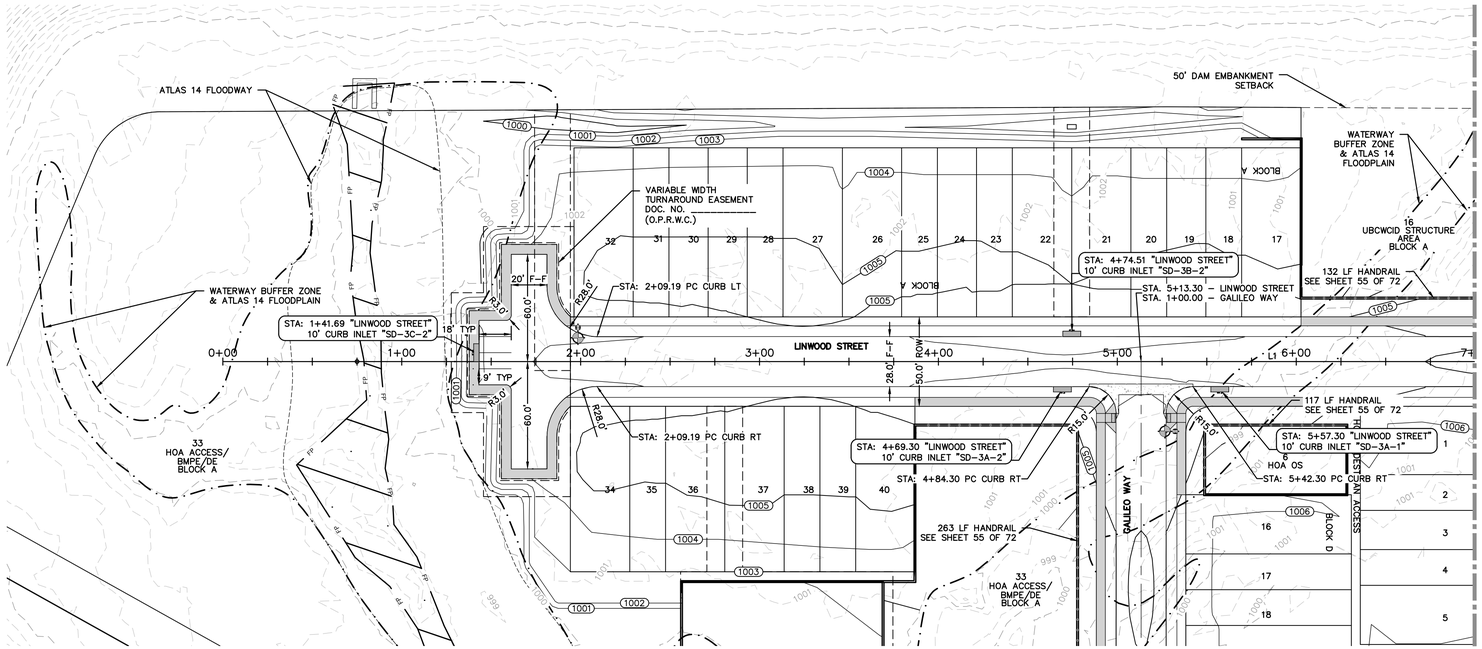
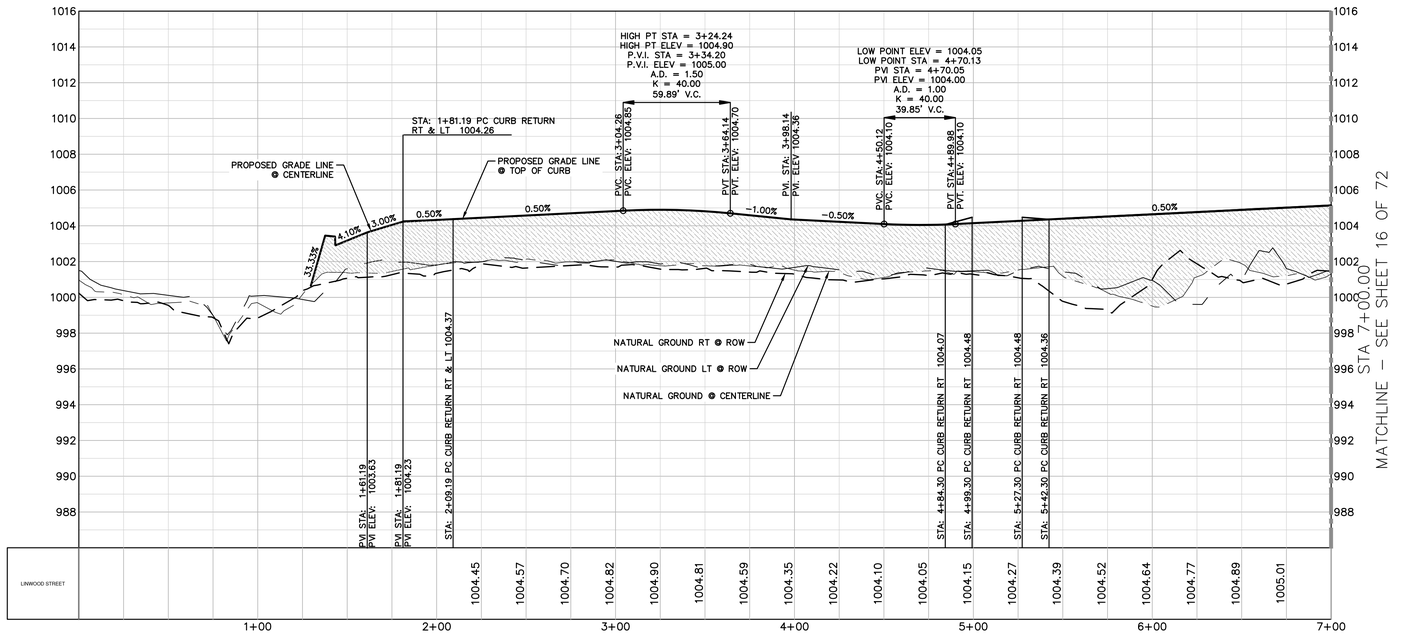


LINWOOD STREET



SCALE: 1" = 40'

0' 40' 80' 120'

LEGEND

- CENTER LINE
- CURB INLET
- CONCRETE VALLEY GUTTER
- PROPOSED CURB RAMP
- PROPOSED SIDEWALK IN THIS CONTRACT
- STREET END BARRICADE
- FIRE HYDRANT
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

- NATURAL GROUND RT @ ROW
- NATURAL GROUND LT @ ROW
- NATURAL GROUND @ CENTER LINE
- PROPOSED GRADE LINE @ TOP OF CURB (TC)

LINE TABLE		
LINE #	LENGTH	BEARING
L1	970.95'	N21°44'13"W

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

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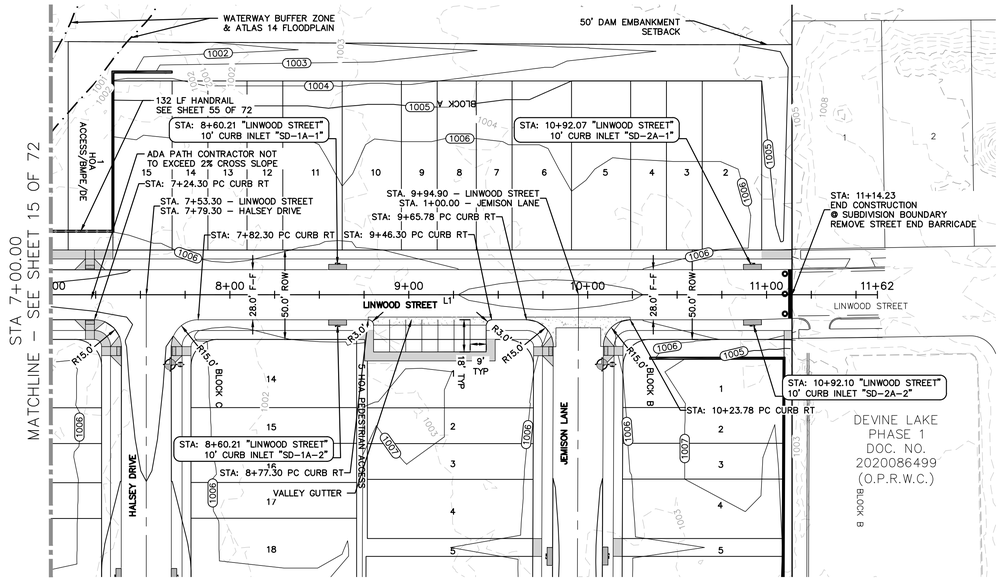
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

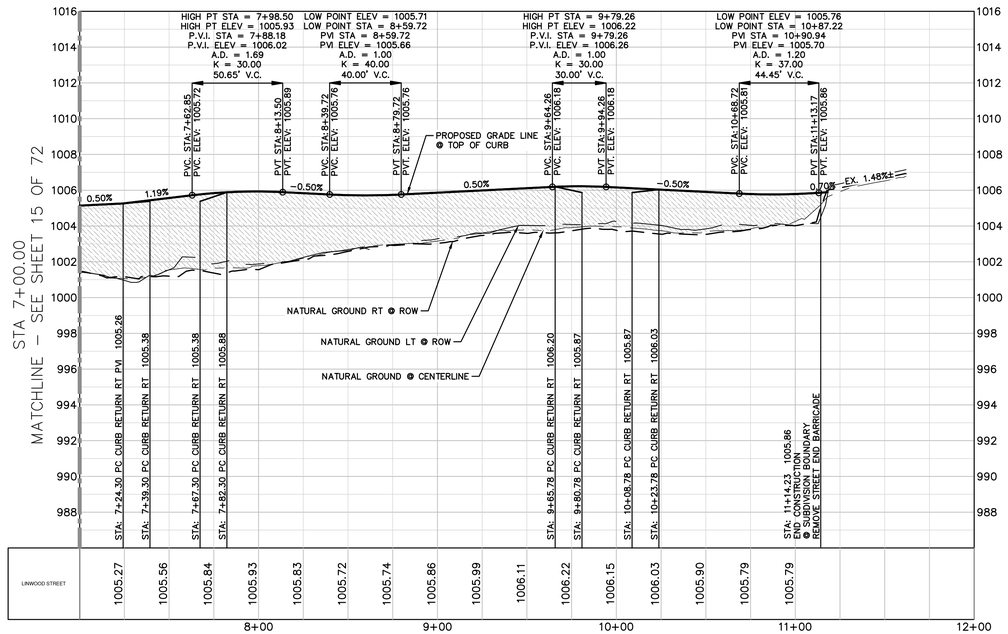
HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
LINWOOD STREET 1 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 15 OF 72

23-PICP-XXX



LINWOOD STREET



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1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

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- NATURAL GROUND LT @ ROW
- NATURAL GROUND @ CENTER LINE
- PROPOSED GRADE LINE @ TOP OF CURB (TC)

LINE TABLE		
LINE #	LENGTH	BEARING
L1	970.95'	N21°44'13"W

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
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87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

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TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
LINWOOD STREET 2 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 16 OF 72

Date: Apr 11, 2023, 4:15pm User ID: ACHAVEZ
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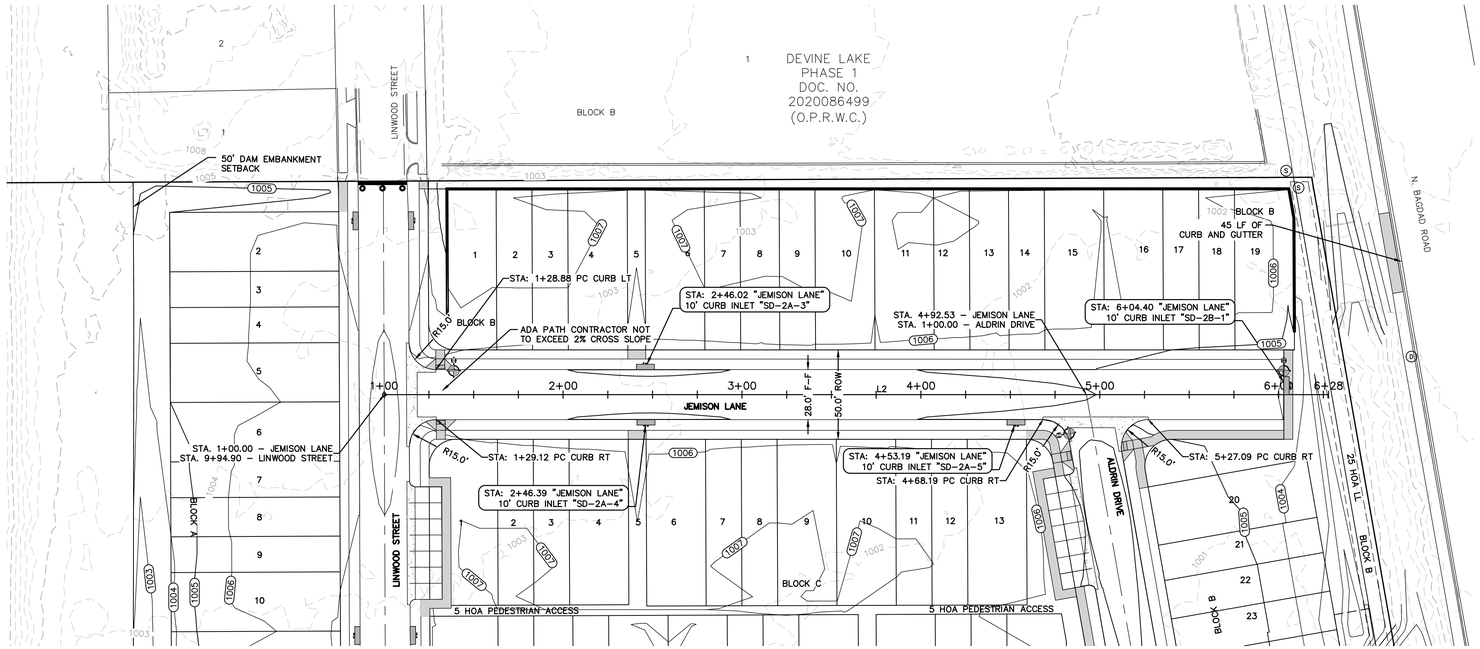
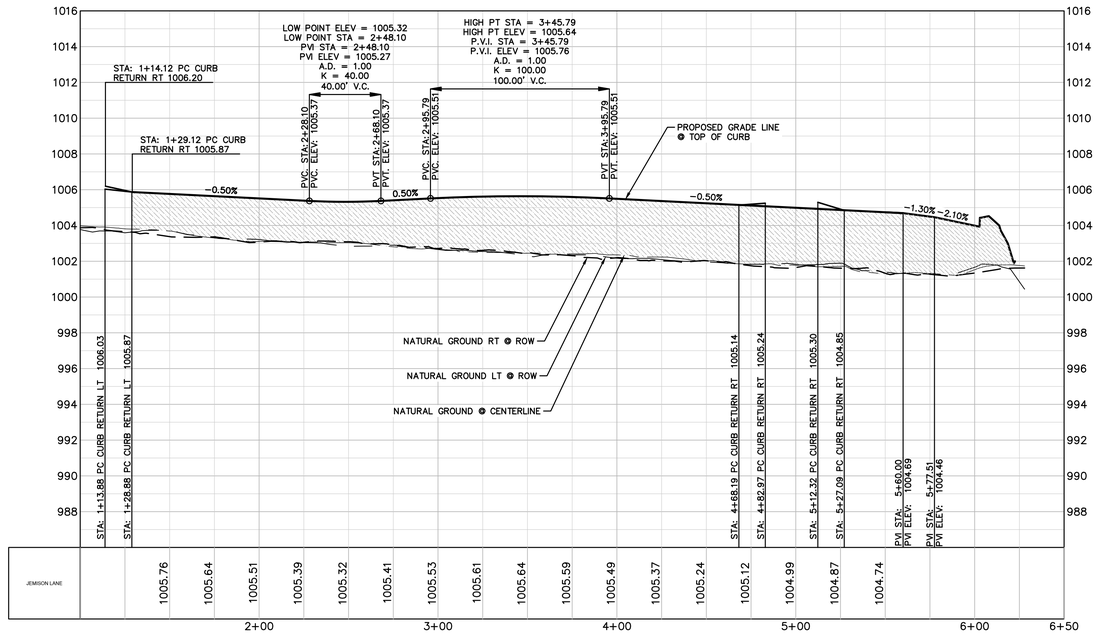


JEMISON LANE



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LEGEND

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PROFILE SCALES:

1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

- NATURAL GROUND RT @ ROW
- NATURAL GROUND LT @ ROW
- NATURAL GROUND @ CENTER LINE
- PROPOSED GRADE LINE @ TOP OF CURB (TC)

LINE TABLE		
LINE #	LENGTH	BEARING
L2	502.73'	N68°29'43"E

CITY OF LEANDER APPROVAL

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STATE OF TEXAS
MICHAEL S. FISHER
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LICENSED PROFESSIONAL ENGINEER
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
JEMISON LANE

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 17 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:15pm User ID: ACHAVEZ
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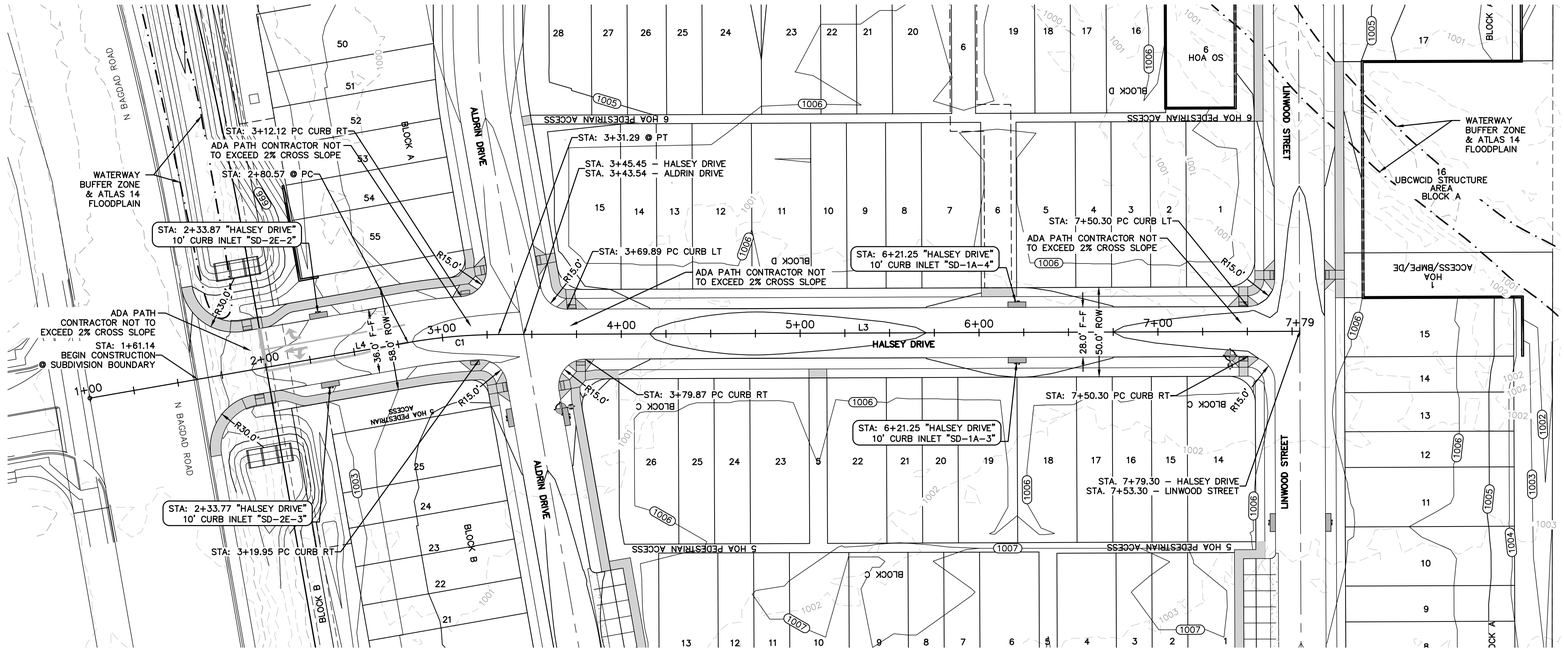

SCALE: 1" = 40'

0' 40' 80' 120'

LEGEND

- CENTER LINE
- CURB INLET
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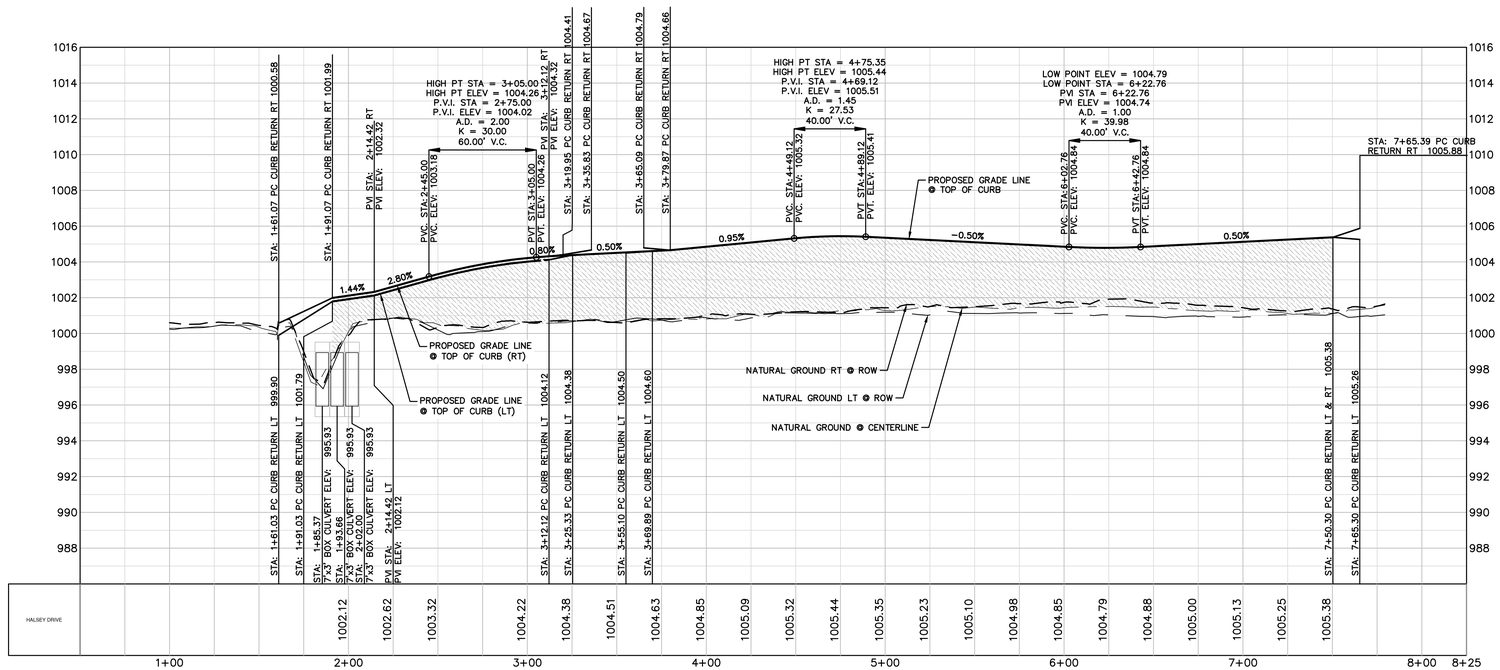
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

HALSEY DRIVE



PROFILE SCALES:

1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

- NATURAL GROUND RT ⊕ ROW
- NATURAL GROUND LT ⊕ ROW
- NATURAL GROUND ⊕ CENTER LINE
- PROPOSED GRADE LINE ⊕ TOP OF CURB (TC)

LINE TABLE		
LINE #	LENGTH	BEARING
L3	448.01'	S68°15'47"W
L4	80.50'	S58°34'34"W

CURVE TABLE					
CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C1	300.00'	009°41'13"	S63°25'11"W	50.66'	50.72'

CITY OF LEANDER APPROVAL

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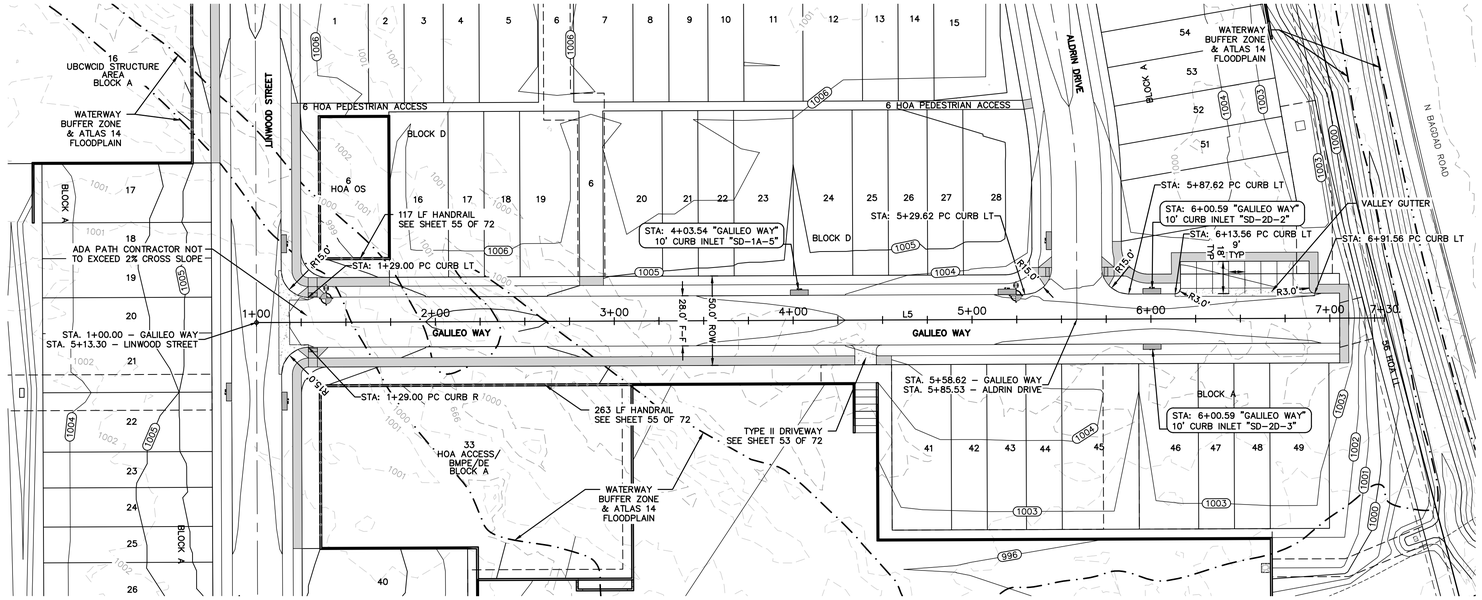
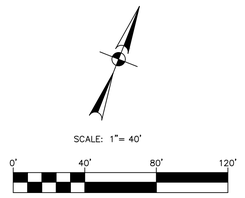
HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
HALSEY DRIVE

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 18 OF 72





LEGEND

- CENTER LINE
- CURB INLET
- CONCRETE VALLEY GUTTER
- PROPOSED CURB RAMP
- PROPOSED SIDEWALK IN THIS CONTRACT
- STREET END BARRICADE
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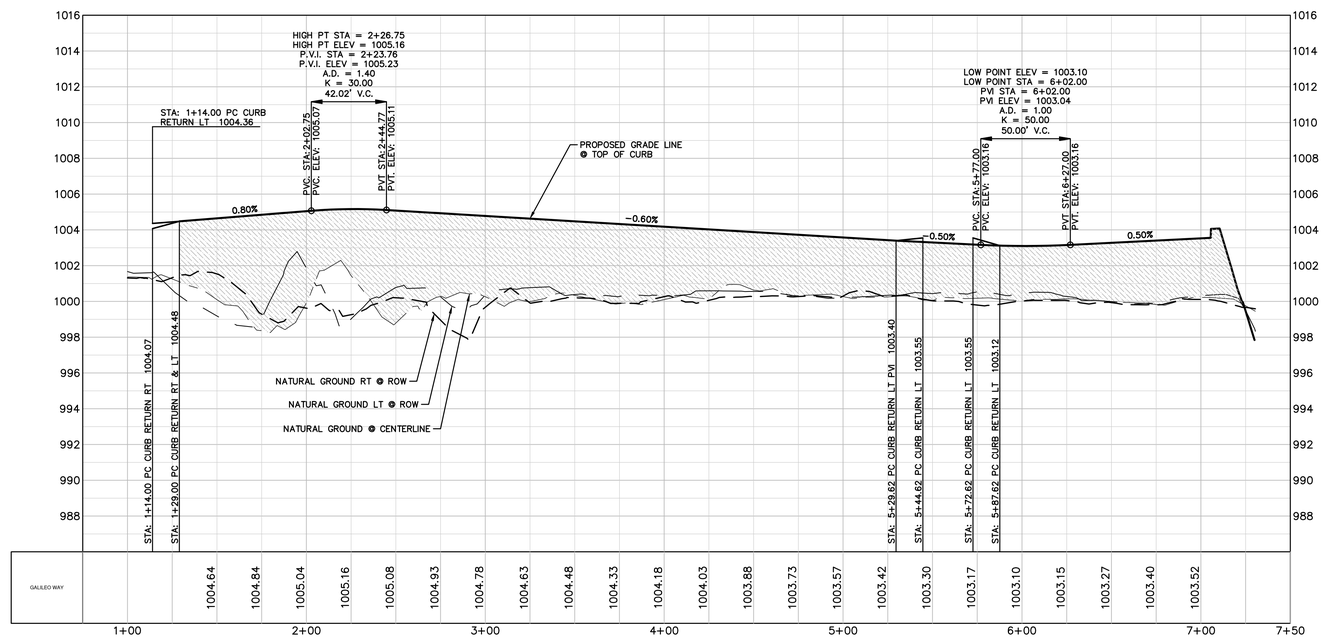
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

GALILEO WAY



PROFILE SCALES:

1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

- NATURAL GROUND RT @ ROW
- NATURAL GROUND LT @ ROW
- NATURAL GROUND @ CENTER LINE
- PROPOSED GRADE LINE @ TOP OF CURB (TC)

LINE TABLE		
LINE #	LENGTH	BEARING
L5	605.49'	N68°15'47"E

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

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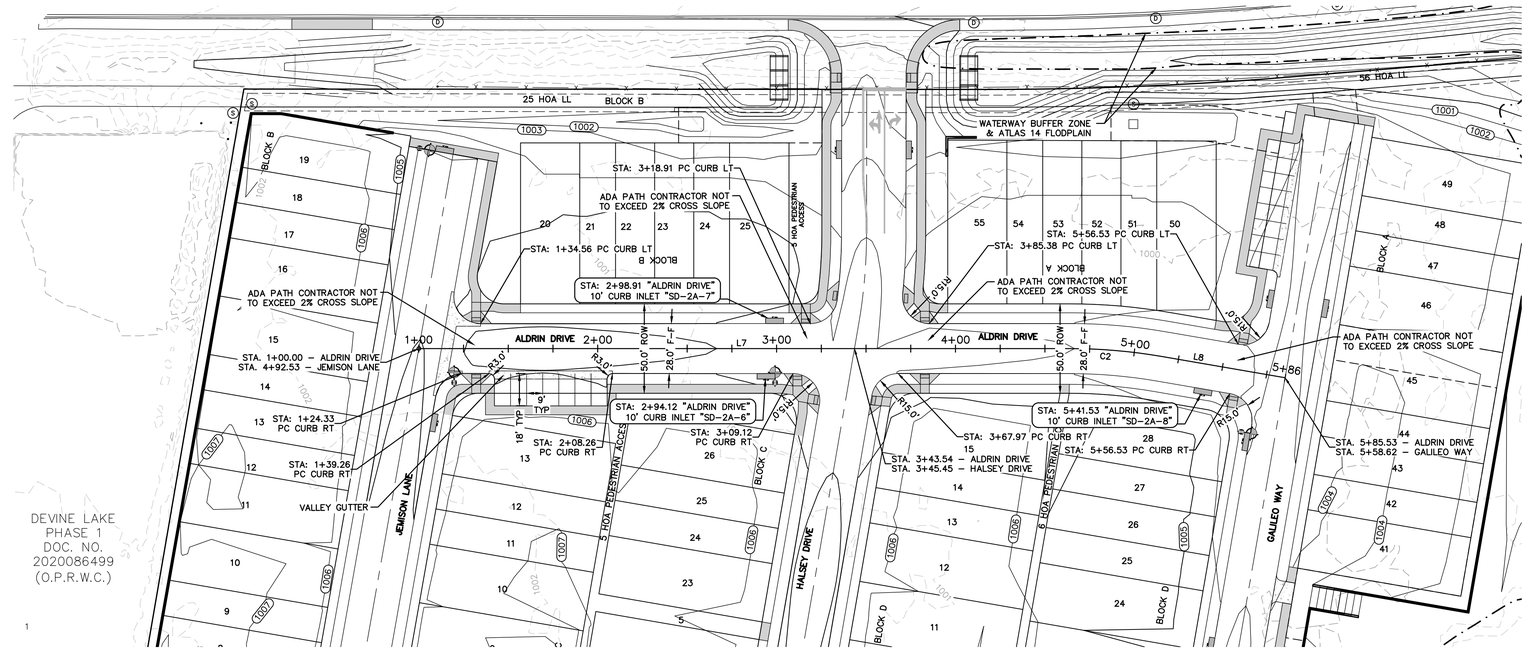
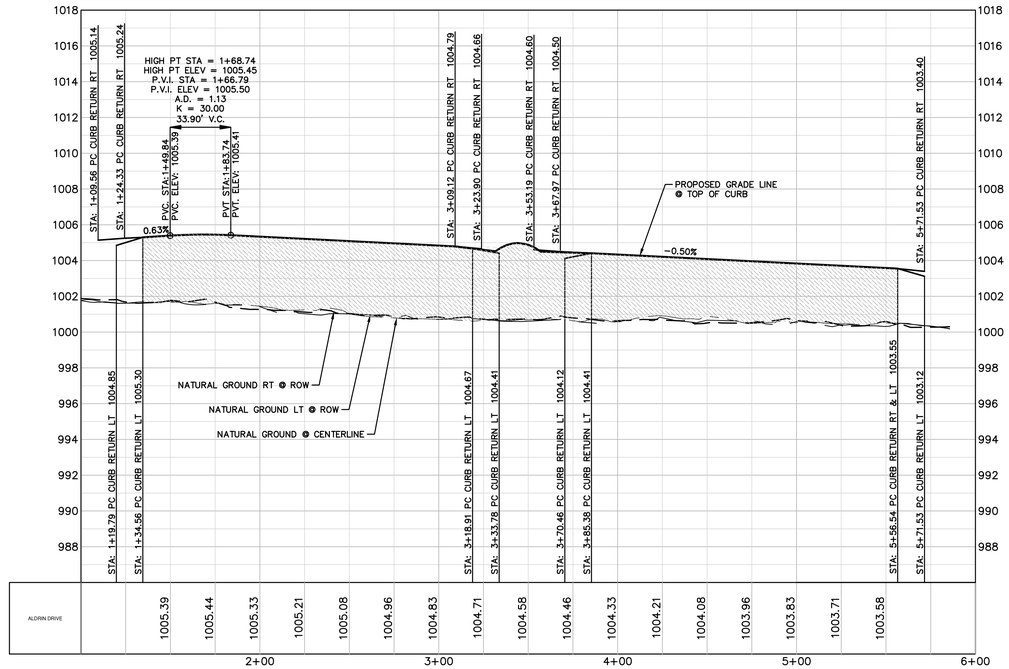
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
GALILEO WAY

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 19 OF 72



ALDRIN DRIVE



SCALE: 1" = 40'

0' 40' 80' 120'

LEGEND

- CENTER LINE
- CURB INLET
- CONCRETE VALLEY GUTTER
- PROPOSED CURB RAMP
- PROPOSED SIDEWALK IN THIS CONTRACT
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- ATLAS 14 FLOODWAY
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PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

- NATURAL GROUND RT @ ROW
- NATURAL GROUND LT @ ROW
- NATURAL GROUND @ CENTER LINE
- PROPOSED GRADE LINE @ TOP OF CURB (TC)

LINE TABLE		
LINE #	LENGTH	BEARING
L7	363.95'	S31°30'17"E
L8	70.44'	S21°44'13"E

CURVE TABLE					
CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C2	300.00'	009°46'04"	S26°37'15"E	51.08'	51.14'

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
ALDRIN DRIVE

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 20 OF 72

Date: Apr 11, 2023, 4:15pm User ID: ACHAVEZ
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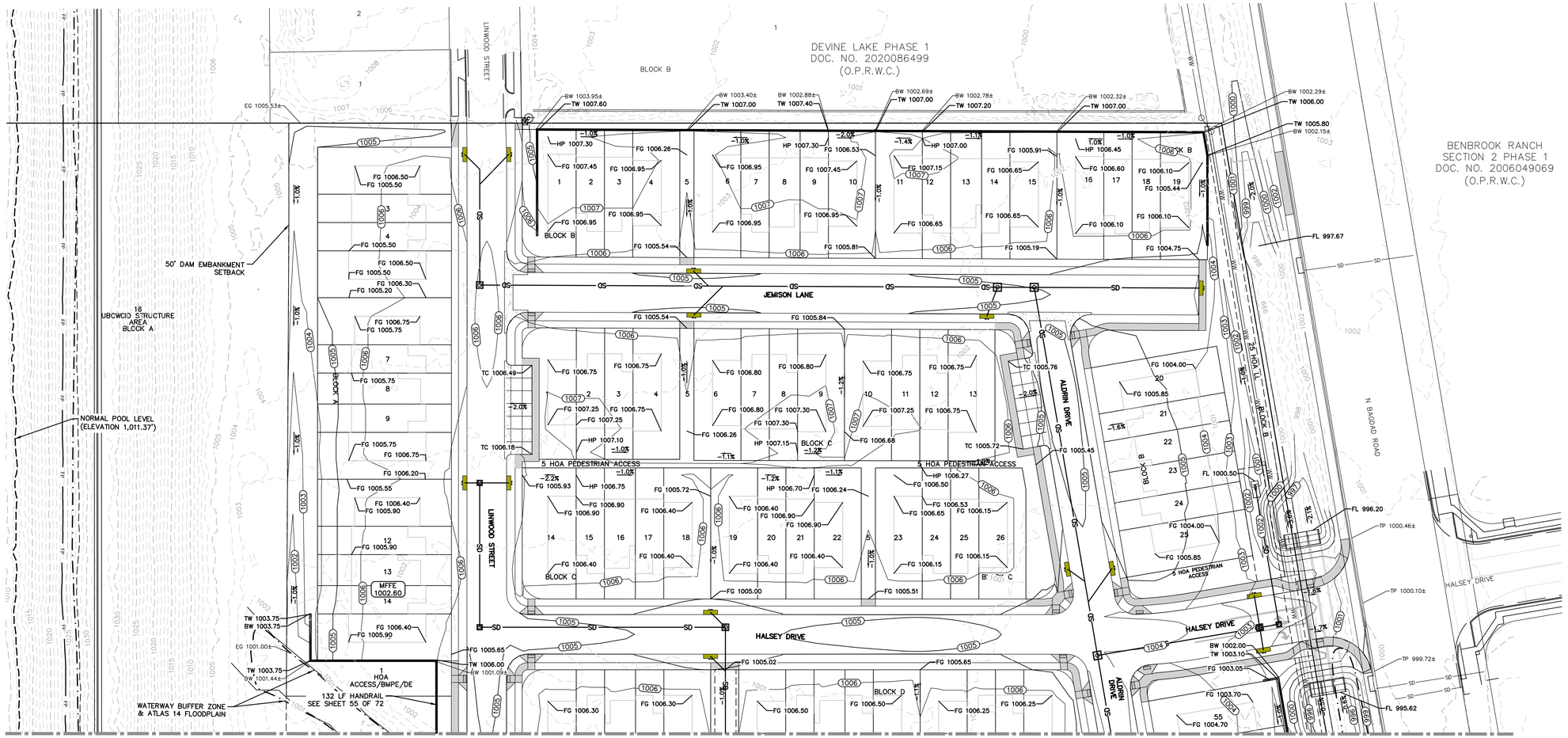
LEGEND

735	PROPOSED CONTOURS
735	EXISTING CONTOURS
	BOUNDARY LINE
MFFE 761.75	MINIMUM FINISHED FLOOR ELEVATION
	WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
	ATLAS 14 FLOODWAY
FP	FEMA 1% ANNUAL CHANCE FLOODPLAIN

EG XXXX.XX	EXISTING GROUND ELEVATION
FG XXXX.XX	FINISHED GRADE ELEVATION
HP XXXX.XX	HIGH POINT ELEVATION
TC XXXX.XX	TOP OF CONCRETE ELEVATION
TG XXXX.XX	TOP OF GROUND ELEVATION
TW XXXX.XX	TOP OF WALL ELEVATION
TP XXXX.XX	TOP OF PAVEMENT ELEVATION

SCALE: 1"= 40'

0' 40' 80' 120'



DATE	NO.	REVISION

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LICENSED PROFESSIONAL ENGINEER

4/11/23

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HAWKES LANDING NORTH

PHASE 1

CITY OF LEANDER, TEXAS

GRADING PLAN 1 OF 2

CITY OF LEANDER APPROVAL

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 21 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:17pm User ID: ACHAVEZ
File: H:\Projects\51\67\02_30 Construction Documents\Civil\GP51167-02.dwg

LEGEND

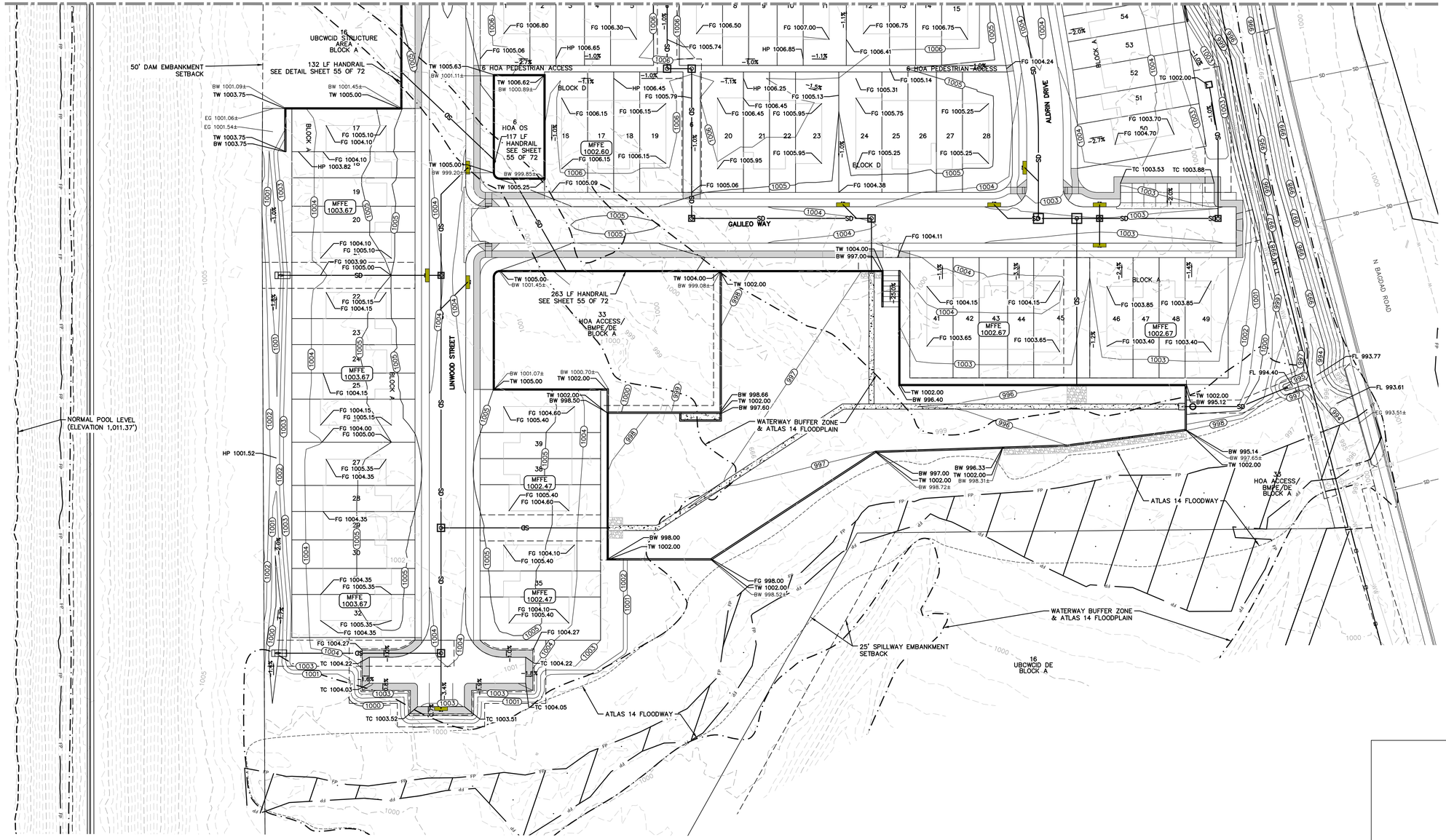
735	PROPOSED CONTOURS
735	EXISTING CONTOURS
	BOUNDARY LINE
MFFE 761.75	MINIMUM FINISHED FLOOR ELEVATION
	WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
	ATLAS 14 FLOODWAY
FP	FEMA 1% ANNUAL CHANCE FLOODPLAIN

EG XXXX.XX	EXISTING GROUND ELEVATION
FG XXXX.XX	FINISHED GRADE ELEVATION
HP XXXX.XX	HIGH POINT ELEVATION
TC XXXX.XX	TOP OF CONCRETE ELEVATION
TG XXXX.XX	TOP OF GROUND ELEVATION
TW XXXX.XX	TOP OF WALL ELEVATION
TP XXXX.XX	TOP OF PAVEMENT ELEVATION

SCALE: 1"= 40'

0' 40' 80' 120'

MATCHLINE– SEE SHEET 21 OF 72



CITY OF LEANDER APPROVAL

23-PICP-XXX

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
GRADING PLAN 2 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 21 OF 72

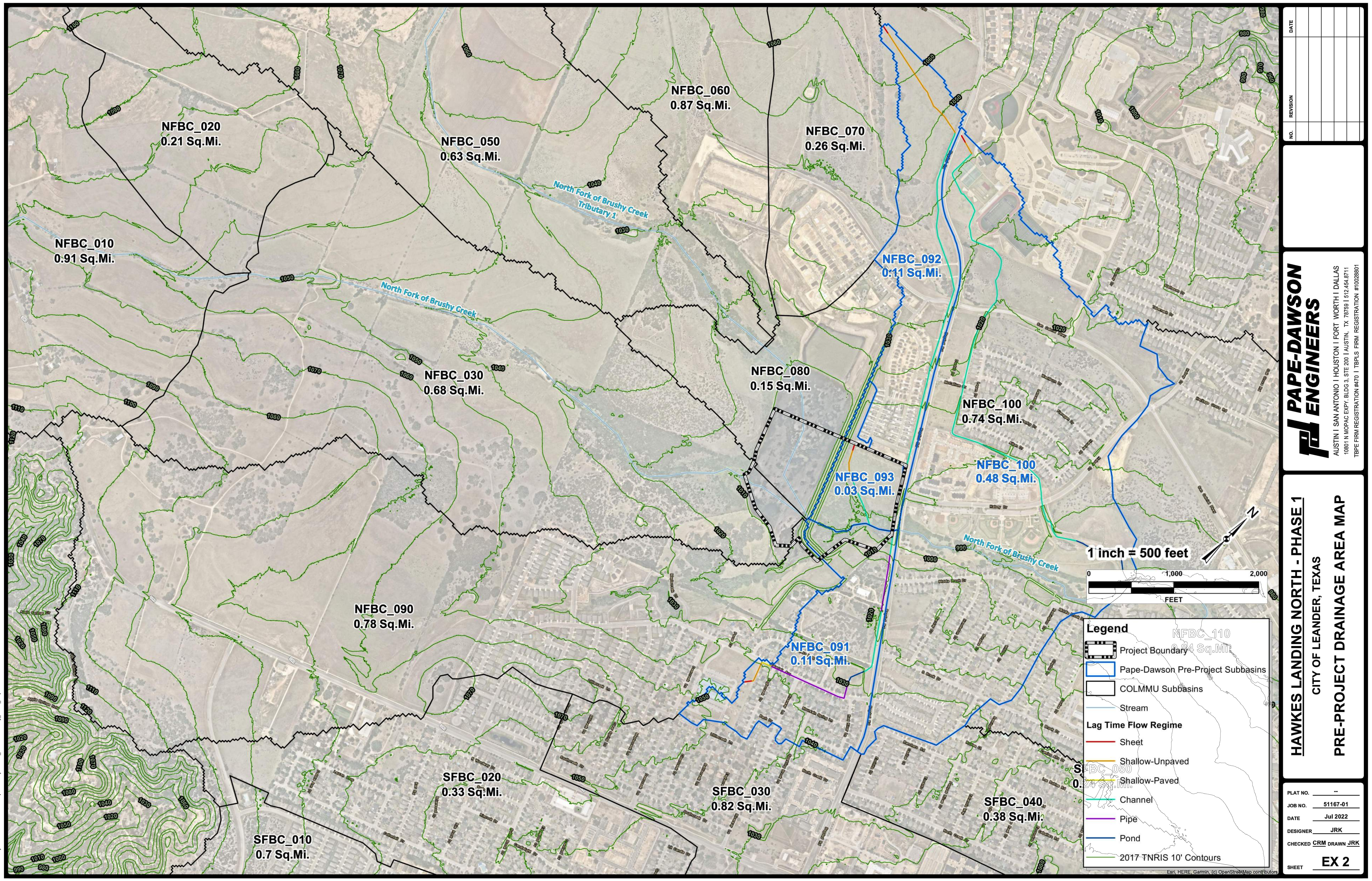
Date: Apr 11, 2023, 4:17pm User ID: ACHAVEZ
File: H:\Projects\51\67\02_Construction Documents\Civil\GP51167-02.dwg

NOTES:

1. DETENTION REQUIRED FOR THE PROJECT AREA WITHIN NFBC_093 WILL BE PROVIDED ON-SITE.
2. REFERENCE HAWKES LANDING NORTH – PHASE 1 FLOODPLAIN STUDY DATED 2/3/23 BY PAPE-DAWSON ENGINEERS, INC. FOR EXISTING DRAINAGE ANALYSIS.

HAWKES LANDING NORTH EXISTING DRAINAGE AREA SUMMARY

Area ID	Drainage Area (AC)	IC (%)	Q_2	Q_{10}	Q_{25}	Q_{100}
NFBC_091	72	45	131	281	371	530
NFBC_092	73	39	82	179	238	343
NFBC_093	21	2	18	60	87	136
J_NFBC_091			199	455	624	920
NFBC_100	310	46	401	854	1,128	1,615
J_NFBC_100			594	1,297	1,739	2,509



NO. | REVISION | DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
EXISTING CONDITIONS
DRAINAGE MAP

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 23 OF 72

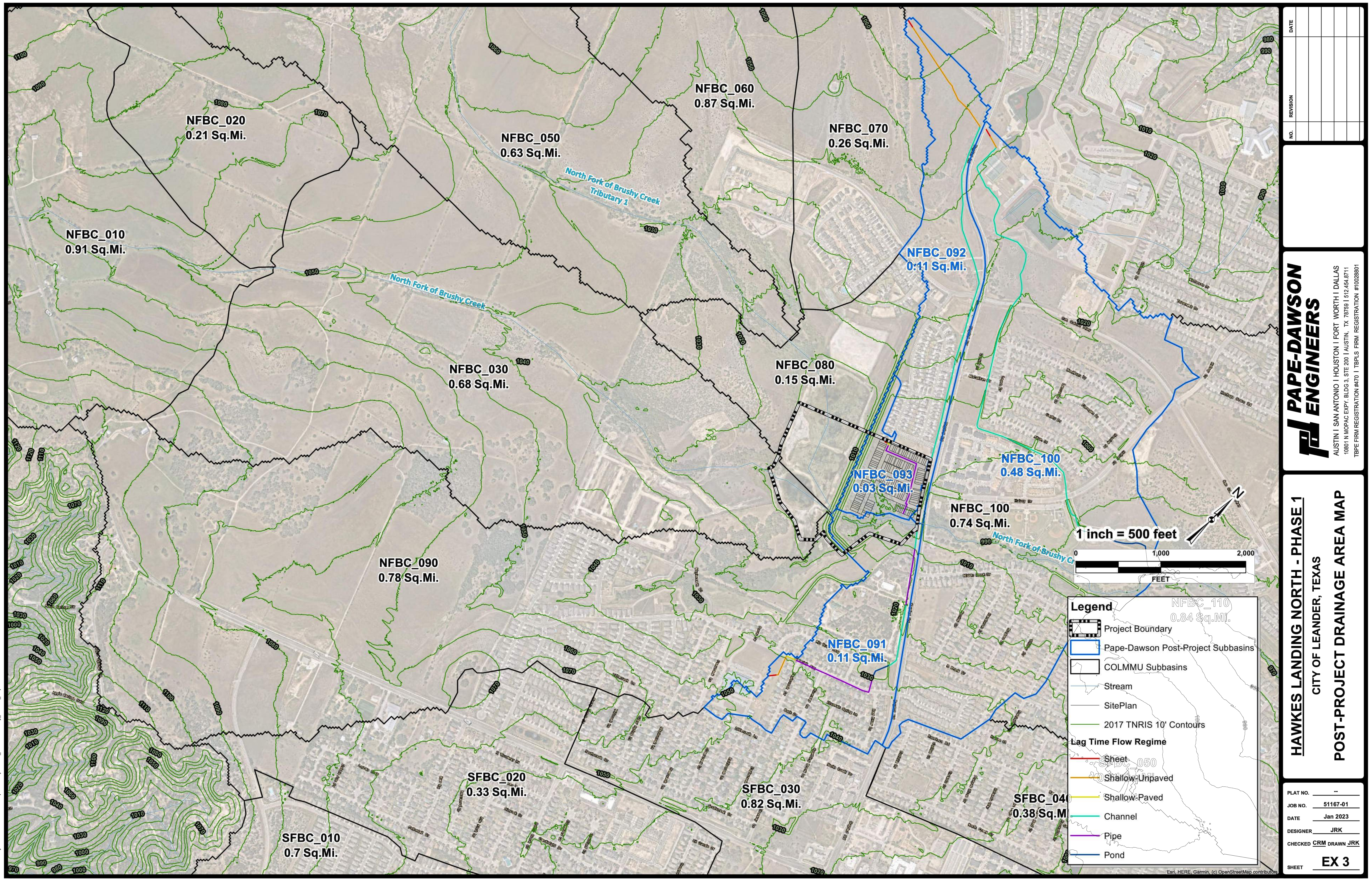
Date: Apr 11, 2023, 4:18pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\00_EC51167-02.dwg

NOTES:

1. DETENTION REQUIRED FOR THE PROJECT AREA WITHIN NFBC_093 WILL BE PROVIDED ON-SITE.
2. REFERENCE HAWKES LANDING NORTH – PHASE 1 FLOODPLAIN STUDY DATED 2/3/23 BY PAPE-DAWSON ENGINEERS, INC. FOR PROPOSED DRAINAGE ANALYSIS.

HAWKES LANDING NORTH PROPOSED DRAINAGE AREA SUMMARY

Area ID	Drainage Area (AC)	IC (%)	Q_2	Q_{10}	Q_{25}	Q_{100}
NFBC_091	73	45	134	287	379	541
NFBC_092	73	39	82	180	240	345
NFBC_093	19	44	45	99	131	189
J_NFBC_091			200	446	620	920
NFBC_100	310	46	401	854	1,128	1,615
J_NFBC_100			595	1,291	1,736	2,509



NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS

AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH

PHASE 1
CITY OF LEANDER, TEXAS
PROPOSED CONDITIONS
DRAINAGE MAP

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 24 OF 72

Date: Apr 11, 2023, 4:18pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\OD_DC51167-02.dwg

23-PICP-XXX

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
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PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
STORM DRAIN DRAINAGE MAP

OVERALL DRAINAGE AREA MAP
SCALE: 1" = 500'

SCALE: 1"= 50'
0' 50' 100' 150'

LEGEND
- SD — STORM DRAIN LINE
- SD — SD MANHOLE
- SD INLET
- DRAINAGE FLOW ARROW
- DRAINAGE AREA BOUNDARY
- FUTURE DRAINAGE AREA BOUNDARY
- EXISTING DRAINAGE AREA
- (01) DRAINAGE AREA
- PROPOSED CONTOUR LINE (1000) / EXISTING CONTOUR LINE 1000
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

CITY OF LEANDER APPROVAL

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 25 OF 72

Date: Apr 11, 2023, 4:18pm User ID: ACHAVEZ
File: H:\Projects\51167.02\03_Construction Documents\Civil\051167-02.dwg

STREET FLOW AND INLET CALCULATIONS
100 YEAR STORM

Inlet No.	Inlet Type	Drainage Area	Q 100 (cfs)	Q pass (cfs)	Q total (cfs)	Street Width F-F (ft)	Crown Type	Curb Height (ft)	Gutter Slope (%)	a (ft)	Yo (ft)	Crown Height (ft)	Ponded Width (-) (ft)	Eo	S'w	Sx	Se	LT	L	E	Qi	Qpass (cfs)	Pass to Inlet #	Qtotal (cfs)	Length (ft)	d (ft)	d (ft) (d ≤ h + a)	Length (ft)	h (ft)	d (ft) (d ≤ h)	do (ft) Orifice (d ≥ 1.4h)
						STREET CAPACITY								INLET ON GRADE CAPACITY										SUMP INLET CAPACITY: CURB (with Depression)				AREA (without Depression)			
ULTIMATE CONDITION DRAINAGE AREAS																															
SD-1A-1A	S-1	0.13	1.48	0.00	1.48	28	P	0.50	0.50%	0.42	0.31	0.50	5.43	0.58	0.28	0.04	0.20	4.56	10	1.00	1.48	0.00	-	-	-	-	-	-	-	-	-
SD-1A-1B	S-1	0.07	0.77	0.00	0.77	28	P	0.50	0.50%	0.42	0.25	0.50	4.15	0.70	0.28	0.04	0.23	3.16	10	1.00	0.77	0.00	-	-	-	-	-	-	-	-	-
SD-1A-1	S-1	0.19	2.25	0.00	2.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.25	10	0.18	0.18	-	-	-	-
SD-1A-2A	S-1	0.15	1.73	0.00	1.73	28	P	0.50	0.50%	0.42	0.33	0.50	5.82	0.55	0.28	0.04	0.19	5.00	10	1.00	1.73	0.00	-	-	-	-	-	-	-	-	-
SD-1A-2B	S-1	0.06	0.59	0.00	0.59	28	P	0.50	0.50%	0.42	0.23	0.50	3.73	0.75	0.28	0.04	0.24	2.73	10	1.00	0.59	0.00	-	-	-	-	-	-	-	-	-
SD-1A-2	S-1	0.20	2.31	0.00	2.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.31	10	0.18	0.18	-	-	-	-
SD-1A-3A	S-1	0.37	3.31	0.00	3.31	28	P	0.50	0.50%	0.42	0.41	0.50	7.99	0.43	0.28	0.04	0.15	7.40	10	1.00	3.31	0.00	-	-	-	-	-	-	-	-	-
SD-1A-3B	S-1	0.41	3.44	0.00	3.44	28	P	0.50	0.50%	0.42	0.41	0.50	8.16	0.42	0.28	0.04	0.15	7.58	10	1.00	3.44	0.00	-	-	-	-	-	-	-	-	-
SD-1A-3	S-1	0.77	7.50	0.00	7.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.50	10	0.40	0.40	-	-	-	-
SD-1A-4A	S-1	0.23	2.97	0.00	2.97	28	P	0.50	0.50%	0.42	0.39	0.50	7.54	0.45	0.28	0.04	0.17	6.81	10	1.00	2.97	0.00	-	-	-	-	-	-	-	-	-
SD-1A-4B	S-1	0.48	3.86	0.00	3.86	28	P	0.50	0.50%	0.42	0.43	0.50	8.74	0.40	0.28	0.04	0.15	8.04	10	1.00	3.86	0.00	-	-	-	-	-	-	-	-	-
SD-1A-4	S-1	0.72	6.25	0.00	6.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.25	10	0.36	0.36	-	-	-	-
SD-1A-5	G-1	0.52	4.37	0.00	4.37	28	P	0.50	0.60%	0.42	0.43	0.50	8.91	0.39	0.28	0.04	0.14	9.17	10	1.00	4.37	0.00	-	-	-	-	-	-	-	-	-
SD-2A-1A	S-1	0.23	2.20	0.00	2.20	28	P	0.50	1.63%	0.42	0.29	0.50	5.00	0.61	0.28	0.04	0.21	7.46	10	1.00	2.20	0.00	-	-	-	-	-	-	-	-	-
SD-2A-1B	S-1	0.12	1.29	0.00	1.29	28	P	0.50	0.50%	0.42	0.30	0.50	5.12	0.60	0.28	0.04	0.20	4.21	10	1.00	1.29	0.00	-	-	-	-	-	-	-	-	-
SD-2A-1	S-1	0.35	3.50	0.00	3.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.50	10	0.24	0.24	-	-	-	-
SD-2A-2A	S-1	0.11	1.17	0.00	1.17	28	P	0.50	1.63%	0.42	0.24	0.50	3.86	0.73	0.28	0.04	0.24	5.24	10	1.00	1.17	0.00	-	-	-	-	-	-	-	-	-
SD-2A-2B	S-1	0.07	0.80	0.00	0.80	28	P	0.50	0.50%	0.42	0.26	0.50	4.21	0.69	0.28	0.04	0.23	3.23	10	1.00	0.80	0.00	-	-	-	-	-	-	-	-	-
SD-2A-2	S-1	0.18	1.97	0.00	1.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.97	10	0.17	0.17	-	-	-	-
SD-2A-3A	S-1	0.40	3.22	0.00	3.22	28	P	0.50	0.50%	0.42	0.40	0.50	7.87	0.43	0.28	0.04	0.16	7.27	10	1.00	3.22	0.00	-	-	-	-	-	-	-	-	-
SD-2A-3B	S-1	0.16	2.01	0.00	2.01	28	P	0.50	0.50%	0.42	0.35	0.50	6.23	0.52	0.28	0.04	0.18	5.46	10	1.00	2.01	0.00	-	-	-	-	-	-	-	-	-
SD-2A-3	S-1	0.56	4.78	0.00	4.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.78	10	0.30	0.30	-	-	-	-
SD-2A-4A	S-1	0.37	3.05	0.00	3.05	28	P	0.50	0.50%	0.42	0.40	0.50	7.64	0.44	0.28	0.04	0.16	7.03	10	1.00	3.05	0.00	-	-	-	-	-	-	-	-	-
SD-2A-4B	S-1	0.14	1.79	0.00	1.79	28	P	0.50	0.50%	0.42	0.33	0.50	5.92	0.54	0.28	0.04	0.19	5.11	10	1.00	1.79	0.00	-	-	-	-	-	-	-	-	-
SD-2A-4	S-1	0.52	4.44	0.00	4.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.44	10	0.28	0.28	-	-	-	-
SD-2A-5	G-1	0.22	1.92	0.00	1.92	28	P	0.50	0.50%	0.42	0.34	0.50	6.10	0.53	0.28	0.04	0.18	5.31	10	1.00	1.92	0.00	-	-	-	-	-	-	-	-	-
SD-2A-6	G-1	0.29	2.41	0.00	2.41	28	P	0.50	0.50%	0.42	0.37	0.50	6.80	0.49	0.28	0.04	0.17	6.10	10	1.00	2.41	0.00	-	-	-	-	-	-	-	-	-
SD-2A-7	G-1	0.14	1.59	0.00	1.59	28	P	0.50	0.50%	0.42	0.32	0.50	5.61	0.56	0.28	0.04	0.19	4.76	10	1.00	1.59	0.00	-	-	-	-	-	-	-	-	-
SD-2A-8	G-1	0.57	5.22	0.00	5.22	28	P	0.50	0.50%	0.42	0.47	0.50	10.81	0.33	0.28	0.04	0.13	10.07	10	1.00	5.22	0.00	-	-	-	-	-	-	-	-	-
SD-2B-1A	S-1	0.70	6.34	0.00	6.34	28	P	0.50	2.10%	0.42	0.40	0.50	7.71	0.44	0.28	0.04	0.16	14.75	10	0.87	5.51	0.83	-	-	-	-	-	-	-	-	-
SD-2B-1B	S-1	0.23	2.38	0.00	2.38	28	P	0.50	2.10%	0.42	0.29	0.50	4.90	0.62	0.28	0.04	0.21	8.25	10	1.00	2.38	0.00	-	-	-	-	-	-	-	-	-
SD-2B-1	S-1	0.93	8.36	0.00	8.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.36	10	0.43	0.43	-	-	-	-
SD-2C-1	G-1	0.19	2.48	0.00	2.48	28	P	0.50	0.60%	0.42	0.36	0.50	6.58	0.50	0.28	0.04	0.18	6.43	10	1.00	2.48	0.00	-	-	-	-	-	-	-	-	-
SD-2D-1	S-4	0.29	3.04	0.00	3.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.04	-	-	-	12	0.42	0.19	0.19
SD-2D-2A	S-1	0.22	2.69	0.00	2.69	28	P	0.50	0.50%	0.42	0.38	0.50	7.17	0.47	0.28	0.04	0.17	6.51	10	1.00	2.69	0.00	-	-	-	-	-	-	-	-	-
SD-2D-2B	S-1	0.12	1.40	0.00	1.40	28	P	0.50	0.50%	0.42	0.31	0.50	5.30	0.59	0.28	0.04	0.20	4.41	10	1.00	1.40	0.00	-	-	-	-	-	-	-	-	-
SD-2D-2	S-1	0.34	4.08	0.00	4.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.08	10	0.27	0.27	-	-	-	-
SD-2D-3A	S-1	0.28	3.31	0.00	3.31	28	P	0.50	0.50%	0.42	0.41	0.50	8.00	0.43	0.28	0.04	0.15	7.41	10	1.00	3.31	0.00	-	-	-	-	-	-	-	-	-
SD-2D-3B	S-1	0.10	1.12	0.00	1.12	28	P	0.50	0.50%	0.42	0.29	0.50	4.83	0.63	0.28	0.04	0.21	3.89	10	1.00	1.12	0.00	-	-	-	-	-	-	-	-	-
SD-2D-3	S-1	0.38	4.53	0.00	4.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.53	10	0.29	0.29	-	-	-	-
SD-2E-1	-	0.37	3.55	0.00	3.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-2E-2	G-1	0.14	1.56	0.00	1.56	36	P	0.50	2.80%	0.42	0.23	0.50	4.72	0.64	0.28	0.03	0.21	7.61	10	1.00	1.56	0.00	-	-	-	-	-	-	-	-	-
SD-2E-3	G-1	0.31	3.58	0.00	3.58	36	P	0.50	2.80%	0.42	0.30	0.50	6.64	0.50	0.28	0.03	0.17	12.30	10	0.95	3.41	0.17	OFFSITE	-	-	-	-	-	-	-	-
SD-3A-1	G-1	0.17	1.67	0.00	1.67	28	P	0.50	0.50%	0.42	0.33	0.50	5.73	0.56	0.28	0.04	0.19	4.90	10	1.00	1.67	0.00	-	-	-	-	-	-	-	-	-
SD-3A-2A	S-1	0.32	2.85	0.00	2.85	28	P	0.50	0.50%	0.42	0.39	0.50	7.38	0.45	0.28	0.04	0.16	6.74	10	1.00	2.85	0.00	-	-	-	-	-	-	-	-	-
SD-3A-2B	S-1	0.16	1.68	0.00	1.68	28	P	0.50	0.50%	0.42	0.33	0.50	5.74	0.55	0.28	0.04	0.19	4.91	10	1.00	1.68	0.00	-	-	-	-	-	-	-	-	-
SD-3A-2	S-1	0.47	4.31	0.00	4.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.31	10	0.28	0.28	-	-	-	-
SD-3B-1	S-1	1.26	11.12	0.00	11.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-3B-2A	S-1	0.28	2.94	0.00	2.94	28	P	0.50	0.50%	0.42	0.39	0.50	7.51	0.45	0.28	0.04	0.16	6.88	10	1.00	2.94	0.00	-	-	-	-	-	-	-	-	-
SD-3B-2B	S-1	0.15	1.59	0.00	1.59	28	P	0.50	0.50%	0.42	0.32	0.50	5.60	0.56	0.28	0.04	0.19	4.75	10	1.00	1.59	0.00	-	-	-	-	-	-	-	-	-
SD-3B-2	S-1	0.43	4.51	0.00	4.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.51	10	0.29	0.29	-	-	-	-
SD-3C-1	G-1	0.91	7.31	0.00	7.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-3C-2A	S-1	0.21	2.31	0.00	2.31	28	P	0.50	0.50%	0.42	0.36	0.50	6.65	0.49	0.28	0.04	0.17	5.93	10	1.00	2.31	0.00	-	-	-	-	-	-	-	-	-
SD-3C-2B	S-1	0.24	2.74	0.00	2.74	28	P	0.50	0.50%	0.42	0.38	0.50	7.24	0.46	0.28	0.04	0.17	6.59	10	1.00	2.74	0.00	-	-	-	-	-	-	-	-	-
SD-3C-2	S-1	0.46	4.94	0.00	4.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.94	10	0.31	0.31	-	-	-	-
SD-4A-1	-	5.18	17.84	0.00	17.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-4A-2	-	5.25	17.86	0.00	17.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CULVERT	-	83.71	421.04	0.00	421.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

STREET FLOW AND INLET CALCULATIONS
25 YEAR STORM

Inlet No.	Inlet Type	Drainage Area	Q 25 (cfs)	Q pass (cfs)	Q total (cfs)	Street Width F-F (ft)	Crown Type	Curb Height (ft)	Gutter Slope (%)	a (ft)	Yo (ft)	Crown Height (ft)	Ponded Width (ft)	Eo	S'w	Sx	Se	LT	L	E	Qi	Qpass (cfs)	Pass to Inlet #	Qtotal (cfs)	Length (ft)	d (ft)	d (ft) (d ≤ h + a)	Length (ft)	h (ft)	d (ft) (d ≤ h)	do (ft) Orifice (d ≥ 1.4h)
						STREET CAPACITY								INLET ON GRADE CAPACITY										SUMP INLET CAPACITY: CURB (with Depression)				AREA (without Depression)			
ULTIMATE CONDITION DRAINAGE AREAS																															
SD-1A-1A	S-1	0.13	0.99	0.00	0.99	28	P	0.50	0.50%	0.42	0.27	0.50	4.59	0.65	0.28	0.04	0.22	3.64	10	1.00	1.48	0.00	-	-	-	-	-	-	-	-	-
SD-1A-1B	S-1	0.07	0.52	0.00	0.52	28	P	0.50	0.50%	0.42	0.22	0.50	3.55	0.77	0.28	0.04	0.25	2.54	10	1.00	0.77	0.00	-	-	-	-	-	-	-	-	-
SD-1A-1	S-1	0.19	1.51	0.00	1.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.51	10	0.14	0.14	-	-	-	-
SD-1A-2A	S-1	0.15	1.17	0.00	1.17	28	P	0.50	0.50%	0.42	0.29	0.50	4.91	0.62	0.28	0.04	0.21	3.98	10	1.00	1.73	0.00	-	-	-	-	-	-	-	-	-
SD-1A-2B	S-1	0.06	0.39	0.00	0.39	28	P	0.50	0.50%	0.42	0.20	0.50	3.19	0.82	0.28	0.04	0.26	2.20	10	1.00	0.59	0.00	-	-	-	-	-	-	-	-	-
SD-1A-2	S-1	0.20	1.55	0.00	1.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.55	10	0.14	0.14	-	-	-	-
SD-1A-3A	S-1	0.37	2.22	0.00	2.22	28	P	0.50	0.50%	0.42	0.36	0.50	6.53	0.50	0.28	0.04	0.18	5.80	10	1.00	3.31	0.00	-	-	-	-	-	-	-	-	-
SD-1A-3B	S-1	0.41	2.28	0.00	2.28	28	P	0.50	0.50%	0.42	0.36	0.50	6.62	0.50	0.28	0.04	0.17	5.89	10	1.00	3.44	0.00	-	-	-	-	-	-	-	-	-
SD-1A-3	S-1	0.77	5.01	0.00	5.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.01	10	0.31	0.31	-	-	-	-
SD-1A-4A	S-1	0.23	2.01	0.00	2.01	28	P	0.50	0.50%	0.42	0.35	0.50	6.23	0.52	0.28	0.04	0.19	5.39	10	1.00	2.97	0.00	-	-	-	-	-	-	-	-	-
SD-1A-4B	S-1	0.48	2.57	0.00	2.57	28	P	0.50	0.50%	0.42	0.38	0.50	7.01	0.47	0.28	0.04	0.17	6.24	10	1.00	3.86	0.00	-	-	-	-	-	-	-	-	-
SD-1A-4	S-1	0.72	4.20	0.00	4.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.20	10	0.27	0.27	-	-	-	-
SD-1A-5	G-1	0.52	2.90	0.00	2.90	28	P	0.50	0.60%	0.42	0.38	0.50	7.12	0.47	0.28	0.04	0.17	7.08	10	1.00	4.37	0.00	-	-	-	-	-	-	-	-	-
SD-2A-1A	S-1	0.23	1.47	0.00	1.47	28	P	0.50	1.63%	0.42	0.26	0.50	4.24	0.69	0.28	0.04	0.23	5.94	10	1.00	2.20	0.00	-	-	-	-	-	-	-	-	-
SD-2A-1B	S-1	0.12	0.87	0.00	0.87	28	P	0.50	0.50%	0.42	0.26	0.50	4.35	0.68	0.28	0.04	0.23	3.37	10	1.00	1.29	0.00	-	-	-	-	-	-	-	-	-
SD-2A-1	S-1	0.35	2.35	0.00	2.35	-	-	-	-	-	-	-	-	-	-	-							-	2.35	10	0.19	0.19	-	-	-	-
SD-2A-2A	S-1	0.11	0.78	0.00	0.78	28	P	0.50	1.63%	0.42	0.21	0.50	3.30	0.80	0.28	0.04	0.26	4.21	10	1.00	1.17	0.00	-	-	-	-	-	-	-	-	-
SD-2A-2B	S-1	0.07	0.54	0.00	0.54	28	P	0.50	0.50%	0.42	0.22	0.50	3.60	0.76	0.28	0.04	0.25	2.60	10	1.00	0.80	0.00	-	-	-	-	-	-	-	-	-
SD-2A-2	S-1	0.18	1.31	0.00	1.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.31	10	0.13	0.13	-	-	-	-
SD-2A-3A	S-1	0.40	2.14	0.00	2.14	28	P	0.50	0.50%	0.42	0.35	0.50	6.42	0.51	0.28	0.04	0.18	5.68	10	1.00	3.22	0.00	-	-	-	-	-	-	-	-	-
SD-2A-3B	S-1	0.16	1.36	0.00	1.36	28	P	0.50	0.50%	0.42	0.30	0.50	5.24	0.59	0.28	0.04	0.20	4.34	10	1.00	2.01	0.00	-	-	-	-	-	-	-	-	-
SD-2A-3	S-1	0.56	3.20	0.00	3.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.20	10	0.23	0.23	-	-	-	-
SD-2A-4A	S-1	0.37	2.03	0.00	2.03	28	P	0.50	0.50%	0.42	0.35	0.50	7.64	0.44	0.28	0.04	0.16	5.93	10	1.00	2.03	0.00	-	-	-	-	-	-	-	-	-
SD-2A-4B	S-1	0.14	1.21	0.00	1.21	28	P	0.50	0.50%	0.42	0.29	0.50	5.92	0.54	0.28	0.04	0.19	4.33	10	1.00	1.21	0.00	-	-	-	-	-	-	-	-	-
SD-2A-4	S-1	0.52	2.97	0.00	2.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.97	10	0.22	0.22	-	-	-	-
SD-2A-5	G-1	0.22	1.28	0.00	1.28	28	P	0.50	0.50%	0.42	0.30	0.50	6.10	0.53	0.28	0.04	0.18	4.49	10	1.00	1.28	0.00	-	-	-	-	-	-	-	-	-
SD-2A-6	G-1	0.29	1.61	0.00	1.61	28	P	0.50	0.50%	0.42	0.32	0.50	6.80	0.49	0.28	0.04	0.17	5.14	10	1.00	1.61	0.00	-	-	-	-	-	-	-	-	-
SD-2A-7	G-1	0.14	1.07	0.00	1.07	28	P	0.50	0.50%	0.42	0.28	0.50	5.61	0.56	0.28	0.04	0.19	4.03	10	1.00	1.07	0.00		-	-	-	-	-	-	-	-
SD-2A-8	G-1	0.57	3.47	0.00	3.47	28	P	0.50	0.50%	0.42	0.41	0.50	10.81	0.33	0.28	0.04	0.13	8.49	10	1.00	3.47	0.00	-	-	-	-	-	-	-	-	-
SD-2B-1A	S-1	0.70	4.24	0.00	4.24	28	P	0.50	2.10%	0.42	0.35	0.50	7.71	0.44	0.28	0.04	0.16	12.46	10	0.95	4.01	0.23	-	-	-	-	-	-	-	-	-
SD-2B-1B	S-1	0.23	1.59	0.00	1.59	28	P	0.50	2.10%	0.42	0.25	0.50	4.90	0.62	0.28	0.04	0.21	6.97	10	1.00	1.59	0.00	-	-	-	-	-	-	-	-	-
SD-2B-1	S-1	0.93	5.59	0.00	5.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.59	10	0.33	0.33	-	-	-	-
SD-2C-1	G-1	0.19	1.68	0.00	1.68	28	P	0.50	0.60%	0.42	0.32	0.50	6.58	0.50	0.28	0.04	0.18	5.46	10	1.00	1.68	0.00	-	-	-	-	-	-	-	-	-
SD-2D-1	S-4	0.29	2.03	0.00	2.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.03	-	-	-	12	0.42	0.15	0.15
SD-2D-2A	S-1	0.22	1.81	0.00	1.81	28	P	0.50	0.50%	0.42	0.33	0.50	7.17	0.47	0.28	0.04	0.17	5.52	10	1.00	1.81	0.00	-	-	-	-	-	-	-	-	-
SD-2D-2B	S-1	0.12	0.94	0.00	0.94	28	P	0.50	0.50%	0.42	0.27	0.50	5.30	0.59	0.28	0.04	0.20	3.74	10	1.00	0.94	0.00	-	-	-	-	-	-	-	-	-
SD-2D-2	S-1	0.34	2.75	0.00	2.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.75	10	0.21	0.21	-	-	-	-
SD-2D-3A	S-1	0.28	2.23	0.00	2.23	28	P	0.50	0.50%	0.42	0.36	0.50	8.00	0.43	0.28	0.04	0.15	6.28	10	1.00	2.23	0.00	-	-	-	-	-	-	-	-	-
SD-2D-3B	S-1	0.10	0.75	0.00	0.75	28	P	0.50	0.50%	0.42	0.25	0.50	4.83	0.63	0.28	0.04	0.21	3.29	10	1.00	0.75	0.00	-	-	-	-	-	-	-	-	-
SD-2D-3	S-1	0.38	3.05	0.00	3.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.05	10	0.22	0.22	-	-	-	-
SD-2E-1	-	0.37	2.36	0.00	2.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-2E-2	G-1	0.14	1.05	0.00	1.05	36	P	0.50	2.80%	0.42	0.20	0.50	4.72	0.64	0.28	0.03	0.21	6.43	10	1.00	1.05	0.00	-	-	-	-	-	-	-	-	-
SD-2E-3	G-1	0.31	2.41	0.00	2.41	36	P	0.50	2.80%	0.42	0.26	0.50	6.64	0.50	0.28	0.03	0.17	10.41	10	1.00	2.40	0.01	OFFSITE	-	-	-	-	-	-	-	-
SD-3A-1	G-1	0.17	1.12	0.00	1.12	28	P	0.50	0.50%	0.42	0.29	0.50	5.73	0.56	0.28	0.04	0.19	4.14	10	1.00	1.12	0.00	-	-	-	-	-	-	-	-	-
SD-3A-2A	S-1	0.32	1.91	0.00	1.91	28	P	0.50	0.50%	0.42	0.34	0.50	7.38	0.45	0.28	0.04	0.16	5.70	10	1.00	1.91	0.00	-	-	-	-	-	-	-	-	-
SD-3A-2B	S-1	0.16	1.13	0.00	1.13	28	P	0.50	0.50%	0.42	0.29	0.50	4.84	0.63	0.28	0.04	0.21	3.90	10	1.00	1.13	0.00	-	-	-	-	-	-	-	-	-
SD-3A-2	S-1	0.47	2.89	0.00	2.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.89	10	0.21	0.21	-	-	-	-
SD-3B-1	S-1	1.26	7.33	0.00	7.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-3B-2A	S-1	0.28	1.98	0.00	1.98	28	P	0.50	0.50%	0.42	0.34	0.50	7.51	0.45	0.28	0.04	0.16	5.83	10	1.00	1.98	0.00	-	-	-	-	-	-	-	-	-
SD-3B-2B	S-1	0.15	1.07	0.00	1.07	28	P	0.50	0.50%	0.42	0.28	0.50	5.60	0.56	0.28	0.04	0.19	4.03	10	1.00	1.07	0.00	-	-	-	-	-	-	-	-	-
SD-3B-2	S-1	0.43	3.04	0.00	3.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.04	10	0.22	0.22	-	-	-	-
SD-3C-1	G-1	0.91	4.82	0.00	4.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-3C-2A	S-1	0.21	1.56	0.00	1.56	28	P	0.50	0.50%	0.42	0.32	0.50	6.65	0.49	0.28	0.04	0.17	5.03	10	1.00	1.56	0.00	-	-	-	-	-	-	-	-	-
SD-3C-2B	S-1	0.24	1.85	0.00	1.85	28	P	0.50	0.50%	0.42	0.34	0.50	7.24	0.46	0.28	0.04	0.17	5.59	10	1.00	1.85	0.00	-	-	-	-	-	-	-	-	-
SD-3C-2	S-1	0.46	3.34	0.00	3.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.34	10	0.24	0.24	-	-	-	-
SD-4A-1	-	5.18	11.04	0.00	11.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SD-4A-2	-	5.25	11.06	0.00	11.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CULVERT	-	83.71	281.43	0.00	281.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DRAINAGE AREA	INLET NUMBER	AREA (acres)	COMPOSITE C C_{25}	COMPOSITE C C_{100}	$A \cdot C_{25}$	$A \cdot C_{100}$	Cumulative Tc (min)	INTENSITY I 25yr (in/hr)	INTENSITY I 100yr (in/hr)	DISCHARGE Q 25 (cfs)	DISCHARGE Q 100 (cfs)
ULTIMATE CONDITION DRAINAGE AREAS											
1A-1A	SD-1A-1A	0.13	0.69	0.78	0.09	0.10	5.00	11.30	15.00	0.99	1.48
1A-1B	SD-1A-1B	0.07	0.68	0.77	0.05	0.05	5.00	11.30	15.00	0.52	0.77
1A-1	SD-1A-1	0.19	0.69	0.77	0.13	0.15	5.00	11.30	15.00	1.51	2.25
1A-2A	SD-1A-2A	0.15	0.70	0.79	0.10	0.12	5.32	11.13	14.76	1.17	1.73
1A-2B	SD-1A-2B	0.06	0.63	0.71	0.03	0.04	5.00	11.30	15.00	0.39	0.59
1A-2	SD-1A-2	0.20	0.68	0.77	0.14	0.16	5.32	11.13	14.76	1.55	2.31
1A-3A	SD-1A-3A	0.37	0.67	0.75	0.25	0.28	10.16	9.05	12.00	2.22	3.31
1A-3B	SD-1A-3B	0.41	0.59	0.67	0.24	0.27	8.95	9.48	12.57	2.28	3.44
1A-3	SD-1A-3	0.77	0.63	0.71	0.49	0.55	6.96	10.31	13.67	5.01	7.50
1A-4A	SD-1A-4A	0.23	0.76	0.85	0.18	0.20	5.00	11.30	15.00	2.01	2.97
1A-4B	SD-1A-4B	0.48	0.61	0.69	0.29	0.33	11.16	8.73	11.57	2.57	3.86
1A-4	SD-1A-4	0.72	0.67	0.75	0.48	0.54	11.16	8.73	11.57	4.20	6.25
1A-5	SD-1A-5	0.52	0.59	0.67	0.31	0.35	9.01	9.46	12.54	2.90	4.37
2A-1A	SD-2A-1A	0.23	0.60	0.68	0.14	0.16	6.36	10.59	14.04	1.47	2.20
2A-1B	SD-2A-1B	0.12	0.71	0.79	0.08	0.09	6.55	10.50	13.92	0.87	1.29
2A-1	SD-2A-1	0.35	0.64	0.72	0.22	0.25	6.36	10.59	14.04	2.35	3.50
2A-2A	SD-2A-2A	0.11	0.61	0.69	0.07	0.08	5.00	11.30	15.00	0.78	1.17
2A-2B	SD-2A-2B	0.07	0.67	0.76	0.05	0.05	5.00	11.30	15.00	0.54	0.80
2A-2	SD-2A-2	0.18	0.63	0.72	0.12	0.13	5.00	11.30	15.00	1.31	1.97
2A-3A	SD-2A-3A	0.40	0.61	0.69	0.24	0.27	10.84	8.83	11.70	2.14	3.22
2A-3B	SD-2A-3B	0.16	0.76	0.84	0.12	0.13	5.00	11.30	15.00	1.36	2.01
2A-3	SD-2A-3	0.56	0.65	0.74	0.36	0.41	10.84	8.83	11.70	3.20	4.78
2A-4A	SD-2A-4A	0.37	0.62	0.70	0.23	0.26	10.91	8.80	11.67	2.03	3.05
2A-4B	SD-2A-4B	0.14	0.74	0.83	0.11	0.12	5.00	11.30	15.00	1.21	1.79
2A-4	SD-2A-4	0.52	0.65	0.73	0.34	0.38	10.91	8.80	11.67	2.97	4.44
2A-5	SD-2A-5	0.22	0.65	0.73	0.14	0.16	10.50	8.94	11.85	1.28	1.92
2A-6	SD-2A-6	0.29	0.59	0.67	0.17	0.19	8.79	9.54	12.65	1.61	2.41
2A-7	SD-2A-7	0.14	0.70	0.78	0.09	0.11	5.00	11.30	15.00	1.07	1.59
2A-8	SD-2A-8	0.57	0.61	0.69	0.35	0.39	7.56	10.04	13.31	3.47	5.22
2B-1A	SD-2B-1A	0.70	0.65	0.73	0.45	0.51	9.33	9.34	12.38	4.24	6.34
2B-1B	SD-2B-1B	0.23	0.64	0.72	0.14	0.16	5.61	10.97	14.55	1.59	2.38
2B-1	SD-2B-1	0.93	0.65	0.73	0.60	0.68	9.33	9.34	12.38	5.59	8.36
2C-1	SD-2C-1	0.19	0.78	0.87	0.15	0.17	5.00	11.30	15.00	1.68	2.48
2D-1	SD-2D-1	0.29	0.62	0.70	0.18	0.20	5.04	11.28	14.97	2.03	3.04
2D-2A	SD-2D-2A	0.22	0.73	0.82	0.16	0.18	5.00	11.30	15.00	1.81	2.69
2D-2B	SD-2D-2B	0.12	0.71	0.79	0.08	0.09	5.00	11.30	15.00	0.94	1.40
2D-2	SD-2D-2	0.34	0.72	0.81	0.24	0.27	5.00	11.30	15.00	2.75	4.08
2D-3A	SD-2D-3A	0.28	0.71	0.79	0.20	0.22	5.00	11.30	15.00	2.23	3.31
2D-3B	SD-2D-3B	0.10	0.69	0.77	0.07	0.08	6.73	10.42	13.81	0.75	1.12
2D-3	SD-2D-3	0.38	0.70	0.79	0.27	0.30	5.00	11.30	15.00	3.05	4.53
2E-1	SD-2E-1	0.37	0.58	0.66	0.21	0.24	5.60	10.98	14.56	2.36	3.55
2E-2	SD-2E-2	0.14	0.66	0.75	0.09	0.10	5.00	11.30	15.00	1.05	1.56
2E-3	SD-2E-3	0.31	0.70	0.78	0.21	0.24	5.00	11.30	15.00	2.41	3.58
3A-1	SD-3A-1	0.17	0.63	0.71	0.11	0.12	7.33	10.14	13.45	1.12	1.67
3A-2A	SD-3A-2A	0.32	0.65	0.74	0.21	0.23	9.57	9.25	12.27	1.91	2.85
3A-2B	SD-3A-2B	0.16	0.67	0.76	0.11	0.12	6.24	10.65	14.12	1.13	1.68
3A-2	SD-3A-2	0.47	0.66	0.74	0.31	0.35	9.57	9.25	12.27	2.89	4.31
3B-1	SD-3B-1	1.26	0.52	0.59	0.65	0.74	5.00	11.30	15.00	7.33	11.12
3B-2A	SD-3B-2A	0.28	0.71	0.80	0.20	0.22	7.44	10.09	13.38	1.98	2.94
3B-2B	SD-3B-2B	0.15	0.70	0.79	0.11	0.12	7.58	10.03	13.30	1.07	1.59
3B-2	SD-3B-2	0.43	0.71	0.79	0.30	0.34	7.58	10.03	13.30	3.04	4.51
3C-1	SD-3C-1	0.91	0.51	0.58	0.46	0.53	6.61	10.47	13.88	4.82	7.31
3C-2A	SD-3C-2A	0.21	0.74	0.83	0.16	0.17	7.68	9.99	13.24	1.56	2.31
3C-2B	SD-3C-2B	0.24	0.73	0.81	0.18	0.20	6.75	10.40	13.79	1.85	2.74
3C-2	SD-3C-2	0.46	0.73	0.82	0.33	0.37	7.68	9.99	13.24	3.34	4.94
4A-1	SD-4A-1	5.18	0.33	0.40	1.72	2.09	21.79	6.42	8.53	11.04	17.84
4A-2	SD-4A-2	5.25	0.33	0.40	1.74	2.12	22.28	6.35	8.44	11.06	17.86
CULVERT	CULVERT	83.71	0.75	0.84	63.11	70.56	41.48	4.46	5.97	281.43	421.04

CITY OF LEANDER APPROVAL

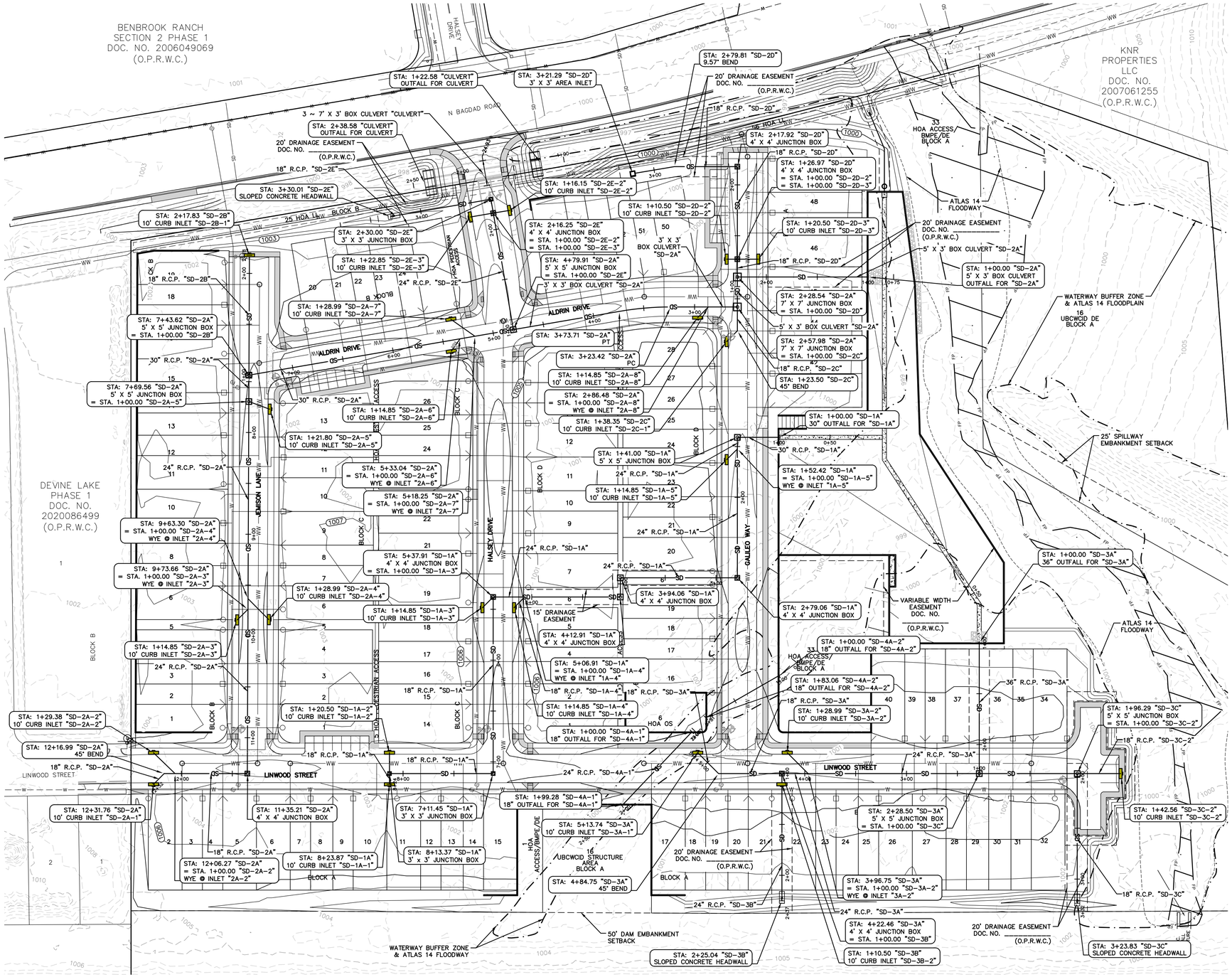
NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
DRAINAGE CALCULATIONS

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 26 OF 72



LEGEND

- W — WATER LINE
- RW — RECLAIMED WATER LINE
- WW — WASTEWATER LINE & MH
- SD — STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING CONTOUR LINE
- EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTE:

1. ALL STORM SEWER WYES AND BENDS SHALL BE PREFABRICATED.

CITY OF LEANDER APPROVAL

23-PICP-XXX

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
STORM DRAIN LAYOUT

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 27 OF 72

Date: Apr 11, 2023, 4:07pm User ID: ACHAVEZ
File: H:\Projects\51167\02\301 Construction Documents\Civil\SD51167-02.dwg

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:
NATURAL GROUND
FINISHED GRADE
SUBGRADE
PROPOSED STORM DRAIN
25-YR HGL
100-YR HGL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

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AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
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TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
STORM DRAIN PROFILES SD-1A & SD-2A 1 OF 3

MATCHLINE – STA: 4+50.00
SEE SHEET 29 OF 72

CITY OF LEANDER APPROVAL

CITY JOB No.	23-PICP-XXX
JOB NO.	51167-02
DATE	APRIL 2023
DESIGNER	ASB/BA
CHECKED	AC DRAWN MN
SHEET	28 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:21pm User ID: ACHAVEZ
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CITY OF LEANDER APPROVAL

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:
NATURAL GROUND
FINISHED GRADE
SUBGRADE
PROPOSED STORM DRAIN
25-YR HGL
100-YR HGL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
STORM DRAIN PROFILES SD-2A 2 OF 3

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 29 OF 72

23-PICP-XXX

PROFILE SCALES:

1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

NATURAL GROUND

FINISHED GRADE

SUBGRADE

PROPOSED STORM DRAIN

25-YR HGL

100-YR HGL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER

4/11/23

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HAWKES LANDING NORTH

PHASE 1

CITY OF LEANDER, TEXAS

STORM DRAIN PROFILES SD-2A 3 OF 3, SD-2B, SD-2C & SD-2D

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 30 OF 72

23-PICP-XXX

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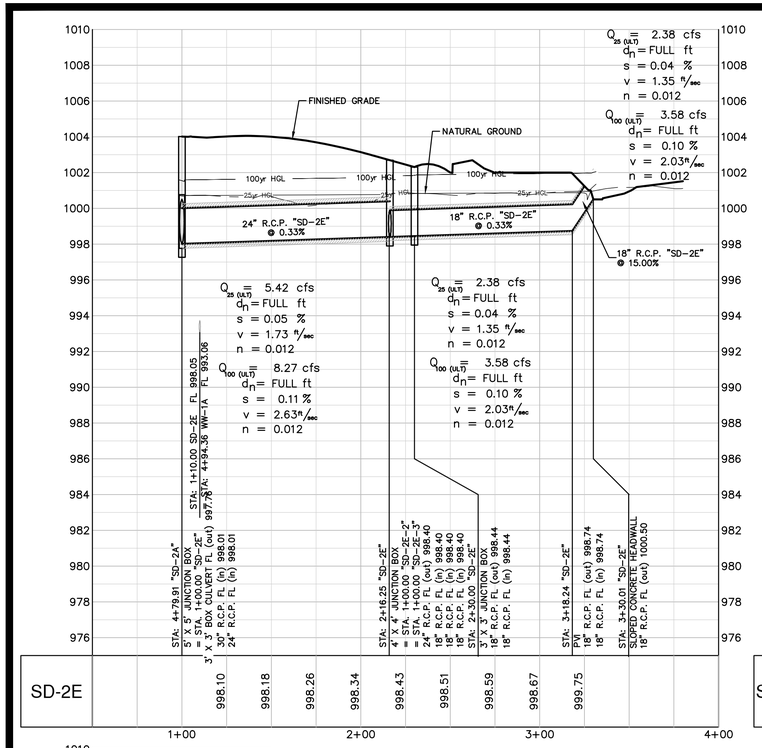
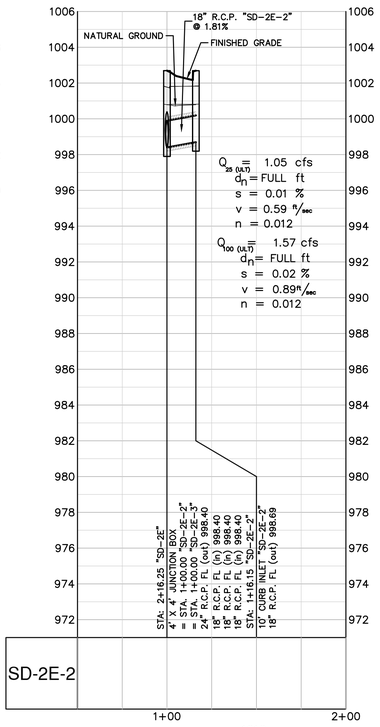
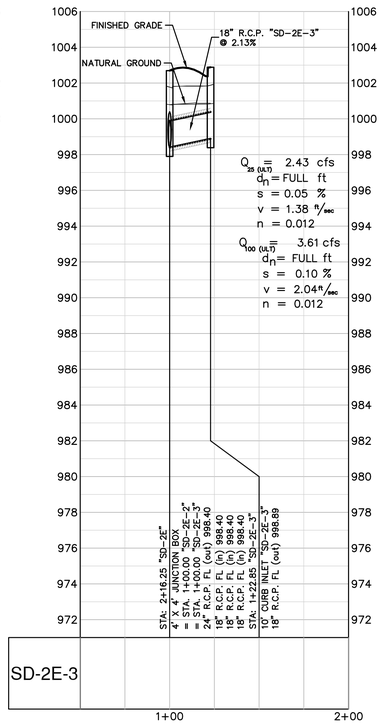
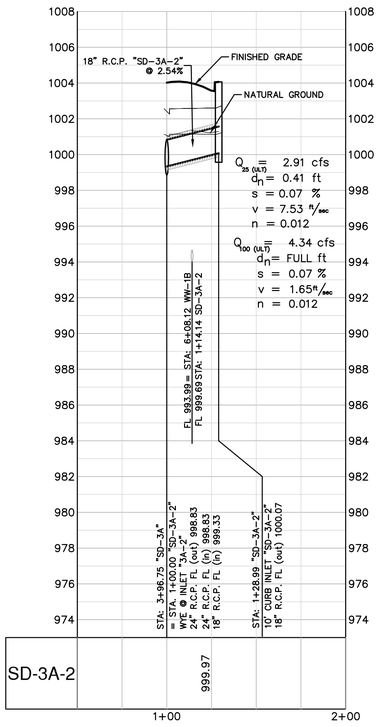
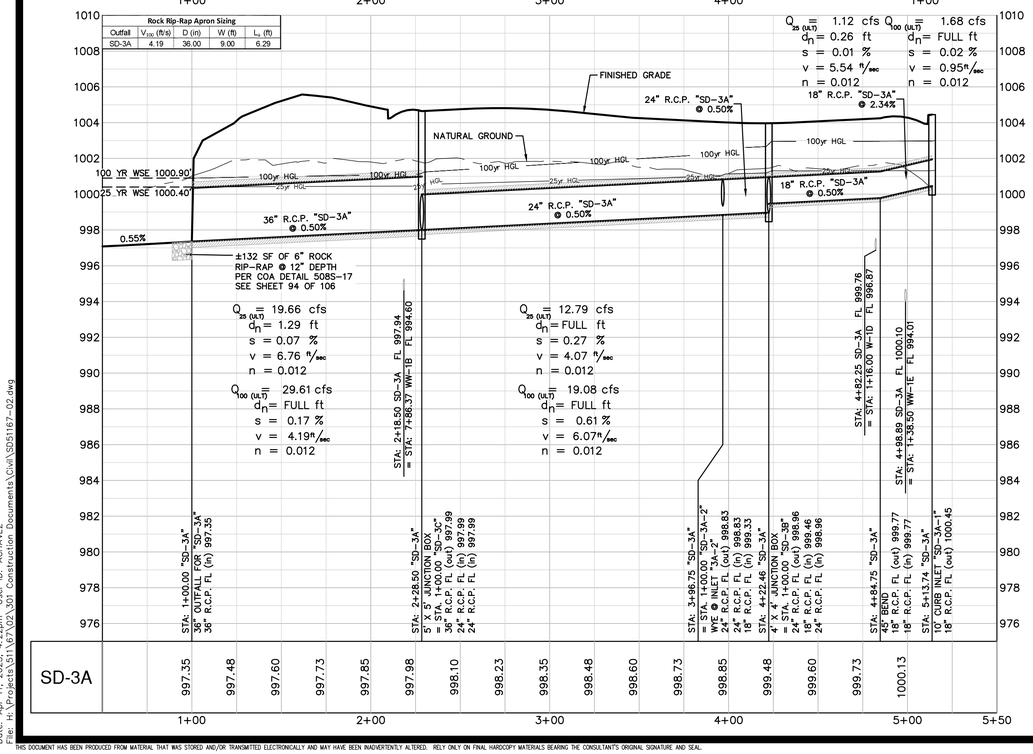








Rock Rip-Rap Apron Sizing				
Outfall	V_{25} (ft/s)	D (in)	W (ft)	L_a (ft)
SD-3A	4.19	36.00	9.00	6.29



PROFILE SCALES:

1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

NATURAL GROUND

FINISHED GRADE

SUBGRADE

PROPOSED STORM DRAIN

25-YR HGL

100-YR HGL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER

4/11/23

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH

PHASE 1

CITY OF LEANDER, TEXAS

STORM DRAIN PROFILES SD-2E & SD-3A

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 31 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:52pm User ID: ACHAVEZ
File: H:\Projects\51167.02\201_Construction Documents\Civil\SD51167-02.dwg

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:
NATURAL GROUND
FINISHED GRADE
SUBGRADE
PROPOSED STORM DRAIN
25-YR HGL
100-YR HGL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
STORM DRAIN PROFILES SD-3B, SD-3C, SD-4A & CULVERT

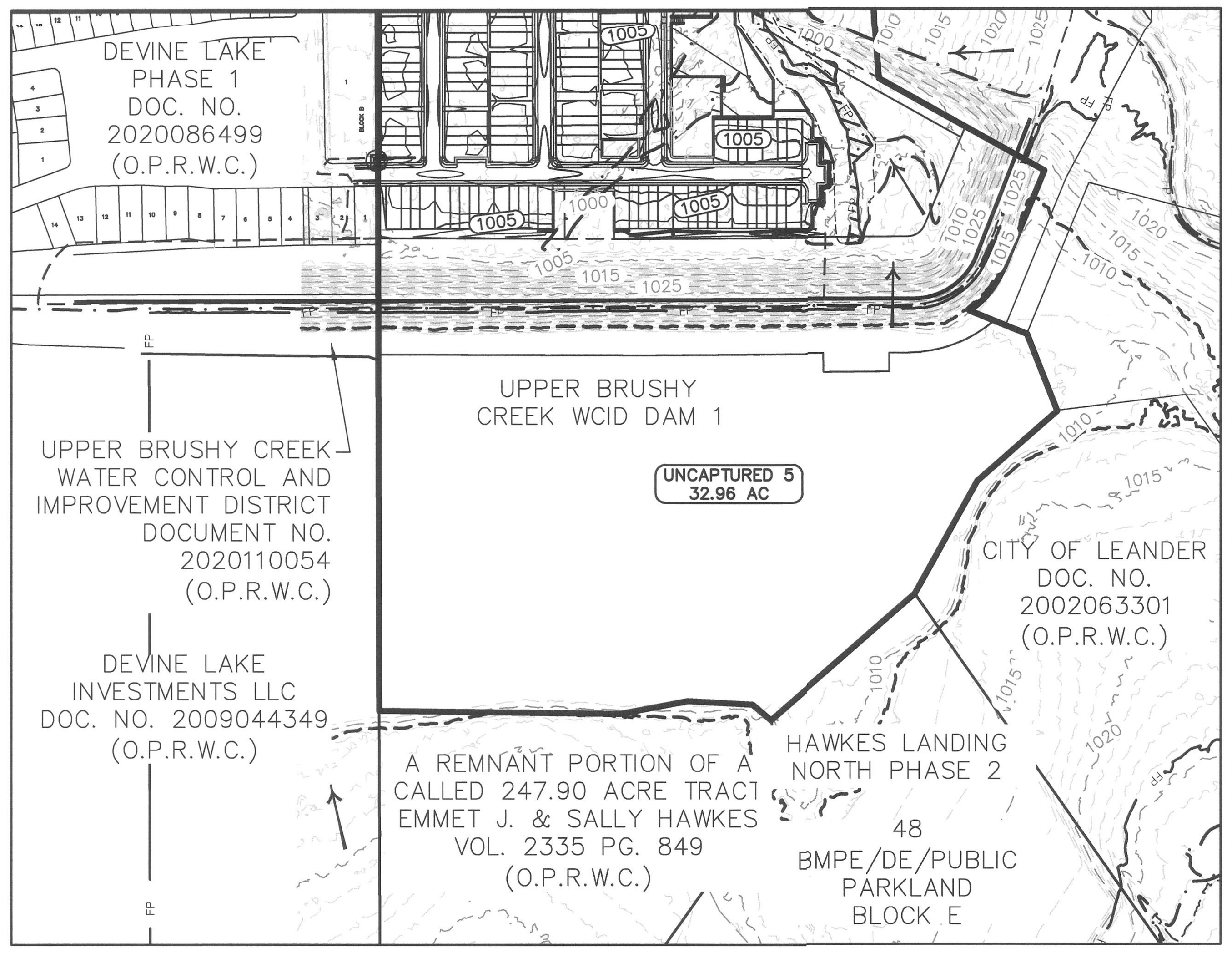
CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 32 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:23pm User ID: ACHAVEZ
File: H:\Projects\51167\02\301 Construction Documents\Civil\SD51167-02.dwg

Treatment Summary Table							
Current Application - Hawkes Landing North Phase 1							
Watershed	Watershed Area (acres)	Total Existing Impervious Cover (acres)	Total Proposed Impervious Cover (acres)	Total Net Impervious Cover (acres)	BMP	Required TSS Removal (lbs./yr.)	Designed TSS Removal (lbs./yr.)
DA-8	16.70	0.00	6.85	6.85	BATCH DETENTION POND 8	5966	6069
UNCAPTURED 1	0.78	0.39	0.48	0.09	OVER TREATMENT BY BATCH DETENTION POND 8	74	0
UNCAPTURED 2	0.04	0.00	0.01	0.01	OVER TREATMENT BY BATCH DETENTION POND 8	7	0
UNCAPTURED 3	0.06	0.00	0.02	0.02	OVER TREATMENT BY BATCH DETENTION POND 8	21	0
UNCAPTURED 4	0.16	0.00	0.00	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
UNCAPTURED 5	32.96	0.08	0.08	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
UNCAPTURED 6	0.54	0.29	0.28	0.00	NO BMP REQUIRED (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
OFFSITE 1	0.31	0.13	0.13	0.00	CAPTURED OFFSITE - BATCH DETENTION BASIN 8 (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
OFFSITE 2	2.22	0.00	0.00	0.00	CAPTURED OFFSITE - BATCH DETENTION BASIN 8 (NO ADDITIONAL IMPERVIOUS COVER PROPOSED)	0	0
Total	53.76	0.88	7.85	6.97		6069	6069



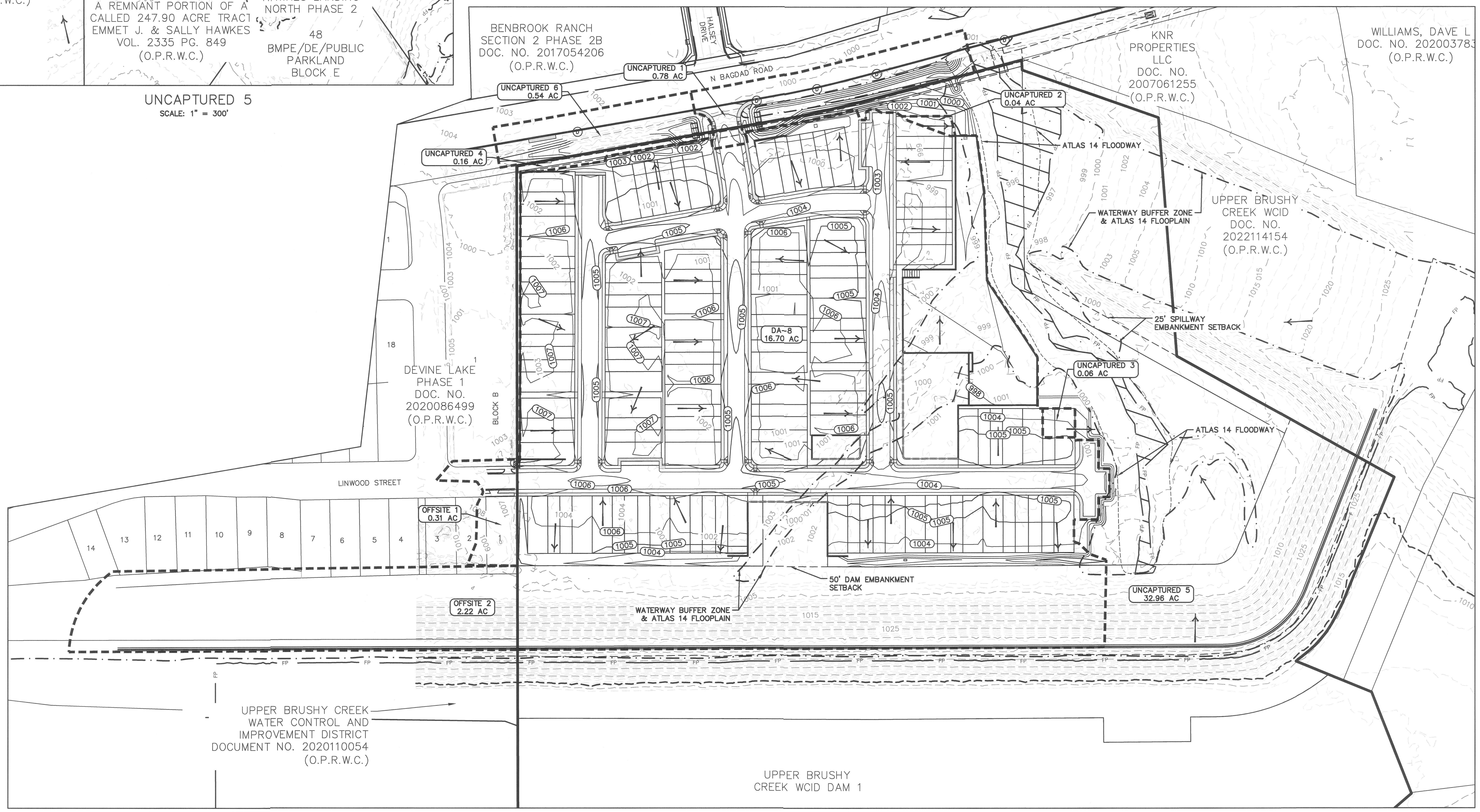
UNCAPTURED 5
SCALE: 1" = 300'

SCALE: 1" = 100'

0' 100' 200' 300'

LEGEND

(dashed line)	PROPOSED WATERSHED
OFFSITE 3A 3.92 AC	WATERSHED ACREAGE
(arrow)	FLOW DIRECTION
(shaded box)	TREATED BY VEGETATIVE FILTER STRIP WITHIN POND WATERSHED AREA
(dash-dot line)	WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
(dotted line)	ATLAS 14 FLOODWAY
(hatched box)	FEMA 1% ANNUAL CHANCE FLOODPLAIN



NO. | REVISION | DATE

STATE OF TEXAS
MICHAEL S FISHER
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER QUALITY TREATMENT SUMMARY

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 33 OF 72

Date: Apr 18, 2023, 4:40pm User ID: andrewdook
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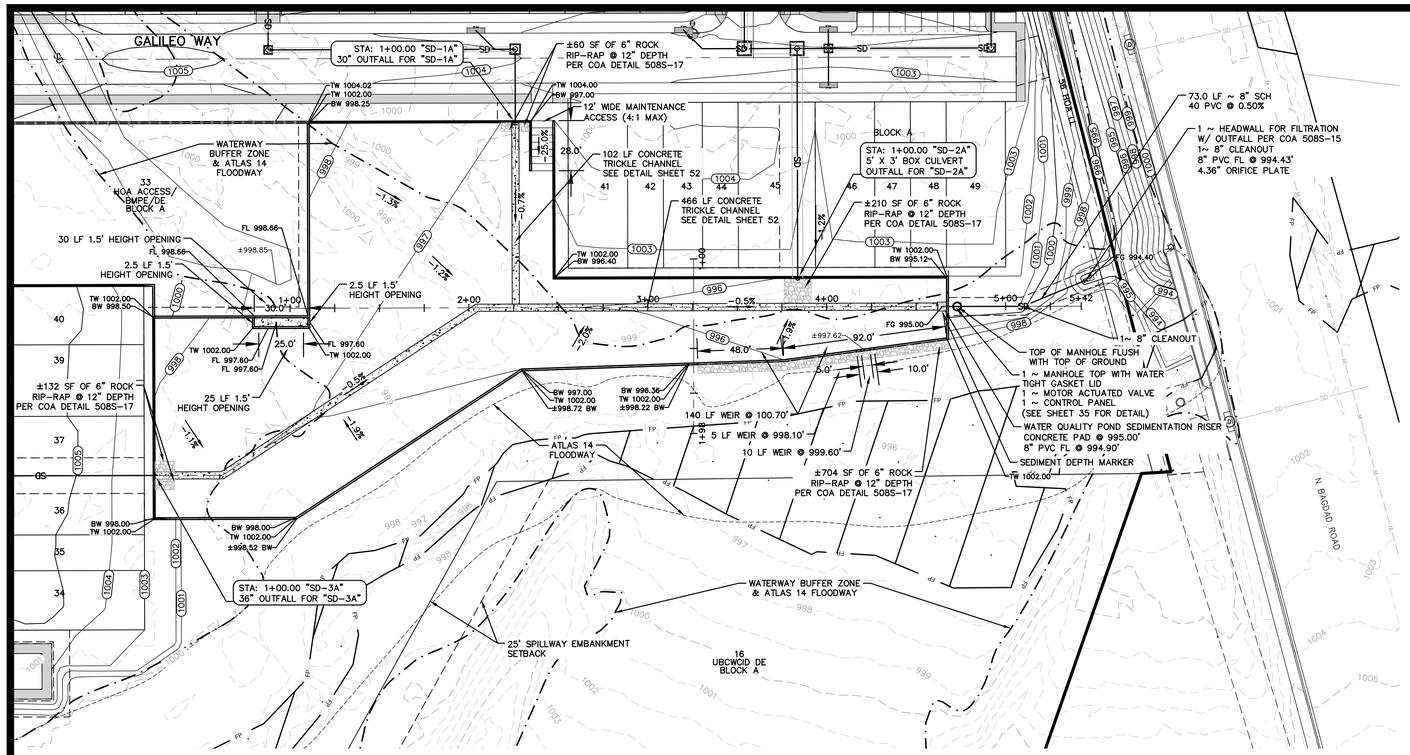
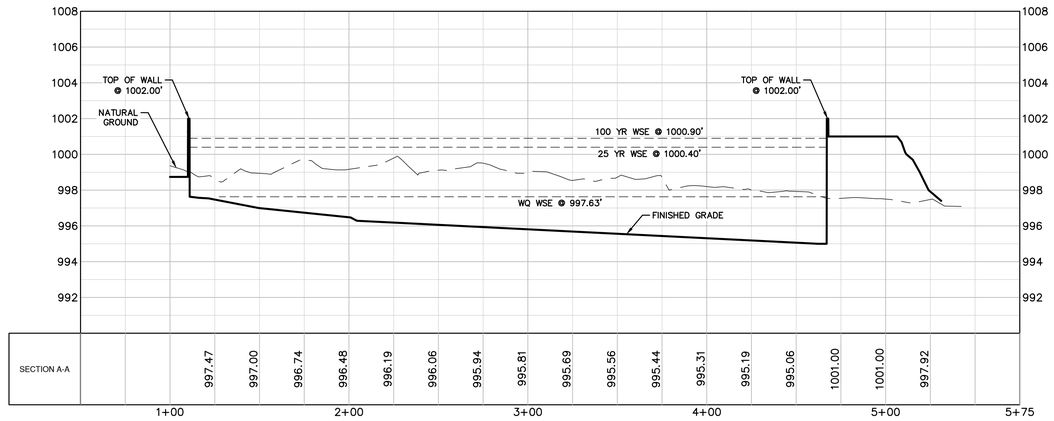
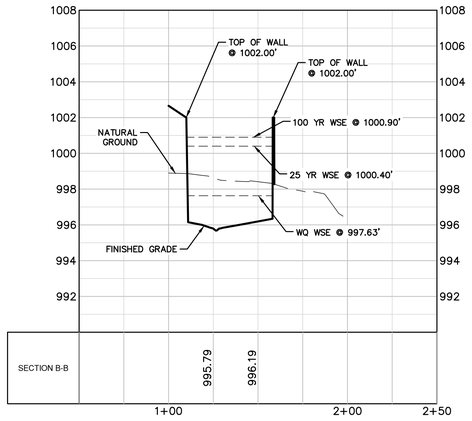


Batch Detention Pond 8 Elevation-Area-Storage Table

Stage	Water Quality Pond Area	Water Quality Pond Area	Incremental Height	Incremental Volume Avg. End Area	Cumulative Volume	Cumulative Volume	Comments	Peak Discharge
(ft. msl)	(sf)	(ac)	(ft)	(cf)	(cf)	(ac-ft)		(cfs)
995.00	25	0.00				0.00		
995.50	2,355	0.05	0.50	595	595	0.01		
996.00	5,771	0.13	0.50	2,032	2,627	0.06		
996.50	10,747	0.25	0.50	4,130	6,756	0.16		
997.00	21,315	0.49	0.50	8,016	14,772	0.34		
997.50	30,087	0.69	0.50	12,850	27,622	0.63		
997.63	31,407	0.72	0.13	3,997	31,619	0.73	Water Quality Volume	
998.00	40,242	0.92	0.37	13,255	44,874	1.03		
998.50	42,799	0.98	0.50	20,760	65,635	1.51		
999.00	42,954	0.99	0.50	21,438	87,073	2.00		
999.50	43,109	0.99	0.50	21,516	108,589	2.49		
1000.00	43,264	0.99	0.50	21,593	130,182	2.99		
1000.40	43,326	0.99	0.40	17,318	147,500	3.39	25-YR WSEL	76.40
1000.50	43,419	1.00	0.10	4,337	151,837	3.49		
1000.90	43,481	1.00	0.40	17,380	169,217	3.88	100-YR WSEL	151.30
1001.00	43,574	1.00	0.10	4,353	173,570	3.98		
1001.50	43,730	1.00	0.50	21,826	195,396	4.49		
1002.00	43,887	1.01	0.50	21,904	217,300	4.99		



CROSS SECTION A–A
1" = 40' HORIZONTAL
1" = 4' VERTICAL



CROSS SECTION B–B
1" = 40' HORIZONTAL
1" = 4' VERTICAL

CITY OF LEANDER APPROVAL

23-PICP-XXX

DATE

NO. REVISION

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
BATCH DETENTION POND 8

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 34 OF 72

Date: Apr 11, 2023, 4:24pm User ID: ACHAVEZ
File: K:\Projects\51167-02\301 Construction Documents\Civil\PD51167-02.dwg

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: HAWKES LANDING NORTH PHASE 1
Date Prepared: 3/31/2023

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 * =	53.64	acres
Predevelopment impervious area within the limits of the plan * =	0.82	acres
Total post-development impervious area within the limits of the plan* =	7.79	acres
Total post-development impervious cover fraction * =	0.15	
P =	32	inches
$L_{M\ TOTAL\ PROJECT}$ =	6069	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 =	16.70	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	6.85	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ =	5966	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Extended Detention — Batch Detention
Removal efficiency = 91 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_C 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 =	16.70	acres
A_I =	6.85	acres
A_P =	9.84	acres
L_R =	7061	lbs

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

Desired $L_{M\ THIS\ BASIN}$ = 6069 lbs.

F = 0.86

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

Rainfall Depth =	1.38	inches
Post Development Runoff Coefficient =	0.31	
On-site Water Quality Volume =	26091	cubic feet

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

Off-site area draining to BMP =	2.53	acres
Off-site Impervious cover draining to BMP =	0.00	acres
Impervious fraction of off-site area =	0.00	
Off-site Runoff Coefficient =	0.02	
Off-site Water Quality Volume =	253	cubic feet
Storage for Sediment =	5269	
Total Capture Volume (required water quality volume(s) x 1.20) =	31613	cubic feet

ORIFICE DRAWDOWN BATCH DETENTION POND 8

Contour Elevation (ft)	Contour Area (ft^2)	Average End Area Method $V_{1,2} = \left[\frac{A_1 + A_2}{2}\right] * d$ Incremental Volume (ft^3)	Total Volume (ft^3)	Orifice Discharge (cfs)	Incremental Drawdown Time (hr)	Total Drawdown Time (hr)
997.63	31,407					0.0
997.50	30,087	3,997	3,997	0.86	1.3	1.3
997.00	21,315	12,850	16,848	0.81	4.4	5.7
996.50	10,747	8,016	24,863	0.73	3.1	8.7
996.00	5,771	4,130	28,993	0.64	1.8	10.5
995.50	2,355	2,032	31,024	0.53	1.1	11.6
995.00	25	595	31,619	0.40	0.4	12.0

ORIFICE DIAMETER	4.36	in
ORIFICE FL ELEV	994.43	
ORIFICE CENTROID ELEV	994.61	
ORIFICE AREA (Ao)	0.104	sf
ORIFICE COEFFICIENT	0.6	

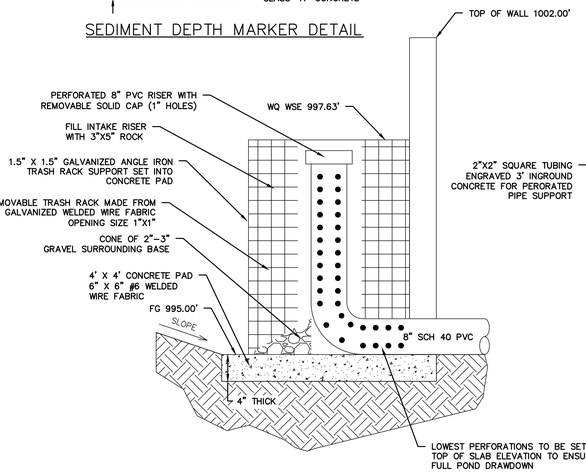
ORIFICE EQUATION $Q = CA_o\sqrt{2gH}$

Total Drawdown Time	12.0	hours
Total Hold + Drawdown Time (Max. 48 Hours)	24.0	hours
Orifice Discharge Rate (Average)	0.73	cfs

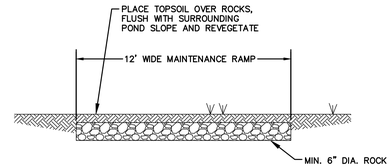
BATCH DETENTION POND 8 UNDERDRAIN SIZING CALCULATIONS

DRAIN LINE ID	WATER QUALITY VOLUME WQV (cf)	AVERAGE DRAWDOWN FLOWRATE FROM ORIFICE (VALVE) Q (cfs)	PIPE DIAMETER D (in)	MANNINGS N n	PIPE SLOPE S (ft/ft)	FULL FLOW CAPACITY Qcap	K	FRICTION SLOPE Sf (ft/ft)
POND DRAIN 8	31,619	0.73	8	0.010	0.005	1.11	15.71	0.0022

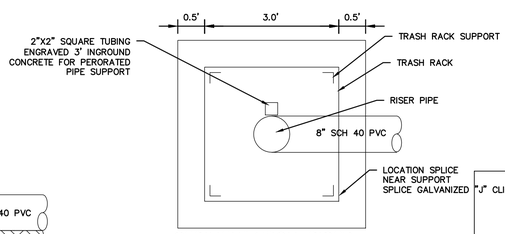
Overflow Weir (25 YR)		Overflow Weir (100 YR)	
H_{25} (ft)=	$Q_{25}/(CL))^{2/3}$	H_{100} (ft)=	$(Q_{100}/(CL))^{2/3}$
Q_{25} (ft^3/s) =	76.40	Q_{100} (ft^3/s) =	151.30
C =	2.70	C =	2.70
L (ft) =	10.00	L (ft) =	140.00
H_{25} (ft)=	2.00	H_{100} (ft)=	0.54
V_{25} (fps)=	3.82	V_{100} (fps)=	1.99



SEDIMENT DEPTH MARKER DETAIL



POND MAINTENANCE ACCESS SECTION
NTS



SEDIMENTATION RISER
N.T.S.

HOLE FREQUENCY OF PERFORATED RISER PIPE

RISER PIPE DIAMETER = 8"
HEIGHT OF RISER PIPE = 2.63'
DIAMETER OF PERFORATIONS = 1"
NUMBER OF PERFORATIONS PER ROW = 4"
VERTICAL SPACING BETWEEN ROWS (ON CENTER) = 4"

CITY OF LEANDER APPROVAL

NO. | REVISION | DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
BATCH DETENTION POND 8 DETAILS 1 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 35 OF 72

Date: Apr 11, 2023, 4:24pm User ID: ADAMKEZ
File: H:\Projects\51167-02\03_Construction Documents\Civil\P051167-02.dwg

Item # 37

Switch-Tek™ LP15 Guard Capacitance Level Switch

FLOWLINE®

Application

TRANSCAT ▶ Visit us at Transcat.com! 35 Vantage Point Drive // Rochester, NY 14624 // Call 1.800.800.3281

The general purpose guard capacitance point level switch provides reliable high or low liquid level detection of water based conductive liquids with light coating, crystallizing or scaling characteristics with a 1A relay output. Media examples include copper sulfate and brine. The RF guard circuit eliminates the coating signal path between the active and reference electrodes. The submersible polypropylene liquid level sensor is universally mounted through non-metallic tank walls or inside the tank as a high level alarm or low level alarm.

CE

Features

- Guard circuit optimizes performance in coating type media
- Submersible polypropylene sensor body and cable for corrosive liquids
- 60VA relay selectable NO or NC via power supply wiring polarity
- Compatible with Smart Trak and Switch-Pak installation fittings

Key Benefits

- Ideal for side wall or top mount
- Ideal for coating liquids
- Great for waste water applications

Compatible Products

Switch-Pro™
Remote Level Controller

LC4X

Application

Available in general purpose classification, the level controller is offered in three configurations for pump and valve control. The LC40 accepts one level sensor input and provides one 10A relay. The LC41 accepts two level sensor inputs and provides one latching 10A relay for automatic fill or empty control. The LC42 accepts three level sensor inputs with one latching 10A relay output for automatic fill or empty control, and a second non-latching 10A relay for high level alarm or low level alarm. For field mount installation, add a single or dual indicator NEMA box.

Switch-Pro™
Compact Level Controller

LC1X

Application

The general purpose level controller is offered in two configurations for pump and valve control. The LC10 accepts one level sensor input and provides one 16A relay for high level control or low level control. The LC11 accepts two level sensor inputs and provides one latching 16A relay for automatic fill or empty control. The optional flash alarm brings attention to level alarm conditions. Package this level controller with our liquid level switch sensors and fittings.

DS150412 REV A

Switch-Tek™ LP15 Guard Capacitance Level Switch

FLOWLINE®

Specifications

Orientation:	Universal
Accuracy:	± 1mm in water
Repeatability:	± 0.5mm in water
Dielectric range:	> 20 constants
Conductive range:	> 100 µ
Supply voltage:	12-36 VDC
Consumption:	25 mA maximum
Contact type:	(1) SPST relay
Contact rating:	60 VA, 1A maximum
Contact output:	Selectable NO / NC
Process temp:	F: -40° to 176°
	C: -40° to 80°
Pressure:	150 psi (10 bar) @ 25°
	C., derated @ 1.667
	psi (0.113 bar) per °C.
	above 25° C.
Sensor rating:	NEMA 6 (IP68)
Sensor material:	Polypropylene
Cable jack. mat.:	Polypropylene
Cable type:	4-conductor, shielded
	#22 AWG
Cable length:	10' (3m)
Process mount:	3/4" NPT (3/4" G)
Mount. gasket:	Viton® (G version only)
Classification:	General purpose
Compliance:	CE

Dimensions

Fittings

For optimum performance, install the level sensor using the below recommended or direct equivalent fittings.

P/N	Description
Switch-Pak Single-Point Switch Fitting	
LM45-7001	2" NPT Plug, 3/4" NPT Adapter & Nipple, PVC
LM45-1001	2" NPT Plug, 3/4" NPT Adapter & Nipple, PP
LM45-5001	2" NPT Plug, 3/4" NPT Adapter & Nipple, PVDF
Smart Trak Multi-Point Switch Fitting	
LM10-1201	2' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1401	4' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1601	6' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1801	8' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1001	10' Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1101	1m Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1301	2m Track, 2" NPT Plug, 3/4" NPT Nipple, PP
LM10-1701	3m Track, 2" NPT Plug, 3/4" NPT Nipple, PP
Smart Trak Level Switch Car Kit	
LM30-1001	Switch Car Kit, 3/4" NPT, Polypropylene
LM30-1061	Switch Car Kit, 3/4" Rp, Polypropylene
LM52-2890	2" NPT Bulkhead Fitting, PVC
Side-Mount Bracket	
LM50-1001	2" NPT Bracket, Polypropylene

Ordering

LP15-14□5

Process mount (1) (2)
0 *NPT (US)*
2 *G / Rp (Metric)*

Notes

1) To special order a 25' (7.6m) or 50' (15.2 m) level sensor cable, place the cable length at the end of the part number (ie: LP15-1405-25'). Add $20 for 25' (7.6m) or $40 for 50' (15.2m) to the price.
2) The metric level sensor has straight G threads on the sensing side and conical Rp threads on the cable side of the wrench flat.

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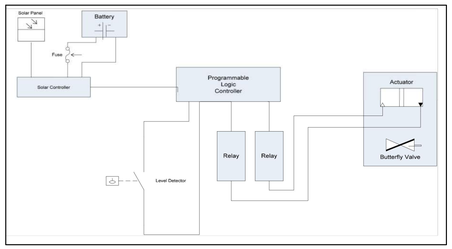
DS150412 REV A

CONTROLLER CIRCUIT DIAGRAM

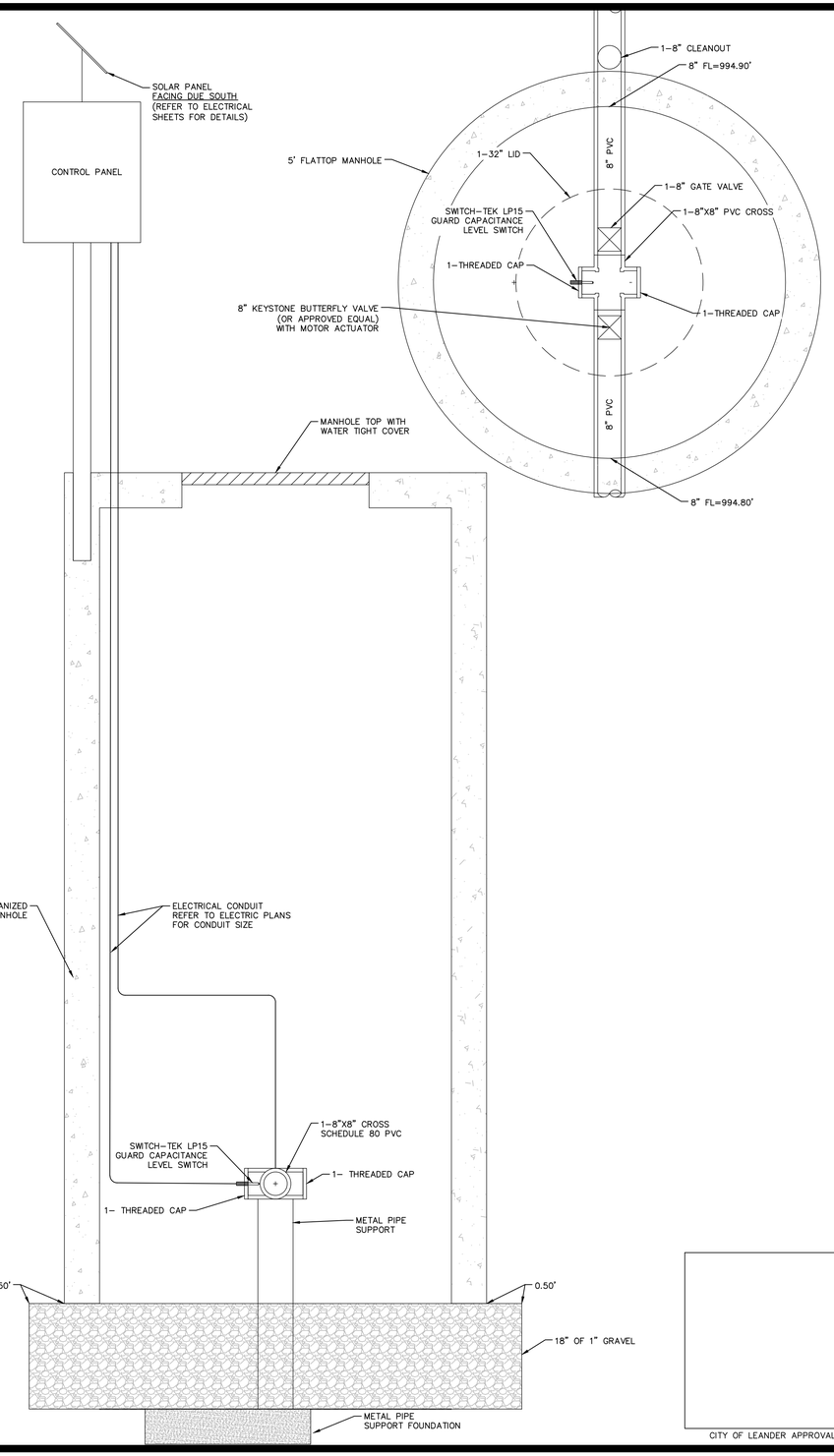
CONTROLLER NOTES:
1. REFER TO THE LOGIC CONTROLLER CYCLE OVERVIEW.
2. CLEARLY VISIBLE ALARM SYSTEM TO BE PROVIDED TO INDICATE SYSTEM MALFUNCTION.
3. SIGN TO BE POSTED WITH PHONE NUMBERS OF THE OWNER AND APPROPRIATE TCEQ REGIONAL OFFICE.



Batch Detention Pond Controller Information		
Component	Description	Voltage
Power System	Solar Charged 12 VDC Battery (Model MK Powered 8Gu1) (Or approved equal)	
Logic Controller	IDEC FL1C-H12RCE (Or approved equal)	12
Parts Enclosure	Southwest Photovoltaic Model BBG-1 (15.75" wide x 9.75" deep x 11.75" tall) (Or approved equal)	
Nature of Event Sensing	Anchor Scientific Float Switch (Or approved equal)	
Valve Type	Keystone 8" Butterfly Valve with over torque sensors and mechanical hand crank for physical override if necessary. Able to withstand 100 psi minimum. (Or approved equal)	
Actuator	EPI-6 12 VDC. Able to withstand 100 psi minimum. (Or approved equal)	12
Power Consumption (actuator, controller, relay, PLC)	242.58 W, 46.5 W-hours	

LOGIC CONTROLLER CYCLE OVERVIEW:

1. CASE 1: A SINGLE RAIN EVENT FILLS THE BATCH DETENTION BASIN. THE BASIN HOLDS THE DIVERTED STORM WATER FOR THE DETENTION TIME (12 HOURS) AND THE RELEASES THE WATER. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
2. CASE 2: A SINGLE RAIN EVENT OCCURS, BUT DOES NOT COMPLETELY FILL THE BATCH DETENTION BASIN. THE BASIN HOLDS THE WATER FOR THE DETENTION PERIOD (12 HOURS), AND THEN RELEASES IT. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
3. CASE 3: A SINGLE RAIN EVENT FILLS THE BATCH DETENTION BASIN UNDER THE TRIP POINT OF THE LEVEL SENSOR. THE LEVEL SENSOR DOES NOT TRIP. THE CAPTURED WATER IS HELD UNTIL IT INFILTRATES / EVAPORATES OR IS JOINED BY STORM WATER FROM A SUBSEQUENT STORM.
4. CASE 4: BEGINS THE SAME AS CASE 1. DURING THE DRAWDOWN PERIOD, ONE OR MORE ADDITIONAL RAIN EVENTS OCCUR CAUSING ADDITIONAL WATER TO ENTER THE BATCH DETENTION BASIN. THE VALVE REMAINS OPEN AND THE ADDITIONAL WATER VOLUME IS DRAINED. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
5. CASE 5: BEGINS THE SAME AS CASE 2. DURING THE DRAWDOWN PERIOD, ONE OR MORE ADDITIONAL RAIN EVENTS CAN OCCUR CAUSING ADDITIONAL WATER TO ENTER THE BASIN. THE VALVE REMAINS OPEN AND THE ADDITIONAL WATER VOLUME IS DRAINED. ONCE THE BATCH DETENTION BASIN IS EMPTY, A DELAY OF 2 HOURS IS STARTED TO ALLOW THE BASIN TO COMPLETELY DRAIN, AND THEN A CLOSE SIGNAL IS SENT TO THE ACTUATOR TO CLOSE THE VALVE.
6. CASE 6: INTERMITTENT NUISANCE WATER LESS THAN THE FLOAT ON ELEVATION. TO ALLEVIATE SMALL FLOWS DUE TO IRRIGATION OUTSIDE OF STORM EVENTS, THE CONTROLLER WILL OPEN THE VALVE ONCE A WEEK FOR TWO HOURS TO DRAIN ANY NUISANCE WATER.



CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

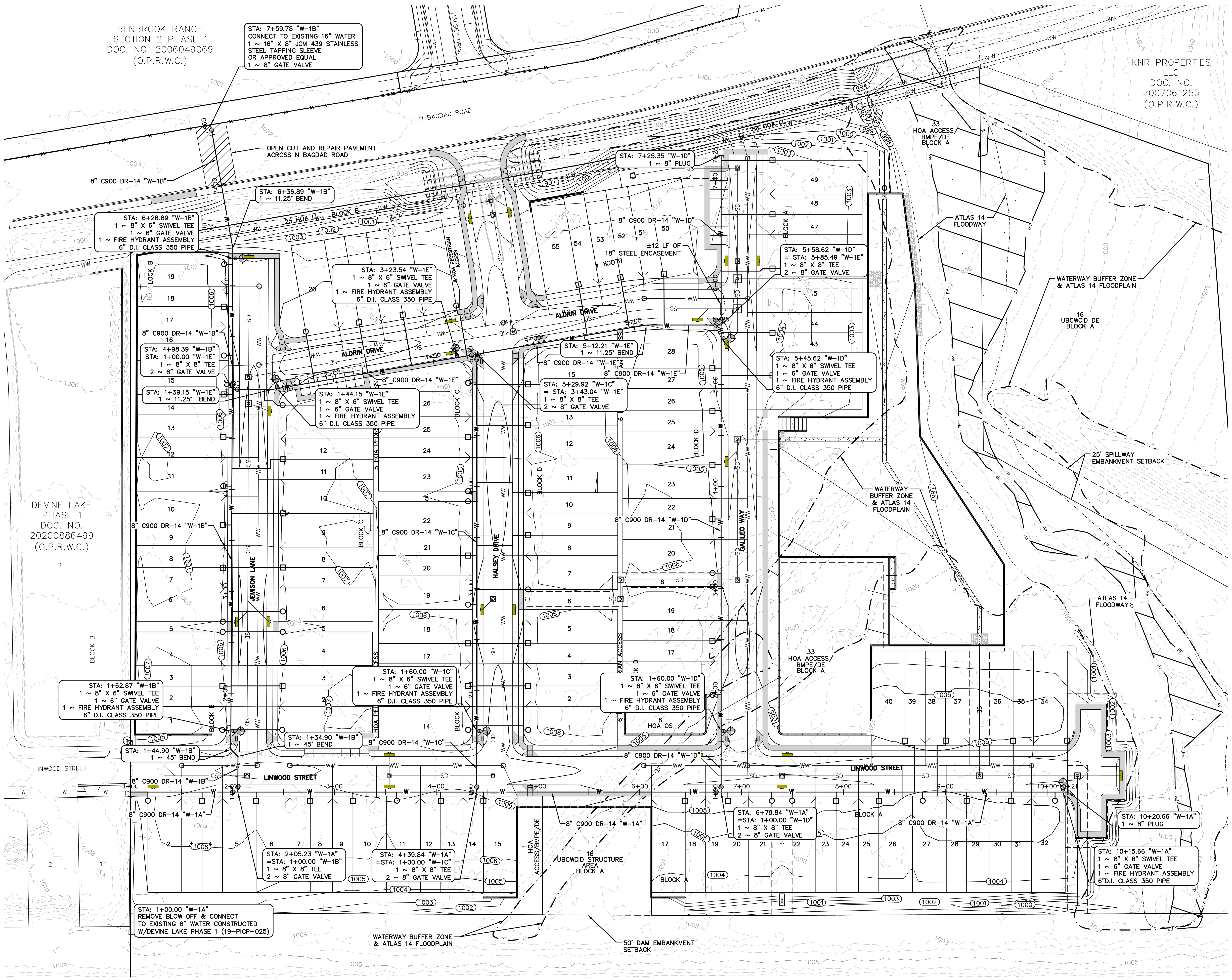
STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
BATCH DETENTION POND 8 DETAILS 2 OF 2

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 36 OF 72

23-PICP-XXX



BENBROOK RANCH SECTION 2 PHASE 1 DOC. NO. 2006049069 (O.P.R.W.C.)
STA: 7+59.78 "W-1B" CONNECT TO EXISTING 16" WATER 1 ~ 16" X 8" JCM 439 STAINLESS STEEL TAPPING SLEEVE OR APPROVED EQUAL 1 ~ 8" GATE VALVE
KNR PROPERTIES LLC DOC. NO. 2007061255 (O.P.R.W.C.)
N BAGDAD ROAD
OPEN CUT AND REPAIR PAVEMENT ACROSS N BAGDAD ROAD
8" C900 DR-14 "W-1B"
STA: 6+36.89 "W-1B" 1 ~ 11.25° BEND
STA: 6+26.89 "W-1B" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6" D.I. CLASS 350 PIPE
STA: 7+25.35 "W-1D" 1 ~ 8" PLUG
8" C900 DR-14 "W-1D"
±12 LF OF 18" STEEL ENCASEMENT
33 HOA ACCESS/ BMPE/DE BLOCK A
ATLAS 14 FLOODWAY
STA: 3+23.54 "W-1E" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6" D.I. CLASS 350 PIPE
STA: 5+58.62 "W-1D" = STA: 5+85.49 "W-1E" 1 ~ 8" X 8" TEE 2 ~ 8" GATE VALVE
WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
16 UBCWCID DE BLOCK A
ALDRIN DRIVE
STA: 4+98.39 "W-1B" STA: 1+00.00 "W-1E" 1 ~ 8" X 8" TEE 2 ~ 8" GATE VALVE
STA: 5+12.21 "W-1E" 1 ~ 11.25° BEND
8" C900 DR-14 "W-1E"
STA: 5+45.62 "W-1D" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6" D.I. CLASS 350 PIPE
STA: 1+39.15 "W-1E" 1 ~ 11.25° BEND
STA: 1+44.15 "W-1E" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6" D.I. CLASS 350 PIPE
STA: 5+29.92 "W-1C" = STA: 3+43.04 "W-1E" 1 ~ 8" X 8" TEE 2 ~ 8" GATE VALVE
25' SPILLWAY EMBANKMENT SETBACK
DEVINE LAKE PHASE 1 DOC. NO. 20200886499 (O.P.R.W.C.)
8" C900 DR-14 "W-1C"
HALSEY DRIVE
GALILEO WAY
JEMISON LANE
WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
ATLAS 14 FLOODWAY
33 HOA ACCESS/ BMPE/DE BLOCK A
STA: 1+60.00 "W-1C" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6" D.I. CLASS 350 PIPE
STA: 1+60.00 "W-1D" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6" D.I. CLASS 350 PIPE
STA: 1+62.87 "W-1B" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6" D.I. CLASS 350 PIPE
STA: 1+34.90 "W-1B" 1 ~ 45° BEND
STA: 1+44.90 "W-1B" 1 ~ 45° BEND
LINWOOD STREET
8" C900 DR-14 "W-1A"
STA: 6+79.84 "W-1A" =STA: 1+00.00 "W-1D" 1 ~ 8" X 8" TEE 2 ~ 8" GATE VALVE
STA: 10+20.66 "W-1A" 1 ~ 8" PLUG
STA: 10+15.66 "W-1A" 1 ~ 8" X 6" SWIVEL TEE 1 ~ 6" GATE VALVE 1 ~ FIRE HYDRANT ASSEMBLY 6"D.I. CLASS 350 PIPE
STA: 2+05.23 "W-1A" =STA: 1+00.00 "W-1B" 1 ~ 8" X 8" TEE 2 ~ 8" GATE VALVE
STA: 4+39.84 "W-1A" =STA: 1+00.00 "W-1C" 1 ~ 8" X 8" TEE 2 ~ 8" GATE VALVE
HOA ACCESS/BMPE/DE
16 UBCWCID STRUCTURE AREA BLOCK A
STA: 1+00.00 "W-1A" REMOVE BLOW OFF & CONNECT TO EXISTING 8" WATER CONSTRUCTED W/DEVINE LAKE PHASE 1 (19-PICP-025)
WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
50' DAM EMBANKMENT SETBACK

SCALE: 1"= 50'

0' 50' 100' 150'

LEGEND

- WATER LINE
- RECLAIMED WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTES:

1. WATER LINES SHALL BE CURVED BY BENDING (MIN. RADIUS OF 200') TO PASS BEHIND STORM DRAIN INLETS.

NO. | REVISION | DATE

STATE OF TEXAS — MICHAEL S. FISHER — 87704 — LICENSED PROFESSIONAL ENGINEER — 4/11/23

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER LAYOUT

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 37 OF 72

Date: Apr 11, 2023, 4:25pm User ID: ACHAVEZ
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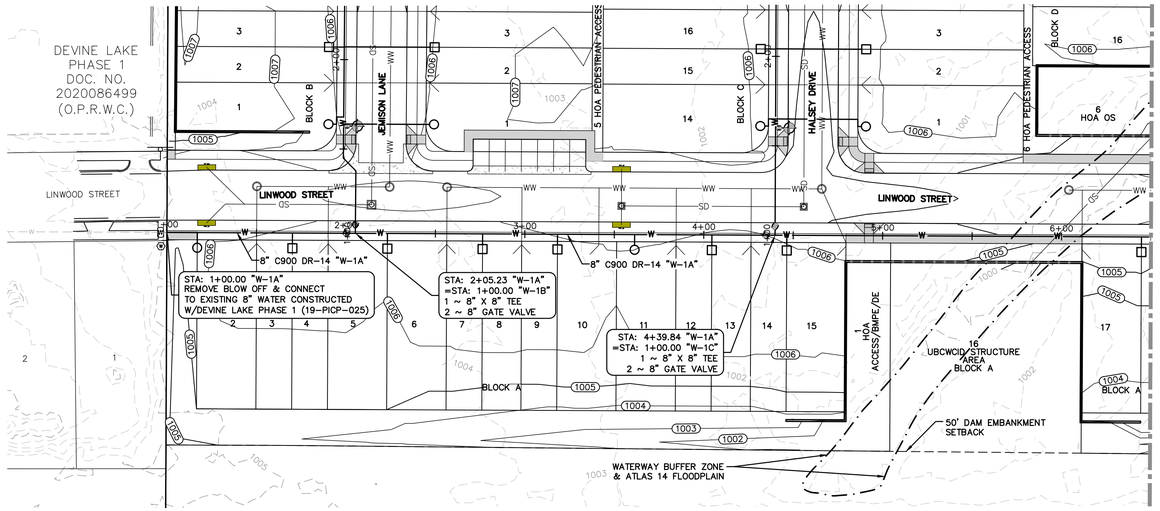
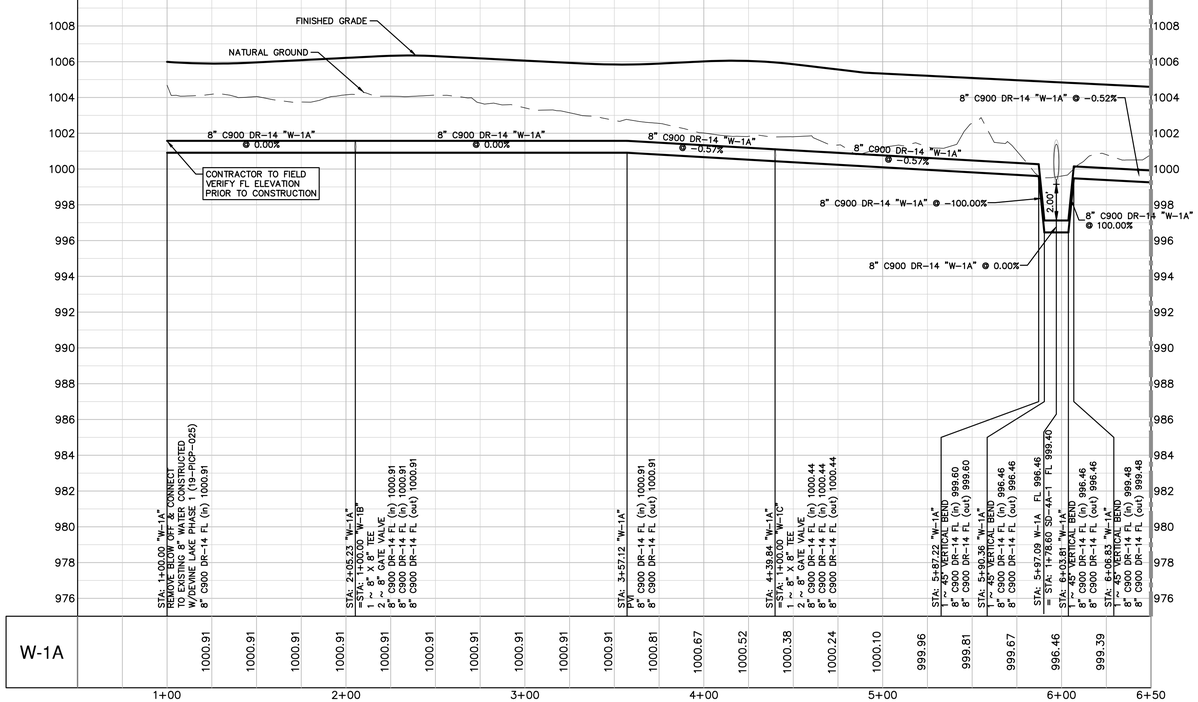
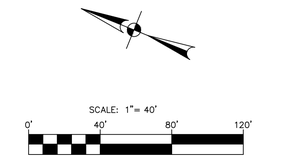






LEGEND

- WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTES

1. EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE. CONTRACTOR IS TO VERIFY LOCATIONS ON ALL EXISTING UTILITY LINES PRIOR TO COMMENCING WORK.

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL
PROFILE LEGEND:

- NATURAL GROUND
- SUBGRADE
- FINISHED GRADE
- PROPOSED WATER

STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

CITY OF LEANDER APPROVAL

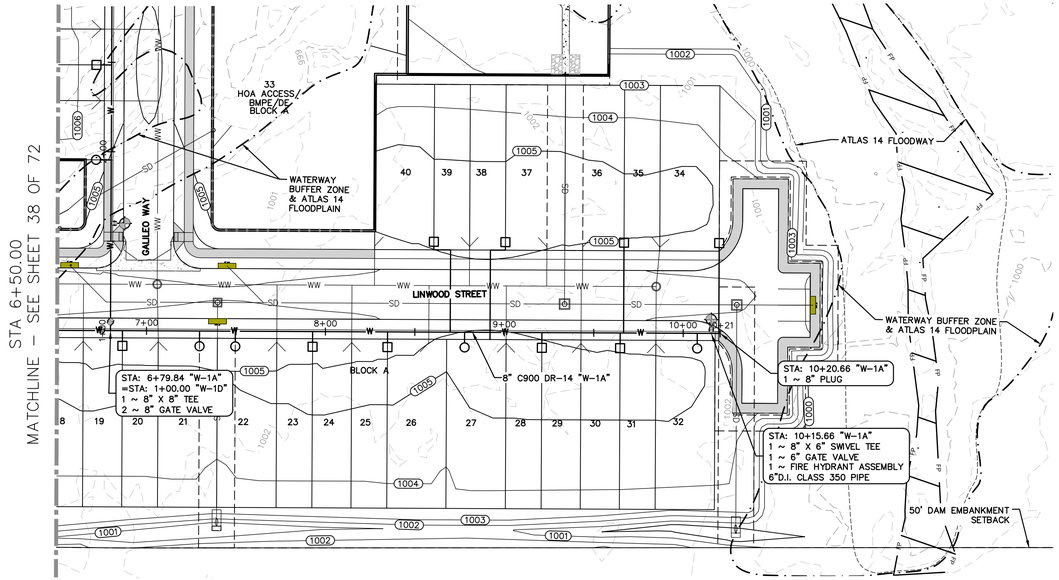
NO.	REVISION	DATE

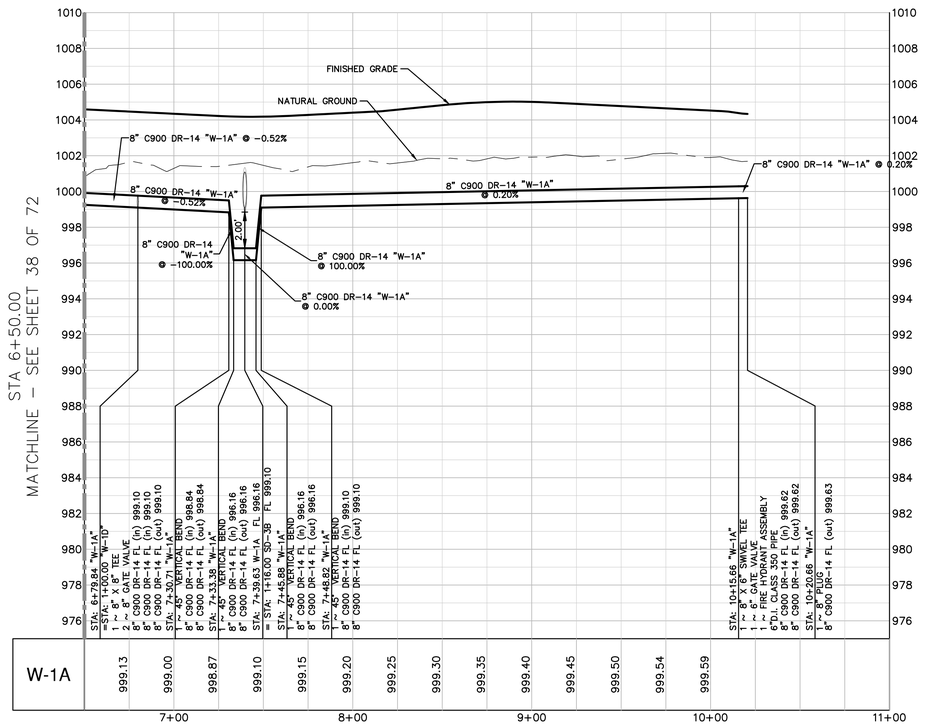
STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

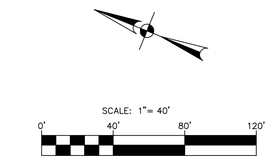
PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER PLAN & PROFILE W-1A 1 OF 2

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 38 OF 72







LEGEND

- WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTES

1. EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE. CONTRACTOR IS TO VERIFY LOCATIONS ON ALL EXISTING UTILITY LINES PRIOR TO COMMENCING WORK.

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL
PROFILE LEGEND:

- NATURAL GROUND
- SUBGRADE
- FINISHED GRADE
- PROPOSED WATER

STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

CITY OF LEANDER APPROVAL

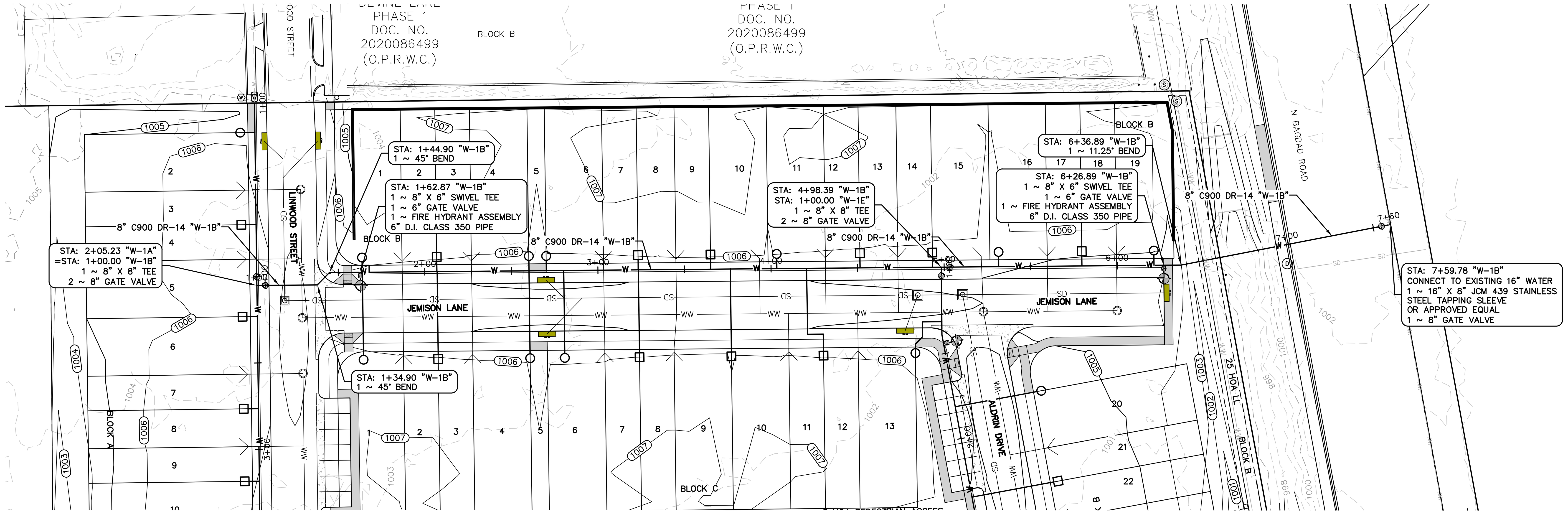
NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER PLAN & PROFILE W-1A 2 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 39 OF 72

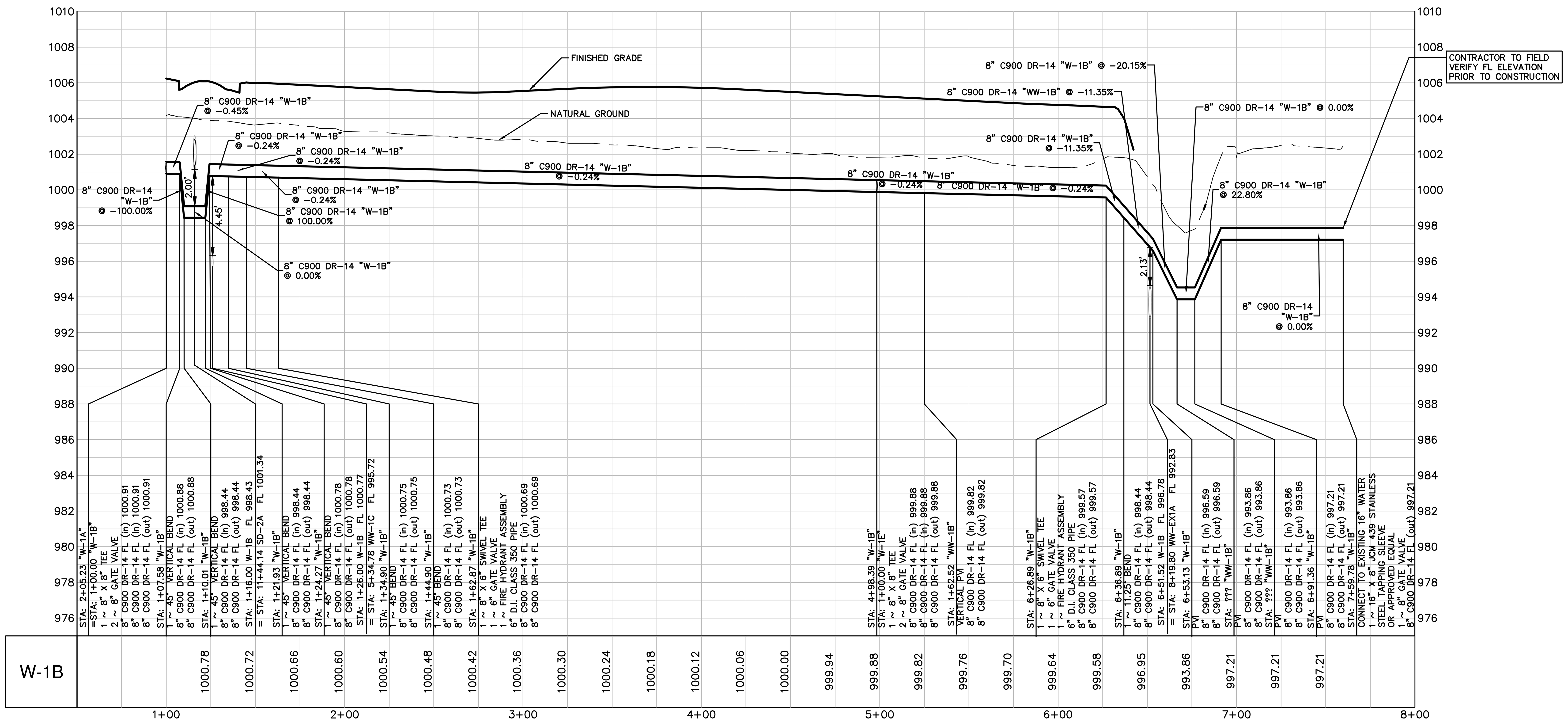


SCALE: 1"= 40'

0' 40' 80' 120'

LEGEND

- WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN



NOTES

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PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:
- NATURAL GROUND
- SUBGRADE
- FINISHED GRADE
- PROPOSED WATER

STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS — MICHAEL S. FISHER — 87704 — LICENSED PROFESSIONAL ENGINEER

4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER PLAN & PROFILE W-1B

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 40 OF 72

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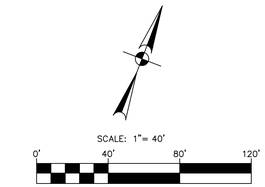

LEGEND

- WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTES

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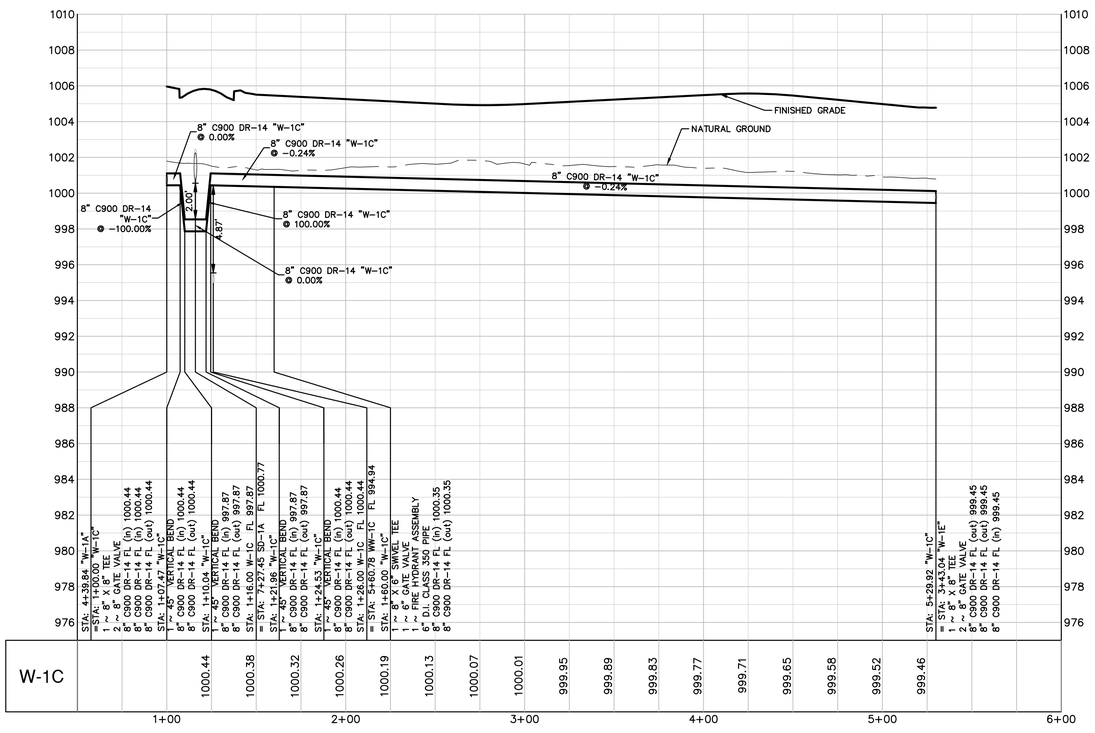

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

- NATURAL GROUND
- SUBGRADE
- FINISHED GRADE
- PROPOSED WATER
- STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER PLAN & PROFILE W-1C

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 41 OF 72

23-PICP-XXX

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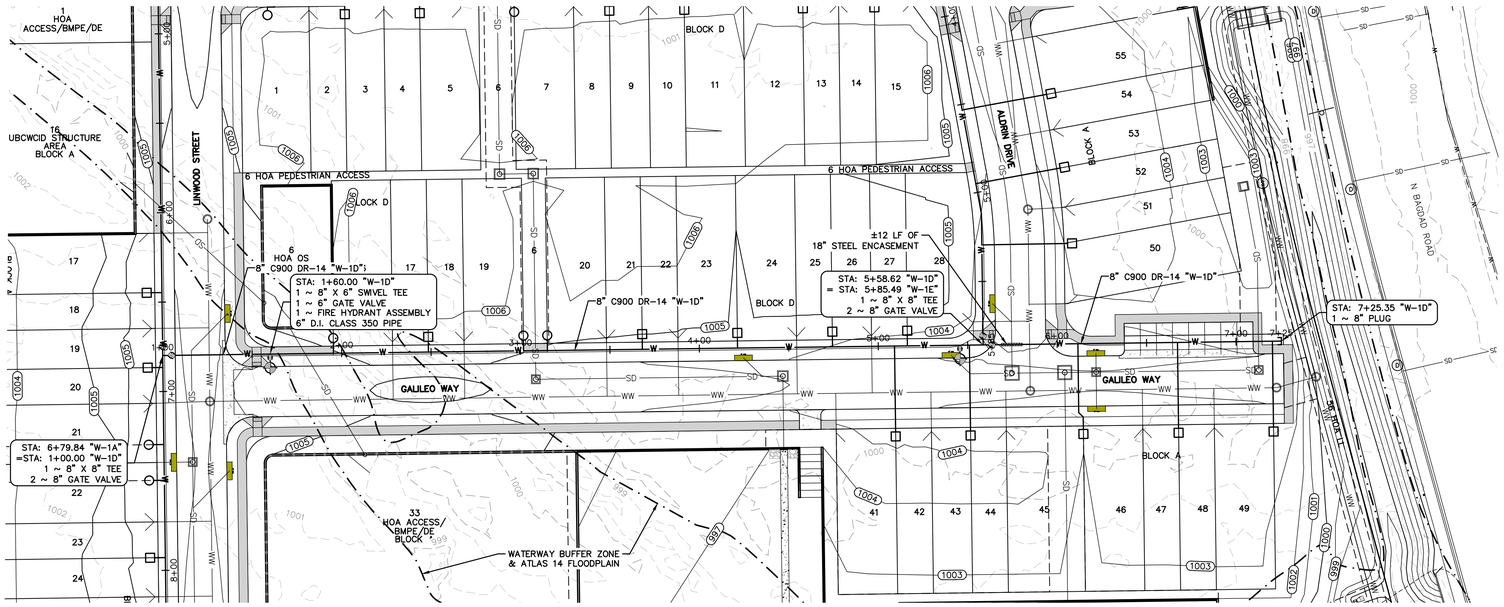
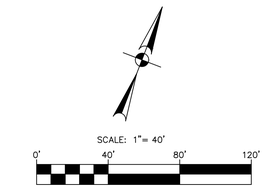
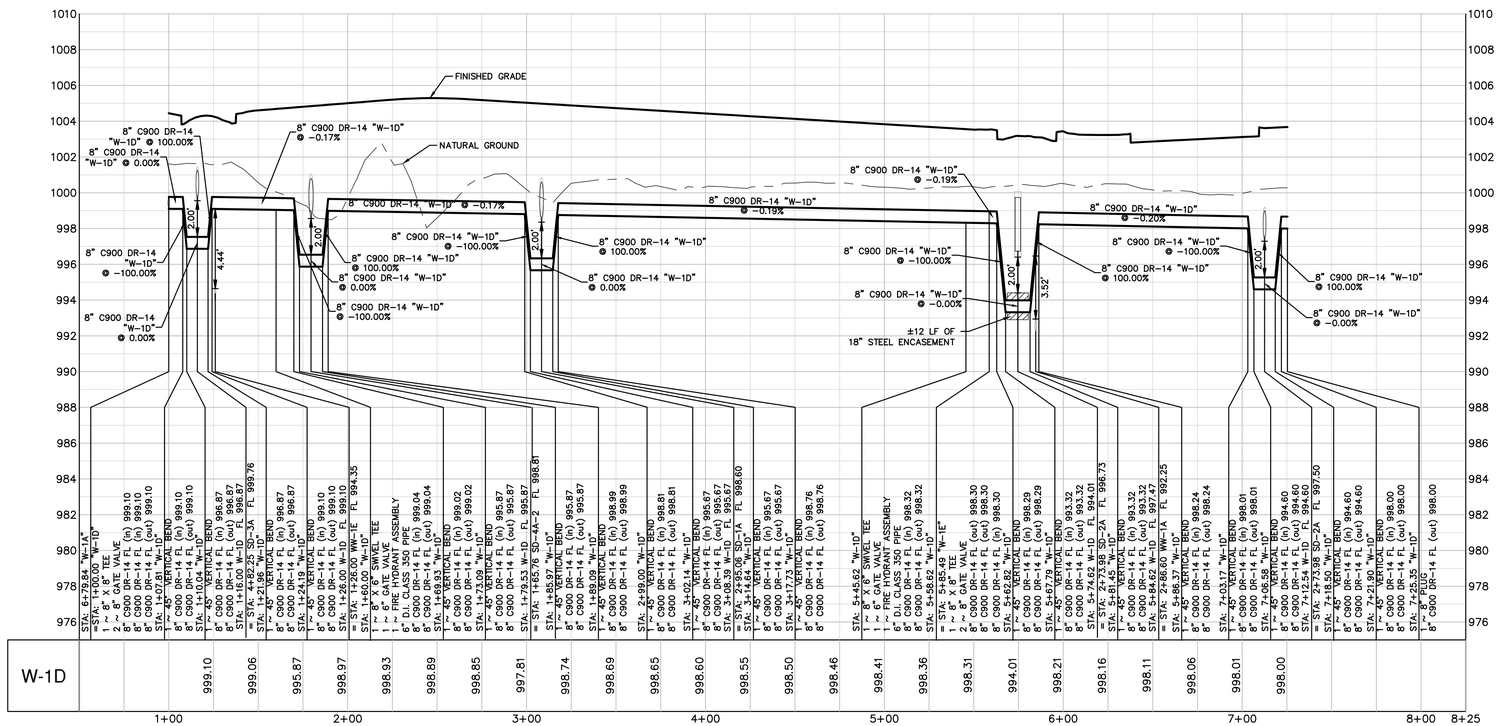




LEGEND

- WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- PROPOSED CONTOUR LINE
- EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN



NOTES

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PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL
PROFILE LEGEND:
NATURAL GROUND
SUBGRADE
FINISHED GRADE
PROPOSED WATER
STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

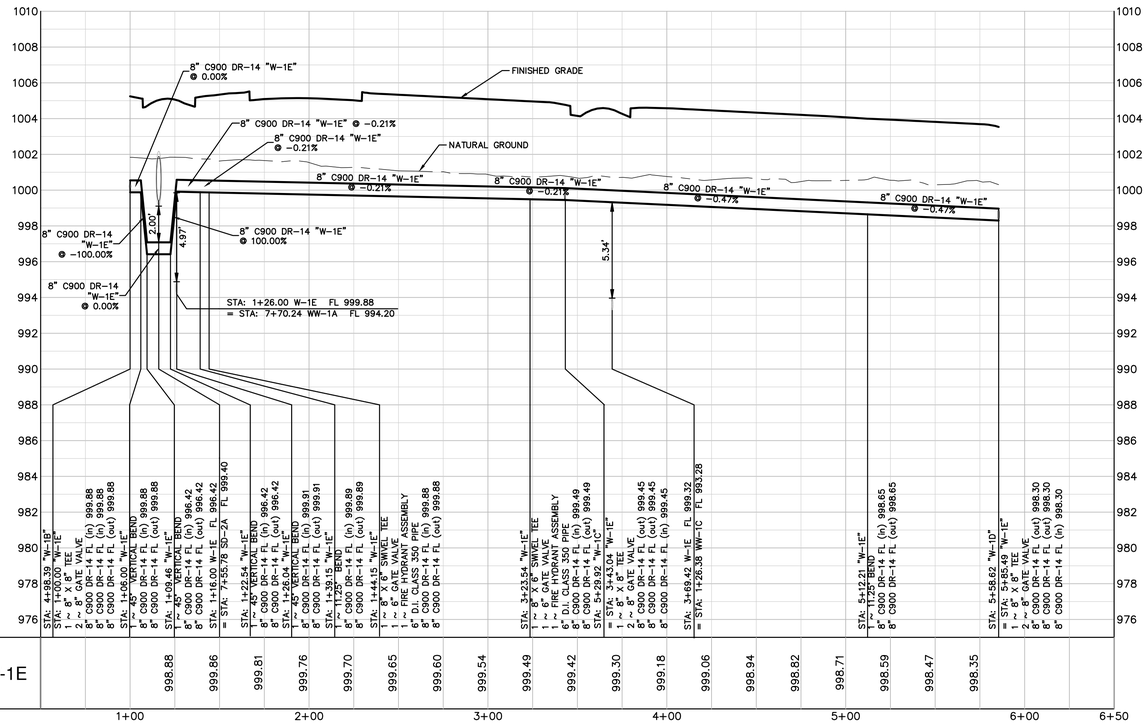
STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER PLAN & PROFILE W-1D

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 42 OF 72

23-PICP-XXX



SCALE: 1" = 40'

0' 40' 80' 120'

LEGEND

- W — WATER LINE
- WW — WASTEWATER LINE & MH
- SD — STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- 1010 — PROPOSED CONTOUR LINE
- 1010 — EXISTING CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTES

1. EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE. CONTRACTOR IS TO VERIFY LOCATIONS ON ALL EXISTING UTILITY LINES PRIOR TO COMMENCING WORK.

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:
- NATURAL GROUND
- SUBGRADE
- FINISHED GRADE
- PROPOSED WATER

STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WATER PLAN & PROFILE W-1E

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 43 OF 72

23-PICP-XXX

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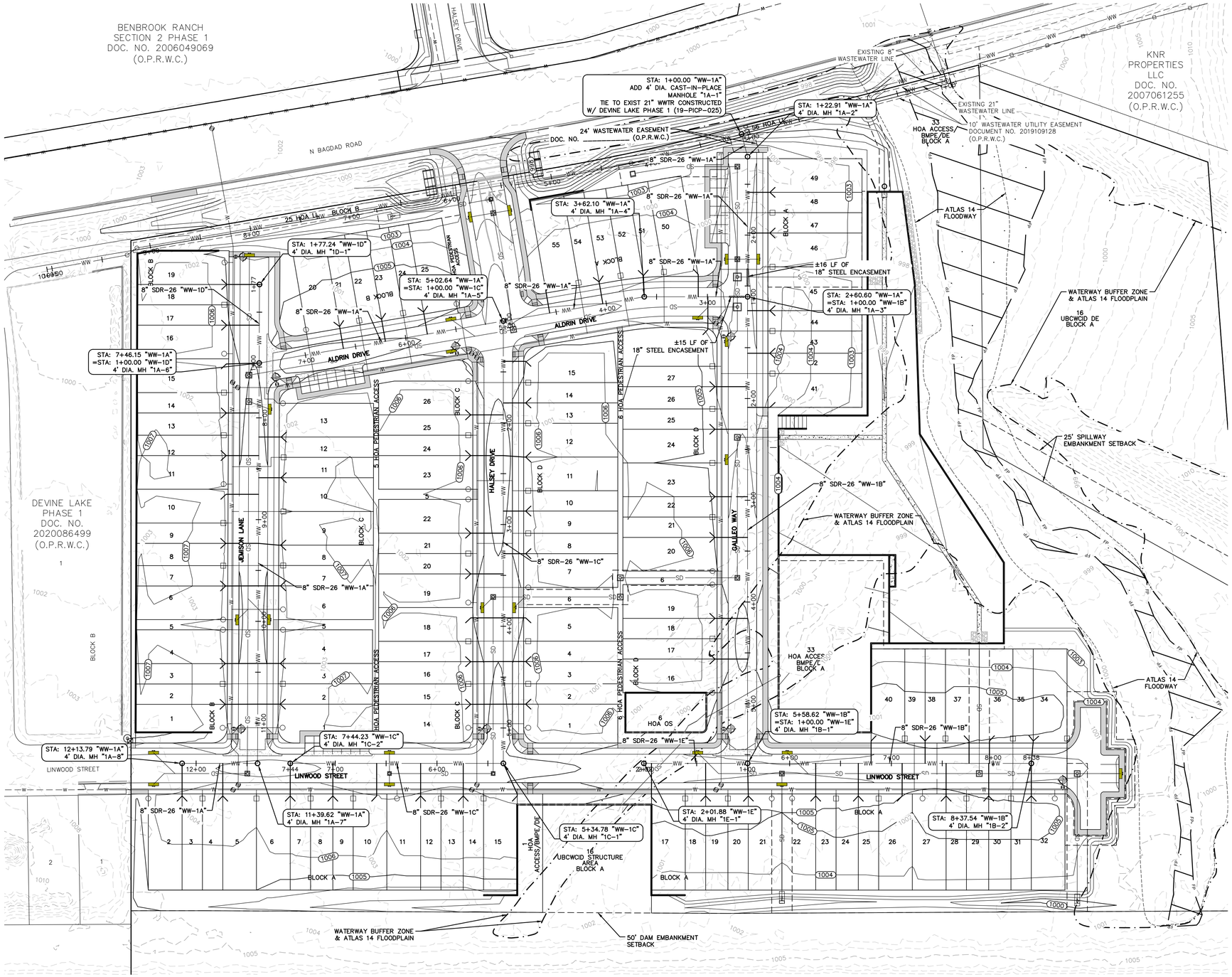


SCALE: 1" = 50'

0' 50' 100' 150'

LEGEND

- W — WATER LINE
- RW — RECLAIMED WATER LINE
- WW — WASTEWATER LINE & MH
- SD — STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

NOTE:

1. MANHOLES OUTSIDE OF PAVEMENT SHALL HAVE BOLTED AND GASKETED COVERS.

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER

4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WASTEWATER LAYOUT

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 44 OF 72

23-PICP-XXX

SCALE: 1"= 40'

0' 40' 80' 120'

LEGEND

- W — WATER LINE
- RW — RECLAIMED WATER LINE
- WW — WASTEWATER LINE & MH
- SD — STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:
- NATURAL GROUND
- FINISHED GRADE
- PROPOSED WASTEWATER
- 1-JOINT OF PRESSURE PIPE. STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

NOTE:
1. MANHOLES OUTSIDE OF PAVEMENT SHALL HAVE BOLTED AND GASKETED COVERS.

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

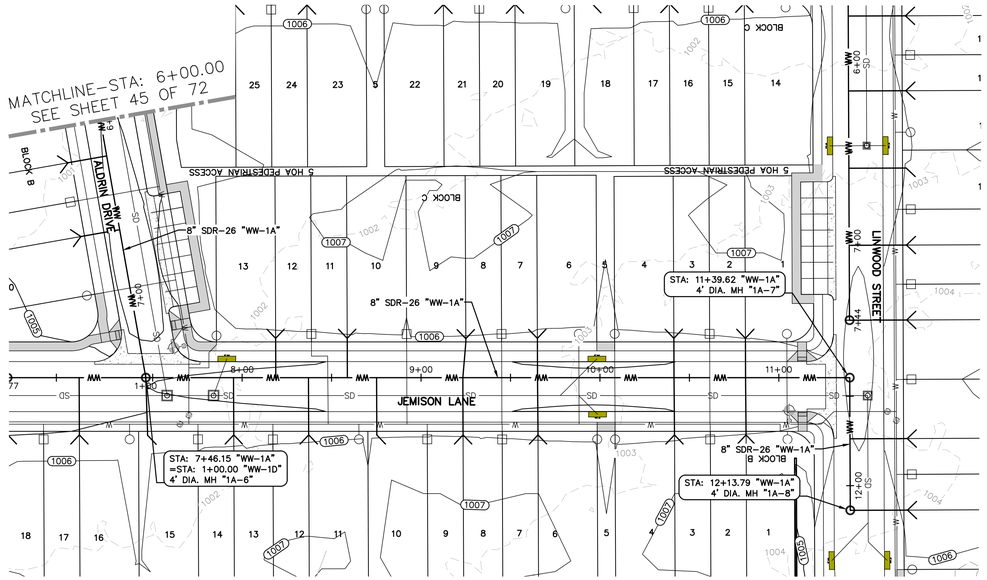
STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

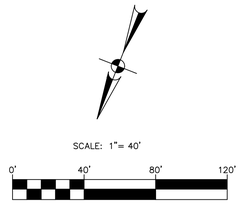
PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WASTEWATER PLAN & PROFILE WW-1A 1 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 45 OF 72

23-PICP-XXX





LEGEND

- WATER LINE
- RECLAIMED WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

NATURAL GROUND

FINISHED GRADE

PROPOSED WASTEWATER

1–JOINT OF PRESSURE PIPE.

STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

NOTE:

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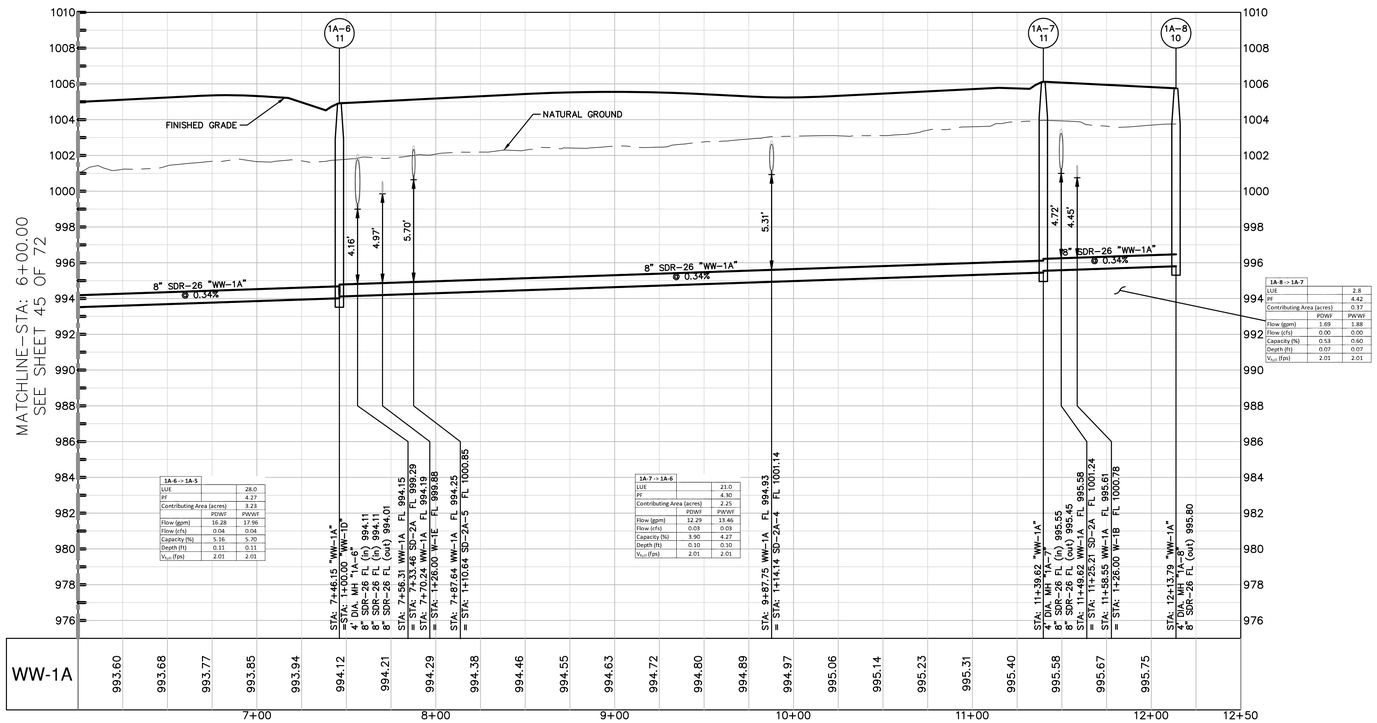


CITY OF LEANDER APPROVAL

23-PICP-XXX

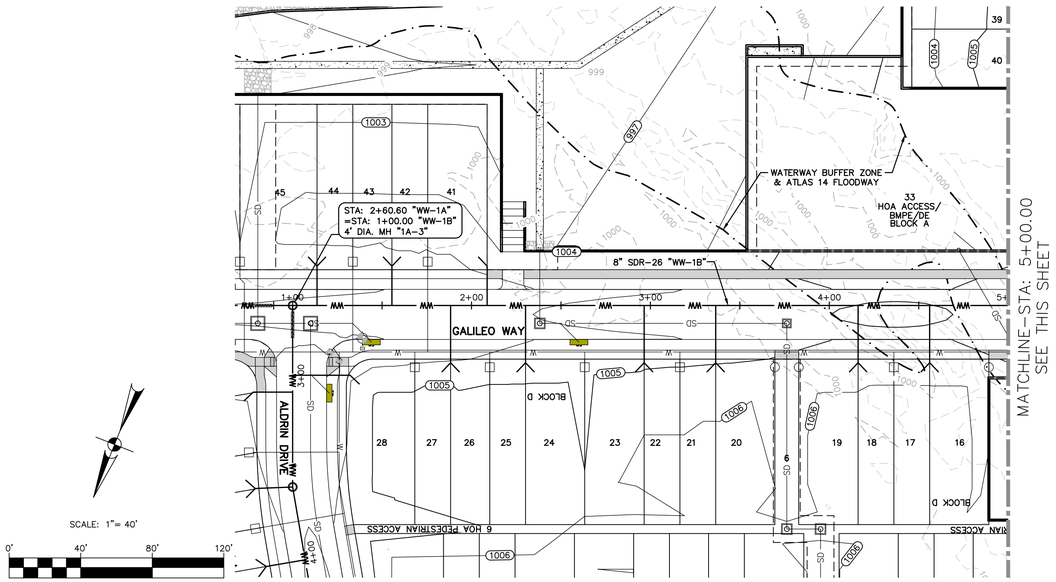
NO.	REVISION	DATE

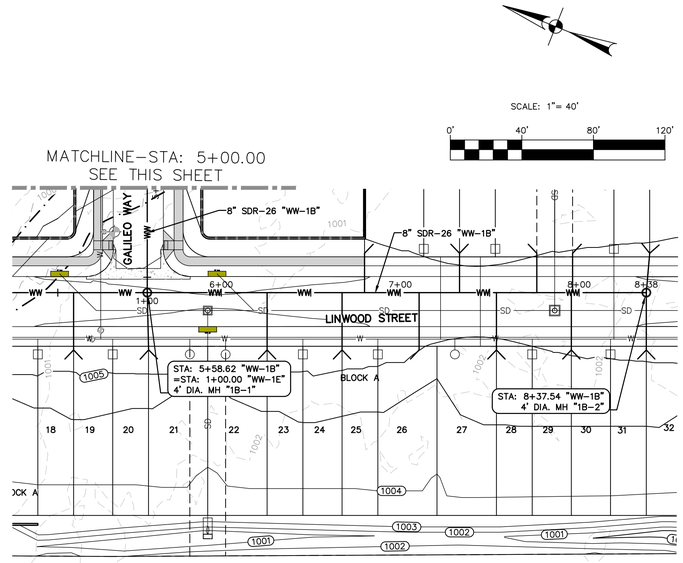
STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

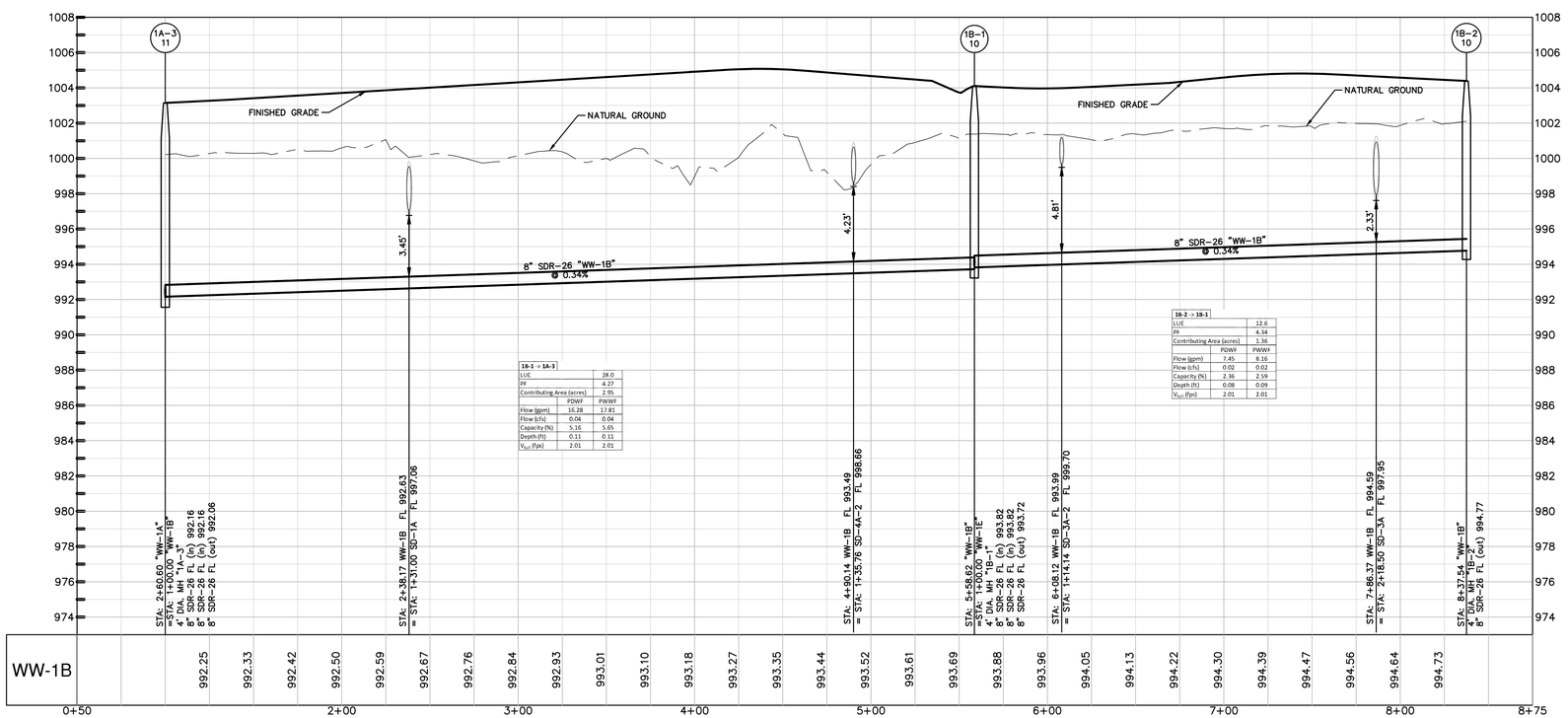
PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WASTEWATER PLAN & PROFILE WW-1A 2 OF 2

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 46 OF 72







LEGEND

- W — WATER LINE
- RW — RECLAIMED WATER LINE
- WW — WASTEWATER LINE & MH
- SD — STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
- DOUBLE WW SERVICE
- GATE VALVE
- FIRE HYDRANT
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING WASTEWATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
- FEMA 1% ANNUAL CHANCE FLOODPLAIN

PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:

NATURAL GROUND

FINISHED GRADE

PROPOSED WASTEWATER

1-JOINT OF PRESSURE PIPE.

STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

NOTE:

1. MANHOLES OUTSIDE OF PAVEMENT SHALL HAVE BOLTED AND GASKETED COVERS.

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

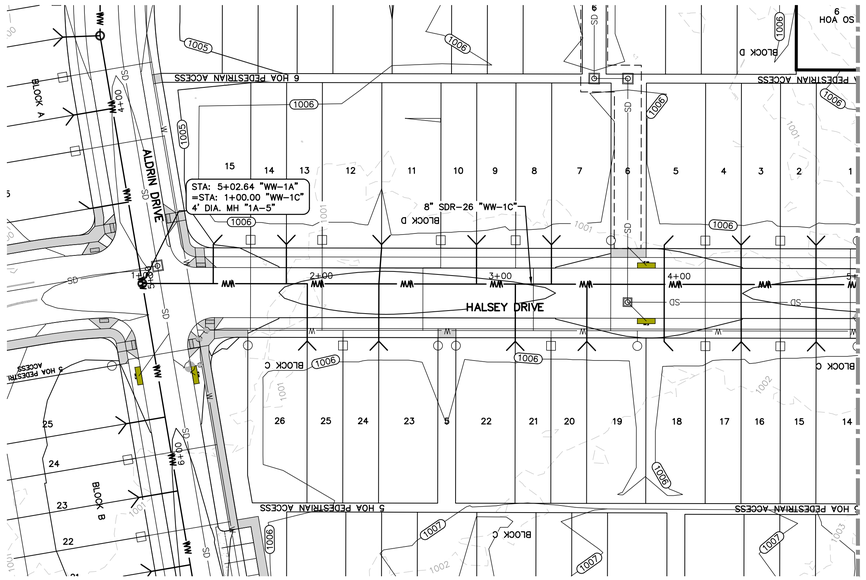
STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

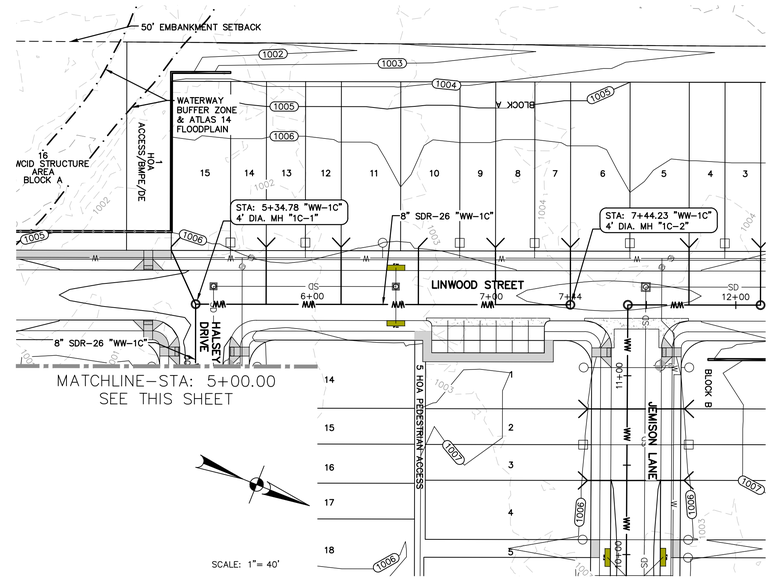
PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WASTEWATER PLAN & PROFILE WW-1B

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 47 OF 72

23-PICP-XXX





LEGEND

- WATER LINE
- RECLAIMED WATER LINE
- WASTEWATER LINE & MH
- STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
- DOUBLE WATER SERVICE
- SINGLE WW SERVICE
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- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
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- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
- ATLAS 14 FLOODWAY
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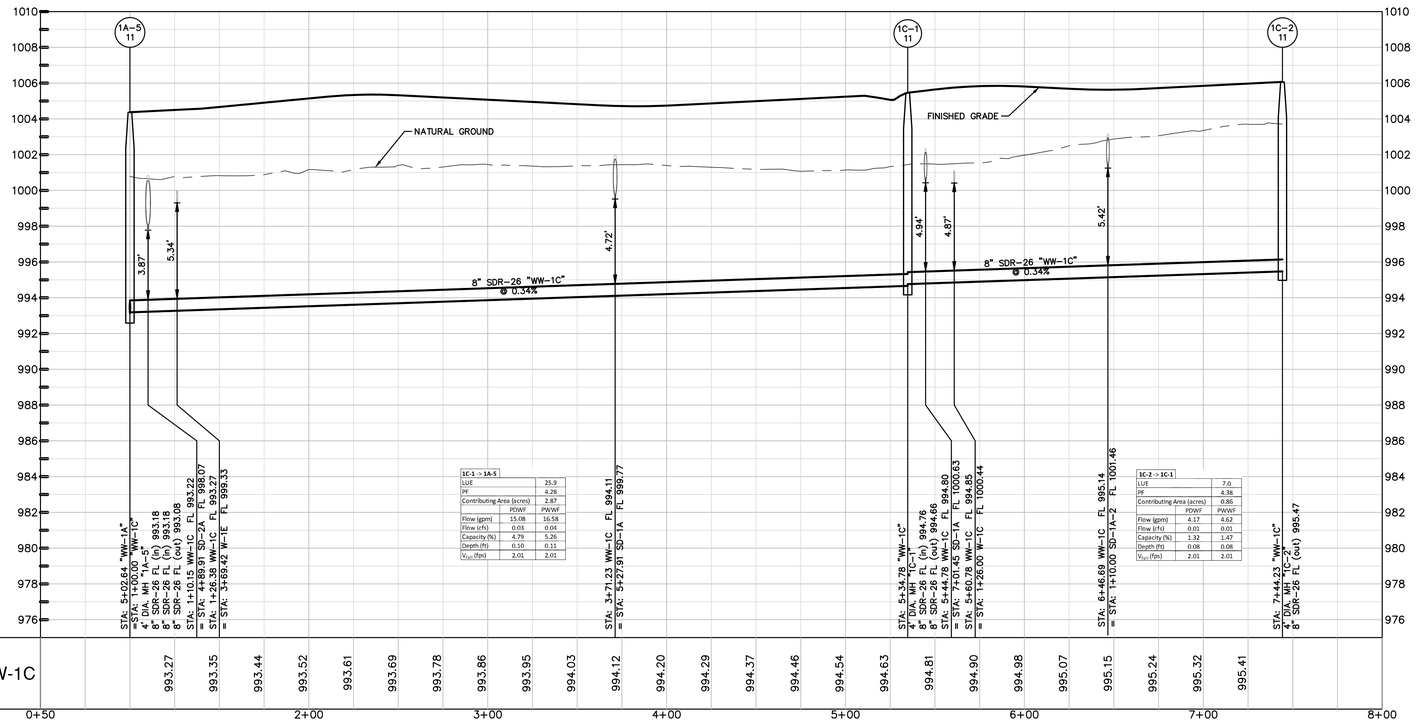
PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL
PROFILE LEGEND:

- NATURAL GROUND
- FINISHED GRADE
- PROPOSED WASTEWATER
- 1-JOINT OF PRESSURE PIPE.
- STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

NOTE:

1. MANHOLES OUTSIDE OF PAVEMENT SHALL HAVE BOLTED AND GASKETED COVERS.



CITY OF LEANDER APPROVAL

23-PICP-XXX

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WASTEWATER PLAN & PROFILE WW-1C

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 48 OF 72

Date: Apr 11, 2023, 4:28pm User ID: ACHAVEZ
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LEGEND

- W — WATER LINE
- RW — RECLAIMED WATER LINE
- WW — WASTEWATER LINE & MH
- SD — STORM DRAIN LINE & MH
- CURB INLET
- SINGLE WATER SERVICE
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- SINGLE WW SERVICE
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- WATERWAY BUFFER ZONE & ATLAS 14 FLOODPLAIN
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PROFILE SCALES:
1" = 40' HORIZONTAL
1" = 4' VERTICAL

PROFILE LEGEND:
- NATURAL GROUND
- FINISHED GRADE
- PROPOSED WASTEWATER
- 1-JOINT OF PRESSURE PIPE.
- STEEL ENCASEMENT WITH SPACERS SEE CONSTRUCTION DETAILS

NOTE:

1. MANHOLES OUTSIDE OF PAVEMENT SHALL HAVE BOLTED AND GASKETED COVERS.

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

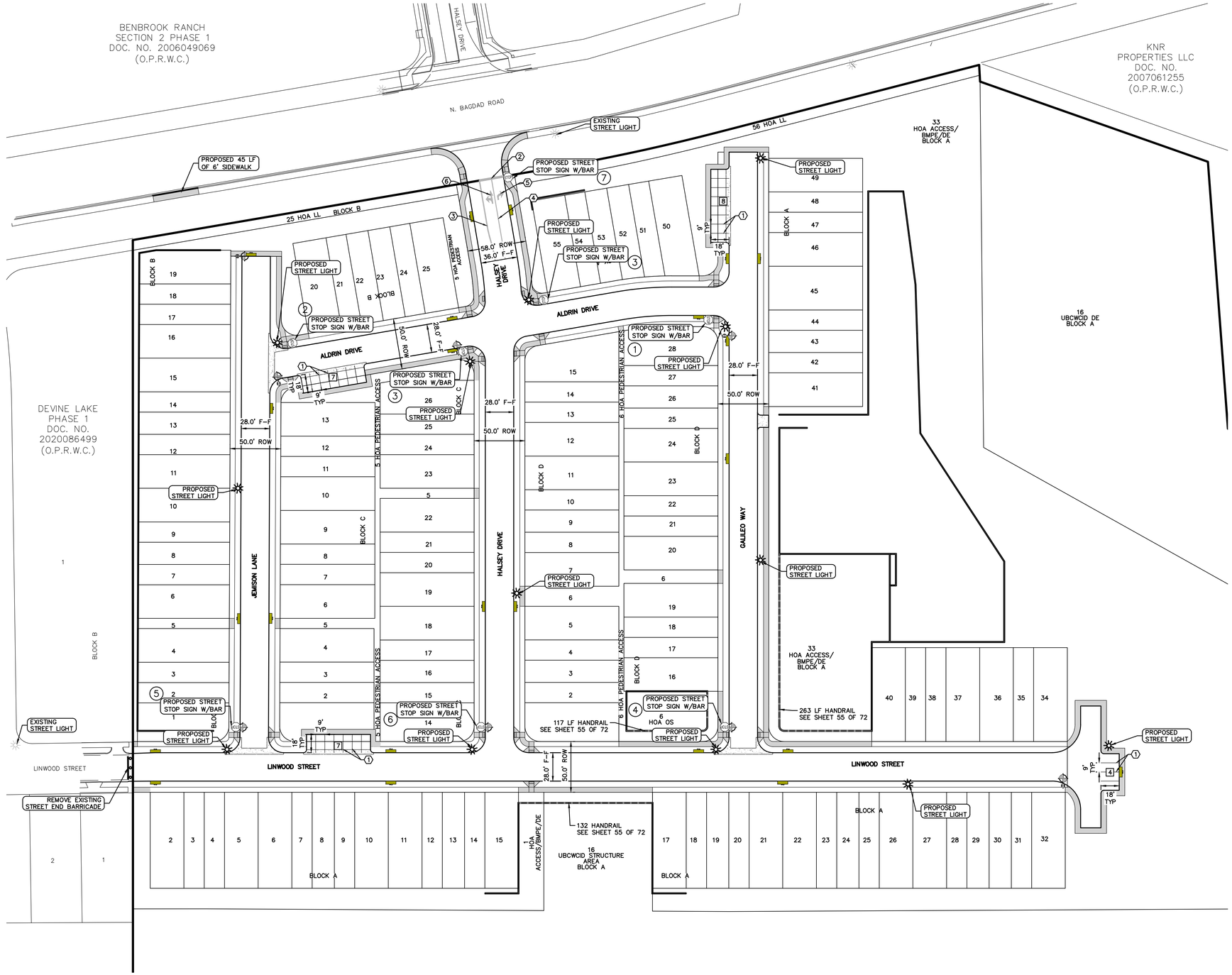
STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
WASTEWATER PLAN & PROFILE WW-1D & WW-1E

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 49 OF 72

23-PICP-XXX



SCALE: 1"= 50'

0' 50' 100' 150'

LEGEND

- CURB INLET
- CONCRETE VALLEY GUTTER
- PROPOSED STREET LIGHT
- EXISTING STREET LIGHT
- PROPOSED CURB RAMP BY DEVELOPER
- PROPOSED SIDEWALK BY DEVELOPER
- PROPOSED SIDEWALK BY HOME BUILDER
- STREET END BARRICADE
- PROPOSED STOP SIGN & STOP BAR
- FIRE HYDRANT
- MISC. SIGN
- IRRIGATION SLEEVES
- [7] PARKING COUNT

NOTES:

1. ALL SIDEWALKS SHALL BE 5' IN WIDTH EXCEPT WHERE INDICATED.
2. ALL SIDEWALKS SHALL MEET ADA REQUIREMENTS.
3. ALL PARKING STALLS SHALL BE 9' IN WIDTH AND 18' IN LENGTH.
4. STRIPING FOR PARKING STALLS SHALL BE 4" WIDE SOLID WHITE STRIPE.
5. SINGLE FAMILY RESIDENTIAL SUBDIVISIONS THAT ARE NOT REGISTERED WITH TDLR WILL BE REQUIRED TO PROVIDE DOCUMENTATION FROM A REGISTERED ACCESSIBILITY SPECIALIST (RAS) THAT PEDESTRIAN INFRASTRUCTURE WITHIN THE RIGHTS-OF-WAY COMPLIES WITH THE TEXAS ACCESSIBILITY STANDARDS.
6. SEE PAVING AND STREET DETAILS SHEET 55 FOR STREET CROSS SECTIONS.

STREET SIGN LEGEND

1. ALDRIN DRIVE & GALILEO WAY
2. ALDRIN DRIVE & JEMISON LANE
3. ALDRIN DRIVE & HALSEY DRIVE
4. GALILEO WAY & LINWOOD STREET
5. JEMISON LANE & LINWOOD STREET
6. HALSEY DRIVE & LINWOOD STREET
7. HALSEY DRIVE & N BAGDAD ROAD

KEY NOTES

1. 4" WIDE SOLID WHITE STRIPE (TYPICAL)
2. 24" WIDE SOLID WHITE STRIPE
3. 4" WIDE DOUBLE SOLID YELLOW STRIPE
4. 8" WIDE SOLID WHITE STRIPE
5. REFLECTIVE PAVEMENT MARKING RIGHT TURN ONLY
6. REFLECTIVE PAVEMENT MARKING THROUGH LEFT TURN

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
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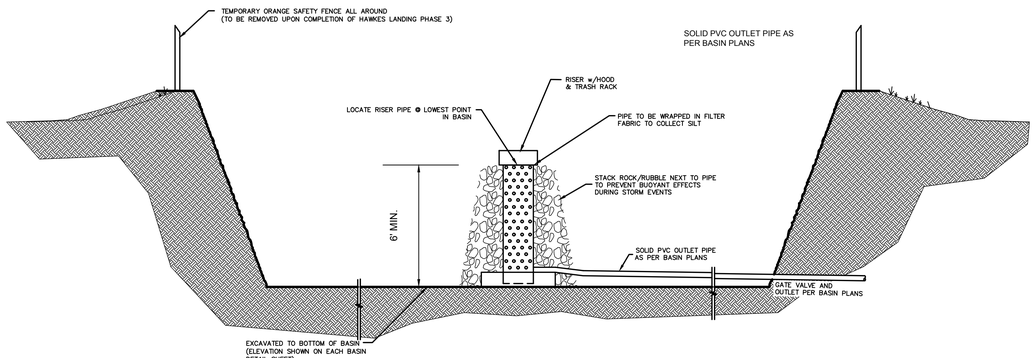
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
SIDEWALK SIGNAGE & STREET LIGHT PLAN

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 50 OF 72



TEMPORARY SEDIMENT POND TYPICAL DETAIL

NOT-TO-SCALE

MATERIALS:

1. Riser should be corrugated metal or reinforced concrete pipe or box and should have watertight fittings or end to end connections of sections

2. An outlet pipe of corrugated metal or reinforced concrete should be attached to the riser and should have positive flow to a stabilized outlet on the downstream side of the embankment.

3. An anti-vortex device and rubbish screen should be attached to the top of the riser and should be made of polyvinyl chloride or corrugated metal.

TEMPORARY SEDIMENTATION BASIN NOTES:

1. Contractor to construct basins in accordance with construction plans for permanent sedimentation/filtration with the exception of the gravel drain layer and sand filter layers.

2. Install permanent stake to indicate sediment level in the basin. Stake should be marked to indicate when sediment occupies 50% of the volume of the basin.

3. Sediment will be removed when more than 50% of the basin capacity is exceeded.

4. Contractor to secure pipe to bottom of basin to prevent bouyancy during a rain event. A concrete anchor may be used.

5. Discharge pipe to be installed so as to be in place for permanent structure.

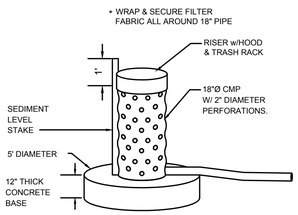
INSPECTION AND MAINTENANCE GUIDELINES:

1. Inspection should be made weekly and after each rainfall. check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. repair should be made promptly as needed by the contractor.

2. Trash and other debris should be removed after each rainfall to prevent clogging of the outlet structure.

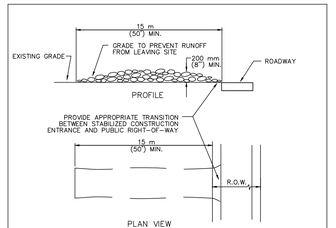
3. Accumulated silt should be removed and the basin should be re-graded to its original dimensions at such point that the capacity of the impoundment has been reduced to 50% of its original storage capacity.

4. The removed sediment should be stockpiled or redistributed in areas that are protected from erosion.



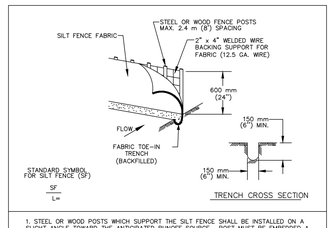
OUTLET STRUCTURE DETAIL

NOT-TO-SCALE



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	
RECORD COPY SIGNED BY J. PATRICK MURPHY 5/23/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 641S–1



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 SPADE 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.

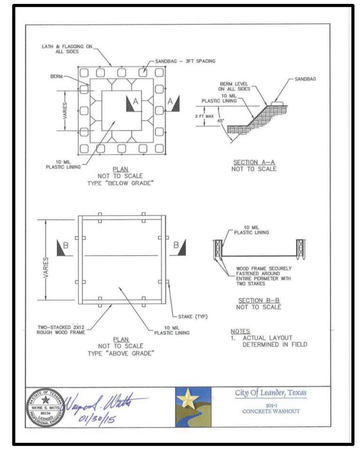
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.

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.

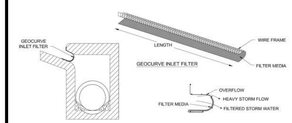
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE	
RECORD COPY SIGNED BY MORGAN BYARS 09/01/2011 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 642S–1



GeoSolutions, Inc. — Product Data Sheet
GeoCurve Inlet Filter

The GeoCurve Inlet Filter is a stormwater filter for placement into a stormwater curb inlet for the purpose of capturing debris and sediment that is transported by stormwater runoff. The device is comprised of a filter media (woven monofilament filter fabric) affixed to the lower portion of a "C" shaped 12 gauge welded wire frame (2" x 4" openings) with an upper retention flange. The device effectively filters stormwater, can easily be removed for maintenance and cleaning and incorporates an overflow window for heavy storm events.



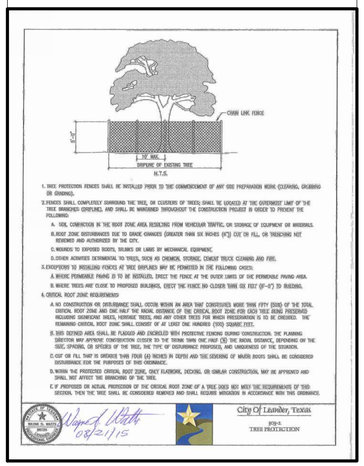
FILTER MEDIA PROPERTIES: Mono-filament Woven Filter Fabric

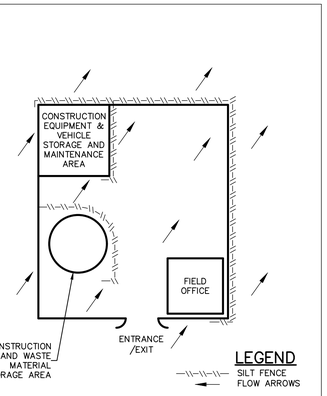
PROPERTY	ASTM TEST METHOD	VALUE	C.O.A. REQ'T
Fabric Weight	D 3776	4.5 oz/sy	3 oz/sy
Grab Tensile Strength	D 4632	170 lbs	----
Mullen Burst Strength	D 3786	410 lbs/sq in	120 lbs/sq in
UV Stability	D 4355	80 %	70 %
Water Flow Rate	D 4491	325 gal/min/sf	275 gal/min/sf

GeoSolutions, Inc. 4417 Burleson Road Austin, Texas 78744 512-330-0796

INLET PROTECTION GENERAL NOTES:

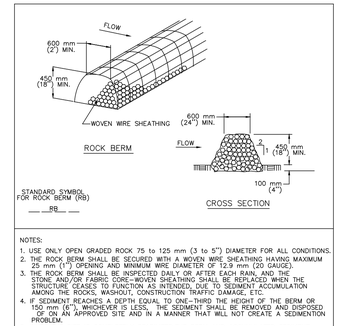
1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES THE DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.





CONSTRUCTION STAGING AREA

NOT–TO–SCALE



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	
RECORD COPY SIGNED BY MORGAN BYARS 8/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 639S–1

CITY OF LEANDER APPROVAL

23-PICP-XXX

NO. | REVISION | DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER

4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
EROSION AND SEDIMENTATION CONTROL DETAILS

CITY JOB No. 23-PICP-XXX
JOB NO. 51167–02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 51 OF 72

Date: Apr 11, 2023, 4:29pm User ID: ACHAVEZ
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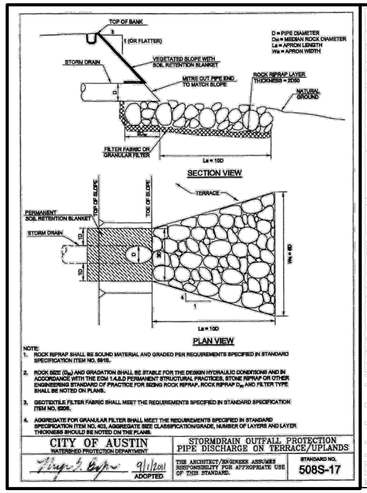
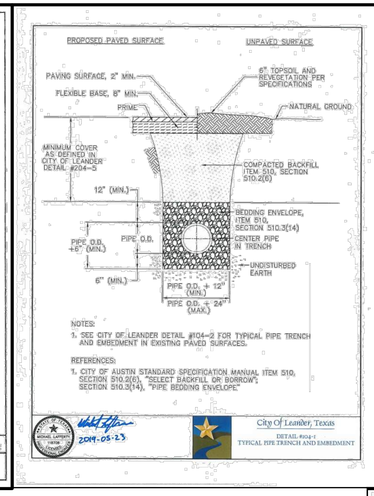
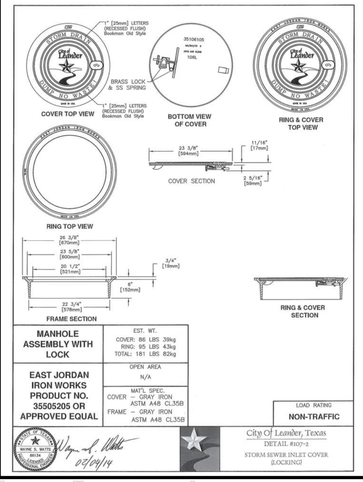
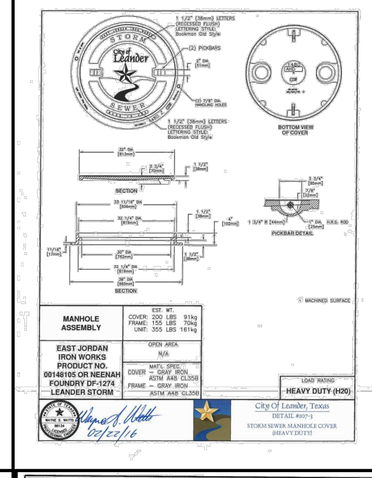
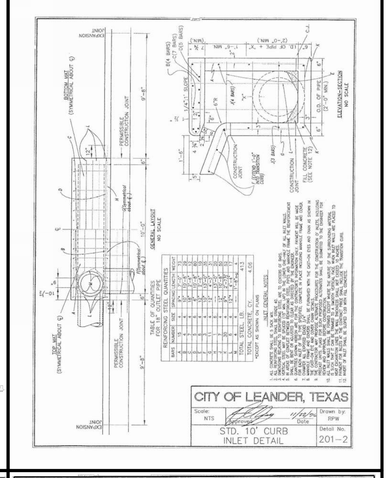


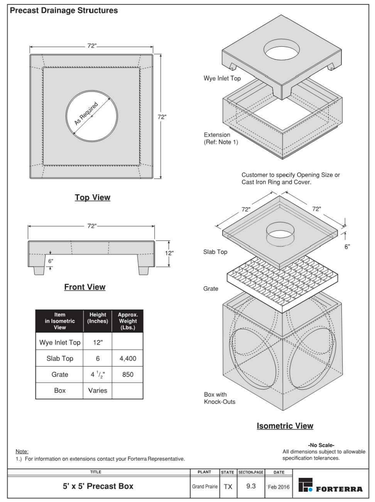








Precast Drainage Structures



Item in Isometric View	Height (inches)	Approx. Weight (Lbs.)
Wye Inlet Top	12"	
Slab Top	6	4,400
Grate	4 1/2"	850
Box	Varies	

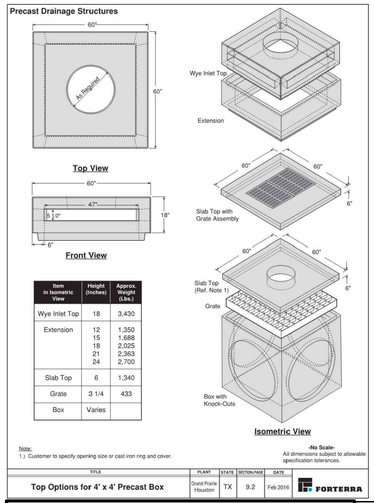
Note:
1.) For information on extensions contact your Forterra Representative.

-No Scale-
All dimensions subject to allowable specification tolerances.

TITLE	PLANT	STATE	SECTION/PAGE	DATE
5' x 5' Precast Box	Grand Prairie	TX	9.3	Feb 2016

FORTERRA

Precast Drainage Structures



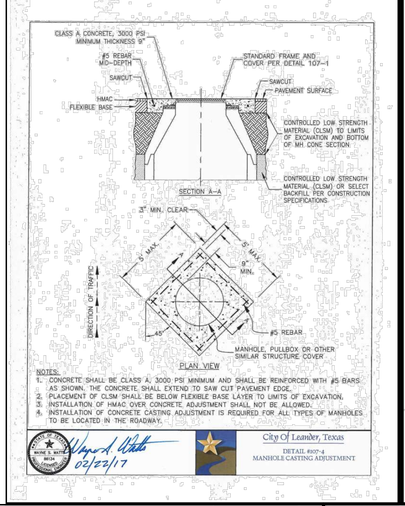
Item in Isometric View	Height (inches)	Approx. Weight (Lbs.)
Wye Inlet Top	18	3,430
Extension	12	1,350
	15	1,688
	18	2,025
	21	2,363
	24	2,700
Slab Top	6	1,340
Grate	3 1/4	433
Box	Varies	

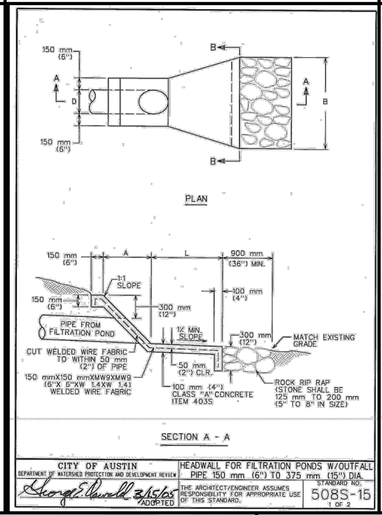
Note:
1.) Customer to specify opening size or cast iron ring and cover.

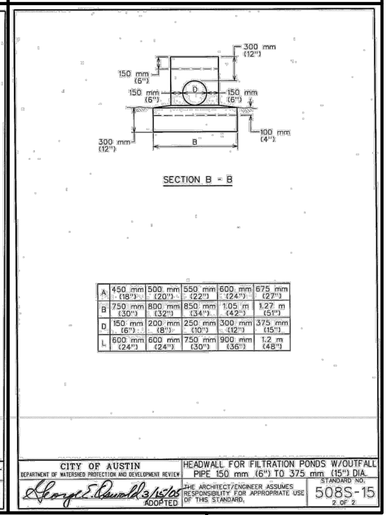
-No Scale-
All dimensions subject to allowable specification tolerances.

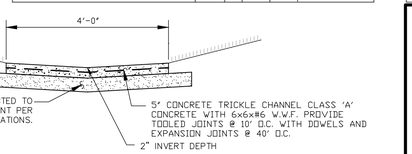
TITLE	PLANT	STATE	SECTION/PAGE	DATE
Top Options for 4' x 4' Precast Box	Grand Prairie Houston	TX	9.2	Feb 2016

FORTERRA

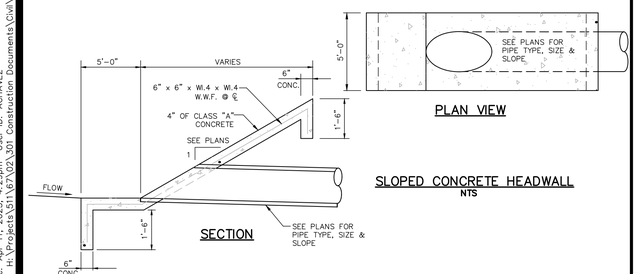






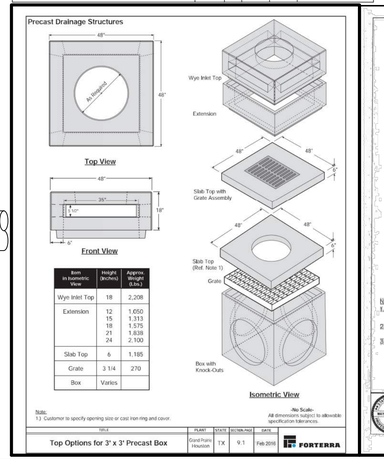


CONCRETE TRICKLE CHANNEL DETAIL



SLOPED CONCRETE HEADWALL
NTS

Precast Drainage Structures



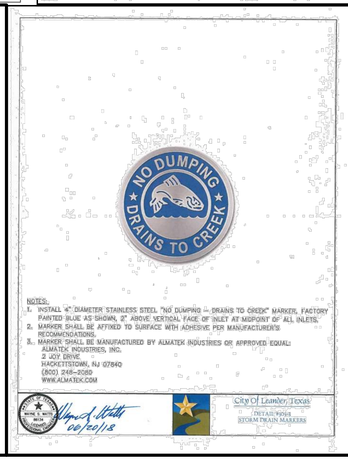
Item in Isometric View	Height (inches)	Approx. Weight (Lbs.)
Wye Inlet Top	18	2,208
Extension	12	1,650
	15	1,313
	18	1,575
	21	1,838
	24	2,100
Slab Top	6	1,185
Grate	3 1/4	270
Box	Varies	

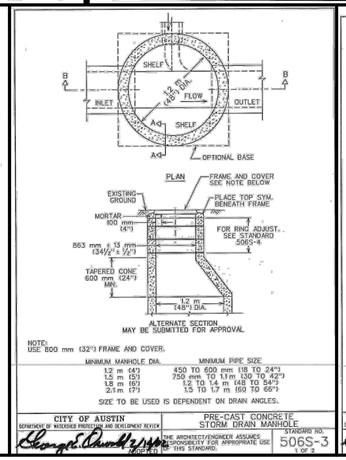
Note:
1.) Customer to specify opening size or cast iron ring and cover.

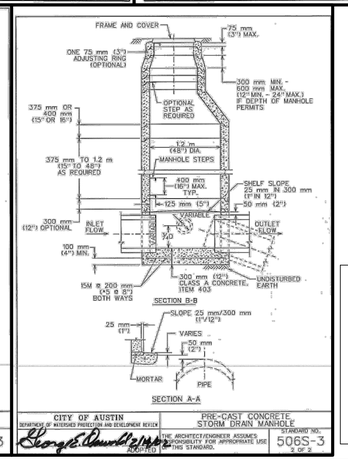
-No Scale-
All dimensions subject to allowable specification tolerances.

TITLE	PLANT	STATE	SECTION/PAGE	DATE
Top Options for 3' x 3' Precast Box	Grand Prairie Houston	TX	9.1	Feb 2016

FORTERRA







CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

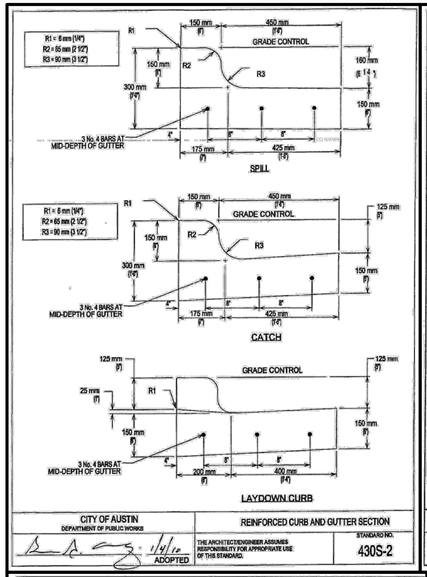
PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
DRAINAGE DETAILS

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 52 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:29pm User ID: ACHAVEZ
File: K:\Projects\51167-02\Construction Documents\Civil\D751167-02.dwg



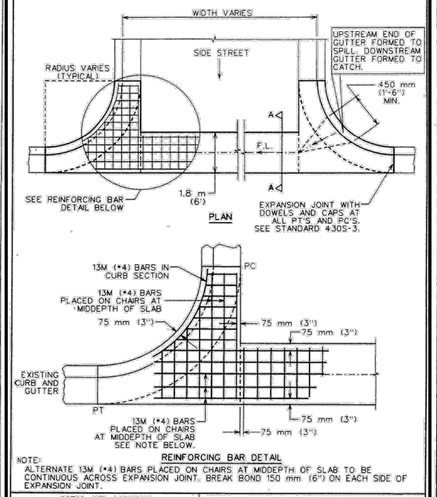
CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

REINFORCED CURB AND GUTTER SECTION

STANDARD NO. 430S-2

ADOPTED 1/4/11

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



NOTE:
ALTERNATE 13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB TO BE CONTINUOUS ACROSS EXPANSION JOINT. BREAK BOND 150 mm (6") ON EACH SIDE OF EXPANSION JOINT.

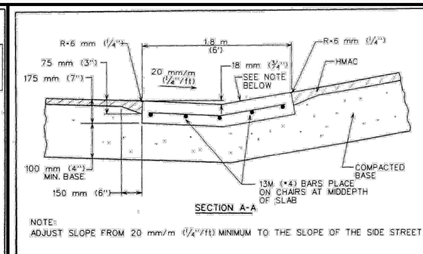
CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

CONCRETE VALLEY GUTTER

STANDARD NO. 436S-2 1 OF 2

ADOPTED 6/12/06

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



NOTE:
ADJUST SLOPE FROM 20 mm/m (1/4"/ft) MINIMUM TO THE SLOPE OF THE SIDE STREET.

NOTES:
1. MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
2. CONCRETE FOR THE VALLEY GUTTER SHALL BE CLASS A, ITEM 403S, "CONCRETE FOR STRUCTURES".
3. MONOLITHIC CURB AND GUTTER SHALL BE MEASURED BY PLAN QUANTITY PER SQUARE FEET AND PAID AS VALLEY GUTTER.
4. THE UPSTREAM CURB MID POINT MUST BE AT OR LOWER THAN THE BEGINNING P.C. AND 0.5% MINIMUM HIGHER THAN THE OPPOSING MID POINT.
5. ALLOWABLE CONSTRUCTION JOINT AT THE CENTER LINE WHEN TRAFFIC FLOW MUST BE MAINTAINED, CONSTRUCTED AS A CONTROL JOINT.

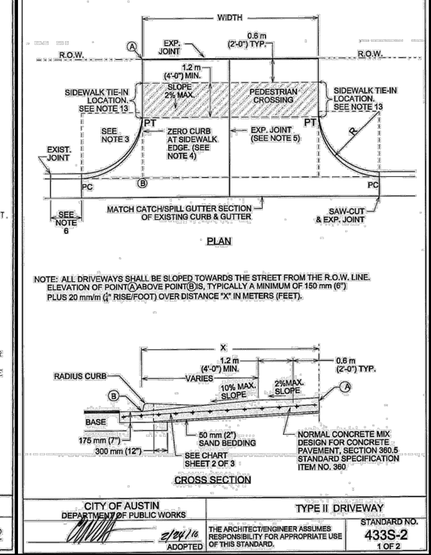
CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

CONCRETE VALLEY GUTTER

STANDARD NO. 436S-2 2 OF 2

ADOPTED 6/12/06

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



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 (2" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).

CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

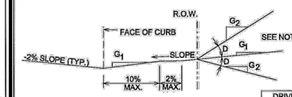
TYPE II DRIVEWAY

STANDARD NO. 433S-2 1 OF 2

ADOPTED 2/24/16

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

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 5 "DRIVEWAYS".
3. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED 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 60% 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 8.
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.

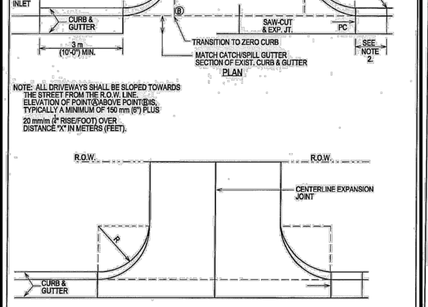
CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

TYPE II DRIVEWAY

STANDARD NO. 433S-2 2 OF 2

ADOPTED 2/24/16

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



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 (2" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).

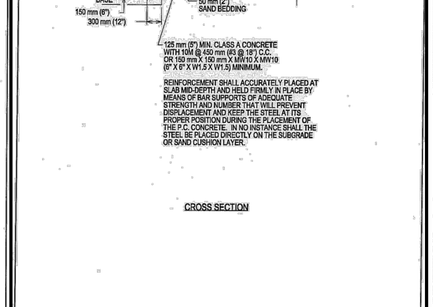
CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

TYPE I DRIVEWAY (1 & 2 FAMILY RESIDENTIAL USE ONLY)

STANDARD NO. 433S-1 1 OF 4

ADOPTED 10-19-09

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.



CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

TYPE I DRIVEWAY (1 & 2 FAMILY RESIDENTIAL USE ONLY)

STANDARD NO. 433S-1 2 OF 4

ADOPTED 10-19-09

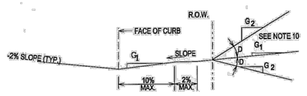
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

DRIVEWAY CRITERIA USE	WIDTH METERS (FEET) MIN.	*OPT.	MAX.
SIN. FAMILY	3.66 (12)	5.50 (18)	11.60 (22)
DUPLEX	4.88 (15)	5.50 (18)	11.80 (25)
TOWN HOME	4.66 (15)	5.60 (18)	11.80 (25)

*OPTIMUM

RADIUS DIMENSION METERS (FEET) USE	MIN.	*OPT.	MAX.
SINGLE FAMILY	1.5 (5)	1.5 (5)	3.0 (10)
DUPLEX	1.5 (5)	2.4 (8)	3.0 (10)
TOWN HOME	1.5 (5)	2.4 (8)	3.0 (10)

*OPTIMUM



ALLOWABLE GRADES

CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

TYPE I DRIVEWAY (1 & 2 FAMILY RESIDENTIAL USE ONLY)

STANDARD NO. 433S-1 3 OF 4

ADOPTED 10-19-09

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

NOTES:
1. "ZERO" CURB AT PT OR SIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK BEGINNING AT THE RADIUS PC LINE.
2. IF DIMENSION IS LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH THE DRIVEWAY.
3. IF THE BASE IS OVER EXCAVATED WHERE THE CURB AND GUTTER WAS REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
4. ALL DRIVEWAYS MUST BE CONSTRUCTED WITHIN THE STREET FRONTAGE OF THE SUBJECT PROPERTY AS DETERMINED BY EXTENDING THE SIDE PROPERTY LINES TO THE CURB.
5. DRIVEWAYS SHALL NOT EXCEED 70% OF A LOTS' STREET FRONTAGE.
6. TYPE I DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHTS-OF-WAY THAN 60% OF PARCEL FRONTAGE OR 15 METERS (50 FEET); WHICHEVER IS LESS.
7. DRIVEWAYS SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
8. SINGLE FAMILY LOTS LIMITED TO ONE DRIVEWAY EXCEPT FOR APPROVED SEMICIRCULAR DRIVES.
9. WHEN TWO DRIVEWAYS ARE USED (ONE PER UNIT; TWO MAXIMUM) FOR DUPLEXES AND TOWN HOMES, SINGLE FAMILY STANDARDS SHALL APPLY.
10. WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHOULD BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND "G2" IS GREATER THAN 15%. "G1" PLUS "D" SHOULD NOT EXCEED 15%.
11. SEE TRANSPORTATION MANUAL SECTION 5 FOR OTHER DRIVEWAY REQUIREMENTS.
12. USE 12 mm (1/2") ASPHALT BOARD, OR OTHER APPROVED MATERIAL, FOR CURB AND GUTTER EXPANSION JOINTS.
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. PLACE AN EXPANSION JOINT DOWN THE CENTER OF ALL DRIVEWAYS.
15. WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

CITY OF AUSTIN — DEPARTMENT OF PUBLIC WORKS

TYPE I DRIVEWAY (1 & 2 FAMILY RESIDENTIAL USE ONLY)

STANDARD NO. 433S-1 4 OF 4

ADOPTED 10-19-09

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

CITY OF LEANDER APPROVAL

23-PICP-XXX

DATE

NO. REVISION

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS

PAVING & STREET DETAILS 1 OF 3

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 53 OF 72

Date: Apr 11, 2023, 4:29pm User ID: ACHAVEZ
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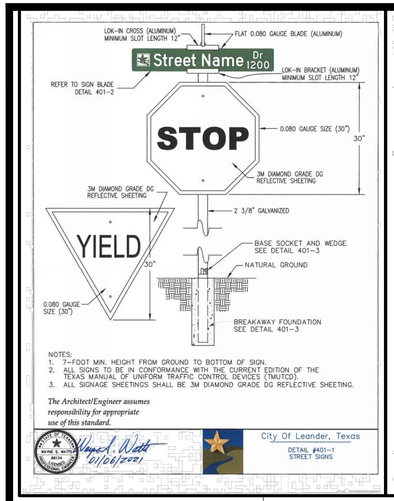
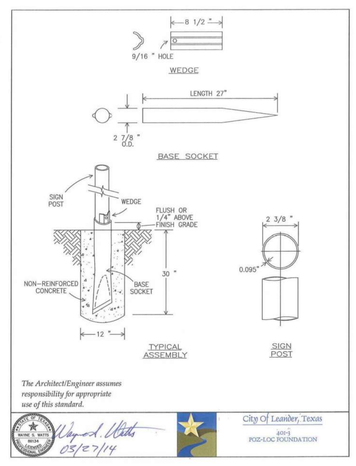
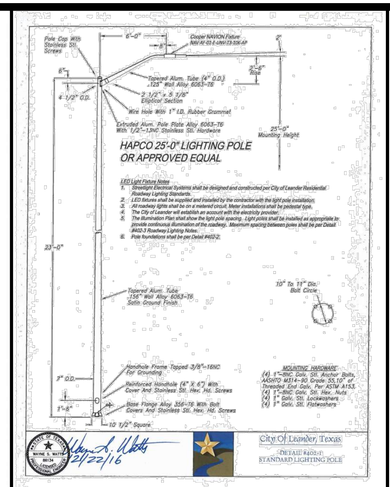
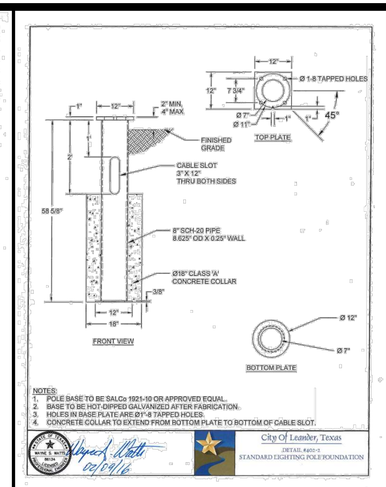
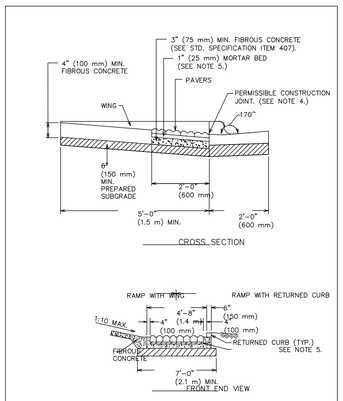






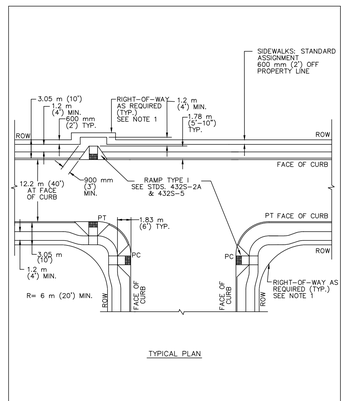




CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		DETECTABLE WARNING-PAVER (CITY PROPERTY/EASEMENTS)	
RECORD COPY SIGNED BY BILL GARDNER	06/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-2A 1 OF 2

GENERAL NOTES:
1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION ON CITY PROPERTY AND EASEMENT AREAS ONLY.
2. PAVERS ARE REQUIRED FOR ALL CURB RAMP INSTALLATIONS.
3. PAVERS WILL HAVE DETECTABLE WARNING THAT CONSISTS OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9" (23 mm), A NOMINAL HEIGHT OF 0.2" (5 mm) AND A NOMINAL CENTER TO CENTER SPACING OF 2.35" (60 mm) AND SHALL CONSTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT (Re: ADAAG SECTION 4.29.2). MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. PAVER PATTERN SHALL BE BASKET WEAVE UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
4. TYPICAL SIDEWALK WIDTHS AND CURB RADII ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE TRANSPORTATION CRITERIA MANUAL FOR SIDEWALK WIDTHS, CURB RADII AND CURB BASIS.
5. THE PERMISSIBLE CONSTRUCTION JOINT BETWEEN THE PAVERS AND THE ADJOINING SURFACE SHALL BE LIMITED TO ¼" (6mm) JOINT SIZE. GAPS LARGER THAN ¼" (6mm) MUST BE APPROVED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. ALL JOINTS BETWEEN BRICKS AND ADJOINING SURFACES SHALL BE MORTAR FILLED UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR DESIGNATED REPRESENTATIVE.
6. MORTAR SHALL CONFORM TO STD. SPECIFICATION ITEM SECTION 403S.3.5, MORTAR AND GROUT. ALL OTHER CONCRETE SHALL CONFORM TO STD. SPECIFICATION ITEM 403S, CONCRETE FOR STRUCTURES, UNLESS OTHERWISE NOTED.
7. CURB RAMPS WITH RETURNED CURB MAY ONLY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK DIAGONALLY ACROSS THE RAMP.

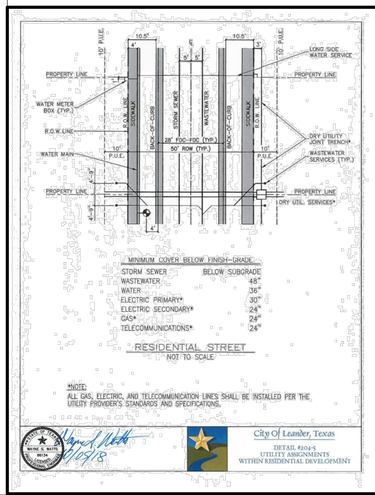
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		DETECTABLE WARNING-PAVER (CITY PROPERTY/EASMENTS)	
RECORD COPY SIGNED BY BILL GARDNER	06/21/07 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-2A 2 OF 2

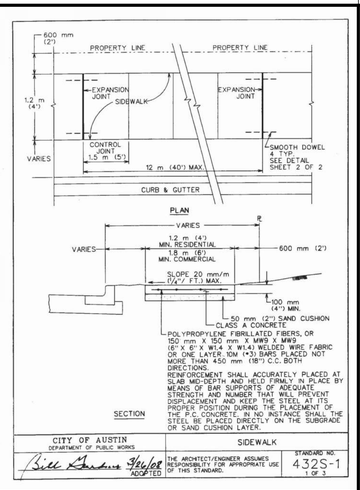


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE 1 CURB RAMPS – "T" INTERSECTION	
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-3A 1 OF 2

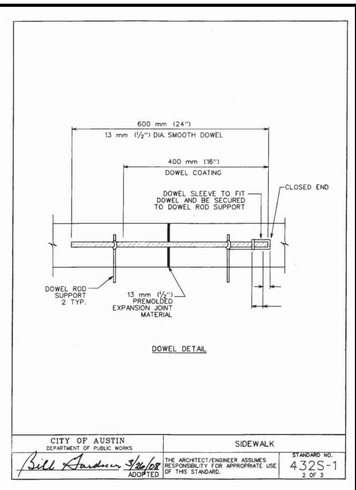
GENERAL NOTES:
1. THIS STANDARD IS APPLICABLE FOR RAMP CONSTRUCTION WITHIN RIGHT-OF-WAY OR EASEMENT ONLY.
2. THIS STANDARD REPRESENTS A TYPICAL CURB RAMP DESIGN FOR A NEWLY CONSTRUCTED INTERSECTION WITH A 6 m (20') RADIUS. LARGER RADII, STREET GRADES, LIMITED SIGHT DISTANCES, STREET CLASSIFICATION, SIGNALIZATION AND OTHER FACTORS MAY REQUIRE THE ENGINEER OR DESIGNATED REPRESENTATIVE TO MODIFY THIS STANDARD. SUFFICIENT RIGHT-OF-WAY SHALL BE DEDICATED SUCH THAT THE ENTIRE CURB RAMP, INCLUDING LANDING, AND THE INTER-CONNECTING SIDEWALK ARE CONTAINED WITHIN THE RIGHT-OF-WAY.
3. THE CURB, GUTTER AND RAMP SYSTEM SHALL BE CONFIGURED TO MAINTAIN ALL RUNOFF FROM A 25 YEAR FREQUENCY STORM WITHIN THE RIGHT-OF-WAY (DRAINAGE CRITERIA MANUAL SECTION 1.2.2.B). WHEN THERE IS AN ELEVATION DIFFERENCE BETWEEN THE BOTTOM OF RAMPS (IE. ELEVATION AT THE GUTTER) WITHIN A QUADRANT OF AN INTERSECTION, THE LOWER ELEVATION RAMP SHALL BE CONSTRUCTED WITH A POSITIVE RAMP SLOPE OF 1:12 IN ACCORDANCE WITH STANDARDS 432S-5, 432S-5A AND 432S-5B.
4. STANDARD ASSIGNMENT OF SIDEWALKS IS 600 mm (2') OFF PROPERTY LINE, EXCEPT AS INDICATED ON THE DRAWINGS.
5. ALTHOUGH CURB RAMPS MAY BE PLACED WITHIN THE RADIUS, PLACING THE RAMP OUTSIDE OF THE RADIUS WILL ALLOW FOR THE GREATEST DIFFERENCE IN ELEVATION BETWEEN THE RAMPS.
6. WINGS ARE REQUIRED ONLY IF PEDESTRIANS WOULD NORMALLY CROSS THE RAMP.
7. LANDINGS SHALL BE FLAT AND MATCH PT, PC OR TOP OF CURB ELEVATION.
8. CURB RAMPS WILL BE PERPENDICULAR TO ROADWAY CENTERLINES AND SHALL ALIGN WITH EACH OTHER.
9. GRADES ON SIDEWALKS LEADING TO OR FROM THE RAMPS SHALL FOLLOW CURB GRADES.
10. THE SLOPE OF THE SIDEWALK WHICH IS LOCATED WITHIN THE RADIUS AND CONNECTS TWO CURB RAMPS SHALL NOT EXCEED 1:20. THE DEVELOPER, AS PART OF THE CURB RAMP INSTALLATION, SHALL CONSTRUCT THIS CONNECTING SIDEWALK.
11. STRIPING AND SIGNAGE NOT REQUIRED IN ALL INSTANCES. STOP BARS, IF REQUIRED, SHALL BE LOCATED 1.2 m (4') FROM CROSSWALK.
12. IF A MEDIAN EXTENDS INTO THE CROSSWALK AREA, AN OPENING SHALL BE PROVIDED IN THE MEDIAN THE SAME WIDTH AS THE CURB RAMP.
13. CURB INLETS SHALL NOT BE LOCATED WITHIN 3.0 m (10') OF A CURB RAMP.
14. GUTTER SHALL PROVIDE SMOOTH TRANSITION TO RAMPS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE 1 CURB RAMPS – "T" INTERSECTION	
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-3A 2 OF 2

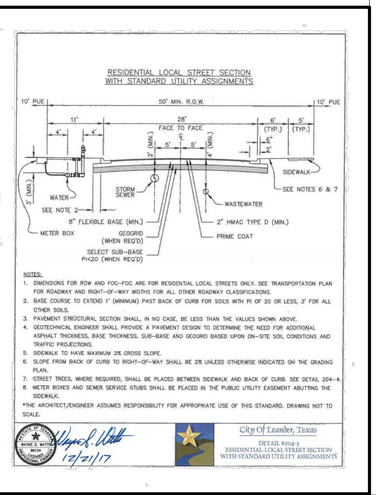




CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		SIDEWALK	
Bill Gardner	3/6/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 1 OF 3



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		SIDEWALK	
Bill Gardner	3/6/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 2 OF 3



CITY OF LEANDER APPROVAL

NO. REVISION | DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

STATE OF TEXAS MICHAEL S. FISHER 87704 LICENSED PROFESSIONAL ENGINEER
4/11/23

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
PAVING & STREET DETAILS 2 OF 3

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 54 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:29pm User ID: ACHAVEZ
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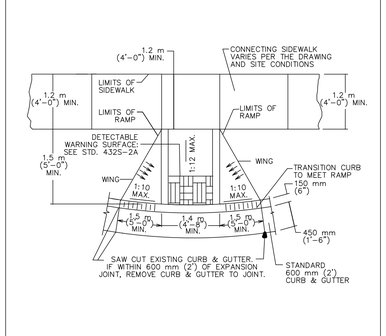
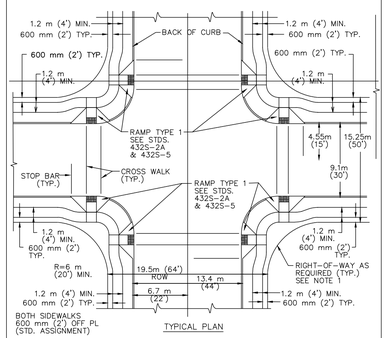
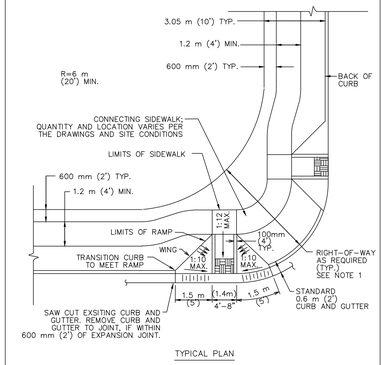


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE 1 SIDEWALK CURB RAMP	
RECORD COPY SIGNED BY BILL GARDNER	9/14/05 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-5



TYPICAL PLAN

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE 1 CURB RAMPS–FULL INTERSECTION	
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-3 1 OF 3



TYPICAL PLAN

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE 1 CURB RAMPS–FULL INTERSECTION	
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-3 2 OF 3

GENERAL NOTES:

1. THIS STANDARD IS APPICABLE FOR RAMP CONSTRUCTION WITHIN RIGHT-OF-WAY OR EASEMENT ONLY.
2. THIS STANDARD REPRESENTS A TYPICAL CURB RAMP DESIGN FOR A NEWLY CONSTRUCTED INTERSECTION WITH A 6 m (20') RADIUS. LARGER RADII, STREET GRADES, LIMITED SIGHT DISTANCES, STREET CLASSIFICATION, SIGNALIZATION AND OTHER FACTORS MAY REQUIRE THE ENGINEER OR DESIGNATED REPRESENTATIVE TO MODIFY THIS STANDARD. SUFFICIENT RIGHT-OF-WAY SHALL BE DEDICATED SUCH THAT THE ENTIRE CURB RAMP, INCLUDING LANDING, AND THE INTER-CONNECTING SIDEWALK ARE CONTAINED WITHIN THE RIGHT-OF-WAY.
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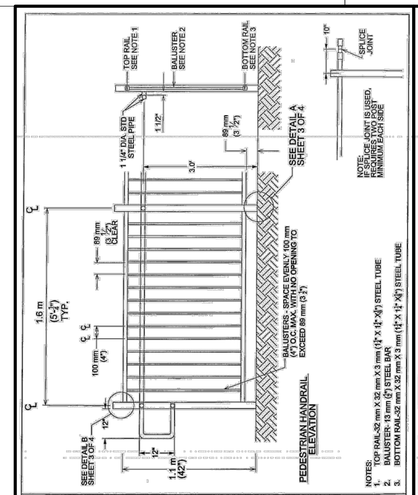
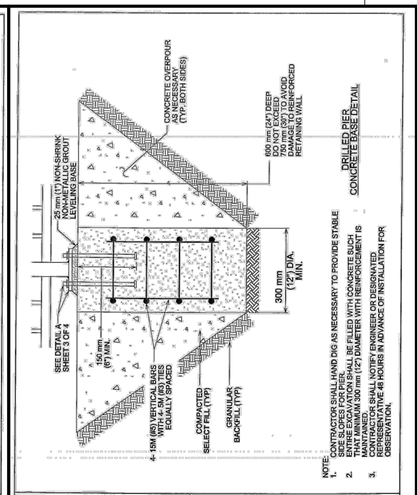
14. GUTTER SHALL PROVIDE SMOOTH TRANSITION TO RAMPS.

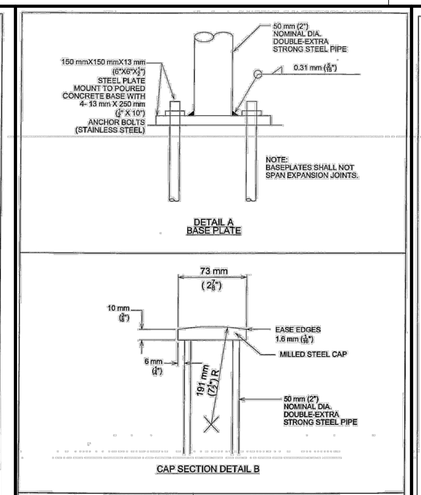
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		TYPE 1 CURB RAMPS–FULL INTERSECTION	
RECORD COPY SIGNED BY BILL GARDNER	03/13/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-3 3 OF 3



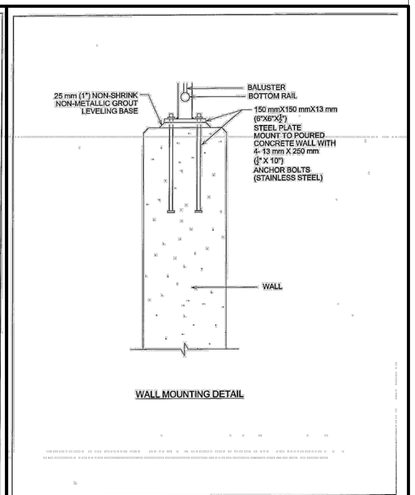
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		PEDESTRIAN ADA HANDRAIL OPTION 1	
1/9/06 ADOPTED		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 707S-2 1 OF 4



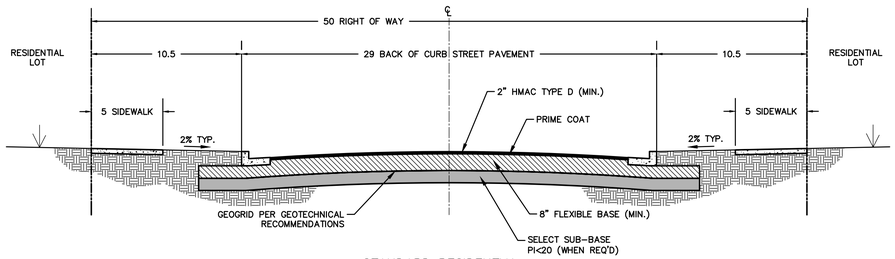
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		PEDESTRIAN ADA HANDRAIL OPTION 1	
1/9/06 ADOPTED		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 707S-2 2 OF 4



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		PEDESTRIAN ADA HANDRAIL OPTION 1	
1/9/06 ADOPTED		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 707S-2 3 OF 4



CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS		PEDESTRIAN ADA HANDRAIL OPTION 1	
1/9/06 ADOPTED		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 707S-2 4 OF 4



STANDARD RESIDENTIAL STREET SECTION

1" = 5'

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER

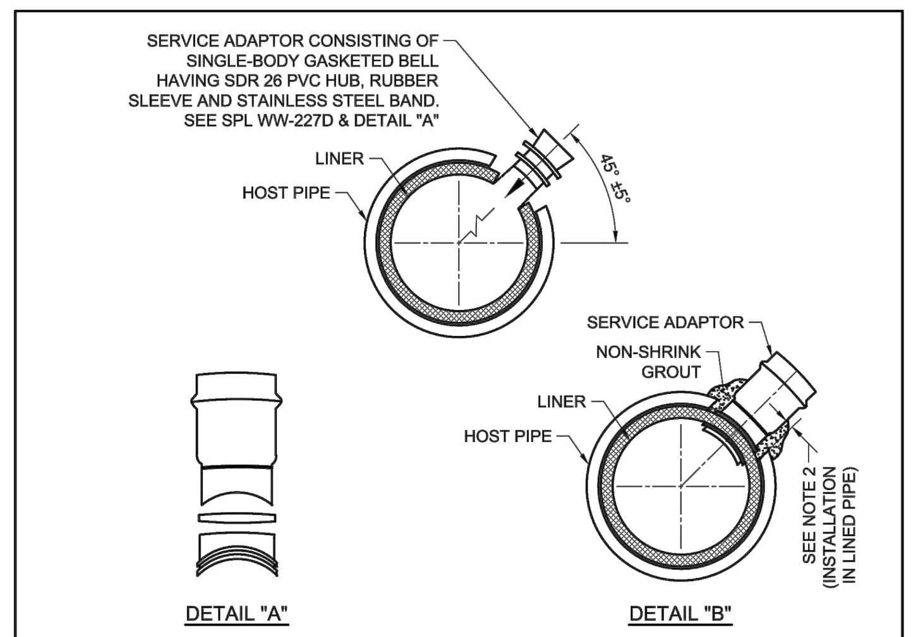
4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
PAVING & STREET DETAILS 3 OF 3

CITY JOB NO. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 55 OF 72

23-PICP-XXX



INSTALLATION IN LINED PIPE:

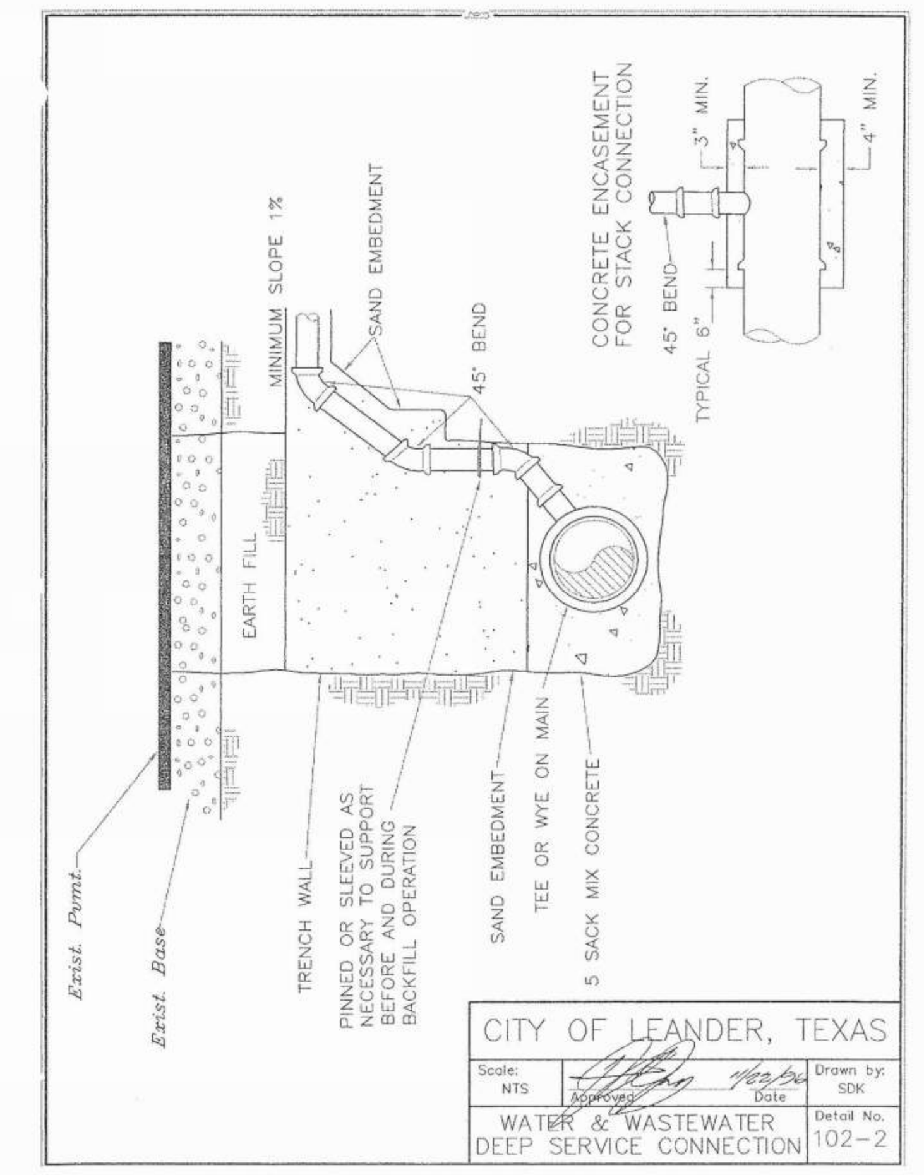
1. MARK LOCATION OF TAP.
2. BREAK & REMOVE HOST PIPE SO THAT OPENING IS AT LEAST 2" BUT NO MORE THAN 3" WIDER THAN DIAMETER OF THE SERVICE ADAPTOR.
3. DO NOT DAMAGE LINER.
4. CORE HOLE THROUGH LINER USING ADAPTOR MANUFACTURER RECOMMENDED BIT.
5. INSTALL SERVICE ADAPTOR.
6. HOLES CUT IN HOST PIPE SHALL BE PACKED WITH NON-SHRINK GROUT (ASTM C1107 GRADE). SEE DETAIL "B"

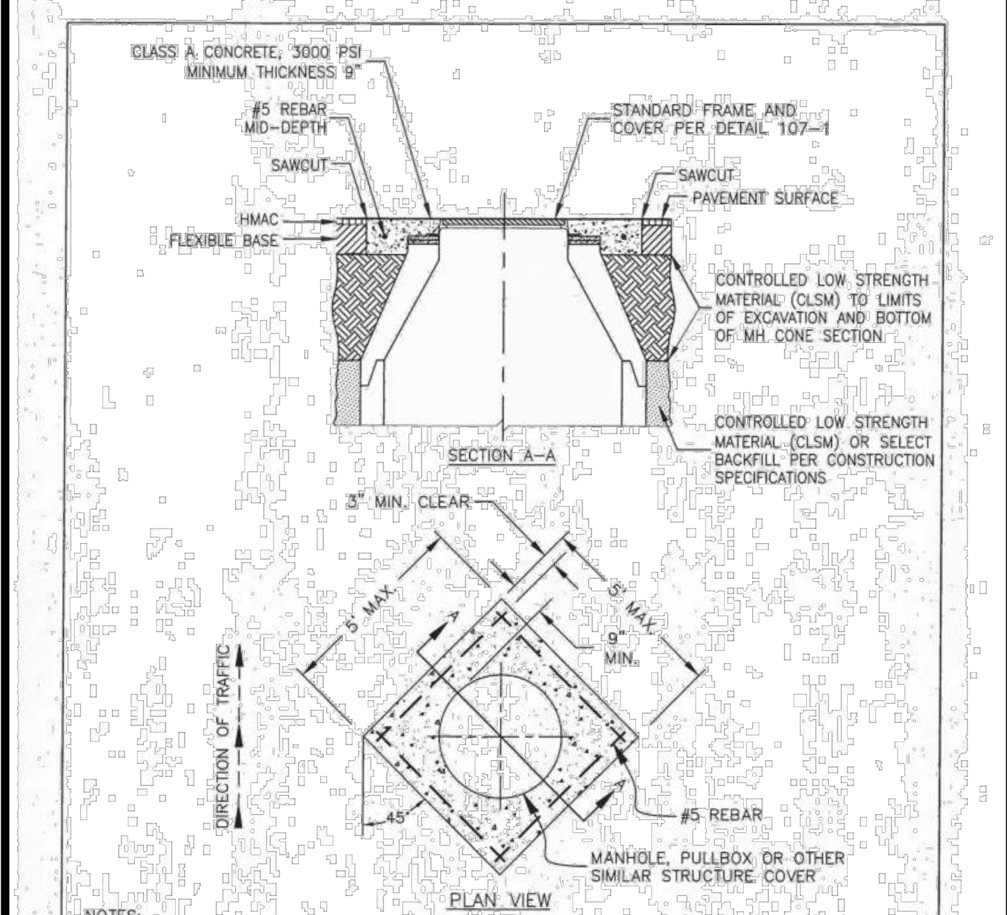
NOTES:

1. USE ONLY TO TAP EXISTING LINED PIPE.
2. SEE APPROPRIATE STD. FOR SERVICE LINE INFORMATION.
3. THE EDGE OF THE CORE HOLE MUST BE AT LEAST 3' FROM THE ENDS OF THE PIPE, ANY OTHER CORE SERVICE CONNECTIONS, AND ANY FITTINGS.
4. FOR DEEP SERVICE APPLICATIONS SEE SHEET 3 OF 4, EXCEPT SUBSTITUTE A CORED HOLE, AND SERVICE ADAPTOR FOR THE TEE OR WYE.
5. SERVICE CONNECTIONS TO MANHOLES MUST BE MADE USING A PIPE-TO-MANHOLE CONNECTOR WHICH LIMITS THE PIPE SLOPE INTO THE MANHOLE TO 12% MAX.

6" WASTEWATER CONNECTION TO EXISTING LINED MAIN

CITY OF AUSTIN AUSTIN WATER	SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION	
RECORD COPY SIGNED JEFF A. KYLE 11/07/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01C 4 OF 4

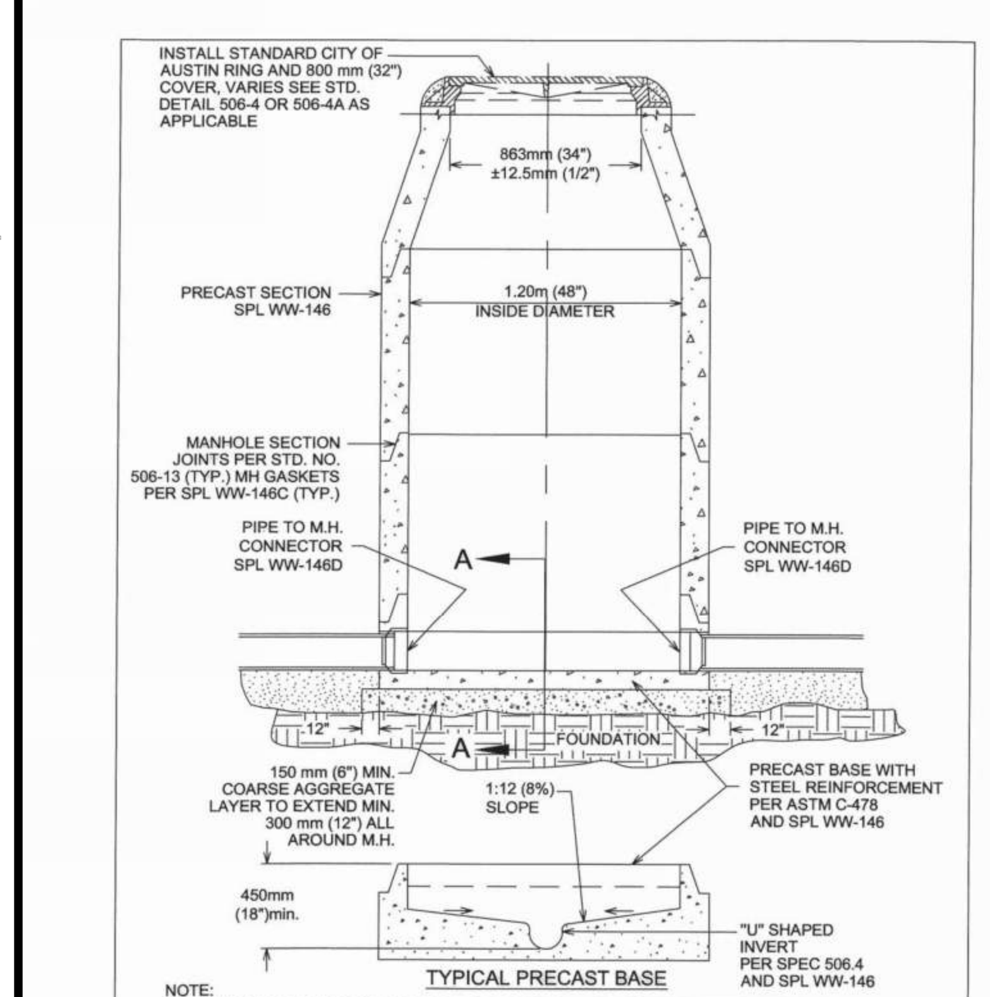




NOTES:
1. CONCRETE SHALL BE CLASS A, 3000 PSI MINIMUM AND SHALL BE REINFORCED WITH #5 BARS AS SHOWN. THE CONCRETE SHALL EXTEND TO SAW CUT PAVEMENT EDGE.
2. PLACEMENT OF CLSM SHALL BE BELOW FLEXIBLE BASE LAYER TO LIMITS OF EXCAVATION.
3. INSTALLATION OF HMAC OVER CONCRETE ADJUSTMENT SHALL NOT BE ALLOWED.
4. INSTALLATION OF CONCRETE CASTING ADJUSTMENT IS REQUIRED FOR ALL TYPES OF MANHOLES TO BE LOCATED IN THE ROADWAY.

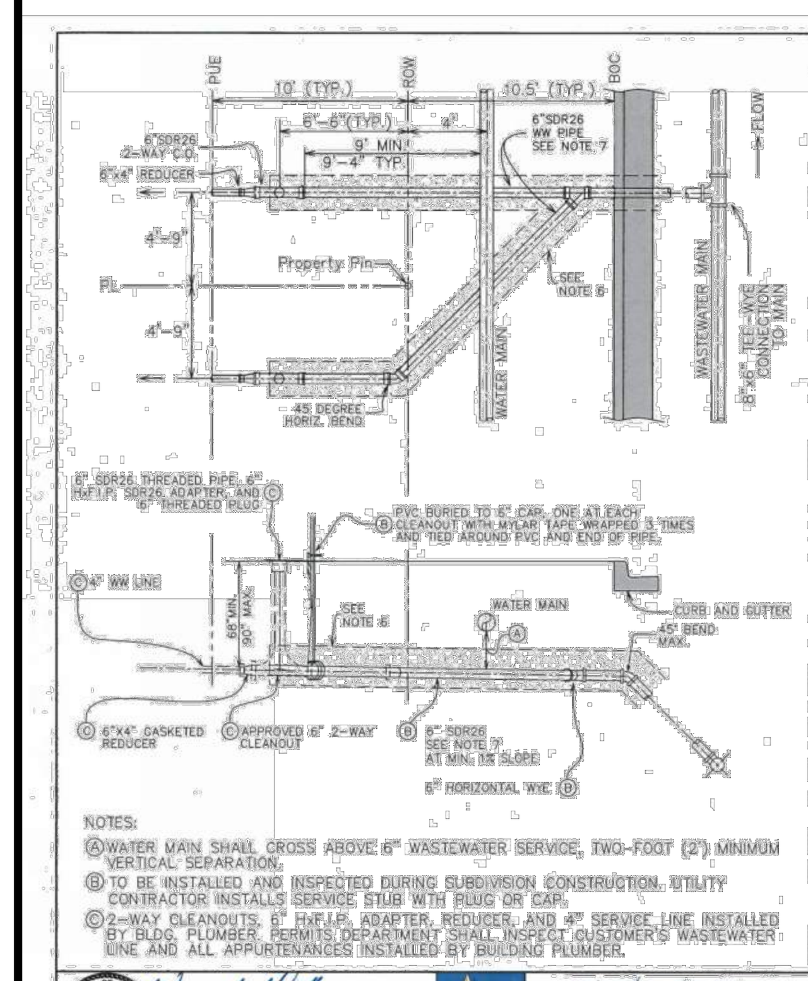
02/22/17

City Of Leander, Texas
DETAIL #107-4
MANHOLE CASTING ADJUSTMENT



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	
Kathi L Flowers 8/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	STANDARD NO. 506S-10



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.

09/26/18

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.

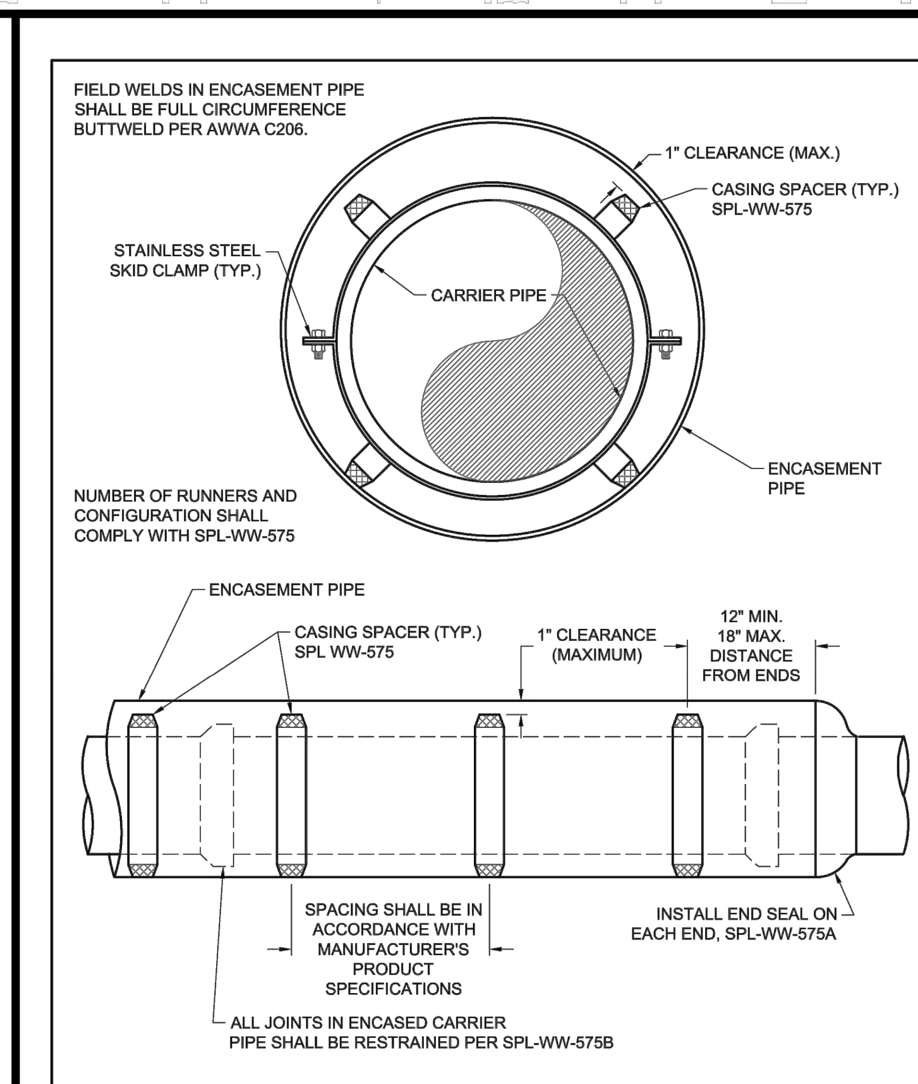
7. PIPE MATERIAL FOR WASTEWATER SERVICES SHALL BE 6" SDR-26 PVC D2241 160 PSI RATED.

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.

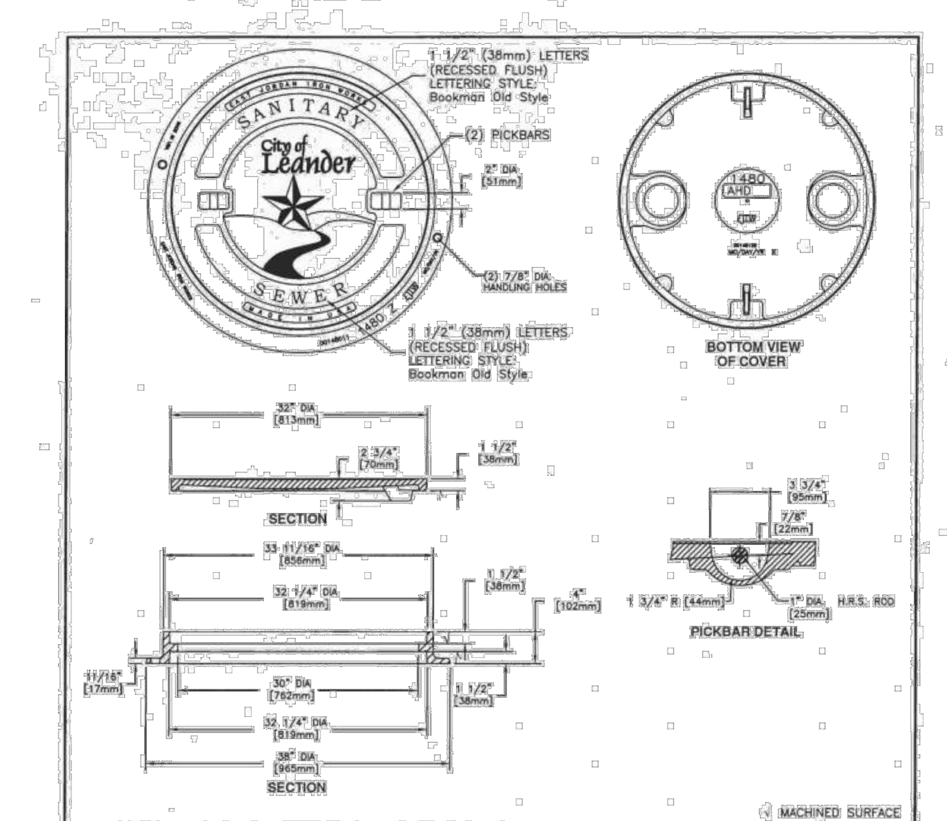
09/26/18

City Of Leander, Texas
DETAIL #101-2
2 OF 2
WASTEWATER SERVICE CONNECTIONS



APPLICABLE REFERENCES:
STANDARD SPECIFICATION: ITEM 505.4 & 510.3 (19)

CITY OF AUSTIN AUSTIN WATER	ENCASEMENT PIPE DETAIL WITH CASING SPACERS	
JEFF A. KYLE 02/22/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 501-AW-01 1 OF 1

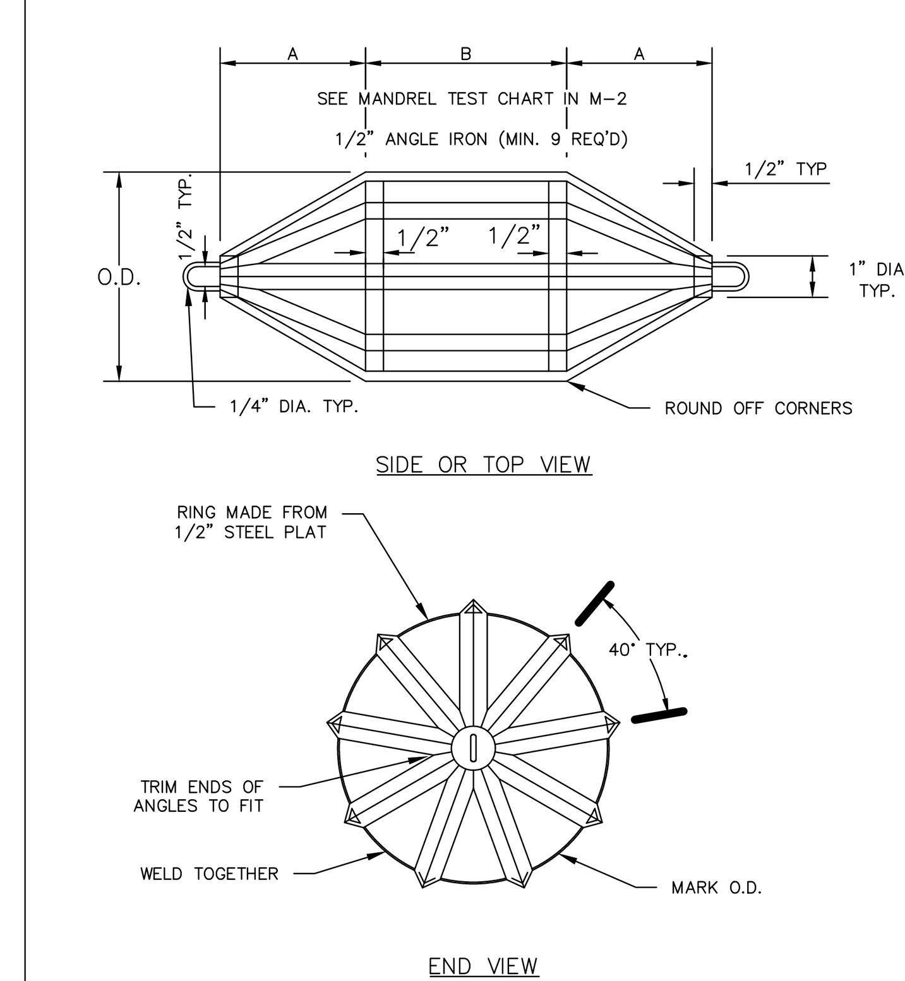


MANHOLE ASSEMBLY	EST. WT. COVER: 200 LBS 91kg FRAME: 155 LBS 70kg UNIT: 355 LBS 161kg
EAST JORDAN IRON WORKS PRODUCT NO. 00148107 OR NEENAH FOUNDRY DF-1274 LEANDER SANITARY	OPEN AREA N/A MAT'L SPEC. COVER – GRAY IRON ASTM A48 CL35B FRAME – GRAY IRON ASTM A48 CL35B

LOAD RATING
HEAVY DUTY (H20)

02/22/16

City Of Leander, Texas
DETAIL #107-1
SANITARY SEWER MANHOLE COVER



NOTE:
ALL MANDRELS MUST BE APPROVED BY THE CITY OF LEANDER CONSTRUCTION INSPECTIONS AND STAMPED BEFORE USE.

GO, NO GO DEFLECTION TESTING MANDREL — M-1

SIZE	A	B*	MANDREL O.D. PVC (SDR-26)	RING O.D. PVC (SDR-26)
6"	4.0"	4.5"	5.50	4.79
8"	5.5"	6"	7.37	6.66
10"	7.0"	7.5"	9.21	8.50
12"	8.0"	9"	10.96	10.25
15"	10.0"	11"	13.42	12.71
18"	12.0"	13.5"	——	——
21"	14.0"	16"	——	——
24"	16.0"	18"	——	——
27"	18.0"	20"	——	——

* MINIMUM LENGTH

CHART

NOTES:
PVC PIPES AND FITTING 6" TO 15" IN DIAMETER SHALL CONFORM TO ASTM D-3034.
PVC PIPES AND FITTING 18" TO 27" IN DIAMETER SHALL CONFORM TO ASTM F-679.

THIS INFORMATION IS PROVIDED AS A REFERENCE. ALL DEFLECTION TESTING SHALL BE DONE IN ACCORDANCE WITH TCEQ CHAPTER 217.

GO, NO GO DEFLECTION TESTING MANDREL CHART — M-2

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

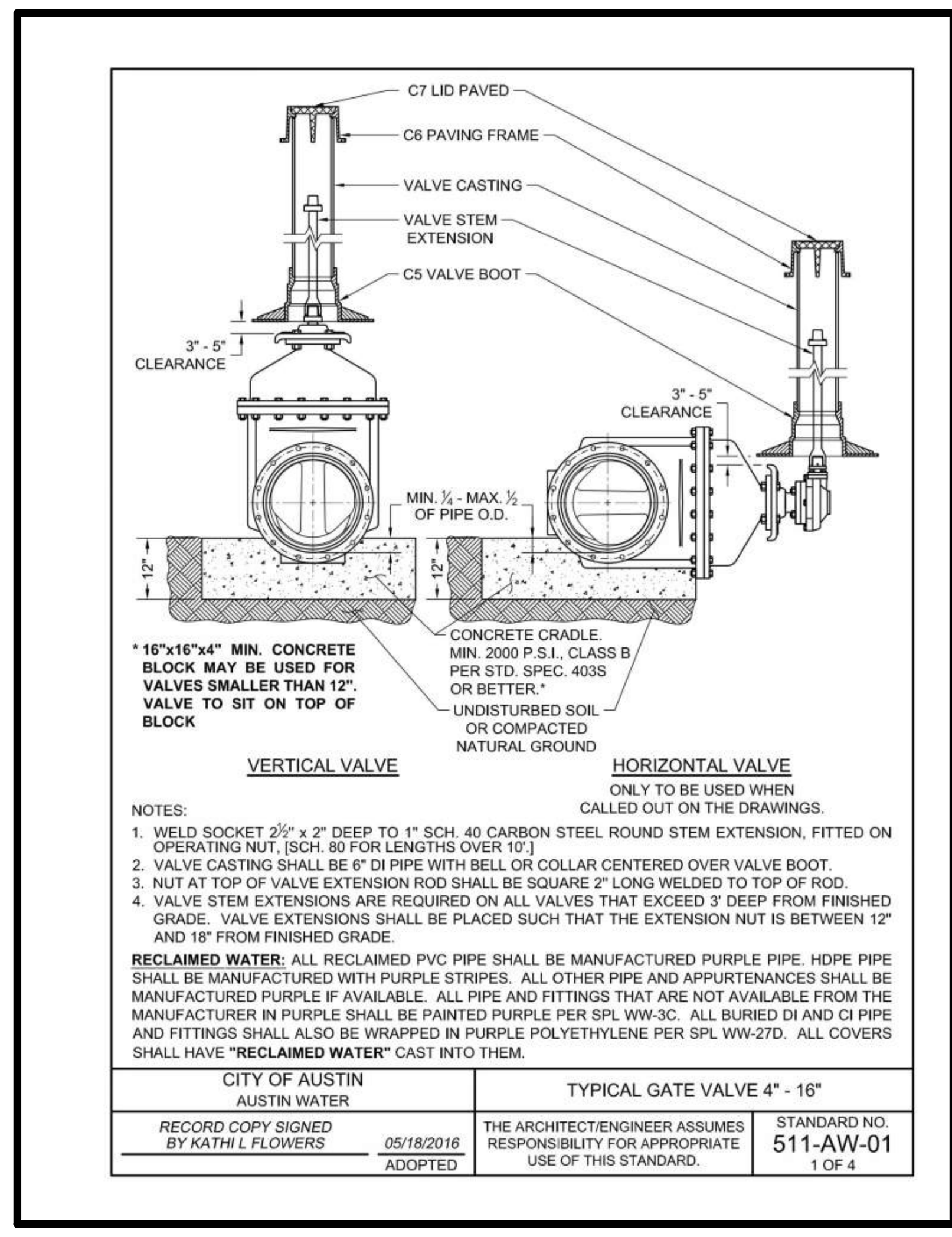
4/11/23

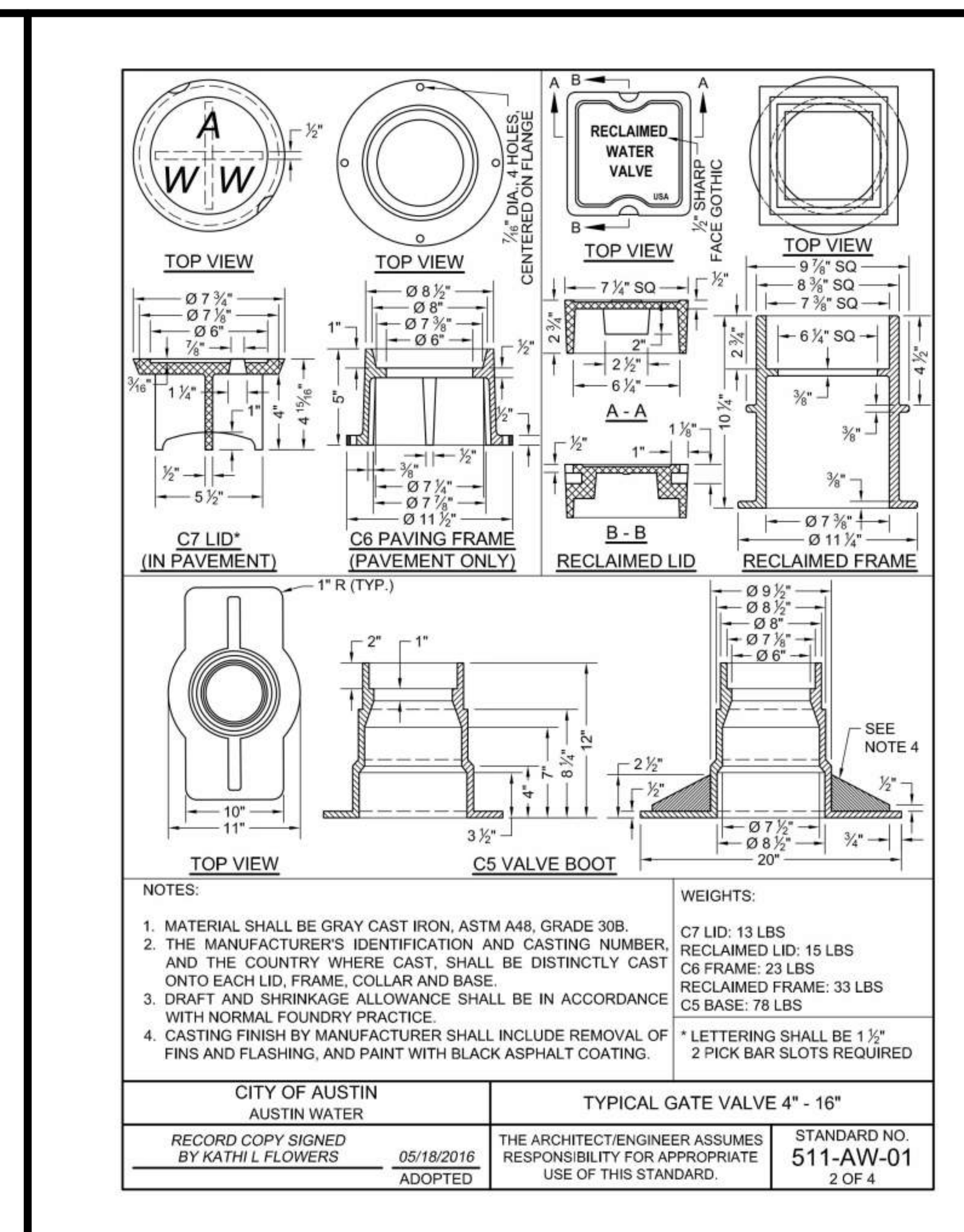
PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

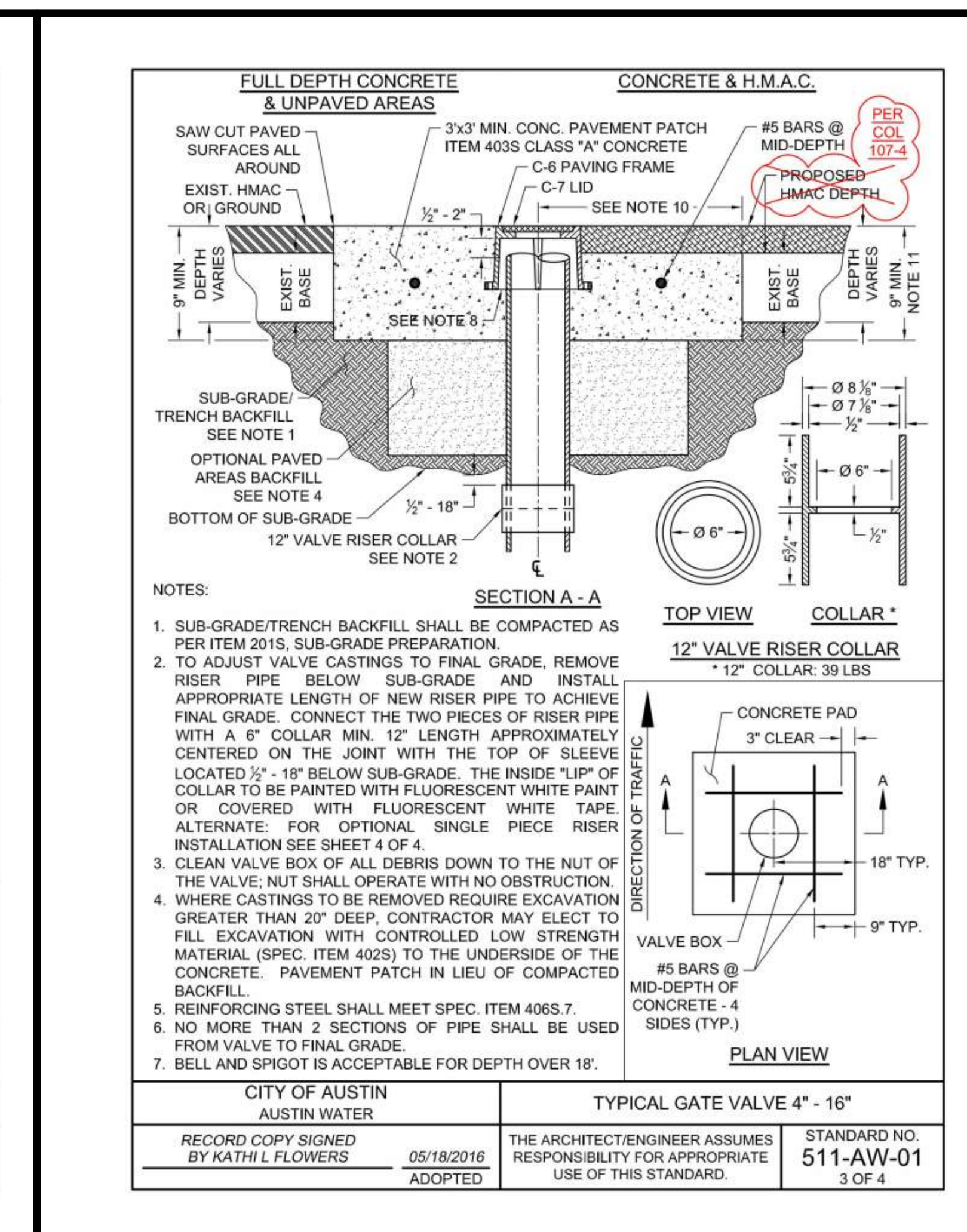
HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS

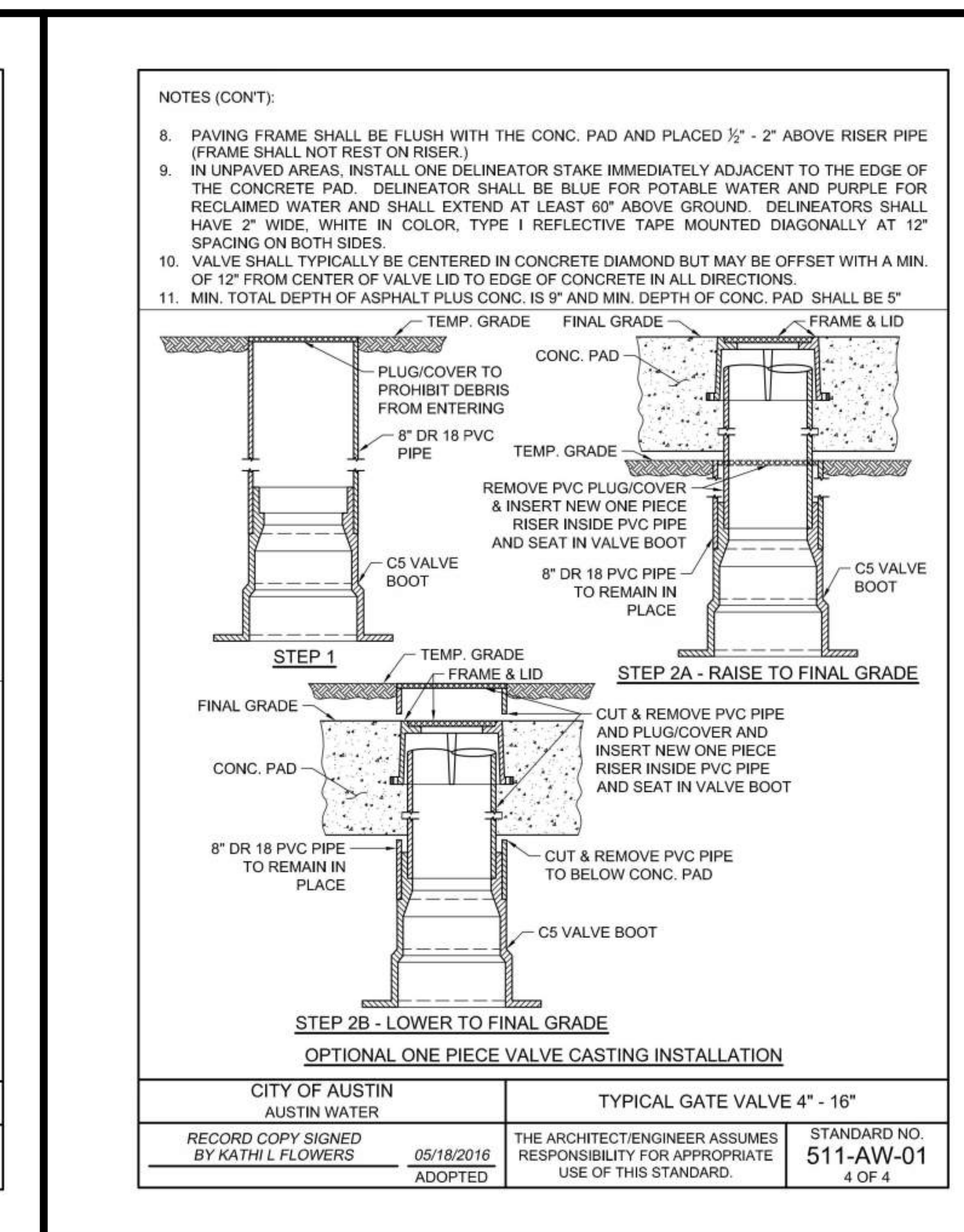
WASTEWATER DETAILS

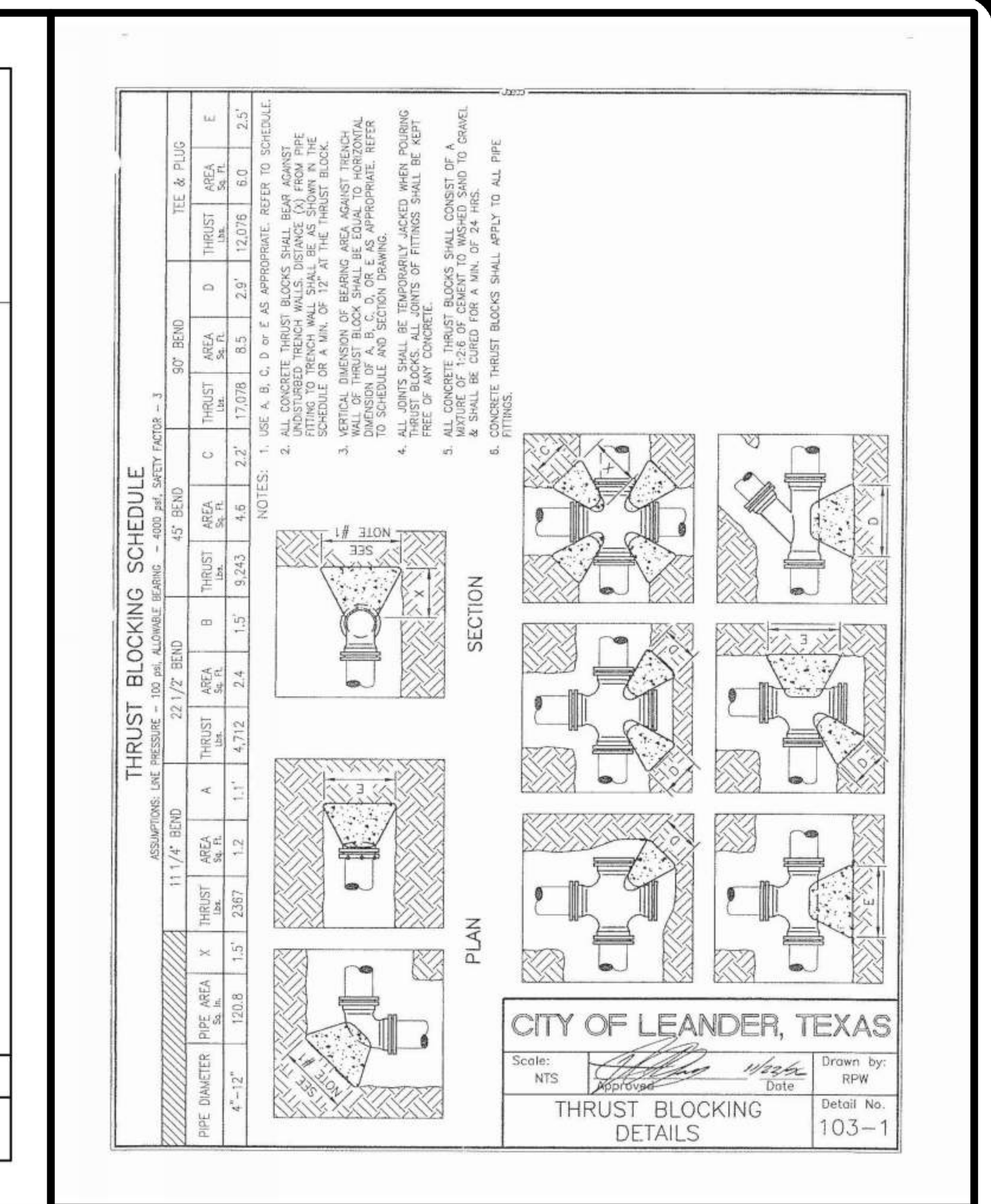
CITY JOB No. 23-PICP-XXX
JOB NO. 51167–02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 56 OF 72

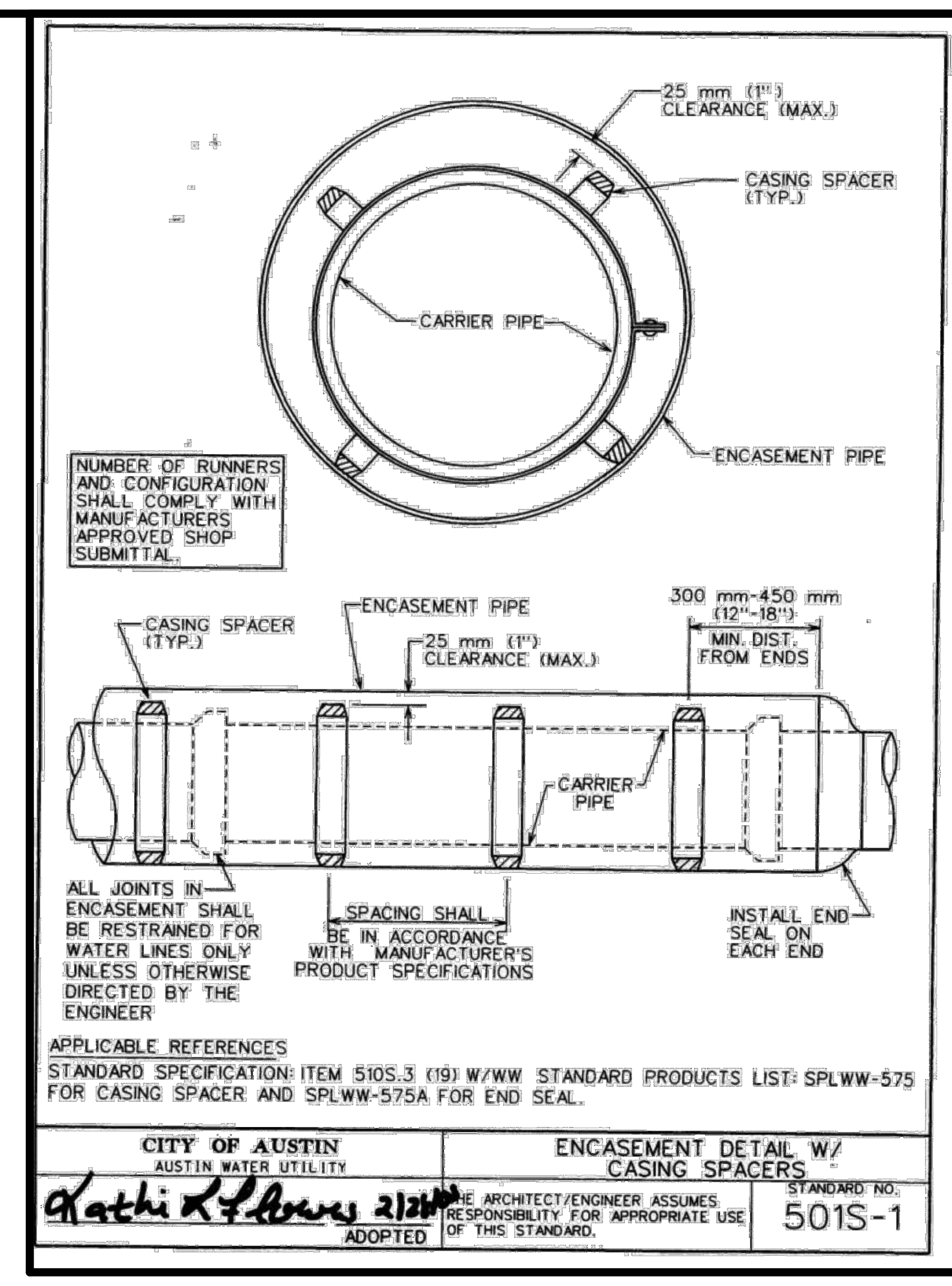


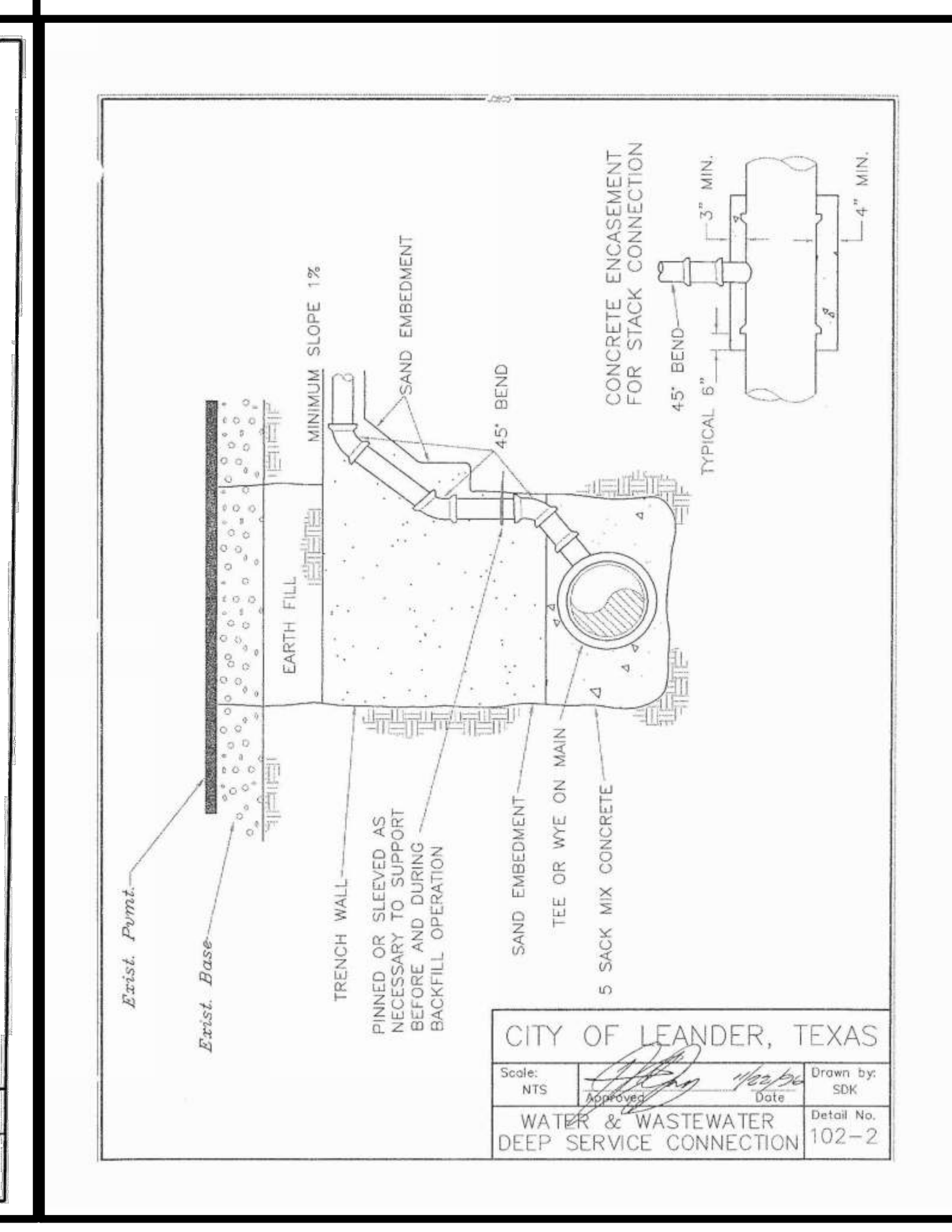


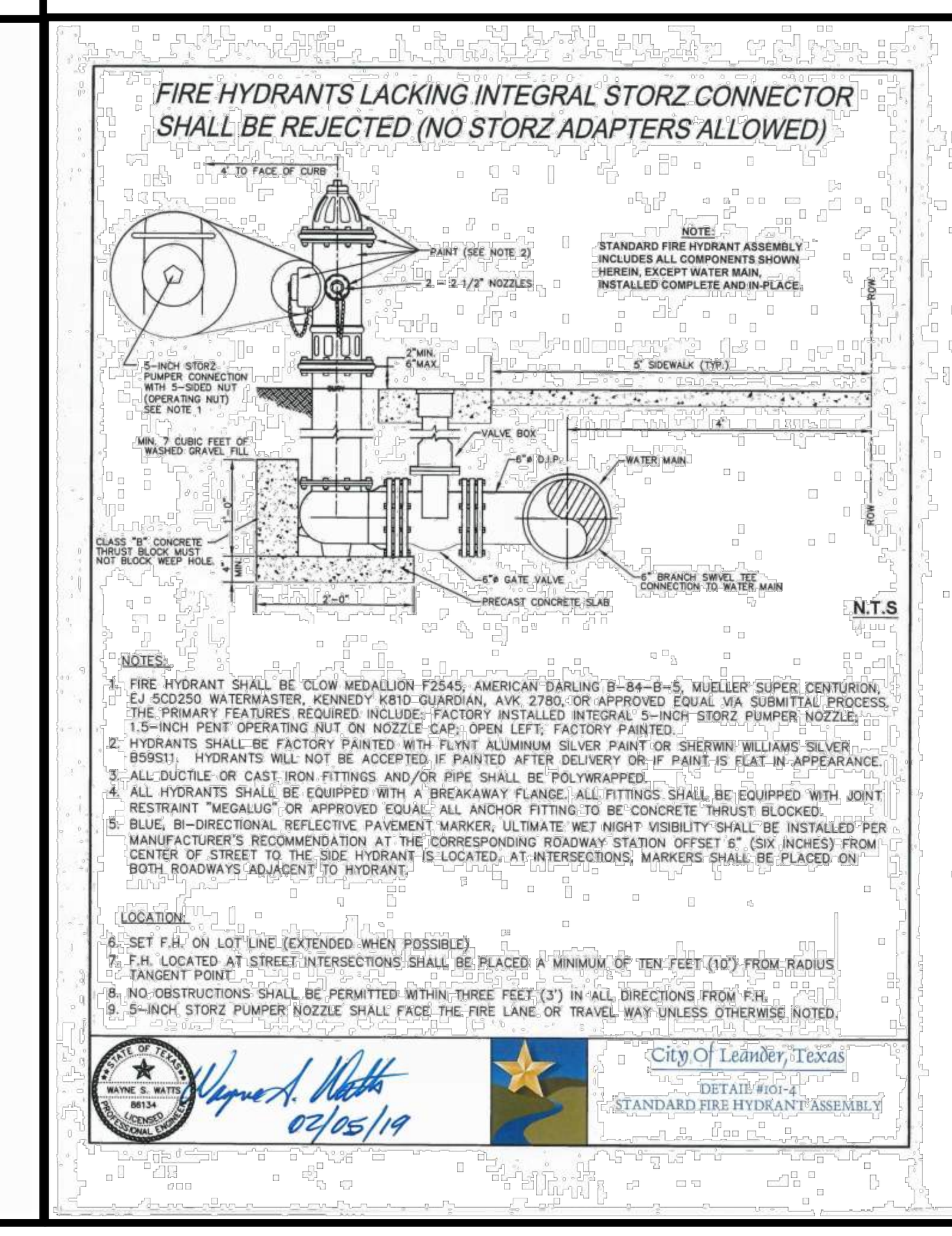


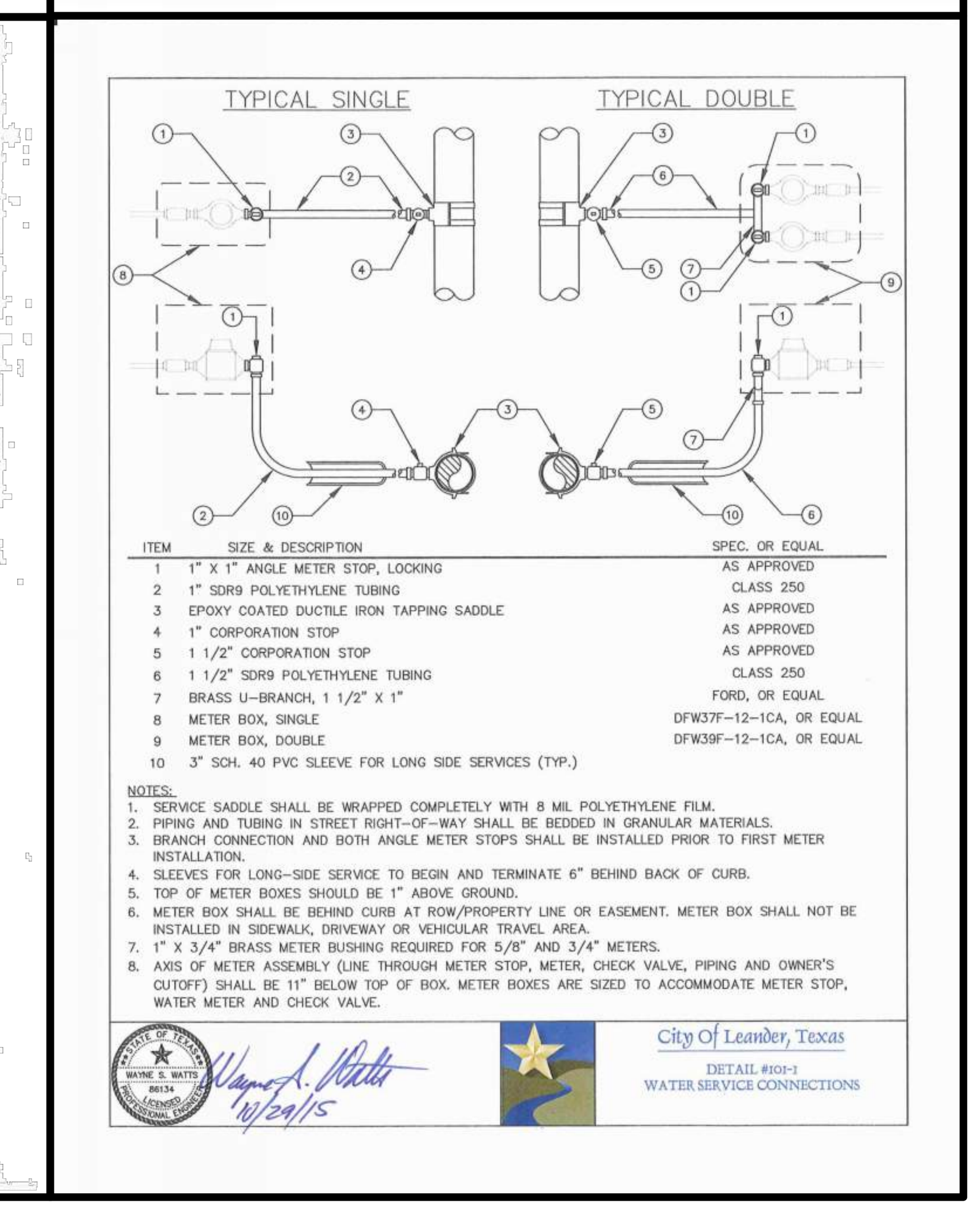












NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS

AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH

PHASE 1
CITY OF LEANDER, TEXAS

WATER DETAILS

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 57 OF 72

CITY OF LEANDER APPROVAL

23-PICP-XXX

Date: Apr 11, 2023, 4:29pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\DT51167-02.dwg

ELECTRICAL LEGEND

(NOTE: ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON DRAWINGS)

SYMBOL LEGEND

LIGHTING

POLE MOUNTED LIGHT FIXTURE AS SPECIFIED. PROVIDE PER THE CITY OF LEANDER'S SPECIFICATIONS.

CONDUIT AND WIRE

BRANCH CIRCUIT 3/4"C – 2#8 & 1#10 GROUND.

DISTRIBUTION & CONTROLS

- JUNCTION BOX WITH COVER PLATE
- EQUIPMENT CONNECTION. (PROVIDE ALL BRANCH CIRCUITRY REQUIRED TO CONNECT TO EQUIPMENT)
- PEC PAD MOUNTED TRANSFORMER
- ELECTRICAL METER

ABBREVIATIONS

A	AMPERE
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMP TRIP
AWG	AMERICAN WIRE GAUGE
G	
GND.	GROUND
K	
KVA	THOUSAND VOLT AMPERE
N	
N.E.C.	NATIONAL ELECTRICAL CODE
N.E.M.A.	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
X	
XFMR	TRANSFORMER

GENERAL PROVISIONS

1. THE WORK COVERED SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, LABOR, TRANSPORTATION, TOOLS, PERMITS, FEES, AND INCIDENTALS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL ELECTRICAL WORK REQUIRED IN THE CONTRACT DOCUMENTS. THE INTENT OF THE OF THE CONTRACT DOCUMENTS IS TO PROVIDE AN INSTALLATION COMPLETE IN EVERY RESPECT. IN THE EVENT THAT ADDITIONAL DETAILS OR SPECIAL CONSTRUCTION MAY BE REQUIRED FOR THE WORK INDICATED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOS TO PROVIDE ALL MATERIAL AND LABOR WHICH IS USUALLY FURNISHED WITH SUCH SYSTEMS IN ORDER TO MAKE THE INSTALLATION COMPLETE AND OPERATIVE. ELEMENTS OF THE WORK SHALL INCLUDE, BUT ARE NOT LIMITED TO, MATERIALS, LABOR, SUPERVISION, SUPPLIES, EQUIPMENT, TRANSPORTATION, HOISTING/RIGGING, STORAGE, UTILITIES, AND ALL REQUIRED PERMITS AND LICENSES.
2. DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT NECESSARILY REFLECT ALL WORK REQUIRED TO COMPLETE PROJECT. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT AS REQUIRED TO COMPLETE PROJECT WITHIN DESIGN INTENT AT NO ADDITIONAL COST TO OWNER OR TENANT. CONTRACTOR SHALL REQUEST ADDITIONAL INFORMATION IN CASES OF DOUBT
3. CONSIDERATION SHALL NOT BE GRANTED FOR MISUNDERSTANDING OF THE SCOPE OR AMOUNT OF WORK TO BE PERFORMED. TENDER OF A PROPOSAL CONVEYS FULL CONTRACTOR AGREEMENT OF THE ITEMS AND CONDITIONS SPECIFIED AND/OR INDICATED, SCHEDULED, OR IMPLIED ON THE CONTRACT DOCUMENTS, AND/OR REQUIRED BY THE NATURE OF THIS WORK.
4. ALL WORK IS TO BE PERFORMED BY A LICENSED MASTER ELECTRICIAN PER THE TEXAS ELECTRICAL SAFETY AND LICENSING ACT.

ELECTRICAL SPECIFICATIONS

DIVISION 26 – ELECTRICAL

26010 ELECTRICAL GENERAL PROVISIONS
WORK AND MATERIAL SHALL COMPLY WITH THE LATEST RULES AND REGULATIONS OF THE 2020 NATIONAL ELECTRICAL CODE, THE LOCAL ELECTRICAL CODE AMENDMENTS, NATIONAL ELECTRICAL SAFETY CODE, OCCUPATIONAL SAFETY AND HEALTH ACT; 2015 INTERNATIONAL ENERGY CODE; AND ALL FEDERAL AND STATE CODES, ORDINANCES AND REGULATIONS.

ALL ELECTRICAL PANELBOARDS SHALL BE INSPECTED BEFORE THE PANEL IS CLOSED BY THE ELECTRICAL CONTRACTOR. CONTRACTOR SHALL COORDINATE ARRANGEMENTS FOR THIS INSPECTION. ALL PANELBOARD CIRCUIT DIRECTORIES SHALL BE TYPE WITH CORRESPONDING DEVICES AD EQUIPMENT (I.D. DESIGNATION) SERVED. TYPICAL NEW AND EXISTING PANELBOARDS.

26110 RACEWAYS
ACCEPTABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE RACEWAY OF ONE OF THE FOLLOWING MANUFACTURERS:

RIGID NON-METALLIC CONDUIT: CARLON. CONDUX INTERNATIONAL INC. CAN-TEX INDUSTRIES.

CONDUIT SHALL BE SCHEDULE 40 PVC, UV STABILIZED FOR 90° C CONDUCTORS, USE SCHEDULE 80 PVC UNDER TRAFFIC AREAS.
FITTINGS SHALL BE SOLVENT, WELDED SOCKET TYPE.
CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH NEMA TC-2, FEDERAL SPECIFICATION WC1094A AND UL STANDARD 651.

INSTALLATION METHODS.

1. ALL RACEWAY SYSTEMS SHALL BE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. ALL RACEWAYS SHALL HAVE OPENINGS TEMPORARILY PLUGGED TO EXCLUDE FOREIGN OBJECTS. THE INTERIOR OF ALL RACEWAYS SHALL BE CLEANED BEFORE PULLING INSTALLING CONDUCTORS.
3. ALL JOINTS SHALL BE CUT SQUARE AND BE REAMED SMOOTH. ALL FIELD THREADED CONDUITS SHALL BE COATED WITH AN APPROVED ZINC CHROMATE OR WITH A 90 PERCENT ZINC PAINT.
4. ALL TURNS SHALL BE MADE WITH STANDARD ELLS OR CONDUIT BENT IN ACCORDANCE WITH THE NEC. CONDUIT BODIES MAY BE USED IN LIEU OF CONDUIT ELLS WHERE EASE OF INSTALLATION AND APPEARANCE WARRANTS THEIR USE. CONDUIT BODIES LARGER THAN 1-INCH MAY BE USED ONLY WHERE SPECIFICALLY APPROVED BY THE ARCHITECT. FURNISH AND INSTALL ACCESS DOORS FOR CONDUIT BODIES LOCATED ABOVE INACCESSIBLE CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED ACCESS DOORS' FIRE RATINGS. ALL FIELD BENDS SHALL BE MADE USING EQUIPMENT DESIGNED FOR THE PARTICULAR CONDUIT MATERIAL AND SIZE. BENDS SHALL BE FREE FROM DENTS OR FLATTENING. THERE SHALL BE NO MORE THAN THE EQUIVALENT OF THREE NINETY DEGREE BENDS IN ANY RACEWAY BETWEEN TERMINALS AND CABINETS, OR BETWEEN OUTLETS AND JUNCTION BOXES OR PULL BOXES.
5. SECURELY FASTEN AND SUPPORT CONDUIT TO METAL FRAMING USING HOT-DIPPED GALVANIZED, MALLEABLE IRON PIPE STRAPS OR OTHER APPROVED MEANS. REFER TO SECTION 26 05 29. GALVANIZED TIE WIRES FOR SECURING CONDUITS, IS NOT ACCEPTABLE. THE USE OF CADI-CLIPS FOR CONDUIT SUPPORTS FROM SUSPENDED CEILING SYSTEMS IS NOT ACCEPTABLE.
6. PROVIDE A NO. 30 NYLON PULL CORD IN ALL EMPTY CONDUITS. IDENTIFY BOTH ENDS OF THE LINE BY MEANS OF LABELS OR TAGS READING "PULLING LINE".
7. TERMINATE CONCEALED CONDUIT FOR FUTURE USE WITH A COUPLING AT STRUCTURAL SURFACES. INSTALL AN APPROVED CONDUIT PLUG FLUSH WITH THE SURFACE.
8. ALL OPENINGS AROUND ELECTRICAL PENETRATIONS AT FIRE RATED WALLS, PARTITIONS, FLOORS OR CEILINGS SHALL BE SEALED TO MAINTAIN THE FIRE RESISTANCE RATING OF THE PENETRATION.
9. ALL CONDUIT IN HAZARDOUS AREAS SHALL CONFORM TO NEC REQUIREMENTS FOR THESE AREAS AND WHERE FEEDING FROM OR TO A HAZARDOUS AREA TO ANOTHER ROOM "SEAL OFFS" SHALL BE USED.

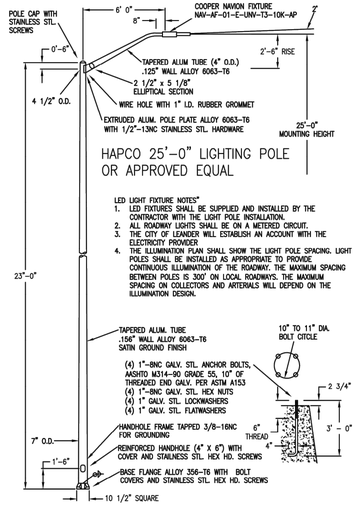
INSTALLATION OF UNDERGROUND RACEWAYS

1. THE GROUND SHALL BE EXCAVATED IN OPEN TRENCHES TO THE PROPER WIDTH AND DEPTH FOR THE INSTALLATION OF THE UNDERGROUND CONDUITS. MINIMUM CONDUIT BURIAL DEPTH SHALL BE 24" BELOW FINISHED GRADE TO TOP OF THE CONDUIT.
2. WHERE THE BOTTOM OF THE TRENCH IS EXCAVATED BELOW THE NECESSARY ELEVATION, IT SHALL BE BROUGHT TO PROPER GRADE BY THE USE OF SAND OR THREE-EIGHTH INCH GRAVEL.
3. NO EXTRA WILL BE ALLOWED BECAUSE OF THE NATURE OF THE GROUND IN WHICH THE TRENCH OR OTHER EXCAVATIONS ARE MADE. ALL NECESSARY SHEATHING TO PREVENT CAVE-INS AND BARRICADES SHALL BE PROVIDED IN ACCORDANCE WITH OSHA REQUIREMENTS.
4. WHERE UNSTABLE GROUND IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, IT SHALL BE EXCAVATED TO A DEPTH OF AT LEAST 12 INCHES BELOW THE LINE OF THE DUCT OR SLAB, AND REPLACED WITH COARSE GRAVEL TO THE PROPER HEIGHT.
5. WHERE THE EXCAVATION FOR ITS ENTIRE DEPTH IS IN WATER OR WET SAND, PUMP AND TRENCH SO AS TO DRAIN IT EFFECTIVELY.
6. BACKFILL TRENCHES WITH THE EXCAVATED MATERIAL UNLESS OTHERWISE SPECIFIED. IT SHALL BE THOROUGHLY COMPACTED TO INSURE A SATISFACTORY JOB. IN SURFACED AREAS, COMPACTIONS SHALL BE 95% OF SURROUNDING UNDISTURBED SOIL. SODDED AREAS SHALL BE COMPACTED TO 95% UP TO TOPSOIL. TOPSOIL SHALL BE LIGHTLY COMPACTED THEN SOIL MOUNDED TO ALLOW FOR SETTLING.
7. WHERE CONDUITS PASS UNDER EXISTING SIDEWALKS, ROADS OR CURBS CUT AND REMOVE SAME IN ORDER TO INSTALL THE CONDUIT OR DUCTS. ALL SIDEWALKS, ROADS OR CURBS SHALL BE REPLACED WITH MATERIAL EQUAL TO THOSE NOW IN PLACE.
8. PROVIDE A BURIAL UTILITY TAPE WITH MAGNETIC TRACER. OVER ALL UNDERGROUND ELECTRICAL INSTALLATIONS THAT ARE EXTERIOR TO THE BUILDING. THIS SHALL INCLUDE ALL FEEDERS, BRANCH CIRCUITS AND COMMUNICATIONS CONDUITS.
   a. WARNING TAPE OVER ELECTRICAL INSTALLATION UNDER 600 VOLTS SHALL BE RED WITH BLACK LETTERING STATING "BURIED ELECTRICAL LINE".
   b. WARNING TAPE OVER ELECTRICAL INSTALLATIONS OVER 600 VOLTS SHALL BE RED WITH BLACK LETTERING STATING "BURIED HIGH VOLTAGE LINE".
   c. WARNING TAPE OVER COMMUNICATIONS INSTALLATIONS SHALL BE ORANGE WITH BLACK LETTERING STATING "BURIED TELEPHONE LINE". TAPE SHALL BE INSTALLED ONE FOOT TO SIX INCHES BELOW FINISHED GRADE, 3" WIDE AS MANUFACTURED BY T & B WESTLINE OR EQUAL. TAPE SHALL INCLUDE MAGNETIC TRACER.

   TAPE SHALL BE INSTALLED ONE FOOT TO SIX INCHES BELOW FINISHED GRADE, 3" WIDE AS MANUFACTURED BY T & B WESTLINE OR EQUAL. TAPE SHALL INCLUDE MAGNETIC TRACER.
9. ALL RACEWAYS INSTALLED UNDERGROUND SHALL BE SEALED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE ARTICLE 300. PROVIDE CONDUIT SEALING BUSHINGS TO PREVENT ENTRANCE OF MOISTURE INTO THE UNDERGROUND RACEWAY SYSTEMS. ACCEPTABLE SEALING BUSHING MANUFACTURER IS O-Z GEDNEY OR APPROVED EQUAL.

26120 INSULATED CONDUCTORS
BRAND REX CO. CABLEC CORP. COLEMAN CABLE & WIRE CO. CAROL CABLE CO. ESSEX GROUP INC. INDUSTRIAL PRODUCTS. GENERAL CABLE CO. GUARDIAN PRODUCTS. THE OKONITE CO. PIRELLI CABLE CORP. SOUTHWIRE CO. SENATOR WIRE & CABLE CO. ENCORE WIRE CORP.
WIRE CONNECTORS. BURNDY. 3M ELECTRICAL PRODUCTS DIVISION. ILSCO. IDEAL. THOMAS & BETTS.
ALL CONDUCTORS SHALL BE SOFT, DRAWN ANNEALED COPPER WITH CONDUCTIVITY OF NOT LESS THAN 98% AT 20 DEGREES C (68 DEGREES F). CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID AND CONDUCTORS NO. 8 AWG AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE #10 AWG.
INSULATION SHALL BE AS FOLLOWS: TYPE THW; FOR DRY AND WET LOCATIONS; MAX OPERATING TEMPERATURE 75 DEGREES C (167 DEGREES F). PVC INSULATION, WITH A MINIMUM INSULATION RATING OF 600 VOLTS. TYPE THHN OR THWN; FOR DRY AND WET LOCATIONS; MAXIMUM OPERATING TEMPERATURE SHALL BE 75EC (THWN) OR 90EC (THHN). TYPE XHHW; FOR WET OR DRY LOCATIONS; MAXIMUM OPERATING TEMPERATURE 90EC. INSULATION SHALL BE CROSS-LINKED POLYETHYLENE.
COMPRESSION CONNECTORS AND LUGS: THE CONNECTORS SHALL BE COPPER WITH TIN PLATING. PUSH-IN WIRE CONNECTORS ARE NOT ACCEPTABLE.

26450 SECONDARY GROUNDING
PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS.



LED LIGHT FIXTURE NOTES*
1. LED FIXTURES SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR WITH THE LIGHT POLE INSTALLATION.
2. ALL ROADWAY LIGHTS SHALL BE ON A METERED CIRCUIT.
3. THE CITY OF LEANDER WILL ESTABLISH AN ACCOUNT WITH THE ELECTRICITY PROVIDER
4. THE ILLUMINATION PLAN SHALL SHOW THE LIGHT POLE SPACING. LIGHT POLES SHALL BE INSTALLED AS APPROPRIATE TO PROVIDE CONTINUOUS ILLUMINATION OF THE ROADWAY. THE MAXIMUM SPACING BETWEEN POLES IS 300' ON LOCAL ROADWAYS. THE MAXIMUM SPACING ON COLLECTORS AND ARTERIALS WILL DEPEND ON THE ILLUMINATION DESIGN.

STREET LIGHT ASSEMBLY MODEL INFORMATION:

LUMINARIES: AS REQUIRED BY CITY OF LEANDER. REFER TO THE DETAIL.

POLE: HAPCO 1-B17802 STREETLIGHT POLE ASSEMBLY, ROUND TAPERED ALUMINUM, 11" BOLT HOLE CIRCLE, 14" DIAMETER ROUND FLAT PLATE ON BOTTOM, SUPPLIED WITH FOUR(4) 1"DIAx2-1/2"LONG HEX HEAD BOLTS WITH SPLIT LOCKWASHERS FACTORY INSTALLED, ALL HOT DIPPED GALVANIZED.

FOUNDATION: PROVIDE A DIRECT EMBEDDED STREET LIGHT FOUNDATION, 8.625" OD BY 58 5/8" LONG SHAFT, 1" THICK BY 12" SQUARE BASE PLATE WITH BOLT HOLE CIRCLE TO MATCH THE POLE. 12" DIAMETER ROUND FLAT PLATE ON BOTTOM SUPPLIED WITH FOUR 1" DIAMETER BY 2 1/2" LONG HEX HEAD BOLTS WITH LOCK WASHERS. ALL MATERIAL TO BE HOT DIP GALVANIZED. REFER TO CITY OF LEANDER STANDARD LIGHTING POLE FOUNDATION DETAIL #402-2 ON ES103 FOR ALL REQUIREMENTS.

CONTROLS: REFER TO CITY OF LEANDER DETAIL #402-7 & 402-8 COL RESIDENTIAL ROADWAY LIGHTING STANDARDS FOR CONTROL WIRING.

LAMP: AS REQUIRED BY CITY OF LEANDER. REFER TO THE DETAIL.

FUSING: COOPER BUSSMAN "BREAKAWAY" TYPE FUSE HOLDERS WITH 3 AMP FUSES.

STREET LIGHT JOINT TRENCH NOTE:
1) STREET LIGHT CONDUIT SHALL BE INSTALLED IN A JOINT TRENCH WITH PEC UTILITIES AS MUCH AS POSSIBLE. REFER TO PEC SPECIFICATIONS FOR PLACEMENT REQUIREMENTS AND SEPARATIONS.

STREET LIGHT NOTES:
1) CONTRACTOR SHALL PROVIDE ALL REQUIRED MATERIAL AND LABOR, UNLESS NOTED OTHERWISE TO ENSURE INSTALLATIONS MEET ALL CURRENT ELECTRIC UTILITY, LOCAL, STATE, NEC, & NESC REQUIREMENTS FOR A COMPLETE AND ENERGIZED SYSTEM.

2) CONTRACTOR SHALL INSTALL SERVICE CONDUCTOR ASSEMBLIES AS REQUIRED BY CITY OF LEANDER/PEC FROM PEC EQUIPMENT TO THE METERS THROUGH 2" CONDUIT INSTALLED BY CONTRACTOR. 2" CONDUIT SHALL BE INSTALLED FROM PEC CLOSEST TRANSFORMER OR SECONDARY ENCLOSURE TO METER SERVICE LOCATIONS.

3) ALL POLE FOUNDATION LOCATIONS ARE SHOWN BASED ON UTILITY INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST PRIOR TO THE PLACEMENT OF POLE FOUNDATIONS AND CONDUITS.

1 ES101 SITE LIGHTING DETAIL
SCALE: NOT TO SCALE

STATE OF TEXAS
E.G. LOPEZ DEL CASTILLO
58483
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

HMG & ASSOCIATES INC.
Consulting Mechanical • Electrical Engineers
12615 Research Blvd, Bldg. 7 Austin, Texas 78759
Phone (512) 794-8234 Fax (512) 794-8239
Texas Firm Registration #F-2597

HAWKES LANDING North - Phase 1
CITY OF LEANDER

Revisions:

No.	Description:	Date:

Date: 10222021
Designed by: ZV
Drawn by: ZV
Checked by: EC
Project No. 101907

Sheet No.
ES101

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
SITE LIGHTING DETAIL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 58 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:30pm User ID: ACHAVEZ
File: K:\Proj\51167\02\301 Construction Documents\Civil\SL51167-02.dwg

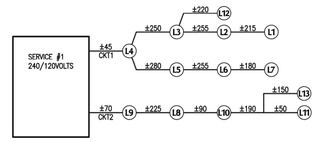
1 ES102 SITE PLAN – ELECTRICAL
SCALE: 1"=80'-0"

KEYED NOTES

1. POLE MOUNTED LIGHT FIXTURES AS SPECIFIED ON ES101.
2. PROPOSED PEC PAD MOUNTED XFMR. 240/120VOLT. METER PER PEC REQUIREMENTS. RACKS ARE NOT ACCEPTABLE, TYPICAL. REFER TO DETAILS ON ES103.
3. CIRCUIT SIZE IS PER THE SYMBOL LEGEND AND THE DISTANCE IS PER THE SCALE OF THE SITE PLAN, TYPICAL. PROVIDE 2#8 & 1#10 GROUND IN 3/4" CONDUIT.

GENERAL NOTES

1. THE STANDARD ASSIGNMENT AREA FOR THE STREET LIGHTS HAVE AN OFFSET DISTANCE OF 24" FROM THE FACE OF THE CURB TO THE EDGE OF THE POLE. THE SIDEWALKS SHALL BE DEFLECTED AROUND THE POLES.
2. CLEAR WIDTH SHALL BE PROVIDED FOR SIDEWALKS WHERE STREET LIGHTS ARE INSTALLED NEAR FIRE HYDRANTS, CLEANOUTS, WATER METERS.



2 ES102 STREET LIGHT CIRCUIT DIAGRAM
SCALE: N.T.S.

STATE OF TEXAS
E.G. LOPEZ DEL CASTILLO
56483
REGISTERED
PROFESSIONAL ENGINEER
03/28/2023

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Consulting Mechanical • Electrical Engineers
12515 Research Blvd. Bldg. 7 Austin, Texas 78759
Phone (512) 794-8234 Fax (512) 794-8239
Texas Firm Registration #F-2597

HAWKES LANDING North - Phase 1
CITY OF LEANDER

Revisions:

No.	Description:	Date:

Date: 10222021
Designed by: ZV
Drawn by: ZV
Checked by: EC
Project No. 101907

Sheet No.
ES102

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
AUSTIN I SAN ANTONIO I HOUSTON I FORT WORTH I DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 I AUSTIN, TX 78759 I 512.454.8711
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
SITE PLAN - ELECTRICAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 59 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:30pm User ID: ACHAVEZ
File: K:\Proj\51167-02\301 Construction Documents\Civil\SLS\51167-02.dwg

1 ES105 SCALE: 1"=60'-0"
SITE PLAN – PHOTOMETRICS

1 ES104 SCALE: 1"=60'-0"
SITE PLAN – PHOTOMETRICS

Sheet No. ES103

Date:	10/22/2021
Designed by:	zv
Drawn by:	zv
Checked by:	EC
Project No.	101907

Revisions:

No.	Description:	Date:

HAWKES LANDING North - Phase 1
CITY OF LEANDER

HMG & ASSOCIATES INC.
Consulting Mechanical • Electrical Engineers
12515 Research Blvd. Bldg. 7
Phone (512) 794-8234
Texas Firm Registration #F-2597
Austin, Texas 78759
Fax (512) 794-8239

02/24/2023

23-PICP-XXX

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER
CHECKED AC DRAWN ASB/BA MN

SHEET 60 OF 72

HAWKES LANDING NORTH

PHASE 1
CITY OF LEANDER, TEXAS

CITY OF LEANDER STREET LIGHT DETAILS 3 OF 3

PAPE-DAWSON ENGINEERS
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TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028801

NO.	REVISION	DATE

SHEET SPECIFIC NOTES

SHEET #402-4:

1. STREETLIGHTS SHALL BE MOUNTED ON THE PROPERTY LINE BETWEEN PRIVATE LOTS AND WITH A MINIMUM DISTANCE OF 4 FEET FROM ANY PRIVATE DRIVE TO THE EDGE OF THE POLE BASE.
2. ALTERNATE STREETLIGHTS ALONG EACH SIDE OF THE STREET, WIRING FOR THE OPPOSITE SIDE OF THE STREET SHALL CROSS AT EACH STREETLIGHT LOCATION WITH CONDUIT SWEEPS AS SHOWN. PROVIDE PULL BOXES AS REQUIRED TO NOT EXCEED 360' BETWEEN PULL LOCATIONS.
3. STREETLIGHTS SHALL BE SPACED A NOMINAL SPACING OF 150 FEET FROM FOLLOWING LIGHT ON OPPOSITE SIDE OF ROAD AND 300 FEET FROM FOLLOWING LIGHT ON THE SAME SIDE OF ROAD, LOCATED AT THE NEAREST PROPERTY LINES.
4. STREETLIGHTS MOUNTED ON THE OUTSIDE RADIUS OF A CURVED ROAD SHALL BE SUCH THAT THE STREETLIGHTS WILL BE SPACED A NOMINAL SPACING OF 300 FEET APART, AT THE NEAREST PROPERTY LINE.
5. STREETLIGHTS MOUNTED ON THE INSIDE RADIUS OF A CURVED ROAD SHALL BE SPACED SUCH THAT THEY ARE CENTERED BETWEEN THE TWO STREETLIGHTS ON THE OUTSIDE RADIUS, AT THE NEAREST PROPERTY LINE.

SHEET #402-5:

6. EACH LOCAL STREET INTERSECTION MUST HAVE ONE STREETLIGHT MOUNTED TO ONE CORNER. COLLECTOR LEVEL AND HIGHER LEVEL STREETS SHALL HAVE TWO STREET LIGHTS MOUNTED AT OPPOSING CORNERS. ALL SUBSEQUENT STREETLIGHTS TO BE MOUNTED A MINIMUM OF 75 FEET AWAY FROM THE INTERSECTION CORNERS, AT THE NEAREST PROPERTY LINE.
7. PROVIDE CONDUIT SWEEPS AT INTERSECTION CORNERS AS REQUIRED. DO NOT EXCEED A MAXIMUM BEND OF 360' BETWEEN PULL LOCATIONS.
8. CONDUIT CROSSING THE ROAD SHALL TAKE THE SHORTEST PATH AVAILABLE WITHOUT CROSSING A CORNER OF AN INTERSECTION.
9. PROVIDE ONE PULL BOX IN EACH LANDSCAPE STRIP AS SHOWN WHEN CROSSING A ROAD WHERE THERE IS NOT A STREETLIGHT ON EITHER SIDE OF THE CROSSING.

SHEET #402-6:

10. ORIENT PEDESTAL SO THAT LIGHTING CONTROL PANEL FACES ROADWAY.
11. FOLLOW PEDERNALES ELECTRIC COOPERATIVE INC. DRAWING NUMBER 520-010-0911 AND 510-009-0911 FOR PEDESTAL BASE CONSTRUCTION.

SHEET #402-7:

12. EACH CONTROL PEDESTAL HAS AN ASTRONOMICAL TIME SWITCH, INTERMATIC MODEL #TALEN10 SMART C25.
13. PER 2014 NATIONAL ELECTRICAL CODE (NEC) ARTICLE 409.108, ENCLOSURE SHALL BE LABELED "SUITABLE FOR USE ONLY AS SERVICE EQUIPMENT". ENCLOSURE SHALL COMPLY WITH ALL OTHER MARKING REQUIREMENTS FOUND IN ARTICLE 409.110.

SHEET #402-8:

14. CONNECT ONE #6 BARE COPPER CONDUCTOR FROM THE NEUTRAL BUSS TO THE GROUND ROD IN THE PEDESTAL BASE. CONNECTION TO THE GROUND ROD MAY BE EITHER EXOTHERMIC WELD OR MECHANICAL FITTING RATED FOR DIRECT BURIAL.
15. ALL CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING CAPACITY OF 10KAIC.

SHEET #402-9:

16. COORDINATE PLACEMENT OF PEDESTAL WITH ALL OTHER UNDERGROUND UTILITIES. INSTALL PEDESTAL ON A "DRY" LOT LINE UNLESS IN CONFLICT WITH UTILITY EQUIPMENT, WHERE A MINIMUM OF 3-FEET SPACING IS REQUIRED. PEDESTAL SHALL NOT BE INSTALLED NEXT TO A COMBINATION TRANSFORMER PAD.
17. IF A PEDESTAL MUST BE INSTALLED NEXT TO A UTILITY TRANSFORMER, CONTRACTOR SHALL SUBMIT A PLAN TO THE CITY OF LEANDER ENGINEER SHOWING PEDESTAL PLACEMENT, CONDUIT ROUTING, AND ALL OTHER DETAILS NECESSARY TO MINIMIZE CONFLICTS WITH ALL UNDERGROUND UTILITIES. PLAN MUST BE APPROVED BY CITY ENGINEER PRIOR TO THE START OF CONSTRUCTION.
18. ALL PULL BOXES SHALL BE A HUBBELL QUAZITE 11"x18"x18".
19. ANY WIRE JUNCTIONS MADE IN AN IN GROUND PULL BOX SHALL BE MADE WITH THOMAS & BETTS PART NUMBER USK 2/0.

SHEET #402-10:

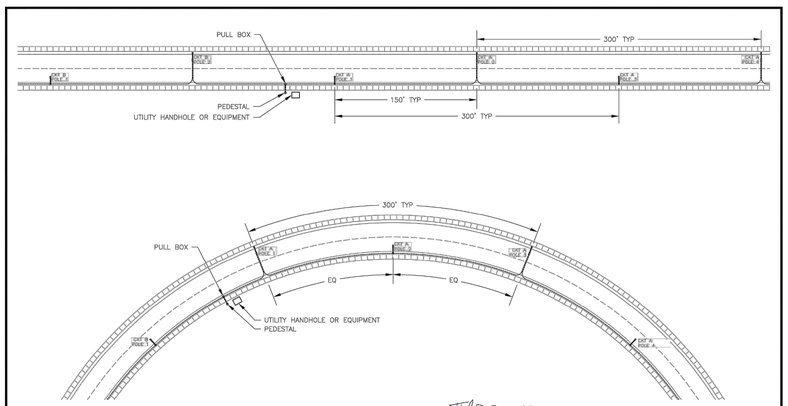
20. DYU 6 CONNECTORS MAY BE ELIMINATED FOR LAST POLE IN CIRCUIT. IF A CONDUCTOR SIZE CHANGE IS NECESSARY AT THE LAST POLE, USE THOMAS & BETTS PART NUMBER SDK M.
21. ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC.

GENERAL NOTES

1. THESE STANDARDS APPLY TO RESIDENTIAL ROADWAY LIGHTING ONLY. ANY LIGHTING FOR OTHER ROADWAY TYPES SUCH AS ARTERIAL, COLLECTOR, HIGHWAY, ETC. SHALL BE DESIGNED BASED ON A PHOTOMETRIC STUDY IN ACCORDANCE WITH THE IESNA RP-8-14 STANDARD AND APPROPRIATE ROADWAY CLASSIFICATION.
2. ANY DEVIATIONS FROM THE FOLLOWING STANDARDS SHALL REQUIRE CONSTRUCTION DOCUMENTS WITH AN ENGINEERS SEAL, SIGNATURE, AND DATE OF SIGNATURE. SUBMIT TO THE CITY OF LEANDER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
3. REFER TO CITY OF LEANDER DETAIL #402-1 AND #402-2 FOR STANDARD POLE BASE, POLE, AND STREETLIGHT SELECTION.
4. THE CONTRACTOR SHALL PROVIDE POWER TO A MINIMUM OF TEN STREETLIGHTS PER CONTROL PEDESTAL WITH THE INTENT TO DEPLOY AS FEW CONTROL PEDESTALS AS POSSIBLE. A SINGLE CONTROL PEDESTAL IS SIZED SUCH THAT IT MAY FEED A MAXIMUM OF 4 CIRCUITS WITH 10 STREETLIGHTS EACH (40 TOTAL).
5. ACCOMMODATION MUST BE MADE FOR PHASED DEVELOPMENTS. ARRANGE STREETLIGHTS AND CIRCUITS SUCH THAT SPARE CIRCUITS IN CONTROL PEDESTAL ARE AVAILABLE TO SERVE FUTURE PHASES WITHOUT THE NEED FOR ADDITIONAL LIGHTING CONTROL PEDESTALS. PROVIDE CONDUIT AND PULL BOXES AT THE BOUNDARY OF EACH ADJOINING PHASE SO THAT SUBSEQUENT PHASES MAY BE EASILY TIED IN TO THE EXISTING LIGHTING CONTROL PEDESTAL.
6. ALL STREETLIGHT BRANCH CIRCUIT WIRING SHALL BE #10AWG UNLESS OTHERWISE NOTED. MAXIMUM BRANCH CIRCUIT DISTANCE IS 2000' OF WIRE, AND THE MAXIMUM NUMBER OF STREETLIGHTS PER BRANCH CIRCUIT IS (10). IF CIRCUITS OR STREETLIGHT QUANTITIES MUST EXCEED THESE NUMBERS, THE SEALING ENGINEER IS RESPONSIBLE FOR PERFORMING VOLTAGE DROP CALCULATIONS DEMONSTRATING THAT THE CALCULATED VOLTAGE DROP IS AT A TOLERABLE LEVEL PER NEC ARTICLE 215.2.

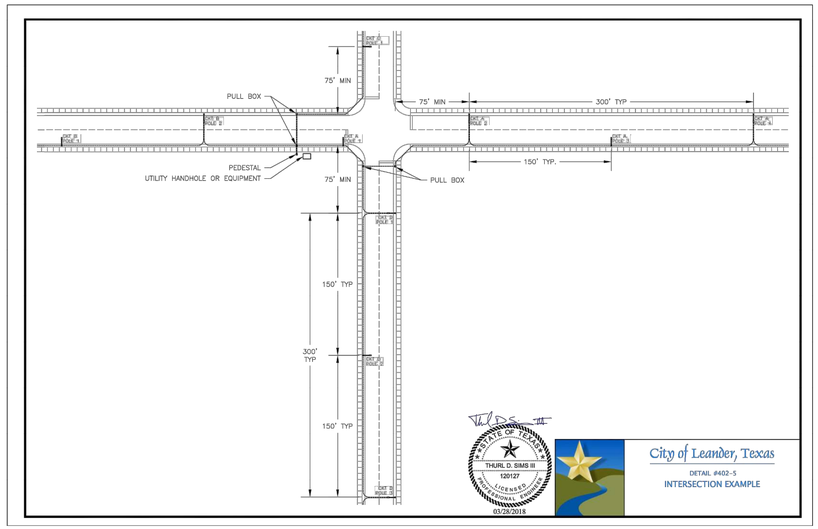
THURL D. SIMS III, 120127, LICENSED, PROFESSIONAL ENGINEER, STATE OF TEXAS
10/31/2018
F-1394

City of Leander, Texas
DETAIL #402-3
RESIDENTIAL ROADWAY LIGHTING NOTES



THURL D. SIMS III, 120127, LICENSED, PROFESSIONAL ENGINEER, STATE OF TEXAS
03/28/2018

City of Leander, Texas
DETAIL #402-4
STRAIGHT AND CURVED EXAMPLES



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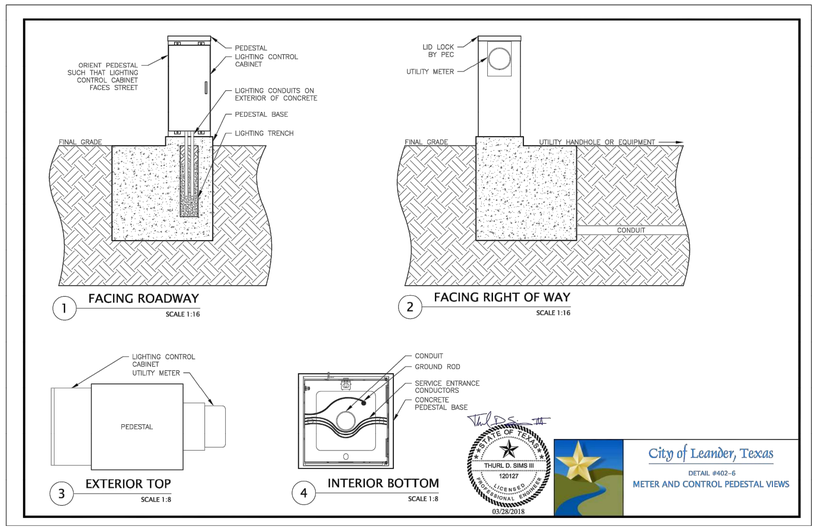
03/28/2018

City of Leander, Texas
DETAIL #402-5
INTERSECTION EXAMPLE



THURL D. SIMS III, 120127, LICENSED, PROFESSIONAL ENGINEER, STATE OF TEXAS
03/28/2018

City of Leander, Texas
DETAIL #402-6
METER AND CONTROL PEDESTAL VIEWS

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Texas Firm Registration #F-2597

E.G. LOPEZ DEL CASTILLO, 56483, REGISTERED, PROFESSIONAL ENGINEER, STATE OF TEXAS
10/22/2021

NO.	REVISION	DATE

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HAWKES LANDING North - Phase 1
CITY OF LEANDER

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Drawn by: ZV
Checked by: EG
Project No. 191907

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
CITY OF LEANDER STREET LIGHT DETAILS 1 OF 3

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 61 OF 72

CITY OF LEANDER APPROVAL

23-PICP-XXX

Date: Apr 11, 2023, 4:30pm User ID: ACHAVEZ
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CONTROL PEDESTAL NOTES

1. EACH LIGHTING CONTROL PEDESTAL SHALL HAVE THE MAJOR COMPONENTS LISTED BELOW.
2. MINOR ASSEMBLY ITEMS SUCH AS DIN RAILS, MOUNTS, FASTENERS, TIE BASES, ETC. ARE NOT SPECIFICALLY ENUMERATED AND MUST BE PROVIDED BY THE DEVELOPER IN ORDER TO ENSURE A COMPLETE AND FUNCTIONAL CONTROL CABINET.
3. EXCEPTING THE PEDESTAL, ENCLOSURE, AND TIME SWITCH, SIEMENS, EATON, AND SQUARE D ARE ACCEPTABLE MANUFACTURERS OF MAJOR COMPONENTS. SIEMENS PART NUMBERS ARE LISTED BELOW AS A STANDARD OF QUALITY.
4. MIXED MANUFACTURERS OF MAJOR COMPONENTS ARE NOT ALLOWED IN A CONTROL PANEL.
5. ALL CONTROL PANELS IN A NEIGHBORHOOD MUST HAVE THE SAME COMPONENTS FROM THE SAME MANUFACTURER.
6. ALL PEDESTAL ENCLOSURES SHALL HAVE PROVISIONS FOR LOCKING, AND SHALL BE COMPATIBLE WITH STANDARD PADLOCK SHANKS.
7. ALL CONTROL PANELS SHALL HAVE POWER SWITCH WITH PROVISIONS FOR LOCKING IN CLOSED POSITION.

PEDESTAL:
MILBANK CATALOG # S9650-O

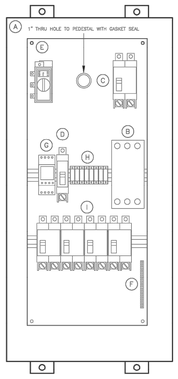
UTILITY METER SOCKET:
SIEMENS CATALOG # SUAT111-OPQG

CONTROL CABINET:

A:	ENCLOSURE:	AMERITEX WS3R-291408 NEMA ENCLOSURES QUOTATION 31966
B:	CONTACTOR:	SIEMENS CATALOG # LEN00D031200
C:	MAIN BREAKER:	SIEMENS CATALOG # BQ2B040QLD-TC1Q1
D:	CONTROL BREAKER:	SIEMENS CATALOG # BQ1B010QLD-TC1Q1
E:	HOA SWITCH:	SIEMENS CATALOG # 49SBS81
F:	NEUTRAL BUS:	SIEMENS CATALOG # ECGB14
G:	TIME SWITCH:	INTERMATIC TALENTO SMART C25
H:	POWER DISTRIBUTION:	SIEMENS CATALOG # BWA1
I:	ZONE BREAKERS:	SIEMENS CATALOG # BQ2B020QLD-TC1Q1

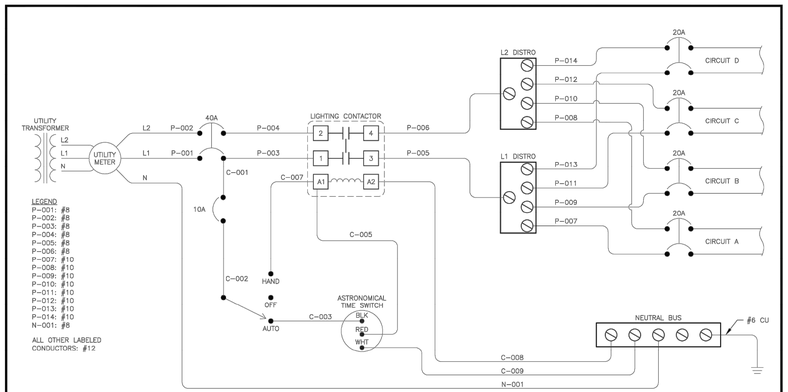
APPROVED PANEL SHOPS:
CONTRACTORS MAY CHOOSE TO ASSEMBLE CABINETS USING COMPONENTS ABOVE, OR SOURCE ASSEMBLED CONTROL PANELS FROM THE FOLLOWING VENDORS:

1. W.E. MANUFACTURING – REFERENCE QUOTE #WE-S1431496 LEANDER PANEL, CONTACT NUMBER: 832-706-1866.
2. THE DUDLEY COMPANY – REFERENCE QUOTE #180815-001. CONTACT NUMBER: 210-337-4804.



STATE OF TEXAS · THURL D. SIMS III · 120127 · LICENSED · PROFESSIONAL ENGINEER
10/31/2018
F-1394

City of Leander, Texas
DETAIL #402-7
CONTROL PANEL COMPONENT LAYOUT



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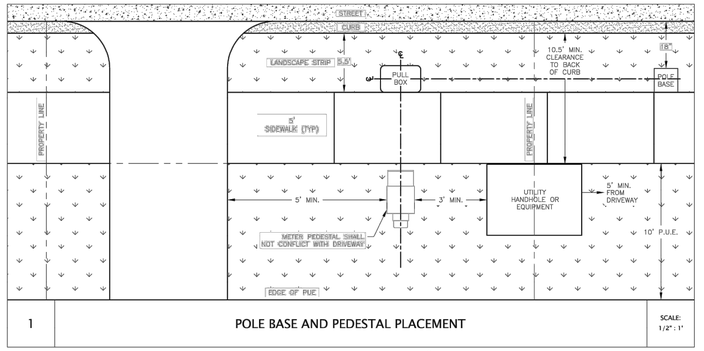
03/28/2018

City of Leander, Texas
DETAIL #402-8
CONTROL PANEL SCHEMATIC



1 POLE BASE AND PEDESTAL PLACEMENT — SCALE: 1/2" : 1'

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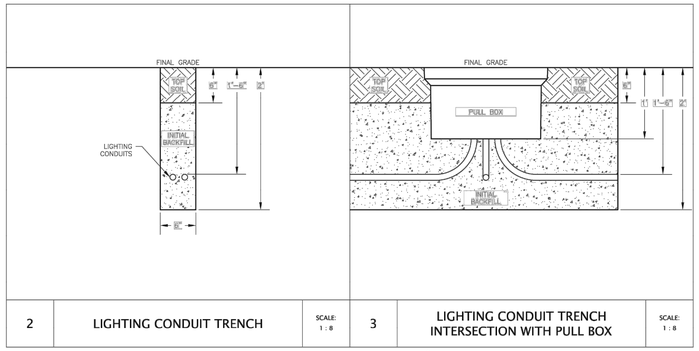
03/28/2018

City of Leander, Texas
DETAIL #402-9
DETAILS PAGE 1



2 LIGHTING CONDUIT TRENCH — SCALE: 1 : 8

3 LIGHTING CONDUIT TRENCH INTERSECTION WITH PULL BOX — SCALE: 1 : 8

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03/28/2018

City of Leander, Texas
DETAIL #402-10
DETAILS PAGE 2

STATE OF TEXAS · E.G. LOPEZ DEL CASTILLO · 56483 · REGISTERED · PROFESSIONAL ENGINEER
10/22/2021

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Phone (512) 794-8234 Fax (512) 794-8239
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HAWKES LANDING North - Phase 1
CITY OF LEANDER

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
CITY OF LEANDER STREET LIGHT DETAILS 2 OF 3

Revisions:

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CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
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DESIGNER ASB/BA
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SHEET 62 OF 72

23-PICP-XXX

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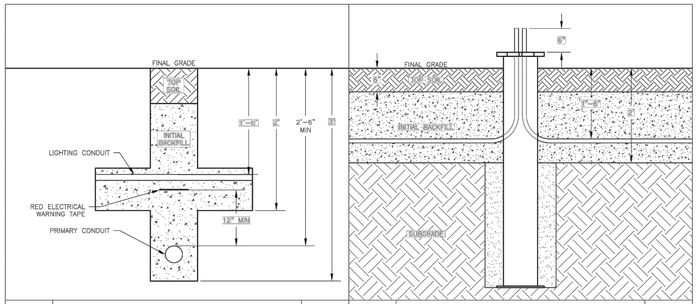
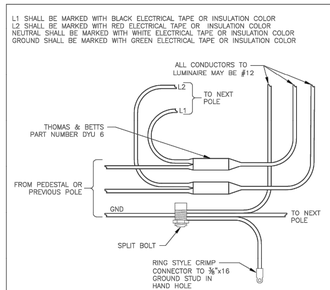


4	LIGHTING CONDUIT CROSSING ELECTRIC UTILITY CONDUIT	SCALE: 1 : 8	5	CONDUIT AT LIGHT POLE BASE	SCALE: 1 : 12

City of Leander, Texas
DETAIL #402-11
DETAILS PAGE 3

L1 SHALL BE MARKED WITH BLACK ELECTRICAL TAPE OR INSULATION COLOR
L2 SHALL BE MARKED WITH RED ELECTRICAL TAPE OR INSULATION COLOR
NEUTRAL SHALL BE MARKED WITH WHITE ELECTRICAL TAPE OR INSULATION COLOR
GROUND SHALL BE MARKED WITH GREEN ELECTRICAL TAPE OR INSULATION COLOR



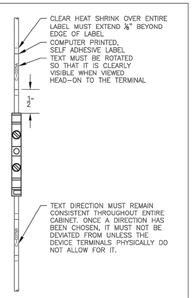
ALL CABLES AND CONDUCTORS ARE REQUIRED TO BE LABELED. CABLE NUMBERS DESIGNATED IN THE SCHEMATICS ARE TO BE USED ON THE SPECIFIED CABLE ONLY. CABLE MUST BE LABELED ON BOTH ENDS WITH IDENTICAL LABEL TEXT UNLESS THE LENGTH OF CABLE WOULD RENDER TWO LABELS IMPRACTICAL OR ILLEGIBLE.

LABELS SHALL BE CONSTRUCTED IN ONE OF THE TWO FOLLOWING METHODS.

1: COMPUTER PRINTED, SELF LAMINATING LABELS SHALL BE APPLIED TO EACH CABLE SO THAT THE TEXT IS CLEARLY VISIBLE WHEN VIEWING THE DEVICE OR TERMINAL HEAD-ON. CLEAR HEAT SHRINK MUST BE APPLIED OVER THE LABEL AND PROPERLY SHRUNK TO BE FREE OF AIR BUBBLES AND DISCOLORATIONS.

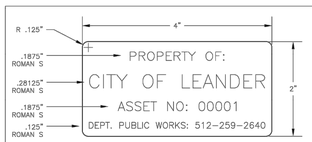
2: AS AN ALTERNATIVE TO METHOD ONE, THERMALLY PRINTED POLYOLEFIN HEAT SHRINK LABELS ARE ACCEPTABLE. OBSERVE THE SAME POSITIONING AND ROTATION REQUIREMENTS AS METHOD ONE.

AT NO TIME SHALL HAND WRITTEN LABELS OR CLOTH NUMERICAL LABELS BE CONSIDERED ACCEPTABLE.



6	JUNCTION WIRING IN HAND HOLE	SCALE: 1 : 4	7	LIGHTING CONTROL CABINET CABLE LABELING STANDARD	SCALE: N/A

City of Leander, Texas
DETAIL #402-12
DETAILS PAGE 4

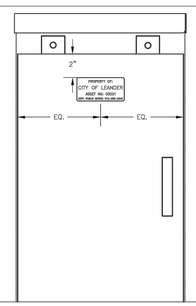


CITY OF LEANDER ASSET TAG SHALL BE CONSTRUCTED OF STAINLESS STEEL. TEXT SHALL BE APPLIED BY LASER ETCHING. ALL FONTS, SIZES, AND POSITIONS ON THE TAG SHALL BE AS PER THIS DETAIL. ALL CORNERS SHALL HAVE A .125" FILLET.

UPON INSPECTION AND APPROVAL OF THE RESIDENTIAL ROADWAY LIGHTING SYSTEM, THE CITY OF LEANDER WILL AFFIX AN ASSET TAG TO EACH LIGHTING CONTROL PANEL SIGNIFYING APPROVAL OF THE SYSTEM AND ASSUMPTION OF OWNERSHIP. ASSET TAGS SHALL BE AFFIXED TO THE PANEL WITH INCLUDED 3M 9472 ADHESIVE.

THIS LABEL DESIGN IS KEPT ON FILE AND MAY BE ORDERED FROM:

THE CUTTING EDGE
4843 NORTH RIDGE ROAD
PERRY, OHIO 44081-9716
1-800-962-2376
WWW.CUTTINGEDGEINC.COM



8	CITY OF LEANDER ASSET TAG	SCALE: 1 : 1	9	ASSET TAG MOUNTING LOCATION	SCALE: 1:4

City of Leander, Texas
DETAIL #402-13
DETAILS PAGE 5

Date: Apr 11, 2023, 4:35pm User ID: ACHAVEZ
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10/22/2021

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HAWKES LANDING North - Phase 1
CITY OF LEANDER

Revisions:

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Checked by: EC
Project No. 191907

Sheet No.
ES106

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
CITY OF LEANDER STREET LIGHT DETAILS 3 OF 3

CITY JOB No. 23-PICP-XXX
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SHEET 63 OF 72

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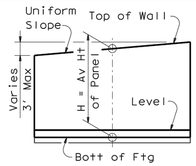
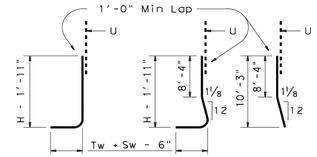


H DEFINITION

Wall Height "H"	PROPERTIES						Max Soil Press	REINFORCING STEEL FOR ONE 32' PANEL (DESIGN C)																										QUANTITY FOR ONE 32' PANEL		Wall Height "H"
	WALL DIMENSIONS							A1 ~ 26 #5 at 15" c-c		A2 ~ 25 #6 at 15" c-c		A3 ~ 25 #7 at 15" c-c		A4 ~ 26 #8 at 15" c-c		A5 ~ 25 #9 at 15" c-c		A6 ~ 25 #11 at 15" c-c		A7 ~ 26 #11 at 15" c-c		B ~ 26 #5 at 15" c-c		C						D (#5) at 12" c-c		Dowel F at 12" c-c		H (#5) at 12" c-c		T (#5) at 12" c-c		U ~ 26 #5 at 15" c-c			
(Ft)	Fw	Tw	Sw	Hw	Ft	Kw	T/SF	Lgth	Wt	Lgth	Wt	Lgth	Wt	Lgth	Wt	Lgth	Wt	Lgth	Wt	Lgth	Wt	Lgth	Wt	Size	No	Spa	Lgth	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Lgth	Wt	CONC (CY)	REINF (LB)	(Ft)
2	3'-6"	1'-9"	1'-0"	9"	1'-0"	9"	0.14																	#4	26	15"	2'-3"	39	4	131	4	32	2	66	3	99	3'-4"	90	6.0	458	2
3	4'-3"	2'-2"	1'-0"	1'-1"	1'-0"	9"	0.17																	#4	26	15"	2'-8"	46	6	197	5	40	3	99	3	99	5'-4"	145	8.1	626	3
4	5'-0"	2'-6"	1'-0"	1'-6"	1'-0"	9"	0.20	5'-0"	136													3'-6"	95	#4	26	15"	3'-0"	52	8	263	6	48	3	99	3	99	7'-4"	199	10.1	991	4
5	5'-8"	2'-10"	1'-0"	1'-10"	1'-0"	9"	0.24	6'-4"	172													4'-6"	122	#4	26	15"	3'-4"	58	10	329	7	56	3	99	4	131	8'-4"	226	12.1	1193	5
6	6'-4"	3'-2"	1'-0"	2'-2"	1'-0"	9"	0.28	7'-8"	208													5'-6"	149	#4	26	15"	3'-8"	64	12	394	8	64	3	99	4	131	8'-4"	226	14.1	1336	6
7	7'-0"	3'-6"	1'-0"	2'-6"	1'-0"	9"	0.32	9'-0"	244	4'-2"	156											6'-6"	176	#4	38	10"	4'-0"	102	14	460	9	72	4	131	4	131	8'-4"	226	16.1	1698	7
8	7'-9"	3'-10"	1'-0"	2'-11"	1'-0"	9"	0.35	10'-4"	280	5'-4"	200											7'-6"	203	#6	38	10"	4'-4"	247	16	526	10	80	4	131	5	164	8'-4"	226	18.1	2056	8
9	8'-6"	4'-3"	1'-0"	3'-3"	1'-0"	9"	0.37	11'-9"	319	6'-7"	247											8'-6"	231	#6	38	10"	4'-9"	271	18	591	11	88	4	131	5	164	8'-4"	226	20.2	2268	9
10	9'-2"	4'-7"	1'-0"	3'-7"	1'-0"	9"	0.41	13'-1"	355	7'-8"	288	6'-9"	345									9'-6"	258	#7	38	10"	5'-1"	395	20	657	12	96	5	164	6	197	8'-4"	226	22.2	2981	10
11	9'-10"	4'-11"	1'-0"	3'-11"	1'-0"	1'-0"	0.44	14'-5"	391	8'-11"	335	8'-1"	413									10'-6"	285	#8	38	10"	5'-5"	550	22	723	13	104	5	164	6	197	8'-4"	226	24.7	3382	11
12	10'-6"	5'-3"	1'-1 1/8"	4'-1 1/8"	1'-0"	1'-0"	0.45	15'-10"	429	10'-1"	379	9'-6"	485									11'-6"	312	#9	38	10"	5'-9"	743	24	789	14	112	6	197	6	197	8'-4"	226	26.7	3868	12
13	11'-2"	5'-7"	1'-2"	4'-5"	1'-3"	1'-3"	0.54	10'-3"	278	11'-2"	419	10'-11"	558	8'-5"	584							12'-6"	339	#9	38	10"	6'-1"	786	26	854	15	120	6	197	7	230	8'-4"	226	32.5	4591	13
14	11'-10"	5'-11"	1'-3 1/8"	4'-7 1/8"	1'-3"	1'-3"	0.57	10'-3"	278	12'-5"	466	12'-4"	630	9'-10"	683							13'-6"	366	#9	38	10"	6'-5"	829	28	920	16	128	7	230	7	230	8'-4"	226	34.9	4986	14
15	12'-6"	6'-3"	1'-4"	4'-11"	1'-6"	1'-3"	0.63	10'-3"	278	13'-7"	510	13'-9"	703	11'-2"	775							14'-6"	393	#9	38	10"	6'-9"	872	28	920	16	128	7	230	8	263	8'-4"	226	40.8	5298	15
16	13'-3"	6'-7"	1'-5"	5'-3"	1'-6"	1'-6"	0.66	10'-3"	278	14'-9"	554	15'-2"	775	12'-8"	879							15'-6"	420	#9	38	10"	7'-2"	926	30	986	17	136	7	230	8	263	8'-4"	226	44.5	5672	16
17	13'-10"	6'-11"	1'-6 1/4"	5'-4 3/4"	1'-6"	1'-6"	0.70	10'-3"	278	15'-11"	598	16'-7"	847	14'-1	978							16'-6"	447	#10	38	10"	7'-5"	1213	32	1051	18	144	8	263	8	263	8'-4"	226	47.3	6308	17
18	14'-6"	7'-3"	1'-7"	5'-8"	1'-9"	1'-6"	0.76	10'-3"	278	17'-2"	419	18'-0"	920	15'-5"	1070	9'-7"	815					17'-6"	475	#10	38	10"	7'-9"	1267	34	1117	19	152	8	263	9	296	8'-4"	226	54.2	7298	18
19	15'-2"	7'-7"	1'-8 1/8"	5'-10 7/8"	1'-9"	1'-6"	0.79	10'-3"	278	11'-2"	419	19'-5"	992	16'-11"	1174	10'-11"	928					18'-6"	502	#10	38	10"	8'-1"	1322	36	1183	20	160	8	263	9	296	8'-4"	226	57.5	7743	19
20	16'-0"	8'-0"	1'-9 1/4"	6'-2 3/4"	1'-9"	1'-6"	0.80	10'-3"	278	11'-2"	419	20'-11"	1069	18'-5"	1278	12'-4"	1048					19'-6"	529	#8	76	5"	8'-6"	1725	38	1248	21	168	9	296	10	329	8'-4"	226	61.3	8613	20
21	16'-6"	8'-3"	1'-10 1/8"	6'-4 7/8"	2'-0"	1'-6"	0.88	10'-3"	278	11'-2"	419	22'-3"	1137	19'-9"	1371	13'-7"	1155					20'-6"	556	#8	76	5"	8'-9"	1776	40	1314	22	176	9	296	10	329	8'-4"	226	68.8	9033	21
22	17'-3"	8'-7"	1'-11 1/4"	6'-8 3/4"	2'-0"	1'-6"	0.91	10'-3"	278	11'-2"	419	12'-2"	622	21'-2"	1469	15'-0"	1275	6'-1"	808			21'-6"	583	#8	76	5"	9'-2"	1860	42	1380	23	184	9	296	10	329	8'-4"	226	72.8	9729	22
23	18'-0"	9'-0"	2'-0 1/8"	6'-11 7/8"	2'-3"	1'-6"	0.95	10'-3"	278	11'-2"	419	12'-2"	622	22'-8"	1574	16'-4"	1388	7'-1"	941			22'-6"	610	#8	76	5"	9'-6"	1928	44	1446	24	192	10	329	11	361	8'-4"	226	81.7	10314	23
24	18'-6"	9'-4"	2'-1 1/4"	7'-0 3/4"	2'-3"	1'-6"	0.99	10'-3"	278	11'-2"	419	12'-2"	622	24'-1"	1672	17'-8"	1502	8'-1"	1074			23'-6"	637	#9	76	5"	9'-10"	2541	46	1511	25	200	10	329	11	361	8'-4"	226	85.4	11372	24
25	19'-3"	9'-7"	2'-2 3/8"	7'-5 5/8"	2'-3"	1'-9"	1.03	10'-3"	278	11'-2"	419	12'-2"	622	25'-5"	1764	19'-0"	1615	9'-1"	1206			24'-6"	664	#9	76	5"	10'-1"	2606	48	1577	26	208	10	329	12	394	8'-4"	226	91.0	11909	25
26	20'-0"	10'-0"	2'-3 1/2"	7'-8 1/2"	2'-3"	1'-9"	1.05	10'-3"	278	11'-2"	419	12'-2"	622	27'-0"	1874	20'-5"	1735	10'-1"	1339			25'-6"	692	#9	76	5"	10'-5"	2692	50	1643	27	217	11	361	12	394	8'-4"	226	95.6	12491	26
27	20'-6"	10'-4"	2'-4 5/8"	7'-9 3/8"	2'-3"	1'-9"	1.09	10'-3"	278	11'-2"	419	12'-2"	622	14'-4"	995	21'-9"	1849	11'-1"	1472	17'-0"	2348	26'-6"	719	#10	76	5"	10'-9"	3516	52	1708	28	225	11	361	12	394	8'-4"	226	99.7	15132	27
28	21'-3"	10'-7"	2'-5 3/4"	8'-2 1/4"	2'-3"	1'-9"	1.13	10'-3"	278	11'-2"	419	12'-2"	622	14'-4"	995	23'-0"	1955	12'-1"	1605	18'-4"	2533	27'-6"	746	#10	76	5"	11'-2"	3652	54	1774	29	233	11	361	13	427	8'-4"	226	104.6	15825	28
29	22'-0"	11'-0"	2'-6 1/2"	8'-5 1/2"	2'-6"	1'-9"	1.17	10'-3"	278	11'-2"	419	12'-2"	622	14'-4"	995	24'-5"	2075	13'-1"	1738	19'-10"	2740	28'-6"	773	#10	76	5"	11'-6"	3761	54	1774	29	233	12	394	13	427	8'-4"	226	115.3	16454	29



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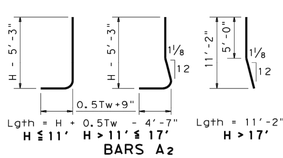

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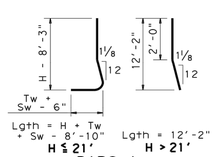

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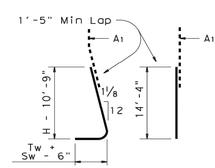

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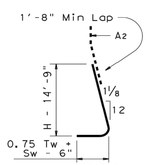

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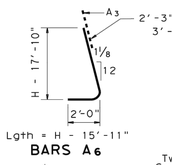

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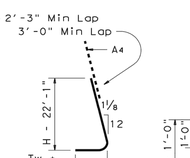

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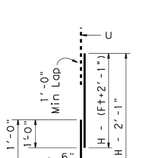
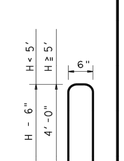
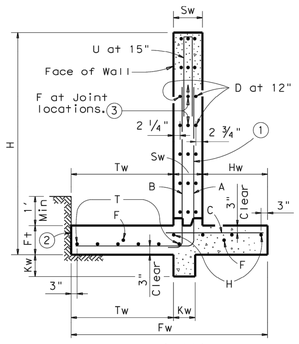


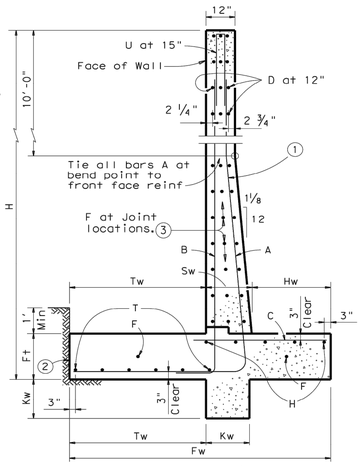
BARS B



BARS U



H ≤ 11'



H > 11'

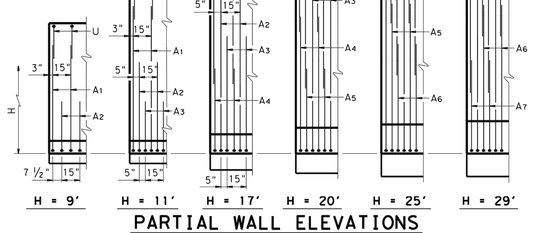
SECTIONS

Panel Length minus 6"

BARS D, H, T

3'-0"

BARS F (3)



PARTIAL WALL ELEVATIONS

(Showing vertical reinforcing pattern in back face)

1. Place vertical bars inside of horizontal bars (Typ both faces).
2. Place footing toe against undisturbed soil.
3. See standard RW 2 for size.

GENERAL NOTES:

All concrete to be Class "C".
All reinforcing steel to be Grade 60.
For notes and details not shown on this sheet see sheet RW2.
Quantities are based on "H" being average height of panel.
Retaining Walls are designed to be coded as follows on Retaining Wall Layout Sheets.

HC - 21 - 28
LA - 28 - 32
- Panel Length ~ 32' is standard; 28' requires special quantities
- Average Height "H" of panel
- Design - A = no surcharge or slope above wall; B = slopes up to 4:1; C = traffic surcharge and/or slopes up to 2.5:1
- Footing pressure design ~ L = low, H = high

Texas Department of Transportation — Bridge Division Standard

RETAINING WALLS

RW 1(L)C

FILE: rwstde07.dgn	DN: TxDOT	CK: TxDOT	DW: GHO	CK: MPH
©TxDOT March 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS — MICHAEL S. FISHER — 87704 — LICENSED PROFESSIONAL ENGINEER

4/11/23

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
RETAINING WALL DETAILS

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 64 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:37pm User ID: ACHAVEZ
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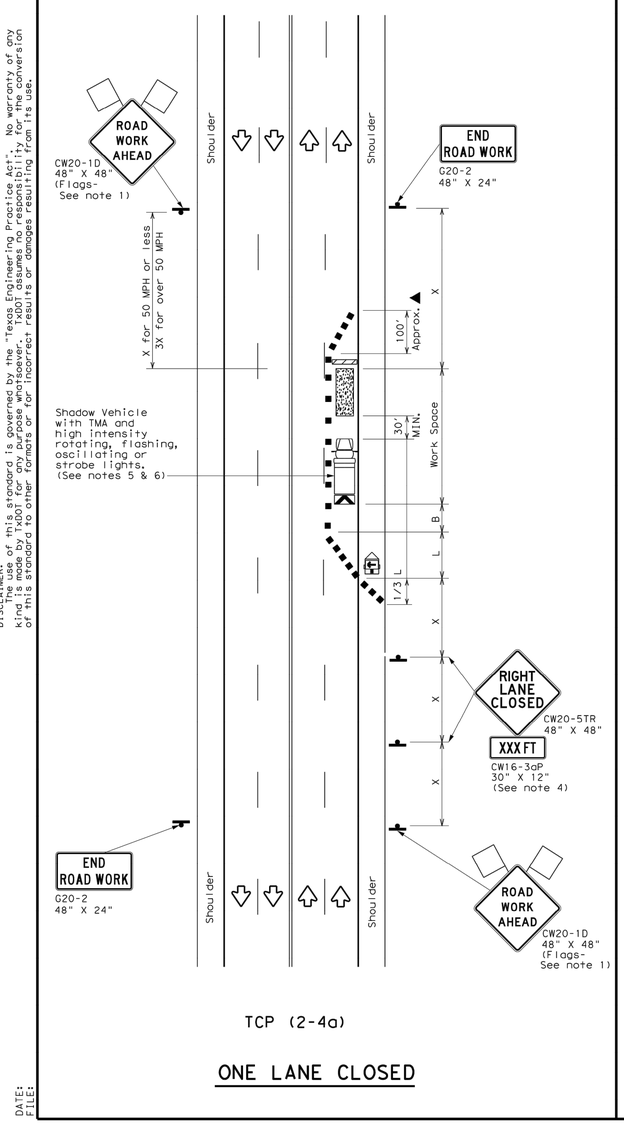
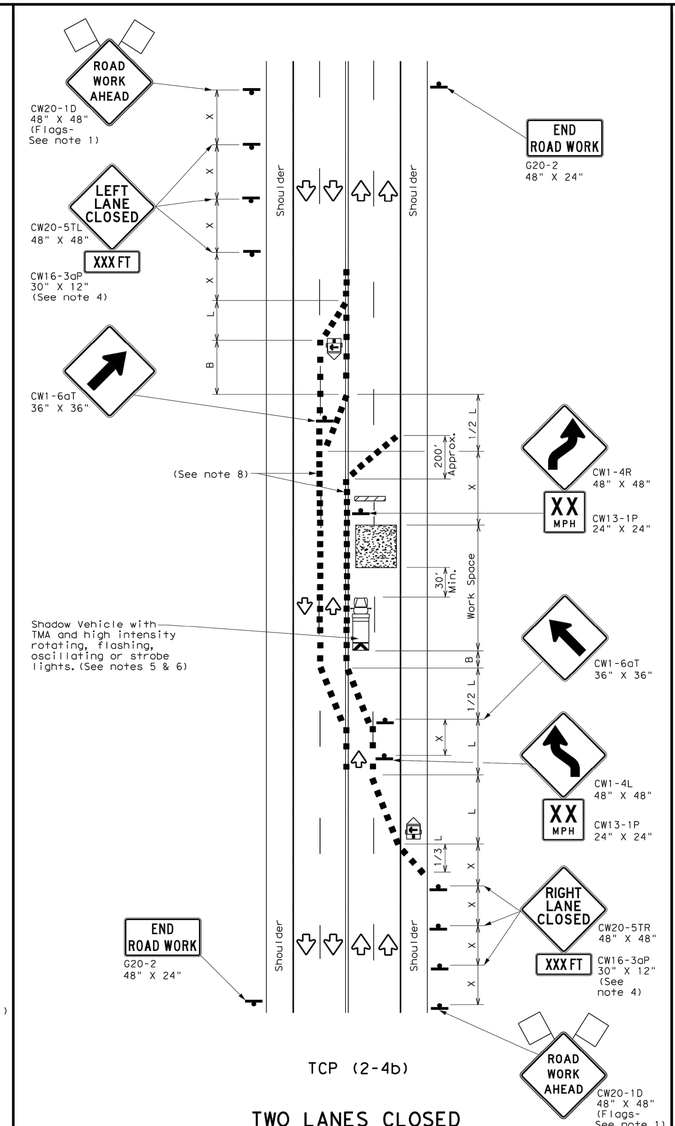


TCP (2-4a)

ONE LANE CLOSED



TCP (2-4b)

TWO LANES CLOSED

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
		✓	✓	

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The downstream taper is optional. When used, it should be 100 feet minimum length per lane.
4. For short term applications, when post mounted signs are not used, the distance legend may be shown on the sign face rather than on a CW16-3aP supplemental plaque.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-4a)

7. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED"signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic with the arrow board placed in the closed lane near the end of the merging taper.

TCP (2-4b)

8. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter devices spacing is intended for the area of conflicting markings, not the entire work zone.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(2-4)-18

FILE: tcp2-4-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS				
8-95 3-03	DIST	COUNTY		SHEET NO.
1-97 2-12				
4-98 2-18				

164

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

STATE OF TEXAS
MICHAEL S. FISHER
87704
LICENSED
PROFESSIONAL ENGINEER
4/11/23

PAPE-DAWSON ENGINEERS
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10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
TRAFFIC CONTROL PLAN

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 65 OF 72

23-PICP-XXX

Date: Apr 11, 2023, 4:31pm User ID: ACHAVEZ
File: H:\Projects\51167\020_301 Construction Documents\Civil\D751167-02.dwg

GENERAL CONSTRUCTION NOTES

1. These drawings and documents are submitted to the Owner of the project for review and approval prior to any release for bidding or construction. Contractors shall receive all bid information, instructions, bid forms, general terms and conditions, and all other required clarification from the Owner's Authorized Representative administering this project. Unless otherwise indicated, the Owner's Representative for this project shall be a specifically designated Landscape Architect from SEC Planning. The contractor will also be required to coordinate and correspond with the Landscape Architect from SEC Planning and key consultants for the Owner.
2. These drawings supplement other contractual information which includes Bid Instructions and Project Specifications. Anything mentioned in the Project Specifications and not in the drawings, or vice-versa, shall be of like effect as if shown on or mentioned in both. In case of a discrepancy between Drawings or Project Specifications, the matter shall be immediately submitted to the Owners Representative; without his decision said discrepancy shall not be adjusted by the Contractor, save only at his own risk and expense. The contractor shall not take advantage of any apparent error or omission on the Drawings or in the Specifications. In the event the Contractor discovers such error or omission, they shall immediately notify the Owner's Representative. The Owner's Representative will then make such clarification and interpretations as may be deemed necessary for the Contractor to fulfill the intent of the Contract.
3. The intent of these drawings, details and associated specifications is for the Contractor to provide the Owner with a complete, accurate, functionally and technically sound project as generally described in these documents. In most cases, unless explicitly noted otherwise, drawing symbols are used to represent complete-in-place systems to be provided as part of the base bid. All elements shown or implied by the drawings, if not specifically detailed or specified, shall be installed per building codes, manufacturer's recommendations, state highway department standards, city standards and specifications and standard industry practices.
4. All plan quantities provided are approximate only. The Contractor is responsible for their own plan take-off's and accuracy of their bid based on actual site conditions. The contractor shall not take advantage of any apparent error or omission on the Drawings or in the Specifications. In the event the Contractor discovers such error or omission, they shall immediately notify the Owner's Representative. The Owner's Representative will then make such clarification and interpretations as may be deemed necessary for the Contractor to fulfill the intent of the Contract.
5. All work within this project shall conform to current local codes, ordinances, as well as all other applicable governing regulations in effect.
6. All range points, ties, benchmarks or other survey control points which may be encountered during construction, must be preserved or modified/recorded by a registered surveyor at the Contractor's expense. Immediately upon discovery, the Contractor shall notify the Owner's Representative of any survey control points found and obtain direction prior to proceeding with construction.
7. The Contractor shall coordinate and obtain all permits which are necessary to perform the proposed work. Owner is to pay for all construction permits unless otherwise indicated in the Contract Documents. Contractor shall obtain, at his expense, all specialty permits needed for specific items included with the work, unless otherwise indicated in the Contract Documents. Should the Contractor commence work, prior to obtaining the required permits or jurisdictional approvals, the Contractor shall be responsible corrections, modifications, replacement or removal of the non-permitted work.
8. It is the Contractor's responsibility to be aware of and comply with all notifications and inspection requirements of the Jurisdiction.
9. Unless specifically noted otherwise in the Contract Documents, the Contractor shall obtain and coordinate all technical tests and reports by a certified independent laboratory or agency as outlined in the Specifications or these Drawings. The Owner may, at the Owner's sole discretion, provide separate testing and/or inspection service and the Contractor is required to fully coordinate with those consultants/contractors. Owner is to pay for all soils and materials testing.
10. An Existing Condition Survey may have been provided to the Owner by registered surveyors under separate contracts for the basis of design. It is not to be considered as part of these Contract Documents. If provided, these survey plans may have been reformatted and included in these documents. The Contractor is required to visit the site to verify information. Without exception, any deviations or omissions found between these plans and existing site conditions shall immediately be brought to the attention of the Owner's Representative, but will not be considered as basis for additional payment except as allowed in change order process per General Conditions and Supplementary Conditions under the "Owner-Contractor Agreements/Contracts. For official survey information, Contractor may wish to contact the Owner, or Owner's surveyor at the Contractors expense.
11. Existing utility information and utility information for proposed work by others that is shown in these documents is approximate and for general information only. It is not intended to depict exact locations of all utilities. The Contractor shall notify all utility companies to stake and field verify the locations including depths of all utilities (existing, proposed by others, or currently under construction), prior to commencing any related operations. Contractor shall maintain utility locations/structures during all remaining phases of work. The Contractor shall report to the Owner's Representative any utilities that may conflict with proposed work. This Contractor shall explore, understand, and coordinate (with subcontractors and others) all utilities impacts prior to submitting bid and shall be responsible for any modifications or damages to utility lines, structures or injuries therefrom. For existing utility information contact Texas 811. A minimum notice of 3 business days in advance of locational needs is required.
12. These drawings do not specify safety materials, staffing, equipment, methods or sequencing to protect persons and property. It shall be the Contractor's sole responsibility to direct and implement safety operations, staffing, procedures to protect the Owner and his representatives, new improvements, property, other contractors, the public and others.
13. The Contractor shall meet periodically with the Owner's Representative to determine marshalling areas, on-site storage, and contractor staff parking and to coordinate security issues, construction sequencing/phasing, scheduling, and maintaining public, emergency, handicapped or operations access before starting the related work. The Contractor shall meet any "Construction Criteria" or requirements shown on any Contract Documents, phasing plans or any imposed plan by the Owner as a part of the Base Bid.
14. Some work in this Contract may occur concurrent with work by others. Phasing, sequencing and coordination, with work by others, and on-going facility operations in and around the site area, is a part of the scope of work for this project. Notice to proceed with work in any general area shall be obtained from the Owner.
15. The Contractor will be required to complete all the work of this project according to these proposed drawings or subsequent clarification. A strict period of performance, including dates of substantial completion (for all and/or portions) and liquidation damages may be an integral element of the Contract.
16. Any site improvements requiring removal under this contract shall be properly and legally disposed off-site or, at the Owner's option, surrendered/stockpiled in an approved on-site location per the direction of the Owner or Owner's Representative.
17. The Contractor is required to maintain a complete and "up-to-date" set of all Contract Documents, including clarifications, change orders, etc., in good condition, at the construction site at all times. This set of documents will be made immediately available for review by the Owner's Representative and/or authorized Consultants upon request. Complete "As-Built" drawings and document submittals are also a requirement of this contract.
18. Maintenance, warranties and performance guarantees may be a requirement of this contract - see specifications.
19. Notes and details on specific drawings shall take precedence over general notes and typical details. The Contractor shall refer to all other Division Notes, Sheets Notes, Drawings and Project Contract Documents for additional information.
20. Contractor shall refer to other related drawings for all other related improvements that will impact this project and require coordination. Drawings may be made available to the Contractors at request.

TREE PROTECTION NOTE

1. All existing trees shall be protected from construction activities within construction zone. During which time, the use of a silt or chain link fence is required around each singular or group of protected trees. Parking of construction vehicles, equipment, and stockpiles within tree root zones is strictly prohibited. Contractor shall be responsible for any damage incurred to existing trees, including replacement, fees, fines or reimbursement to owner for said damages and, or to the City or Jurisdiction with governing authority per the Tree Ordinance.

OAK WILT PREVENTION NOTE

1. If Oak Wilt is found on site within work zone, owner must be notified and the following procedures must be followed in accordance with USDA standards, (http://www.na.fs.fed.us) including disinfecting construction removal devices, tree removal and treatment to prevent development of spore mats. These treatments include debarking, chipping and drying the wood, covering dead wood with plastic, burying the edges for six months and air drying for a similar amount of time to kill fungus and associated insects off site at state designated facility.

SIDEWALK NOTES:

1. Layout of concrete walkways shall be staked in the field and review by the Owner or Owner's Representative prior to construction. At that time walk may be adjusted as needed, using the Hardscape Plan as a guide. All grades and layout shall be confirmed prior to construction. Notify Owner and Owner's Representative of any conflicts or deviations to the issued plans.
2. All pedestrian paths shall be in compliance with all current Texas Accessibility Standards (T.A.S.) and ADA standards.
3. All walkway grades shall have a running slope of no greater than 4.7% (1:21) and a cross-slope that is not greater than 1.5% (1:66).
4. Slopes at or between 5.0% (1:20) and 8.3% (1:12) must have hand rails on both sides with ADA compliant level landings, and cross-slopes shall not exceed 1.5% (1:66).

HARDSCAPE LAYOUT AND INSTALLATION

1. All work shown shall be field staked and subject to field verification, review and approval by the Owner or Owner's Representative prior to any constructions or demolition. Field staking of all proposed work and adjacent construction (even if future work by others) may be required by the Owner's Representative prior to approval of all improvements and adequate stakes shall be provided by Contractor's surveyor.
2. To expedite, the layout of the site layout coordinates and/or grids may have been established in the Drawings. These points shall be field staked by the Contractor's surveyor as a part of this contract. The establishment of these points shall be approved by the Owner's Representative prior to any construction in those areas and will assist the Contractor in the layout of all site improvements as shown on drawing or otherwise.
3. The construction tolerances for this project are minimal and the dimensions shown are to be strictly adhered to.
4. Computed dimensions shall take precedence over scaled dimensions. Large scale drawings shall take precedence over small scale drawings. Dimensions shown with (+/-) shall be the only layout information allowed to vary, and may only vary to the tolerances given.
5. The Contractor is responsible to provide complete-in-place systems, and a complete project. Any intermittent or periodic approvals received for portions of work, stakes, grades, or forms (by the Owner or Owner's Representative, Architects, Engineers, or others) shall not waive the Contractor's requirements to comply with the intent of any and all portions of this contract.
6. All locations for walks, roads, swales, walls, curbs, structures etc. shall be staked by the Contractor. All layout information is based on ground coordinates and the Contractor shall meet with the owner's surveyors and engineers to clarify all datum, benchmark and control point requirements. Specific layout information will be provided to the Contractor by the Owner's Representative in AutoCAD (.dwg) format when requested.
7. It is the intent and requirement of this contract to provide curvilinear walks, walls and curbs with smooth transitions and arcs (both horizontal and vertical). Straight segments and abrupt transitions will not be accepted unless shown as such on the plans. Wood curving forms may be required to obtain the proper effects.
8. Hardscape improvements that are to be constructed per the drawings, shall be coordinated on site with the Owner's Representative, and be field staked or painted for approval of layout by the Owner's Representative prior to installation. Notify the Owner's Representative a minimum of 24 hours in advance for review. Improvements installed without field approval by Owner's Representative may be rejected and will be replaced at Contractors expense. At the time of staking, the Contractor shall confirm the quantity of the improvements match the approved contract. In the event the Contractor discovers such a discrepancy, he shall immediately notify the Owner's or Owner's Representative for direction on how to proceed, prior to commencing work.
9. All lot fencing or lot screen walls shall be placed on the property line or property boundary. Contractor shall confirm final location by field staking, to be reviewed by the Owner or Owner's Representative prior to construction.

GRADING NOTES

1. The Contractor shall obtain and review the Summary Report and Recommendations prepared by the geotechnical engineers and fully understand the existing soil conditions encountered prior to submitting bid. The Contractor shall comply with all recommendations made by the geotechnical engineers, civil engineers, structural engineers and Owner's Representative, as designated in the soil report, on these drawings, specified, or as directed during field observations and inspections.
2. All earthwork operations will be subject to full inspection and regular testing by a qualified soils and materials engineer and this Contractor shall be responsible to coordinate scheduling, notification and procuring test results and documentation as required. The Contractor shall notify the Owner's Representative of any subsoil conditions encountered, which vary from those found during previous soil investigations and/or that may not have been known during design. Any failed tests which must be retested will be a Contractor's expense.
3. All earthwork operations shall be conducted in strict compliance with the project specifications including but not limited to:

   a. Full locating, investigating and protection of ALL existing utilities to remain.
   b. Removal of any organic materials or debris.
   c. Stripping and stockpiling of all topsoil in approved location(s).
   d. Removal of all unstable fill materials encountered.
   e. Scarification and re-compaction to the minimum depth as specified and/or directed within all areas to receive fill, pavements or structures.
   f. All classifications of "excavation" as required to meet proposed lines, grades, typical cross sections and improvement elevations.
   g. Placement, shaping, and structural compaction of all classifications of "fill" or "embankment" as required to meet proposed lines, grades, typical cross sections and improvement elevations.
   h. Providing dewatering, optimum moisture control, climate protection, dust control, erosion control and all other specified treatments.
   i. Replacement of topsoil after grading changes have been accomplished.
4. See, and comply with, all specifications for depth of moisture density treatments, controls and compaction requirements.
5. These grading plans are intended to show vertical control of the site and are based upon the benchmarks, existing elevations and topography as provided by the Owner's surveyor. However, the Contractor, upon submittal of bid, agrees to accept the site grades and make all adjustments required to accomplish the work as proposed. Additionally proposed design elevations for adjacent construction projects may have to be incorporated if necessary. (Construction drawings for work by others, if applicable, are available upon request). Staking of future adjacent improvements, by this contract phase or by others, may be required if directed by the Owner's Representative to ensure proper coordination and requested staking is to be provided as part of this Base Bid.
6. This Contractor shall verify all existing grades to remain and all adjacent new construction grades for compliance with those shown, prior to bid and construction. All deviations or conflicts with proposed work shall be reported immediately (with follow-up written) notice within 24 hours to the Owner's Representative for direction to proceed, but will not be considered as basis for additional payment except as allowed in change order process per General Conditions and Supplementary Conditions under the existing "Owner-Contractor Agreements/Contracts".
7. The plans may call for specific temporary benchmarks to be transferred to the site by a certified surveyor and accurately established on site as a part of this contract. Contractor shall verify all benchmarks and information used in design and compare to existing conditions.
8. It is this Contractor's responsibility to provide proper positive drainage throughout this contract area. Field conditions shall be verified in conjunction with the proposed elevations to ensure that adequate drainage is provided. Report deviations or conflicts to Owner's Representative. Unless otherwise indicated, minimum slope for paved surfaces shall be 1% and minimum slope for non-paved areas shall be 2%. Slope away from all structures shall be 3% minimum, for a distance of 5' minimum. Maximum ground slopes to be 4' horizontal to 1' vertical, unless otherwise approved in advance.
9. All design elevations shown are "finished grades" unless otherwise indicated. Contractors shall refer to drawings, details and specifications regarding depth of sub-grade materials required to construct project improvements.
10. All topsoil and/or drainage way muck excavation shall be saved and stockpiled in approved locations for future use.

LIGHTING

1. Landscape lighting system is to be installed by a licensed electrician with documented experience in installing lighting systems of similar scope within the last two years. The Contractor is to supply a complete lighting system including all associated equipment such as conduit, weather proof and/or water proof junction boxes, ballasts, connectors, harnesses, time clocks, photocells, etc.
2. The Contractor shall review proposed layout of lighting system and all related equipment locations with the Owner or Owner's Representative prior to commencing installation.
3. After installation the Contractor will be required to adjust light fixtures until the Owner's Representative is satisfied with the desired effect. This will require the Contractor and/or the Contractor's electrician to meet with the Owner and Owner's Representative after sunset. This adjustment is to be included in the base Bid amount.
4. The Contractor shall provide a two year warranty on all equipment including lamps, ballasts and installation.
5. Independent ballasts, if required, shall be "ganged" in an inconspicuous, accessible location in a horizontal, weatherproof box or tray near ground level. Mounting of ballast in trees will not be allowed without written authorization from the Owner's Representative.
6. All exposed boxes, trays, conduit, etc. shall be painted by the contractor to blend in with surrounding landscape elements.
7. All equipment shall be U.L. listed and installation shall comply with N.E.C. and all other applicable codes.
8. All lights are to be controlled by a photocell on and timer off system unless specified otherwise on the drawings.
9. All wire run underground must be in rigid conduit.
10. Plan layout of underground wiring to minimize disturbance to the roots of existing trees. If underground wiring must pass through the critical root zone of protected trees, trenching and related work must be preformed by hand. No mechanical trenching is permitted within the Critical Root Zone.
11. Tree lighting (if applicable):
    a) Install Karlock (or equal) flexible conduit from base of tree to a minimum eight foot height above ground. At the end of the conduit install a waterproof hub (for single cable) or W-P bell box for multiple cables. Paint conduit and box to match tree trunk. Use SJTO electrical cord from conduit to light fixture. Attach cord to tree using long galvanized cord staples or other approved method. Provide a 36" loop of extra cord at the light fixture to allow for light adjustment and tree growth.
    b) Attach light fixtures to trees utilizing galvanized mounting plates drilled for hub connection with a minimum of two mounting screws. Mounting screws are to be 1/4-20 threads x 5" length (one end wood screw threads and the other end bolt threads). Install at least two inches of thread into tree and install with at least two inches between tree and mounting plate.
    c) All tree downlights are to be mounted in the top third of the tree canopy.
    d) All fixtures are to be located, adjusted as needed and shielded to prevent glare, light trespass on to adjacent properties or Rights-of-way.

Project Number: XX-SD-XXX

811 Know what's below. Call before you dig.

TEXAS LAW REQUIRES 48 HOURS OF NOTICE PRIOR TO DIGGING, EXCLUDING WEEKENDS AND HOLIDAYS. ALL BEFORE YOU DIG, WAIT THE REQUIRED AMOUNT OF TIME, RESPECT THE MARKS, AND DIG WITH CARE! THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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04/03/2023

HAWKE'S LANDING NORTH
PHASE 1
LANDSCAPE IMPROVEMENT PLANS
LEANDER, TEXAS

Drawing File Name
V:\200049-GEHAN\Cadfiles\LA\200049.03 North Phase 1\Sheets\LN-1.dwg

Issued:
1. City Submittal 04/03/2023
2.
3.
4.
5.

Revisions:
1.
2.
3.
4.
5.

Issue Date: 04/03/2023

Drawn By: BE
Reviewed By: BD

Project No. 200049.03

CONSTRUCTION NOTES

Sheet No. LN-1 ____ of ____

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
LANDSCAPE DEVELOPMENT PLANS 1 OF 7

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 66 OF 72

Date: Apr 11, 2023, 4:31pm User ID: ACHAVEZ
File: H:\Projects\511\67\02\01 Construction Documents\Civil\LS51167-02.dwg

GENERAL PLANTING NOTES

1. Contractor shall be responsible for becoming aware of all related existing conditions, utilities, pipes and structures, etc. prior to bidding and construction. The Contractor shall be held responsible for contacting all utility companies for field location of all underground utility lines, including depths, prior to any excavation. The Contractor shall notify the Owner's representative of apparent conflicts with construction and utilities so that adjustments can be planned prior to installation. Contractor shall take sole responsibility for any and all cost or other liabilities incurred due to damage of said utilities/structures/etc.
2. The Contractor shall not willfully proceed with construction as designed when it is apparent that unknown obstructions and/or grade differences exist that may not have been known during design. Such conditions shall be immediately brought to the attention of the Owner's Representative for clarification. The Contractor shall assume full responsibility for all liabilities, including necessary revisions due to failure to give such notification.
3. Contractor shall be responsible for coordination with subcontractors and other contractors of related trades as required to accomplish the planting and related operations.
4. The acceptable tolerances for this project are minimal and specific layout is required as shown on the layout, planting and other plans. Final location and staking of all plant materials shall be accepted by the Owner's Representative in advance of plantings.
5. Coordinate installation of all plant material with installation of all adjacent irrigation, pavements, curb and related structures. Any damage to existing improvements is the responsibility of the Contractor.
6. Contractor shall notify Owner's Representative 48 hours prior to commencement of work to coordinate project inspection schedules.
7. The Contractor shall take all necessary scheduling and other precautions to avoid climatic damage to plants. A "planting" of specific calendar days is required to be submitted by the Contractor for approval and planting operations should occur per this approved schedule.
8. If conflicts arise between size of areas and plans, Contractor is required to contact Owner's Representative for resolution. Failure to make such conflicts known to the Owner's Representative will result in Contractor's liability to relocate the materials.
9. Plant names may be abbreviated on the drawings. See plant legend for symbols, abbreviations, botanical/common names, sizes, estimated quantities (if given) and other remarks.
10. It is the Contractor's responsibility to furnish all plant materials free of pests or plant diseases. Pre-selected or "tagged" material must be inspected by the Contractor and certified pest and disease free. It is the Contractor's obligation to maintain and warranty all plant materials per the specifications. All plants shall be subject to Owner's approval prior to installation.
11. Where provided, area takeoffs and plant quantity estimates in plant list are for information only. Contractor is responsible to do their own quantity take-offs for all plant materials and sizes shown on plans. In case of any discrepancies, plans take precedence over call-outs and/or the plant list(s).
12. Contractor shall provide "per-unit costs" for every size of plant material, and by type, as called out on Planting Plans in the Bid Proposal. Unit cost to include the plant material itself and installation, including all labor, amendments, fertilizers, warranty, etc., as detailed and specified for each size, "complete in place".
13. The Contractor is responsible to restore all areas of the site, or adjacent areas, where disturbed by operations of or related to the Contractor's work. Sod areas disturbed shall be restored with new sod. Native areas disturbed, if not already improved to meet other requirements of this contract, shall be restored consistent with type, rates and species of existing condition.
14. During plant establishment, native and wetland areas shall be protected from sedimentation and erosion. Prior to construction activities, native and wetland areas outside of the project limits shall be protected with silt fence.
15. When planting trees and shrubs in existing natural areas, minimize disturbance to adjacent existing vegetation.
16. No Ball & Burlap (B&B) material will be allowed or accepted unless specifically specified.
17. All plants shall be nursery grown, Grade 1 plants meeting American Nursery and Landscape Association (ANLA) standards set forth in the "American Standard for Nursery Stock" (ANSI Z60.1-2004). Plants are to be typical in shape and size for species. Plants shall not be root-bound or loose in their containers. Handle all plants with care in transporting, planting and maintenance until inspection and final acceptance.
18. Warranty: Provide a one-year replacement warranty for all plant materials. Warranty shall cover plants which have died or partially died (thereby ruining their natural shape), but shall not include damage by vandalism, browsing, hail, abnormal freezes, drought or negligence by the Owner. The Warranty is intended to cover Contractor negligence, infestations, disease and damage or shock to plants. Plants replaced under Warranty will be warranted for one year following replacement.

PLANTING LAYOUT AND INSTALLATION

1. The Contractor shall be responsible for accurately laying out the plant beds and lawn areas by scaling the Drawings. The Contractor shall provide paint lines/stakes/hose or other means to fully indicate the specific layout geometry of all bed lines for approval by Owner's Representative prior to installation. The Contractor's Base Bid shall anticipate minor adjustments as directed by the Landscape Architect in the field. Changes affecting quantities will be covered by unit prices.
2. Following the approval of layout, the Contractor shall closely coordinate the installation of the irrigation system to conform to the approved layout.
3. All planting beds are to be separated from adjacent Turf Sod, Turf Seed and Native Seed areas with edging per specifications and details. Additional locations may be indicated on the Drawings. Install edging following manufacture's installation instructions. Maintain an accurate layout with smooth curves and transitions, free of kinks and abrupt bends. Top of edging is to be 1" above soil level of adjacent turf. In Bid Proposal furnish a unit price per linear foot of edging installed.
4. Provide matching sizes and forms for all species of trees and plants installed on grid or spaced equally in rows as shown on drawings. Adjust spacing (to "equal-equal") as necessary, subject to acceptance by the Owner's Representative.
5. Unless otherwise indicated:

   a. All groupings of groundcovers, perennials, ornamental grasses and annuals shall be triangularly spaced (equal-equal).
   b. All planting areas including sod, seed and planting beds, shall receive soil amendments per the notes and specifications.
   c. Sodded lawn shall have been grown between 9 and 18 months and shall be vigorous, well-rooted and healthy turf. Minimum thatch thickness shall be 3/4".
   d. Specific plant bed areas may be called out to receive weed barrier fabric, see plans and details.
   e. All bulb planting shall occur after mid-October and before ground is frozen. See details for bulb planting layout.
6. All Plant Beds and pit planted plants shall receive a 3" depth layer of shredded hardwood mulch. Refer to plans, details and specifications for location and type of any alternate mulch used. In Bid Proposal furnish a unit price(s) per cubic yard of mulch(es) placed. This unit price(s) will be used in the adjustment of bed areas.
7. Planting pits for 1 and 5 gallon shrubs shall be at least 8" larger in diameter than the container size. Larger container sizes and B&B plants shall be planted in pits at least 3 times larger in diameter than the root ball size.
8. Plants shall be installed to present their best side facing the viewer.
9. Owner's representative shall have final approval of plant material layout.

IRRIGATION GENERAL NOTES:

1. Obtain all permits and licenses applicable prior to the start of work.

2. All required landscape areas shall be irrigated per applicable local ordinances and tceq regulations.

3. Drip irrigation shall be placed in accordance with manufacturer recommendations. extend drip lines to irrigate planting adjacent to plant beds.

   a. Maximum drip lateral length shall not exceed manufacturer specifications

4. Any quantities shown are approximate. verify quantities and provide all labor, materials, and devices necessary to complete the irrigation system.

5. The layout shown is diagrammatic. do not place lines or devices in the critical root zone of any tree, or in pavement areas, or areas that conflict with proper installation and function of the system.

6. Site conditions:

   a. Verify and mark the location of all on-site utilities which might be affected by the irrigation system.

   b. Verify and mark the location of all buried cables, conduits, piping, etc. prior to trenching or digging. call Texas 811 per Texas utilities code title 5 chapter 251 underground facility damage prevention and safety.

   c. Adjust the design as necessary, together with the licensed irrigator, and owners, to suit site conditions, elevations and grades before proceeding with work.

   d. Protect from damage as necessary, existing property, existing landscape features, plant material, structures, this work in progress, and the work of other trades.

7. Provide professional grade valve boxes large enough to accommodate valves and other devices shown in the details. box extensions may be required. ground boxes shall be constructed of materials sufficient in strength to accept loads (pedestrian or vehicular) required based on actual installation location.

8. Pressure regulating component(s) shall be required where static pressure exceeds manufacturer's recommended operating range.

9. See details for other required materials and devices.

10. Piping and fittings:

    a. Mainline irrigation system piping 3" and larger shall be bell & gasketed schedule 40 pvc pipe. lateral irrigation system piping 3" and larger shall be bell & gasketed schedule 40 pvc pipe.

    b. All piping shall utilize thrust blocks at pipe connections per details. where leemco fitting/joint restraints are used thrust blocks may be excluded.

    c. All pipes and electrical bundles passing beneath driveways or paved areas must be sleeved with schedule 40 pvc pipe with solvent welded joints. Sleeve diameter must equal twice that of the pipe or sized as shown on plans.

    d. All pvc pipe fittings shall be primed with a colored primer, prior to applying pvc cement.

    e. Irrigation mainline and laterals 4" and larger shall utilize leemco fittings/joint restraints as per manufacturer specifications.

    f. All lateral pipe shall buried to a min. depth of 6"

    g. All mainline pipe shall be buried to a depth of 18", where conditions prohibit this depth, a min. depth of 6" may be used when approved by the licensed irrigator

11. Excavation:

    a. Excavate to depths required to provide 4" depth of sand bedding for piping when rock or other unsuitable bearing materials are encountered

    b. Excavate trenches and install piping and fill during the same working day. do not leave open trenches or partially filled trenches open overnight

12. Irrigation controller and system shall be equipped with an evapotranspiration sensor for daily weather adjustment to run times, the e/t sensor shall have rain/freeze shutoff.

    a. Irrigation controller shall be equipped with a flow sensor

    b. irrigation controller shall be programmed prior to project closeout.

13. Backflow prevention devices:

    a. Install per manufacturer specifications

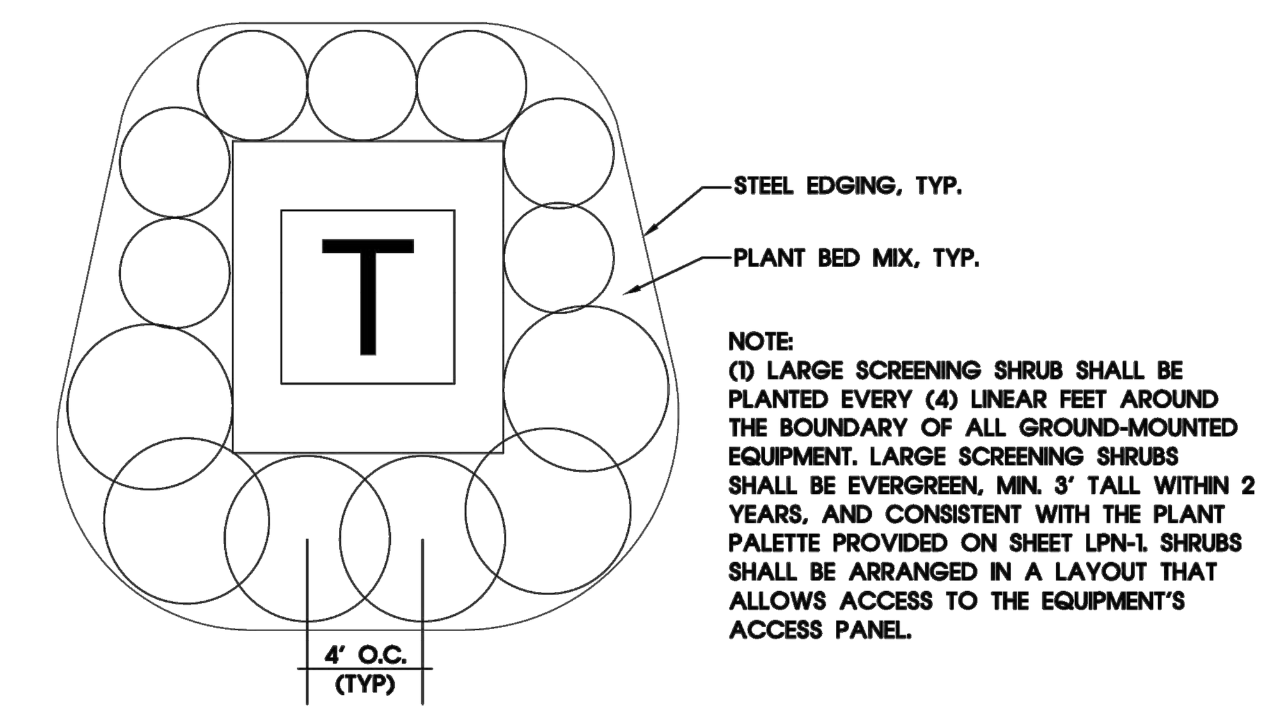
    b. Adequate insulation must be provided to protect against freeze

CITY OF LEANDER LANDSCAPE NOTES

1. Mechanical equipment shall be screened from view of at least sixty (60%) percent of any street or public right-of-way.
2. Tree caliper is the trunk diameter of a tree at twelve (12") inches above natural grade per the Composite Zoning Ordinance. Composite Zoning Art I, Sec 6.
3. A minimum 6-inch topsoil depth will be provided in all landscaped areas and mulch will be provided around plantings.
4. All disturbed areas and ROW will be re-vegetated by the developer. The developer and subsequent owners of the landscaped property, or the manager or the 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
5. No more than 50% of the same species may be planted to meet the tree planting requirements.
6. All new landscapes (non-residential and residential) are required to have a minimum of six inches (6") of soil depth in areas planted with turf grass. 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 prevision; provided that the native soil and vegetation in such area is fenced during construction and protected from disturbance and compaction during the construction process.

CITY OF LEANDER MAINTENANCE 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.



1 SCREENING SHRUBS AT TRANSFORMERS
SCALE: N.T.S.

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HT/SPD	WATER USE	NOTES
QUTE	15	Quercus texana / Texas Red Oak	Container Grown	3"Cal	12-15 H X 8 Spd	M	
QUVI	14	Quercus virginiana / Southern Live Oak	Container Grown	3"Cal	12-15 H X 8 Spd	L	
ULCR	15	Ulmus crassifolia / Cedar Elm	Container Grown	3"Cal	12-15 H X 8 Spd	M	

ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HT/SPD	WATER USE	NOTES
LATU	6	Lagerstroemia indica Tuscarora / Crape Myrtle	Container Grown	1" Cal @ 3 trunks, min.	8-9 H X 3-4 Spd	M	Must be from a Single Root Stock

SHRUBS	QTY	BOTANICAL / COMMON NAME	CONTAINER	CONTAINER SIZE	NOTES	WATER USE
ABGR	38	Abelia x grandiflora / Glossy Abelia	Container Grown	5 gallon		L-M
ILVN	48	Ilex vomitoria Nana / Dwarf Yaupon	Container Grown	5 gallon		L
ROKO	44	Rosa x Double Knockout / Rose	Container Grown	5 gallon		L-M
TEFR	96	Teucrium fruticans / Bush Germander	Container Grown	5 gallon		L-M

GRASSES	QTY	BOTANICAL / COMMON NAME	CONTAINER	CONTAINER SIZE	NOTES	WATER USE
MUCA	16	Muhlenbergia capillaris / Gulf Coast Muhly	Container Grown	5 gallon		L
STTE	114	Stipa tenuissima / Mexican Feathergrass	Container Grown	1 gallon		L

SUCCULENTS	QTY	BOTANICAL / COMMON NAME	CONTAINER	CONTAINER SIZE	NOTES	WATER USE
HEPA	60	Hesperaloe parviflora / Red Yucca	Container Grown	5 gallon	Full, Unbroken Blades	VL

GROUNDCOVER	QTY	BOTANICAL / COMMON NAME	CONTAINER	CONTAINER SIZE	NOTES	WATER USE
SCSU	65	Scutellaria suffrutescens / Pink Skullcap	Container Grown	1 gallon		L

Setback Areas

								REQUIRED			PROVIDED			DIFFERENCE	
								Trees	Inches	Shrubs	Trees	Inches	Shrubs	Inches	Shrubs
Street Side (10' Setback)	8518 SF	÷	600	=	14	Units		28	56	56	28	84	71	28	15

Street Tree Calculations - Bagdad Road: 816 LF

	Required Street Trees	Proposed Street Trees
Shade Tree (1 Tree / 30' O.C.)	27	28

Pond Screening Requirements

	REQUIRED	PROVIDED
POND 1		
Linear feet to be screened (min. 5' landscape area)	172 LF	
Shade Trees	3	3
1 tree every 50' o.c.		
Shrubs		
4 shrubs every 4'o.c.	43	43
Berms		
3 feet tall x 4:1 slopes	NA	NA
Fencing	NA	NA
POND 2		
Linear feet to be screened (min. 5' landscape area)	107 LF	
Shade Trees	2	2
1 tree every 50' o.c.		
Shrubs		
4 shrubs every 4'o.c.	27	34
Berms		
3 feet tall x 4:1 slopes	NA	NA
Fencing	NA	NA
POND 3		
Linear feet to be screened (min. 5' landscape area)	265 LF	
Shade Trees	5	5
1 tree every 50' o.c.		
Shrubs		
4 shrubs every 4'o.c.	66	78
Berms		
3 feet tall x 4:1 slopes	NA	NA
Fencing	NA	NA

TURF GRASS/ PLANT BEDS

NAME	TOTAL	UNITS	DESCRIPTION	
Plant Bed	3,690	sf		
	68	cy	Planting mix	6" depth (Pro-Gro Soil Mix by Whittlesey Landscape Supply or approved equal)
	34	cy	Mulch	3" Depth (Native Hardwood Mulch)
Cynodon dactylon 'Tif 419' / Bermuda Grass	84,556	sf		Cynodon dactylon "TIFWAY 419"
	9,395	sy	Turf Sod	Bermuda T419
	1566	cy	Top Soil	6" Depth (75% Chocolate Loam / 25% Compost)

MISCELANEOUS

NAME	TOTAL	UNITS	DESCRIPTION	COMMENTS
Steel Edging	591	lf	3/16" thick; Brown	

IRRIGATION

SYMB	QTY	UNITS	DESCRIPTION	COMMENTS
CONTROLLER	1	ea.	Rainbird, Hunter, or Approved Equal	
PLANT BEDS	3,690	s.f.	Drip/Spray	
TREES	94	ea.	Drip/Bubbler	2 per shade tree/1 per ornamental tree
SOD/TURF	84,556	s.f.	Drip/Spray/Bubbler	

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04/03/2023

HAWKE'S LANDING NORTH
PHASE 1
LANDSCAPE IMPROVEMENT PLANS
LEANDER, TEXAS

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PLANTING NOTES
& PLANT LIST / CALCS

Sheet No.
LPN-1 ____ of ____

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
LANDSCAPE DEVELOPMENT PLANS 2 OF 7

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
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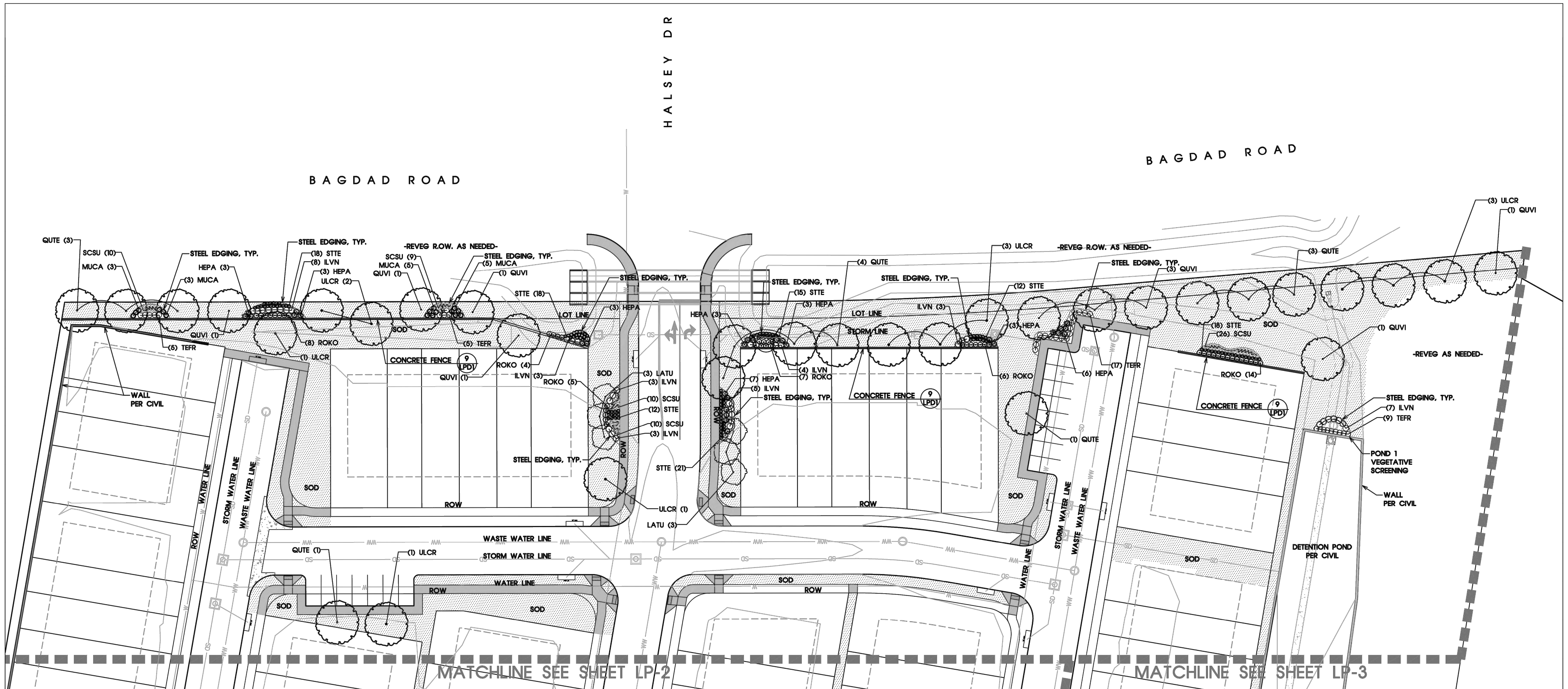

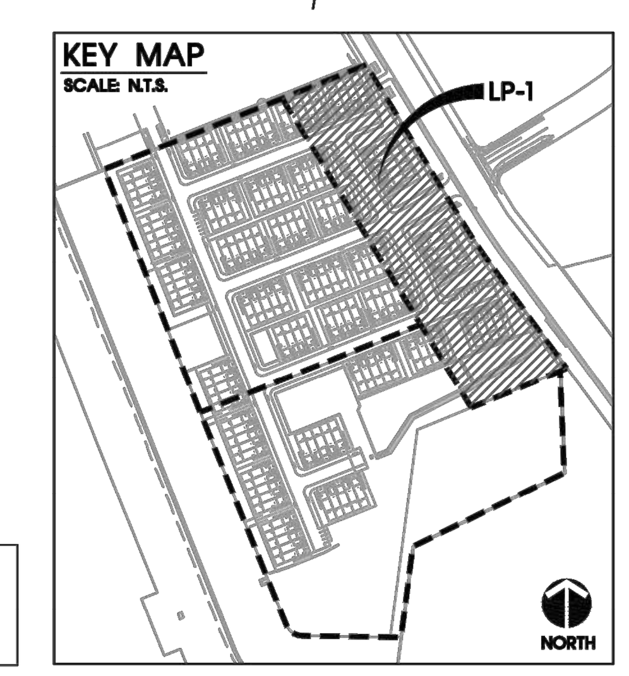

NOTE:
WALL LAYOUT/LOCATIONS TO BE STAKED AND VERIFIED BY OWNER PRIOR TO INSTALLATION.

FULL SIZE SCALE: 1" = 30'
0 15 30 60 NORTH

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HAWKE'S LANDING NORTH PHASE 1
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LEANDER, TEXAS

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MAJOR CORRIDOR STREETSCAPE PLAN

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
LANDSCAPE DEVELOPMENT PLANS 3 OF 7

CITY OF LEANDER APPROVAL

CITY JOB No. 23-PICP-XXX
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HAWKE'S LANDING NORTH
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PLANTING PLAN

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HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
LANDSCAPE DEVELOPMENT PLANS 4 OF 7

CITY JOB No. 23-PICP-XXX
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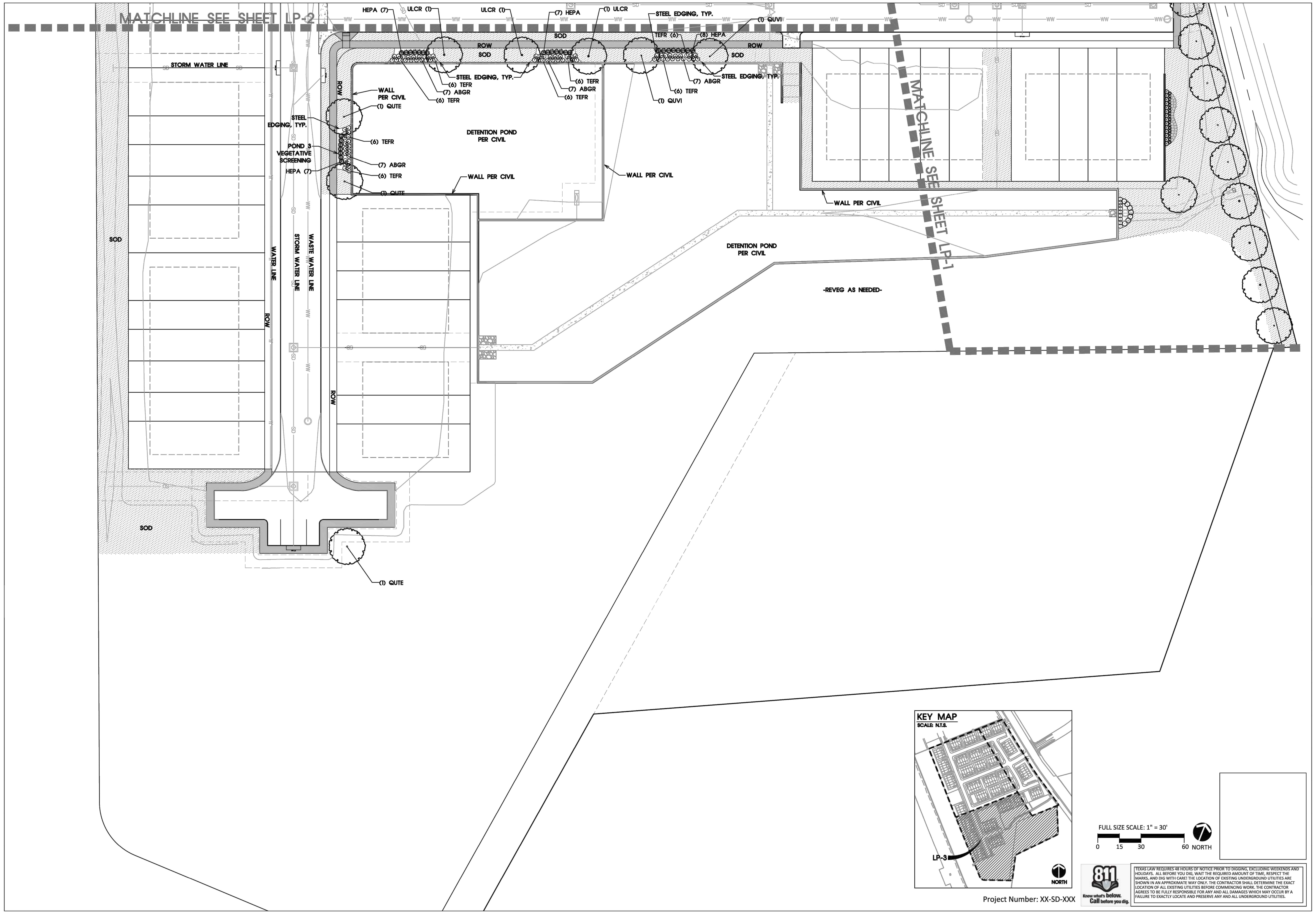

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PLANTING PLAN

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HAWKES LANDING NORTH
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CITY OF LEANDER, TEXAS
LANDSCAPE DEVELOPMENT PLANS 5 OF 7

CITY JOB No. 23-PICP-XXX
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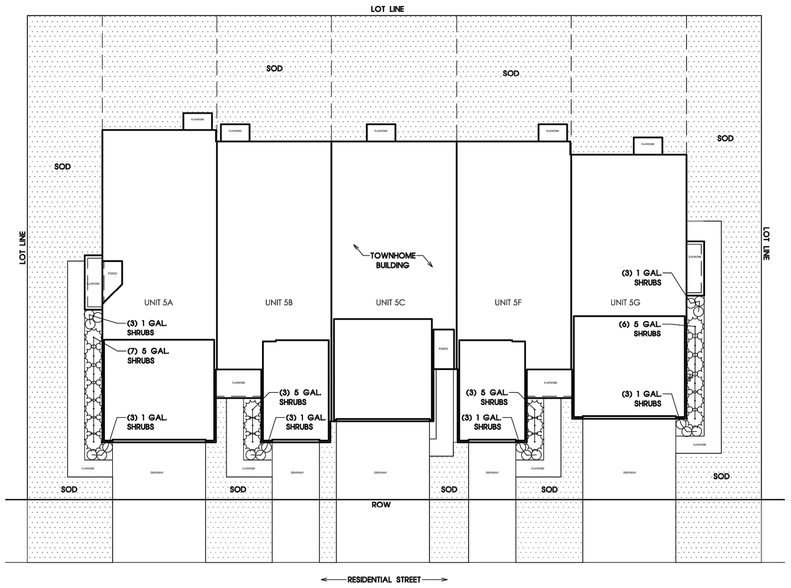

1 **5-PLEX TOWNHOME PROTOTYPICAL PLANTING**
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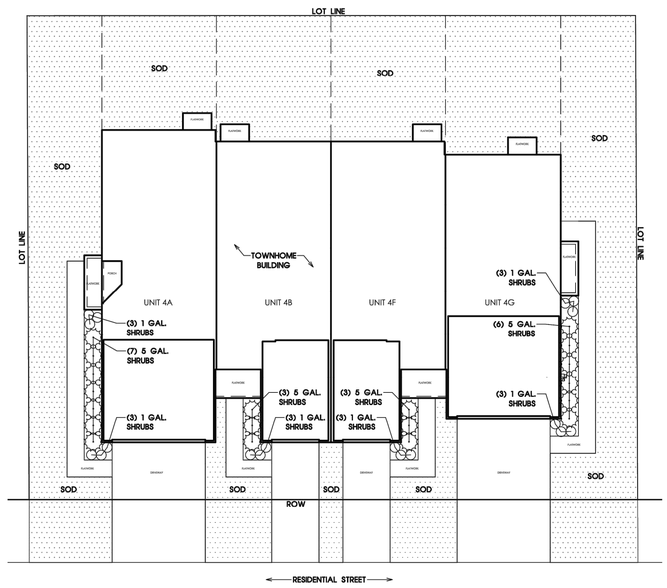

2 **4-PLEX TOWNHOME PROTOTYPICAL PLANTING**
SCALE: 1" = 10'-0"

FULL SIZE SCALE: 1" = 10'
0 5 10 20

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REGISTERED LANDSCAPE ARCHITECT
BENEDICT P. DESOTELL
2690
STATE OF TEXAS
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PLANTING PLAN

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HAWKES LANDING NORTH
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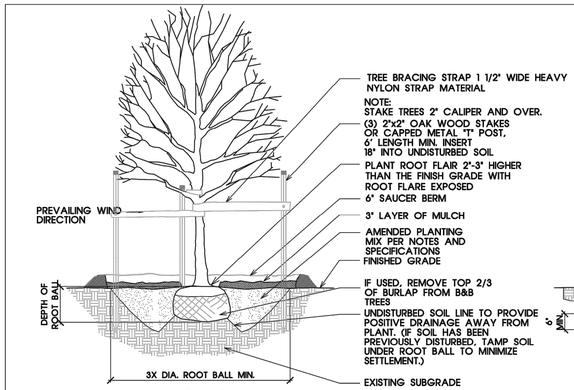
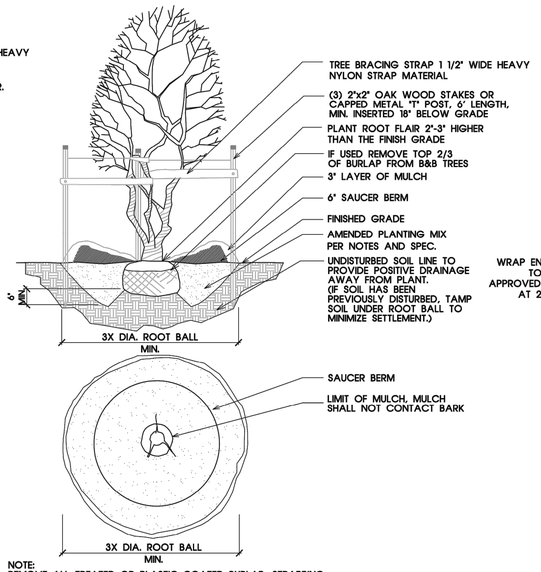
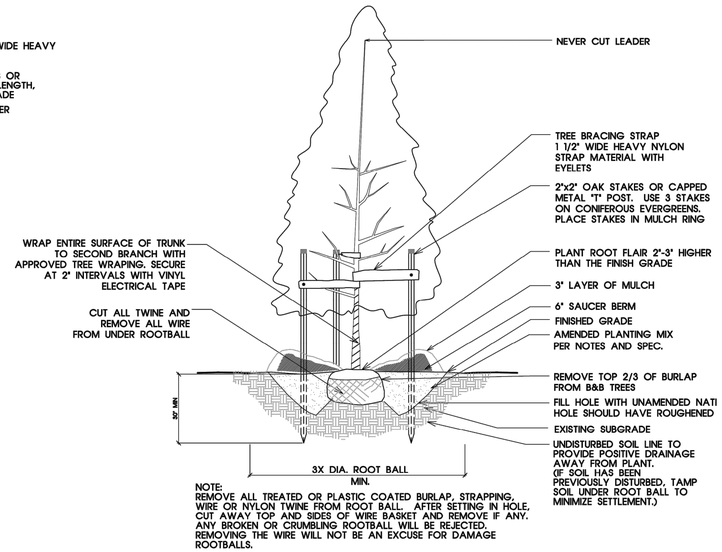


1 TREE PLANTING
SCALE: 3/4" = 1'-0"



2 TREE PLANTING - MULTISTEM
SCALE: 3/4" = 1'-0"



3 TREE PLANTING - PYRAMIDAL
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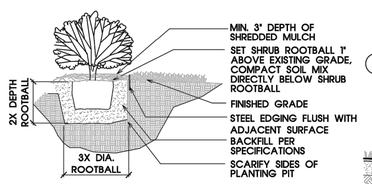

4 SHRUB BED PLANTING
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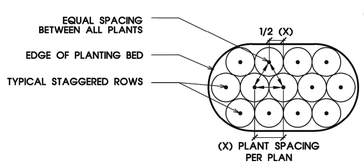

5 PLANTING BED PLAN
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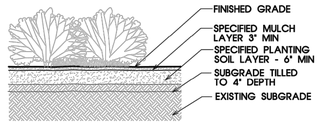

6 PERENNIAL/ANNUAL/ORN. GRASSES BED
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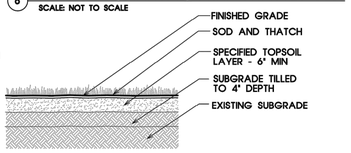

7 TURF SOD
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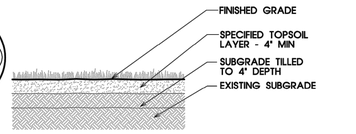

8 TURF SEED
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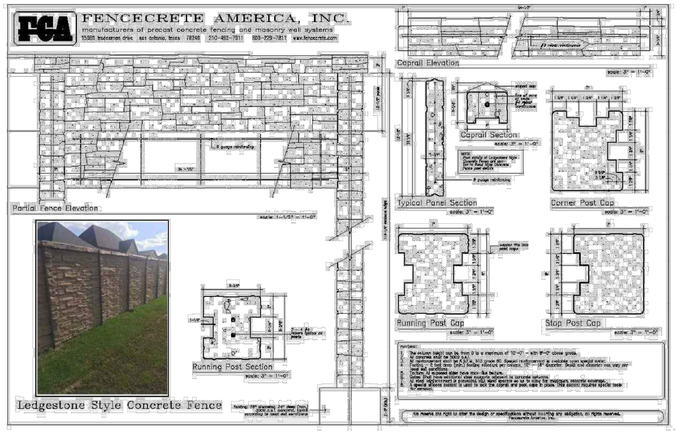

9 6' CONCRETE FENCE - COLOR: WHITE
SCALE: N.T.S.

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04/03/2023

HAWKE'S LANDING NORTH
PHASE 1
LANDSCAPE IMPROVEMENT PLANS
LEANDER, TEXAS

Drawing File Name
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Issued:
1. City Submittal 04/03/2023
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Revisions:
1.
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3.
4.
5.

Issue Date: 04/03/2023

Drawn By: BE
Reviewed By: BD

Project No. 200049.03

DETAILS

Sheet No. LPD-1 ____ of ____

CITY OF LEANDER APPROVAL

NO.	REVISION	DATE

PAPE-DAWSON ENGINEERS
AUSTIN | SAN ANTONIO | HOUSTON | FORT WORTH | DALLAS
10801 N MOPAC EXPY, BLDG 3, STE 200 | AUSTIN, TX 78759 | 512.454.8711
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028801

HAWKES LANDING NORTH
PHASE 1
CITY OF LEANDER, TEXAS
LANDSCAPE DEVELOPMENT PLANS 7 OF 7

CITY JOB No. 23-PICP-XXX
JOB NO. 51167-02
DATE APRIL 2023
DESIGNER ASB/BA
CHECKED AC DRAWN MN
SHEET 72 OF 72

23-PICP-XXX