Texas Materials Group Inc.

# Contributing Zone Plan
# CZP

## Ronald Reagan CBP
## Georgetown, Texas
## Williamson County

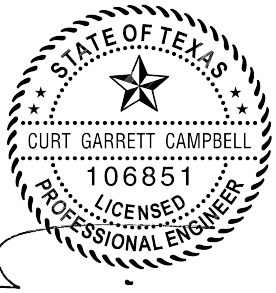
Submitted to: TCEQ Region 11, Austin

Prepared By:

WESTWARD
Environmental. Engineering. Natural Resources.

Boerne, Texas
830-249-8284

Date: October 2024
Project No. 10204-2
-NMS-




Signature: _____
Curt G. Campbell, PE - License No. 106851
TX PE Firm No. 4524
Date: 11/15/2024

# Modification of a Previously Approved Contributing Zone Plan Checklist

- **Edwards Aquifer Application Cover Page (TCEQ-20705)**
- **Modification of a Previously Approved Contributing Zone Plan Form (TCEQ-10259)**

  Attachment A - Original Approval Letter and Approved Modification Letters
  Attachment B - Narrative of Proposed Modification
  Attachment C - Current site plan of the approved project

- **Contributing Zone Plan Application (TCEQ-10257)**
- **Storm Water Pollution Prevention Plan (SWPPP)**

  **-OR-**

- **Temporary Stormwater Section (TCEQ-0602)**
- **Copy of Notice of Intent (NOI)**
- **Agent Authorization Form (TCEQ-0599), if application submitted by agent**
- **Application Fee Form (TCEQ-0574)**
- **Check Payable to the "Texas Commission on Environmental Quality"**
- **Core Data Form (TCEQ-10400)**

## Texas Commission on Environmental Quality

# Edwards Aquifer Application Cover Page

### Our Review of Your Application

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

### Administrative Review

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

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

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

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

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

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

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

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

### Technical Review

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

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

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

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

**Mid-Review Modifications**

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

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

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

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

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

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

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

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **1. Regulated Entity Name:** Ronald Reagan CBP | | | | | **2. Regulated Entity No.:** 111165882 | | | | |
| **3. Customer Name:** Texas Materials Group Inc. | | | | | **4. Customer No.:** 600317473 | | | | |
| **5. Project Type:** **(Please circle/check one)** | New | | Modification | | Extension | | Exception | | |
| **6. Plan Type:** **(Please circle/check one)** | WPAP | CZP | SCS | UST | AST | EXP | EXT | Technical Clarification | Optional Enhanced Measures |
| **7. Land Use:** **(Please circle/check one)** | Residential | | Non-residential | | | **8. Site (acres):** | | 15 | |
| **9. Application Fee:** | $6,500 | | **10. Permanent BMP(s):** | | | | | Ext. Detention Basin w/ Grassy Swale, VFS, Earthen Berms, Concrete Containment | |
| **11. SCS (Linear Ft.):** | N/A | | **12. AST/UST (No. Tanks):** | | | | | 8 | |
| **13. County:** | Williamson | | **14. Watershed:** | | | | | Brazos River Basin | |

# Application Distribution

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

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

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

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

| **San Antonio Region** | | | | | |
|---|---|---|---|---|---|
| **County:** | **Bexar** | **Comal** | **Kinney** | **Medina** | **Uvalde** |
| Original (1 req.) | ___ | ___ | ___ | ___ | ___ |
| Region (1 req.) | ___ | ___ | ___ | ___ | ___ |
| County(ies) | ___ | ___ | ___ | ___ | ___ |
| Groundwater Conservation District(s) | ___ Edwards Aquifer Authority<br>___Trinity-Glen Rose | ___Edwards Aquifer Authority | ___Kinney | ___EAA<br>___Medina | ___EAA<br>___Uvalde |
| City(ies) Jurisdiction | ___Castle Hills<br>___Fair Oaks Ranch<br>___Helotes<br>___Hill Country Village<br>___Hollywood Park<br>___San Antonio (SAWS)<br>___Shavano Park | ___Bulverde<br>___Fair Oaks Ranch<br>___Garden Ridge<br>___New Braunfels<br>___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.<br>Curt G. Campbell, PE<br>TX License No. 106851 \| TX Firm No. 4524 |
| Print Name of Customer/Authorized Agent<br>11/15/2024 |
| Signature of Customer/Authorized Agent Date |

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

# Modification of a Previously Approved Contributing Zone Plan

**Texas Commission on Environmental Quality**

for Regulated Activities on the Edwards Aquifer Recharge Zone and Transition Zone and Relating to 30 TAC 213.4(j), 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.***

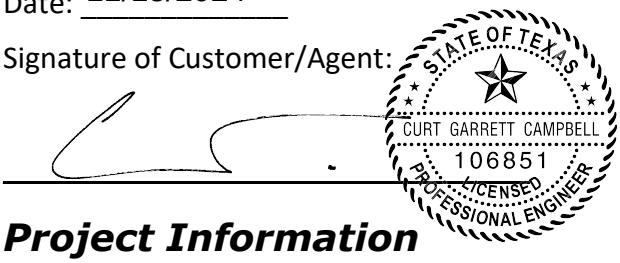
## *Signature*

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 **Modification of a Previously Approved Contributing Zone Plan** is hereby submitted for TCEQ review and executive director approval. The request was prepared by:

Print Name of Customer/Agent: Curt Campbell, PE

Date: 11/15/2024

Signature of Customer/Agent:




## *Project Information*

1. Current Regulated Entity Name: Ronald Reagan CBP
   Original Regulated Entity Name: Ronald Reagan CBP
   Assigned Regulated Entity Number(s) (RN): 111165882
   Edwards Aquifer Protection Program ID Number(s): 11002339
   ☐ The applicant has not changed and the Customer Number (CN) is:
   ☒ The applicant or Regulated Entity has changed. A new Core Data Form has been provided.

2. ☒ **Attachment A: Original Approval Letter and Approved Modification Letters**. A copy of the original approval letter and copies of any modification approval letters are attached.

3. A modification of a previously approved plan is requested for (check all that apply):

☒ Any physical or operational modification of any best management practices or structure(s), including but not limited to temporary or permanent ponds, dams, berms, silt fences, and diversionary structures;
☐ Any change in the nature or character of the regulated activity from that which was originally approved;
☐ A change that would significantly impact the ability to prevent pollution of the Edwards Aquifer and hydrologically connected surface water; or
☐ Any development of land previously identified in a contributing zone plan as undeveloped.

4. ☒ Summary of Proposed Modifications (select plan type being modified). If the approved plan has been modified more than once, copy the appropriate table below, as necessary, and complete the information for each additional modification.

| ***CZP Modification Summary*** | ***Approved Project*** | ***Proposed Modification*** |
|---|---|---|
| Acres | 15.01 | 15.01 |
| Type of Development | Industrial | Industrial |
| Number of Residential Lots | N/A | N/A |
| | 1 | 1 |
| Impervious Cover (acres) | 4.38 | 9.58 |
| Impervious Cover (%) | 29.18% | 63.82 |
| Permanent BMPs | Drainage Basin, VFS, Earthen Berms | Drainage Basin, VFS, Earthen Berms |
| Other | N/A | N/A |

| ***AST Modification Summary*** | ***Approved Project*** | ***Proposed Modification*** |
|---|---|---|
| Number of ASTs | 8 | 8 |
| Other | N/A | N/A |

| ***UST Modification Summary*** | ***Approved Project*** | ***Proposed Modification*** |
|---|---|---|
| Number of USTs | N/A | N/A |
| Other | N/A | N/A |

5. ☒ **Attachment B: Narrative of Proposed Modification**. A detailed narrative description of the nature of the proposed modification is attached. It discusses what was approved, including previous modifications, and how this proposed modification will change the approved plan.

6. ☒ **Attachment C: Current Site Plan of the Approved Projec**t. A current site plan showing the existing site development (i.e., current site layout) at the time this application for modification is attached. A site plan detailing the changes proposed in the submitted modification is required elsewhere.
   - ☐ The approved construction has not commenced. The original approval letter and any subsequent modification approval letters are included as Attachment A to document that the approval has not expired.
   - ☐ The approved construction has commenced and has been completed. Attachment C illustrates that the site was constructed as approved.
   - ☒ The approved construction has commenced and has been completed. Attachment C illustrates that the site was **not** constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was constructed as approved.
   - ☐ The approved construction has commenced and has **not** been completed. Attachment C illustrates that, thus far, the site was **not** constructed as approved.

7. ☒ Acreage has not been added to or removed from the approved plan.
   ☐ Acreage has been added to or removed from the approved plan and is discussed in *Attachment B: Narrative of Proposed Modification*.

8. ☒ 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.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## CZP Modification Attachment A

**Original Approval Letter and Approved Modification Letters.**

See attached copy of the original approval letter dated March 18, 2021

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

March 18, 2021

Mr. Thomas Playfair
Lone Star Concrete, LLC
11675 Jollyville Road
Austin, Texas 78759-4105

Re: Edwards Aquifer, Williamson County

NAME OF PROJECT: Ronald Reagan CBP; Located one mile northeast of Ronald Reagan Blvd. and FM 3405; Williamson County, Texas

TYPE OF PLAN: Request for Approval of a Contributing Zone Plan (CZP); 30 Texas Administrative Code (TAC) Chapter 213 Subchapter B Edwards Aquifer

Regulated Entity No. RN111165882; Additional ID No. 11002339

Dear Mr. Playfair:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the CZP for the above-referenced project submitted to the Austin Regional Office by Westward Environmental, Inc. on behalf of Lone Star Concrete, LLC on January 8, 2021. Final review of the CZP was completed after additional material was received on February 23, 2021 and March 9, 2021. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

## PROJECT DESCRIPTION

The commercial project is on a 15.01-acre site and proposes 4.38 acres (29.18 percent) of impervious cover. The project proposes the construction of a concrete batch plant (CBP), stockpile area and entrance/exit driveway, plus the installation of eight (8) aboveground storage tanks (AST). According to a letter dated March 8, 2021, signed by Mr. James L. Lancaster, OS 32397, with Williamson County, the site is suitable for the use of an on-site sewage facility.

The proposed ASTs on the Contributing Zone include the items listed in the table below.

| AST | Gallons | Tank Material | Contents of Tank |
|---|---|---|---|
| 1 | 500 | Single-Walled Steel | Used Oil |
| 2 | 350 | Single-Walled Steel | Diesel Exhaust Fluid |
| 3 | 350 | Single-Walled Steel | Diesel Exhaust Fluid |
| 4 | 350 | Single-Walled Steel | Antifreeze |
| 5 | 250 | Single-Walled Steel | Hydraulic Oil |
| 6 | 250 | Single-Walled Steel | Motor Oil 15-40 |
| 7 | 5,000 | Double-Walled Steel | Red Diesel |
| 8 | 10,000 | Double-Walled Steel | Clear Diesel |
| Total | 17,050 | | |

ASTs 1 thru 6 are single-walled steel tanks (UL-142) that will be placed within a concrete containment structure sized to capture one and one-half (1.5) times the cumulative storage capacity of ASTs 1 thru 6. Any piping which extends outside of the proposed concrete containment will be double-walled.

ASTs 7 and 8 are double-walled steel tanks (UL-142). Each tank consists of a primary tank within a sealed secondary tank. The interstitial area between the two tanks will contain any product leaks from the primary tank. The interstitial space between the primary and secondary tanks will be inspected visually on a monthly basis by operating personnel to detect any leak product from the primary tank. Records of inspections will be maintained on-site.

## PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one (1) extended detention basin (Pond A) in series with a grassy swale and one (1) engineered vegetative filter strip, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 3,812 pounds of TSS generated from the 4.38 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

## SPECIAL CONDITIONS

I. The permanent pollution abatement measures shall be operational prior to first occupancy of the facility.

II. All sediment and/or media removed from the water quality basin during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.
2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.
3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved Contributing Zone Plan and this notice of approval shall be maintained at the project location until all regulated activities are completed.
5. Any modification to the activities described in the referenced CZP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.
6. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the Austin Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the name of the approved plan and file number for the regulated activity, the date on which the regulated activity will commence, and the name of the prime contractor with the name and telephone number of the contact person.
7. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved Storm Water Pollution Prevention Plan (SWPPP) must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

During Construction:

8. During the course of regulated activities related to this project, the applicant or his agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.
9. If sediment escapes the construction site, the 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). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been significantly reduced. 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).

10. Intentional discharges of sediment laden water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

11. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

12. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

13. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 5, above.

<u>After Completion of Construction:</u>

14. Owners of permanent BMPs and measures must ensure that the 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 Austin Regional Office within 30 days of site completion.

15. The applicant shall be 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. A copy of the transfer of responsibility must be filed with the executive director through the Austin Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

16. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Contributing Zone Plan. If the new owner intends to commence any new regulated activity on the site, a new Contributing Zone Plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

17. A Contributing Zone Plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Contributing Zone Plan must be submitted to the Austin Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

18. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact the Edwards Aquifer Protection Program Austin Regional Office at (512) 339-2929.

Sincerely,

Robert Sadlier, Section Manager
Edwards Aquifer Protection Program
Texas Commission on Environmental Quality

RCS/dpm

Enclosure: Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Curt Campbell, P.E., Westward Environmental, Inc.
Ms. Natalie Sales, Westward Environmental, Inc.

**Change in Responsibility for Maintenance**
**on Permanent Best Management Practices and Measures**

The applicant is no longer responsible for maintaining the permanent best management practice (BMP) and other measures. The project information and the new entity responsible for maintenance is listed below.

Customer: _____

Regulated Entity Name: _____

Site Address: _____

City, Texas, Zip: _____

County: _____

Approval Letter Date: _____

BMPs for the project: _____

New Responsible Party: _____

Name of contact: _____

Mailing Address: _____

City, State: _____ Zip: _____

Telephone: _____ FAX: _____

_____ _____

Signature of New Responsible Party Date

I acknowledge and understand that I am assuming full responsibility for maintaining all permanent best management practices and measures approved by the TCEQ for the site, until another entity assumes such obligations in writing or ownership is transferred.

**If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.**

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

**CZP Modification Attachment B**

## Narrative of Proposed Modification

Under the previously approved CZP, Lone Star Concrete, LLC constructed a concrete batch plant (CBP) at their Ronald Reagan CBP Site in Williamson County, Texas. The site is located approximately 14 miles west and north of the City of Georgetown, on the southeastern side of Ronald Reagan Boulevard. The site is approximately 15 acres of land located entirely over the Edwards Aquifer Contributing Zone, more than 5-miles upgradient of the Recharge Zone. On June 27, 2024 the property was sold to Texas Materials Group Inc. As of June 20, 2024, the site is currently under audit.

Regulated activities at the site consisted of clearing, grading, operation of the concrete batch plant, stockpile area, an extended detention basin, the construction of tank containments, and the installation of aboveground storage tanks.

A Concrete Batch Plant (CBP) was constructed as shown on the CZP Site Map. The purpose of this modification is to increase the impervious cover of the CBP pad and driveway from 4.38 acres to 9.58 acres, and to reconfigure the design of Pond A.

To treat runoff from the proposed Concrete Batch Plant area, an extended detention basin (Pond A) and grassy swale were constructed as shown on the CZP Site Map. Pond A was built along the southwestern edge of the Concrete Batch plant to treat runoff from the CBP Area, stockpile area, and other associated impervious areas. Pond A was constructed in accordance with the approved plans.

With the approval to construct received on March 18, 2021, 8 ASTs were approved; at this time 2 regulated tanks have been installed, Secondary containment for the tanks was provided by double-walled tanks. The diesel fueling tanks were placed on a concrete pad. Any piping (steel) which extends outside of the proposed concrete containment is double walled. No modifications are proposed for the previously approved tanks.

With this modification, Texas Materials Inc. proposes an increase in the pond size from 1.48 acres to 3.00 acres due to the increase in impervious cover from 4.38 acres to 9.58 acres. The additional disturbed area to the northeast will be graded to drain toward a swale that will then direct stormwater to the northernmost additional acres of the pond. The additional parking area east of the driveway will also include a grade break to direct the east portion of the impervious surface to the swale which again will direct stormwater to the northernmost additional acres of the pond.

A paved entrance/exit driveway was constructed for access to the CBP site (as shown on the CZP Site Map). This drive was graded to drain to a 50’ wide vegetative filter strip.

Permanent BMPs at the site include concrete containment, an extended detention basin (Pond A) with a grassy swale, and the vegetative filter strip.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

**CZP Modification Attachment C**

## Current Site Plan of the Approved Project

See attached Existing Conditions Map.

N

0 40 80 160

SCALE: 1" = 80'

**LEGEND**

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING FENCELINE
- 900 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DITCH–SWALE
- SF SILT FENCE
- BERM (TOP & TOE OF SLOPE)
- ROCK BERM
- STK STOCKPILE
- W WATER WELL
- FLOW ARROW
- ASPHALT AREA
- CONCRETE AREA
- BASE AREA
- DISTURBED AREA
- WATER BODY AREA

RONALD W. REAGAN BLVD.

EXISTING OSSF AREA

VEGETATIVE FILTER STRIP

FUEL TANKS (CONTAINMENT A)

PARKING SPACES

SCALE HOUSE

LOAD & GO

FENCE SCREEN

WATER TANK PAD

EARTHEN BERM

RECYCLER

4–BAY SHOP

BATCH HOUSE

12" CURB

500 GAL. WATER TANK

CONEX

STOCKPILE AREAS

# EXISTING CONDITIONS

CZP MODIFICATION

TEXAS MATERIALS INC.

RONALD REAGAN, WILLIAMSON COUNTY, TX

11/15/2024

STATE OF TEXAS
CURT GARRETT CAMPBELL
106851
LICENSED PROFESSIONAL ENGINEER

Curt G. Campbell, P.E.
License No. 106851

| REV. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |


WESTWARD
Environmental. Engineering. Natural Resources.
P.O. Box 2205 Boerne, Texas 78006
(830) 249–8284 Fax: (830) 249–0221
TBPE REG. NO.: F–4524
TBPG REG. NO.: 50112


SHEET NO.: 3 OF 7

| | |
|---|---|
| JOB NO.: | 10204–248 |
| SCALE: 1" = | 80' |
| CHECKED BY: | CGC |
| DRAWN BY: | NMS |
| ISSUE DATE: | 10/15/2024 |
| IMAGE: | N/A |

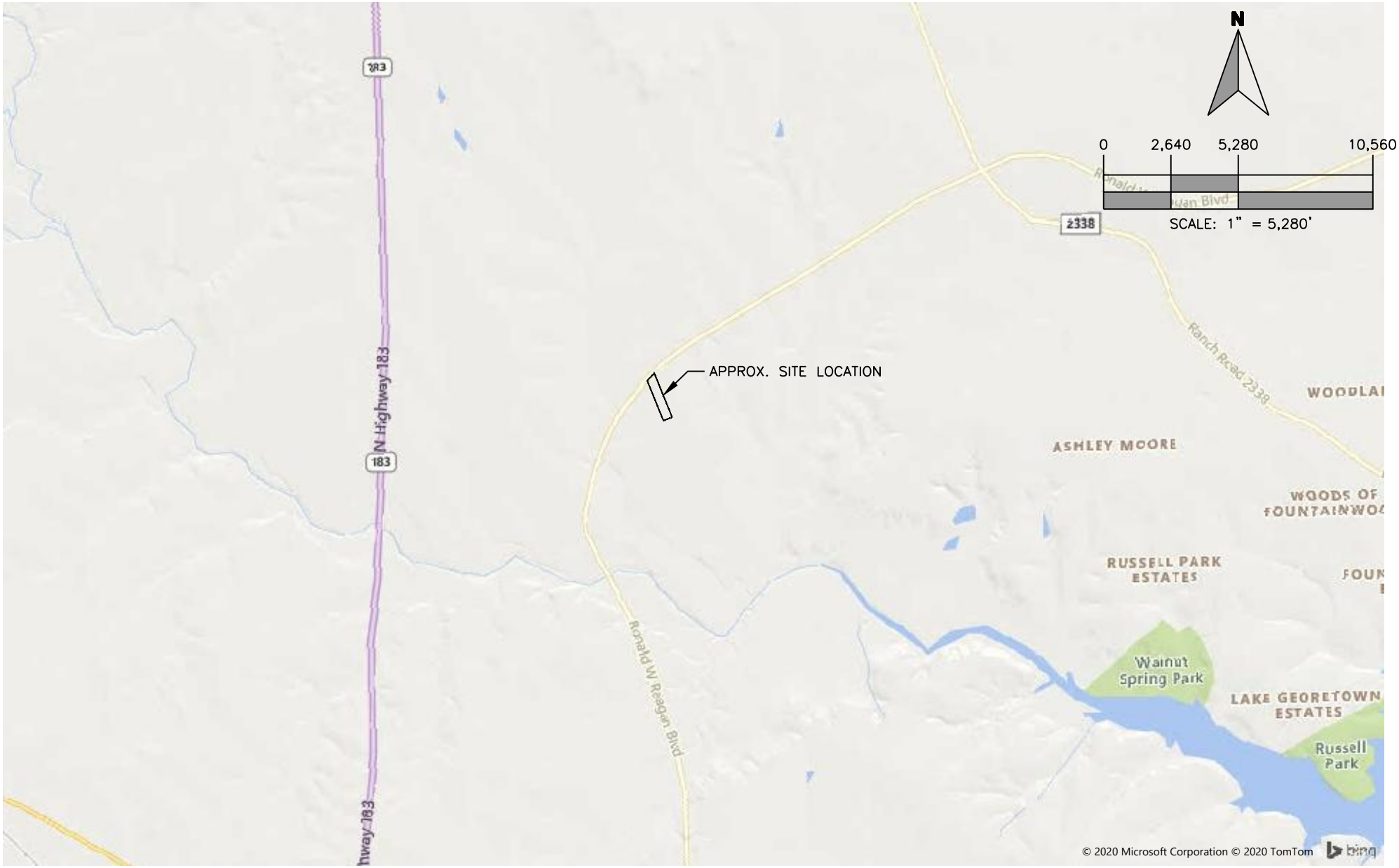
**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Contributing Zone Plan Attachment A

**Road Map**

See attached Road Map




SHEET NO.: 1 OF 7

| IMAGE: N/A | |
|---|---|
| ISSUE DATE: | 8/28/2024 |
| DRAWN BY: | NMS |
| CHECKED BY: | CGC |
| SCALE: 1" = | 5,280 |
| JOB NO.: | 10204-248 |

# ROAD MAP

CONTRIBUTING ZONE PLAN MOD
TEXAS MATERIALS GROUP INC.
RONALD REAGAN BLVD, GEORGETOWN, TX

| REV. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |
| | | | |

11/15/2024

STATE OF TEXAS
CURT GARRETT CAMPBELL
106851
LICENSED
PROFESSIONAL ENGINEER

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TBPE REG. NO.: F-4524
TBPG REG. NO.: 50112

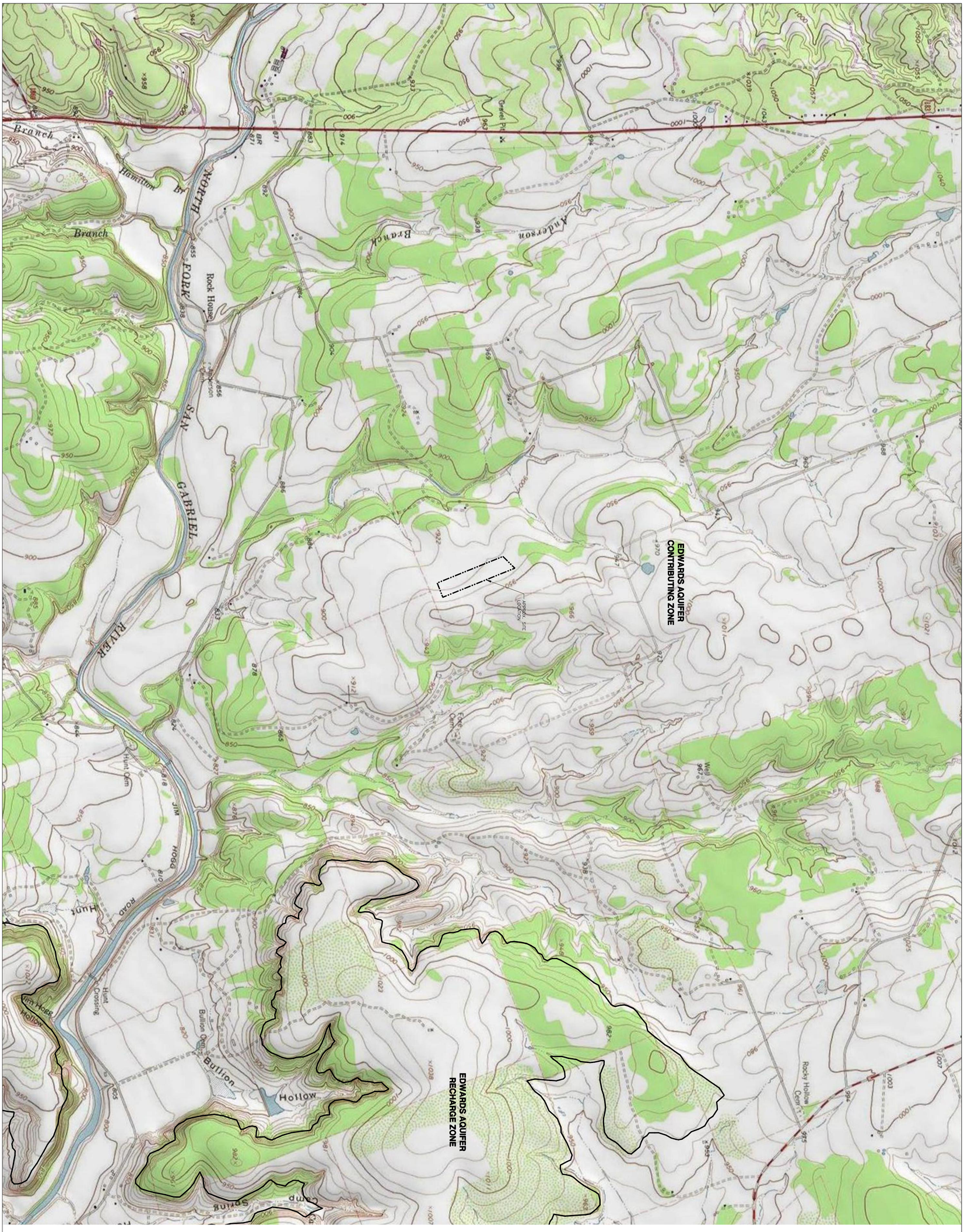
**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Contributing Zone Plan Attachment B

**USGS Quadrangle Map**

See attached USGS Map




# USGS MAP

CONTRIBUTING ZONE PLAN
TEXAS MATERIALS INC.
RONALD REAGAN BLVD, GEORGETOWN, TX

11/15/2024

Gurt G. Garrett, P.E.
License No. 106851

| REV | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |


WESTWARD
Environmental. Engineering. Natural Resources.
P.O. Box 2205 Boerne, Texas 78006
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TBPE REG. NO.: F-4524
TBPG REG. NO.: 50112


SHEET NO.: 2 OF 7

| | |
|---|---|
| IMAGE: | N/A |
| ISSUE DATE: | 8/28/2024 |
| DRAWN BY: | NMS |
| CHECKED BY: | GGG |
| SCALE: | 1" = 1,000' |
| JOB NO.: | 13024-248 |

# Contributing Zone Plan Application

**Texas Commission on Environmental Quality**

for Regulated Activities on the Contributing Zone to the Edwards Aquifer and Relating to 30 TAC §213.24(1), Effective June 1, 1999

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

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

## *Signature*

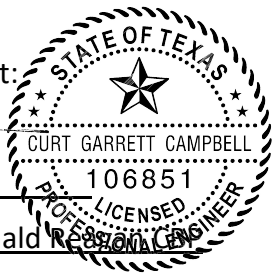
To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **Contributing Zone Plan Application** is hereby submitted for TCEQ review and Executive Director approval.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

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

TX License No. 106851 | TX Firm No. 4524

Date: 11/15/2024

Signature of Customer/Agent:




**Regulated Entity Name**: Ronald Reagan Ext.

## *Project Information*

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

   Contact Person: Melissa Castro
   Entity: Texas Materials Group, Inc.
   Mailing Address: 1320 Arrow Point Drive, Suite 600
   City, State: Cedar Park, Texas Zip: 78613

Telephone: (512) 806-6323 Fax:
Email Address: melissa.castro@texasmaterials.com

5. Agent/Representative (If any):

Contact Person: Curt Campbell
Entity: Westward Environmental, Inc.
Mailing Address: P.O. Box 2205
City, State: Boerne, TX Zip: 78006
Telephone: (830) 249-8284 Fax: (830) 249-0221
Email Address: ccampbell@westwardenv.com

6. Project Location:

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

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

From I-35 go West on Hwy. 29 for approx.. 8 miles. Exit Ronald Reagan Blvd go approx.. 6 miles North and property will be on the right or SE side of road.

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

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

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

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

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

11. Existing project site conditions are noted below:

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

12. The type of project is:

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

13. Total project area (size of site): 15.01 Acres

    Total disturbed area: 9.50 Acres

14. Estimated projected population: 25

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

**Article I. Table 1 - Impervious Cover**

| ***Impervious Cover of Proposed Project*** | ***Sq. Ft.*** | ***Sq. Ft./Acre*** | ***Acres*** |
|---|---|---|---|
| Structures/Rooftops | - | ÷ 43,560 = | - |
| Parking | - | ÷ 43,560 = | - |
| Other paved surfaces | 417,304.80 | ÷ 43,560 = | 9.58 |
| Total Impervious Cover | 417,304.80 | ÷ 43,560 = | 9.58 |

**Total Impervious Cover** 9.58 **÷ Total Acreage** 15.01 **X 100 =** 63.82**% Impervious Cover**

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

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

## *For Road Projects Only*

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

☒ N/A

18. Type of project:

☐ TXDOT road project.
☐ County road or roads built to county specifications.
☐ City thoroughfare or roads to be dedicated to a municipality.
☐ Street or road providing access to private driveways.

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

☐ Concrete
☐ Asphaltic concrete pavement
☐ Other: _____

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

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

21. Pavement Area:

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

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

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

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

## *Stormwater to be generated by the Proposed Project*

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

## *Wastewater to be generated by the Proposed Project*

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

☐ N/A

26. Wastewater will be disposed of by:

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

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

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

☐ Sewage Collection System (Sewer Lines):

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

☐ Existing.
☐ Proposed.

☒ N/A

## *Permanent Aboveground Storage Tanks (ASTs) ≥ 500 Gallons*

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

☐ N/A

27. Tanks and substance stored:

**Article II. Table 2 - Tanks and Substance Storage**

**Diesel Pad**

| *AST Number* | *Size (Gallons)* | *Substance to be Stored* | *Tank Material* |
|---|---|---|---|
| 8 | 10,000 | Clear Diesel | Double-Walled Tank |

***Tanks to be Double-Walled* Total = 10,000 Gallons**

**Diesel Pad**

| *AST Number* | *Size (Gallons)* | *Substance to be Stored* | *Tank Material* |
|---|---|---|---|
| 7 | 5,000 | Red Diesel | Double-Walled Tank |

***Tanks to be Double-Walled* Total = 5,000 Gallons**

**Containment A**

| *AST Number* | *Size (Gallons)* | *Substance to be Stored* | *Tank Material* |
|---|---|---|---|
| 6 | 250 | Motor Oil 15-40 | SW Steel |
| 5 | 250 | Hydraulic Oil | SW Steel |
| 4 | 350 | Anti-freeze | Plastic Tote |
| 3 | 350 | DEF | Plastic Tote |
| 2 | 350 | DEF | SW Steel |
| 1 | 500 | Used Oil | SW Steel |

**Total x 1.5 = 3,075 Gallons**

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

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

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

**Article III. Table 3 - Secondary Containment**

**Containment A**

| *Length (L)(Ft.)* | *Width(W)(Ft.)* | *Height (H)(Ft.)* | *L x W x H = (Ft.$^3$)* | *Gallons* |
|---|---|---|---|---|
| 32.0 | 18.5 | 1.0 | 592.0 | 4,428.5 |

**(see Attachment G) Total: 4,428.5 Gallons**

30. Piping:

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

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

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

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

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

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

## *Site Plan Requirements*

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

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

Site Plan Scale: 1" = 100'.

35. 100-year floodplain boundaries:

☐ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
☒ No part of the project site is located within the 100-year floodplain.
The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s): FEMA Firm 48491C0275E effective 9/26/2008

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

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

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

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

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

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

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

42. ☐ Surface waters (including wetlands).

☒ N/A

43. ☒ Locations where stormwater discharges to surface water.

☐ There will be no discharges to surface water.

44. ☐ Temporary aboveground storage tank facilities.

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

45. ☒ Permanent aboveground storage tank facilities.

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

46. ☒ Legal boundaries of the site are shown.

## *Permanent Best Management Practices (BMPs)*

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

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

☐ N/A

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

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

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

☐ N/A

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

☐ N/A

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ N/A

55. ☒ **Attachment M - Construction Plans**. Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer, and are signed, sealed, and dated. Construction plans for the proposed permanent BMPs and measures are attached and include: Design calculations, TCEQ Construction Notes, all proposed structural plans and specifications, and appropriate details.

☐ N/A

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

☒ Prepared and certified by the engineer designing the permanent BMPs and measures

☒ Signed by the owner or responsible party

☒ Outlines specific procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofit.

☒ Contains a discussion of record keeping procedures

☐ N/A

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

☒ N/A

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

☐ N/A

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

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

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

## *Administrative Information*

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

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

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

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

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

**Contributing Zone Plan Attachment C**

## Project Narrative

Under the previously approved CZP, Lone Star Concrete, LLC constructed a concrete batch plant (CBP) at their Ronald Reagan CBP Site in Williamson County, Texas. The site is located approximately 14 miles west and north of the City of Georgetown, on the southeastern side of Ronald Reagan Boulevard. The site is approximately 15 acres of land located entirely over the Edwards Aquifer Contributing Zone, more than 5-miles upgradient of the Recharge Zone. On June 27, 2024 the property was sold to Texas Materials Group Inc. As of June 20, 2024, the site is currently under audit.

With the approval to construct received on March 18, 2021, regulated activities at the site consisted of clearing, grading, operation of the concrete batch plant, stockpile area, an extended detention basin, the construction of tank containments, and the installation of aboveground storage tanks - 8 ASTs were approved; at this time 2 regulated tanks have been installed,. Secondary containment for the tanks was provided by double-walled tanks. Any piping (steel) which extends outside of the proposed concrete containment is double walled. The diesel fueling tanks were placed on a concrete pad. No modifications are proposed for the previously approved tanks.

A Concrete Batch Plant (CBP) was constructed as shown on the CZP Site Map. The purpose of this modification is to increase the impervious cover of the CBP pad and driveway from 4.3 acres to 9.58 acres, and to reconfigure the design of Pond A. To treat runoff from the proposed Concrete Batch Plant area, an extended detention basin (Pond A) and grassy swale were constructed as shown on the Existing Conditions Plan.

Pond A was built along the southwestern edge of the Concrete Batch plant to treat runoff from the CBP Area, stockpile area, and other associated impervious areas. Pond A was constructed in accordance with the approved plans.

A paved entrance/exit driveway was constructed for access to the CBP site (as shown on the CZP Site Map). The north end of the drive was graded to drain to a 50’ wide vegetative filter strip.

With this modification, Texas Materials Inc. proposes an increase in the pond size from 1.48 acres to 3.00 acres due to the increase in impervious cover from 4.3 acres to 9.58 acres. The additional disturbed area to the northeast will be graded to drain toward a swale that will then direct stormwater to the northernmost additional acres of the pond. The additional parking area east of the driveway will also include a grade break to direct the east portion of the impervious surface to the swale which again will direct stormwater to the northernmost additional acres of the pond.

Permanent BMPs at the site includes the concrete containment, an extended detention basin (Pond A) with a grassy swale, and the vegetative filter strip.

Trash generated on-site is disposed of in a dumpster and handled by a licensed waste service. Portable toilets are used on-site and are serviced by a licensed waste collector.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Contributing Zone Attachment D

### Factors Affecting Water Quality

The major factor that could potentially affect water quality is sediment in stormwater runoff from disturbed and paved areas. More remote factors include fuels and lubricants from vehicles and equipment and trash/debris items.

## Contributing Zone Plan Attachment E

### Volume and Character of Stormwater

The final CBP impervious area is approximately 9.58 acres. Pond A, in series with the grassy swale, captures and treats stormwater from the CBP, the southern portion of the entry road, and the stockpile areas prior to discharging the water from the site. The runoff from the driveway is treated with a Vegetative Filter Strip. The treatment volume, or water quality volume (WQV), was determined using the RG-348 spreadsheet as provided by TCEQ. Refer to the drainage report that is included as part of this CZP for the WQVs used to size the proposed pond.

Temporary BMPs (rock/earthen berms, natural vegetative filter strips, silt fencing, etc.) were used to control stormwater while Pond A was completed. The runoff coefficient for the impervious areas is 0.98 and the runoff coefficient for predevelopment is 0.03 per TCEQ guidance. The annual storm was used to determine the expected level of TSS and the required WQVs that will need to be treated per RG-348. This pond and grassy swale were provided for the CBP and stockpile areas that require minimum 80% TSS removal. Copies of the RG-348 calculation spreadsheet are included on the plan sheets with the pond design cross-sections and in the drainage report.

## Contributing Zone Plan Attachment F

### Suitability Letter from Authorized Agent

See attached Suitability Letter.

## Contributing Zone Plan Attachment G

### Alternative Secondary Containment Methods

See attached Containment Details.

## Contributing Zone Plan Attachment H

### Scaled Drawing of Containment Structure

See attached Containment Details.

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

J. Terron Evertson, PE, DR, CFM

March 8, 2021

RE: AW0412 AW0412 - Medcalf, T.w. Sur., ACRES 15.01, (Aka Kings-Rea Ranchettes)

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

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

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

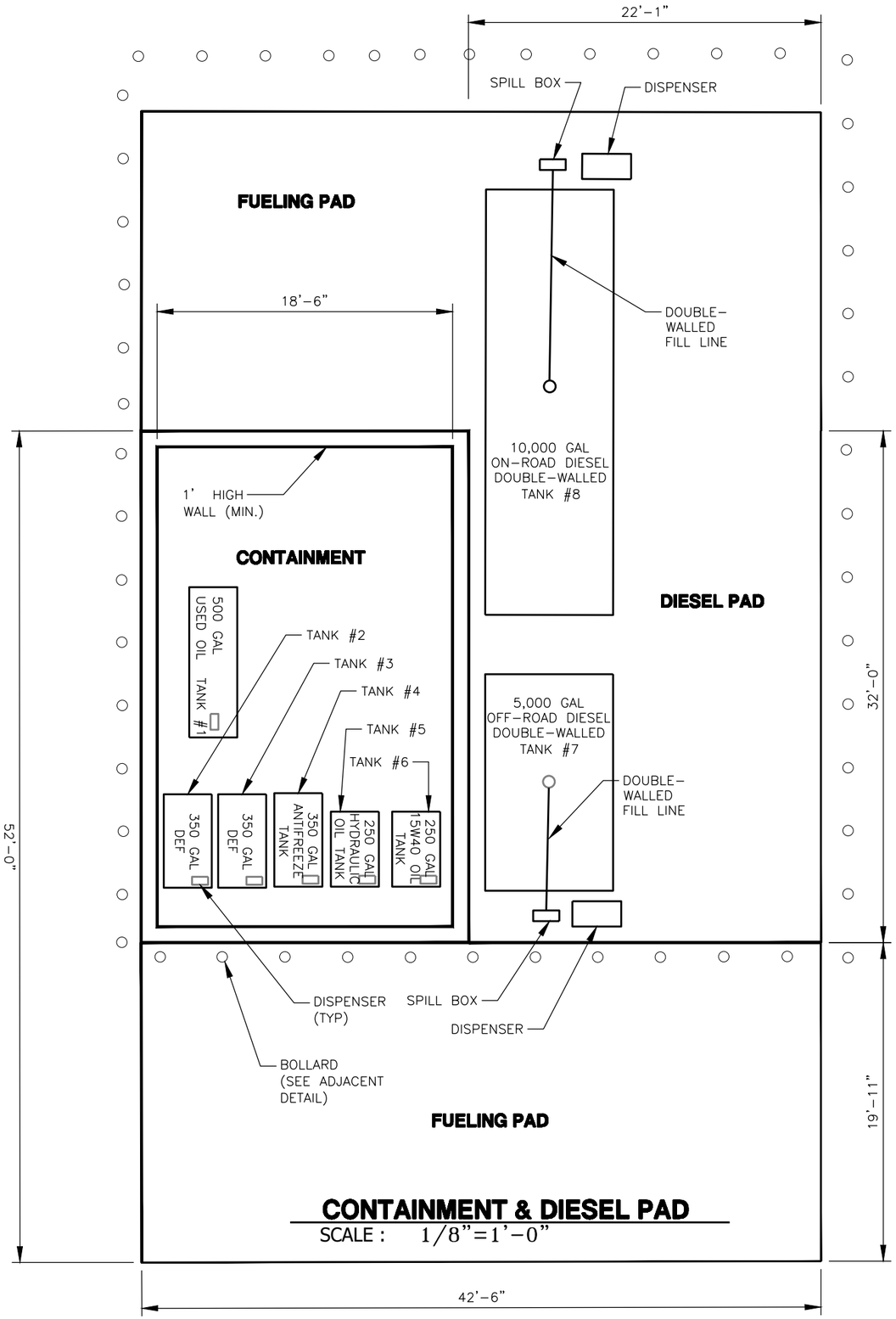
- That an authorization to construct shall be required before an OSSF can be constructed in the subdivision;
- That a notice of approval shall be required for the operation of an OSSF;
- Whether an application for a water pollution abatement plan as defined in Chapter 213 has been made, whether it has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

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

Sincerely,

James L. Lancaster

James L. Lancaster, OS 32397
Williamson County - OSSF




## CONTAINMENT & DIESEL PAD
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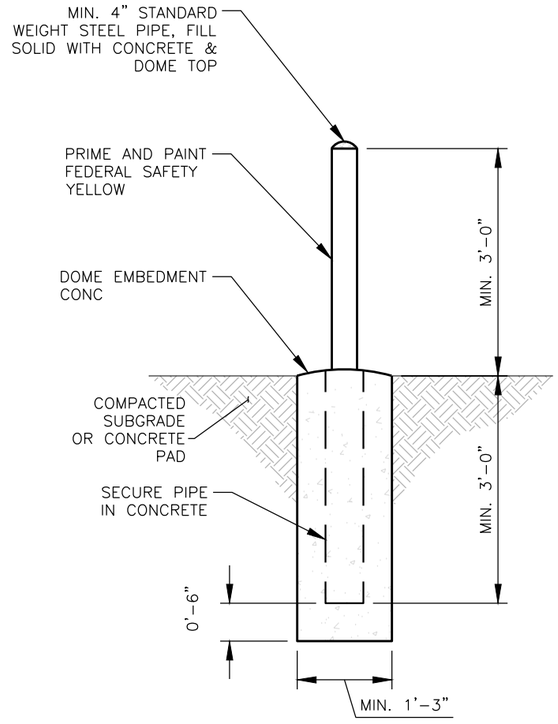


## BOLLARD DETAIL
SCALE : 1/2"=1'-0"

WESTWARD
Environmental. Engineering. Natural Resources.
P.O. Box 2205 Boerne, Texas 78006
(830) 249-8284 Fax: (830) 249-0221
TBPE REG. NO.: F-4524
TBPG REG. NO.: 50112

STATE OF TEXAS
CURT GARRETT CAMPBELL
106851
LICENSED PROFESSIONAL ENGINEER
11/15/202

# CONTAINMENT DETAILS
CZP MODIFICATION
TEXAS MATERIALS INC.
GEORGETOWN, WILLIAMSON COUNTY, TEXAS

| REV. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |

IMAGE: BING MAPS 2020

| | |
|---|---|
| ISSUE DATE: | 8/28/2024 |
| DRAWN BY: | AK |
| CHECKED BY: | CGC |
| SCALE: 1" = | AS SHOWN |
| JOB NO.: | 10204-248 |

SHEET NO.: 1
OF 1

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Contributing Zone Plan Attachment I

**20% or Less Impervious Cover Waiver**

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

## Contributing Zone Plan Attachment J

**BMPs for Upgradient Stormwater**

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

The temporary earthen berms were utilized around the perimeter of the project site to divert upgradient drainage around disturbed areas of the site during construction. These berms became permanent earthen berms and were vegetated with native grasses to stabilize soils. Grading was also conducted around the site to control stormwater run-on.

Permanent stormwater controls are those that are to remain in place after construction has been completed. The vegetated earthen berms and grading (as shown in the CZP Site Map) direct water runoff from the CBP driveway and stockpile areas to Pond A. Pond A, in series with a grassy swale, serves as the final Permanent BMP.

## Contributing Zone Plan Attachment K

**BMPs for On-site Stormwater**

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

Pollution of surface water, groundwater or stormwater that originates on-site or flows off-site during the life of the CBP is mitigated by the use of earthen berms, vegetated buffers and/or filter strips, swales, and Pond A, which was constructed as shown on the CZP Site Map.

Diversion berms and grading directs any runoff generated by the CBP and stockpile areas to Pond A.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Contributing Zone Plan Attachment L

**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 CBP earthen berms and swales are used to control runoff from the plant and stockpile areas and direct it to Pond A.

Please see the attached drainage report for additional information.

The storage capacity of the pond mitigates adverse increases in stream flows due to the regulated activity.
On-site stormwater is treated by the pond, therefore the potential to contaminate surface streams, sensitive features or the aquifer due to the proposed activity is limited.

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 is captured and treated by Pond A or natural vegetated buffers.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Contributing Zone Plan Attachment M

### Construction Plans

See CZP Site Map.

N

0 40 80 160

SCALE: 1" = 80'

**LEGEND**

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING FENCELINE
- 900 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DITCH–SWALE
- SF SILT FENCE (TEMPORARY)
- BERM (TOP & TOE OF SLOPE)
- ROCK BERM
- STK STOCKPILE
- W WATER WELL
- FLOW ARROW
- ASPHALT AREA
- CONCRETE AREA
- BASE AREA
- DISTURBED AREA
- WATER BODY AREA

RONALD W. REAGAN BLVD.

GRADE BREAK

VEGETATIVE FILTER STRIP

FUEL TANKS (CONTAINMENT A)

PARKING SPACES

SCALE HOUSE

LOAD & GO

WATER TANK PAD

EARTHEN BERM

GRASSY SWALE

4 BAY SHOP

SEPTIC DRAIN FIELD

12" CURB

BATCH HOUSE

500 GAL. WATER TANK

FENCE SCREEN

CONEX

STOCKPILE AREAS

# CZP SITE MAP

CZP MOD

TEXAS MATERIALS INC.

RONALD REAGAN BLVD, GEORGETOWN, TX

11/15/2024

STATE OF TEXAS
CURT GARRETT CAMPBELL
106851
LICENSED PROFESSIONAL ENGINEER

Curt G. Campbell, P.E.
License No. 106851

| REV. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |


WESTWARD
Environmental. Engineering. Natural Resources.
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(830) 249–8284 Fax: (830) 249–0221
TBPE REG. NO.: F–4524
TBPG REG. NO.: 50112


SHEET NO.: 4 OF 7

| | |
|---|---|
| IMAGE: | N/A |
| ISSUE DATE: | 8/28/2024 |
| DRAWN BY: | NMS |
| CHECKED BY: | CGC |
| SCALE: 1" = | 80' |
| JOB NO.: | 10204–248 |

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

**Contributing Zone Plan Attachment N**

## Inspection, Maintenance, Repair and Retrofit Plan

The earthen berms are inspected quarterly until stabilized with vegetation. Written documentation of these inspections was kept during the course of construction at the project site. Significant erosion of berms was backfilled and compacted as soon as possible.

Vegetated filter strips and buffers are inspected at least twice annually for erosion or damage to vegetation. Written documentation of these inspections has been kept during the course of construction at the project site. Bare spots and areas of erosion identified during inspections has been replanted. Trash and debris items are removed.

Pond A and grassy swales are inspected at least twice a year.

Extended Detention Basin (Pond A):
Maintenance requirements for the extended detention basin is outlined below, along with design tips that can help to reduce the maintenance burden (modified from Young et al., 1996).

Routine Maintenance

- *Inspections.* Basins should be inspected at least twice a year (once during or immediately following wet weather) to evaluate facility operation. When possible, inspections should be conducted during wet weather to determine if the pond is meeting the target detention times. In particular, the extended detention control device should be regularly inspected for evidence of clogging, or conversely, for too rapid a release. If the design drawdown times are exceeded by more than 24 hours, then repairs should be scheduled immediately. The upper stage pilot channel, if any, and its flow path to the lower stage should be checked for erosion problems. During each inspection, erosion areas inside and downstream of the BMP should be identified and repaired or revegetated immediately.

- *Mowing.* The upper stage, side slopes, embankment, and emergency spillway of an extended detention basin must be mowed regularly to discourage woody growth and control weeds. Grass areas in and around basins should be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing of grass is performed, a mulching mower should be used, or grass clippings should be caught and removed.

- *Debris and Litter Removal.* Debris and litter will accumulate near the extended detention control device and it should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the control device or riser.

- *Erosion Control.* The pond side slopes, emergency spillway and embankment all may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Regrading and revegetation may be required to correct

the problems. Similarly, the channel connecting an upper state with a lower stage may periodically need to be replaced or repaired.

- *Structural Repairs and Replacement.* With each inspection, any damage to the structural elements of the system (pipes, concrete drainage structures, retaining walls, etc.) should be identified and repaired immediately. These repairs should include patching of cracked concrete, sealing of voids, and removal of vegetation from cracks and joints. The various inlet/outlet and riser works in a basin will eventually deteriorate and must be replaced. Public works experts have estimated that corrugated metal pipe (CMP) has a useful life of about 25 yr, whereas reinforced concrete barrels and risers may last from 50 to 75 yr.

- *Nuisance Control.* Standing water (not desired in an extended detention basin) or soggy conditions within the lower stage of the basin can create nuisance conditions for nearby residents. Odors, mosquitoes, weeds, and litter are all occasionally perceived to be problems. Most of these problems are generally a sign that regular inspections and maintenance are not being performed (e.g., mowing, debris removal, clearing the outlet control device).

- *Sediment Removal.* When properly designed, dry extended detention basins will accumulate quantities of sediment over time. Sediment accumulation is a serious maintenance concern in extended detention dry ponds for several reasons. First, the sediment gradually reduces available stormwater management storage capacity within the basin. Second, unlike wet extended detention basins (which have a permanent pool to conceal deposited sediments), sediment accumulation can make dry extended detention basins very unsightly. Third, and perhaps most importantly, sediment tends to accumulate around the control device. Sediment deposition increases the risk that the orifice will become clogged, and gradually reduces storage capacity reserved for pollutant removal. Sediment can also be resuspended if allowed to accumulate over time and escape through the hydraulic control to downstream channels and streams. For these reasons, accumulated sediment needs to be removed from the lower stage when sediment buildup fills 20% of the volume of the basin or at least every 10 years.

<u>Grassy Swale (Pond A):</u>
Maintenance requirements for the extended detention basin is outlined below, along with design tips that can help to reduce the maintenance burden (modified from Young et al., 1996).

*Pest Management*. An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

*Seasonal Mowing and Lawn Care*. Lawn mowing should be performed routinely, as needed, throughout the growing season. Grass height should not exceed 18 inches. Grass cuttings should be collected and disposed of offsite, or a mulching mower can be used. Regular mowing should also include weed control practices; however, herbicides use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients.

*Inspection.* Inspect swales at least twice annually for erosion or damage to vegetation; however, additional inspections after periods of heavy runoff is most desirable. The swale should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections should be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

*Debris and Litter Removal.* Trash tends to accumulate in swale areas, particularly along highways. Any swale structures (i.e. check dams) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection but should be performed no less than two times per year (Urbonas et al., 1992).

*Sediment Removal.* Sediment accumulation near culverts and in channels needs to be removed when they build up to 3 inches at any spot, or cover vegetation. Excess sediment should be removed by hand or with flat-bottomed shovels. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level with the bottom of the swale. Sediment removal should be performed periodically, as determined through inspection.

*Grass Reseeding and Mulching.* A healthy dense grass should be maintained in the channel and side slopes. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during swale establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established.

*Public Education.* Private homeowners are often responsible for roadside swale maintenance. Unfortunately, overzealous lawn care on the part of the homeowners can present some problems. For example, mowing the swale too close to the ground, or excessive application of fertilizer and pesticides will all be detrimental to the performance of the swale. Pet waste can also be a problem in swales and should be removed to avoid contamination from fecal coliform and other waste-associated bacteria. The delegation of maintenance responsibilities to individual landowners is a cost benefit to the locality. However, localities should provide an active educational program to encourage the recommended practices.

<u>Vegetative Filter Strips:</u>
Filter strips, also known as vegetated buffer strips, are vegetated sections of land similar to grassy swales, except they are essentially flat with low slopes, and are designed only to accept runoff as overland sheet flow. The dense vegetative cover facilitates conventional pollutant removal through detention, filtration by vegetation, and infiltration (Young et al., 1996).

- *Pest Management*. An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.

• *Seasonal Mowing and Lawn Care*. Lawn mowing should be performed routinely, as needed, throughout the growing season. Grass height should not exceed 18 inches. Grass cuttings should be collected and disposed of offsite, or a mulching mower can be used. Regular mowing should also include weed control practices; however, herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients.

• *Inspection*. Inspect vegetation filtration strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The swale should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections should be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.

• *Debris and Litter Removal*. Trash tends to accumulate in vegetative filtration areas, particularly along highways. Any vegetative filtration strips (i.e. check dams) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection but should be performed no less than two times per year (Urbonas et al., 1992).

• *Sediment Removal*. Sediment accumulating near culverts and in channels needs to be removed when they build up to 3 inches at any spot, or cover vegetation. Excess sediment should be removed by hand or with flat-bottomed shovels. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level with the bottom of the swale. Sediment removal should be performed periodically, as determined through inspection.

• *Grass Reseeding and Mulching*. A healthy dense grass should be maintained in the channel and side slopes. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during swale establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Inspection, Maintenance, Repair and Retrofit Plan

I, Nicholas Bockoven, have read and understand the Inspection, Maintenance, Repair and Retrofit (IMRR) Plan contained in this Contributing Zone Plan (CZP).

I understand the specific Permanent Best Management Practices (PBMPs) and associated inspection and maintenance schedule which are outlined in this IMRR Plan. Texas Materials 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: Nicholas Bockoven
Texas Materials Group, Inc.

Signature _____ Date: 9-11-24

**Name and signature of Engineer**

Print Name: Curt G. Campbell, PE, CFM, LEED AP ND
Westward Environmental, Inc.

Signature _____ Date: 11/15/2024

STATE OF TEXAS
CURT GARRETT CAMPBELL
106851
LICENSED
PROFESSIONAL ENGINEER

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Contributing Zone Plan Attachment O

**Pilot-Scale Field Testing Plan**

N/A

## Contributing Zone Plan Attachment P

**Measures for Minimizing Surface Stream Contamination**

To avoid surface stream contamination from the CBP and stockpile areas, flows have been directed into the extended detention basin (Pond A). Permanent berms have been used to divert upgradient flows around the project area and to direct runoff from the project drainage area to the pond. Because little runoff is expected from the project area due to the proposed stormwater pond, stream flashing, stronger flows, and in-stream velocities are not expected to occur as a result of this project. Once treated by Pond A and grassy swale, water discharges from the site and continues downstream.

# Temporary Stormwater Section

**Texas Commission on Environmental Quality**

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

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

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

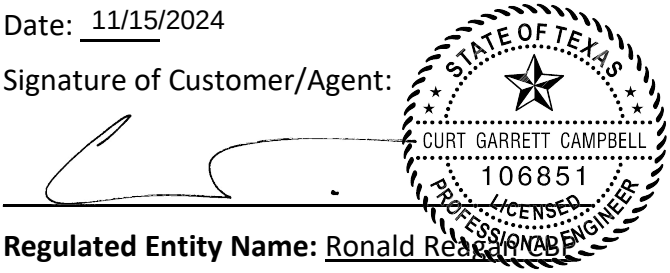
## *Signature*

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

Print Name of Customer/Agent: Curt G. Campbell

Date: 11/15/2024

Signature of Customer/Agent:




**Regulated Entity Name:** Ronald Reagan TCB

## *Project Information*

## *Potential Sources of Contamination*

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

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

   ☒ The following fuels and/or hazardous substances will be stored on the site: Clear Diesel, Red Diesel, Motor Oil, Anti-freeze, 15W40, DEF, Hydraulic Oil, Used Oils

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

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

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

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

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

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

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

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

## *Sequence of Construction*

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

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

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

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

## *Temporary Best Management Practices (TBMPs)*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ N/A

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

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

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

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

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

## *Soil Stabilization Practices*

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

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

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

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

## *Administrative Information*

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

21. ☒ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. ☒ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

**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 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 does not 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.

**(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.

## Cleanup

**(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 Spills

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.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

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.

| | |
|---|---|
| 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) 339-2929 |

## 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 on-site.

(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 cracked batteries even if you think 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.

(4) The CBP will be fueled by the materials contained in Containment A. Any associated activity will be fueled by off-site facilities.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## 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 are being used at Ronald Reagan CBP and are handled in accordance with the following guidelines:

- A licensed waste collector services the toilets. **The following tasks are 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.
- Locate portable toilets at least 20 feet from the nearest storm-drain inlet or sensitive-feature buffer area
- Prepare a level ground surface with clear access to the toilets.
- Secure portable toilets to prevent tipping by accident, weather, or vandalism.

## Temporary Stormwater Section Attachment B

## Potential Sources of Contamination

Potential sources of contamination in the project area are the TSS from distributed areas, fuels and lubricants from vehicles and equipment, portable toilets, and trash/debris items.

## Temporary Stormwater Section Attachment C

## Sequence of Major Activities

Grading has been completed for the construction of Pond A, as shown on the attached CZP Site Map. The driveway was graded and paved. This drive ties into the existing entry/exit. The CBP, stockpile areas and driveway grades to drain to Pond A. Once Pond A and the CBP pad was constructed, the Concrete Batch Plant was constructed.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Temporary Stormwater Section Attachment D

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

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

During the initial phase of construction at CBP, TBMPs which may include rock/earthen berms and/or silt fencing to control runoff until Pond A is completed.

**7b)** 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.

A pre-existing paved entry road will be utilized during construction. Runoff from the driveway and roads will be directed to the surrounding natural vegetative filter strips and eventually to Pond A. During the initial phase of construction at the CBP, TBMPs such as rock/earthen berms and/or silt fencing, will be used as necessary to control runoff until Pond A is completed.

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

Earthen berms and vegetated areas will be constructed/maintained (as shown on the attached CZP Site Map) to prevent pollutants from entering surface streams sensitive feature, and the aquifer. Pond A will control stormwater from the increased impervious cover associated with the CBP.

**7d)** 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.

Not Applicable: This site is located on the Contributing Zone and therefore no sensitive features are present.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

## Temporary Stormwater Section Attachment F

### Structural Practices

Temporary best management practices proposed for the CBP Area will include rock/earthen berms, silt fencing, and natural vegetative filter strips. The rock berms, silt fencing, and natural vegetative buffers are used to limit runoff discharge of sediment. The earthen berms are used to contain and limit runoff discharge of pollutants from exposed areas of the site as well as to divert flows away from exposed (disturbed) soils. The CBP areas will be graded to direct flow to Pond A.

## Temporary Stormwater Section Attachment G

### Drainage Area Map

See CZP Site Map.

## Temporary Stormwater Section Attachment I

### Inspection and Maintenance for BMPs

Natural vegetative filter strips and earthen berms should be inspected monthly and after each rainfall event that exceeds 0.5 inches. 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 berms should be backfilled and compacted as soon as possible. Trash should be removed and any eroded areas of filter strips should be reseeded.

Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground. If six (6) inches or more of sediment is retained by the silt fence this material will be removed and discarded appropriately. If the silt fence is found to allow water to flow beneath itself the silt fence will be repaired by burying the bottom of the fencing material on upgradient side or by placing clean rock on both sides of the fence in the affected area. If the fencing material is torn or clogged the silt fence will be repaired or replaced.

Rock filter berms will be inspected for buildup of excess sediment or undercutting. Accumulated sediment shall be removed when it reaches a depth of half the height of the berm and disposed of at an approved site and in such a manner as to not contribute to additional siltation. If it is observed that water is undercutting the berm, additional sediment may need to be excavated on the uphill side of the control. If the berm becomes clogged, it will be repaired and/or replaced. Repeated clogging of the filter material may require installation of another BMP to prevent failure of the berm.

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

Texas Materials Inc. 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.

Texas Materials Group

*Best Management Practices Inspection Form*

Ronald Reagan Site

*Temporary Stormwater Section Attachment I*

| | | Weekly | | Monthly | | | |
|---|---|---|---|---|---|---|---|
| | | Construction Entrance/Exit | | Vegetated Buffers | | Earthen Berms | |
| Date | Inspector Signature | Sediment Buildup | Stones Need to be Replaced | Trash | Vegetative Cover/Erosion | Erosion of Earthen Berm | Additional Comments |
| | | | | | | | |
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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
* Inspect after each rainfall event > 0.5"

Natural Vegetated Buffers

* Remove trash if present
* Reseed eroded areas to reestablish vegetation
* Inspect after each rainfall event > 0.5"

Construction Entrance

* Replace stones if needed
* Clean out sediment build-up if necessary
* Inspect after each rainfall event > 0.5"

**Texas Materials Inc.**

**Ronald Reagan CBP Mod**

**Temporary Stormwater Section Attachment J**

## Schedule of Soil Stabilization Practices

## CBP

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 14th 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 activities 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 14th 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, natural vegetative filter strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Soil stabilization practices to be implemented at the CBP Area include establishment of permanent vegetation by seeding native grasses, and the proposed impervious cover.

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

I Nicholas Bockoven,
Print Name

Vice President, Texas Materials Ready Mix,
Title - Owner/President/Other

of Texas Materials Group, Inc.,
Corporation/Partnership/Entity Name

have authorized Curt G. Campbell, PE; Vance Houy, PE; Chelsy Houy, PE; Gary D. Nicholls, PE; or Andrea Kidd, PE
Print Name of Agent/Engineer

of Westward Environmental, Inc.
Print Name of Firm

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

I also understand that:

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

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

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

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

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

SIGNATURE PAGE:

Applicant's Signature

9-11-24
Date

THE STATE OF Texas §

County of Williamson §

BEFORE ME, the undersigned authority, on this day personally appeared _____known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 11 day of September 2024

Georgian Kastner
NOTARY PUBLIC

GEORGIAN KASTNER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 11/04/25
NOTARY ID 519266-8

Georgian Kastner
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 11-4-25

# TCEQ Core Data Form

TCEQ Use Only

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

## SECTION I: General Information

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

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

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

| 2. Customer Reference Number *(if issued)* | Follow this link to search for CN or RN numbers in Central Registry** | 3. Regulated Entity Reference Number *(if issued)* |
|---|---|---|
| CN 600317473 | | RN 111165882 |

## SECTION II: Customer Information

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

☐ New Customer ☐ Update to Customer Information ☒ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

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

| 6. Customer Legal Name *(If an individual, print last name first: eg. Doe, John)* | *If new Customer, enter previous Customer below:* |
|---|---|
| Texas Materials Group, Inc. | |

| 7. TX SOS/CPA Filing Number | 8. TX State Tax ID (11 digits) | 9. Federal Tax ID (9 digits) | 10. DUNS Number *(if applicable)* |
|---|---|---|---|
| 0004820606 | 15814014666 | N/A | N/A |

| 11. Type of Customer: | ☒ Corporation | ☐ Individual | Partnership: ☐ General ☐ Limited |
|---|---|---|---|
| Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other | | ☐ Sole Proprietorship | ☐ Other: |

| 12. Number of Employees | 13. Independently Owned and Operated? |
|---|---|
| ☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher | ☒ Yes ☐ No |

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

☐ Owner ☐ Operator ☒ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

| 15. Mailing Address: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1320 Arrow Point Dr. | | | | | | | |
| | Suite 600 | | | | | | | |
| | City | Cedar Park | State | TX | ZIP | 78613 | ZIP + 4 | |

| 16. Country Mailing Information *(if outside USA)* | 17. E-Mail Address *(if applicable)* |
|---|---|
| | nicholas.bockoven@texasmaterials.com |

| 18. Telephone Number | 19. Extension or Code | 20. Fax Number *(if applicable)* |
|---|---|---|
| ( 512 ) 806-6323 | | ( ) - |

## SECTION III: Regulated Entity Information

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

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

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

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

Ronald Reagan CBP

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 23. Street Address of the Regulated Entity: *(No PO Boxes)* | N/A | | | | | | |
| | City | | State | | ZIP | | ZIP + 4 | |
| 24. County | Williamson | | | | | | |

**Enter Physical Location Description if no street address is provided.**

| | |
|---|---|
| 25. Description to Physical Location: | From I-35 go West on Hwy. 29 for approx.. 8 miles. Exit Ronald Reagan Blvd go approx.. 6 miles North and property will be on the right or SE side of road. |

| 26. Nearest City | State | Nearest ZIP Code |
|---|---|---|
| Georgetown | TX | 78633 |

| 27. Latitude (N) In Decimal: | 30.718919 | 28. Longitude (W) In Decimal: | -97.843039 |
|---|---|---|---|

| Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
|---|---|---|---|---|---|
| 30 | 43 | 08.11 | 97 | 50 | 34.94 |

| 29. Primary SIC Code (4 digits) | 30. Secondary SIC Code (4 digits) | 31. Primary NAICS Code (5 or 6 digits) | 32. Secondary NAICS Code (5 or 6 digits) |
|---|---|---|---|
| 2951 | | 324121 | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 34. Mailing Address: | 1320 Arrow Point Drive | | | | | | |
| | Suite 600 | | | | | | |
| | City | Cedar Park | State | TX | ZIP | 78613 | ZIP + 4 | |

| 35. E-Mail Address: | melissa.castro@texasmaterials.com |
|---|---|

| 36. Telephone Number | 37. Extension or Code | 38. Fax Number *(if applicable)* |
|---|---|---|
| ( 512 ) 806-6323 | | ( ) - |

**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 |
| | | Registering | | |
| ☐ Municipal Solid Waste | ☐ New Source Review Air | ☐ OSSF | ☐ Petroleum Storage Tank | ☐ PWS |
| | | | | |
| ☐ Sludge | ☐ Storm Water | ☐ Title V Air | ☐ Tires | ☐ Used Oil |
| | | | | |
| ☐ Voluntary Cleanup | ☐ Waste Water | ☐ Wastewater Agriculture | ☐ Water Rights | ☐ Other: |
| | | | | |

## SECTION IV: Preparer Information

| 40. Name: | Natalie Sales | 41. Title: | Staff Engineer |
|---|---|---|---|

| 42. Telephone Number | 43. Ext./Code | 44. Fax Number | 45. E-Mail Address |
|---|---|---|---|
| ( 830 ) 249-8284 | | ( 830 ) 249-0221 | 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: | Texas Materials Group, Inc. | Job Title: | Vice President, Texas Materials Ready Mix |
|---|---|---|---|
| Name *(In Print)*: | Nicholas Bockoven | Phone: | ( 512 ) 806- 6323 |
| Signature: | Nicholas Bockoven | Date: | 9-11-24 |

# Application Fee Form

**Texas Commission on Environmental Quality**
Name of Proposed Regulated Entity: Ronald Reagan CBP
Regulated Entity Location: Ronald W. Reagan Blvd, Georgetown, Texas 78633
Name of Customer: Texas Materials Group, Inc.
Contact Person: Nicholas Bockoven Phone: 512-806-6323
Customer Reference Number (if issued): 600317473
Regulated Entity Reference Number (if issued): 111165882
**Austin Regional Office (3373)**

☐ Hays ☐ Travis ☒ Williamson

**San Antonio Regional Office (3362)**

☐ Bexar ☐ Medina ☐ Uvalde
☐ Comal ☐ Kinney

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

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

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

**Site Location (Check All That Apply):**

☐ Recharge Zone ☒ Contributing Zone ☐ Transition Zone

| ***Type of Plan*** | ***Size*** | ***Fee Due*** |
|---|---|---|
| Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks | Acres | $ |
| Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential | 15 Acres | $ 6,500 |
| Sewage Collection System | L.F. | $ |
| Lift Stations without sewer lines | Acres | $ |
| Underground or Aboveground Storage Tank Facility | Tanks | $ |
| Piping System(s)(only) | Each | $ |
| Exception | Each | $ |
| Extension of Time | Each | $ |

Signature:

Date: 9-11-24

# Application Fee Schedule

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

***Water Pollution Abatement Plans and Modifications***

***Contributing Zone Plans and Modifications***

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

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

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

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

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

***Exception Requests***

| *Project* | *Fee* |
|---|---|
| Exception Request | $500 |

***Extension of Time Requests***

| *Project* | *Fee* |
|---|---|
| Extension of Time Request | $150 |

Texas Materials Group Inc.

# Contributing Zone Plan
# Modification
# Drainage Report

## Ronald Reagan CBP
## Georgetown, Texas
## Williamson County

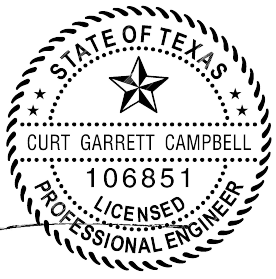
Submitted to: TCEQ Region 11, Austin

Prepared By:

WESTWARD
Environmental. Engineering. Natural Resources.

Boerne, Texas
830-249-8284

Date: November 2024
Project No. 10204-248
-NMS-




Signature: _____
Curt G. Campbell, PE - License No. 106851
TX PE Firm No. 4524
Date: 11/15/2024

# Texas Materials Group Inc.

TABLE OF CONTENTS

**Texas Materials Group Inc.**
**Ronald Reagan CBP**
**CZP Drainage Report**

# 1 Executive Summary

Texas Materials Group Inc. proposes to construct a concrete batch plant (CBP) on 15-acre tract in Williamson County, Texas with associated infrastructure including access road, stockpile areas, aboveground storage tanks (ASTs), and an AST containment. The TSS generated by this Ronald Reagan CBP site (Site) is proposed to be treated by an extended detention basin (Pond A) and grassy swale. Additional permanent BMPs will include a vegetative filter strip which will treat TSS from the entry/exit driveway and diversion berms to divert upgradient stormwater away from the Site.

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

# 2 Introduction

## 2.1 Purpose

The purpose of this drainage report is to demonstrate compliance with TCEQ guidance for the proposed stormwater basin. The stormwater basin in conjunction with the grassy swale, as described in the CZP application, provides adequate treatment such that additional TSS due to the increase in impervious cover is reduced by 80%. Pond A with a downgradient grassy swale will be constructed to treat runoff from the CBP area of the Site.

## 2.2 Drainage Area Characteristics

The proposed Site watershed includes approximately 9.58 acres of on-site impervious cover, which includes 3.670 acres of concrete pad, 1.248 acres of driveway, 2.212 acres of additional base and 2.450 acres of stockpiles. The concrete pad runoff will be directed to proposed Pond A and the driveway impervious cover runoff will be directed to the vegetative filer strip. The remaining areas are comprised of naturally vegetated areas along the periphery of the proposed impervious areas, and proposed Pond A.

## 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 will be located over the Edwards Aquifer Contributing Zone and is not required to be lined.
3) Interior pond side slopes will be 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 A

Pond A was designed as an extended detention basin and grassy swale. The pond provides water quality treatment for 9.58 acres of drainage area. The entire drainage area leading to Pond A is considered impervious. 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 $L_M$ = 8338 lbs. and was used as a desired $L_M$. The maximum load reduction was calculated to be $L_R$ = 8962 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 53,910 cu. ft. (1.24 ac-ft). The required total capture volume (TCV), equal to the WQV plus 20% was calculated to be 64,691 cu. ft. (1.49 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 3.0" diameter orifice has been designed as the low flow outfall with an invert elevation of 926.50 ft.-amsl. The low flow outfall has been sized to allow approximately 50% of the WQV to leave the pond in 24 hours and 98% 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 931 ft.-amsl. The spillway invert is set at elevation 928.25 ft.-amsl and is a 15-foot-long by 10-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 929.61 ft.-amsl which is approximately 1.39 feet below the top of the pond. A 100-year 24-hour rainfall event of 9.90 inches produces a peak stage at 929.86 ft.-amsl. resulting in more than 1.14 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 0.47 ft. per second. Per RG-348, the minimum length is the discharge times 300 second, which amounts to 141 feet, which is the length of the swale from the low-flow outlet to the south end of the swale.

The swale was designed at 1.5 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 0.80 inches during a 1.1 inch/hour storm.

Table 1: Designed & Provided Water Quality Volume

| | **Required (af)** | **Provided (af)** |
|---|---|---|
| **Water Quality Volume** | 1.24 | 1.49 |

## 5 Summary

Pond A 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 are included in the CZP application submittal package. 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:** CZP Ronald Reagan CBP
**Date Prepared:** 8/28/2024

**Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.**
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
**Characters shown in red are data entry fields.**
**Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.**

**1. The Required Load Reduction for the total project:** Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
$A_N$ = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

| | | |
|---|---|---|
| County = | Williamson | |
| Total project area included in plan * = | 15.01 | acres |
| Predevelopment impervious area within the limits of the plan * = | 0.00 | acres |
| Total post-development impervious area within the limits of the plan * = | 9.58 | acres |
| Total post-development impervious cover fraction * = | 0.64 | |
| P = | 32 | inches |
| $L_{M\ TOTAL\ PROJECT}$ = | 8338 | lbs. |

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

**2. Drainage Basin Parameters (This information should be provided for each basin):**

**Drainage Basin/Outfall Area No. =** 1

| | | |
|---|---|---|
| Total drainage basin/outfall area = | 15.01 | acres |
| Predevelopment impervious area within drainage basin/outfall area = | 0.00 | acres |
| Post-development impervious area within drainage basin/outfall area = | 9.58 | acres |
| Post-development impervious fraction within drainage basin/outfall area = | 0.64 | |
| $L_{M\ THIS\ BASIN}$ = | 8338 | lbs. |

**3. Indicate the proposed BMP Code for this basin.**

| | | |
|---|---|---|
| Proposed BMP = | Extended Detention | |
| Removal efficiency = | 75 | percent |
| Proposed BMP = | Grassy Swale | |
| Removal efficiency = | 70 | percent |
| Proposed BMP = | None | |
| Removal efficiency = | 0 | percent |
| Etot = | 83.75 | |

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
None
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

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

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

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

| | | |
|---|---|---|
| $A_C$ = | 15.01 | acres |
| $A_I$ = | 9.58 | acres |
| $A_P$ = | 5.43 | acres |
| $L_R$ = | 8962 | lbs |

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

Desired $L_{M\ THIS\ BASIN}$ = 8338 lbs.

F = **0.93**

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

| | | | | |
|---|---|---|---|---|
| Rainfall Depth = | **2.20** | inches | | |
| Post Development Runoff Coefficient = | **0.45** | | | |
| On-site Water Quality Volume = | **53910** | cubic feet | 1.24 | ac-ft |

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

| | | | | |
|---|---|---|---|---|
| Off-site area draining to BMP = | **0.00** | acres | | |
| Off-site Impervious cover draining to BMP = | **0.00** | acres | | |
| Impervious fraction of off-site area = | **0** | | | |
| Off-site Runoff Coefficient = | **0.00** | | | |
| Off-site Water Quality Volume = | **0** | cubic feet | | |
| Storage for Sediment = | **10782** | | | |
| **Total Capture Volume (required water quality volume(s) x 1.20) =** | **64,691** | cubic feet | 1.49 | ac-ft |

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

**8. Extended Detention Basin System** Designed as Required in RG-348 Pages 3-46 to 3-51

| | | | | |
|---|---|---|---|---|
| Required Water Quality Volume for extended detention basin = | **64691** | cubic feet | 1.49 | ac-ft |

**THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES**

**15. Grassy Swales** Designed as Required in RG-348 Pages 3-51 to 3-54

Design parameters for the swale:

| | | |
|---|---|---|
| Drainage Area to be Treated by the Swale = A = | 15.01 | acres |
| Impervious Cover in Drainage Area = | 9.58 | acres |
| Rainfall intensity = i = | 1.1 | in/hr |
| Swale Slope = | 0.01 | ft/ft |
| Side Slope (z) = | 3 | |
| Design Water Depth = y = | 0.33 | ft |
| Weighted Runoff Coefficient = C = | 0.59 | |
| $A_{CS}$ = cross-sectional area of flow in Swale = | 27.51 | sf |
| $P_W$ = Wetted Perimeter = | 84.47 | feet |
| $R_H$ = hydraulic radius of flow cross-section = $A_{CS}/P_W$ = | 0.33 | feet |
| n = Manning's roughness coefficient = | 0.2 | |

**19. BMPs Installed in a Series** Designed as Required in RG-348 Pages 3-32

**Michael E. Barrett, Ph.D.. P.E. recommended that the coefficient for $E_2$ be changed from 0.5 to 0.65 on May 3, 2006**

| | | | |
|---|---|---|---|
| $E_{TOT}$ = [1 - ((1 - $E_1$) X (1 - 0.5$E_2$) x (1 - 0.25$E_3$))] X 100 = | 85.00 | percent | NET EFFICIENCY OF 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:
($A_I$ AND $A_P$ VALUES ARE FROM SECTION 3 ABOVE)

$L_R$ = $E_{TOT}$ X P X ($A_I$ X 34.6 X $A_P$ X0.54) = 9095.69 lbs

# II. POND A STAGE STORAGE REPORT

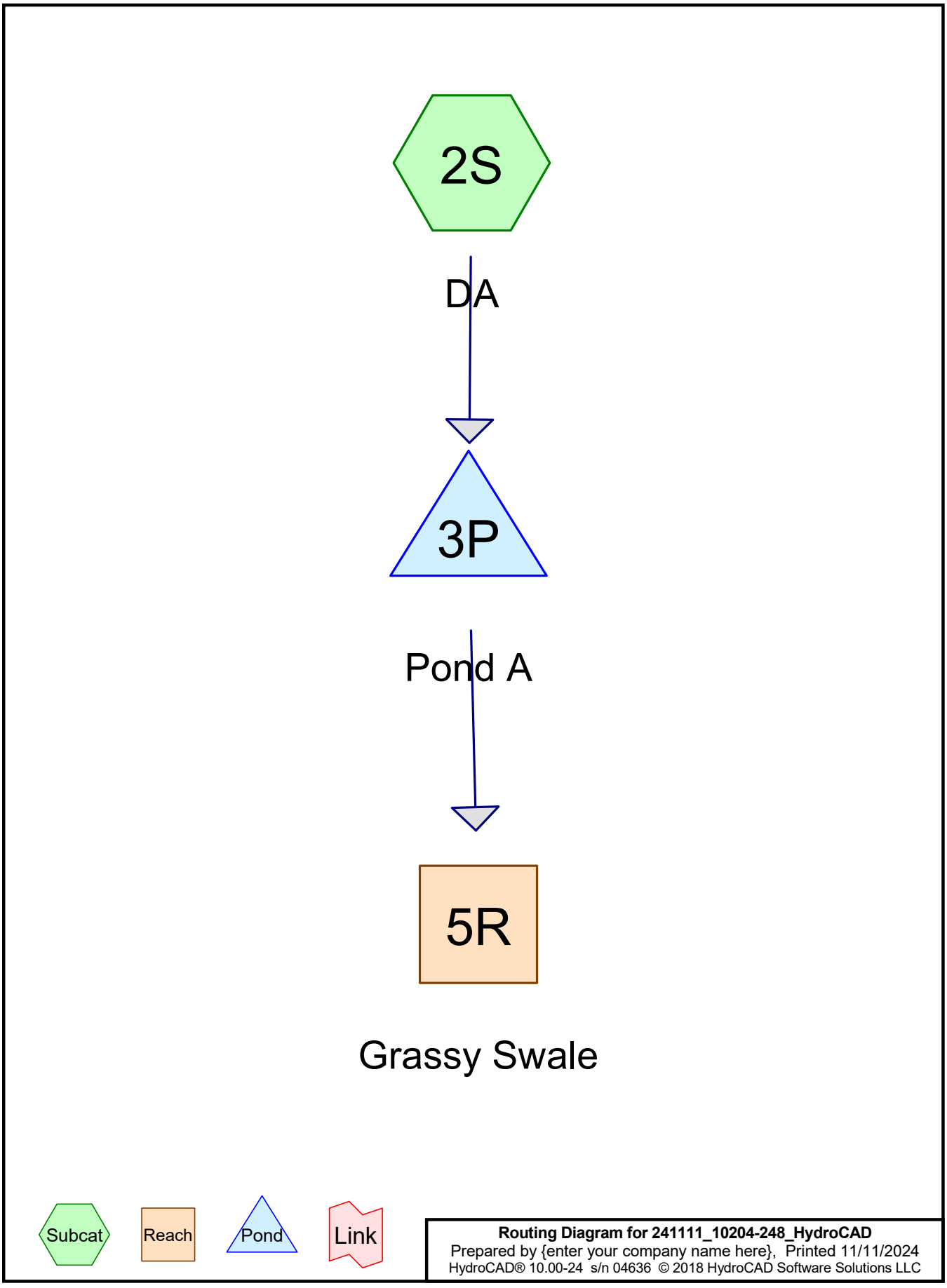
Site: Texas Materials - RR CBP

927.00 - Minimum Stage for Site (ft above NGVD)
931.00 - Maximum Stage for Site (ft above NGVD)
1.00 - Increment (ft)
3.00 - Number of Basins on Site

| | Basin #1 | Basin #2 | Basin #3 | |
|---|---|---|---|---|
| Basin Name: | Basin #1 | Basin #2 | Basin #3 | |
| Lower Elevation: | 927.00 | 928.00 | 929.00 | |
| Upper Elevation: | 928.00 | 929.00 | 931.00 | |
| Lower Area(ac): | 0.60 | 0.65 | 0.91 | Total Area |
| Upper Area(ac): | 0.65 | 0.91 | 1.44 | 3.00 |

| Stage | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Total Volume |
|---|---|---|---|---|
| 927.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 928.00 | 0.63 | 0.00 | 0.00 | 0.63 |
| 929.00 | | 0.78 | 0.00 | 0.78 |
| 930.00 | | | 1.04 | 1.04 |
| 931.00 | | | 2.35 | 2.35 |

# III. HYDROCAD REPORT




**Routing Diagram for 241111_10204-248_HydroCAD**
Prepared by {enter your company name here}, Printed 11/11/2024
HydroCAD® 10.00-24 s/n 04636 © 2018 HydroCAD Software Solutions LLC

## Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers) |
|---|---|---|
| 2.212 | 96 | Additional Base (2S) |
| 1.248 | 98 | Driveway (2S) |
| 3.670 | 98 | Paved Plant Pad (2S) |
| 2.450 | 96 | Stockpiles (2S) |
| **9.580** | **97** | **TOTAL AREA** |

## Soil Listing (all nodes)

| Area (acres) | Soil Group | Subcatchment Numbers |
|---|---|---|
| 0.000 | HSG A | |
| 0.000 | HSG B | |
| 0.000 | HSG C | |
| 0.000 | HSG D | |
| 9.580 | Other | 2S |
| **9.580** | | **TOTAL AREA** |

## Ground Covers (all nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover | Subcatchment Numbers |
|---|---|---|---|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.000 | 2.212 | 2.212 | Additional Base | 2S |
| 0.000 | 0.000 | 0.000 | 0.000 | 1.248 | 1.248 | Driveway | 2S |
| 0.000 | 0.000 | 0.000 | 0.000 | 3.670 | 3.670 | Paved Plant Pad | 2S |
| 0.000 | 0.000 | 0.000 | 0.000 | 2.450 | 2.450 | Stockpiles | 2S |
| **0.000** | **0.000** | **0.000** | **0.000** | **9.580** | **9.580** | **TOTAL AREA** | |

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 2S: DA** Runoff Area=9.580 ac 51.34% Impervious Runoff Depth=7.14"
Flow Length=693' Tc=20.2 min CN=97 Runoff=66.62 cfs 5.701 af

**Reach 5R: Grassy Swale** Avg. Flow Depth=0.09' Max Vel=0.46 fps Inflow=0.41 cfs 1.018 af
n=0.040 L=120.0' S=0.0042 '/' Capacity=56.12 cfs Outflow=0.41 cfs 1.017 af

**Pond 3P: Pond A** Peak Elev=929.61' Storage=0.938 af Inflow=66.62 cfs 5.701 af
Primary=0.41 cfs 1.018 af Secondary=63.41 cfs 4.513 af Outflow=63.82 cfs 5.531 af

**Total Runoff Area = 9.580 ac Runoff Volume = 5.701 af Average Runoff Depth = 7.14"**
**48.66% Pervious = 4.662 ac 51.34% Impervious = 4.918 ac**

## Summary for Subcatchment 2S: DA

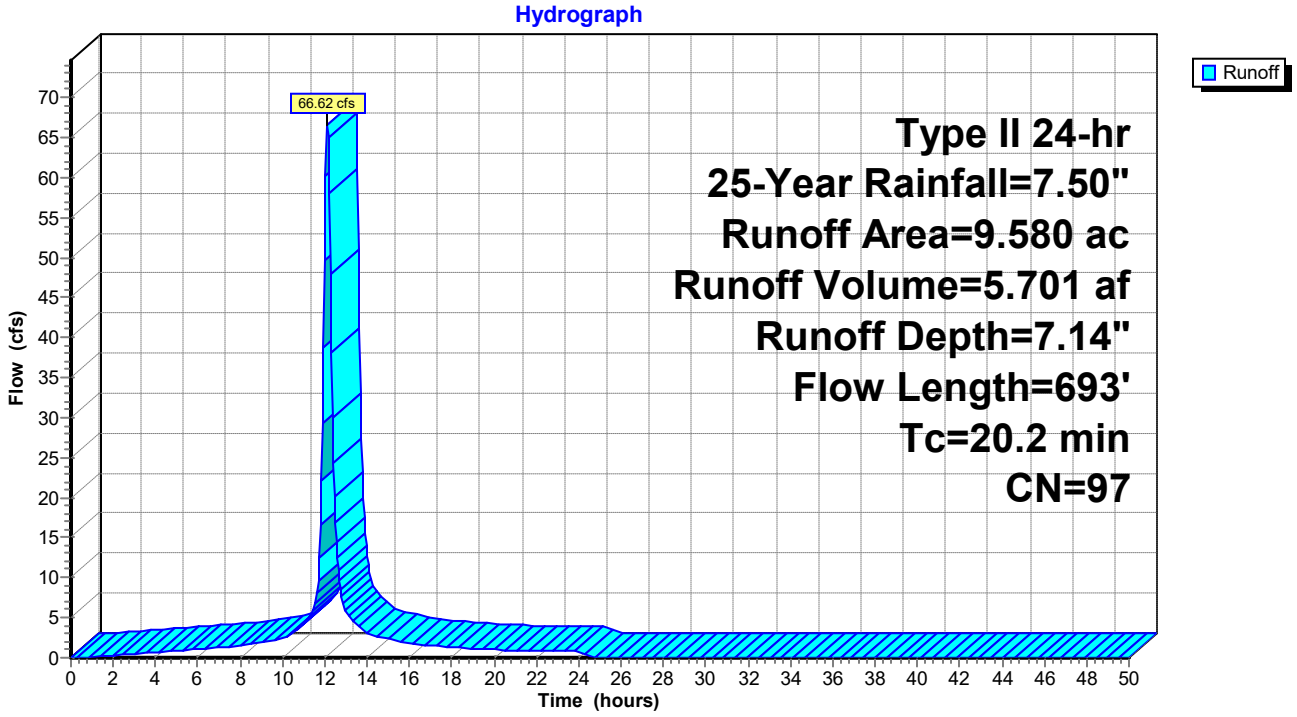
Runoff = 66.62 cfs @ 12.12 hrs, Volume= 5.701 af, Depth= 7.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-Year Rainfall=7.50"

| | Area (ac) | CN | Description |
|---|---|---|---|
| * | 3.670 | 98 | Paved Plant Pad |
| * | 1.248 | 98 | Driveway |
| * | 2.212 | 96 | Additional Base |
| * | 2.450 | 96 | Stockpiles |
| | 9.580 | 97 | Weighted Average |
| | 4.662 | | 48.66% Pervious Area |
| | 4.918 | | 51.34% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 14.0 | 100 | 0.0050 | 0.12 | | **Sheet Flow, Range** Range n= 0.130 P2= 3.80" |
| 5.1 | 396 | 0.0340 | 1.29 | | **Shallow Concentrated Flow, Pasture** Short Grass Pasture Kv= 7.0 fps |
| 1.1 | 197 | 0.0220 | 3.01 | | **Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps |
| 20.2 | 693 | Total | | | |

## Subcatchment 2S: DA



## Summary for Reach 5R: Grassy Swale

Inflow Area = 9.580 ac, 51.34% Impervious, Inflow Depth > 1.28" for 25-Year event
Inflow = 0.41 cfs @ 12.16 hrs, Volume= 1.018 af
Outflow = 0.41 cfs @ 12.21 hrs, Volume= 1.017 af, Atten= 1%, Lag= 2.7 min

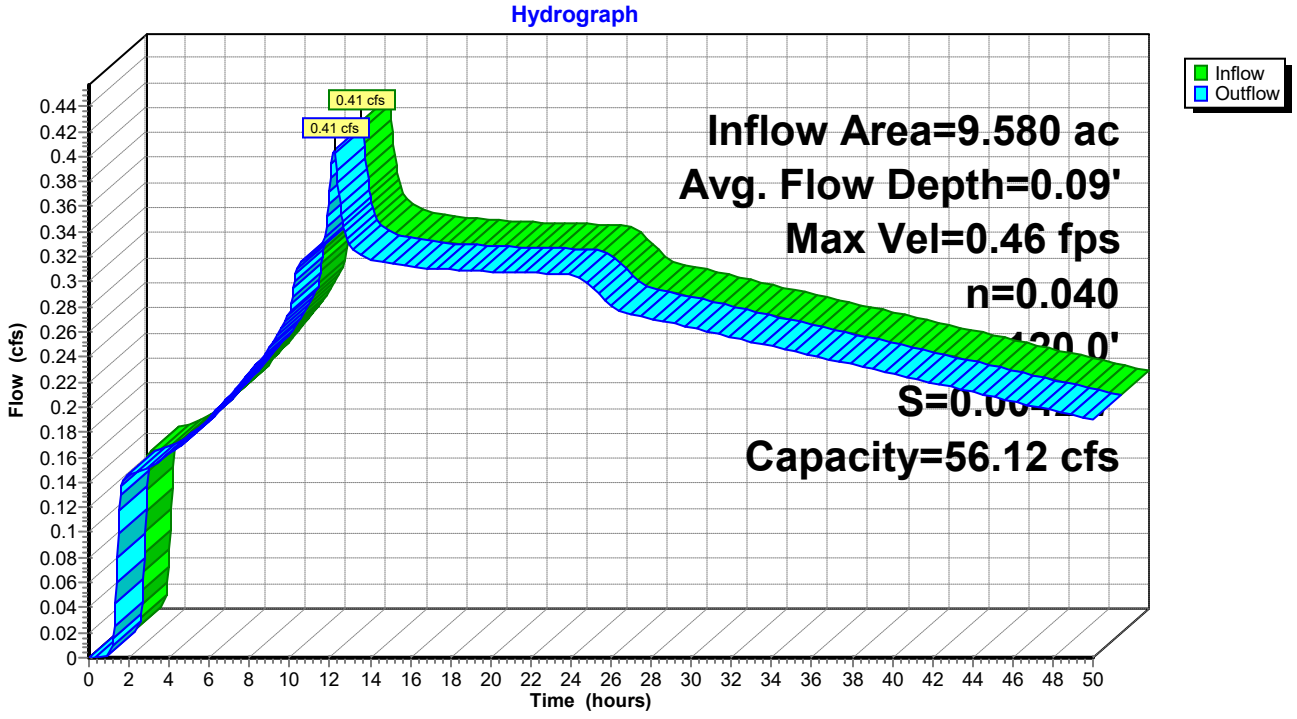
Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.46 fps, Min. Travel Time= 4.3 min
Avg. Velocity = 0.38 fps, Avg. Travel Time= 5.3 min

Peak Storage= 106 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.50' Flow Area= 21.8 sf, Capacity= 56.12 cfs

10.00' x 1.50' deep channel, n= 0.040
Side Slope Z-value= 3.0 '/' Top Width= 19.00'
Length= 120.0' Slope= 0.0042 '/'
Inlet Invert= 926.50', Outlet Invert= 926.00'

‡

### Reach 5R: Grassy Swale



## Summary for Pond 3P: Pond A

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 9.580 ac, 51.34% Impervious, Inflow Depth = 7.14" for 25-Year event
Inflow = 66.62 cfs @ 12.12 hrs, Volume= 5.701 af
Outflow = 63.82 cfs @ 12.16 hrs, Volume= 5.531 af, Atten= 4%, Lag= 2.8 min
Primary = 0.41 cfs @ 12.16 hrs, Volume= 1.018 af
Secondary = 63.41 cfs @ 12.16 hrs, Volume= 4.513 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 929.61' @ 12.16 hrs Surf.Area= 0.000 ac Storage= 0.938 af

Plug-Flow detention time= 188.7 min calculated for 5.526 af (97% of inflow)
Center-of-Mass det. time= 171.0 min ( 928.2 - 757.3 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 927.00' | 2.350 af | **Custom Stage Data** Listed below |

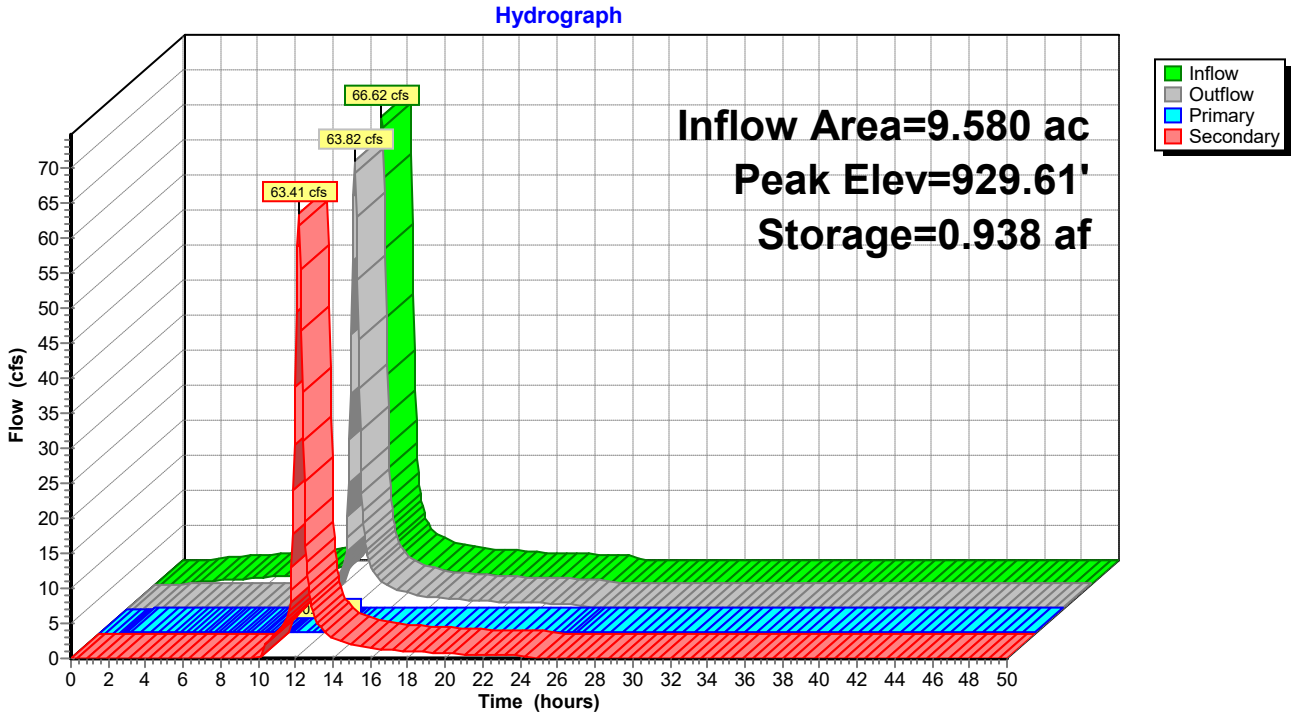
| Elevation (feet) | Cum.Store (acre-feet) |
|---|---|
| 927.00 | 0.000 |
| 928.00 | 0.630 |
| 929.00 | 0.780 |
| 930.00 | 1.040 |
| 931.00 | 2.350 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 926.50' | **3.0" Vert. Orifice/Grate** C= 0.600 |
| #2 | Secondary | 928.25' | **15.0' long x 10.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60<br>Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

**Primary OutFlow** Max=0.41 cfs @ 12.16 hrs HW=929.60' TW=926.59' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.41 cfs @ 8.30 fps)

**Secondary OutFlow** Max=62.83 cfs @ 12.16 hrs HW=929.60' (Free Discharge)
**2=Broad-Crested Rectangular Weir** (Weir Controls 62.83 cfs @ 3.11 fps)

## Pond 3P: Pond A



Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 2S: DA** Runoff Area=9.580 ac 51.34% Impervious Runoff Depth=9.14"
Flow Length=693' Tc=20.2 min CN=97 Runoff=84.59 cfs 7.296 af

**Reach 5R: Grassy Swale** Avg. Flow Depth=0.09' Max Vel=0.47 fps Inflow=0.43 cfs 1.040 af
n=0.040 L=120.0' S=0.0042 '/' Capacity=56.12 cfs Outflow=0.42 cfs 1.039 af

**Pond 3P: Pond A** Peak Elev=929.86' Storage=1.004 af Inflow=84.59 cfs 7.296 af
Primary=0.43 cfs 1.040 af Secondary=80.89 cfs 6.085 af Outflow=81.31 cfs 7.125 af

**Total Runoff Area = 9.580 ac Runoff Volume = 7.296 af Average Runoff Depth = 9.14"**
**48.66% Pervious = 4.662 ac 51.34% Impervious = 4.918 ac**

## Summary for Subcatchment 2S: DA

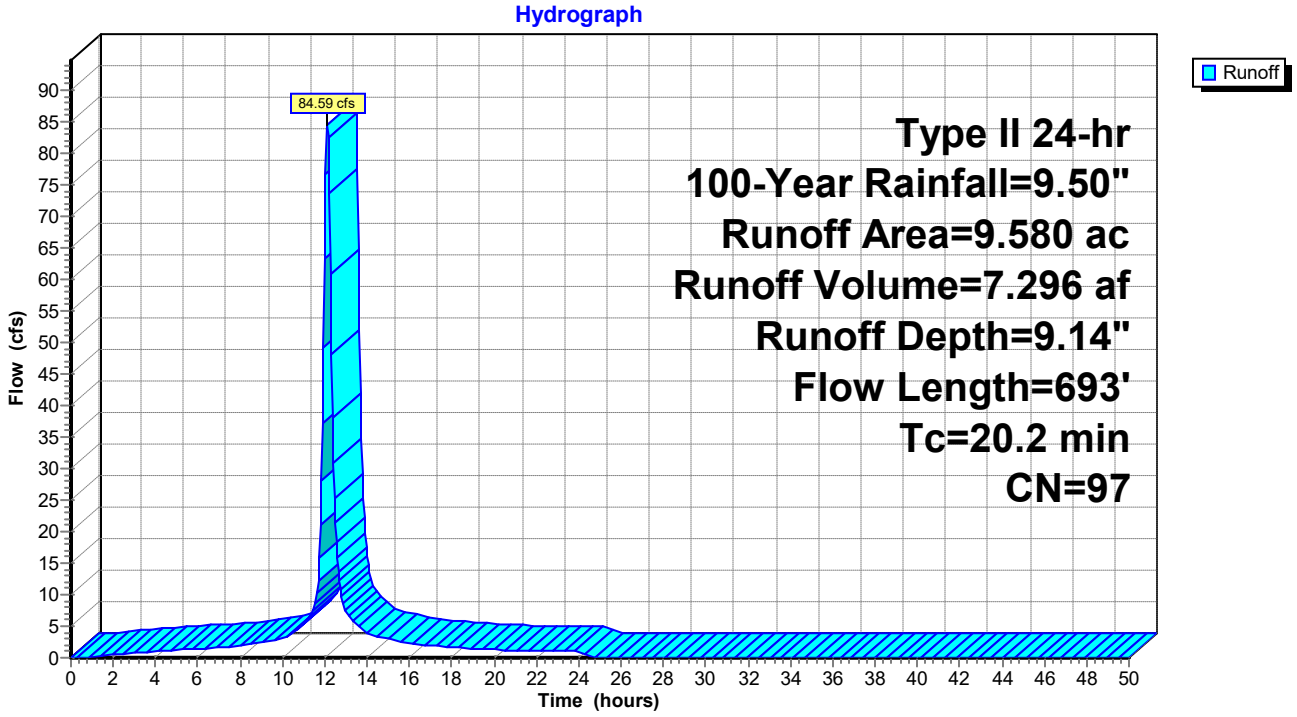
Runoff = 84.59 cfs @ 12.12 hrs, Volume= 7.296 af, Depth= 9.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=9.50"

| | Area (ac) | CN | Description |
|---|---|---|---|
| * | 3.670 | 98 | Paved Plant Pad |
| * | 1.248 | 98 | Driveway |
| * | 2.212 | 96 | Additional Base |
| * | 2.450 | 96 | Stockpiles |
| | 9.580 | 97 | Weighted Average |
| | 4.662 | | 48.66% Pervious Area |
| | 4.918 | | 51.34% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 14.0 | 100 | 0.0050 | 0.12 | | **Sheet Flow, Range** Range n= 0.130 P2= 3.80" |
| 5.1 | 396 | 0.0340 | 1.29 | | **Shallow Concentrated Flow, Pasture** Short Grass Pasture Kv= 7.0 fps |
| 1.1 | 197 | 0.0220 | 3.01 | | **Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps |
| 20.2 | 693 | Total | | | |

## Subcatchment 2S: DA



## Summary for Reach 5R: Grassy Swale

Inflow Area = 9.580 ac, 51.34% Impervious, Inflow Depth > 1.30" for 100-Year event
Inflow = 0.43 cfs @ 12.16 hrs, Volume= 1.040 af
Outflow = 0.42 cfs @ 12.21 hrs, Volume= 1.039 af, Atten= 1%, Lag= 2.7 min

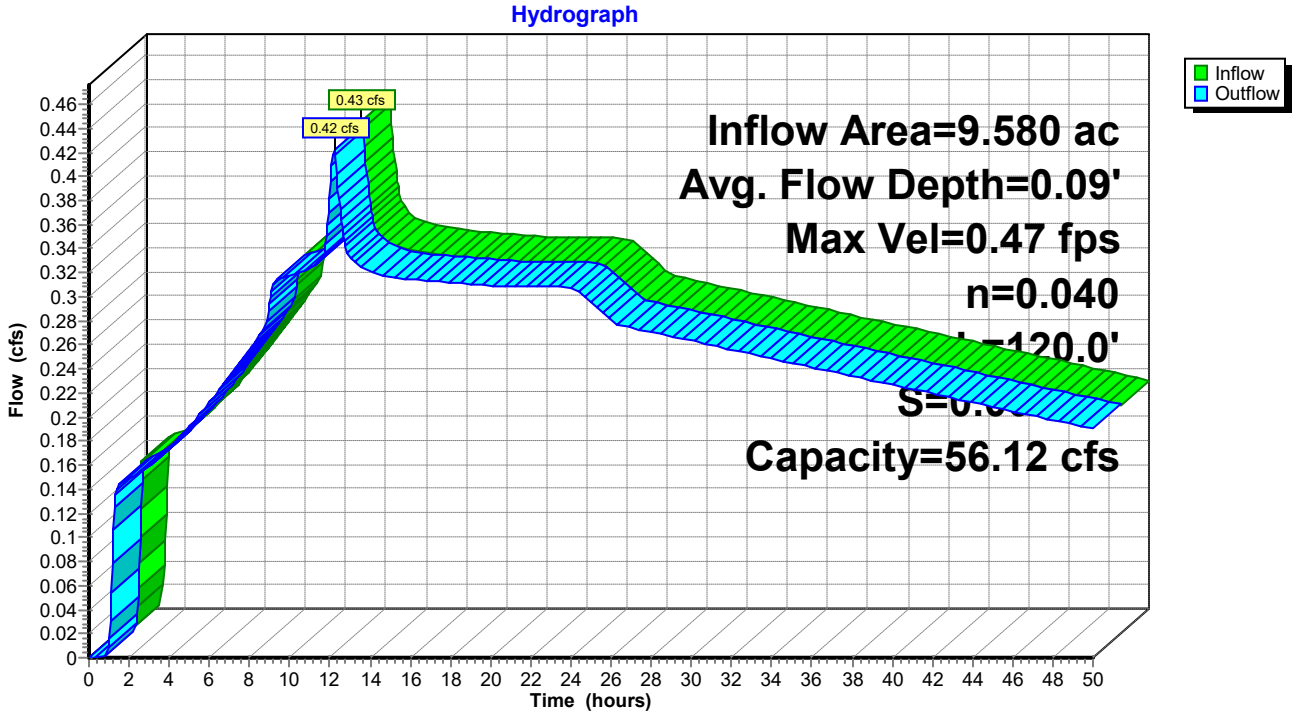
Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.47 fps, Min. Travel Time= 4.3 min
Avg. Velocity = 0.38 fps, Avg. Travel Time= 5.2 min

Peak Storage= 109 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 1.50' Flow Area= 21.8 sf, Capacity= 56.12 cfs

10.00' x 1.50' deep channel, n= 0.040
Side Slope Z-value= 3.0 '/' Top Width= 19.00'
Length= 120.0' Slope= 0.0042 '/'
Inlet Invert= 926.50', Outlet Invert= 926.00'

‡

### Reach 5R: Grassy Swale



## Summary for Pond 3P: Pond A

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 9.580 ac, 51.34% Impervious, Inflow Depth = 9.14" for 100-Year event
Inflow = 84.59 cfs @ 12.12 hrs, Volume= 7.296 af
Outflow = 81.31 cfs @ 12.16 hrs, Volume= 7.125 af, Atten= 4%, Lag= 2.6 min
Primary = 0.43 cfs @ 12.16 hrs, Volume= 1.040 af
Secondary = 80.89 cfs @ 12.16 hrs, Volume= 6.085 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 929.86' @ 12.16 hrs Surf.Area= 0.000 ac Storage= 1.004 af

Plug-Flow detention time= 153.8 min calculated for 7.118 af (98% of inflow)
Center-of-Mass det. time= 139.9 min ( 893.4 - 753.5 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 927.00' | 2.350 af | **Custom Stage Data** Listed below |

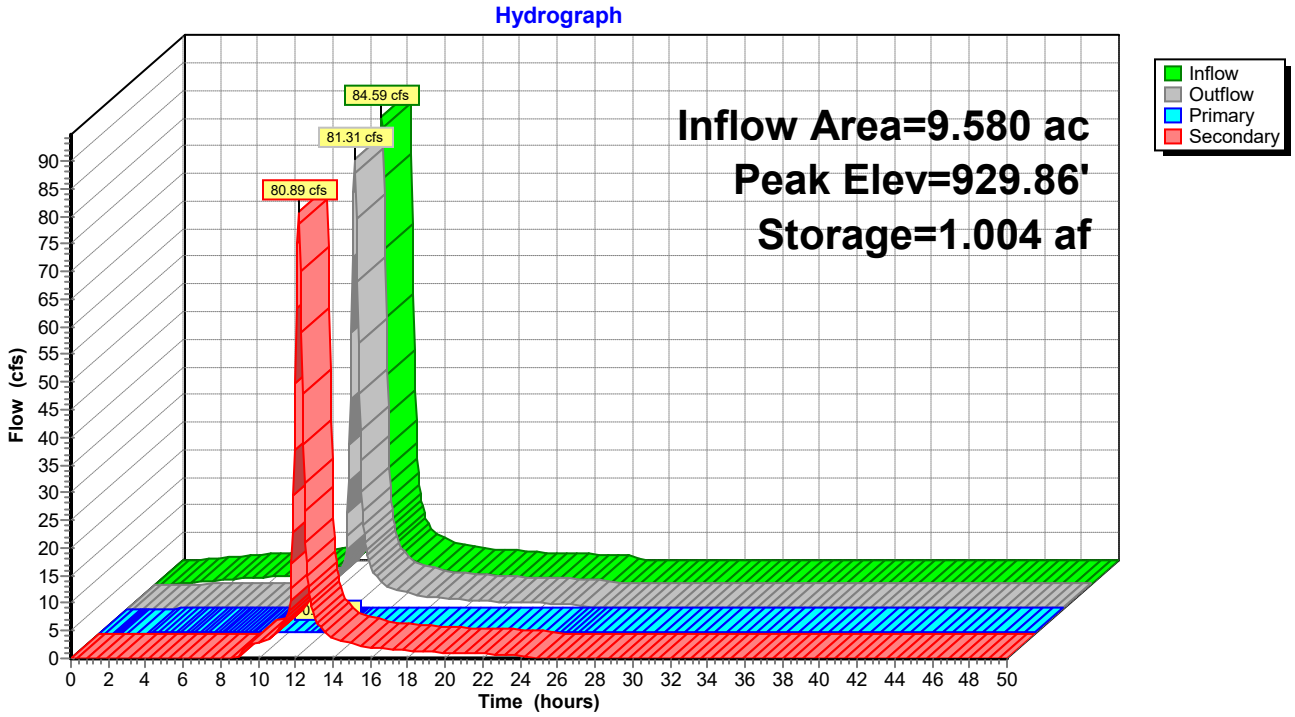
| Elevation (feet) | Cum.Store (acre-feet) |
|---|---|
| 927.00 | 0.000 |
| 928.00 | 0.630 |
| 929.00 | 0.780 |
| 930.00 | 1.040 |
| 931.00 | 2.350 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 926.50' | **3.0" Vert. Orifice/Grate** C= 0.600 |
| #2 | Secondary | 928.25' | **15.0' long x 10.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60<br>Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

**Primary OutFlow** Max=0.42 cfs @ 12.16 hrs HW=929.85' TW=926.59' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 8.65 fps)

**Secondary OutFlow** Max=80.18 cfs @ 12.16 hrs HW=929.85' (Free Discharge)
**2=Broad-Crested Rectangular Weir** (Weir Controls 80.18 cfs @ 3.34 fps)

## Pond 3P: Pond A



Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 2S: DA** Runoff Area=9.580 ac 51.34% Impervious Runoff Depth=0.80"
Flow Length=693' Tc=20.2 min CN=97 Runoff=9.56 cfs 0.639 af

**Reach 5R: Grassy Swale** Avg. Flow Depth=0.07' Max Vel=0.40 fps Inflow=0.27 cfs 0.639 af
n=0.040 L=120.0' S=0.0042 '/' Capacity=56.12 cfs Outflow=0.27 cfs 0.639 af

**Pond 3P: Pond A** Peak Elev=927.97' Storage=0.609 af Inflow=9.56 cfs 0.639 af
Primary=0.27 cfs 0.639 af Secondary=0.00 cfs 0.000 af Outflow=0.27 cfs 0.639 af

**Total Runoff Area = 9.580 ac Runoff Volume = 0.639 af Average Runoff Depth = 0.80"**
**48.66% Pervious = 4.662 ac 51.34% Impervious = 4.918 ac**

## Summary for Subcatchment 2S: DA

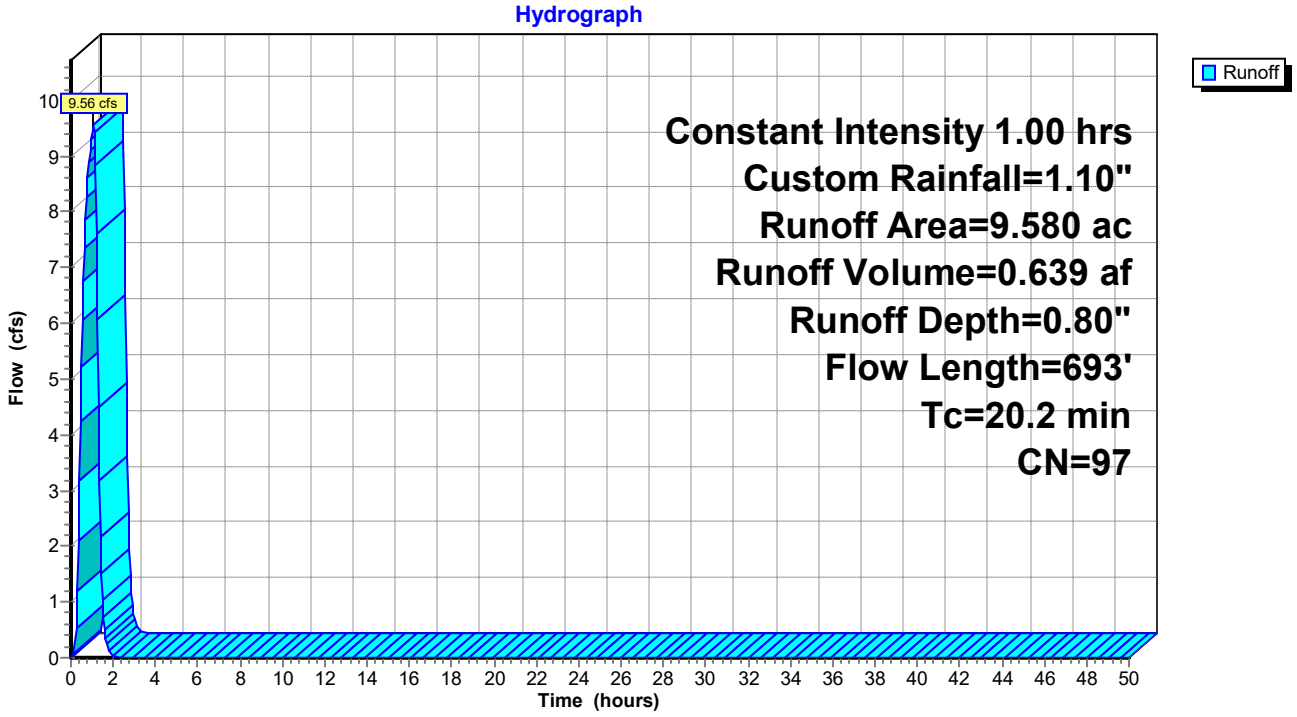
Runoff = 9.56 cfs @ 1.05 hrs, Volume= 0.639 af, Depth= 0.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Constant Intensity 1.00 hrs Custom Rainfall=1.10"

| | Area (ac) | CN | Description |
|---|---|---|---|
| * | 3.670 | 98 | Paved Plant Pad |
| * | 1.248 | 98 | Driveway |
| * | 2.212 | 96 | Additional Base |
| * | 2.450 | 96 | Stockpiles |
| | 9.580 | 97 | Weighted Average |
| | 4.662 | | 48.66% Pervious Area |
| | 4.918 | | 51.34% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|---|---|---|---|---|---|
| 14.0 | 100 | 0.0050 | 0.12 | | **Sheet Flow, Range** Range n= 0.130 P2= 3.80" |
| 5.1 | 396 | 0.0340 | 1.29 | | **Shallow Concentrated Flow, Pasture** Short Grass Pasture Kv= 7.0 fps |
| 1.1 | 197 | 0.0220 | 3.01 | | **Shallow Concentrated Flow, Shallow Concentrated Flow** Paved Kv= 20.3 fps |
| 20.2 | 693 | Total | | | |

## Subcatchment 2S: DA



## Summary for Reach 5R: Grassy Swale

Inflow Area = 9.580 ac, 51.34% Impervious, Inflow Depth = 0.80" for Custom event
Inflow = 0.27 cfs @ 1.68 hrs, Volume= 0.639 af
Outflow = 0.27 cfs @ 1.75 hrs, Volume= 0.639 af, Atten= 0%, Lag= 3.9 min

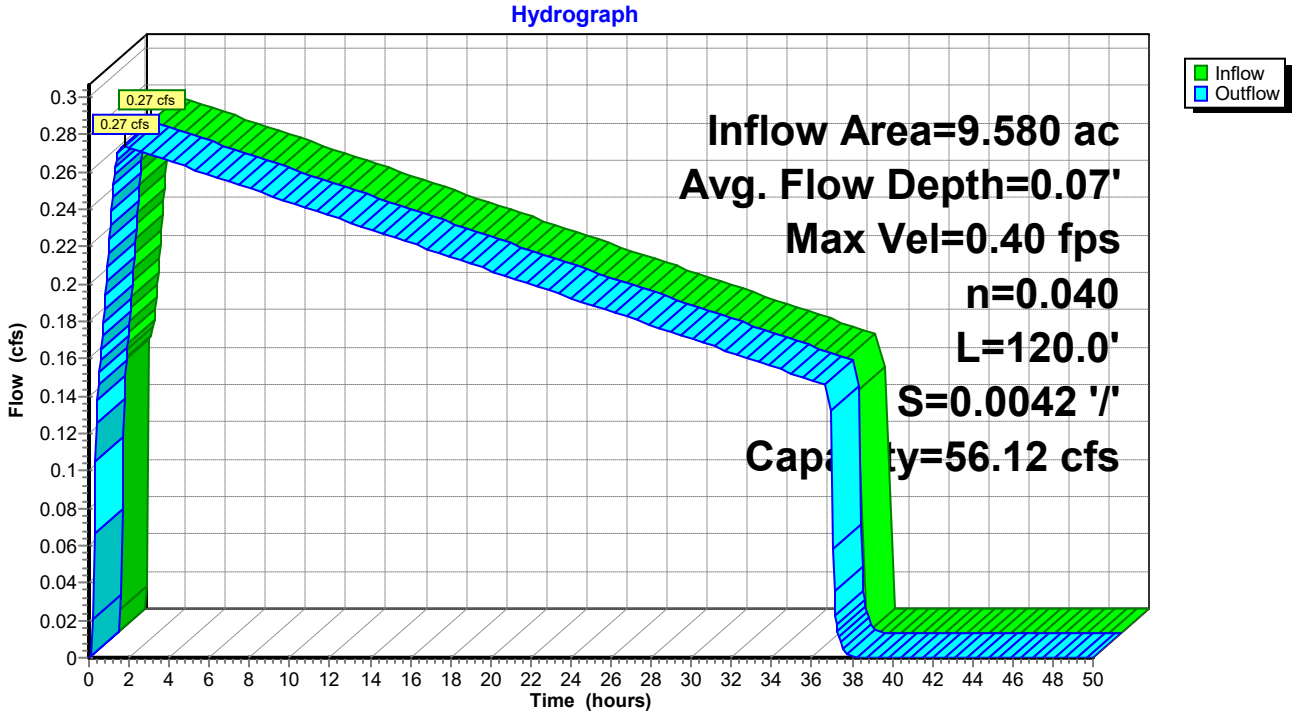
Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.40 fps, Min. Travel Time= 5.1 min
Avg. Velocity = 0.34 fps, Avg. Travel Time= 5.8 min

Peak Storage= 83 cf @ 1.75 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 1.50' Flow Area= 21.8 sf, Capacity= 56.12 cfs

10.00' x 1.50' deep channel, n= 0.040
Side Slope Z-value= 3.0 '/' Top Width= 19.00'
Length= 120.0' Slope= 0.0042 '/'
Inlet Invert= 926.50', Outlet Invert= 926.00'

‡

### Reach 5R: Grassy Swale



## Summary for Pond 3P: Pond A

[44] Hint: Outlet device #1 is below defined storage

Inflow Area = 9.580 ac, 51.34% Impervious, Inflow Depth = 0.80" for Custom event
Inflow = 9.56 cfs @ 1.05 hrs, Volume= 0.639 af
Outflow = 0.27 cfs @ 1.68 hrs, Volume= 0.639 af, Atten= 97%, Lag= 38.3 min
Primary = 0.27 cfs @ 1.68 hrs, Volume= 0.639 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 927.97' @ 1.68 hrs Surf.Area= 0.000 ac Storage= 0.609 af

Plug-Flow detention time= 954.5 min calculated for 0.638 af (100% of inflow)
Center-of-Mass det. time= 955.6 min ( 1,009.9 - 54.3 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 927.00' | 2.350 af | **Custom Stage Data** Listed below |

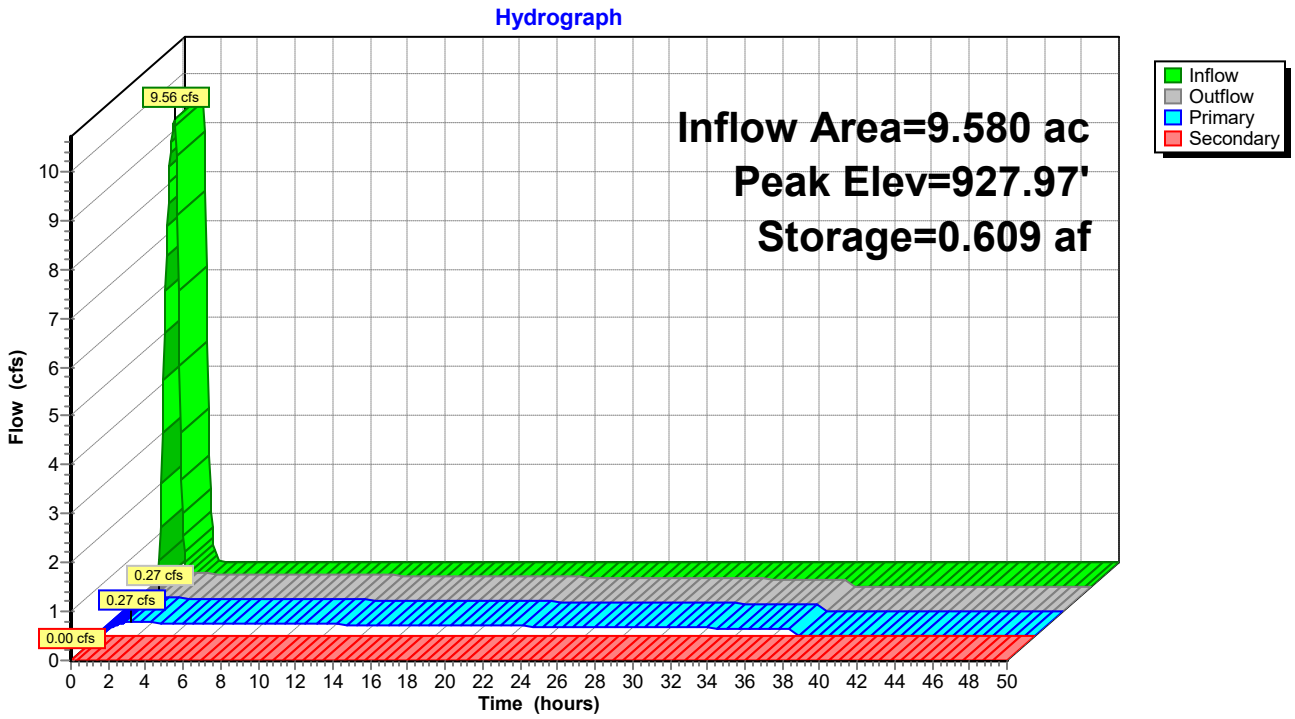
| Elevation (feet) | Cum.Store (acre-feet) |
|---|---|
| 927.00 | 0.000 |
| 928.00 | 0.630 |
| 929.00 | 0.780 |
| 930.00 | 1.040 |
| 931.00 | 2.350 |

| Device | Routing | Invert | Outlet Devices |
|---|---|---|---|
| #1 | Primary | 926.50' | **3.0" Vert. Orifice/Grate** C= 0.600 |
| #2 | Secondary | 928.25' | **15.0' long x 10.0' breadth Broad-Crested Rectangular Weir**<br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60<br>Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

**Primary OutFlow** Max=0.27 cfs @ 1.68 hrs HW=927.97' TW=926.57' (Dynamic Tailwater)
**1=Orifice/Grate** (Orifice Controls 0.27 cfs @ 5.58 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=927.00' (Free Discharge)
**2=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

## Pond 3P: Pond A




N

0 60 120 240

SCALE: 1" = 120'

**LEGEND**

- PROPERTY LINE
- WATER WELL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- DRAINAGE AREAS
- FLOW ARROW
- ToC LINE
- CONCRETE HATCH
- WATER BODY HATCH

| | |
|---|---|
| IMAGE: | N/A |
| ISSUE DATE: | 8/28/2024 |
| DRAWN BY: | NMS |
| CHECKED BY: | CGC |
| SCALE: | 1" = 120' |
| JOB NO.: | 10204-248 |

SHEET NO.: **1** OF 1


WESTWARD
Environmental, Engineering, Natural Resources.
P.O. Box 2205 Boerne, Texas 78006
(830) 249-8284 Fax: (830) 249-0221
TBPE REG. NO.: F-4524
TBPG REG. NO.: 50112


| REV | DESCRIPTION | BY | DATE |
|---|---|---|---|
| | | | |

STATE OF TEXAS
CURT GARRETT CAMPBELL
106851
LICENSED PROFESSIONAL ENGINEER
11/15/2024
Curt G. Campbell, P.E.
License No. 106851

# DRAINAGE PLAN

CZP MODIFICATION

TEXAS MATERIALS INC.

RONALD REAGAN BLVD, GEORGETOWN, TX