Asphalt Inc.

# Water Pollution Abatement Plan (WPAP)

# Ronald Reagan Quarry - West 1725 CR 239 Williamson County, Texas

Submitted to: TCEQ Region 11, Austin



Boerne, Texas 830-249-8284

Date: April 2025 Project No. 10853-287 -NMS-

CURT GARRETT CAMPB Signature: Curt G. Campbell, PE - License No. 106851 TX PE Firm No. 4524 4/17/2025 Date:

## **Water Pollution Abatement Plan Checklist**

#### - Edwards Aquifer Application Cover Page (TCEQ-20705)

#### - General Information Form (TCEQ-0587)

Attachment A - Road Map Attachment B - USGS / Edwards Recharge Zone Map Attachment C - Project Description

#### - Geologic Assessment Form (TCEQ-0585)

Attachment A - Geologic Assessment Table (TCEQ-0585-Table) Comments to the Geologic Assessment Table Attachment B - Soil Profile and Narrative of Soil Units Attachment C - Stratigraphic Column Attachment D - Narrative of Site Specific Geology Site Geologic Map(s) Table or list for the position of features' latitude/longitude (if mapped using GPS)

#### - Water Pollution Abatement Plan Application Form (TCEQ-0584)

Attachment A - Factors Affecting Water Quality Attachment B - Volume and Character of Stormwater Attachment C - Suitability Letter from Authorized Agent (if OSSF is proposed) Attachment D - Exception to the Required Geologic Assessment (if requesting an exception) Site Plan

#### 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

#### Permanent Stormwater Section (TCEQ-0600)

Attachment A - 20% or Less Impervious Cover Waiver, if project is multi-family residential, a school, or a small business and 20% or less impervious cover is proposed for the site

Attachment B - BMPs for Upgradient Stormwater

Attachment C - BMPs for On-site Stormwater Attachment D - BMPs for Surface Streams Attachment E - Request to Seal Features (if sealing a feature) Attachment F - Construction Plans Attachment G - Inspection, Maintenance, Repair and Retrofit Plan Attachment H - Pilot-Scale Field Testing Plan, if BMPs not based on Complying with the Edwards Aquifer Rules: Technical Guidance for BMPs Attachment I -Measures for Minimizing Surface Stream Contamination

- 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 <u>30 TAC 213</u>.

#### **Administrative Review**

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

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

- 2. This Edwards Aquifer Application Cover Page form (certified by the applicant or agent) must be included in the application and brought to the administrative review meeting.
- 3. Administrative reviews are scheduled with program staff who will conduct the review. Applicants or their authorized agent should call the appropriate regional office, according to the county in which the project is located, to schedule a review. The average meeting time is one hour.
- 4. In the meeting, the application is examined for administrative completeness. Deficiencies will be noted by staff and emailed or faxed to the applicant and authorized agent at the end of the meeting, or shortly after. Administrative deficiencies will cause the application to be deemed incomplete and returned.

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

- 5. If an application is received by mail, courier service, or otherwise submitted without a review meeting, the administrative review will be conducted within 30 days. The applicant and agent will be contacted with the results of the administrative review. If the application is found to be administratively incomplete, it can be retrieved from the regional office or returned by regular mail. If returned by mail, the regional office may require arrangements for return shipping.
- 6. If the geologic assessment was completed before October 1, 2004 and the site contains "possibly sensitive" features, the assessment must be updated in accordance with the *Instructions to Geologists* (TCEQ-0585 Instructions).

#### **Technical Review**

- 1. When an application is deemed administratively complete, the technical review period begins. The regional office will distribute copies of the application to the identified affected city, county, and groundwater conservation district whose jurisdiction includes the subject site. These entities and the public have 30 days to provide comments on the application to the regional office. All comments received are reviewed by TCEQ.
- 2. A site assessment is usually conducted as part of the technical review, to evaluate the geologic assessment and observe existing site conditions. The site must be accessible to our staff. The site boundaries should be

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

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

#### **Mid-Review Modifications**

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

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

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

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

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

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

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

1. Regulated Entity N Quarry – West	d Reas	gan	2. Regulated Entity No.: 105532782						
3. Customer Name: Asphalt Inc.					4. Customer No.: 604722728				
5. Project Type: (Please circle/check one)	New	Modif	icatior	1	Exter	nsion	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-r	esiden	tia		8. Sit	e (acres):	94.435	
9. Application Fee:	\$8,000	10. P	ermai	nent I	BMP(s	<b>MP(s):</b> Earthen berms, Buffers, Extended Detention Pond			
11. SCS (Linear Ft.):	N/A	12. A	ST/US	ST (No	o. Tar	nks):	N/A		
13. County:	Williamson	14. W	aters	hed:		Berry Creek			

## **Application Distribution**

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

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

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

Ausun Kegion										
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 Liberty Hill Pflugerville Round Rock							

Austin Region

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.

Curt G. Campbell, P.E. – License No. 106851/TX Firm No. 4524

Curt Garrett Campbell, PE

Print Name of Customer/Authorized Agent

Signature of Customer/Authorized Agent

4/17/2025

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):	Payable to TCEQ (Y/N):							
Core Data Form Complete (Y/N):	Check: Signed (Y/N):							
Core Data Form Incomplete Nos.:	Less than 90 days old (Y/N):							

# **Article I. General Information Form**

**Texas Commission on Environmental Quality** 

For Regulated Activities on the Edwards Aquifer Recharge and Transition Zones and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B) Effective June 1, 1999

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

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

## Section 1.01 Signature

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

Print Name of Customer/Agent: Curt G. Campbell, PE



## Section 1.02 Project Information

- 1. Regulated Entity Name: Ronald Reagan Quarry West
- 2. County: Williamson
- 3. Stream Basin: Brazos River Basin, San Gabriel River Sub Basin
- 4. Groundwater Conservation District (If applicable): N/A
- 5. Edwards Aquifer Zone:

$\times$	Recharge Zone
	Transition Zone

6. Plan Type:

🖄 WPAP	AST
SCS	UST
Modification	Exception Request

7. Customer (Applicant):

Contact Person: <u>Thomas Playfair</u> Entity: <u>Asphalt Inc.</u> Mailing Address: <u>11675 Jollyville Road</u>

City, State: Austin, TX

Zip: <u>78759</u> FAX:

Telephone: <u>512-428-5778</u>

Email Address: <u>thomas@lspaving.com</u>

8. Agent/Representative (If any):

Contact Person: <u>Curt G. Campbell</u> Entity: <u>Westward Envrionmental, Inc.</u> Mailing Address: <u>PO Box 2205</u>

City, State: <u>Boerne, TX</u>

Zip: <u>78006</u>

Telephone: 830-249-8284

FAX: <u>830-249-0221</u>

Email Address: ccampbell@westwardenv.com

9. Project Location:

The project site is located inside the city limits of N/A.

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

- The project site is not located within any city's limits or ETJ.
- 10. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

- 11. Attachment A Road Map. A road map showing directions to and the location of the project site is attached. The project location and site boundaries are clearly shown on the map.
- 12. Attachment B USGS / Edwards Recharge Zone Map. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached. The map(s) clearly show:

Project site boundaries.

USGS Quadrangle Name(s).

Boundaries of the Recharge Zone (and Transition Zone, if applicable).

🛛 Drainage path from the project site to the boundary of the Recharge Zone.

<sup>&</sup>lt;u>From Georgetown, travel west on SH 195 for approximately 6 miles and turn right on CR</u> <u>239. Site is on the left approximately 1.5 miles east of the intersection of SH 195 and</u> <u>CR 239.</u>

- 13. The TCEQ must be able to inspect the project site or the application will be returned. Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment.
  - Survey staking will be completed by this date: <u>has been completed</u>.
- 14. Attachment C Project Description. Attached at the end of this form is a detailed narrative description of the proposed project. The project description is consistent throughout the application and contains, at a minimum, the following details:
  - Area of the site
  - $\ge$  Offsite areas
  - Impervious cover
  - Permanent BMP(s)
  - Proposed site use
  - Site history
  - Previous development
  - 🔀 Area(s) to be demolished
- 15. Existing project site conditions are noted below:
  - Existing commercial site
  - Existing industrial site
  - Existing residential site
  - Existing paved and/or unpaved roads
  - $\boxtimes$  Undeveloped (Cleared)
  - Undeveloped (Undisturbed/Uncleared)
    - Other:

## Section 1.03 Prohibited Activities

- 16. I am aware that the following activities are prohibited on the Recharge Zone and are not proposed for this project:
  - (1) Waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
  - (2) New feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
  - (3) Land disposal of Class I wastes, as defined in 30 TAC §335.1;
  - (4) The use of sewage holding tanks as parts of organized collection systems; and
  - (5) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).
  - (6) New municipal and industrial wastewater discharges into or adjacent to water in the state that would create additional pollutant loading.

- 17. I am aware that the following activities are prohibited on the Transition Zone and are not proposed for this project:
  - (1) Waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
  - (2) Land disposal of Class I wastes, as defined in 30 TAC §335.1; and
  - (3) New municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

## Section 1.04 Administrative Information

18. The fee for the plan(s) is based on:

- For a Water Pollution Abatement Plan or Modification, the total acreage of the site where regulated activities will occur.
- For an Organized Sewage Collection System Plan or Modification, the total linear footage of all collection system lines.
- For a UST Facility Plan or Modification or an AST Facility Plan or Modification, the total number of tanks or piping systems.
- A request for an exception to any substantive portion of the regulations related to the protection of water quality.
- A request for an extension to a previously approved plan.
- 19. Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:
  - TCEQ cashier via ePay

 Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

- 20. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
- 21. No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the Executive Director.



#### WATER POLLUTION ABATEMENT PLAN BOUNDARY METES AND BOUNDS DESCRIPTION

**BEING** a **94.435** acre tract or parcel of land situated in the J.A.F. Graves Survey Number 7, Abstract Number 244, Williamson County, Texas, and said tract being part of a called 365.991 acre tract of land described as Tract 1 and part of a called 53.720 acre tract of land described as Tract 2 described in a Warranty Deed to Asphalt Inc. as recorded in Document Number 2023097800, Official Public Records, Williamson County, Texas, and said tract being more particularly described by metes and bounds as follows:

**BEGINNING** at the southwest corner of said Tract 1 and the southeast corner of said Tract 2, said point being in the northwest line of Ronald W. Reagan Boulevard (also known as County Road 239);

**THENCE (S 70°44'55" W)** (parenthesis denotes record bearings and distances from Document Number 2023097800 hereafter) following the common line of said Tract 2 and said Ronald W. Reagan Boulevard for a distance of (**140.93 feet**) to a point for corner;

**THENCE (S 71°07'52" W)** continuing along the common line of said Tract 2 and said Ronald W. Reagan Boulevard for a distance of **457.51 feet** to a point for corner;

**THENCE** departing the common line of said Tract 2 and said Ronald W. Reagan Boulevard, over and across said Tract 2 the following two (2) courses and distances:

- 1) North 19°34'52" West for a distance of 603.17 feet to a point for corner;
- 2) South 71°09'44" West for a distance of 494.24 feet to a point for corner located in the southwest line of said Tract 2 and the northeast line of a called 26.000 acre tract described in a Warranty Deed with Vendor's Lien to Cobra Stone, Inc as recorded in Document Number 2006072163, Official Public Records, Williamson County, Texas;

**THENCE (N 18°29'39" W)** following the common line of the said 26.000 acre tract and said Tract 2 for a distance of **1,538.99 feet** to the northeast corner of said 26.000 acre tract and the northwest corner of said Tract 2, said point being in the south east line of a called 185.77 acre tract of land described in a Deed to Cobra Stone, Inc as recorded in Document Number 2013089111, Official Public Records, Williamson County, Texas;

**THENCE** following the common line of said Tract 2 and said 185.77 acre tract the following five (5) courses and distances:

- 1) North 77°17'44" East for a distance of 16.91 feet to a point for corner;
- 2) North 71°11'51" East for a distance of 230.05 feet to a point for corner;
- 3) North 70°30'09" East for a distance of 60.43 feet to a point for corner;
- 4) North 73°34'35" East for a distance of 48.42 feet to a point for corner;

Dillo Development Services, LLC info@dillodev.com TBPELS Firm No. F-22833 and 10194711 (830) 282-0333 5) North 71°57'44" East for a distance of 263.59 feet to the southeast corner of said 185.77 acre tract and a west-southwest corner of said Tract 1;

**THENCE (North 18°58'58" W)** departing the northwest line of said Tract 2 and following the common line of said Tract 1 and said 185.77 acre tract for a distance of **430.94 feet** to a point for corner;

**THENCE** departing the common line of said Tract 1 and said 185.77 acre tract, over and across said Tract 1 the following eleven (11) courses and distances:

- 1) South 74°01'30" East for a distance of 460.32 feet to a point for corner;
- 2) South 85°20'55" East for a distance of 331.99 feet to a point for corner;
- 3) South 60°19'19" East for a distance of 415.51 feet to a point for corner;
- 4) South 31°41'27" East for a distance of 446.22 feet to a point for corner;
- 5) South 34°29'49" East for a distance of 279.09 feet to a point for corner;
- 6) South 61°24'21" East for a distance of 119.35 feet to a point for corner;
- 7) North 84°29'37" East for a distance of 256.33 feet to a point for corner;
- 8) South 60°23'41" East for a distance of 254.48 feet to a point for corner;
- 9) South 46°31'37" East for a distance of 225.18 feet to a point for corner;
- 10) South 47°49'19" East for a distance of 401.54 feet to a point for corner;
- 11) **South 28°15'51" East** for a distance of **261.98 feet** to a point for corner in the common line of said Tract 1 and said Ronald W. Reagan Boulevard;

**THENCE** following the common line of said Tract 1 and said Ronald W. Reagan Blvd. the following three (3) courses and distances:

- 1) (South 70°15'14" West) for a distance of 494.82 feet to a point for corner;
- 2) (South 72°55'09" West) for a distance of (185.39 feet) to a point for corner;
- 3) (South 70°44'51" West) for a distance of (820.18 feet) to the POINT OF BEGINNING and containing an area of 94.435 acres of land more or less.

Note: This document was prepared under 22 Texas Administrative Code §138.95, does not reflect the results of an on the ground survey, and is not to be used to convey or establish interests in real property except those rights and interests implied or established by the creation or reconfiguration of the boundary of the political subdivision for which it was prepared.

Distances are in U.S. Survey Feet. This description to accompany a map or plat of like date.

September 18, 2024

herman

Seth Reichenau, RPLS No. 6735 DD Job No. 24115



Dillo Development Services, LLC <u>info@dillodev.com</u> TBPELS Firm No. F-22833 and 10194711 (830) 282-0333







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CURT GARRETT CAMPBELL				
106851				
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G Campbell P F				
ense No. 106851				

#### Asphalt Inc. Ronald Reagan Quarry

#### **General Information Form Attachment C**

#### **Project Description**

Approval of a Water Pollution Abatement Plan (WPAP) under Edwards Aquifer Protection Program (EAPP) ID No. 11-09080701 was received by Knight Stone, LLC on October 14, 2009 and authorized construction of a limestone quarry pit, dimension stone operation, roadway, scale house and truck scales at the 420-acre Knight Quarry. Knight Stone, LLC was then bought by RTI Hot Mix, LTD (later renamed RTI Hot Mix, LLC) which renamed the site the Ramming Pit. A subsequent modification (EAPP ID Number 11-11061301A) was approved November 9, 2011 which authorized the addition of impervious cover, a pug mill, a septic system, a hot mix plant (HMP), etc. Industrial Asphalt LLC. later bought RTI Hot Mix, LLC and changed the name of the site to the Florence Quarry. Industrial Asphalt LLC. then modified the WPAP Modification (EAPP ID No. 11-12111601). The WPAP Modification was approved on January 8, 2013 and authorized the construction of a second hot mix plant (HMP), a concrete batch plant (CBP), a wet basin/pond, and two floodplain diversion channels. A subsequent modification (EAPP) ID No. 11000443 was approved by Industrial Asphalt LLC. on February 13, 2017 and authorized continuation of previously approved quarry operations, decreasing the impervious cover of the HMP2 area, the redesign of Pond B, construction of a ditch to carry stormwater from HMP2 to Pond B, backfilling the Smalley Branch Diversion channel and the leasing of 7 acres to Tex-Mix Partners, Ltd with the BMPs approved. Asphalt Inc. now owns and operates the site which has been renamed Ronald Reagan Quarry in a reduced project area of 94.435 acres. The original quarry operation will remain under the original WPAP, which will remain active.

Under the current application, Asphalt Inc. proposes the following:

- Modify the impervious cover limits in HMP Area 2
- Redesign Pond B
- Construct a vehicle maintenance shop (adding impervious surface)

#### Impervious Cover Modification

Asphalt Inc. intends to increase its impervious cover to 34.98 acres. Due to the changes in the amount and location of impervious cover, Pond B is being redesigned.

#### Redesign Pond B

Due to the changes in the amount and location of impervious cover in HMP Area 2, the drainage characteristics are not the same as previously designed (disclosed as part of the Environmental Protection Audit). As a result, Pond B and the associated drainage area have been re-evaluated. Runoff from HMP Area 2 flows generally eastward and will be directed to a channel that will run from the eastern edge of the hot mix plant southward and enter the west end of the pond as shown on the site plan. In addition, the storage volume of the pond has been reduced, the sediment forebay has been removed, and the outlets have been relocated and resized. The TCEQ calculations and HydroCAD models for Pond B have been updated and are included in the Drainage Report. Runoff from the central site entrance will be mitigated by a downgradient vegetative filter strip.

April 2025

#### Asphalt Inc. Ronald Reagan Quarry

A USGS blue line, Smalley Branch, is mapped running roughly north to southeast through the site. While FEMA has mapped much of the area as Zone A 100-year floodplain, Westward has performed a more detailed analysis of the Smalley Branch floodplain and plans to submit a CLOMR/LOMR to FEMA and/or appropriate floodplain permits will be obtained from Williamson County for this site. The calculated floodplain is represented on the attached plan sheets.

Permanent natural vegetation will be maintained in a 25-foot buffer from the stream centerline or the calculated floodplain along each side of the unnamed tributary of Smalley Branch. This buffer will be maintained except for the existing on-grade crossing shown on the Existing Conditions site plan. This crossing is paved and swept periodically to control TSS. Appropriate permits will be obtained from FEMA before any work is performed in the mapped floodplain.

In the future, all impervious cover will be removed, and the entire project area will be mined out, please see the Final Conditions Map. It is not expected that any significant amount of groundwater will be encountered in the quarry excavation. In order to maintain appropriate separation from the groundwater, the quarry floor will not be lower than 740 ft. amsl, as previously approved for the adjacent quarry (EAPP ID No. 11000443 – see attached approval letter).

Trash generated on-site will continue to be disposed of in a dumpster and handled by a licensed waste service. An on-site sewage facility was approved by the TCEQ under EAPP ID. 11-11061303A.

A geologic assessment was performed September 23-24, 2024, and is included with this application.



## ASPHALT INC., LLC

# Geologic Assessment (GA)

# Ronald Reagan Quarry - Shop 1725 CR 239 Williamson County, Texas

Submitted to: TCEQ Region 11, Austin

Prepared By:



Boerne, Texas 830-249-8284 Date: November 2024 Project No. 10853-287 -JG-



Signature: ISACA.

Jessica Garate, P.G. - License No. 15565 TX PG Firm No. 50112 Date: <u>11/1/202</u>4

# **Article I. Geologic Assessment**

**Texas Commission on Environmental Quality** 

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

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

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

## Section 1.01 Signature

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

Print Name of Geologist:

Telephone: 830-249-8284

Jessica Garate, P.G. #15565

Fax: <u>830-249-0221</u>

Date: 11/1/2024

Representing: <u>Westward Environmental, Inc., TBPG Registered Geoscience Firm 50012</u> (Name of Company and TBPG or TBPE registration number)

Signature of Geologist:

Regulated Entity Name: Ronald Reagan Quarry - Shop

## Section 1.02 Project Information

- 1. Date(s) Geologic Assessment was performed: September 23-24, 2024
- 2. Type of Project:

$\boxtimes$	WPAP
	SCS

AST
UST

3. Location of Project:



- Transition Zone
- Contributing Zone within the Transition Zone



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

#### Article II. Table 1 - Soil Units, Infiltration Characteristics and Thickness

Soil Name	Group*	Thickness(feet)
EaD	D	< 2
EeB	D	< 2
GsB	D	< 4

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

Applicant's Site Plan Scale: 1" = <u>200'</u> Site Geologic Map Scale: 1" = <u>200'</u> Site Soils Map Scale (if more than 1 soil type): 1" = <u>200'</u>

9. Method of collecting positional data:

Global Positioning System (GPS) technology.

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

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

- 10. The project site and boundaries are clearly shown and labeled on the Site Geologic Map.
- 11. Surface geologic units are shown and labeled on the Site Geologic Map.
- 12. Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.

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

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

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

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

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

## Section 2.01 Administrative Information

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

## Attachment A

## Geologic Assessment Table (Form TCEQ-0585-Table)

GEOLOG	IC ASSESS	SMENT TAE	BLE				PRO	JECT NA	ME:	RO	NALD	REAGA	N QUAF	RRY - SHOP	2							
	LOCATION							FEATURE CHARACTERISTICS										EVALUATION PHYSICAL SETTING				
1A	1B *	1C*	2A	2B	3		4		5	5A 6 7 8A 8B		9	10			1	12					
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIN	IENSIONS (FI	EET)	TREND (DEGREES)	DOM	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENS	BITIVITY	CATCHM (AC	ENT AREA RES)	TOPOGRAPHY		
						х	Y	Z		10					10	<40	<u>&gt;40</u>	<1.6	<u>&gt;1.6</u>			
S-1	30.766977	-97.702307	CD	5	Ked	12	10	0.75	N/A				F, V	5	10	Х		Х		Hillside		
S-2	30.767935	-97.702655	MB	30	Ked	400	200	8	N/A				F, V	5	35	Х			Х	Hillside		
S-3	30.768533	-97.702312	MB	30	Ked	200	150	2	N/A				С	5	35	Х		Х		Hillside		
S-4	30.771822	-97.706980	CD	5	Ked	8	4	1.5	N/A				0	5	10	Х		Х		Floodplain		
S-5	30.771700	-97.706908	SH	20	Ked	10	6	1	84				V	5	25	Х		Х		Floodplain		
S-6	30.771698	-97.706240	CD	5	Ked	20	15	2	N/A				0, V	5	10	Х		Х		Floodplain		
S-7	30.771545	-97.706322	CD	5	Ked	9	5	1	N/A				0, V	5	10	Х		Х		Floodplain		
S-8	30.771685	-97.706252	CD	5	Ked	15	10	1.5	N/A				V	5	10	Х		Х		Floodplain		
S-9	30.771617	-97.706015	CD	5	Ked	8	4	1.5	N/A				0	5	10	Х		Х		Floodplain		
S-10	30.770927	-97.704907	CD	5	Ked	30	20	3	N/A				F	5	10	Х		Х		Floodplain		
S-11	30.770645	-97.708143	CD	5	Ked	25	15	0.75	N/A				F, V	5	10	Х		Х		Hillside		
S-12	30.770448	-97.708252	MB	30	Ked	80	30	1	N/A				F	5	35	Х		Х		Hillside		
S-13	30.768753	-97.707239	CD	5	Ked	12	12	1	N/A				F, X	5	10	Х		Х		Hillside		
S-14	30.769690	-97.707525	CD	5	Ked	12	10	1	N/A				0	5	10	Х		Х		Hillside		
S-15	30.770145	-97.709464	MB	30	Ked	200	75	10	N/A				F, V	5	35	Х		Х		Hillside		
S-16	30.766999	-97.707226	CD	5	Ked	40	20	3	N/A				F, V	5	10	Х		Х		Hillside		
S-17	30.768025	-97.705947	F	20	Ked/Kgt	1,4	165	unknown	40	10			V	5	35	Х			Х	Hillside		

#### \* DATUM: NAD 83

2A TYPE	TYPE	2B POINTS
С	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
0	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
7	Zone clustered or aligned features	30

N None	e, exposed bedrock		
Coars			
C Coarse - cobbles, breakdown, sand, gravel			
D Loos	se or soft mud or soil, organics, leaves, sticks, dark colors		
Fines	es, compacted clay-rich sediment, soil profile, gray or red colors		
/ Vege	etation. Give details in narrative description		
S Flows	vstone, cements, cave deposits		
C Othe	er materials		

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

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

Jessica Garate





## Attachment B

## **Stratigraphic Column**

System	Group	Formation	Member	Thickness	Lithology	Field	Cavern	Porosity/
287	53 5		8 8	(feet)	1993) 1993	Identification	Development	permeability type
Upper Cretaceous	Austin Group (Kau)			225-350	Buff Io while chalk; limeslone and marl	Whila, light- gray limatona	Rare	Low porosily / low parmaabilily
	Eagle Ford Group (Kef)			30-50	Brown, flaggy shala and argillaceous limslone	Thin Ilagslone; patroliferous odor	None	Low porosily / low parmaabilily
	Buda Lime <i>s</i> tone (Kbu)			40-50	Buff, light- gray, dense mudstone	Porcalaneous limelone with calcite-filled vains	Vinor surface karst	Low porosily / low parmaabilily
	Del Rio Clay (Kdr)			40-50	Blue-green to yellow-brown clay	Fossiliferous; Ilymafogyra ariefina	None	Nona/primary upper confining unit
Lower Cretaceous	Georgetown Formation (Kgt)			2-20	Haddish- brown, gray lo light-lan, marty limeslone	Markar lossil; Waconella wacoensis	None	low porosily / low parmaabilily
	Edwards Group (Ked)	Person Formation (Kep)	Cyclic and marine members undivided	80-90	Mudslone lo packaslone; <i>miliotid</i> grainslone; cherl	Thin graded cyclas; massive beds lo relatively thin beds; crossbeds	Nany subsurlace; might be associated with earlier karst development	Lalerally extensive; both fabric and not fabric/ water yielding
			Leached and collapsed members, undivided	70-90	Crystalline limestone; mudstone to grainstone; chert; collapsed braccia	Biolurbalad iron-slained beds separalad by massive limasione beds; stromatolitic limasione	Exlensive 'aleral davelopment; 'arge rooms	Majorily nol fabric / one of the most porous and permeable
			Regional dense member	20-24	Cansa argillaceous mudslone	Wispy iron- oxida stains	Vary few; only vertical fracture enlargement	Nol fabric / low parmaability; vartical barriar
		Kainer Formation (Kek)	Grainstone member	50-60	<i>Mxiolid</i> grainslone; mudslone lo wackeslone; charl	While cross- badded grainslone	Few	Nol fabric / racrystallization raducas parmaability
			Kirschberg evaporite member	50-60	Highly allered crystalline limestone; chalky mudstone; chert	Boxwork voids, wilh neospar and travertine frame	Probably exlensive cave development	Majorily fabric / one cf lhe most porous and permeable
			Dolomitic member	110-130	Mudslone lo grainslone; cryslalline limeslone; chert	Massivaly baddad, lighl gray Toucasia abundanl	Caves related lo structure or bedding planes	Noslly nol fabric; some badding- plane fabric / waler- yialding
			Basal nodular member	50-60	Shaly, nodular limaslona; mudslone and <i>miliolid</i> grainslone	Massiva, nodularand mollled, Exogyra fexana	Large lateral caves at surfaca; a few caves near Cibolo Creek	Fabric; straligraphically controlled / large conduit flow at surface; no parmeability in subsurface
	Upper member of the Glen Rose Limestone (Kgru)			350-500	Yellowish lan, Ihinly bedded limeslone and marl	Stair-step lopography; alternating limeslone and mart	Some surface cave developmant	Some water production at evaporite beds / relatively impermeable

### **Generalized Stratigraphic Column**

Indicates units observed at the surface of the Site.

## Attachment C

## Site Geology (Geologic Narrative)

#### **Geologic Narrative**

#### 1.0 PURPOSE

Westward Environmental, Inc. (WESTWARD) was retained by Asphalt Inc., LLC, Inc. (Client) to prepare a Geologic Assessment (GA) on a 94.435-acre tract (Site). This GA was prepared as a required attachment to a Water Pollution Abatement Plan (WPAP) for the Site as required by the Texas Commission of Environmental Quality (TCEQ).

#### 2.0 **REGULATORY GUIDANCE**

#### Title 30, Chapter 213 of the Texas Administrative Code

This report was prepared in accordance with *Instructions for Geologists for Geologic Assessments* on the Edwards Aquifer Recharge/Transition Zones (TCEQ-0585 (Rev. 10-01-04)) to be reviewed pursuant to Title 30, Chapter 213 of the Texas Administrative Code.

#### **3.0 PROJECT LOCATION**

The Site is located adjacent to the west of the existing Ronald Reagan Quarry in Florence, Williamson County Texas. The Site is located over the Edwards Aquifer Recharge Zone (EARZ).

#### 4.0 METHODOLOGY

As part of the GA, WESTWARD performed a desktop review of selected published information. WESTWARD also conducted a field investigation in accordance with *TCEQ-0585 (Rev. 10-01-04)*.

#### 4.1 Desktop Review

WESTWARD conducted a review of aerial imagery, the University of Texas Bureau of Economic Geology (BEG) Geologic Atlas of Texas (GAT) Austin Sheet, applicable U.S. Geological Survey (USGS) Topographic quadrangle(s) and geospatial dataset(s), the Texas Natural Resources Information System (TNRIS), the Texas Water Development Board's Water Data Interactive Groundwater Data Viewer (TWDB Viewer), the Railroad Commission of Texas (RRC), and the U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRCS) Web Soil Survey prior to the field investigation.

#### 4.2 Field Investigation

A field investigation was performed at the Site by WESTWARD staff under the direction of Jessica Garate, P.G. (TBPG Lic. No. 15565) on September 23 & 24, 2024. Field transects of the Site were walked in accordance with TCEQ-0585 (rev. 10-01-04).

#### 5.0 **DESKTOP REVIEW**

The desktop review was utilized for preliminary planning of the field investigation. The accuracy of the desktop review was limited by the accessibility, scale, and age of the data available.

#### 5.1 Published Surface Geology

A review of published geologic maps revealed two (2) geologic units mapped at the Site. They include the early Cretaceous-aged Edwards Limestone (Ked) and the late Cretaceous-aged Georgetown Formation (Kgt). These units are shown on the Site Geologic Map (Attachment D).

#### 5.2 Published Structure

The Site is located within the Balcones Fault Zone (BFZ). The desktop review revealed one fault transecting the Site with a southwest to northeast trend at approximately  $40^{\circ}$ . This trend was used to determine the dominant fault trend range at this Site, which for the purpose of this assessment, is approximated to be between  $25^{\circ}$  and  $55^{\circ}$ . The fault is shown on the Site Geologic Map (Attachment D).

#### 5.3 Karst Features

The desktop review did not reveal karst features within the Site.

#### 5.4 Non-karst & Manmade Features

The desktop review of aerial imagery revealed a pond on the southwest part of the Site and a large pond and a pit on the southeast part of the Site. A review of the TWDB Viewer did not reveal any onsite groundwater wells at the Site.

#### 5.5 Soils

Three (3) soil units were identified on the Site through the NRCS Web Soil Survey. They are detailed below as well as included on the Geologic Assessment Form TCEQ-0585 (Rev. 02-11-15). A Site Soils Map is included in Attachment D.

Published Soil Unit Descriptions						
Soil Name	Group	Thickness (Feet)	Description			
Eckrant cobbly clay (EaD), 1 to 8 percent slopes	D	< 2	4 to 20 inches to lithic bedrock, well drained, moderately low to moderately high (0.06 to 0.57 in/hr) Ksat capacity			
Eckrant stony clay (EeB), 0 to 3 percent slopes	D	< 2	4 to 20 inches to lithic bedrock, well drained, moderately low to moderately high (0.06 to 0.57 in/hr) Ksat capacity			
Georgetown stony clay loam (GsB), 1 to 3 percent slopes	D	< 4	20 to 40 inches to lithic bedrock, well drained, very low to moderately low (0.00 to 0.06 in/hr) Ksat capacity			

#### 6.0 FIELD INVESTIGATION

The field investigation was performed on September 23 & 24, 2024 by WESTWARD staff under the direction of Jessica Garate, P.G. to verify the presence or absence of recharge features identified in the desktop review and to identify recharge features not found during the desktop review. Field reconnaissance was performed in accordance with the *TCEQ*-0585-Instructions (Rev. 10-1-04).

#### 6.1 Surface Geology

Most of the Site was heavily disturbed or covered with dense vegetation which made identification of the surface geologic formations difficult. Where bedrock was exposed, on areas mapped as Ked, hard aphanitic white to gray limestone was observed, which is consistent with Ked characteristics. The Kgt/Ked boundary was not confirmed in the field and is included on the attached Site Geologic Map as published.

#### 6.2 Structure

No direct evidence of the mapped fault identified in the Desktop Review was observed at the Site. However, it is recorded as a feature in this report because it is part of the published geologic literature.

#### 6.3 Karst Features

One (1) sinkhole, S-5 was identified and recorded during the field investigation. It is rated not sensitive.

#### 6.4 Non-karst & Manmade Features

Eleven (11) non-karst closed depressions and four (4) manmade features in bedrock were identified and recorded during the field investigation. None of these features are rated sensitive.

#### 6.5 Feature Descriptions

#### S-1 (CD)

### Not Sensitive

**Not Sensitive** 

Feature S-1 is a non-karst closed depression located on the southeastern part of the Site. The feature measures approximately 12 ft. x 10 ft. x 0.75 ft. and has a fine-grained sediment floor with vegetation. Large slabs of limestone and smaller limestone pieces were scattered around the feature. The catchment area of the feature is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-2 (MB)

Feature S-2 is a manmade feature in bedrock that consists of two connected ponds located on the southeastern part of the Site. It was identified in the Desktop Review as a large water-filled pond. The feature measures approximately 400 ft. x 200 ft. x 8 ft. and has a fine-grained soil and vegetated floor with scattered limestone rocks at the surface. Part of the feature was holding water at the time of the field investigation. The catchment area of the feature is greater than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-3 (MB)

Feature S-3 is a manmade feature in bedrock located on the southeastern part of the Site. It was identified in the Desktop Review as a pit. The feature measures approximately 200 ft. x 150 ft. x 2 ft. with a floor that consists of broken-down limestone. At the time of the field investigation, the feature contained a very large pile of limestone boulders. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-4 (CD)

Feature S-4 is a non-karst closed depression located within the floodplain near the northern Site boundary. The feature measures approximately 8 ft. x 4 ft. x 1.5 ft. and the floor consists of dark soil covered with tree litter and scattered broken limestone. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-5 (SH)

Feature S-5 is a sinkhole located within the floodplain near the northern Site boundary. It measures approximately 10 ft. x 6 ft. x 1 ft. and has an approximate trend of  $84^{\circ}$ . The feature has a partial rock rim and was plugged with vegetated soil. Large limestone rocks were scattered on the vegetated surface at the time of the field investigation. It is possible this is a depressed area surrounded with float rock, but it was recorded in this report as a sinkhole to be conservative. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

### S-6 (CD)

Feature S-6 is a non-karst closed depression located within the floodplain near the northern Site boundary. The feature measures approximately 20 ft. x 15 ft. x 2 ft. and the floor consists of loose dark soil, short vegetation, with large pieces of cut limestone scattered in a loose pile. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

### S-7 (CD)

Feature S-7 is a non-karst closed depression located within the floodplain near the northern Site boundary. The feature measures approximately 9 ft. x 5 ft. x 1 ft. and the floor consists of loose dark soil and short vegetation. Scattered broken gravel- to boulder-sized limestone pieces were observed around the feature at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-8 (CD)

Feature S-8 is a non-karst closed depression located within the floodplain near the northern Site boundary. The feature measures approximately 15 ft. x 10 ft. x 1.5 ft. and the floor is covered with short vegetation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### Not Sensitive

November 2024

Project No. 10853-287

#### Not Sensitive

Not Sensitive

## Not Sensitive

## Not Sensitive

Not Sensitive

#### S-9 (CD)

Feature S-9 is a non-karst closed depression located within the floodplain near the northern Site boundary. The feature measures approximately 8 ft. x 4 ft. x 1.5 ft. and the floor consists of dark soil and tree litter. Scattered broken limestone was observed around the feature at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-10 (CD)

Feature S-10 is a non-karst closed depression located within the floodplain on the northeastern part of the Site. The feature measures approximately 30 ft. x 20 ft. x 3 ft. and has a fine-grained sediment floor. It appears to have been previously holding water as mud cracks were present at the time of the field investigation. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-11 (CD)

Feature S-11 is a non-karst closed depression located on the northwestern part of the Site. The feature measures approximately 25 ft. x 15 ft. x 0.75 ft. and the floor consists of finegrained soil with scattered vegetation and broken limestone at the surface. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

### S-12 (MB)

Feature S-12 is a manmade feature in bedrock located on the northwestern part of the Site. It appears to have been an old pit as large slabs of cut rock were piled along the edge. The feature measures approximately 80 ft. x 30 ft. x 1 ft. and the floor consists of compacted fine-grained sediment. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

### S-13 (CD)

Feature S-13 is a is a non-karst closed depression located between an internal road and a grassy area to the west of the hot mix plant, near the center of the Site. The feature measures approximately 12 ft. x 12 ft. x 1 ft. and the floor consists of fine-grained compacted sediment and asphalt. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-14 (CD)

Feature S-14 is a non-karst closed depression located on a grassy area to the northwest of the hot mix plant, near the center of the Site. The feature measures approximately 12 ft. x 10 ft. x 1 ft. and the floor consists of loose soil and abundant tree litter. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-15 (MB)

Feature S-15 is an old pit classified as a manmade feature in bedrock. The feature is located on the northwest corner of the Site and measures approximately 200 ft. x 75 ft. x 10 ft. The floor of the feature consists of fine-grained compacted sediment and vegetation. It is

#### Not Sensitive

November 2024

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### Not Sensitive

**Not Sensitive** 

#### Not Sensitive

**Not Sensitive** 

### Not Sensitive

### Not Sensitive

surrounded by piles of asphalt and stacks of limestone slabs. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-16 (CD)

Feature S-16 is a non-karst closed depression located on the southwestern part of the Site. This feature was identified as a water-filled pond in the Desktop Review. It measures approximately 40 ft. x 20 ft. x 3 ft. The floor consists of fine-grained soil with sparse vegetation and is surrounded by long grasses, weeds, and scattered limestone cobbles. It was not holding water at the time of the field investigation but had mud cracks on the surface. The catchment area is less than 1.6 acres, and the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

#### S-17 (F)

#### Not Sensitive

**Not Sensitive** 

Feature S-17 is a published fault that is mapped across the center of the Site with an approximate trend of 40°. Direct evidence of this fault was not observed onsite during the field investigation. To be conservative, it is included in this report because it is part of the published geologic literature, and its absence could not be confirmed. The extent of the mapped fault within the Site boundaries measures approximately 1,465 ft. The catchment area is greater than 1.6 acres but due to the lack of surface expression the interpreted probability of rapid infiltration is low. This feature is rated not sensitive.

### **SELECT PHOTOGRAPHS**



S-2: Manmade feature in bedrock on the southeastern part of the Site.



S-3: Manmade feature in bedrock on the southeastern part of the Site.



S-4: Non-karst closed depression located near the northern Site boundary.



S-5: Sinkhole located within the floodplain near the northern Site boundary.



S-8: Non-karst closed depression located within the floodplain near the northern Site boundary.



S-11: Non-karst closed depression located on the northwestern part of the Site.


S-12: Manmade feature in bedrock located on the northwestern part of the Site.



S-16: Non-karst closed depression located on the southwestern part of the Site.

## Attachment D

Site Geologic Map Site Soils Map





# Article I. Water Pollution Abatement Plan Application

**Texas Commission on Environmental Quality** 

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b), Effective June 1, 1999

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

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

## Section 1.01 Signature

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Water Pollution Abatement Plan Application Form** is hereby submitted for TCEQ review and Executive Director approval. The form was prepared by:

Print Name of Customer/Agent: Curt G. Campbell, PE

Date:	License No. 106851   TX Firm No. 4524
Signature of Customer/Agent:	
	CURT GARRETT CAMPBELL
Regulated Entity Name: Ronal	d Reagan Querry - West

## Section 1.02 Regulated Entity Information

1. The type of project is:

Residential: Number of Lots:\_\_\_\_\_

] Residential: Number of Living Unit Equivalents:\_\_\_\_\_

- \_\_\_ Commercial
- 🖄 Industrial
- Other:\_\_\_\_
- 2. Total site acreage (size of property): <u>94.435</u>
- 3. Estimated projected population: <u>17</u>
- 4. The amount and type of impervious cover expected after construction are shown below:

TCEQ-0584 (Rev. 02-11-15)

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	0	÷ 43,560 =	0
Parking	0	÷ 43,560 =	0
Other paved surfaces	1,523,728.80	÷ 43,560 =	34.98
Total Impervious Cover	1523,728.80	÷ 43,560 =	34.98

Article II. Table 1 - Impervious Cover Table

Total Impervious Cover <u>34.98</u> ÷ Total Acreage <u>94.435</u> X 100 = <u>37.04</u>% Impervious Cover

- 5. Attachment A Factors Affecting Surface Water Quality. A detailed description of all factors that could affect surface water and groundwater quality that addresses ultimate land use is attached.
- 6. Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

## Section 2.01 For Road Projects Only

- (a) Complete questions 7 12 if this application is exclusively for a road project.
- 7. Type of project:
  - TXDOT road project.
  - County road or roads built to county specifications.
  - City thoroughfare or roads to be dedicated to a municipality.

Street or road providing access to private driveways.

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

```
Concrete
Asphaltic concrete pavement
Other:
```

9. Length of Right of Way (R.O.W.): \_\_\_\_\_ feet.

Width of R.O.W.: \_\_\_\_\_ feet. L x W = \_\_\_\_\_  $Ft^2 \div 43,560 Ft^2/Acre = _____ acres.$ 

10. Length of pavement area: \_\_\_\_\_ feet.

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

11. A rest stop will be included in this project.

A rest stop will not be included in this project.

12. Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

# Section 2.02 Stormwater to be generated by the Proposed Project

13. Attachment B - Volume and Character of Stormwater. A detailed description of the volume (quantity) and character (quality) of the stormwater runoff which is expected to occur from the proposed project is attached. The estimates of stormwater runoff quality and quantity are based on the area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

# Section 2.03 Wastewater to be generated by the Proposed Project

14. The character and volume of wastewater is shown below:

<u>100</u> % Domestic	<u>40</u> Gallons/day
% Industrial	Gallons/day
% Commingled	Gallons/day

TOTAL gallons/day 40

15. Wastewater will be disposed of by:

On-Site Sewage Facility (OSSF/Septic Tank): Approved under EAPP ID No. 11-11061301A

Attachment C - Suitability Letter from Authorized Agent. An on-site sewage facility
will be used to treat and dispose of the wastewater from this site. The appropriate
licensing authority's (authorized agent) written approval is attached. It states that
the land is suitable for the use of private sewage facilities and will meet or exceed
the requirements for on-site sewage facilities as specified under 30 TAC Chapter 285
relating to On-site Sewage Facilities.

Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

Sewage Collection System (Sewer Lines): N/A

Private service laterals from the wastewater generating facilities will be connected to an existing SCS.

Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

The SCS was previously submitted on\_\_\_\_\_.

] The SCS was submitted with this application.

The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to Executive Director approval.

The sewage collection system will convey the wastewater to the \_\_\_\_\_ (name) Treatment Plant. The treatment facility is:

Existing.
Proposed

16. All private service laterals will be inspected as required in 30 TAC §213.5.

## Section 2.04 Site Plan Requirements

## (a) Items 17 – 28 must be included on the Site Plan.

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

Site Plan Scale: 1" = <u>200</u>'.

18. 100-year floodplain boundaries:

Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.

No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): <u>FEMA FIRM 48491C0125E September 26, 2008</u>

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

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

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

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

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

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

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

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

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

All sensitive geologic or manmade features identified in the Geologic Assessment are shown and labeled.

No sensitive geologic or manmade features were identified in the Geologic Assessment.

Attachment D - Exception to the Required Geologic Assessment. A request and justification for an exception to a portion of the Geologic Assessment is attached.

- 22. The drainage patterns and approximate slopes anticipated after major grading activities.
- 23. 🖂 Areas of soil disturbance and areas which will not be disturbed.
- 24. 🔀 Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.
- 25. 🛛 Locations where soil stabilization practices are expected to occur.
- 26. Surface waters (including wetlands).

□ N/A

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

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

28.  $\square$  Legal boundaries of the site are shown.

## Section 2.05 Administrative Information

- 29. Submit one (1) original and one (1) copy of the application, plus additional copies as needed for each affected incorporated city, groundwater conservation district, and county in which the project will be located. The TCEQ will distribute the additional copies to these jurisdictions. The copies must be submitted to the appropriate regional office.
- 30. Any modification of this WPAP will require Executive Director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

### WPAP Attachment A

#### **Factors Affecting Water Quality**

The major factor that could potentially affect water quality is sediment in stormwater runoff after the clearing of vegetation. More remote factors include fuels and lubricants from vehicles and equipment and trash/debris items.

Earthen berm(s) and vegetated buffers located downgradient of the disturbed area(s) are proposed to capture sediment and control the flow of stormwater. Upgradient berms prevent run-on to disturbed areas of the site. A wet basin, (Pond B) will treat runoff from the HMP Area 2 drainage area. Any spills or leaks will be cleaned up immediately and will be disposed of properly. A trash receptacle will be placed on-site for use by employees and visitors.

### WPAP Attachment B

#### **Volume and Character of Stormwater**

This application will address the proposed 34.98 acres impervious cover associated with HMP Area 2. As previously approved, HMP Area 2 currently includes a hot mix plant, stockpiles, and roads including construction of a new vehicle maintenance shop. Stormwater from HMP Area 2 will carry an increased level of total suspended solids (TSS); however, stormwater from this area will be captured and treated by Pond B prior to leaving the site. Pond B design has been modified from the previous WPAP to maintain a total capture volume (TCV) of 5.45 ac-ft. Runoff will be directed to Pond B by berms and a drainage channel. The central site entrance, which is outside of the drainage area to the pond, will be mitigated by a downgradient vegetative filter strip.

Pond B will be used as a temporary stormwater basin until the modifications to Pond B are complete. Other Temporary BMPs (silt fence, rock/earthen berms, vegetative filter strips, etc.) will also be used in conjunction with Pond B as necessary. When Pond B is in place and operational, the site wide TSS removal efficiency will be 80%. The runoff coefficient for the impervious areas is 0.9 and the runoff coefficient for predevelopment is 0.03 per TCEQ guidance. All stormwater will be retained onsite in the final quarry condition.



	N	
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SCALE: 1" = 200'		
LEGEND		
	PROPERTY L	INE
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	PROPERTY LINE
-900	EXISTING MAJOR CONTOU
···· <u> </u>	LINEAR WATER BODIES
~~~►	FLOW ARROW
·	100-YR FLOODPLAIN
	IMPERVIOUS AREA
	WATER BODY AREA
۵. 	CONCRETE AREA







N			
10	)0 20	00 	400 
	SCALE: 1'	" = 200'	

LEGEND			
	PROPERTY LINE		
900	EXISTING MAJOR CONTOUR		
	EXISTING MINOR CONTOUR		
	PROPOSED MAJOR CONTOUR		
	PROPOSED MINOR CONTOUR		
	LINEAR WATER BODIES		
	BERM		
	100-YR FLOODPLAIN		
	BASE AREA		

GRASS/VEGETATED BUFFER AREA



# **Article I. 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.

## Section 1.01 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: Curt G. Campbell, PE



Project Information

## Section 1.02 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.

TCEQ-0602 (Rev. 02-11-15)

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.

## Section 1.03 Sequence of Construction

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

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

- For each activity described, include a description of appropriate temporary control measures and the general timing (or sequence) during the construction process that the measures will be implemented.
- 6. Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: <u>Cobbs Springs Branch, Smalley</u> <u>Branch</u>

# Section 1.04 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. X 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).

## Section 1.05 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.

## Section 1.06 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.

### **Temporary Stormwater Section Attachment A**

#### **Spill Response Actions**

#### **Education**

(1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ.

(2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.

(3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).

(4) Establish a continuing education program to indoctrinate new employees.

(5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

#### **General Measures**

(1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.

(2) Store hazardous materials and wastes in covered containers and protect from vandalism.

(3) Place a stockpile of spill clean-up materials where it will be readily accessible.

(4) Train employees in spill prevention and cleanup.

(5) Designate responsible individuals to oversee and enforce control measures.

(6) Spills should be covered and protected from stormwater run-on during rainfall to the extent that it doesn't compromise cleanup activities.

(7) Do not bury or wash spills with water.

(8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.

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(9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

(10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

(11) Place Safety Data Sheets (SDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

(12) Keep waste storage areas clean, well-organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

### <u>Cleanup</u>

(1) Clean up leaks and spills immediately.

(2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.

(3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

#### **Minor Spills**

(1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

(2) Use absorbent materials on small spills rather than hosing down or burying the spill.

- (3) Absorbent materials should be promptly removed and disposed of properly.
- (4) Follow the practice below for a minor spill:
- (5) Contain the spread of the spill.
- (6) Recover spilled materials.
- (7) Clean the contaminated area and properly dispose of contaminated materials.

#### Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

(1) Contain spread of the spill.

(2) Notify the project foreman immediately.

(3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.

(4) If the spill occurs in dirt areas, contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.

(5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

#### Significant/Hazardous Spill

For significant or hazardous spills that are in reportable quantities:

(1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.

(2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,117, and 302, the contractor should notify the National Response Center at (800) 424-8802.

(3) Notification should first be made by telephone and followed up with a written report.

(4) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

In the event of a reportable spill, the following Emergency Response Agencies can be contacted for assistance. Always inform your supervisor of a reportable spill immediately. Follow company policy when responding to an emergency.

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State Emergency Response Commission	(512) 424-2208
National Response Center	(800) 424-8802
US EPA Region 6, Dallas, 24-hr Number	(866) 372-7745
National Weather Service	(281) 337-5074
TCEQ 24-hr	(800) 832-8224
TCEQ Region 11	(512) 239-1000

### Vehicle and Equipment Maintenance

(1) If maintenance must occur on-site, use a designated area and a secondary containment, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.

(2) Regularly inspect on-site vehicles and equipment for leaks and repair immediately.

(3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.

(4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

(5) Place drip pans or absorbent materials under paving equipment when not in use.

(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.

(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

(8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

(9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

#### Vehicle and Equipment Fueling

(1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the run-on of stormwater and the runoff of spills.

(2) Discourage "topping off" of fuel tanks.

(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

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## **DETAILED TELEPHONE SPILL REPORT FORM**

Date of Incident:
Location of Incident:
Description of material spilled:
Quantity of material spilled:
Cause of spill:
Authorities notified:
Remediation/clean-up action:
Corrective measures taken for prevention of reoccurrence:
-
Signature:
Notes:

#### **Portable Toilet BMPs:**

Portable toilets will be used at Ronald Reagan Quarry and will be handled in accordance with the following guidelines:

- A licensed waste collector should service all the toilets. The following tasks will be performed by the portable toilet supplier:
  - Empty portable toilets before transporting them.
  - Securely fasten the toilets to the transport truck.
  - Use hand trucks, dollies, and power tailgates whenever possible.
  - Suppliers should carry bleach for disinfection in the event of a spill or leak.
  - Inspect the toilets frequently for leaks and have the units serviced and sanitized at time intervals that will maintain sanitary conditions of each toilet.
  - Pump-out tanks should be checked periodically for leaks. (Methods may include, but are not limited to: visual inspection, water level monitoring, pump-out volume comparisons, etc.)
- Locate portable toilets at least 20 feet from the nearest storm-drain inlet or sensitive-feature buffer area
- A berm will be constructed around all portable toilet facilities.
- Prepare a level ground surface with clear access to the toilets.
- Secure all portable toilets to prevent tipping by accident, weather, or vandalism.

Sewage pump-out tanks may be associated with modular or trailer-style buildings (i.e. – plant office, scale house, etc.). These tanks operate with the same nature and character as the portable toilets: they temporarily hold sewage from modular building restrooms and will be serviced by the same contractor, in the same way, as portable toilets. These tanks may be partially or fully buried but are still considered temporary/portable as they are intended to be repositioned on site over time to meet operational needs, and therefore do not constitute an OSSF or holding tank as defined by 30 TAC 285, nor any other type of organized sewage collection system.

#### **Temporary Stormwater Section Attachment B**

#### **Potential Sources of Contamination**

Potential sources of contamination in the project area are the soil, fuels and lubricants from vehicles and equipment, and trash/debris items.

#### **Temporary Stormwater Section Attachment C**

#### **Sequence of Major Activities**

Pond B will be modified to the design specifications of this WPAP Application. The pond will be reconfigured and lined, and the outfalls and flumes will be constructed. A channel will be constructed from HMP Area 2 to Pond B, to direct runoff from the 58.38-acre drainage area to the pond. Downgradient rock berms and silt fences will be used to control runoff during construction. Exposed soils will be stabilized at the completion of construction in accordance with the soil

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stabilization practices described in Temporary Stormwater Section Attachment J. Cobbs Spring Branch Diversion Channel will be constructed as shown on the WPAP plan and the previous approved application.

#### **Temporary Stormwater Section Attachment D**

#### **Temporary Best Management Practices (TBMPs) and Measures**

7.a. TBMPs and measures will prevent pollution of surface water, groundwater and stormwater that originates upgradient from the site and flows across the site.

No groundwater is expected to be encountered on-site.

Until the completion of the redesigned Pond B, TBMPs including rock berms and earthen berms will be used as necessary to control runoff until the stormwater pond is completed.

Stormwater from quarry activities will continue to be controlled. As new areas are disturbed, cleared topsoil will be used to construct earthen berms that surround this disturbed area, and will prevent any upgradient stormwater from contacting disturbed areas. Upgradient earthen berms will be 2 to 4 feet high. As the size of the quarry expands, the earthen berms will expand throughout the life of the project, up to the Final Earthen Berm (as shown on the Final Conditions Map).

7.b. TBMPs and measures will prevent pollution of surface water, groundwater and stormwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

It is not expected that any significant amount of groundwater will be encountered during the quarry excavation or as surface flow in disturbed areas of the site. Pollution of surface water, groundwater or stormwater that originates on-site or flows off-site will continue to be mitigated by the use temporary earthen berms (downgradient berms will be 4 to 6 feet high), silt fencing, rock berms, natural vegetated areas/buffers, and the quarry pit.

Until the completion of the redesigned Pond B, TBMPs including rock berms, earthen berms, and silt fences will be used as necessary to control runoff until the stormwater pond is completed.

7.c. TBMPs and measures will prevent pollution of surface streams, sensitive features and the aquifer.

Temporary earthen berms, rock berms, and natural vegetated buffers will be utilized to prevent pollutants from entering surface streams, sensitive features, and the aquifer. Until the completion of the redesigned Pond B, TBMPs including rock berms, earthen berms, and silt fences will be used as necessary to control runoff until the stormwater pond is completed.

Any possibly sensitive geological features discovered by mining staff or the Professional Geoscientist will be evaluated by a Professional Geoscientist and if determined to be sensitive, will be reported to TCEO. An appropriate method for addressing the feature will be formulated by a Professional Geoscientist or Professional Engineer and upon approval by TCEQ, the method to protect the feature will be implemented. Work will not resume in the area until the TCEQ approved method for addressing the feature has been carried out.

7.d. To the maximum extent practicable TBMPs and measures will maintain flow to naturally occurring sensitive features identified in the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

No sensitive features were identified during the Geologic Assessments. No natural sensitive features were identified during mining operations or inspections; however, if any are subsequently found they will be handled in the manner described above.

Flow will be maintained to naturally occurring sensitive features, to the maximum extent possible, by using rock berms, and naturally vegetated areas upgradient of the sensitive features. These types of BMPs slow the flow of water promoting sedimentation but allow the flow to be maintained. Earthen berms, stormwater ponds, and the quarry, which store flows, will be used as pollution prevention measures to mitigate runoff from larger disturbed areas. These larger disturbed areas have a greater potential to contain sediment; therefore, retention of flows will be used to provide a higher level of water quality of the aquifer.

There is no Edwards Aquifer water bearing strata present at the site or in the immediate area. Therefore, there is essentially no chance for 'pollution' to infiltrate through the quarry floor and impact the Edwards Aquifer. However, Asphalt Inc. will continue to provide feature recognition training and quarterly geological inspections of the pit as described in previously approved applications.



#### **Temporary Stormwater Section Attachment F**

#### **Structural Practices**

Temporary best management practices proposed for the quarry may include earthen berms, silt fencing, and natural vegetated buffers. The silt fencing, temporary earthen berms and vegetated buffers are used to limit runoff discharge of sediment. The earthen berms are used to store flows and limit runoff discharge of pollutants from exposed areas of the site as well as to divert flows away from exposed (disturbed) soils.

As large areas are cleared, temporary sediment basins and/or silt fencing will be established in downgradient areas to treat all on-site stormwater. An approximate configuration for these BMPs near the reconfigured Pond is shown on the attached Interim Conditions plan sheet. Once reconfigured, this pond will be utilized to treat stormwater from the HMP Area 2 drainage area Exact drainage areas, basin sizes, and locations may be adjusted in the field based on actual clearing progression, in accordance with the site's Stormwater Pollution Prevention Plan. This same method of clearing and temporary stormwater treatment will be repeated as clearing progresses across the site over time.

#### **Temporary Stormwater Section Attachment I**

#### Inspection and Maintenance for BMPs

The earthen berm and vegetated buffers should be inspected quarterly. Rock berms and silt fences should be inspected weekly. Written documentation of these inspections should be kept during the course of construction at the project site (see following example Inspection Form.) Any erosion of earthen berms should be backfilled and compacted as soon as possible. If a berm is no longer able to properly filter the sediment from the stormwater due to contamination from silt, it should be replaced. Any trash in the vegetated buffers should be removed and eroded areas should be reseeded. Silt fencing should be repaired or replaced when damaged and sediment should be removed when buildup reaches 6 inches. Silt should be removed from rock berms when greater than 6 inches of sediment is retained or when berms are clogged.

Ronald Reagan Quarry will be authorized to discharge stormwater under the TPDES General Permit No. TXR050000 for industrial activities. Requirements of the general permit include maintaining a SWP3 which includes inspections of stormwater best management practices and sampling of stormwater that is discharged from the site. Trash should be removed, and any eroded areas should be reseeded.

It is not anticipated that dewatering of the pit will be required. However, if necessary, mine dewatering will be accomplished according to the TCEQ stormwater regulations noted in the TPDES General Permit No. TXR050000 under Sector J for Mineral Mining and Processing Facilities.

December 2024



#### Inspection, Maintenance, Repair and Retrofit Plan

I, <u>Thomas Playfair</u>, have read and understand the Inspection, Maintenance, Repair and Retrofit (IMRR) Plan contained in this Water Pollution Abatement Plan (WPAP).

I understand the specific Permanent Best Management Practices (PBMPs) and associated inspection and maintenance schedule which are outlined in this IMRR Plan. Asphalt Inc. will implement these inspections and perform maintenance as required to meet the intent of the IMRR Plan.

#### Name and signature of responsible party for maintenance of permanent BMPs

Print Name:	Thomas Playfair	
	Asphalt Inc.	
Signature _	Homen lle b	Date: $D - 7 - 34$
		TEOFTEN
Name and s	ignature of Engineer	
Print Name:	Curt Garrett Campbell, PE	CURT GARRETT CAMPBELL
	Westward Environmental, Inc.	1, 2, 106851 1, 2, 106851
		NANNALENGIA
Signature _		Date:4/17/2025

•

#### **Temporary Stormwater Section Attachment J**

#### **Schedule of Soil Stabilization Practices**

For HMP Area 2, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has been temporarily or permanently ceased. Where the initiation of stabilization measures by the 14<sup>th</sup> day after construction activity has temporarily or permanently ceased is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activates will be resumed within 21 days, temporary stabilization measures do not be initiated on that portion of the site. In areas experiencing droughts where the initiation of stabilization measures by the 14<sup>th</sup> day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Examples of soil stabilization practices may include establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Soil stabilization practices to be implemented at HMP Area 2 include establishment of permanent vegetation by seeding native grasses, and the proposed impervious cover.



#### Asphalt Inc. Best Management Practices Inspection Form

, , ,		Quarterly			Weekly				
		Vegetated Buffers		Earthen Berms	ns Rock Berms		Silt Fence		
Date	Inspector Signature	Trash	Vegetative Cover/Erosion	Erosion of Earthen Berms	>6" Silt Retained	Rock Berm Clogged	Sediment Buildup	Fence Damage	Additional Comments

If the answer to any of the above questions is "yes", perform maintenance/repair/replacement as described below or in accordance with TCEQ Technical Guidance on BMPs.

#### Earthen Berm

\* Erosion of earthen berm - fill eroded areas and compact

#### Natural Vegetated Buffers

- \* Remove trash if present
- \* Reseed eroded areas to reestablish vegetation

#### Rock Berm

- \* >6" of silt retained removed silt, place in protected area
- \* Rock berm clogged the rock berm should be replaced when accumulated silt, washout or damage to berm occurs

#### Silt Fencing

- \* Remove sediment when buildup reaches 6 inches
- \* Replace any torn fabric or install a second line of fencing parallel to torn section
- \* Replace or repair any sections crushed or collapsed in the course of construction activity
- $^{\ast}\,$  Dispose sediment in a manner that will not cause additional siltation
- \* Revegate prior location once the silt fence has been removed
- \* Dispose fence itself in an approved landfill.

#### Ronald Reagan Quarry

Temporary Stormwater Section Attachment I

#### **Temporary Stormwater Section Attachment J**

#### **Schedule of Soil Stabilization Practices**

For HMP Area 2, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has been temporarily or permanently ceased. Where the initiation of stabilization measures by the 14<sup>th</sup> day after construction activity has temporarily or permanently ceased is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activates will be resumed within 21 days, temporary stabilization measures do not be initiated on that portion of the site. In areas experiencing droughts where the initiation of stabilization measures by the 14<sup>th</sup> day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

Examples of soil stabilization practices may include establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Soil stabilization practices to be implemented at HMP Area 2 include establishment of permanent vegetation by seeding native grasses, and the proposed impervious cover.

## **Permanent Stormwater Section**

#### **Texas Commission on Environmental Quality**

for Regulated Activities on the Edwards Aquifer Recharge Zone and Relating to 30 TAC §213.5(b)(4)(C), (D)(Ii), (E), and (5), Effective June 1, 1999

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

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

## Signature

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

Print Name of Customer/Agent: Curt Campbell, PE



## Permanent Best Management Practices (BMPs)

# Permanent best management practices and measures that will be used during and after construction is completed.

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



2. These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

A technical guidance other than the TCEQ TGM was used to design permanent BMPs
and measures for this site. The complete citation for the technical guidance that
was used is:

🗌 N/A

3. Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

🗌 N/A

4. Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

The site will be used for low density single-family residential development and has 20% or less impervious cover.

The site will be used for low density single-family residential development but has more than 20% impervious cover.

The site will not be used for low density single-family residential development.

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

Attachment A - 20% or Less Impervious Cover Waiver. The site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is attached.

The site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

The site will not be used for multi-family residential developments, schools, or small business sites.

6. Attachment B - BMPs for Upgradient Stormwater.

	<ul> <li>A description of the BMPs and measures that will be used to prevent pollutic surface water, groundwater, or stormwater that originates upgradient from and flows across the site is attached.</li> <li>No surface water, groundwater or stormwater originates upgradient from th and flows across the site, and an explanation is attached.</li> <li>Permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site flows across the site, and an explanation is attached.</li> </ul>	on of the site e site ce and
7.	Attachment C - BMPs for On-site Stormwater.	
	<ul> <li>A description of the BMPs and measures that will be used to prevent pollution surface water or groundwater that originates on-site or flows off the site, incompollution caused by contaminated stormwater runoff from the site is attached.</li> <li>Permanent BMPs or measures are not required to prevent pollution of surface or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, and an explanation is attached.</li> </ul>	on of cluding ed. ce water on
8.	Attachment D - BMPs for Surface Streams. A description of the BMPs and meas that prevent pollutants from entering surface streams, sensitive features, or the is attached. Each feature identified in the Geologic Assessment as sensitive has addressed.	ures aquifer been
	] N/A	
9.	The applicant understands that to the extent practicable, BMPs and measures m maintain flow to naturally occurring sensitive features identified in either the ge assessment, executive director review, or during excavation, blasting, or constru	ust ologic ction.
	<ul> <li>The permanent sealing of or diversion of flow from a naturally-occurring sen feature that accepts recharge to the Edwards Aquifer as a permanent polluti abatement measure has not been proposed.</li> <li>Attachment E - Request to Seal Features. A request to seal a naturally-occu sensitive feature, that includes, for each feature, a justification as to why no reasonable and practicable alternative exists, is attached.</li> </ul>	sitive on rring
10	Attachment F - Construction Plans. All construction plans and design calculation the proposed permanent BMP(s) and measures have been prepared by or under direct supervision of a Texas Licensed Professional Engineer, and are signed, sea dated. The plans are attached and, if applicable include:	ns for <sup>.</sup> the led, and
	<ul> <li>Design calculations (TSS removal calculations)</li> <li>TCEQ construction notes</li> <li>All geologic features</li> <li>All proposed structural BMP(s) plans and specifications</li> </ul>	
	_ N/A	

- 12
- 13 creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity, which increase erosion that results in water quality degradation.

N/A

## Responsibility for Maintenance of Permanent BMP(s)

### Responsibility for maintenance of best management practices and measures after construction is complete.

14. 🖂 The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

N/A

15.  $\square$  A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

N/A

#### Permanent Stormwater Section Attachment B

#### **BMPs for Upgradient Stormwater**

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

Permanent BMPs (including vegetated buffers, final earthen berms, extended detention pond and grassy swale, and the quarry pit) will continue to be utilized for the site.

The temporary earthen berms that are constructed as clearing occurs will expand as the size of the quarry expands. The earthen berms will expand throughout the life of the project to the Final Earthen Berm shown on the Final Conditions Map. The Final Earthen Berm will be vegetated with native grasses to stabilize soils. During the life of the quarry, runoff will be retained in the pit.

A 50' vegetative buffer will be maintained between the Final Earthen Berm and the property line (except where noted on the Final Conditions Plan) as a final treatment for any stormwater leaving the site.

Pond B will treat stormwater runoff from the HMP Area 2 drainage area. As the entire site is proposed to be quarried, Pond B, is only permanent for the life of the HMP.

Permanent stormwater controls are those that are to remain in place after construction has been completed. At the time construction is completed at the subject site, on-site stormwater will be retained inside the quarry pit. The vegetated Final Earthen Berm and the 50-foot vegetated buffer that surround most of the site will be located along the property boundary.

#### Permanent Stormwater Section Attachment C

#### **BMPs for On-site Stormwater**

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

Pollution of surface water, groundwater or stormwater that originates on-site or flows off-site during the life of the quarry will be mitigated by the use of earthen berms, rock berms, vegetated areas, and the quarry pit. Vehicle fueling, maintenance, and repair occurring on-site will occur in designated areas. Pond B is proposed to treat runoff from the HMP Area 2 drainage area.

Permanent stormwater controls are those that are to remain in place after construction has been completed. At the time construction is completed at the subject site, on-site stormwater will be retained inside the quarry pit. The vegetated Final Earthen Berm and the 50 foot vegetated buffer

April 2025

Westward (W) Environmental, Inc.
## Asphalt Inc. Ronald Reagan Quarry

that surrounds most of the site will be located along the property boundary. Proposed Pond B is only permanent for the life of the HMP.

### Asphalt Inc. Ronald Reagan Quarry

#### Permanent Stormwater Section Attachment D

#### **BMPs for Surface Streams**

A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features or the aquifer:

During the life of the quarry, temporary earthen and rock berms will be constructed as shown on the WPAP Site Plan to prevent pollutants from entering surface streams, sensitive features and the aquifer. Disturbed areas will be controlled by earthen berms, rock berms, undisturbed areas, and the pit.

Permanent stormwater controls are those that are to remain in place after construction has been completed. At the time construction is completed at the subject site, on-site stormwater will be retained inside the pit. The vegetated Final Earthen Berm and the 50-foot vegetated buffer that surround most of the site will be located along the property boundary.

Any possible sensitive geologic features discovered by mining staff will be evaluated by a Professional Geoscientist and if determined to be sensitive, will be reported to TCEQ. An appropriate method for addressing the feature will be formulated by a Professional Geoscientist or a Professional Engineer and upon approval by TCEQ, the method to protect the feature will be implemented. Work will not resume in the area of the feature until the TCEQ approved method for addressing the feature has been carried out.

#### Permanent Stormwater Section Attachment F

#### **Construction Plans**

See Final Conditions Map.

#### **Asphalt Inc. Ronald Reagan Quarry**

#### Permanent Stormwater Section Attachment I

#### **Measures for Minimizing Surface Stream Contamination**

To avoid surface stream contamination from HMP 2 operation flows will be directed into Pond B. The vegetated Final Earthen Berm and 50' vegetated buffer along the property line will mitigate surface stream contamination. Pond B will be utilized to control runoff from HMP Area 2 drainage area. Pond B will be permanent for the duration of the HMP facility; however, Asphalt Inc. may quarry this area in the future, at which time Pond B may be removed and the measures described above for the quarry will be utilized. The storage capacity of the pond will mitigate increases in stream flows due to the regulated activity (impervious cover).

# **Agent Authorization Form** For Required Signature Edwards Aquifer Protection Program Relating to 30 TAC Chapter 213 Effective June 1, 1999 Thomas Playfair Print Name President Title - Owner/President/Other Asphalt Inc. of Corporation/Partnership/Entity Name have authorized Curt G. Campbell, PE; Vance Houy PE; Chelsy Houy, PE, Andrea Kidd, P.E. Print Name of Agent/Engineer Westward Environmental, Inc of 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:

L

- The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 1. 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.
- For those submitting an application who are not the property owner, but who have the 2. right to control and possess the property, additional authorization is required from the owner.
- Application fees are due and payable at the time the application is submitted. The 3. 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.
- A notarized copy of the Agent Authorization Form must be provided for the person 4. 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:

Monas Ile Date

Applicant's Signature

THE STATE OF YEARY § County of TRavie &

BEFORE ME, the undersigned authority, on this day personally appeared  $\underline{\mathcal{T}_{hours}}$  have hown 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 114 day of Oct ,2014.

NOTARY PUBLIC

TRacy Gainey

MY COMMISSION EXPIRES: 02-03,2027

TRACY GAINEY Notary Public, State of Texast Comm. Expires 02-03-2027 Notary ID 130101850

# **Application Fee Form**

Texas Commission on Environme Name of Proposed Regulated Entit	ntal Quality ty: Ronald Reagan Quar	ry - Shop		
Regulated Entity Location: <u>33507 I</u> Name of Customer: <u>Asphalt Inc.</u>	Ronald W Reagan Blvd, I	Florence, 1X 76527		
Contact Person: <u>Thomas Playfair</u>	Phone	e: <u>512-428-5778</u>		
Customer Reference Number (if is	sued):CN <u>604722728</u>			
Austin Designal Office (2272)	er (it issued):RN <u>ivew</u>			
Austin Regional Office (3373)	<b></b>	ku3		
Hays	Travis	⊠ w	'illiamson	
San Antonio Regional Office (336	2)			
Bexar	Medina	יט 🗌	valde	
 Comal	Kinney	•		
Application fees must be paid by a	heck_certified check.o	r money order, paval	ble to the <b>Texas</b>	
Commission on Environmental O	u <b>ality</b> . Your canceled ch	neck will serve as you	r receipt. This	
form must be submitted with you	ir fee payment. This pa	vment is being subm	itted to:	
Austin Regional Office	· · / □ ·	, Antonio Rogional (	Office	
			TCEO Cashion	
Ivalled to: ICEQ - Cashler		Overnight Delivery to: TCEQ - Cashier		
Revenues Section	12	12100 Park 35 Circle		
Mail Code 214	Bu	allding A, 3rd Floor		
P.O. Box 13088	AL	ustin, IX 78753		
Austin, 1X /8/11-3088	(5	12)239-0357		
Site Location (Check All That App	ly):			
Recharge Zone	Contributing Zone	Trans	ition Zone	
Type of Pla	'n	Size	Fee Due	
Water Pollution Abatement Plan	, Contributing Zone			
Plan: One Single Family Resident	ial Dwelling	Acres	\$	
Water Pollution Abatement Plan	, Contributing Zone			
Plan: Multiple Single Family Resi	dential and Parks	Acres	\$	
Water Pollution Abatement Plan	, Contributing Zone			
Plan: Non-residential		91.94 Acres	\$ 8,000	
Sewage Collection System		L.F.	\$	
Lift Stations without sewer lines		Acres	\$	
Underground or Aboveground St	orage Tank Facility	Tanks	\$	
Piping System(s)(only)		Each	\$	
Exception		Each	\$	
Extension of Time		Each	\$	
	Signa	ture: <u> </u>	ey C-	

# **Application Fee Schedule**

## Texas Commission on Environmental Quality

Edwards Aquifer Protection Program 30 TAC Chapter 213 (effective 05/01/2008)

# Water Pollution Abatement Plans and Modifications

#### Contributing Zone Plans and Modifications

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

#### **Organized Sewage Collection Systems and Modifications**

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

#### Underground and Aboveground Storage Tank System Facility Plans and Modifications

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

#### **Exception Requests**

	Project	Fee
Exception Request		\$500

# Extension of Time Requests

Project	Fee
Extension of Time Request	\$150



# **TCEQ Core Data Form**

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

# **SECTION I: General Information**

<b>1. Reason for Submission</b> (If other is checked please descri	ibe in space provided.)		
New Permit, Registration or Authorization (Core Data Fo	orm should be submitted with	the program application.)	
Renewal (Core Data Form should be submitted with the	renewal form)	C Other	
2. Customer Reference Number (if issued)	Follow this link to search	3. Regulated Entity Reference Number (if issued)	
CN 604722728	<u>Central Registry**</u>	RN 0	

# **SECTION II: Customer Information**

4. General Cu	stomer In	formation	5. Effective D	ate for Cu	istomer	Information	Updates (mm/dd/	уууу)			
New Custon Change in Let	ner egal Name i	(Verifiable with the Tex	pdate to Custome as Secretary of S	er Informat tate or Tex	tion as Comp	Chai troller of Public	nge in Regulated Ent c Accounts)	ity Owne	ership	<b>t</b>	
The Custome (SOS) or Texa	r Name sı s Comptra	ibmitted here may l oller of Public Accou	oe updated aut nts (CPA).	omaticall	ly based	l on what is c	current and active	with th	e Texas Secr	etary of State	
6. Customer I	.egal Narr	te (If an individual, prii	nt last name first:	eg: Doe, J	ohn)		If new Customer, (	enter pre	vious Custome	<u>er below:</u>	
Asphalt Inc., LU	с										-
7. TX SOS/CP/ 801852095	A Filing N	umber	8. TX State Ta 32052007807	х ID (11 di	igits)		9. Federal Tax II (9 digits) N/A	D	1 <b>0. DUNS (</b> applicable) N/A	lumber <i>(if</i>	
11. Type of C	ustomer:	Corporat	ion			🗌 Indivi	dual	Partne	rship: 🔲 Gen	eral 🔲 Limited	1
Government:	City 🗋 🤆	County 🗌 Federal 🛄	Local 🔲 State 🗌	Other		Sole F	Proprietorship	🗌 Otl	her:		
12. Number o	of Employ	ees					13. Independer	ntly Ow	ned and Ope	rated?	
⊠ 0-20 □ 2	21-100 [	101-250 251-	500 🗌 501 an	id higher			🗌 Yes 🛛	No			
14. Customer	Role (Pro	posed or Actual) – <i>os i</i>	t relates to the Re	egulated Er	ntity liste	d on this form.	Please check one of	the follo	wing		
Owner	al Licensee	Operator Responsible Par	⊠ Own rty □ VC	er & Opera P/BSA App	itor Ilicant		Other:				
15 Mailing	11675 Jo	llyville Road									
Address	Suite 201	Ļ									
Address:	City	Austin		State	TX	ZIP	78759		ZIP + 4		
16. Country I	Mailing In	formation (if outside	USA)			17. E-Mail A	ddress (if applicabl	е)			
		: <b>.</b>				thomas@lspa	ving.com				

18. Telephone Number			19. Extension or	Code		20. Fa	x Number (if a	oplicable)	
( 512 ) 428-5778					( 512 ) 897-5550				
ECTION III:	Regula	ited Ent	ity Inform	natio	<u>n</u>				
21. General Regulated En	tity Informa	tion (If 'New Reg	ulated Entity" is selec	ted, a new	permit applic	ation is a	lso required.)		
New Regulated Entity	Update to	Regulated Entity I	Name 🛛 Update t	o Regulate	ed Entity Inform	mation			
The Regulated Entity Nan as Inc, LP, or LLC).	ne submitte	d may be updat	ed, in order to me	et TCEQ C	ore Data Sta	andards	(removal of or	ganization	al endings such
22. Regulated Entity Nam	e (Enter nam	e of the site wher	e the regulated action	n is taking j	place.)				
Ronald Reagan Quarry									
23. Street Address of the Regulated Entity:	1725 CR 239	3							
<u>(No PO Boxes)</u>	City	Georgetown	State	ТХ	ZIP	7863	3	ZIP + 4	5290
24. County	Williamson	·····		•					
	1	If no Stree	et Address is provid	ded, field	s 25-28 are i	required	•		
25. Description to Physical Location:	The site is lo	ocated on the nor	th side of Ronald Rea	gan Blvd. a	pproximately	1.5 miles	east of SH 195 in	Williamson	County, Texas
26. Nearest City						State		Nea	rest ZIP Code
Georgetown		5-1		<u>1997)</u>		Тх	1	7863	33
Latitude/Longitude are rules are rules to supply coordinate	equired and es where no	' may be added, ne have been p	/updated to meet rovided or to gain	TCEQ Cor accuracy	e Data Stand ).	dards. (G	leocoding of th	e Physical	Address may be
27. Latitude (N) In Decim	al:	30.768932		28	Longitude	(W) In D	ecimal:	-97.7058	60
Degrees	Minutes		Seconds	De	grees		Minutes		Seconds
30		46	8.1552		97		42		21.096
29. Primary SIC Code (4 digits)	<b>30.</b> (4 d	Secondary SIC	Code	<b>31. Pri</b> r (5 or 6 c	nary NAICS ( ligits)	Code	ode 32. Secondary NAICS Code (5 or 6 digits)		
2951				324121					
33. What is the Primary I	Business of 1	this entity? (D	o not repeat the SIC c	n NAICS de	escription.)				
34 Mailing	11675 Jol	yville Road							
Address:	Suite 201								
	City	Austin	State	ТХ	ZIP	7875	59	ZIP + 4	1
35. E-Mail Address:	tho	mas@lspaving.co	om	" <b>i</b>	<b>i</b>	ŧ			
36. Telephone Number			37. Extension or	Code	38	. Fax Nu	mber (if applical	ole)	
( 512 ) 428-5778			-		( 5:	12 ) 897-5	5550	· · ·	

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
· · · · · · · · · · · · · · · · · · ·		New		
Municipal Solid Waste	New Source Review Air		Petroleum Storage Tank	D PWS
Sludge	Storm Water	Title V Air		Used Oil
Voluntary Cleanup	U Wastewater	Wastewater Agriculture	Water Rights	Other:

# **SECTION IV: Preparer Information**

40. Name: Natalie Sales		41. Title: Staff Engineer
42. Telephone Number 43. Ext./Code	44. Fax Number	45. E-Mail Address
( 830 ) 249-8284	( ) -	nsales@westwardenv.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:	Ashpalt Inc.	Job Title: Presid	dent	
Name (In Print):	Thomas Playfair		Phone:	( 512 ) 428- 5778
Signature:	Homes Plays		Date:	10-7-24

Asphalt Inc., LLC

# WPAP Drainage Report

# <u>Ronald Reagan - Shop</u> Ronald Reagan Quarry - West Williamson County

Submitted to: TCEQ Region 11, Austin

Prepared By:



Boerne, Texas 830-249-8284

Date: March 2025 Project No. 10853-287 -NMS-



# Asphalt Inc., LLC

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#### **1 Executive Summary**

Asphalt Inc., LLC. constructed a hot mix plant (HMP) on 94.435-acre tract in Williamson County, Texas with associated infrastructure including the existing RAP Area and the HMP Area 2. The TSS generated by this Ronald Reagan CBP site (Site) is being treated by an extended detention basin (Pond) and grassy swale. Additional permanent BMPs include a vegetative filter strip which treats TSS from the entry/exit driveway and diversion berms diverting upgradient stormwater away from the Site.

The purpose of this drainage report is to demonstrate compliance with TCEQ guidance for the stormwater basin. The stormwater basin in conjunction with the grassy swale, as described in the WPAP application, provides adequate treatment such that additional TSS due to the increase in impervious cover is reduced by 80%.

With this application, Asphalt Inc. proposes a ditch/forebay and pond size of 2.80 acres total for impervious cover of 34.98 acres. The additional disturbed area to the northeast will be graded to drain toward a ditch that will then direct stormwater to the pond. The additional impervious cover will be directed from the impervious surface to the ditch which again will direct stormwater to the pond. The additional impervious cover for the two driveways will be mitigated with downgradient vegetative filter strips.

#### **2** Introduction

#### 2.1 Purpose

The purpose of this drainage report is to demonstrate compliance with TCEQ guidance for the stormwater basin. The stormwater basin in conjunction with the grassy swale, as described in the WPAP application, provides adequate treatment such that additional TSS due to the increase in impervious cover is reduced by 80%. The pond with a downgradient grassy swale has been constructed to treat runoff from the RAP Area and the HMP Area 2 of the Site.

#### 2.2 Drainage Area Characteristics

The Site watershed includes approximately 34.98 acres of on-site impervious cover, which includes 8.10 acres of RAP Area, 23.18 acres of HMP Area 2 and 3.70 acres of remaining disturbed area. The concrete pad runoff is being directed to the Pond - the impervious cover runoff is being directed to the ditch and then the Pond. The remaining disturbed areas - driveways and sections of the parking area and the disturbed area to the southwest will both be graded to slope to a vegetative filter strip.

#### **2.3 General Analysis Notes**

1) The pond has been designed as an extended detention basin with downgradient grassy swale, which will provide a TSS removal efficiency of at least 83.75%.



- 2) The pond is located over the Edwards Aquifer Recharge Zone and is not required to be lined.
- 3) Interior pond side slopes are 3:1 (H:V) at a minimum.
- 4) Grassy swale is considered "on-line" for low flow and "off-line" for high flow.



#### **3** Water Quality Analysis

#### 3.1 Methodology

Water quality analysis was performed based on TCEQ technical guidance document RG-348 for best management practices over the Edward Aquifer. Water quality volumes (WQV) were determined using the RG-348 Excel spreadsheet as provided by TCEQ dated 04-20-2009. The spreadsheet was used to calculate the anticipated increase in TSS, due to the increase in impervious area of the project area, from the existing condition.

#### **3.2 Pond Characteristics**

Pond

The pond was designed as an extended detention basin and grassy swale. The pond provides water quality treatment for 67.38 acres of drainage area. The impervious cover in the drainage area is 34.98 acres. Per the TCEQ calculations spreadsheet, the removal efficiency of an extended detention basin in series with a grassy swale is estimated at 83.75%. The required removal TSS reduction was calculated to be  $L_M = 30,447$  lbs. and was used as a desired  $L_M$ . The maximum load reduction was calculated to be  $L_R = 32,905$  lbs. The resultant fraction of annual runoff was calculated to be 0.93, which resulted in a rainfall depth of 2.20 inches. The water quality volume (WQV) was calculated as 198,162 cu. ft. (4.55 ac-ft). The required total capture volume (TCV), equal to the WQV plus 20% was calculated to be 237,795 cu. ft. (5.46 ac-ft). Time of concentration and 24-hour duration storm depths were determined using the TR-20 Manual, using storm data from TP-40.

## 4 Water Quantity Analysis

#### 4.1 Methodology

The proposed stormwater pond was analyzed for water quantity by utilizing HydroCAD software. The pond was analyzed for two design conditions. 1) a low flow condition with runoff equivalent to the WQV and 2) a high-flow condition by routing the 25-year 24-hour storm event. The low flow analysis was used to size the low outfall weir for recovery of approximately 50% of the WQV within a minimum of 24 hours. The high flow analysis was utilized to verify available freeboard and size the overflow spillway. In addition, the 100-year 24-hour event was used to analyze the spillway capacity and minimize the likelihood of berm failure.



#### 4.2 Flow Analysis

#### Pond A

#### Low Flow Analysis

RG-348 recommends that an extended detention basin be designed to drain the WQV in a minimum of 48 hours. Since the recovery of a system is driven by the static head above the outfall elevation, the head is constantly decreasing during recovery. Therefore, under gravity flow conditions the rate of recovery is constantly decreasing. Since this project is not designed with any mechanical devices, a storm stacking approach has been utilized to illustrate compliance with the intent of the regulations. A 6" diameter orifice has been designed as the low flow outfall with an invert elevation of 826.50 ft.-amsl. The low flow outfall has been sized to allow approximately 50% of the WQV to leave the pond in 24 hours and 100% within 48 hours. In the event that an additional rainfall event would occur prior to the discharge of the full WQV it is anticipated that the increased head resulting from the runoff would cause the remaining volume to be discharged prior to the end of the rainfall event. This pond will be able to treat multiple rainfall events that produce runoff equal to the WQV that occur 48 hours apart.

#### High Flow Analysis

The pond top of bank is set at elevation 833.50 ft.-amsl. The spillway invert is set at elevation 830.50 ft.-amsl and is a 32-foot-long by 100-foot-wide broad-crested weir. The overflow spillway for this pond was designed to pass the 25-year 24-hour rainfall event of 7.90 inches. The peak stage for this pond during the design storm is at elevation 832.54 ft.-amsl which is approximately 0.96 feet below the top of the pond. A 100-year 24-hour rainfall event of 10.00 inches produces a peak stage at 832.93 ft.-amsl. resulting in more than 0.57 feet of freeboard.

#### Grassy Swale

A 1.1-inch storm event was modeled for Pond A using HydroCAD software to determine the discharge to the grassy swale resulting from this event. A 1-hour instantaneous loading of the pond was simulated to determine the maximum discharge rate. The modeled discharge was utilized to calculate the required length of the proposed grassy swale. The velocity of flow discharging from the low-flow device was modeled to be 0.42 ft. per second. Per RG-348, the minimum length is the discharge times 300 seconds, which amounts to 132 feet, which is the length of the swale from the low-flow outlet to the south end of the swale.

The swale was designed 2 feet deep with a 10 ft. bottom width. A 0.50% slope was utilized along the flow path with side slopes not steeper than 3:1 (H:V). Maximum flow depth was modeled to be 1 inch during a 1.1 inch/hour storm.



	Required (af)	Provided (af)		
Water Quality Volume	4.55	6.27		

Table 1: Designed & Provided Water Quality Volume

#### **5** Summary

The Pond is proposed as an extended detention basin and will provide a removal efficiency of 83.75% based on the calculations included in RG-348. Additional information on the construction and maintenance procedures for this system is included in the WPAP application submittal package. The proposed increase in size is adequate to treat the increase in impervious surface. This report is supplemental to that application and is not a standalone document.



I. TCEQ RG-348 SPREADSHEET



Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009	Project Name:	Ronald Reagan Quarry - Shop
	Date Prepared:	3/3/2025

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell. Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.

Characters shown in red are data entry fields.

Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project:	Calculations from RG-348	Pages 3-27 to 3-30
Page 3-29 Equation 3.3: L <sub>M</sub>	= 27.2(A <sub>N</sub> x P)	
where: L <sub>M TOTAL PROJECT</sub> A <sub>N</sub>	<ul> <li>Required TSS removal resulting from the property</li> <li>Net increase in impervious area for the project</li> <li>Average annual precipitation, inches</li> </ul>	osed development = 80% of increased load
Site Data: Determine Required Load Removal Based on the Entire Project County Total project area included in plan * Predevelopment impervious area within the limits of the plan * Total post-development impervious area within the limits of the plan * Total post-development impervious cover fraction *	= Williamson $= 94.44   acres$ $= 0.00   acres$ $= 34.98   acres$ $= 0.37   acres$ $= 32   inches$	
L <sub>M</sub> total project	= <b>30447</b> 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 ea	ach basin):	
Drainage Basin/Outfall Area No.	= 1	
Total drainage basin/outfall area Predevelopment impervious area within drainage basin/outfall area Post-development impervious area within drainage basin/outfall area Post-development impervious fraction within drainage basin/outfall area L <sub>M THIS BASIN</sub>	= 67.38 acres = 0.00 acres = 34.98 acres = 0.52 = 30447 lbs.	
3. Indicate the proposed BMP Code for this basin.		
	Extended Detection	
Proposed BMP Removal efficiency Proposed BMP Removal efficiency	= 75 percent = 6rassy Swale = 70 percent	Aqualogic Cartridge Filter
Proposed BMP	= None	Contech StormFilter
Removal efficiency	= 0 percent	Constructed Wetland Extended Detention Grassy Swale None Retention / Irrigation
Etot	= 83.75	Sand Filter Stormceptor

Vegetated Filter Strips Vortechs Wet Basin Wet Vault

#### 4. Calculate Maximum TSS Load Removed (L<sub>R</sub>) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L<sub>R</sub> = (BMP efficiency) x P x (A<sub>I</sub> x 34.6 + A<sub>P</sub> x 0.54)

where:

 $A_{C}$  = Total On-Site drainage area in the BMP catchment area

A<sub>I</sub> = 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

$A_{C} =$	67.38	acres
$A_1 =$	34.98	acres
$A_P =$	32.40	acres
L <sub>R</sub> =	32905	lbs

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

Desired  $L_{M THIS BASIN} = 30447$  lbs.

F =	= 0.93				
6. Calculate Capture Volume required by the BMP Type for this drainage b	oasin / outfall a	rea.	Calculations from RG	G-348	Pages 3-34 to 3-36
Rainfall Depth = Post Development Runoff Coefficient = On-site Water Quality Volume =	= 2.20 0.37 = 198,162	inches cubic feet	4.55	ac-ft	
	Calculations fr	om RG-348	Pages 3-36 to 3-37		
Off-site area draining to BMP = Off-site Impervious cover draining to BMP = Impervious fraction of off-site area = Off-site Runoff Coefficient = Off-site Water Quality Volume =	= 0.00 = 0.00 = 0 = 0.00 = 0	acres acres cubic feet			
Storage for Sediment -	- 39632				
Total Capture Volume (required water quality volume(s) x 1.20) = The following sections are used to calculate the required water quality vol The values for BMP Types not selected in cell C45 will show NA.	= 237,795 lume(s) for the	cubic feet selected BN	5.46 IP.	ac-ft	
8. Extended Detention Basin System	Designed as F	Required in R	G-348	Pages 3-46 to 3-51	
Required Water Quality Volume for extended detention basin = THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMO	■ 237795 VALS ARE BA	cubic feet SED UPON F	5.46 LOW RATES - NOT (	ac-ft CALCULATED WATER QUALIT	Y VOLUMES
15. Grassy Swales	Designed as F	Required in R	G-348	Pages 3-51 to 3-54	
Design parameters for the swale:					
Drainage Area to be Treated by the Swale = A = Impervious Cover in Drainage Area = Rainfall intensity = i = Swale Slope = Side Slope (z) = Design Water Depth = y = Weighted Runoff Coefficient = C =	= 58.38 = 34.98 = 1.7 = 0.07 = 0.33 = 0.33	3 acres 3 acres 1 in/hr 1 ft/ft 3 ft 3			
A <sub>CS</sub> = cross-sectional area of flow in Swale =	= 104.12	2 sf			
$P_{W} = Wetted Perimeter =$	= 316.6	l feet			
$R_{H}$ = hydraulic radius of flow cross-section = $A_{CS}/P_{W}$ =	= 0.33	3 feet			
	- 0.2	-			
19. BMPs Installed in a Series	Designed as F	Required in R	G-348	Pages 3-32	
Michael E. Barrett, Ph.D P.E. recommended that the coeff	icient for E <sub>2</sub> be	changed fro	om 0.5 to 0.65 on May	/ 3, 2006	
$E_{TOT} = [1 - ((1 - E_1) \times (1 - 0.5E_2) \times (1 - 0.25E_3))] \times 100 =$	= 85.00	) percent	NET EFFICIENCY O	F THE BMPs IN THE SERIES	
EFFICIENCY OF FIRST BMP IN THE SERIES = $E_1$ =	= 75.00	) percent			
EFFICIENCY OF THE SECOND BMP IN THE SERIES = $E_2$ =	= 80.00	) percent			
EFFICIENCY OF THE THIRD BMP IN THE SERIES = $E_3$ =	= 0.00	) percent			

THEREFORE, THE NET LOAD REMOVAL WOULD BE: (A<sub>1</sub> AND A<sub>P</sub> VALUES ARE FROM SECTION 3 ABOVE)

> $L_{R} = E_{TOT} X P X (A_{I} X 34.6 X A_{P} X0.54) =$ 33396.27 lbs

II. POND A & DITCH STAGE STORAGE REPORT



- 825.00 Minimum Stage for Site (ft above NGVD)833.50 Maximum Stage for Site (ft above NGVD)
- 0.50 Increment (ft)
- 1.00 Number of Basins on Site

	Basin #1	
Basin Name:	1.00	
Lower Elevation:	825.00	
Upper Elevation:	833.50	
Lower Area(ac):	0.95	Total Area
Upper Area(ac):	1.54	1.54
<u>Stage</u>	Volume (ac-ft)	Total Volume
825.00	0.00	0.00
825.50	0.48	0.48
826.00	0.98	0.98
826.50	1.50	1.50
827.00	2.04	2.04
827.50	2.59	2.59
828.00	3.16	3.16
828.50	3.75	3.75
829.00	4.36	4.36
829.50	4.98	4.98
830.00	5.62	5.62
830.50	6.27	6.27
831.00	6.95	6.95
831.50	7.64	7.64
832.00	8.35	8.35
832.50	9.08	9.08
833.00	9.82	9.82
833.50	10.58	10.58

- 833.00 Minimum Stage for Site (ft above NGVD)839.00 Maximum Stage for Site (ft above NGVD)
- 1.00 Increment (ft)
- 1.00 Number of Basins on Site

	Basin #1	
Basin Name:		
Lower Elevation:	833.00	
Upper Elevation:	839.00	
Lower Area(ac):	0.04	Total Area
Upper Area(ac):	1.30	1.30
-		
<u>Stage</u>	<u>Volume (ac-ft)</u>	<u>Total Volume</u>
833.00	0.00	0.00
834.00	0.14	0.14
835.00	0.50	0.50
836.00	1.06	1.06
837.00	1.84	1.84
838.00	2.82	2.82
839.00	4.02	4.02

# III. HYDROCAD REPORT





# **Project Notes**

Rainfall events imported from "NRCS-Rain.txt" for 8583 TX Williamson

## Area Listing (all nodes)

Area	CN	Description
(acres)		(subcatchment-numbers)
0.615	98	Driveway 1 (2S)
0.892	98	Driveway 2 (2S)
8.100	98	Existing RAP (2S)
23.180	98	HMP Area (2S)
2.197	98	Maintenance Shop (2S)
32.396	84	Pasture/grassland/range, Fair, HSG D (2S)
67.380	91	TOTAL AREA

## Soil Listing (all nodes)

Area	Soil	Subcatchment
(acres)	Group	Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
32.396	HSG D	2S
34.984	Other	2S
67.380		TOTAL AREA

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Ground Covers (all nodes)							
HSG-A	HSG-B	HSG-C	HSG-D	Other	Total	Ground	Subcatchment
 (acres)	(acres)	(acres)	(acres)	(acres)	(acres)	Cover	Numbers
0.000	0.000	0.000	0.000	0.615	0.615	Driveway 1	2S
0.000	0.000	0.000	0.000	0.892	0.892	Driveway 2	2S
0.000	0.000	0.000	0.000	8.100	8.100	Existing RAP	2S
0.000	0.000	0.000	0.000	23.180	23.180	HMP Area	2S
0.000	0.000	0.000	0.000	2.197	2.197	Maintenance Shop	2S
0.000	0.000	0.000	32.396	0.000	32.396	Pasture/grassland/range, Fair	2S
0.000	0.000	0.000	32.396	34.984	67.380	TOTAL AREA	

# Ground Covers (all nodes)

P:\10853 - Asphalt	Inc\287 - WPAP Shop I	Ronald Reagan	Quarry\C	alculations\				
250310_10853-2	87_HydroCAD_cc	-	-	Type II 24-	hr 25-Ye	ear Rainf	all=7.90"	
Prepared by Wes	tward Environmental,	Inc.		Printed 3/11/2025				
HydroCAD® 10.00-2	24 s/n 04636 © 2018 Hyd	© 2018 HydroCAD Software Solution				Page 6		
Rea	Time span=0.0 Runoff by SCS T ch routing by Stor-Ind+	00-48.00 hrs, dt R-20 method, L Trans method  -	=0.05 hrs JH=SCS, Pond ro	, 961 points Weighted-0 uting by Sto	CN or-Ind met	hod		
Subcatchment 2S:	: <b>Mod</b> Flow	Runoff Area=6 Length=1,728'	67.380 ac Tc=51.9 m	51.92% Im nin CN=91	pervious Runoff=2	Runoff De 61.77 cfs	epth=6.83" 38.326 af	
Pond 4P: Pond		Peak Elev=832	.54' Stora	de=9.150 af	Inflow=2	58.78 cfs	38.326 af	
	Primary=2.02 cfs 4.269	af Secondary=2	246.05 cfs	31.439 af	Outflow=2	48.07 cfs	35.708 af	
Pond 8P: Ditch/Fo	rebay	Peak Elev=835	.80' Stora	ge=0.948 af	Inflow=2 Outflow=2	261.77 cfs 258.78 cfs	38.326 af 38.326 af	
Tatal	D			000 -£ A.	D.		4h - C 001	

Total Runoff Area = 67.380 acRunoff Volume = 38.326 afAverage Runoff Depth = 6.83"48.08% Pervious = 32.396 ac51.92% Impervious = 34.984 ac

 P:\10853 - Asphalt Inc\287 - WPAP Shop Ronald Reagan Quarry\Calculations\

 **250310\_10853-287\_HydroCAD\_cc** Type II 24-hr
 25-Year Rainfall=7.90"

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 Page 7

#### Summary for Subcatchment 2S: Mod

Runoff = 261.77 cfs @ 12.50 hrs, Volume= 38.326 af, Depth= 6.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Type II 24-hr 25-Year Rainfall=7.90"

	Area	(ac)	CN	Desc	cription					
*	23.	180	98	HMF	IMP Area					
*	2.	197	98	Main	laintenance Shop					
*	8.	100	98	Exist	ting RAP					
*	0.	615	98	Drive	eway 1					
*	0.	892	98	Drive	eway 2					
	32.	396	84	Past	ure/grassla	and/range,	Fair, HSG D			
	67.	380	91	Weig	ghted Aver	age				
	32.	396		48.0	8% Pervio	us Area				
	34.984 51.92% Impervious Area									
	Тс	Lengt	h	Slope	Velocity	Capacity	Description			
	(min)	(feet	:)	(ft/ft)	(ft/sec)	(cfs)				
	7.1	10	0 0	0.0250	0.24		Sheet Flow, SF			
							Range n= 0.130 P2= 4.10"			
	44.8	1,62	8 C	0.0300	0.61		Shallow Concentrated Flow, SCF			
							Kv= 3.5 fps			

51.9 1,728 Total

#### Subcatchment 2S: Mod



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 **250310\_10853-287\_HydroCAD\_cc** Type II 24-hr
 25-Year Rainfall=7.90"

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#### Summary for Pond 4P: Pond

Inflow Area =	=	67.380 ac, 5	51.92% Impervious,	Inflow Depth = $6$ .	83" for 25-Year event
Inflow =	:	258.78 cfs @	12.55 hrs, Volume	= 38.326 af	
Outflow =	:	248.07 cfs @	12.65 hrs, Volume	= 35.708 af,	Atten= 4%, Lag= 6.5 min
Primary =	:	2.02 cfs @	12.65 hrs, Volume	= 4.269 af	-
Secondary =		246.05 cfs @	12.65 hrs, Volume	= 31.439 af	

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Starting Elev= 826.50' Surf.Area= 0.000 ac Storage= 1.510 af Peak Elev= 832.54' @ 12.65 hrs Surf.Area= 0.000 ac Storage= 9.150 af (7.640 af above start)

Plug-Flow detention time= 192.9 min calculated for 34.162 af (89% of inflow) Center-of-Mass det. time= 129.1 min (943.7 - 814.7)

Volume	Invert	Avail.Stora	ge Storage Description
#1	825.00'	10.580	af Custom Stage Data Listed below
Elevatio (fee	on Cum. et) (acre	Store -feet <u>)</u>	
825.0	00	0.000	
826.0	00	0.980	
827.0	00	2.040	
828.0	00	3.160	
829.0	00	4.360	
830.0	00	5.620	
831.0	00	6.950	
832.0	00	8.350	
833.0	00	9.820	
833.5	50 1	0.580	
Device	Routing	Invert	Outlet Devices
#1 #2	Primary Secondary	826.50' 830.50'	6.0" Vert. Orifice/Grate C= 0.600 32.0' long x 100.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

**Primary OutFlow** Max=2.02 cfs @ 12.65 hrs HW=832.54' TW=828.00' (Fixed TW Elev= 828.00') **1=Orifice/Grate** (Orifice Controls 2.02 cfs @ 10.26 fps)

Secondary OutFlow Max=245.81 cfs @ 12.65 hrs HW=832.54' (Free Discharge) = Broad-Crested Rectangular Weir (Weir Controls 245.81 cfs @ 3.76 fps)



### Pond 4P: Pond

P:\10853 - Asphalt Inc\287 - WPAP Shop Ronald Reagan Quarry\Calculations\**250310\_10853-287\_HydroCAD\_cc**Type II 24-hr25-Year Rainfall=7.90"Prepared by Westward Environmental, Inc.Printed 3/11/2025HydroCAD® 10.00-24 s/n 04636 © 2018 HydroCAD Software Solutions LLCPage 10

#### Summary for Pond 8P: Ditch/Forebay

Inflow Area	a =	67.380 ac, 5	1.92% Impervious	, Inflow Depth =	6.83" fc	or 25-Year event
Inflow	=	261.77 cfs @	12.50 hrs, Volum	e= 38.326	af	
Outflow	=	258.78 cfs @	12.55 hrs, Volum	e= 38.326	af, Atten=	= 1%, Lag= 3.1 min
Primary	=	258.78 cfs @	12.55 hrs, Volum	e= 38.326	af	

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Peak Elev= 835.80' @ 12.55 hrs Surf.Area= 0.000 ac Storage= 0.948 af

Plug-Flow detention time= 2.7 min calculated for 38.287 af (100% of inflow) Center-of-Mass det. time= 2.7 min ( 814.7 - 812.0 )

Volume	Inve	ert Ava	il.Storag	e Storage Description
#1	833.0	0'	4.020 a	f Custom Stage Data Listed below
Elevatio	on Cu	ım.Store		
(fee	et) (a	cre-feet)		
833.0	)0	0.000		
834.0	00	0.140		
835.0	00	0.500		
836.0	00	1.060		
837.0	00	1.840		
838.0	)0	2.820		
839.0	00	4.020		
Device	Routing		Invert (	Dutlet Devices
#1	Primary	83	33.00' 2	21.0' long x 41.0' breadth Broad-Crested Rectangular Weir
			ŀ	Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			(	Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
Primary	OutFlow	Max=258	8.63 cfs	@ 12.55 hrs HW=835.80' (Free Discharge)

1=Broad-Crested Rectangular Weir (Weir Controls 258.63 cfs @ 4.40 fps)



# Pond 8P: Ditch/Forebay
P:\10853 - Asphalt	Inc\287 - WPAP Shop	Ronald Reagan	Quarry\Calo	culations\		
250310_10853-2	287_HydroCAD_cc	-	Туре	e II 24-hr	100-Year R	ainfall=10.00"
Prepared by Wes	stward Environmental	, Inc.			Prin	ted 3/11/2025
HydroCAD® 10.00-2	24_s/n 04636_© 2018 Hy	droCAD Software	Solutions L	LC		Page 12
Rea Subcatchment 2S	Time span=0. Runoff by SCS T ach routing by Stor-Ind+ : Mod	00-48.00 hrs, dt IR-20 method, L Trans method - Runoff Area=6	=0.05 hrs, 9 JH=SCS, W Pond routi 67.380 ac 5	61 points eighted-C ng by Sto 1.92% Imp	N r-Ind method pervious Run	off Depth=8.90"
	FIOW	Lengin-1,720	10-51.91111	CIN-91	Runon-337.2	9 CIS 49.995 al
Pond 4P: Pond	Primary=2.10 cfs 4.450	Peak Elev=832 af Secondary=3	.93' Storage 318.77 cfs 42	=9.717 af 2.919 af (	Inflow=331.6 Outflow=320.8	5 cfs  49.995 af 7 cfs  47.369 af
Pond 8P: Ditch/Fo	prebay	Peak Elev=836	.30' Storage	=1.297 af (	Inflow=337.2 Outflow=331.6	9 cfs  49.995 af 5 cfs  49.995 af

Total Runoff Area = 67.380 acRunoff Volume = 49.995 afAverage Runoff Depth = 8.90"48.08% Pervious = 32.396 ac51.92% Impervious = 34.984 ac

P:\10853 - Asphalt Inc\287 - WPAP Shop Ronald Reagan Quarr	y\Calculations\	
250310_10853-287_HydroCAD_cc	Type II 24-hr	100-Year Rainfall=10.00"
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# Summary for Subcatchment 2S: Mod

Runoff = 337.29 cfs @ 12.49 hrs, Volume= 49.995 af, Depth= 8.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Type II 24-hr 100-Year Rainfall=10.00"

	Area	(ac)	CN	Desc	cription			
*	23.	180	98	HMF	P Area			
*	2.	197	98	Main	Itenance S	shop		
*	8.	100	98	Exist	ting RAP			
*	0.	615	98	Drive	eway 1			
*	0.	892	98	Drive	eway 2			
	32.	396	84	Past	ure/grassla	and/range,	Fair, HSG D	
	67.	380	91	Weig	ghted Aver	age		
	32.	396		48.0	8% Pervio	us Area		
	34.	984		51.9	2% Imperv	/ious Area		
	Тс	Lengt	h	Slope	Velocity	Capacity	Description	
(	min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)		
	7.1	10	0 0	0.0250	0.24		Sheet Flow, SF	
							Range n= 0.130 P2= 4.10"	
	44.8	1,62	8 (	0.0300	0.61		Shallow Concentrated Flow, SCF	
							Kv= 3.5 fps	

51.9 1,728 Total

#### Subcatchment 2S: Mod



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# Summary for Pond 4P: Pond

.380 ac, 51.92% Imperv	vious, Inflow Depth =	8.90" for 100-Year event
65 cfs @ 12.56 hrs, V	olume= 49.995	af
.87 cfs @ 12.65 hrs, Vo	olume= 47.369	af, Atten= 3%, Lag= 5.8 min
.10 cfs @12.65 hrs, Ve	olume= 4.450	af
.77 cfs @ 12.65 hrs, V	olume= 42.919	af
	.380 ac, 51.92% Imperv 65 cfs @ 12.56 hrs, V 87 cfs @ 12.65 hrs, V 10 cfs @ 12.65 hrs, V 77 cfs @ 12.65 hrs, V	.380 ac, 51.92% Impervious, Inflow Depth =65 cfs @12.56 hrs, Volume=49.99587 cfs @12.65 hrs, Volume=47.36910 cfs @12.65 hrs, Volume=4.45077 cfs @12.65 hrs, Volume=42.919

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Starting Elev= 826.50' Surf.Area= 0.000 ac Storage= 1.510 af Peak Elev= 832.93' @ 12.65 hrs Surf.Area= 0.000 ac Storage= 9.717 af (8.207 af above start)

Plug-Flow detention time= 158.4 min calculated for 45.811 af (92% of inflow) Center-of-Mass det. time= 105.9 min (914.1 - 808.2)

Volume	Invert	Avail.Storag	e Storage Description
#1	825.00'	10.580	af Custom Stage Data Listed below
Elevation	Cum.S	Store	
(feet)	(acre-	feet)	
825.00	0	.000	
826.00	0	.980	
827.00	2	.040	
828.00	3	.160	
829.00	4	.360	
830.00	5	.620	
831.00	6	.950	
832.00	8	.350	
833.00	9	.820	
833.50	10	.580	
Device I	Routing	Invert	Outlet Devices
#1   #2 \$	Primary Secondary	826.50' 830.50'	6.0" Vert. Orifice/Grate C= 0.600 32.0' long x 100.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20, 0.40, 0.60, 0.80, 1.00, 1.20, 1.40, 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

**Primary OutFlow** Max=2.10 cfs @ 12.65 hrs HW=832.93' TW=828.00' (Fixed TW Elev= 828.00') **1=Orifice/Grate** (Orifice Controls 2.10 cfs @ 10.69 fps)

Secondary OutFlow Max=318.51 cfs @ 12.65 hrs HW=832.93' (Free Discharge) 2=Broad-Crested Rectangular Weir (Weir Controls 318.51 cfs @ 4.10 fps)



### Pond 4P: Pond

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 **250310\_10853-287\_HydroCAD\_cc** Type II 24-hr 100-Year Rainfall=10.00"

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#### Summary for Pond 8P: Ditch/Forebay

Inflow Area	a =	67.380 ac, 5	1.92% Impervious	, Inflow Depth =	8.90"	for 100-Y	ear event
Inflow	=	337.29 cfs @	12.49 hrs, Volum	ie= 49.995	af		
Outflow	=	331.65 cfs @	12.56 hrs, Volum	e= 49.995	af, Atter	n= 2%, La	ag= 3.7 min
Primary	=	331.65 cfs @	12.56 hrs, Volum	ie= 49.995	af		

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Peak Elev= 836.30' @ 12.56 hrs Surf.Area= 0.000 ac Storage= 1.297 af

Plug-Flow detention time= 2.6 min calculated for 49.943 af (100% of inflow) Center-of-Mass det. time= 2.7 min (808.2 - 805.5)

Volume	Inve	ert Ava	il.Storag	ge Storage Description
#1	833.0	0'	4.020 a	af Custom Stage Data Listed below
Elevatio	on Cu	um.Store		
(fee	et) (a	cre-feet)		
833.0	)0	0.000		
834.0	00	0.140		
835.0	00	0.500		
836.0	)0	1.060		
837.0	)0	1.840		
838.0	00	2.820		
839.0	)0	4.020		
Device	Routing		nvert	Outlet Devices
#1	Primary	83	3.00'	<b>21.0' long x 41.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
Primary	OutFlow	Max=331	1 24 cfs	@ 12 56 hrs HW=836 30' (Free Discharge)

**1=Broad-Crested Rectangular Weir** (Weir Controls 331.24 cfs @ 4.78 fps)



# Pond 8P: Ditch/Forebay

P:\10853 - Asphalt Inc\287 - WPAP Shop Ronal 250310_10853-287_HydroCAD_cc	ld Reagan Quarry\Calculations\ Constant Intensity 1.00 hrs W	/QV Rainfall=0.80" Printed 3/11/2025
Prepared by westward Environmental, inc.		Plinted 3/11/2025
HydroCAD® 10.00-24 s/n 04636 © 2018 HydroCA	AD Software Solutions LLC	Page 18
Time span=0.00-48 Runoff by SCS TR-20 Reach routing by Stor-Ind+Trans	0.00 hrs, dt=0.05 hrs, 961 points method, UH=SCS, Weighted-CN method - Pond routing by Stor-Ind me	ethod
Cubectebreaut 2C: Med	unoff Area-67 280 as 51 020/ Imponious	Dunoff Donth-0.02"

Total Run	off Area = 67.380 ac Runoff Volume = 1.280 af Average Runoff Depth = 0.23" 48.08% Pervious = 32.396 ac 51.92% Impervious = 34.984 ac
	Outflow=16.75 cfs 1.280 af
Pond 8P: Ditch/Forebay	Peak Elev=833.44' Storage=0.062 af Inflow=16.82 cfs 1.280 af
	Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
Pond 4P: Pond	Peak Elev=827.67' Storage=2.790 af Inflow=16.75 cfs 1.280 af
	Flow Length=1,728' Tc=51.9 min CN=91 Runoff=16.82 cfs 1.280 af
Subcatchment 2S: Mod	Runoff Area=67.380 ac 51.92% Impervious Runoff Depth=0.23"

ک:\10853 - Asphalt Inc\287 - WPAP Shop Ronald Reagan Quarry\Calculations\						
250310_10853-287_HydroCAD_cc	Constant Intensity 1.00 hrs	WQV Rainfall=0.80"				
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# Summary for Subcatchment 2S: Mod

Runoff = 16.82 cfs @ 1.42 hrs, Volume= 1.280 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Constant Intensity 1.00 hrs WQV Rainfall=0.80"

	Area	(ac)	CN	Desc	cription			
*	23.	180	98	HMF	P Area			_
*	2.	197	98	Main	itenance S	hop		
*	8.	100	98	Exist	ting RAP			
*	0.	615	98	Drive	eway 1			
*	0.	892	98	Drive	eway 2			
	32.	396	84	Past	ure/grassla	and/range,	Fair, HSG D	
	67.	380	91	Weig	ghted Aver	age		
	32.	396		48.0	8% Pervio	us Area		
	34.	984		51.9	2% Imperv	ious Area		
	Tc	Lengt	h :	Slope	Velocity	Capacity	Description	
	(min)	(feet	t)	(ft/ft)	(ft/sec)	(cfs)		
	7.1	10	0 0	.0250	0.24		Sheet Flow, SF	
							Range n= 0.130 P2= 4.10"	
	44.8	1,62	80	.0300	0.61		Shallow Concentrated Flow, SCF	
							Kv= 3.5 fps	

51.9 1,728 Total

#### Subcatchment 2S: Mod



2:\10853 - Asphalt Inc\287 - WPAP Shop Ronald Reagan Quarry\Calculations\						
250310_10853-287_HydroCAD_cc	Constant Intensity 1.00 hrs	WQV Rainfall=0.80"				
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# Summary for Pond 4P: Pond

Inflow Area =	67.380 ac, 51	.92% Impervious, In	flow Depth = 0.23" for WQV event
Inflow =	16.75 cfs @	1.44 hrs, Volume=	1.280 af
Outflow =	0.00 cfs @	0.00 hrs, Volume=	0.000 af, Atten= 100%, Lag= 0.0 min
Primary =	0.00 cfs @	0.00 hrs, Volume=	0.000 af
Secondary =	0.00 cfs @	0.00 hrs, Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Starting Elev= 826.50' Surf.Area= 0.000 ac Storage= 1.510 af Peak Elev= 827.67' @ 6.60 hrs Surf.Area= 0.000 ac Storage= 2.790 af (1.280 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow) Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Stora	ge Storage Description
#1	825.00'	10.580	af Custom Stage Data Listed below
Elevatio (fee	n Cum. t) (acre	Store -feet)	
825.0	0 (	0.000	
826.0	0 0	0.980	
827.0	0 2	2.040	
828.0	0 3	3.160	
829.0	0 4	4.360	
830.0	0 5	5.620	
831.0	0 6	6.950	
832.0	3 0	3.350	
833.0	0	9.820	
833.5	0 10	0.580	
Device	Routing	Invert	Outlet Devices
#1	Primary	826.50'	6.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	830.50'	<b>32.0' long x 100.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=826.50' TW=828.00' (Fixed TW Elev= 828.00') **1=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=826.50' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs) 

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 **250310\_10853-287\_HydroCAD\_cc** Constant Intensity 1.00 hrs
 WQV Rainfall=0.80"

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# Pond 4P: Pond

P:\10853 - Asphalt Inc\287 - WPAP Shop Ronald Reag	gan Quarry\Calculations\	
250310_10853-287_HydroCAD_cc	Constant Intensity 1.00 hrs	WQV Rainfall=0.80"
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# Summary for Pond 8P: Ditch/Forebay

Inflow Area	a =	67.380 ac, 51	.92% Impervious, Ir	nflow Depth = 0.23"	for WQV event
Inflow	=	16.82 cfs @	1.42 hrs, Volume=	1.280 af	
Outflow	=	16.75 cfs @	1.44 hrs, Volume=	1.280 af, Att	en= 0%, Lag= 1.7 min
Primary	=	16.75 cfs @	1.44 hrs, Volume=	1.280 af	

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs Peak Elev= 833.44' @ 1.44 hrs Surf.Area= 0.000 ac Storage= 0.062 af

Plug-Flow detention time= 3.4 min calculated for 1.278 af (100% of inflow) Center-of-Mass det. time= 3.4 min (94.8 - 91.4)

Volume	Invert	Avail.Stora	ge Storage Description
#1	833.00'	4.020	af Custom Stage Data Listed below
Elevatio (fee	n Cum t) (acro	.Store e-feet)	
833.0	0	0.000	
834.0	0	0.140	
835.0	0	0.500	
836.0	0	1.060	
837.0	0	1.840	
838.0	0	2.820	
839.0	0	4.020	
Device	Routina	Invert	Outlet Devices
#1	Primary	833.00'	<b>21.0' long x 41.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.63
	OutFlow M	lov-16 70 of	@ 1.44  bra  LIM = 922.44! (Free Discharge)

Primary OutFlow Max=16.70 cfs @ 1.44 hrs HW=833.44' (Free Discharge) —1=Broad-Crested Rectangular Weir (Weir Controls 16.70 cfs @ 1.80 fps) 

 P:\10853 - Asphalt Inc\287 - WPAP Shop Ronald Reagan Quarry\Calculations\

 **250310\_10853-287\_HydroCAD\_cc** Constant Intensity 1.00 hrs
 WQV Rainfall=0.80"

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# Pond 8P: Ditch/Forebay









