McIntyre & McIntyre
I N C O R P O R A T E D
CONSULTING ARCHITECTS & ENGINEERS
PROJECT MANAGERS
9807 Brandywine Circle * Austin, Texas 78750

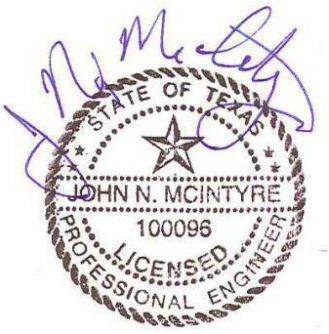
CONTRIBUTING ZONE PLAN

FOR

SILVER FOX PARTNERS

AT

295 County Road 214
Liberty Hill, Williamson County, Texas



The subject site is located in the South San Gabriel River Watershed via an unnamed tributary, and is within the Edward's Aquifer Contributing Zone.

Contributing Zone Plan Checklist

- **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- **Contributing Zone Plan Application (TCEQ-10257)**

  Attachment A - Road Map
  Attachment B - USGS Quadrangle Map
  Attachment C - Project Narrative
  Attachment D - Factors Affecting Surface Water Quality
  Attachment E - Volume and Character of Stormwater
  Attachment F - Suitability Letter from Authorized Agent (if OSSF is proposed)
  Attachment G - Alternative Secondary Containment Methods (if AST with an alternative method of secondary containment is proposed)
  Attachment H - AST Containment Structure Drawings (if AST is proposed)
  Attachment I - 20% or Less Impervious Cover Declaration (if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site)
  Attachment J - BMPs for Upgradient Stormwater
  Attachment K - BMPs for On-site Stormwater
  Attachment L - BMPs for Surface Streams
  Attachment M - Construction Plans
  Attachment N - Inspection, Maintenance, Repair and Retrofit Plan
  Attachment O - Pilot-Scale Field Testing Plan, if BMPs not based on Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs
  Attachment P - Measures for Minimizing Surface Stream Contamination

- **Storm Water Pollution Prevention Plan (SWPPP)**

  -OR-

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

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

- **Copy of Notice of Intent (NOI)**
- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**

- **Application Fee Form (TCEQ-0574)**
- **Check Payable to the "Texas Commission on Environmental Quality"**
- **Core Data Form (TCEQ-10400)**

Texas Commission on Environmental Quality

Edwards Aquifer Application Cover Page

Our Review of Your Application

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

Administrative Review

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

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

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

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

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

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

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

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

Technical Review

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

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

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

3. We evaluate the application for technical completeness and contact the applicant and agent via Notice of Deficiency (NOD) to request additional information and identify technical deficiencies. There are two deficiency response periods available to the applicant. There are 14 days to resolve deficiencies noted in the first NOD. If a second NOD is issued, there is an additional 14 days to resolve deficiencies. If the response to the second notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application must be withdrawn or will be denied. Please note that because the technical review is underway, whether the application is withdrawn or denied **the application fee will be forfeited**.
4. The program has 90 calendar days to complete the technical review of the application. If the application is technically adequate, such that it complies with the Edwards Aquifer rules, and is protective of the Edwards Aquifer during and after construction, an approval letter will be issued. Construction or other regulated activity may not begin until an approval is issued.

Mid-Review Modifications

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

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

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

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

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

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

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

1. Regulated Entity Name: Silver Fox Partners, LLC					**2. Regulated Entity No.:**				
3. Customer Name: Silver Fox Partners, LLC					**4. Customer No.:**				
5. Project Type: **(Please circle/check one)**	(New)		Modification		Extension		Exception		
6. Plan Type: **(Please circle/check one)**	WPAP	(CZP)	SCS	UST	AST	EXP	EXT	Technical Clarification	Optional Enhanced Measures
7. Land Use: **(Please circle/check one)**	Residential		(Non-residential)			**8. Site (acres):**		10.6 acres	
9. Application Fee:	$6,500		**10. Permanent BMP(s):**			**Batch Detention**			
11. SCS (Linear Ft.):	0		**12. AST/UST (No. Tanks):**			0			
13. County:	Williamson		**14. Watershed:**			South San Gabriel			

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 ___Leander X_Liberty Hill (ETJ) ___Pflugerville ___Round Rock

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

I certify that to the best of my knowledge, that the application is complete and accurate. This application is hereby submitted to TCEQ for administrative review and technical review. Nick McIntyre, Authorized Agent
Print Name of Customer/Authorized Agent  10/22/2022 Signature of Customer/Authorized Agent Date

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

Contributing Zone Plan Application

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.

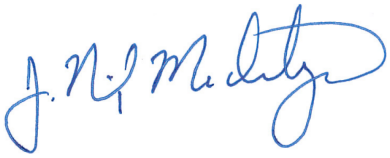
Signature

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: Nick McIntyre

Date: 10/22/2022

Signature of Customer/Agent:



Regulated Entity Name: Silver Fox Partners

Project Information

1. County: Williamson
2. Stream Basin: South Fork San Gabriel River
3. Groundwater Conservation District (if applicable): None
4. Customer (Applicant):

   Contact Person: Mike Parsons
   Entity: Silver Fox Partners
   Mailing Address: 3013 Constitution Sq
   City, State: Lago Vista Zip: 78645
   Telephone: 512-634-7140 Fax: _____
   Email Address: silverfoxinvested@gmail.com

5. Agent/Representative (If any):

   Contact Person: Nick McIntyre
   Entity: McIntyre & McIntyre
   Mailing Address: 1903 Stonewreath Drive
   City, State: Round Rock, TX Zip: 78681
   Telephone: 512-484-7469 Fax: _____
   Email Address: nick@mmirealestate.com

6. Project Location:

   ☐ The project site is located inside the city limits of _____.
   ☒ The project site is located outside the city limits but inside the ETJ (extra-territorial jurisdiction) of Liberty Hill.
   ☐ 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.

   295 CR214, Liberty Hill, TX 78642

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

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

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

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

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

11. Existing project site conditions are noted below:

    ☐ Existing commercial site
    ☐ Existing industrial site
    ☐ Existing residential site

☐ Existing paved and/or unpaved roads
☒ Undeveloped (Cleared)
☐ Undeveloped (Undisturbed/Not cleared)
☐ Other: _____

12. The type of project is:

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

13. Total project area (size of site): 10.6 Acres

Total disturbed area: 8.5 Acres

14. Estimated projected population: 20

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	132,000	÷ 43,560 =	3.03
Parking	206,265	÷ 43,560 =	4.74
Other paved surfaces	10,857	÷ 43,560 =	0.25
Total Impervious Cover	349,122	÷ 43,560 =	8.01

Total Impervious Cover 8.01 **÷ Total Acreage** 10.6 **X 100 =** 76**% 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 _____ (name) Treatment Plant. The treatment facility is:

☐ Existing.
☐ Proposed.

☐ N/A

Permanent Aboveground Storage Tanks(ASTs) ≥ 500 Gallons

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

☒N/A

27. Tanks and substance stored:

Table 2 - Tanks and Substance Storage

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

Total x 1.5 = _____ Gallons

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

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

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

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

Table 3 - Secondary Containment

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

Total: _____ Gallons

30. Piping:

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

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

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

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

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

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

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

Site Plan Requirements

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

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

    Site Plan Scale: 1" = 40'.

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): _____.

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.

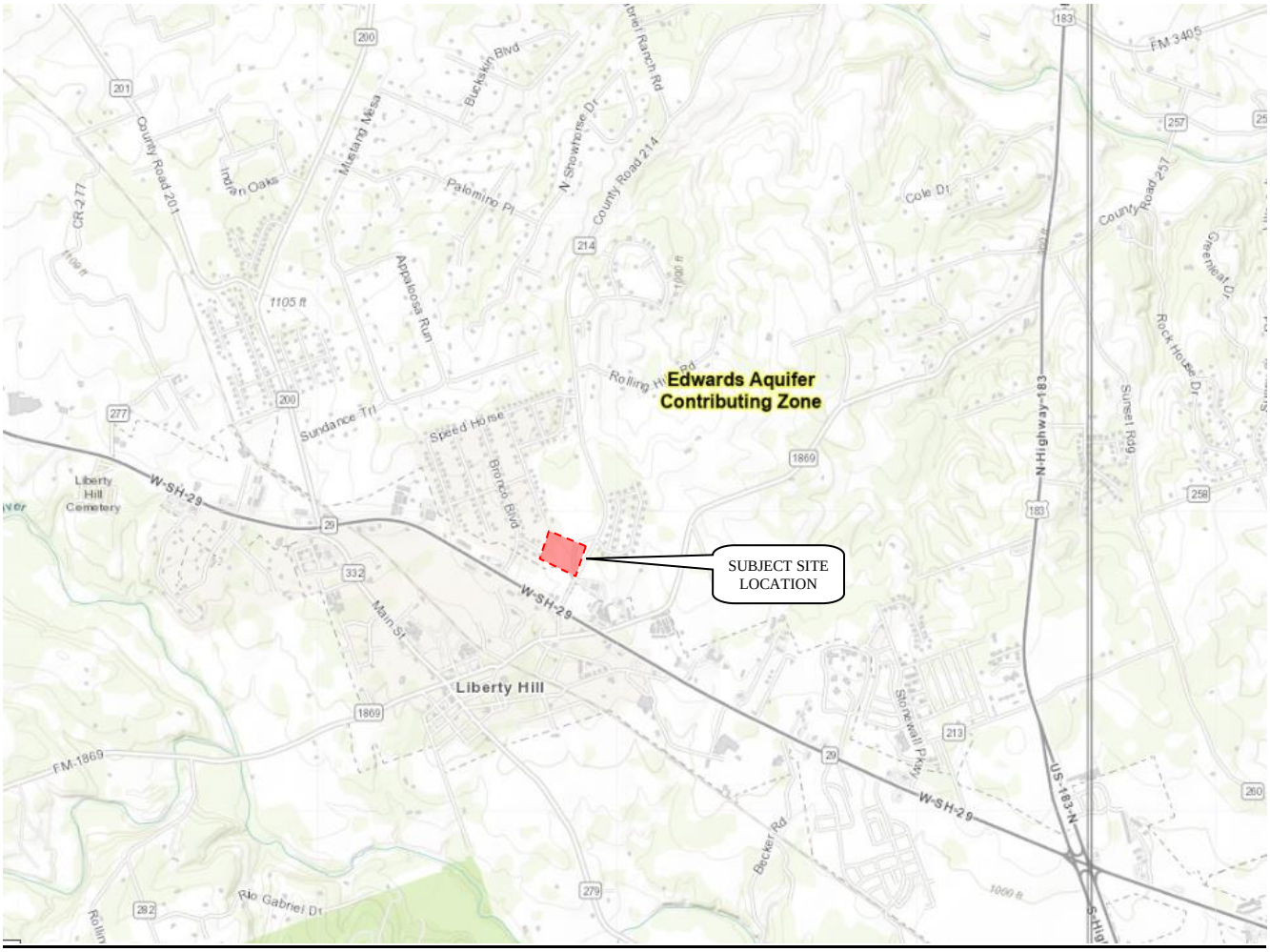
62. ☒ Any modification of this Contributing Zone Plan may require TCEQ review and Executive Director approval prior to construction, and may require submission of a revised application, with appropriate fees.

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.

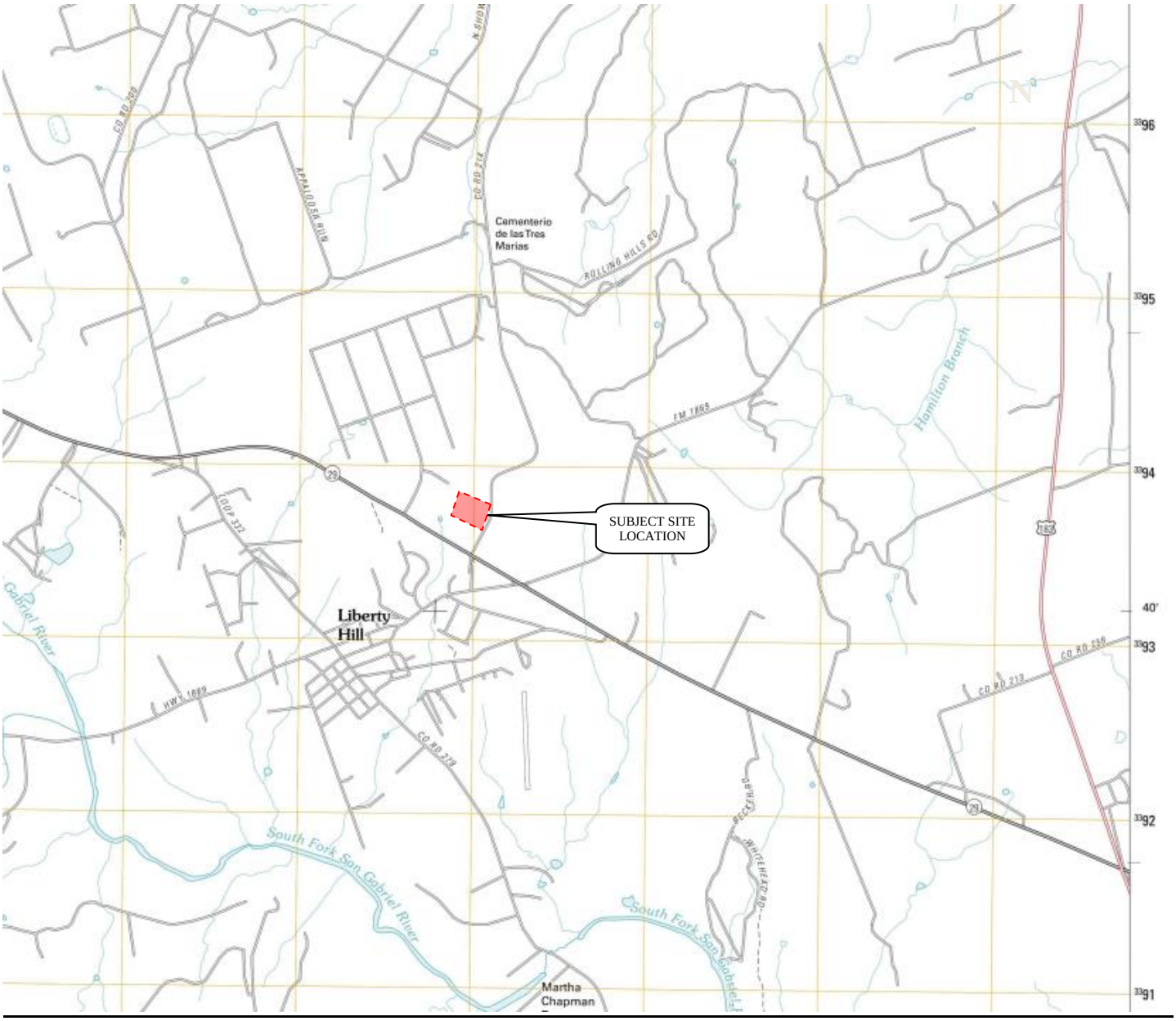
☒ The Temporary Stormwater Section (TCEQ-0602) is included with the application.

ATTACHMENTS FOR PROJECT INFORMATION FORM (TCEQ-10257)

ATTACHMENT A -ROAD MAP



ATTACHMENT B – USGS QUADRANGLE MAP



LIBERTY HILL, TX
2010

ATTACHMENT C - PROJECT NARRATIVE

The proposed site is 10.6 acres, located at 295 County Road 214, Liberty Hill, Williamson County, Texas. The entire limits of the site are within the Edwards Aquifer Contributing Zone and the City of Liberty Hill ETJ.

The existing site consists of an undeveloped field. Proposed construction consists of earthwork, storm water management controls, and related construction to build the permanent BMP (batch detention), 11 – 12,000 square foot office/warehouse buildings, associated parking, sidewalks and landscaping as shown on the included site plan. The buildings will be built out over time in phases.

These structures will be served by an onsite sewage facility, to be approved by Williamson County.

The site erosion control measures will be in effect accordingly and are described in more detail elsewhere in the construction plans.

About 80% of the site will be disturbed at some point under this plan. Once all phases of the project are built there will be 76% of impervious cover on the site. The water quality features will accept flows from the impervious areas of the site; refer to the included plan sheets for details regarding drainage areas and means of storm water conveyance.

The project will not involve rerouting, filling, or crossing a waterway of any kind. Stormwater will be collected in the BMP and any overflow from a larger rain event will be routed to the onsite detention pond via a splitter box. Detention overflow will be released along the southeast side of the site back into the natural drainage pattern.

ATTACHMENT D - FACTORS AFFECTING WATER QUALITY

Potential sources of sediment to stormwater runoff include:

- Clearing, grading, and excavating activities, primarily un-stabilized areas; paving operations; dewatering operations, drilling, material delivery, storage of building materials during construction.

Potential pollutants other than sediment include the following materials and substances that could be expected to be present on-site:

- Heavy Metals – from material delivery, storage and use, and hazardous substance/waste spills
- Trash, Debris and Solids – from clearing and grading, paving, concrete wash waste, construction painting and cleaning, demolition, drilling and blasting, material delivery storage and use, landscaping, and general construction
- Petroleum Based Products – vehicle and equipment use on site, and vehicle and equipment fueling and maintenance and storage. There are two 4,000 gallon above ground storage tanks. One tank is a double walled steel tank, and the other is a single wall tank that resides in a metal containment dike. Both tanks are used for diesel fuel storage for onsite equipment.
- Pesticides/Herbicides – from material delivery, storage and use, hazardous waste spills, vehicle use, storage, service and maintenance
- Fertilizers/Nutrients – from painting, cleaning products, dewatering, material delivery and storage, spills during landscaping operation

Potential sources of post construction stormwater runoff include:

- Sediment – coarse and fine from vehicle and equipment use on site.
- Heavy Metals – dissolved and particulate from vehicle washing activities
- Petroleum Based Products – vehicle and equipment use on site.

ATTACHMENT E - VOLUME AND CHARACTER OF STORMWATER

The existing site consists of an undeveloped field. Proposed construction consists of earthwork, storm water management controls, and related construction to build the permanent BMP, a retention re-irrigation pond and grassy swale, several storage barns, a small trailer office, and material storage bins as shown on the included site plan. The site erosion control measures will be in effect accordingly and are described in more detail elsewhere in the construction plans.

SITE GROUND COVER TABLE:						
Site Area =	10.600	acres =	461,736	sq ft		
Zoning =	None - City of Liberty Hill ETJ					
	EXISTING CONDITIONS			PROPOSED CONDITIONS		
Impervious Cover	Existing (sq ft)	Impervious (%)	Demolition (sq ft)	Proposed (sq ft)	Total Imp. Cover (sq ft)	Impervious (%)
PAVED SURFACES	0.0	0.0%	0	217,122	217,122	47.0%
BUILDINGS	0.0	0.0%	0	132,000	132,000	28.6%
Totals	**0.0**	**0.0%**	**0**	**349,122**	**349,122**	**75.6%**
Pervious Cover	Existing (sq ft)	Pervious (%)	Demolition (sq ft)	Proposed (sq ft)	Total. Pervious (sq ft)	Pervious (%)
OPEN SPACE	461,736	100%	0	80,964	80,964	17.5%
DETENTION & WQ POND	0	0%	0	31,650	31,650	6.9%
Totals	**461,736**	**100%**		**112,614**	**112,614**	**24.4%**

COMPOSITE CURVE NUMBER ANALYSIS			
EXISTING CONDITIONS - COMPOSITE CN TABLE			
LOT SIZE, AC. =	10.600		
LOT SIZE, SF =	461,736		
Composite CN =	**84.0**		
	Total Imp. Co. (sf)	Percent (%)	CN
PAVED SURFACES	0	0.0%	98
OPEN SPACE - NATURAL	461,736	100.0%	84
	461,736	**100.0%**	
PROPOSED CONDITIONS - COMPOSITE CN TABLE			
Composite CN =	**96.1**		
	Total Imp. Co. (sf)	Percent (%)	CN
PAVED SURFACES	217,122	47%	100
BUILDINGS	132,000	29%	100
PONDS	31,650	7%	84
OPEN SPACE	80,964	18%	84
	461,736	**100%**	

DRAINAGE CALCULATIONS & HYDROLOGIC SUMMARY									
PRE vs. POST	AREA (AC.)	I.C. %	SCS, CN	Tc	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)	NOTES
EXISTING	10.6	0.0%	84	17.40	23.31	39.78	54.07	80.62	NATURAL FLOW STATE
DEVELOPED	10.6	76%	96	6.20	39.80	64.68	83.09	117.53	DEVELOPED FLOW, NO DETENTION
			DEV. VS EXISTING =		16.49	24.90	29.02	36.91	AT POINT OF ANALYSIS
ROUTED	AREA (AC.)	I.C. %	SCS, CN	Tc	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)	NOTES
EXISTING	10.6	0.0%	84	17.40	23.31	39.78	54.07	80.62	NATURAL FLOW STATE
POND OUTLET	10.6	76%	96	6.20	20.62	36.72	46.83	73.97	DEVELOPED FLOW, ROUTED THROUGH POND
			DEV. VS EXISTING =		-2.69	-3.06	-7.24	-6.65	AT POINT OF ANALYSIS

The surface soils, according to the USDA/Natural Resources Conservation Service's Soil Survey for Williamson County, in the local area are mapped as belonging mainly of Georgetown Stony Clay Loam (GsB), with mior areas of Eckrant Extremely Stony Clay, 0 to 3% slopes (EeB) and Eckrant-rock out crop; all within soil hydrologic group 'D' which is consistent with a visual inspection of the site and potholes.

The proposed impervious cover will be treated by a batch detention pond with a removal efficiency of 91%, based on the TCEQ Technical Guidance Manual RG-348 and "TSS Removal Calculations 04-20-2009" worksheet. The facility has been designed, and will be constructed, operated, and maintained to ensure 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. The included plan sheets provide the full set of inputs and resulting calculations per the TCEQ requirements.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: District 29
Date Prepared: 10/7/2022

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:

$L_{M\ TOTAL\ PROJECT}$ = Req. 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 * =	**10.60**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**8.01**	acres
Total post-development impervious cover fraction * =	**0.76**	
P =	**32**	inches
TCEQ 80% $L_{M\ TOTAL\ PROJECT}$ =	**6,976**	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 =	**10.60**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**8.01**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.76**	
$L_{M\ THIS\ BASIN}$ =	**6,976**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP #1 = **Batch Detention**
Removal efficiency = **91** percent

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

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

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 =	**10.60**	acres
A_I =	**8.01**	acres
A_P =	**2.59**	acres
Removal Efficiency =	**91.00**	**---> BATCH DETENTION**
L_R =	**8,116**	lbs -

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

Desired $L_{M\ THIS\ BASIN}$ = **6,976** 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 =	**0.57**	
On-site Water Quality Volume =	**30,121**	cubic feet

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

Off-site area draining to BMP =	2.90	acres		
Off-site Impervious cover draining to BMP =	0.18	acres		
Impervious fraction of off-site area =	**0.06**			
Off-site Runoff Coefficient =	**0.09**			
Off-site Water Quality Volume =	**1314**	cubic feet		
Storage for Sediment =	**6,287**			
Total Capture Volume (required water quality volume(s) x 1.20) =	**37,722**	cubic feet	@3' =	12,574

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

ATTACHMENT F – SUITABILITY LETTER FROM AUTHORIZED AGENT

See enclosed letter from Williamson County.

ATTACHMENT G – ALTERNATIVE SECONDARY CONTAINMENT METHODS

No Above Ground Storage Tanks are proposed with this project.

ATTACHMENT H – AST CONTAINMENT STRUCTURE DRAWINGS

No Above Ground Storage Tanks are proposed with this project.

ATTACHMENT I - 20% OR LESS IMPERVIOUS COVER WAIVER

A 20% or less impervious cover waiver is NOT being request as part of this plan.

ATTACHMENT J - BMPS FOR UPGRADIENT STORMWATER

No upgradient stormwater BMPs are included as part of this plan. Although upgradient stormwater does exist, it is routed through the site, and accounted for in the water quality calculations.

ATTACHMENT K - BMPS FOR ON-SITE STORMWATER

1. **Stabilization Practices**

    A. Permanent seeding and planting of all unpaved areas using a manual broadcasting or hydro mulching grass seeding technique. Permanent vegetation controls erosion by physically protecting a bare soil surface from raindrop impact, flowing water and wind. Vegetation binds soil particles together with a dense root system and reduces the velocity of runoff.

    B. Mulching exposed areas. Surface mulch is the most effective, practical means of controlling erosion on disturbed areas before establishing vegetation. Mulch protects the soil surface, reduces runoff velocity, increases infiltration, slows soil moisture loss, helps prevent soil crusting and sealing, moderates soil temperatures, and improves the microclimate for seed germination.

    C. Sodding/Landscape Planting Trees, Shrubs, vines, and ground covers can provide superior, low-maintenance, long-term erosion protection. Woody plants and ground covers are particularly adapted for use on steep or rocky slopes where maintenance is difficult, in shaded areas, for wildlife habitat improvements, as windbreaks or screens.

2. **Structural Practices**

    A. Engineered batch detention pond

    B.

ATTACHMENT L - BMPS FOR SURFACE STREAMS

There were no "sensitive" features found on the proposed site and no surface streams flowing through the proposed development. Flow leaving the site will be returned to the existing flow patterns.

ATTACHMENT M - CONSTRUCTION PLANS

The batch detention pond has been designed in accordance with RG—348. See construction plans for further details, drainage patterns and layouts.

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 attached with this report. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. See plans by McIntyre & McIntyre, Inc. for technical calculations and construction details.

ATTACHMENT N - INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

The following inspection and maintenance practices will be used to maintain permanent erosion and sediment controls.

BATCH DETENTION

A. **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. The owner will provide routine inspection and maintenance for this BMP, generally following these practices:

B. Staff will inspect and remove debris by hand on a monthly basis or as necessary after a rain event.
   a. Staff will remove any large debris by hand as well as remove any sediment build up;
   b. Staff will inspect for erosion damage and any loss of vegetation;
   c. If any repairs are identified, the engineer or appropriate party will be notified for inspection and an action plan. TCEQ will be notified when repairs are needed and what action is being taken.
   d. Complete inspection log and note any actions taken.

C. **Maintenance.** 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:

D. **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.

E. **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.

F. **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.

G. 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.).

H. **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.

I. **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.

J. **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.

MODIFICATIONS / REPAIRS & RETROFIT PLAN

The required inspections should also identify if any revisions to the permanent BMPs that are warranted due to unexpected conditions. This is meant to be a dynamic working guide that is to be kept current and amended whenever necessary:

(a) There is a change in design, construction, operation, or maintenance at the site that has or could have a significant effect on the discharge of pollutants to the Waters of the United States that has not been previously addressed.

(b) Inspections or investigations by site staff, or by local, state or federal officials, determine that the discharges from the permanent BMPs are ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site.

(c) Based on the results of an inspection, it must be modified as necessary to include additional or modified BMPs designed to correct problems identified.

OWNER AKNOWLEDGEMENT OF INSPECTION, MAINTENANCE, REPAIR AND RETROFIT PLAN

SIGNATURE OF RESPONSIBLE PARTY	TITLE	DATE
	OWNER	10/21/22

INSPECTION REPORT

General Information	
Date of inspection:	
Type of Inspection: ❑ Routine ❑ Pre Storm Event ❑ During a Storm Event ❑ Post Storm	
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:	
Has there been a rain event since last inspection? ❑Yes ❑No **Has there been a rain event in the last 24 hours?** ❑Yes ❑No Amount of Precipitation (in):_____ (Amount represents all within the last 24 hours)	
Have any stormwater discharges occurred since the last inspection? ❑Yes ❑No **If yes, describe:**	
Are there any discharges at the time of inspection? ❑Yes ❑No **If yes, describe:**	

BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes	Corrective Action Completion Date
	❑Yes ❑No	❑Yes ❑No		
	❑Yes ❑No	❑Yes ❑No		
	❑Yes ❑No	❑Yes ❑No		
	❑Yes ❑No	❑Yes ❑No		
	❑Yes ❑No	❑Yes ❑No		
	❑Yes ❑No	❑Yes ❑No		

Additional Notes/Comments:

ATTACHMENT O - PILOT-SCALE FIELD TESTING PLAN

The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site; NO pilot-scale field testing is requested as part of this plan.

ATTACHMENT P - MEASURES FOR MINIMIZING SURFACE STREAM CONTAMINATION

The proposed water quality facility will accept flows from the entire improved areas that exist on site today. The proposed impervious cover will be treated by a batch detention pond designed to fulfill the water quality requirements of the Edward Aquifer Protection plan. The TCEQ Technical Guidance Manual RG-348 and "TSS Removal Calculations 04-20-2009" worksheet was utilized to design the water quality feature. These practices and measures have been designed, and will be constructed, operated, and maintained to ensure 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.

Department of Infrastructure
County Engineer's Office
3151 SE Inner Loop, Ste B
Georgetown, TX 78626
T: 512.943.3330
F: 512.943.3335

J. Terron Evertson, PE, DR, CFM

WILLIAMSON COUNTY
1848

September 22, 2022

RE: Legal: AW0510 AW0510 - Plaster, T.p. Sur., ACRES 10.
295 CR 214, LIBERTY HILL, TX 78642
Williamson, County Texas.

The above referenced property is located within the Edwards Aquifer Contributing Zone.

Based on the surrounding subdivisions and the soil survey for Williamson County and planning material received, this office is able to determine that the soil and site conditions of this lot is suitable to allow the use of on-site sewage facilities (OSSF). It should be noted that this office has not actually studied the physical properties of this site. Site specific conditions such as OSSF setbacks, recharge features, drainage, soil conditions, etc…, will need taken into account in planning any OSSF.

These OSSF's will have to be designed by a professional engineer or a registered sanitarian. An Edwards Aquifer protection plan shall be approved by the appropriate TCEQ regional office before an authorization to construct an OSSF may be issued. The owner will be required to inform each prospective buyer, lessee or renter of the following in writing:

- That an authorization to construct shall be required before an OSSF can be constructed in the subdivision;
- That a notice of approval shall be required for the operation of an OSSF;
- Whether an application for a water pollution abatement plan as defined in Chapter 213 has been made, whether it has been approved and if any restrictions or conditions have been placed on the approval.

If this office can be of further assistance, please do not hesitate to call.

Sincerely,

D. E. McPeters

Douglas McPeters, OS 8626
Williamson County Engineer's Office

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.

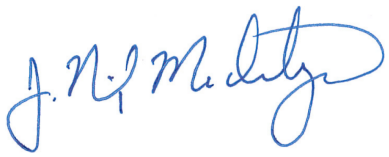
Signature

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: Nick McIntyre

Date: 10/22/2022

Signature of Customer/Agent:



Regulated Entity Name: Silver Fox Partners

Project Information

Potential Sources of Contamination

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   ☐ The following fuels and/or hazardous substances will be stored on the site: _____

   These fuels and/or hazardous substances will be stored in:

   ☐ Aboveground storage tanks with a cumulative storage capacity of less than 250 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

☐ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An Aboveground Storage Tank Facility Plan application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

☒ Fuels and hazardous substances will not be stored on the site.

2. ☒ **Attachment A - Spill Response Actions**. A site specific description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is attached.

3. ☒ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. ☒ **Attachment B - Potential Sources of Contamination**. A description of any activities or processes which may be a potential source of contamination affecting surface water quality is attached.

Sequence of Construction

5. ☒ **Attachment C - Sequence of Major Activities**. A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is attached.

   ☒ For each activity described, an estimate (in acres) of the total area of the site to be disturbed by each activity is given.

   ☒ For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

6. ☒ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Unnamed Tributary to South Fork San Gabriel River

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.

ATTACHMENTS FOR TEMPORARY STORMWATER SECTION (TCEQ-0602)

ATTACHMENT A - SPILL RESPONSE ACTIONS

1. Report to TCEQ within 24 hours any noncompliance with this WPAP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event. The following events require 24 hour reporting: a) any unanticipated bypass which exceeds any effluent limitation in the permit, b) any upset which exceeds any effluent limitation in the permit, and c) a violation of a maximum daily discharge limitation for any of the pollutants listed by the TPDES General Permit TXR150000 are to be reported within 24 hours. The written submission must contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.
2. Spills or Releases of Hazardous Substances or Oil in excess of reportable quantities (as established under 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302) must be reported immediately, and in no case any longer than 24 hours subsequent from the occurrence of the spill or release. **Contact Info Track at 1-888-429-6281 (1-888-HAZMAT 1) to determine whether the spill is reportable.** Reports shall be made to the US EPA National Response Center (1-800-424-8802). The permitee must also report any spills or releases to the Environmental Emergency Response at TCEQ.

ATTACHMENT B - POTENTIAL SOURCES OF CONTAMINATION

Potential pollutants other than sediment include the following materials and substances that could be expected to be present on-site during construction:

- Heavy Metals – from concrete additives, concrete washout, material delivery.
- pH (Acids and Bases) – from concrete washout, painting and cleaning, drilling, material delivery, storage and use, hazardous waste spills, and sanitary/septic waste.
- Paints and Solvents – from concrete washout and waste, painting, concrete polishing, cleaning products, material delivery and use, hazardous waste spills, and sanitary/septic waste
- Trash, Debris and Solids – from clearing and grading, paving, concrete wash waste, construction painting and cleaning, demolition, drilling and blasting, material delivery storage and use, landscaping, and general construction
- Petroleum Based Products – from material delivery storage and use, hazardous waste spills, vehicle and equipment use on site, and vehicle and equipment fueling and maintenance.
- Pesticides/Herbicides – from material delivery, storage and use, hazardous waste spills, storage, service and maintenance.
- Fertilizers/Nutrients – from painting, cleaning products, dewatering, material delivery and storage, spills during landscaping operation, sanitary/septic waste.

Potential sources of post construction stormwater runoff include:

- Sediment – coarse and fine from vehicle and equipment use on site.
- Heavy Metals – dissolved and particulate from vehicle washing activities
- Petroleum Based Products – from hazardous material spills, vehicle and equipment use on site.

ATTACHMENT C - SEQUENCE OF MAJOR ACTIVITIES

1. Day 1: Pre-construction meeting shall be held by the project manager and the operator's engineer prior to land disturbing activities.
2. Day 2: Install perimeter sediment fences in the locations shown. ~ <1.0 acres of disturbance.
3. Day 3: Commence construction of the batch detention and detention pond to be used as a temporary sedimentation basin and associated facilities. ~ 0.4 acres of disturbance; Temp. Control = Silt Fence.
4. Day 5: Once pond excavation is complete, commence with site grading ~ 8.5 acres; Temp. Control = Silt Fence and Temp Sed Basin.
5. Day 3-45: Disturbed areas of the site where construction activity has ceased for more than 14 days shall be temporarily seeded and watered.
6. Day 46: Finish grading and seed open space. ~ 8.5 acres of disturbance; Temp Control = Silt Fence and Temp Sed Basin.
7. Day 47: Clean out temp sedimentation basin and establish pond for final use as a batch detention and detention pond.
8. Day 48: Continue to water seeded areas to promote establishment of grasses.
9. Day 80: Remove sediment fencing only after all pond work is complete and exposed grassy swales are established and stabilized; 75% cover on all pervious surfaces.
10. Day 90: File Notice of Termination (NOT) with TCEQ / Project is Complete.

ATTACHMENT D - TEMPORARY BEST MANAGEMENT PRACTICES AND MEASURES

- Temporary seeding and planting of all unpaved areas. Temporary seeding is used to protect earthen sediment control practices and to stabilize denuded areas that will not be brought to final grade for several weeks or months. Temporary seeding can provide a nurse crop for permanent vegetation, provide residue for soil protection and seedbed preparation, and help prevent dust production during construction.
- Mulching exposed areas. Surface mulch is the most effective, practical means of controlling erosion on disturbed areas before establishing vegetation. Mulch protects the soil surface, reduces runoff velocity, increases infiltration, slows soil moisture loss, helps prevent soil crusting and sealing, moderates soil temperatures, and improves the microclimate for seed germination.
- Soil Roughening by normal tilling, disking, harrowing, or use of a cultipacker-seeder. Roughening a sloping bare soil surface with horizontal depressions helps control erosion by aiding the establishment of vegetable cover with seed, reducing runoff velocity, and increasing infiltration. The depressions also trap sediment on the face of the slope.
- Dust Control (frequent watering to minimize wind erosion during construction). To minimize dust on construction sites, it is important to schedule construction activities so the least amount of soil is disturbed at any one time.

ATTACHMENT E - REQUEST TO TEMPORARILY SEAL A FEATURE, IF SEALING A FEATURE

There are no "sensitive" features on-site, and a request to seal a feature(s) is NOT part of this WPAP.

ATTACHMENT F - STRUCTURAL PRACTICES

- Perimeter protection using reinforced silt fencing. A silt fence is a permeable barrier erected on small disturbed areas to capture sediment form sheet flow. It is made of a filter fabric buried at the bottom, the fabric restricts flow rate, forming a sedimentation pool at the approach to the inlet or downstream conveyance.
- Stabilized construction entrance/exit points. During wet weather, unstabilized staging/laydown areas become muddy and are virtually unusable. These areas generate sediment and cause work disruption. Proper grading and stabilization of construction routes often saves money for the Contractor by improving the overall efficiency of the construction operation while reducing potential erosion problems.
- Temporary sedimentation basin. Although not required because there are no areas greater than 10 acres that will be disturbed at one time, the permanent detention pond designed for the site will be utilized as a temporary sedimentation basin during construction. The purpose of a sediment basin is to intercept sediment-laden runoff and trap the sediment in order to protect drainage ways, properties and rights of way below the sediment basin from sedimentation.

ATTACHMENT G - DRAINAGE AREA MAP

See attached Drainage Plan sheet.

ATTACHMENT H - TEMPORARY SEDIMENT POND PLANS AND CALCULATIONS

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. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. See plans by McIntyre & McIntyre, Inc. for temporary sediment controls and details.

ATTACHMENT I - INSPECTION AND MAINTENANCE FOR BMPS

The following inspection and maintenance practices will be used to maintain erosion and sediment controls and stabilization measures:

1. Inspection of all erosion controls and other SWPPP requirements shall be performed during permit coverage using a copy of the form provided in the Construction Forms Package (included with this document), and inspections shall be performed:

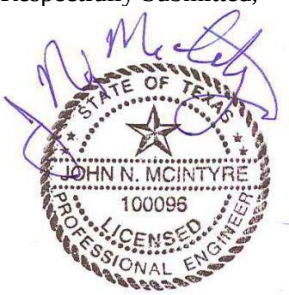
   (a) at least weekly for a minimum of four inspections per month; and within 24 hr of any rainfall event, and
   (b) as often as is necessary to ensure that appropriate erosion and sediment controls have been properly constructed and maintained and determine if additional or alternative control measures are required.

2. All measures will be maintained in good working order; if repairs or other measures are found to be necessary, they will be completed within 24 hours of report.
3. Built up sediment will be removed from silt fence before it has reached 6 inches in height.
4. Silt fences will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.
5. Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
6. An Inspection Report will be completed after each inspection.
7. The Contractor's Superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out the Inspection Report and Certification Forms.
8. Disturbed areas and materials storage areas will be inspected for evidence of or potential for pollutants entering storm water systems.

ATTACHMENT J - SCHEDULE OF INTERIM AND PERMANENT SOIL STABILIZATION PRACTICES

1. Day 1: Pre-construction meeting shall be held by the project manager and the operator's engineer prior to land disturbing activities.
2. Day 2: Install perimeter sediment fences in the locations shown. ~ <1.0 acres of disturbance.
3. Day 3: Commence construction of the batch detention and detention pond to be used as a temporary sedimentation basin and associated facilities. ~ 0.4 acres of disturbance; Temp. Control = Silt Fence.
4. Day 5: Once pond excavation is complete, commence with site grading ~ 8.5 acres; Temp. Control = Silt Fence and Temp Sed Basin.
5. Day 3-45: Disturbed areas of the site where construction activity has ceased for more than 14 days shall be temporarily seeded and watered.
6. Day 46: Finish grading and seed open space. ~ 8.5 acres of disturbance; Temp Control = Silt Fence and Temp Sed Basin.
7. Day 47: Clean out temp sedimentation basin and establish pond for final use as a batch detention and detention pond.
8. Day 48: Continue to water seeded areas to promote establishment of grasses.
9. Day 80: Remove sediment fencing only after all pond work is complete and exposed grassy swales are established and stabilized; 75% cover on all pervious surfaces.
10. Day 90: File Notice of Termination (NOT) with TCEQ / Project is Complete.

Respectfully Submitted,



John N McIntyre, P.E. 100096
McIntyre & McIntyre, Inc., TXBPE Firm # F-4730

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

I MIKE PARSONS,
Print Name

OWNER,
Title - Owner/President/Other

of SILVER FOX PARTNERS,
Corporation/Partnership/Entity Name

have authorized NICK MCINTYRE
Print Name of Agent/Engineer

of MCINTYRE & MCINTYRE, 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:

Mike Parsons
Applicant's Signature

10/21/2022
Date

THE STATE OF TEXAS §

County of WILLIAMSON §

JHANA LOPEZ
NOTARY PUBLIC, STATE OF TEXAS
Notary ID #13372693-0
Expires April 26, 2026

BEFORE ME, the undersigned authority, on this day personally appeared MIKE PARSONS 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 21 day of October, 2022

Jhana Lopez
NOTARY PUBLIC

Jhana Lopez
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: April 26, 2026

Application Fee Form

Texas Commission on Environmental Quality
Name of Proposed Regulated Entity: Silver Fox Partners
Regulated Entity Location: 295 CR214, Liberty Hill, TX
Name of Customer: Silver Fox Partners
Contact Person: Mike Parsons Phone: 512-634-7140
Customer Reference Number (if issued):CN _____
Regulated Entity Reference Number (if issued):RN _____

Austin Regional Office (3373)

☐ Hays ☐ Travis ☒ Williamson

San Antonio Regional Office (3362)

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

Site Location (Check All That Apply):

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

Type of Plan	***Size***	***Fee Due***
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	10.6 Acres	$ 6,500
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: J. Mitchell Mathis Date: 10/22/2022

Application Fee Schedule

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

Water Pollution Abatement Plans and Modifications

Contributing Zone Plans and Modifications

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

Organized Sewage Collection Systems and Modifications

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

Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

Exception Requests

Project	*Fee*
Exception Request	$500

Extension of Time Requests

Project	*Fee*
Extension of Time Request	$150

TCEQ Core Data Form

TCEQ Use Only

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

SECTION I: General Information

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

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

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

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

Silver Fox Partners, LLC

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
	32073943204		

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:

3013 Constitution SQ

City	State	ZIP	ZIP + 4
Lago Vista	TX	78645	7224

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

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(512) 634-7140		( ) -

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.*)

Silver Fox Partners

23. Street Address of the Regulated Entity: *(No PO Boxes)*	295 CR214							
	City	Liberty Hill	**State**	TX	**ZIP**	78642	**ZIP + 4**	
24. County	Williamson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	295 CR214, Liberty Hill, TX 78642				
26. Nearest City			**State**	**Nearest ZIP Code**	
Liberty Hill			TX	78642	
27. Latitude (N) In Decimal:		**28. Longitude (W) In Decimal:**			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4225		493110	

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

Office - Warehouse

34. Mailing Address:	**1903 Stonewreath Drive**							
	City	**Round Rock**	**State**	**TX**	**ZIP**	**78681**	**ZIP + 4**	

35. E-Mail Address:		
36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(512) 484-7469		**( ) -**

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

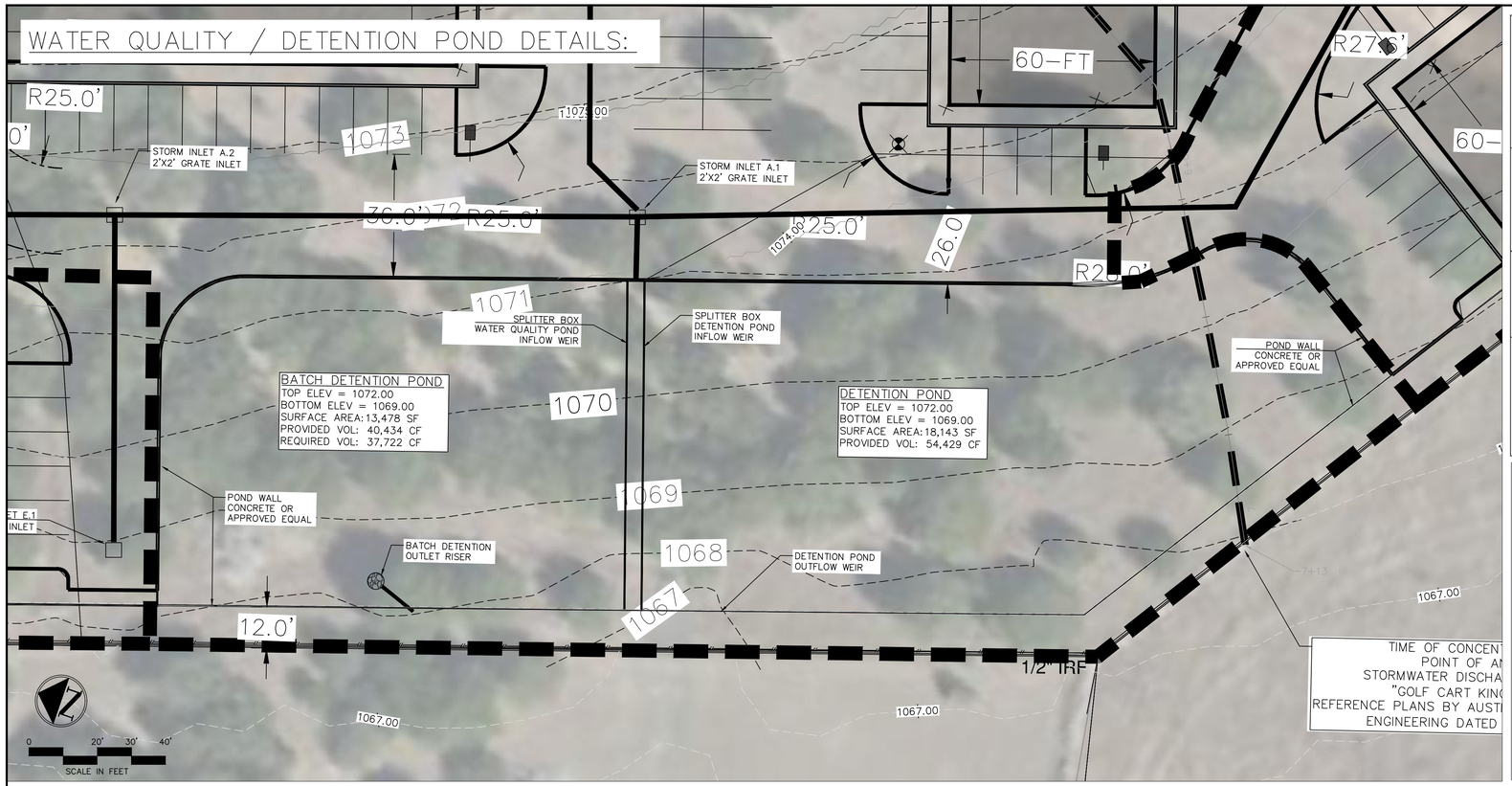
40. Name:	Nick McIntyre	**41. Title:**	Engineer

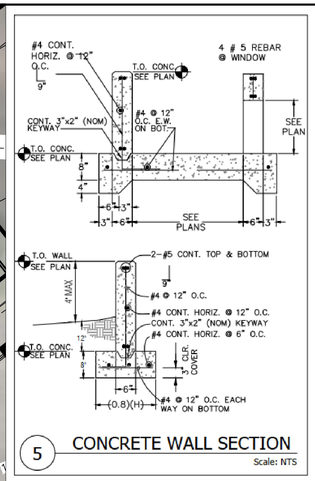
42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(512) 484-7469		( ) -	nick@mmirealestate.com

SECTION V: Authorized Signature

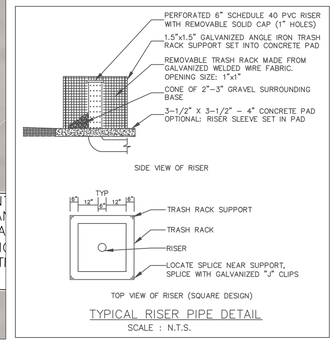
46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Silver Fox Partners	**Job Title:**	Owner
Name *(In Print)*:	Mike Parsons	**Phone:**	(512) 634- 7140
Signature:	Mike Parsons	**Date:**	10/20/2022





5 CONCRETE WALL SECTION
Scale: NTS



TYPICAL RISER PIPE DETAIL
SCALE : N.T.S.

TCEQ-0592 (Rev. July 15, 2015)

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

Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer

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

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

Austin Regional Office 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.

Page 2 of 2

Batch Detention Pond Specification Submittal

Preface – The following specifications describe the general function and components of a typical Texas Commission on Environmental Quality (TCEQ) approved batch detention pond. The system operates as an "off-grid" electronically controlled solar powered storm water management unit. This batch detention system uses a water level sensor, solar power panel, logic controller w/ microprocessor, and a plug valve with actuator to meet batch detention standards as set by the TCEQ.

Certification – All of the components described below meet TCEQ's batch detention specifications for a 91% Total Suspended Solid removal rate. See attached logic flow chart for overview of system cycles.

Components:

- Valve – 4" or 6", cast iron, actuated by an electric motor, valve placed in concrete vault when installed below ground, valve placed on concrete pad due to weight
- Actuator – low voltage motor mounted on top of valve, bolted in place to concrete vault ceiling
- Extended bonnet - Cold rolled steel stem extension that connects valve to actuator when valve is used in subgrade applications, stainless steel flanges
- Main board – 24-volt panel that controls all aspects of batch control system
- Batteries – two 12-volt 35 amp/hr. sealed lead acid (SLA) connected in series
- Solar Panel – 24-volt 30-watt. One charge controller regulates solar panel power for batch control system.
- Sensor 1 – float switch – mounted on trash rack that indicates when water present in pond and when pond is empty
- Sensor 2 – position sensor in actuator – determines the orientation of the valve to control positions for start and stop

Controller Programming – All functions of the system are factory programmed which allows the control box, valve, and actuator to received and send commands on their own based on environmental conditions without any human interaction. Manual mode to override switch to open and close valve by flip of a switch and to test all components during inspections. Reset button to reset controller.

Alerts - The main board will illuminate an exterior red light for the following conditions:

- Improper valve function
- Low battery
- Sensor 1 float switch inoperable

Manual Control - In case of electronic inoperability or failed actuator, an effortless clutchless handwheel on the actuator can be turned to open or close valve manually, easy-to-read position indicator displays open/closed valve position

Service Schedule:

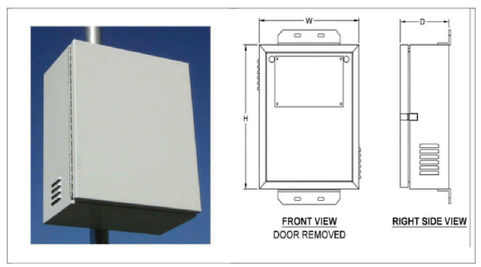
- Batteries – Sealed lead acid batteries can have a design life of anywhere from 3-5 years. Many factors affect service life of the battery, temperature being ones of those factors. Recommended replacement is every 3-5 years. Batteries can be tested annually to determine remaining life expectancy. Battery terminals to be inspected annually.
- Solar Panel(s) - Solar panels last 25-30 years. Annual inspection of the batch detention system should verify the surface of the solar panel is clean, facing south, is secure, and has no debris/trees blocking panel from sun.

Quality Installation - Rainwater Specialists, LLC agrees to perform in a good and workmanlike manner. All work detailed in the detailed scope of work sheet shall guarantee the installation of all products and material according to manufacturer's written instructions and construction industry standards.

RAINWATER SPECIALISTS
RIGHT AS RAIN

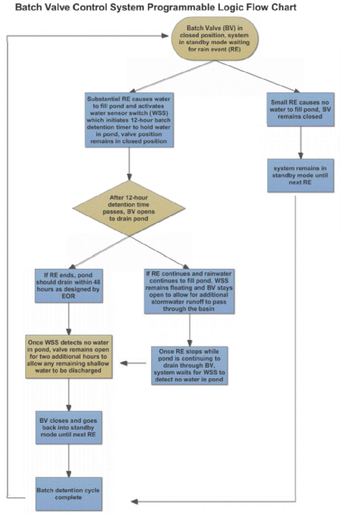
For additional information please contact
Rainwater Specialists
512-677-7246
www.txrws.com

Ground Mount Controller and Battery Enclosure



- Standard boxes are fabricated from .125" thick 5052--H32 aluminum
- Heavy--duty stainless steel continuous
- Heavy--duty stainless steel continuous hinge
- Seams are continuously welded and then sanded smooth
- Adjustable tension stainless steel padlock hasp
- Removable component mounting plate
- Standard finish is a bright white polyester powder--coat inside and out
- Two 7/8" diameter wire holes
- Built to NEMA 3R specifications
- Filtered or screened ventilation louvers
- Hinged front door with PORON door gasket
- Supplied with u--bolts (when pole specified)

Batch Valve Control System Programmable Logic Flow Chart



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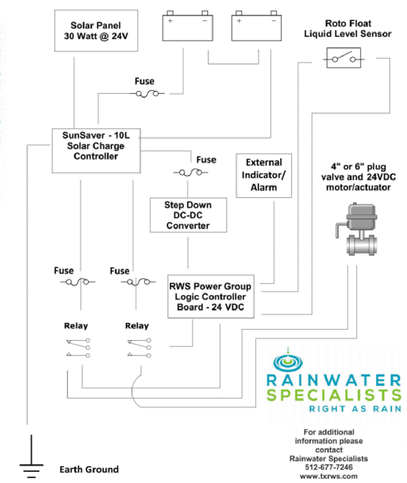
512-677-7246
www.txrws.com

Circuit Block Diagram



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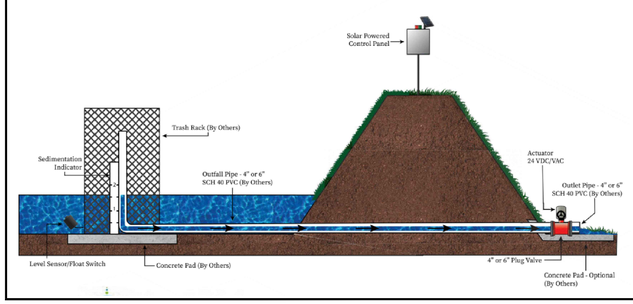
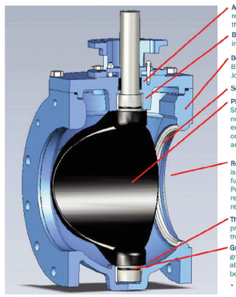
RWS Above-Ground Batch Valve



800 SERIES Plug Valve Sizes 2.5"-12"

Crispin/K-Flo Series 800 is a rugged and long-lasting Eccentric Plug valve compliant to AWWA C517. Commonly used in Wastewater and arduous installations such as mining--where the pumped media can contain fouling or abrasive solids--the Eccentric Plug Valve is a simple yet critical choice for the maintenance minded end-user. Crispin/K-Flo has taken this simple design and incorporated some of the most frequent user requested upgrades at no additional cost. These include Round Ported Seats through 12", Top and Bottom Grit Seals, Adjustable Packing, and Stainless Steel Fasteners standard. Available in both Flanged and Mechanical Joint End configurations, the Series 800 from Crispin/K-Flo is ready to take on your most difficult application needs.



Adjustable Packing–Allows for maintenance and replacement of the packing without the removal of the actuator from the valve.

Bearings–Stainless Steel T316, Sintered for increased lubricity and hardness

Body–ASTM A126 Class B Cast Iron Standard. ANSI B16.1 Class 125 Flanged or AWWA C111 Mechanical Joint ends are available. Ductile Iron Option available.

Seat–Welded 99% nickel seat.

Plug–ASTM A-536-Grade 65-45-12 Ductile Iron Standard. Fully molded with Buna-N rubber, leaving no plug surface, either front or back, that is exposed to the media. The Shaft and Plug are also one integral casting, adding strength by removing any potential shear points as in other valve designs.

Round Port–The port design (round on 2 1/2"-12") is a proven design standard that provides the lowest full open Head Loss values in the industry. Round Ports are far more pliable than traditional reduced rectangular ported valves, and can dramatically reduce turbidity.

Thrust Washers–Upper and Lower reduce wear and provide secondary protection from media along with the primary Top and Bottom Grit Seals.

Grit Seals–Provided Top and Bottom as standard, grit seals provide front/line sealing defense against abrasive media, thus extending both packing and bearing life.

* Class 250 valves are available. Please contact the factory.

MATERIALS

SIZES
2.5"-12" in AWWA Class 150, 250 (meets AWWA C517).
BODY
Cast Iron (ASTM A126, Class B)
Optional Ductile Iron (ATM A536, Grade 65-45-12)
SEAT
99% Welded Nickel
PORT
Round Port, Full Flow Thru 12"
PLUG
Ductile Iron (ASTM A536, Grade 65-45-12)
Fully Molded Buna N, EPDM Optional
BEARINGS
ASTM A276, Grade 316 Stainless Steel
BOLTS AND NUTS
304 Stainless Steel Standard

2 Crispin/K-Flo Valves, 600 Fowler Ave., Berwick PA 18603 T: 800-247-VALV W: www.kflovalves.com

BY | DESCRIPTION | DATE

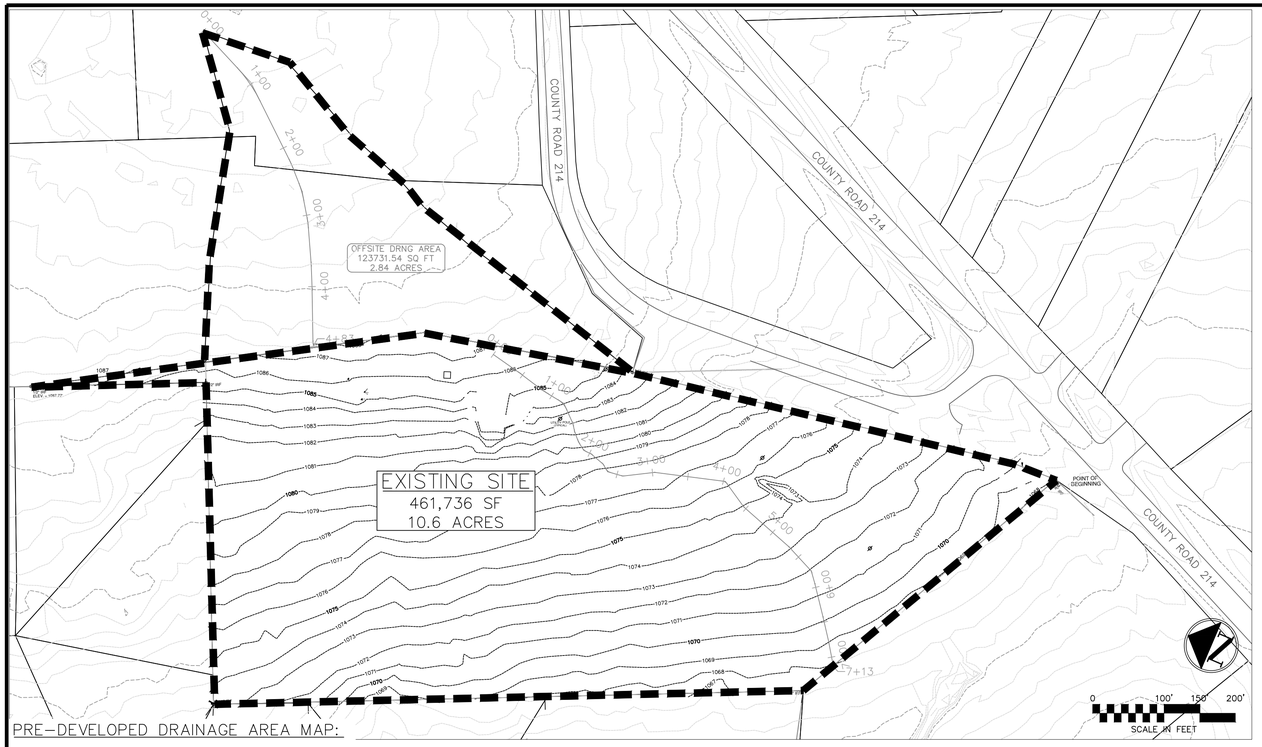
JOHN N. McINTYRE
100098
LICENSED PROFESSIONAL ENGINEER
OCTOBER 18, 2022

MMI McIntyre & McIntyre, Inc.
CONSULTING ENGINEERS & ARCHITECTS
9807 Brandywine Circle, Austin, TX 78750
(512)219-9200
TBPE FIRM#4730

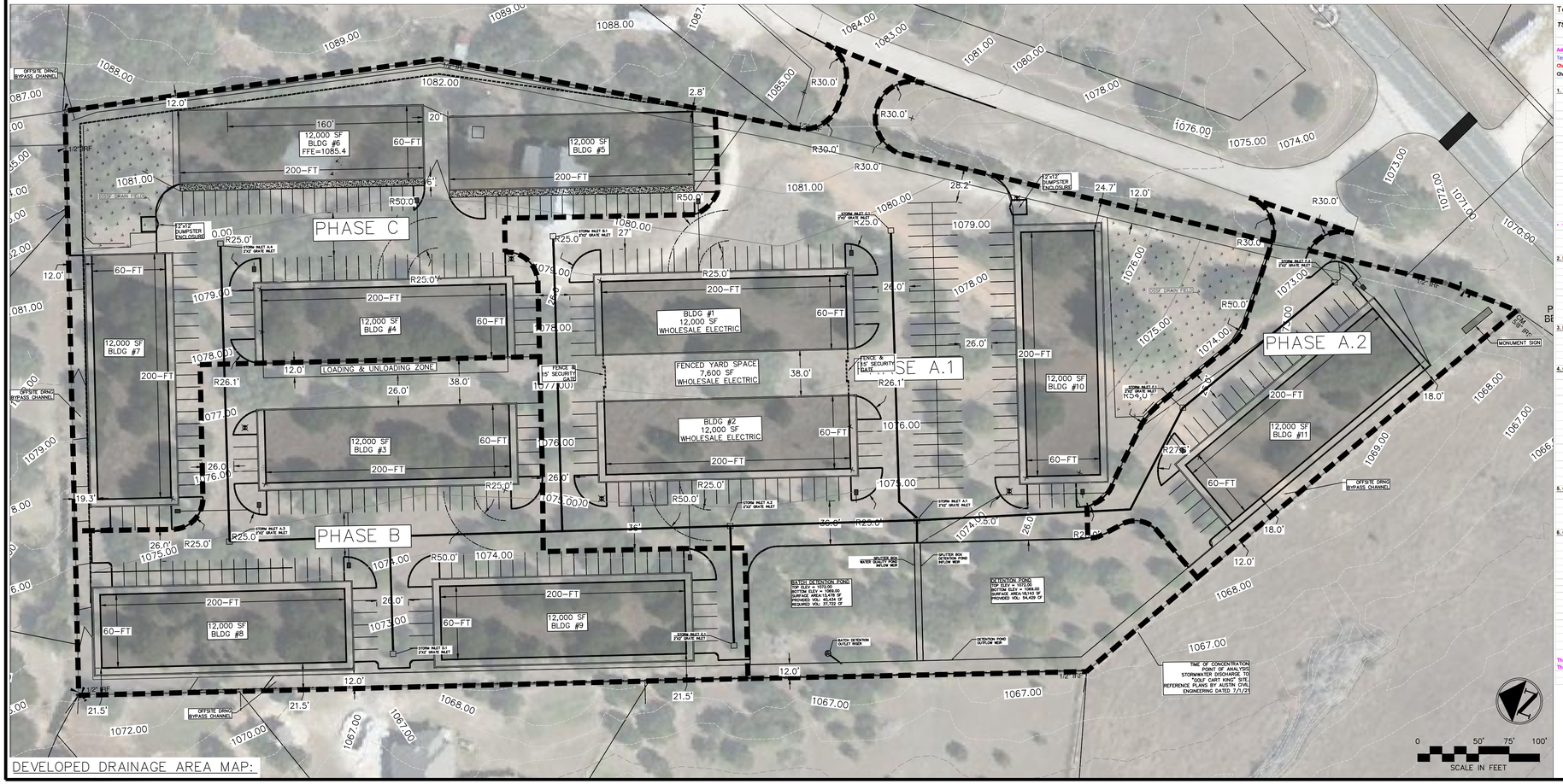
POND PLAN

DISTRICT 29
10.606 ACRES @ 295 CR214
LIBERTY HILL, WILLIAMSON COUNTY, TX 78642

JOB NO:
SHEET NO:
9



PRE-DEVELOPED DRAINAGE AREA MAP:



DEVELOPED DRAINAGE AREA MAP:

SITE GROUND COVER TABLE							
Site Area =	10.600	acres =	461,736	sq ft			
Zoning =	None - City of Liberty Hill ETJ						
	EXISTING CONDITIONS			PROPOSED CONDITIONS			
Impervious Cover	Existing (sq ft)	Impervious (%)	Demolition (sq ft)	Proposed (sq ft)	Total Imp. Cover (sq ft)	Impervious (%)	
PAVED SURFACES	0.0	0.0%	0	217,122	217,122	47.0%	
BUILDINGS	0.0	0.0%	0	132,000	132,000	28.6%	
Totals	**0.0**	**0.0%**	**0**	**349,122**	**349,122**	**75.6%**	
Pervious Cover	Existing (sq ft)	Pervious (%)	Demolition (sq ft)	Proposed (sq ft)	Total Pervious (sq ft)	Pervious (%)	
OPEN SPACE	461,736	100%	0	80,964	80,964	17.5%	
DETENTION & WQ POND	0	0%	0	31,650	31,650	6.9%	
Totals	**461,736**	**100%**		**112,614**	**112,614**	**24.4%**	

COMPOSITE CURVE NUMBER ANALYSIS

EXISTING CONDITIONS - COMPOSITE CN TABLE			
LOT SIZE, AC. =	10.600		
LOT SIZE, SF =	461,736		
Composite CN =	**84.0**		
	Total Imp. Co. (sf)	Percent (%)	CN
PAVED SURFACES	0	0.0%	98
OPEN SPACE - NATURAL	461,736	100.0%	84
	461,736	**100.0%**	

PROPOSED CONDITIONS - COMPOSITE CN TABLE			
Composite CN =	**96.1**		
	Total Imp. Co. (sf)	Percent (%)	CN
PAVED SURFACES	217,122	47%	100
BUILDINGS	132,000	29%	100
PONDS	31,650	7%	84
OPEN SPACE	80,964	18%	84
	461,736	**100%**	

DRAINAGE CALCULATIONS & HYDROLOGIC SUMMARY

PRE vs. POST	AREA (AC.)	I.C. %	SCS, CN	Tc	Q_T (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)	NOTES
EXISTING	10.6	0.0%	84	17.40	23.31	39.78	54.07	80.62	NATURAL FLOW STATE
DEVELOPED	10.6	76%	96	6.20	39.80	64.68	83.09	117.53	DEVELOPED FLOW, NO DETENTION
			DEV. VS. EXISTING =		16.49	24.90	29.02	36.91	AT POINT OF ANALYSIS

ROUTED	AREA (AC.)	I.C. %	SCS, CN	Tc	Q_T (cfs)	Q_{25} (cfs)	Q_{50} (cfs)	Q_{100} (cfs)	NOTES
EXISTING	10.6	0.0%	84	17.40	23.31	39.78	54.07	80.62	NATURAL FLOW STATE
POND OUTLET	10.6	76%	96	6.20	20.62	36.72	46.83	73.97	DEVELOPED FLOW, ROUTED THROUGH POND
			DEV. VS. EXISTING =		-2.69	-3.06	-7.24	-6.65	AT POINT OF ANALYSIS

POND SUMMARY ROUTING TABLE:

DESIGN RETURN EVENT	PREDEVELOPED PEAK FLOW (cfs)	DEVELOPED PEAK POND INFLOW (cfs)	ROUTED PEAK POND OUTFLOW (cfs)	POST VS. PRE FLOW RATES (cfs)	ROUTED MAX WATER ELEVATION (ft)	MAX VOLUME STORAGE (ac-ft)	STORAGE DEPTH (ft)	FREEBOARD (ft)
2	23.31	39.80	20.62	-2.69	1,068.39	0.286	0.39	2.61
10	39.78	64.68	36.72	-3.06	1,068.85	0.615	0.85	2.15
25	54.07	83.09	46.83	-7.24	1,069.18	0.861	1.18	1.82
100	80.62	117.53	73.97	-6.65	1,069.77	1.285	1.77	1.23

SITE PROPOSED FEATURES

- BOUNDARY LINE
- RIGHT OF WAY LINE
- EASEMENT LINE
- CONCRETE CURB AND GUTTER
- FENCE
- GUARD RAIL
- RETAINING WALL
- FIRE LANE STRIPING
- LOCATION OF BUILDING CONTROL POINT
- 25 — PROPOSED PARKING SPACE COUNTER
- DRAINAGE STRUCTURES
- SANITARY SEWER MANHOLE
- FIRE HYDRANT WITH GUARD POSTS
- UTILITY POLE
- STANDARD DUTY PAVEMENT
- HEAVY DUTY PAVEMENT
- CONCRETE PAVEMENT
- x TREE NO. XXX — TREE TO BE REMOVED

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: District 29
Date Prepared: 10/7/2022

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: $L_M = 27.2(N_A \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Req. TSS removal resulting from the proposed development = 80% of increased load
N_A = 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 * =	10.60	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	8.01	acres
Total post-development impervious cover fraction * =	0.76	
P =	32	inches
TCEQ 80% $L_{M\ TOTAL\ PROJECT}$ =	6,976	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 =	10.60	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	8.01	acres
Post-development impervious fraction within drainage basin/outfall area =	0.76	
$L_{M\ THIS\ BASIN}$ =	6,976	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP #1 = Batch Detention
Removal efficiency = 91 percent

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

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

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

A_C =	10.60	acres
A_I =	8.01	acres
A_P =	2.59	acres
Removal Efficiency =	91.00	⟹ BATCH DETENTION
L_R =	8,116	lbs.

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

Desired $L_{M\ THIS\ BASIN}$ = 6,976 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 =	0.57	
On-site Water Quality Volume =	30,121	cubic feet

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

Off-site area draining to BMP =	2.90	acres
Off-site Impervious cover draining to BMP =	0.16	acres
Impervious fraction of off-site area =	0.06	
Off-site Runoff Coefficient =	0.09	
Off-site Water Quality Volume =	1314	cubic feet
Storage for Sediment =	6,287	
Total Capture Volume (required water quality volume(s) x 1.20) =	37,722	cubic feet @3' = 12,574

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

BY	DESCRIPTION	DATE

JOHN N. McINTYRE 100096 LICENSED PROFESSIONAL ENGINEER
OCTOBER 18, 2022

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McIntyre & McIntyre, Inc.
CONSULTING ENGINEERS & ARCHITECTS
9807 Brandywine Circle, Austin, TX 78750
(512)219-9200
TBPE FIRM#4739

DRAINAGE PLAN

DISTRICT 29
10.606 ACRES @ 295 CR214
LIBERTY HILL, WILLIAMSON COUNTY, TX 78642

JOB NO:
SHEET NO: 7