P

APPENDIX P - ADDITIONAL LICENSES AND PERMITS

List of all other licenses and permits required for operation (Section 519.C.16)

Brickyard Trucking, LLC (Brickyard) is required to register as a business with the Louisiana Secretary of State to construct and operate the facility.

Brickyard has been registered with the Louisiana Secretary of State since October 5, 2023, and is categorized as being "Active" and in "Good Standing". LA Secretary of State Charter Number 45622891K.

Brickyard (B1119) is an operator with the Louisiana Department of Energy and Natural Resources – Office of Conservation.

Brickyard has been registered with the Louisiana Department of Energy and Natural Resources - Office of Conservation as an operator since May 16, 2024, (effective date) and has been assigned the Operator Code **B1119.**

Brickyard has completed, executed, and included ENV 2024 Form OR-1 for operation of a Commercial Saltwater Disposal Facility.

Modeling will be performed to determine if this facility will require a minor source air permit from Louisiana Department of Environmental Quality (LDEQ). Based on the maximum throughput and tankage at this facility, a minor source air permit may be necessary. Raines & Associates, LLC has submitted an air permit application prepared by ALTEC Environmental Consulting, LLC to LDEQ for determination and LDEQ's determination and/or response will be forwarded to the Environmental Division of the Office of Conservation of the Louisiana Department of Energy and Natural Resources upon receipt. A copy of the Air Permits Statutory Exemption for the Brickyard Facility from the Louisiana Department of Environmental Quality dated October 17, 2024, is attached for reference, and included in Appendix P. In the Process Description of the Air Permit Application, a mistake was made in the in the size of the desanding tanks (750 bbl versus 700 bbl tanks) and the maximum disposal rate 25,000 bbls/day versus 24,000 bbls/day. In both cases, the volume of the tanks and the disposal rates are higher in the air permit application versus the proposed construction plan. This would result in a higher estimate of emissions in the air permit application; therefore, the applicant was being more conservative, and LDEQ still issued an Air Permit Statutory Exemption.

Brickyard is required to apply for a Building Construction Permit with the Bienville Parish Police Jury for locating a building and office structure at the proposed facility. Brickyard will apply for this permit upon receipt of authorization to construct this facility from the Louisiana Department of Energy and Natural Resources – Office of Conservation – Environmental Division.

Brickyard is required to obtain a health permit from the Bienville Parish Health Unit. Brickyard will apply for this permit upon receipt of authorization to construct this facility from the Louisiana Department of Energy and Natural Resources – Office of Conservation – Environmental Division.

Brickyard is required to apply for an Institute for Building Technology & Safety permit (IBTS) prior to receiving electrical services. Brickyard will apply for this permit upon receipt of authorization to

construct this facility from the Louisiana Department of Energy and Natural Resources – Office of Conservation – Environmental Division.

Brickyard is required to apply for a 911 address and a permit number from the Bienville Parish Communications Office. Brickyard will apply for this permit upon receipt of authorization to construct this facility from the Louisiana Department of Energy and Natural Resources – Office of Conservation – Environmental Division.

Brickyard is required to apply for a road access permit from the Louisiana Department of Transportation & Development (LADOTD). A road access permit was applied for and will be submitted to the Louisiana Department of Energy and Natural Resources – Office of Conservation – Environmental Division upon receipt. A copy of the completed and executed form, Louisiana Department of Transportation & Development - Preliminary Access Connection Request Form has been submitted. A copy of this completed form is enclosed in Appendix P. The Road Access permit will be provided to the Environmental Division upon receipt. A copy of the Louisiana Department of Transportation and Development (LaDOTD) Permit approved on September 24, 2024, is attached for reference, and included in Appendix P. The LaDOTD Permit No. is 04019890.

Brickyard is not required to obtain a Bienville Parish Permit for utilizing parish roads. Brickyard only operates the disposal facility and does not operate any E and P waste hauling trucks or any heavy vehicles that will utilize parish roads. E and P Waste Haulers will meet Parish Road Permit requirements for the roads traveled in the parishes the Brickyard facility will serve. See Section K – WMOP for more info on Parish Road Permit verification Requirements.

Brickyard is required to apply for a Louisiana Pollutant Discharge Elimination System (LPDES) Storm Water Discharges for Construction Activities Permit. Brickyard will apply for this permit upon receipt of authorization to construct this facility from the Louisiana Department of Energy and Natural Resources – Office of Conservation – Environmental Division.

Brickyard is required to apply for a Louisiana Pollutant Discharge Elimination System (LPDES) Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activities. Brickyard will apply for this permit once construction is finalized.

Brickyard submitted a determination request to the Department of Culture and Tourism. This determination is required prior to approval to construct. A copy of the Office of Cultural Development response to the due diligence request is attached for subject site. The Office of Cultural Development, State Archaeologist, Chip McGimsey, stated their office has no objection to the implementation of this project.

No additional permits are required, state or local, to construct and/or operate the facility in Bienville Parish.

All required permits in accordance with local, state and/or federal requirements will be properly obtained prior to construction of the facility.

STATE EXHIBIT NO. 1
DOCKET NO. ENV 2025-01
PAGE 265 OF 699 PAGES

Office of Conservation
FEB 14 2025
Environmental Division

JEFF LANDRY
GOVERNOR

AURELIA S. GIACOMETTO
SECRETARY

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL SERVICES

Certified Mail No. 9589 0710 5270 1535 6517 19

Agency Interest (AI) No. 244334
Activity No. PER20240001

Mr. Scott Wooten
Manager
Brickyard Trucking, LLC
415 Texas Street, Suite 400
Shreveport, LA 71101

RE: Air Permits Statutory Exemption
Brickyard Trucking, LLC - Proposed Commercial SWD Facility-Bienville Parish
Jamestown, Bienville Parish, Louisiana

Dear Mr. Wooten:

By an Application for Approval of Miscellaneous Permitting Actions dated August 16, 2024, ALTEC Environmental Consulting, LLC, on behalf of Brickyard Trucking, requested an exemption for the above facility pursuant to LAC 33:III.501.B.2.d. The language in LAC 33:III.501.B.2.d is based on Act 547, which became effective August 15, 2008.

If the potential emissions from the above referenced facility are below the thresholds set forth in La. R.S. 30:2054(B)(2)(b)(ix) and LAC 33:III.501.B.2.d, neither an air permit nor a small source exemption under LAC 33:III.501.B.4 is required. Prior to increasing the potential to emit of the facility above the limits established in LAC 33:III.501.B.2.d, the owner or operator of the facility must apply for an air permit in accordance with LAC 33:III.Chapter 5.

Please note that LAC 33:III.501.B.2.d applies only to air permitting requirements and does NOT apply to the LDEQ permitting requirements for other media (e.g. water, solid waste, hazardous waste, or radiation). The facility must obtain any other necessary federal, state, or local approvals as required by any applicable regulations.

If there are any questions concerning this matter, please contact Khoa Bui (KB) at (225) 219-1669 or Khoa.Bui@la.gov.

Sincerely,

Ashley Viator

Ashley Viator
Manufacturing Section Manager
Air Permits Division
ASV: kb

LaDOTD 01.2013

LaDOTD Permit # 04019890 Date Permit Issued: 9-24-24

Date Permit Entered/Initials: _____ Construction Must Begin By: 9-24-25

State of Louisiana
Department of Transportation & Development
ACCESS CONNECTION PERMIT CERTIFICATE – TRAFFIC GENERATOR

Property Owner's Name: BRICKYARD TRUCKING LLC

Physical (911) Address of Property: _____

City: JAMESTOWN State: LA Zip: 71045

State Highway Adjacent to Property (Hwy. #): 792 Parish: BIENVILLE

Property located on the (circle one) N S (E) W *side of the highway* 1.84 *miles (circle one)* (N) S E W

From (nearest LA/US route # or other major roadway) 154

Control Section: 293-02 Log Mile: _____ Latitude: 32.3697 Longitude: -93.2134

Proposed Use of Property:

- ☐ Multi-Residence Single Family - Number of Homes Proposed
- ☐ Temporary (less than 1 year) – Explain Use
- ☐ Commercial – Total Facility Sq. Ft. _____

Select One: ☐ Retail ☐ Mixed-Use ☐ Medical ☐ Religious ☐ Educational ☐ Public ☐ Agricultural ☐ Utility ☐ Bank

- ☒ Other – Explain SALTWATER FACILITY

Property Frontage along Highway (ft.): 891 Depth of Property (ft.): 746

Apparent Right-of-Way (ft.): _____ Current Highway Surface Material: Asphalt

Approved Driveway Material: Concrete Culvert Size: Dia. (in.) Length (ft.) (2) 24" x 82'

Setback from Right-of-Way to nearest building/gas pump/etc. (ft.) _____ Culvert Material CMP WITH SAFETY END TREATS

Driveway Width (2) 36' ft. Radius of Driveway 35 ft. (see attached standard)

Hydraulic Review: ☒ Not Required ☐ Required, Approved on _____ by _____

Traffic Impact Study: ☒ Not Required ☐ Required, Approved on _____ by _____
(Attach a copy of the Letter of Compliance)

Traffic Signal Study: ☒ Not Required ☐ Required, Approved on _____ by _____

Signal Permit Issued: ☒ No ☐ Yes, Signal Permit Number: _____

La DOTD Access Connection Detail to Be Used for Construction: _____ Notes: _____

Other permits related to this property: _____ _____ _____

Driveway Sharing: ☒ Not Required ☐ Required – Attached signed agreement.

Details: _____

Mitigation Required: ☒ No ☐ Yes – Details: _____

STATE EXHIBIT NO. 1
DOCKET NO. Env2025-01
PAGE 167 OF 699 PAGES

Office of Conservation
FEB 14 2025
Environmental Division

04019890

Construction of Access Connection shall be subject to the following additional restrictions: _____

Temporary Permit? ☐ No ☐ Yes. Terms: _____

Additional Provisions:

1. All documentation associated with this permit shall remain attached to this Permit Certificate and shall at all times be available for review, when requested, by a representative of the Louisiana Department of Transportation and Development.

2. All signed and stamped plans associated with this permit which are affixed with the LaDOTD Permit # shall remain with this permit and shall at all times be kept on the job site. If requested by a representative of the Louisiana Department of Transportation and Development, the entire plan package shall be produced at the job site for review.

3. The DOTD District Office will handle all necessary public notices regarding temporary traffic control related to work authorized by this permit. The Permittee shall notify the District office a minimum of five (5) working days before construction if the traffic control plan was previously approved or contained in the approved plans or a minimum of ten (10) working days before construction if the traffic control plan must be submitted for lane closures not addressed in the plans.

4. Prior to performing any excavations, the applicant is required to call Louisiana One Call. If installing any underground facilities such as cable or conduits, the applicant must be a member of Louisiana One Call. In addition, the applicant must contact DOTD at 1-800-259-4929 or DOTD.fiber.or.cable.ly.gov at least 24 hours prior to performing any excavation on DOTD Right-of-way (either for installation or maintenance).

All conditions of this permit are subject to the provisions of LAC 70:II, Chapter 5, §531 and LAC 70:1, Chapter 15, §1501.
I, the applicant, agree to hold harmless the DOTD and its duly appointed agents and employees against any action for personal injury or property damage sustained by reason of the exercise of this permit, whether or not the same may have been caused by the negligence of the DOTD, its agents, or its employees. I understand that this permit may be modified or rescinded at anytime at the discretion of the DOTD and any costs incurred as a result will be at my expense. I certify that the information contained herein is true, complete, and correct to the best of my knowledge. I understand that if any information contained herein is found to be falsified, this request and any permit issued based on this information shall be voided.

The provisions of this permit are hereby accepted and agreed to this 23rd day of September 20 24.

SIGNED _____

Owner's Name (printed): Scott Wooten

Mailing Address: PO Box 90

City: Shreveport State: LA Zip: 71161

Home/Work Phone: 318-377-5755 Cell Phone: 318-381-2004

If exercising Power of Attorney:

Name of Authorized Representative: _____

(Attach a copy of Power of Attorney documentation)

APPROVED BY:
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

_____
DISTRICT PERMIT SPECIALIST –

Print Name Jason Blair Date 9-24-24

_____, P.E.
DISTRICT ADMINISTRATOR (OR DESIGNEE) –

Print Name David North Date 24 Sep 24

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 268 OF 699 PAGES

04019890

LaDOTD 01.2013

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT
PRELIMINARY ACCESS CONNECTION REQUEST FORM
TRAFFIC GENERATOR TYPE ACCESS ON A STATE ROUTE

An access connection is any physical connection between a state roadway and private or public property which allows the ingress and egress of vehicles to or from said property.

THIS FORM IS NOT TO BE USED FOR SINGLE-FAMILY RESIDENTIAL OR NON-COMMERCIAL AGRICULTURE ACCESS CONNECTION REQUESTS.

PROPERTY OWNER INFORMATION

Name Scott Wooten

Company (If Applicable to Permit) Brickyard Trucking, LLC

Mailing Address 415 Texas Street, Suite 400

City Shreveport State LA Zip Code 71101

Home/Bus Phone (318) 377-5755 Cell Phone (318) 381-2004

E-Mail scott.wooten@saltlickllc.com

☐ Check here if Owner is to be the Primary Contact.

DESIGNATED CONTACT INFORMATION (If Primary Contact is not the Owner)

Name Rob Rollins

Company (If Applicable to Permit) Mohr and Associates, Inc

Phone 318-686-7190 Fax

Email rrollins@mohrandassoc.com

Relationship to Property Owner: ■ Engineer ☐ Attorney ☐ Other

Submit Power of Attorney documentation stating this person has the authority to enter into a legally-binding agreement on behalf of the Owner.

PROPERTY INFORMATION

REQUIRED INFORMATION

Property 911 Address TBD LA Hwy 792

City Jamestown State LA Zip Code 71045

Parish Bienville Current Hwy Surface Asphalt

State Highway Adjacent to Property (LA/US Route #): LA 792

Property is located on the (circle applicable) N S E W side of the highway

1.84 *miles (circle applicable) N S E W from (nearest state highway # or other major roadway)* LA 154

Lot Depth (ft): 746 Frontage Width (ft): 891

Proposed driveway width (ft): 36

OPTIONAL INFORMATION

Distance from Centerline of Roadway to Property Line (ft): 34

Proposed Building Dimensions 208'X109' and 60'X15'

Setback from Right-of-Way to nearest building/gas pump/etc. (ft): 28'

Distance from Property Lines to Nearest Driveways/Roadways 190'

Property Latitude 32.3697N Property Longitude -93.2134W

YOU MUST ATTACH A PROPERTY MAP TO THIS DOCUMENT.

Attach property survey or plat of property. Show proposed location of access point and locations of nearest existing driveways and median openings (if applicable). Everything must be dimensioned.

THIS FORM IS NOT TO BE USED FOR SINGLE-FAMILY RESIDENTIAL OR NON-COMMERCIAL AGRICULTURE ACCESS CONNECTION REQUESTS.

APPLICANT TO COMPLETE:

PROPOSED USE OF PROPERTY:

☐ Multi-Residence Single Family
Number of Homes Proposed ____

☐ Commercial
Total Facility Sq. Ft. ____
Select One:
☐ Retail ☐ Mixed-Use ☐ Medical
☐ Religious ☐ Educational ☐ Public
☐ Agricultural ☐ Utility ☐ Bank
☐ Other: ____

☐ Temporary (less than 1 year) – Explain Use ____

■ Other – Explain Salt Water Facility

- Will access connection become a public road? ☐ Yes ■ No
- Will the full development be built in phases? ☐ Yes ■ No ☐ Unknown

SELECT ALL THAT APPLY:

■ Applicant requests more than one access connection.
☐ Property is within ½ mile of an existing traffic signal.
☐ Applicant requests a new traffic signal.
☐ Applicant requests a new median opening.
☐ Requested access connection location aligns with an existing signal or intersection.
☐ Existing median opening or portion Thereof, is within the frontage limits of the property.
☐ Requested access connection is not on a state route, but is within ¼ mile of a state route.
☐ Railroad crossing located within ¼ mile.
☐ Applicant requests a roundabout.
☐ Property has frontage on an existing local or parish roadway.
☐ Property is within the functional area of intersection or limits of turn lane.

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 269 OF 699 PAGES

Office of Conservation
FEB 14 2025
Environmental Division

04019890

LaDOTD 01.2013

If requesting commercial access, indicate the types and number of businesses and provide the floor area square footage of each:

Business Type	Sq. Ft.
Salt Water Facility	22,672

If requesting residential development access, indicate the types and number of units (single family, apartment, townhome, etc.):

Residence Type	# Units

For agricultural access, indicate number of acres the access will serve: _____

Please answer the following questions. Provide additional documentation, if necessary:

Does the applicant have knowledge of any State Highway access permits serving this property, or adjacent properties, in which the applicant has, or may have, a property interest?

◉ No ○ Yes. Provide details: _____

Does the property owner own or have any interests in any adjacent properties?

◉ No ○ Yes. Provide details: _____

Are there other existing or dedicated public streets, roads, highways, or access easements bordering or within the property?

◉ No ○ Yes. If Yes, list them on all plans and indicate the proposed and existing access locations.

This application is for (check one): ◉ New Construction ○ Remodel/Change in Use ○ Expansion of Facility

I certify that the information contained herein is true, complete, and correct to the best of my knowledge. I understand that if any information contained herein is found to be falsified, this request and any permit issued based on this information shall be voided.

Signature of Owner _____ **Date** 9/12/24

Return Completed Form to the District Permit Specialist at the DOTD District Office where subject property is located.

DEPARTMENT OF TRANSPORTATION & DEVELOPMENT USE ONLY (Permit Specialist)

Date Requested Received _____ Date Owner Contacted _____

(Owner should be contacted within 14 business days of date request is received.)

District _____ Request Processed By _____

Pre-Permit Application Meeting Required: ☐ No ☐ Yes

Meeting Scheduled for _____ 20 ____ at _____ AM/PM

Applicant Contacted to Confirm Meeting by _____

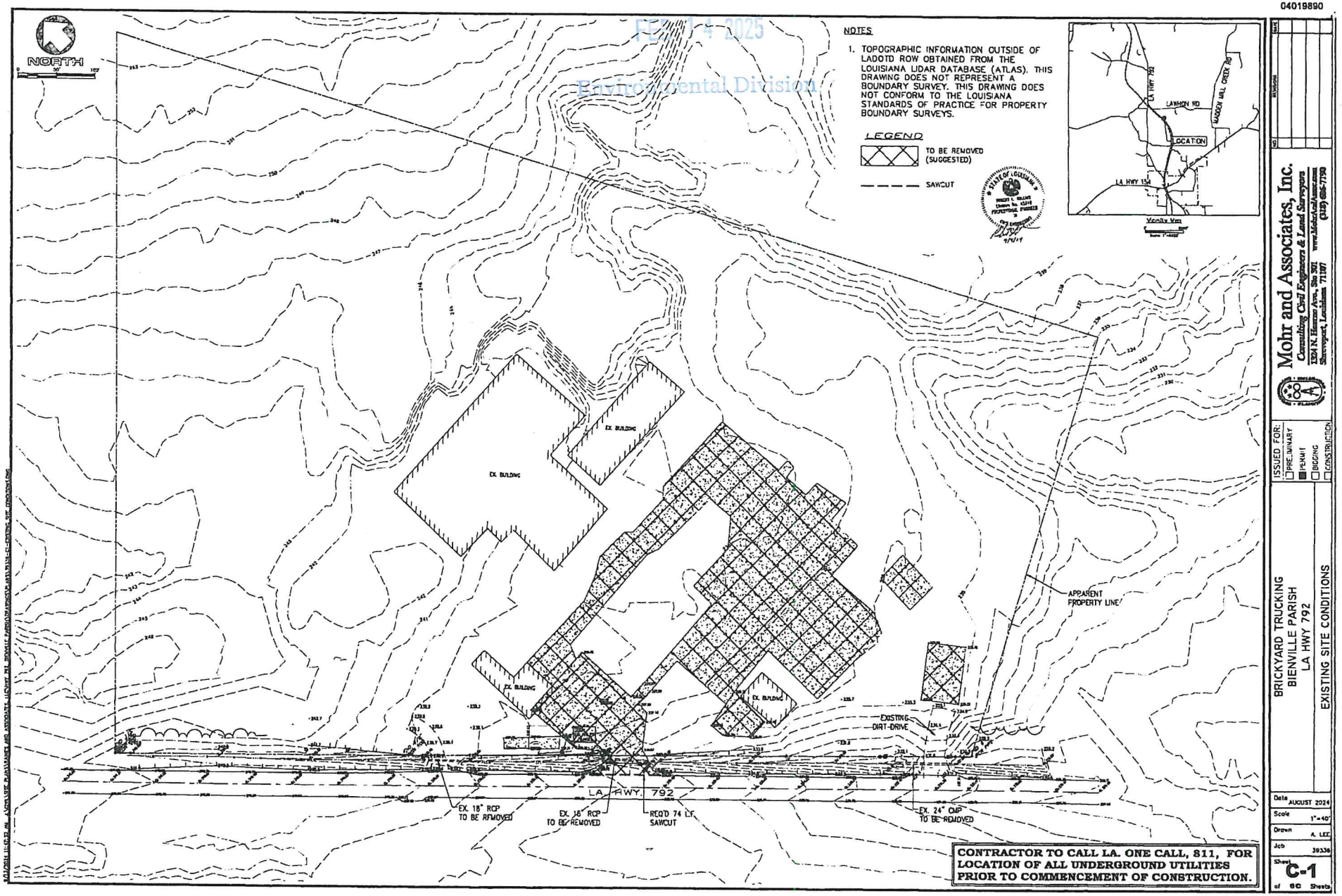
Office of Conservation

JAN 14 2025

Environmental Division

STATE EXHIBIT NO. 1
DOCKET NO. Env2025-01
PAGE 370 OF 699 PAGES

04019890



Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste. 501 Shreveport, Louisiana 71107 www.MohrandAssoc.com (318) 686-7939

ISSUED FOR:
☐ PRELIMINARY
☒ PERMIT
☐ BIDDING
☐ CONSTRUCTION

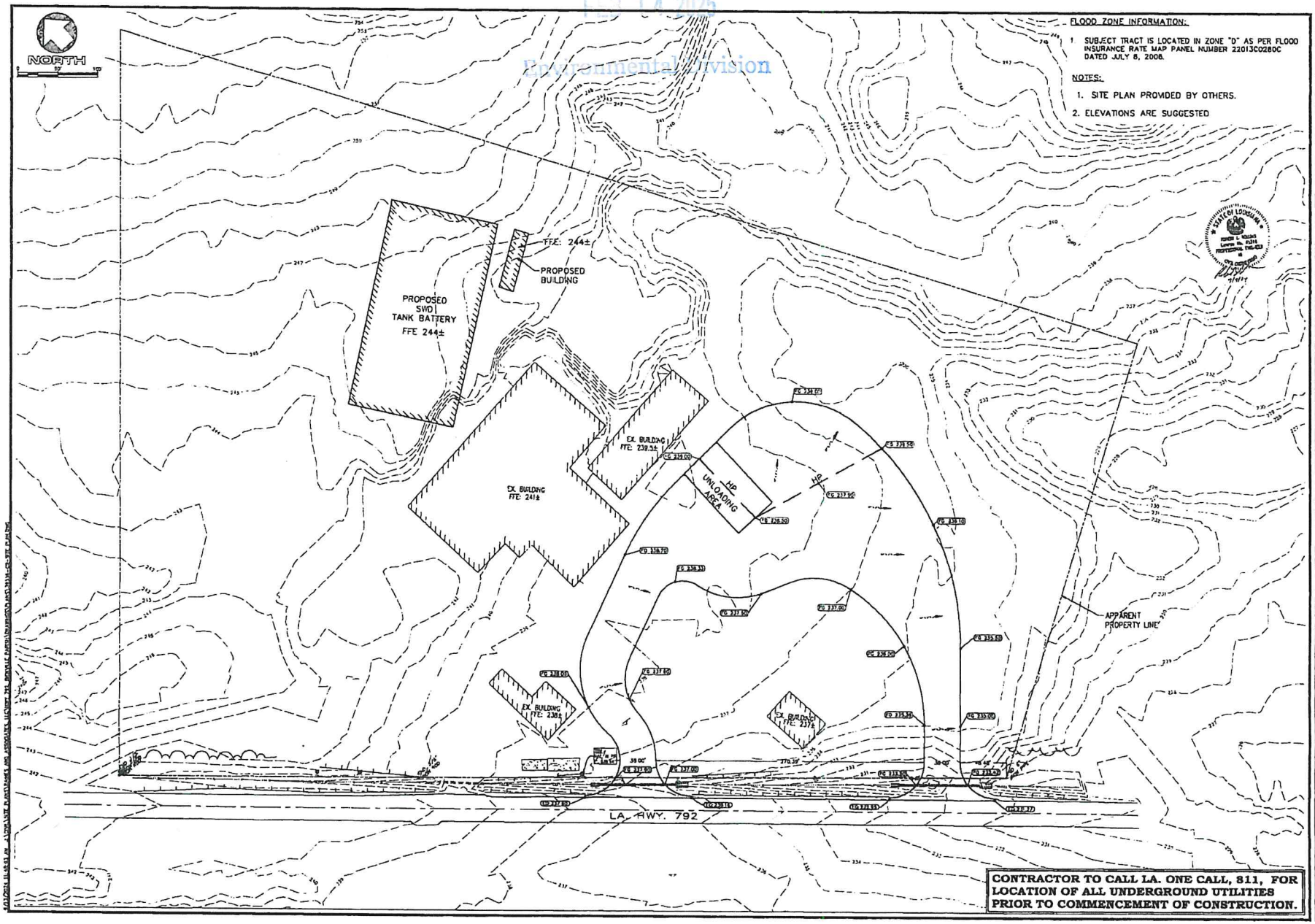
BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792

EXISTING SITE CONDITIONS

Date AUGUST 2024
Scale 1"=40'
Drawn A. LEE
Job 39336
Sheet C-1
of 60 Sheets

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 271 OF 699 PAGES

04019890



Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1264 N. Hearne Ave., Ste 201 Shreveport, Louisiana 71107
www.MohrAndAssociates.com (318) 686-7130

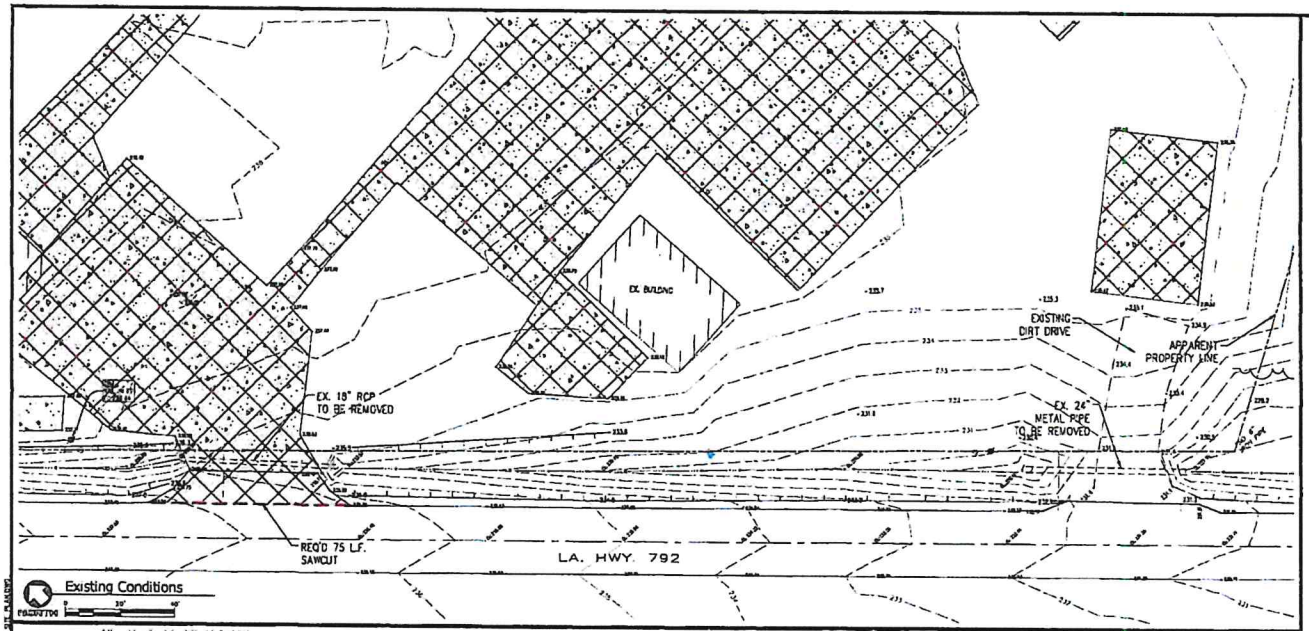
ISSUED FOR:
☐ PRELIMINARY
☒ PERMIT
☐ BIDDING
☐ CONSTRUCTION

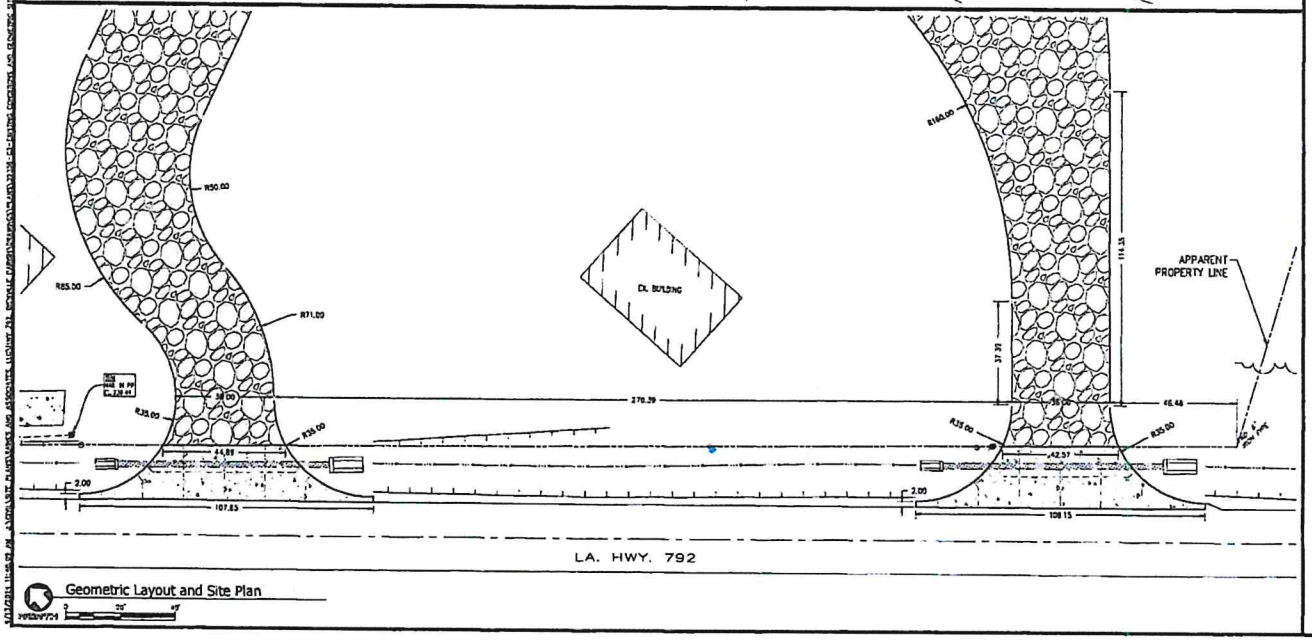
BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792
SITE PLAN

Date AUGUST 2024
Scale 1"=40'
Drawn A. LEE
Job 39338
Sheet C-2
of 8C Sheets

STATE EXHIBIT NO. 1
DOCKET NO. ENV2025-01
PAGE 272 OF 699 PAGES

04019890





GENERAL NOTES:

1. CALL UTILITY LOCATION SERVICE 811. (LOUISIANA ONE CALL)
2. ALL WORK SHALL CONFORM TO THE LOUISIANA "STANDARD SPECIFICATIONS FOR ROADS & BRIDGES" 2016 EDITION.
3. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS AND FIELD CONDITIONS WHEN POSSIBLE, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF THE CLEARANCES ARE LESS THAN SPECIFIED ON THE PLANS OR 12", WHICHEVER IS LESS, CONTACT MOHR & ASSOCIATES, INC., AT (318) 686-7190 PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. THE CONTRACTOR SHALL INCLUDE IN HIS CONTRACT PRICE THE REMOVAL AND DISPOSAL OF ANY EXCESS TOPSOIL HE DETERMINES IS NOT REQUIRED TO PERFORM THE FINAL GRADING AND LANDSCAPING OPERATION.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL REQUIRED/NECESSARY SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED ON THE PROJECT TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THE DRAWINGS. THE OWNER AND MOHR AND ASSOCIATES, INC. ACCEPT NO RESPONSIBILITY FOR THE DESIGN TO INSTALL SAID ITEMS.

AUTHORITY AND RESPONSIBILITY:

1. THE ENGINEER, AS REPRESENTATIVE OF THE OWNER, SHALL NOT GUARANTEE THE WORK OF ANY CONTRACTOR OR SUBCONTRACTOR, SHALL HAVE NO AUTHORITY TO STOP WORK, SHALL HAVE NO SUPERVISION OR CONTROL AS TO THE WORK OR PERSONS DOING THE WORK, SHALL NOT HAVE CHARGE OF THE WORK, SHALL NOT BE RESPONSIBLE FOR SAFETY IN, ON, OR ABOUT THE JOB SITE OR HAVE ANY CONTROL OF THE SAFETY OR ADEQUACY OF ANY EQUIPMENT, BUILDING COMPONENT, SCAFFOLDING, SUPPORTS, FORMS, OR OTHER WORK AIDS, AND SHALL HAVE NO DUTIES OR RESPONSIBILITIES IMPOSED BY THE STRUCTURAL WORK ACT.

LEGEND

TO BE REMOVED (SUGGESTED)

SAWCUT

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
124 N. Elm Ave., Ste 301 Shreveport, Louisiana 71107
www.MohrAssociates.com (318) 686-7190

ISSUED FOR: ☐ PRELIMINARY ■ PERMIT ☐ BIDDING ☐ CONSTRUCTION

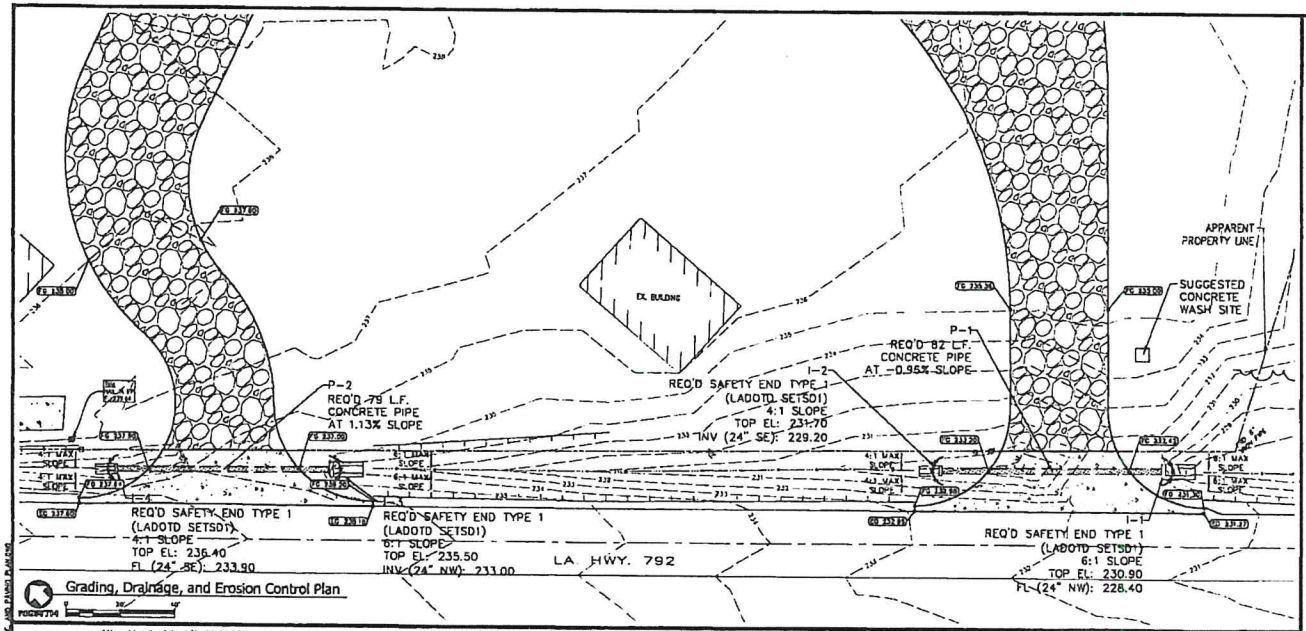
BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792

EXISTING CONDITIONS AND GEOMETRIC SITE PLAN

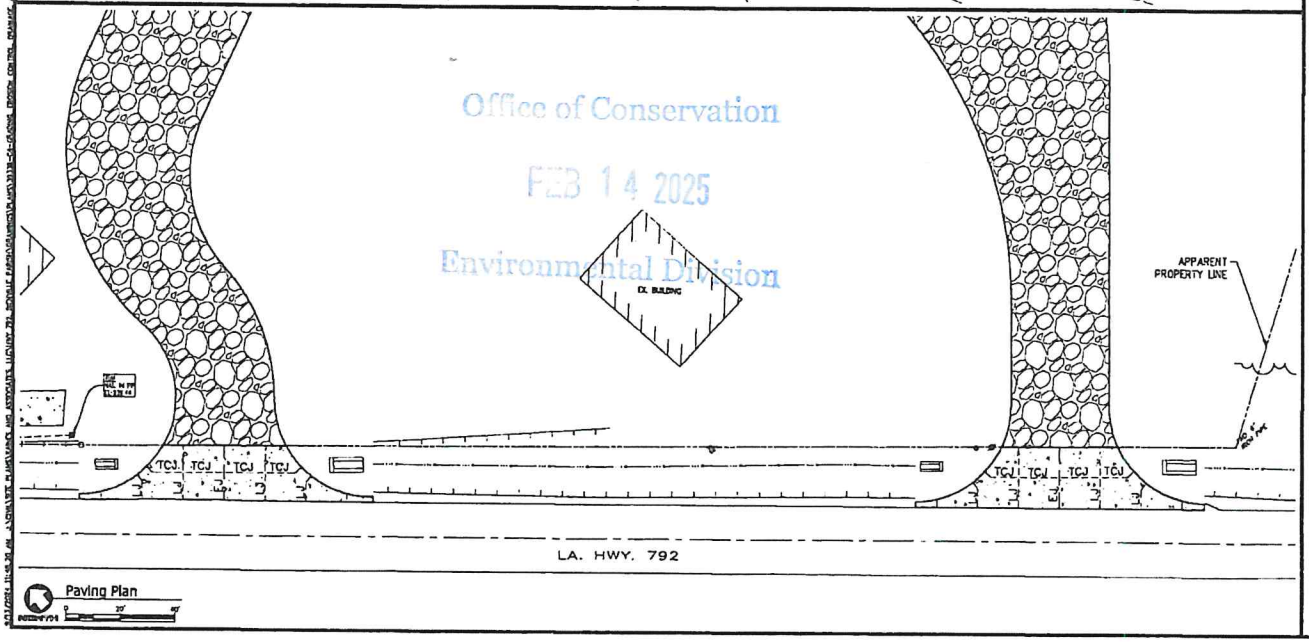
Date SEPTEMBER 2024
Scale 1"=20'
Drawn A. LEE
Job 39336
Sheet C-3 of C6 Sheets

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 173 OF 699 PAGES

04019890



Grading, Drainage, and Erosion Control Plan



Paving Plan

GRADING AND EROSION CONTROL:

1. EARTHWORK SHALL BE IN ACCORDANCE WITH THE LOUISIANA DOTD "STANDARD SPECIFICATIONS FOR ROADS & BRIDGES" 2016 EDITION.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES BEFORE CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING INCLUDING EXCAVATION, EMBANKMENT, AND BACK FILLING AS NECESSARY TO CONSTRUCT ALL PAVEMENT AND SIDEWALKS TO THE ELEVATIONS SHOWN ON THE PLANS.
4. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE DONE TO EXISTING FENCING, EXISTING RETAINING WALLS, EXISTING STORM OR SANITARY MANHOLES, OR OTHER EXISTING UTILITIES DURING GRADING.
5. EXISTING VEGETATION AND TOPSOIL SHALL BE REMOVED TO A DEPTH AS NEEDED TO REMOVE ALL ORGANIC MATERIAL.
6. EMBANKMENT WITHIN THE PROPOSED PAVEMENT AND BUILDING SITE AREAS SHALL BE COMPACTED TO NOT LESS THAN 95% (STANDARD PROCTOR)
7. ALL EROSION CONTROL FEATURES SHALL BE IN PLACE BEFORE CONSTRUCTION BEGINS. REFER TO EROSION CONTROL PLAN FOR SPECIFICS.
8. ALL EXCESS MATERIAL SHALL BE INCORPORATED IN THE EMBANKMENT ON SITE AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ALL TRENCHING OPERATIONS WITHIN A PREPARED SUB GRADE SHALL BE BACK FILLED IN SUCH A MANNER THAT THE SUB GRADE WILL REMAIN IN THE CONDITION EXISTING BEFORE CONSTRUCTION OPERATIONS BEGAN. THE CONTRACTOR WILL BE HELD LIABLE FOR THE COST OF ANY GRADING OPERATIONS NECESSARY TO CORRECT FAULTY BACK FILLING OR CLEANUP PROCEDURES.
9. TRENCH (SELECT) BACK FILL WILL BE PROVIDED WHEN THE INNER EDGE OF TRENCH OR MANHOLE EXCAVATION IS WITHIN 2 FEET OF ANY PROPOSED OR EXISTING PAVEMENT, CURB, OR SIDEWALK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR COORDINATION OF THIS WORK.
10. CONTRACTOR TO SEED AND FERTILIZE ALL EXPOSED SLOPES.
11. ALL PROPOSED DRAINAGE PIPE IS LOCATED OUTSIDE OF THE "CLEAR ZONE".

LADOTD DRIVEWAY NOTES:

1. ALL DEVIATIONS FROM PLANS OR SPECIFICATIONS WITHIN THE STATE RIGHT-OF-WAY ARE TO BE SUBMITTED TO LA DOTD IN WRITING. PRIOR APPROVAL IS REQUIRED BY LA DOTD DISTRICT UTILITY/PERMIT SPECIALIST BEFORE CHANGES ARE MADE.
2. ALL WORK WITHIN THE STATE RIGHT-OF-WAY WILL BE CONSTRUCTED IN ACCORDANCE WITH LADOTD STANDARD PLANS AND "STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES" LOUISIANA DEPARTMENT OF TRANSPORATION, 2016 EDITION.
3. LANE CLOSURES WILL NOT BE ALLOWED BETWEEN THE HOURS OF 6AM-9AM AND 3PM-6PM MONDAY-FRIDAY, UNLESS APPROVED OTHERWISE IN WRITING BY LADOTD. REFER TO LADOTD TTC-00 AND TTC-04 STANDARD PLANS (SEE SHEETS C-6.1 AND C-6.2) AND THE MILLENNIUM EDITION OF THE MUTCD FOR TEMPORARY TRAFFIC CONTROL MEASURES. CONTRACTOR IS REQUIRED TO PROVIDE A MINIMUM 5 DAYS ADVANCE NOTICE TO LADOTD PERMIT SPECIALIST (318-549-8300). IF PRIOR NOTICE IS NOT PROVIDED LANE CLOSURE WILL NOT BE ALLOWED.
4. BEFORE PERMANENT STRIPING IS PLACED, CONTACT THE LA DOTD DISTRICT TRAFFIC ENGINEER AT (318) 549-8335. STRIPING IN STATE R/W TO BE THERMO PLASTIC TAPE PER LA DOTD SPECIFICATIONS.
5. STRIPING CONTRACTOR TO INCLUDE IN BID THE COST OF REMOVING EXISTING STRIPING AS NEEDED TO INSTALL PROPOSED STRIPING.
6. JOINTS WITHIN STATE R/W SHALL BE CONSTRUCTED PER LADOTD STANDARD DETAILS (CP-01).
7. SEE SHEET C-5 FOR LADOTD PAVEMENT TIE-IN DETAIL.
8. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES BEFORE CONSTRUCTION

LEGEND

- 9" P.C.C. OVER 6" CRUSHED STONE BASE – REQUIRED IN STATE R/W
- CONTRACTION JOINT
- EXPANSION JOINT
- GRAVEL
- SEDIMENT TRAP
- SUGGESTED CONCRETE WASH SITE
- -X-X-X-X-X- SILT FENCE

CONTRACTOR TO CALL LA. ONE CALL, 811, FOR LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1534 N. Pierce Ave., Ste 201 www.MohrAndAssociates.com
Shreveport, Louisiana 71107 (318) 686-7190

ISSUED FOR: ☐ PRELIMINARY ■ PERMIT ☐ BIDDING ☐ CONSTRUCTION

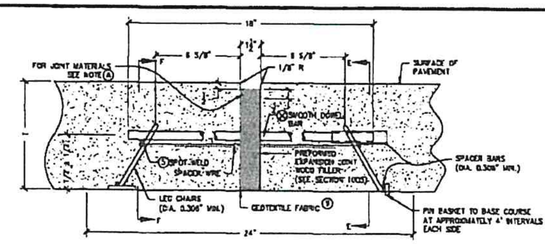
BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792

DRAINAGE, EROSION CONTROL, AND PAVING PLAN

Date AUGUST 2024
Scale 1"=20'
Drawn RLR
Job 39336
Sheet C-4 of 80 Sheets

STATE EXHIBIT NO. 1
DOCKET NO. DW 2025-01
PAGE 274 OF 699 PAGES

Conservation
2025
Division



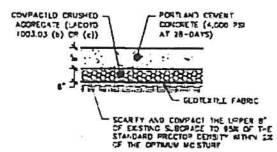
NOTES:

(A) ONE OR TWO COMPONENT SILICONE CONFORMING TO SECTION 1005
(B) TAR PAPER EQUIVALENT TO 30LB./100 FT SHALL BE PLACED BETWEEN THE SLEEPER SLAB AND THE PAVING SLAB.
(C) SLEEPER SLAB SHALL BE CONSTRUCTED OF CLASS "A" OR PAVEMENT TYPE CONCRETE AND INCLUDED IN THE COST OF THE PAVEMENT. PROVIDE DEFORMED GRADE 60 REINFORCING STEEL.
(D) JOINT SHALL BE FILLED WITH A PREFORMED POLYURETHANE FOAM TYPE FILLER CONFORMING TO SECTION 1005.
(E) SEE DETAIL "C" - EJ-4" BASE DRAIN OUTLET FOR UNDERDRAIN DETAILS.

TYPE EJ ALTERNATE (E)
⊗ SEE TABLE 1 (LADOTD STANDARD PLAN CP-01)
(NOT ALLOWED FOR DESIGN SPEED >45 MPH)

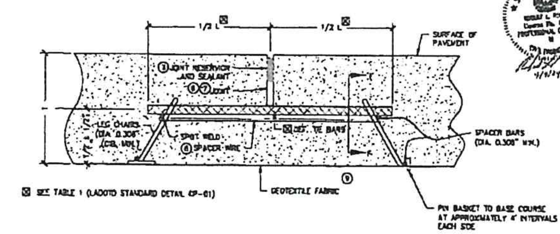
CONCRETE JOINT DETAIL
LA DOTD R/W - TRANSVERSE EXPANSION JOINT (TYPE EJ ALTERNATE)

Not to Scale



TYPICAL CONCRETE SECTION
LA DOTD R/W

Not to Scale

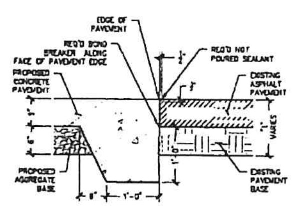


⊠ SEE TABLE 1 (LADOTD STANDARD DETAIL CP-01)

SECTION D-D
TYPE LJ (WITHOUT KEYWAY)
(REQUIRED WHEN PAVEMENT WIDTH EXCEEDS 15') (SEE NOTE (E) LADOTD STANDARD PLAN CP-01)

CONCRETE JOINT DETAIL
LA DOTD R/W - LONGITUDINAL JOINT WITHOUT KEYWAY (TYPE LJ)

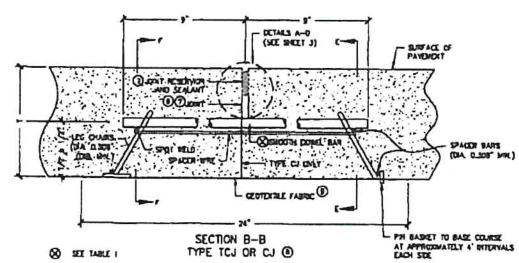
Not to Scale



HOT POURED SEALANT AND BOND BREAKER SHALL CONFORM TO SECTIONS 602.05, 602.08, AND 1005.02 OF THE LADOTD STANDARD SPECIFICATIONS.

PAVEMENT TIE-IN SECTION
LA DOTD R/W - CONCRETE TO EXISTING ASPHALT

Not to Scale



⊗ SEE TABLE 1

SECTION B-B
TYPE TCJ OR CJ (B)

CONCRETE JOINT DETAIL
LA DOTD R/W - TRANSVERSE CONTRACTION/CONSTRUCTION JOINT (TYPE TCJ OR CJ)

Not to Scale

04019890

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste 301 Phone: (318) 686-7190
Shreveport, Louisiana 71107 Fax: (318) 686-4469

ISSUED FOR:
☐ PRELIMINARY
■ PERMIT
■ BIDDING
☐ CONSTRUCTION

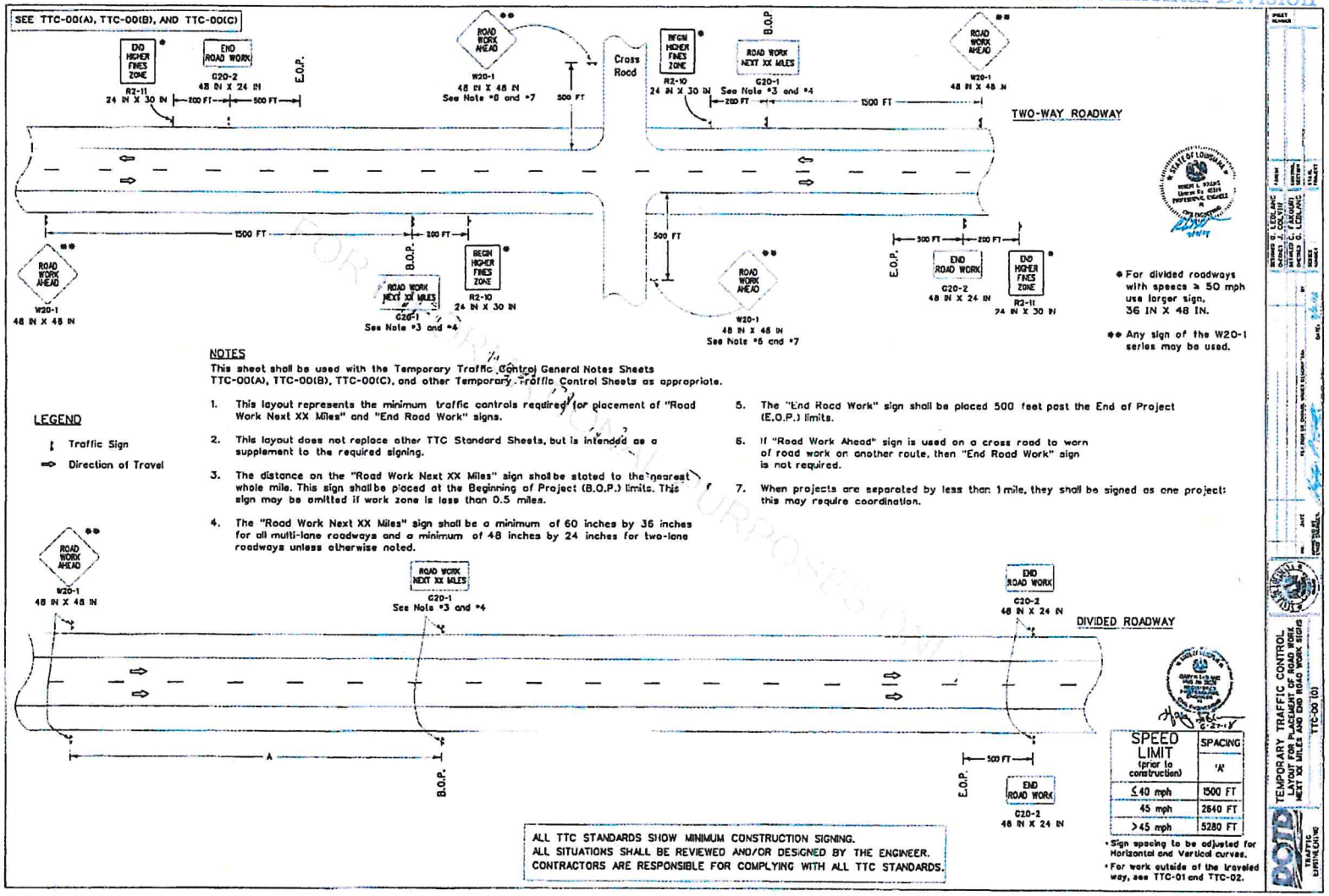
BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792

TYPICAL DETAILS

Date	AUGUST 2021
Scale	NTS
Drawn	RAL
Job	39336
Sheet	C-5
of	C6 Sheets

04019890

SEE TTC-00(A), TTC-00(B), AND TTC-00(C)



SPEED LIMIT (prior to construction)	SPACING 'A'
≤ 40 mph	1500 FT
45 mph	2640 FT
> 45 mph	5280 FT

* Sign spacing to be adjusted for Horizontal and Vertical curves.
* For work outside of the traveled way, see TTC-01 and TTC-02.

TEMPORARY TRAFFIC CONTROL LAYOUT FOR PLACEMENT OF ROAD WORK NEXT XX MILES AND END ROAD WORK SIGNS TTC-00 (01)

DOTD TRAFFIC ENGINEERING

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste 301, Shreveport, Louisiana 71107
Phone: (318) 686-7150
Fax: (318) 402-4469

ISSUED FOR: ☐ PRELIMINARY ■ PERMIT ■ BIDDING ☐ CONSTRUCTION

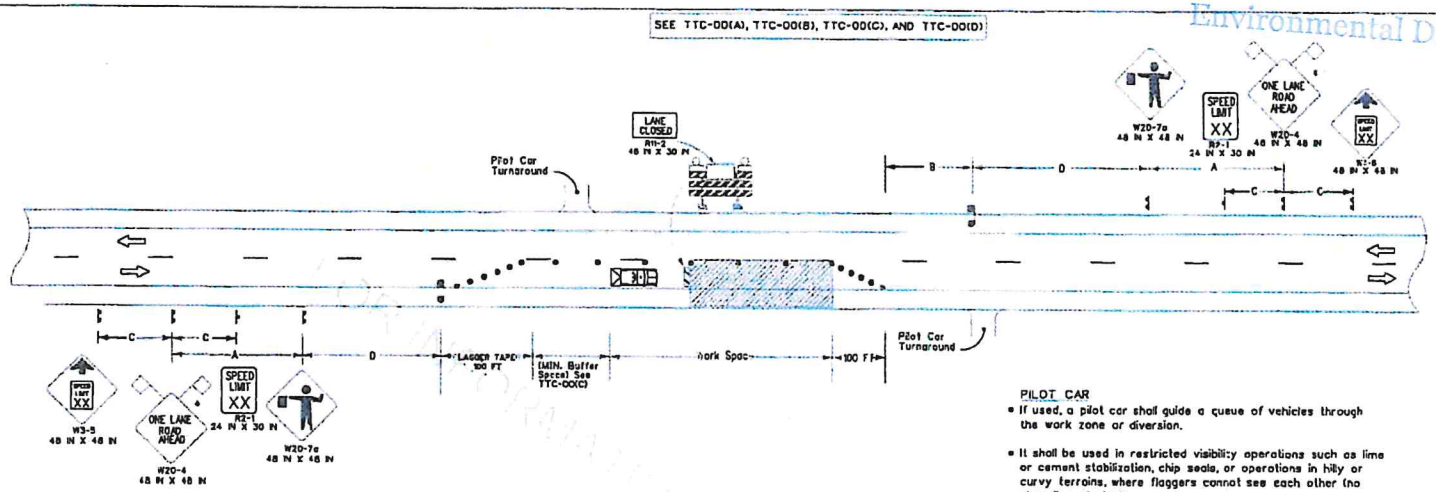
BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792

TEMPORARY TRAFFIC CONTROL PLAN

Date SEPTEMBER 2024
Scale 1"=1'
Drawn RAL
Job 39336
Sheet C-6.4 of 08 Sheets

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 276 OF 699 PAGES

SEE TTC-00(A), TTC-00(B), TTC-00(C), AND TTC-00(D)



NOTES

This sheet shall be used with the Temporary Traffic Control General Notes Sheets TTC-00(A), TTC-00(B), TTC-00(C) and TTC-00(D).

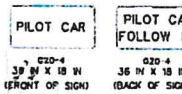
1. This layout represents the minimum traffic controls required for lane closures on two-lane roads with two-way traffic greater than 1600 feet from an intersection. For this type of closure either a flagger or a pilot car will be required. For advance signing see TTC-00(D).
2. To prevent vehicles from entering the work area against the flow of traffic, an additional flagger shall be stationed at each intersection, major driveway, railroad crossing, or crossing within the work area.
3. For projects in rural areas the distance between flaggers shall not exceed:
   (A) 2.5 miles for ADT<2,500
   (B) 2.0 miles for 2,500<ADT<5,000
   (C) 1.5 miles for ADT>5,000
4. The flagger station shall be near the beginning of the taper and shall have adequate sight distance to be visible to oncoming traffic. If sight distance cannot be achieved, the distance between flaggers may be extended for a short duration.
5. Visual or radio contact shall be required between flaggers at all times. The flagger shall be visible from the flagger sign.
6. A vehicle with a flashing amber light and a truck mounted attenuator shall be used on all roadways with an ADT greater than 20,000 and a pre-construction speed greater than or equal to 40 mph. This vehicle shall move with work operations not to exceed the roll-ahead distance required by the manufacturer plus 100 feet.
7. If a pilot car is required then the contractor is not required to have channelizing devices in the tangent section.
8. If work zone is less than 1600 feet from an intersection see TTC-03.

SPEED LIMIT (prior to construction)	SPACING			
	'A'	'B'	'C'	'D'
≤ 40 mph	500 FT	100 FT	N/A	125 FT
45-50 mph	1000 FT	350 FT	500 FT	350 FT
≥ 55 mph	1500 FT	500 FT	800 FT	500 FT

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

PILOT CAR

- If used, a pilot car shall guide a queue of vehicles through the work zone or diversion.
- It shall be used in restricted visibility operations such as lime or cement stabilization, chip seals, or operations in hilly or curvy terrains, where flaggers cannot see each other (no clear line-of-sight).
- The operation of the pilot vehicle shall be coordinated with flagging operations or other controls at each end of the one-lane section and all major driveways and street intersections.
- The pilot car sign should be mounted 7 feet above roadway in a position visible to oncoming and following traffic.
- The pilot car shall have an amber beacon light.
- The sign mounted on the vehicle shall be two-sided.



- Any sign of the W20-4 series may be used.

LEGEND

- Traffic Sign
- Flagger
- Channelizing Devices
- Type III Barricades
- Work Area
- Type B Light
- Direction of Travel
- Truck with Amber Light and TMA

TEMPORARY TRAFFIC CONTROL LAYOUT FOR LANE CLOSURES ON TWO LANE ROADS WITH TWO-WAY TRAFFIC (FLAGGING OPERATIONS)
TTC-04

DOTD TRAFFIC ENGINEERING

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste 301, Shreveport, Louisiana 71107
Phone: (318) 686-7156 Fax: (318) 402-4469

ISSUED FOR: ☐ PRELIMINARY ☐ PERMIT ■ BIDDING ☐ CONSTRUCTION

BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792

TEMPORARY TRAFFIC CONTROL PLAN

Date SEPTEMBER 2024
Scale 1"=1'
Drawn RHL
Job 39334

Sheet C-6.5 of 68 Sheets

STATE EXHIBIT NO. 1
DOCKET NO. 2025-01
PAGE 277 OF 699 PAGES

04019890

GENERAL PROVISIONS

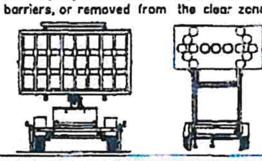
- All temporary traffic control (TTC) devices used shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges, the MUTCD, and shall meet the NCHRP Report 350 or MASH requirements for Test Level 3 devices where applicable.
- Materials used for TTC shall be in accordance with the Louisiana Standard Specifications for Roads and Bridges and, when applicable, the LADOTD AML.
- Placement of TTC devices shall not commence without the approval of the Engineer and until work is about to begin, unless they are covered.
- No lane closures, lane shifts, diversions or detours shall occur without the approval of the Engineer.
- Responsibility is hereby placed upon the contractor for the installation, maintenance and operation of all TTC devices called for in these plans or required by the Engineer for the protection of the traveling public as well as all LADOTD and construction personnel.
- The contractor shall also be responsible for the maintenance of all permanent signs, pavement markings, and traffic signals left in place as essential to the safe movement and guidance of traffic within the project limits unless noted in the plans.
- The DTOE shall serve as a technical advisor to the Engineer for all traffic control matters.
- The Chief Construction Engineer or his appointed designee shall approve all signs and situations not addressed in the plans based on the recommendations of the Project Engineer and the DTOE. All changes shall be noted in all project traffic control diaries.
- The Chief Construction Engineer or his appointed designee shall approve all design speeds of diversions or shifts, if it differs from design plans, based on the recommendations of the Project Engineer and the DTOE.
- All temporary traffic control plans shall comply with the Transportation Management Plan.
- Any additional signs shown in the MUTCD and required by the Engineer shall be installed under Item 713-01-00100.
- Neither work activity nor storage of equipment, vehicles, TMAs, or materials shall occur within the buffer space.
- When a work area has been established on one side of the roadway only, there shall be no conflicting operations or parking on the opposite shoulder within 500 feet of the work area.
- A lighting plan shall be submitted to the Engineer 30 days prior to night work for approval. (See section 105.20 of the Louisiana Standard Specifications for Roads and Bridges.)
- Parking of vehicles or unattended equipment or storage of materials, within the clear zone shall not be permitted unless protected by guardrail or barriers. If the clear zone is not defined on the plan sheets, the Engineer shall verify.
- Immediately upon removal of existing guardrail, the contractor shall install and maintain an NCHRP Report 350 or MASH approved device to protect the blunt end of the bridge or column until new guardrail is installed. After removal of the existing guardrail, new guardrail should be installed within seven (7) days. On non-NHS routes with shoulders less than 8 feet wide: If an NCHRP 350 Report Test Level 3 or MASH device is required but the field conditions of the roadway cannot support a Test Level 3 device, then a Test Level 2 device can be substituted in its place upon approval by the Engineer. If utilized, a TMA is allowed for a maximum of 72 hours.
- All costs associated with crash devices are to be included in Item 713-01-00100.
- Sight distance should be considered when placing traffic control devices.
- On all mainline interstates, a minimum of 1.5 feet of paved shoulder on the left and right side shall be maintained at all times.
- On interstates, a minimum of 11 foot lanes shall be maintained. On all other roadways, a 10 foot minimum travel lane should be maintained where practical.
- TTC Standards are not drawn to scale.
- The contractor shall develop an internal traffic control plan approved by the Engineer prior to each phase.
- Truck restrictions such as (but not limited to) restricting lanes, oversize loads or times of travel, may be required for narrow lanes or other field conditions.

PAVEMENT MARKINGS (see AML)

- All pavement markings within the limits of the project or adjacent to the project limits that are in conflict with the project signing or the required traffic movements shall be removed from the pavement by blast cleaning or grinding. (Existing striping shall not be painted over with black paint or covered with tape.)
- If special pavement markings are needed, they shall be reflectorized, removable and accompanied by the proper signage.
- Temporary Raised Pavement Markers may be added to supplement temporary striping in areas of transition, in tapers, in diversions and in other areas of need as shown in the plans or as directed by the Engineer.
- Materials and placement of temporary pavement markings shall conform to Section 713 of the Louisiana Standard Specifications for Roads and Bridges. If no pay item exists for temporary markings, they shall be installed under Item 713-01-00100.
- Temporary markings installed in the permanent configuration shall comply with LADOTD pavement marking standard plans, MUTCD and/or the permanent striping plans.

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

- PCMS shall be used on all Interstate Highways. PCMS shall be used on all other roadways (where space is available) with an ADT greater than 20,000.
- When used in advance of a lane closure or a lane shift, the PCMS should be placed on the right hand side of the road a minimum distance of 2 miles in advance of the taper for interstates and to be determined by the Engineer on other highways.
- For interstates and multi-lane highways, if vehicles are queuing beyond the 2 mile PCMS, an additional PCMS should be placed on the right hand side of the road approximately 5 miles in advance of the taper or at the end of the queue, whichever is greater.
- PCMS messages shall be approved by the DTOE. Messages shall be no more than 3 lines and 2 screens.
- Messages shall display only traffic operational, regulatory, warning, and guidance information. PCMS messages shall not display advertising or safety messages. Messages should only convey information concerning the problem/situation, location, and recommended driver action.
- PCMS should be placed as far from the traveled lane as possible. They shall be shielded by guardrail or barriers. If this is not possible they shall be delineated with a min. 3 drum taper spaced at 20ft with a 4th drum alongside the PCMS.
- If the PCMS encroaches on the improved shoulder then the contractor shall install a shoulder closure.
- When the PCMS is not displaying a work zone appropriate message pertaining to the ongoing construction project it shall be shielded by guard rail or barriers, or removed from the clear zone.



ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

SPEED LIMITS

- The Engineer may approve a 10 mph drop in the speed limit for posted speeds of 45 mph or greater and for any construction, maintenance or utility operation that requires one or more of the following:
  - (A) The condition of the traveled way is degraded due to milled surfaces or uneven travel lane lines greater than 1.5 inches.
  - (B) Work is in progress in the immediate vicinity of the travel way requiring lane closures or lane width reductions less than 11 feet.
  - (C) Workers present on the shoulder within 2 feet of the edge of the traveled way without barrier protection.
- The reduced speed zone shall only apply to those portions of the project limits affected. The Engineer may allow SPEED LIMIT WHEN FLASHING signs to supplement reduced speed zones.
- If the speed limit is reduced, speed limit signs shall be placed:
  - (A) beyond major intersections;
  - (B) at one mile intervals in rural areas;
  - (C) at half mile intervals in urban areas.
- At the end of the reduced speed zone, a speed limit sign displaying the original speed limit prior to construction shall be installed.
- For all other speed limit reductions not listed above, the Project Engineer and the DTOE shall recommend the speed reduction to the Chief Construction Engineer or his appointed designee for approval.
- If the speed limit is reduced more than 10 mph, placement of the signs shall be re-evaluated according to the MUTCD.

FLASHING ARROW BOARDS

- All Flashing Arrow Boards shall be 4 feet by 8 feet and Type C.
- Flashing Arrow Boards should be placed on the shoulder. When there is no shoulder or median area, the arrow board shall be placed within the closed lane behind the channelizing devices and as close to the beginning of the taper as practical.
- Flashing arrow boards shall be delineated with retroreflective TTC devices.
- At no time shall the arrow board encroach in the traveled way. When Flashing Arrow Board signs are not being used, they shall be shielded by guard rail or barriers, or removed.
- Arrow boards shall only be used for lane reduction tapers and shall not be used for lane shifts.

ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
AGC	Associated General Contractors of America
AML	Approved Materials List
ANSI	American National Standards Institute
ATSSA	American Traffic Safety Services Association
B.O.P.	Beginning of Project
DTOE	District Traffic Operations Engineer
E.O.P.	End of Project
LADOTD	Louisiana Department of Transportation and Development
MASH	AASHTO Manual for Assessing Safety Hardware
MUTCD	Manual on Uniform Traffic Control Devices
NCHRP	National Cooperative Highway Research Program
NHS	National Highway System
PCMS	Portable Changeable Message Sign
TMA	Truck Mounted Attenuator
TMC	Traffic Management Center
TTC	Temporary Traffic Control
TTC Standards	Temporary Traffic Control Standard Plans

DOTD TRAFFIC ENGINEERING

TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
TTC-00 (A)

C. LEBLANC
J. COLVIN
C. FAKOURI
G. LEBLANC

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste 301 Phone: (318) 686-7190
Shreveport, Louisiana 71107 Fax: (318) 402-4408

ISSUED FOR:
☐ PRELIMINARY
☒ PERMIT
☒ BIDDING
☐ CONSTRUCTION

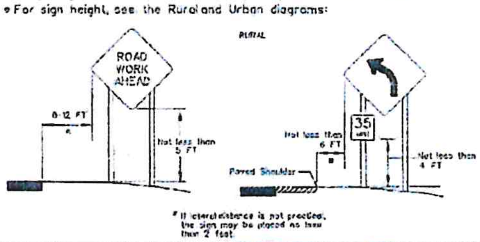
BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792
TEMPORARY TRAFFIC CONTROL PLAN

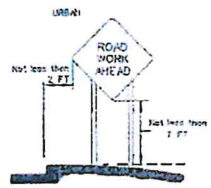
Date AUGUST 202-
Scale ...
Drawn ...
Job ...
Sheet C-6.1 of C8 Sheets

04019890

SIGNS

- All signs used for temporary traffic control shall follow the plans, the LADOTD TTC Standards and the MUTCD.
- Signs shown in the TTC illustrations are typical and may vary with each specific condition.
- One Type B High Intensity light shall be used to supplement the first sign (or pair of signs) that gives warning about a lane closure during nighttime operations (See AML).
- Mesh rollup signs shall not be allowed on any project.
- Contractor shall use caution not to damage existing signs which remain in place. Any LADOTD signs damaged by work operations shall be replaced by the contractor under item 713-01-00100.
- All signs (permanent and temporary) shall be removed or completely covered with a strong, lightweight, opaque material when no longer applicable. (Burlap is not an acceptable material to cover signs).
- At no time shall signs warning against a particular operation be left in place once the operation has been completed or where the condition has been removed.
- Warning signs used for temporary traffic controls shall meet the following guidelines unless otherwise noted in the plans:
  - (A) size shall be 48 inches by 48 inches.
  - (B) see the Louisiana Standard Specifications for Roads and Bridges and the AML for sheeting information.
  - (C) lateral distance of signs shall be a minimum of 6 feet from the edge of shoulder or edge of pavement if no shoulder exists and 2 feet from the back of curb in urban areas (see diagram).
- When portable sign frames are not in use, they shall be moved to an area inaccessible to traffic and not visible to the driver.
- Left side mounted signs will not be required for roadways with a center left turn lane and for undivided roadways.
- Vinyl roll up signs may be used if work zone is in place for 12 hours or less, there are no more than 2 lanes in each direction and if signs meet all size, color, retroreflectivity and NCHRP 350 Report or MASH requirements.
- All signs shall be visible to the drivers (i.e. no obstructions such as on street parking or other traffic control devices shall block the sign).
- On divided highways, signs shall be placed on the right and the left as shown on the TTC standards.
- 1 foot portable sign stands may be used if the work zone is in place for 14 hours or less and there are no more than 2 lanes in each direction.
- Sign posts:
  - -Signs measuring 10 square feet or less shall be mounted on 1 rigid post
  - -Signs over 10 square feet shall be mounted on 2 rigid posts
  - -Signs over 20 square feet shall be mounted on at least 3 rigid posts
- Rigid sign supports shall be driven to a minimum depth of 3 feet. (If splicing is required, see Mowcale Lap Splice U-channel Post.)
- For sign height, see the Rural and Urban diagrams:



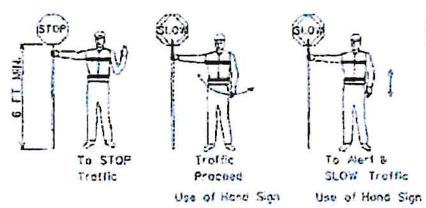


LANE CLOSURES

- All proposed lane, road or shoulder closures shall be reviewed by the DTOE and approved by the Engineer.
- Two lane, two-way highways shall have a maximum work area of two miles. All other roadways shall have a four mile maximum work area.
- A queue analysis shall be performed prior to approval of lane closures on all Interstates according to Section 9A.1 of the Traffic Engineering Manual.
- Closure plans and times shall be turned in to the Engineer for review according to the following:
  - (A) 5 working days minimum if traffic control plan has been approved or is contained in the plans.
  - (B) 10 working days minimum and a traffic control plan must be submitted for lane closures not addressed in the plans.
- Weekly updates to the DTOE, Project Engineer, the LADOTD TMC operator and the regional TMC operator (if applicable) will be required for all ongoing lane closures to update the closure status.
- Daily updates to the DTOE, Project Engineer and TMC operator (if applicable) will be required for all projects where active closures are in place.

FLAGGERS

- All flaggers shall be qualified.
- The contractor shall be responsible for training or assuring that all flaggers are qualified to perform flagging duties.
- A Qualified Flagger is one that has completed courses such as those offered by ATSSA or other courses approved by the LADOTD Work Zone Task Force. The contractor shall be responsible for getting the flagger course approved.
- When utilized, a flagger shall use a minimum 18 inch octagonal shape sign on a minimum 6 foot stop/slow paddle and wear ANSI Class 2 Lime Green vest during day time operations and ANSI Class 3 Lime Green ensemble during night operations.
- In all flagging operations, the flagger must be visible from the flagger advance warning sign.
- Flaggers shall not be used on the Interstate.



6-27-24

PEDESTRIAN CONSIDERATIONS

- If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided either through the TTC zone or a designated alternate route.
- Pedestrians should be provided with a convenient and accessible path that replicates as nearly as practical the most desirable characteristics of the existing sidewalk(s) or footpath(s).
- Advance notification of sidewalk closures shall be provided by the maintaining agency.

REFERENCES

- The contractor shall be responsible for understanding all rules and requirements in the current edition of the following documents:

1) Louisiana Standard Specifications for Roads and Bridges. http://www.dotd.la.gov/highways/specifications/
2) Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). http://mutcd.fhwa.dot.gov/
3) LADOTD Approved Materials List (AML) Manual. http://wwwsp.dotd.la.gov/inside_LaDOTD/Divisions/Engineering/Materials_Lab/Pages/Menu_QPL.aspx
4) LADOTD Traffic Engineering Manual. http://wwwsp.dotd.la.gov/inside_LaDOTD/Divisions/Engineering/Traffic_Engineering/Misc%20Documents/Traffic%20Engineering%20Manual.pdf
5) National Cooperative Highway Research Program (NCHRP) Report 350: "Guidelines for Work Zones Traffic Control Devices". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_350-a.pdf
6) NCHRP Report 475: "A Procedure for Assessing and Planning Nighttime Highway Construction and Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_475.pdf
7) NCHRP Report 476: "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_476.pdf
8) NCHRP Report 498: "Illumination Guidelines for Nighttime Highway Work". http://onlinepubs.trb.org/Onlinepubs/nchrp/nchrp_rpt_498.pdf
9) American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide.
10) American Traffic Safety Services Association (ATSSA) Quality Guidelines for Work Zone Traffic Control Devices and Features.
11) U.S. Department of Transportation Federal Highway Administration Traffic Control Handbook for Mobile Operations at Night. http://www.dot.state.il.us/blr/I023.pdf

ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING. ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER. CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

DOTD TRAFFIC ENGINEERING
TEMPORARY TRAFFIC CONTROL
GENERAL NOTES SHEET
(TC-00 (0))

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste 301, Shreveport, Louisiana 71107
Phone: (318) 686-7190 Fax: (318) 402-4400

ISSUED FOR:
☐ PRELIMINARY
■ PERMIT
■ BIDDING
☐ CONSTRUCTION

BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792
TEMPORARY TRAFFIC CONTROL PLAN

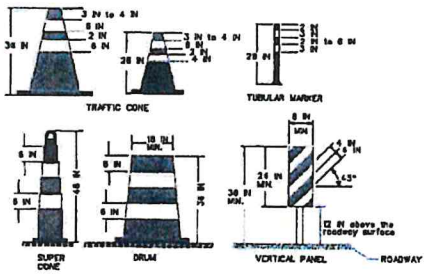
Date	AUGUST 202_
Scale	N.T.S.
Drawn	R.V.L.
Job	39336
Sheet	C-6.2 of C6 Sheets

04019890

CHANNELIZING DEVICES

- The following devices may be used as channelizing devices: Tubular Markers, Vertical Panels, Cones, Drums and Super Cones.
- 28 inch traffic cones are not allowed on:
  1) Interstates
  2) Highways with speeds greater than 40 mph.
- During nighttime operations, 28 inch and 36 inch cones are not allowed.
- Retroreflective material pattern used on super cones shall match that used on drums.

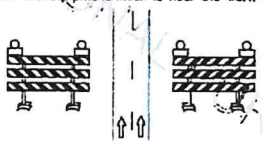
- Tangent Areas:
  - A) Standard Spacing: See Standard Device Spacing and Buffer Space table.
  - B) Daylight Operations: Drums and super cones are spaced at standard spacing. All other devices are at ½ standard spacing.
  - C) Nighttime Operations: Drums and supercones at standard spacing are the only devices allowed.
- Taper Areas:
  - A) Standard Spacing: See Standard Device Spacing and Buffer Space table.
  - B) Daylight Operations: Drums are spaced at standard spacing. All other devices are ½ standard spacing.
  - C) Nighttime Operations: Drums (at standard spacing) are the only devices allowed.
- Type C steady burn lights shall be used on all channelizing devices in the taper as well as the first two devices in the tangent at night, (see the AML).
- Typical channelizing device lateral placement (do not include when it is used as a divider for opposing directions of traffic) shall be 2 feet off the lane line in the closed lane or shoulder.
- Devices may be adjusted laterally to accomodate ongoing work in the immediate vicinity but must be returned to the closed lane after the work activity has moved.
- Channelizing devices on the lane line shall be of the same type.
- Channelizing devices in each taper shall be of the same type.



ALL TTC STANDARDS SHOW MINIMUM CONSTRUCTION SIGNING.
ALL SITUATIONS SHALL BE REVIEWED AND/OR DESIGNED BY THE ENGINEER.
CONTRACTORS ARE RESPONSIBLE FOR COMPLYING WITH ALL TTC STANDARDS.

TYPE III BARRICADES

- Only Type III Barricades shall be used.
- All barricades shall use Type 3 High Intensity Sheeting on both sides of the barricade.
- All barricades shall be a minimum of 8 feet in length and must meet NCHRP Report 350 or MASH requirements.
- When used for overnight closures, two Type B High Intensity Lights shall supplement all barricades that are placed in a closed lane or that extend across a highway. Two Type A Low Intensity Lights may be used in urban areas if approved by the Engineer (See AML).
- When signs and lights are to be mounted to a barricade, they must meet NCHRP Report 350 or MASH requirements.
- A truck with a TMA may be substituted for a barricade when workers are present.
- Barricades shall be placed:
  - (A) at the beginning of a closed lane or shoulder and at 1,000 foot intervals where no active work is ongoing and the lane must remain closed. A minimum of 2 barricades shall be placed if the lane or shoulder closure is less than 2,000 feet. (One barricade shall be placed at the beginning of the lane closure after the buffer space and one shall be placed in the middle of the lane closure.)
  - (B) before each or group of unfilled holes or holes filled with temporary material.
  - (C) before uncured concrete.
  - (D) in the closed lane on each side of every intersection and crossover. (Do not block sight distance.)
  - (E) in front of piles of material (dirt, aggregate, broken concrete), culverts and equipment which is near the work zone.



TTC for DROP-OFFS

NON-INTERSTATE

Average Drop-off	Current Posted Speed (Prior to Construction)	
	> 45 MPH	≤ 45 MPH*
≤ 3 IN	Low Shoulder Sign (Optional)	Low Shoulder Sign (Optional)
> 3 IN ≤ 6 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device	Shoulder Drop Off Sign
> 6 IN ≤ 10 IN	No Shoulder Sign, Edge Lines & Vertical Panel	No Shoulder Sign & Channelizing Device
> 10 IN	Concrete Barrier (if drop off is < 12 FT from edge of travellane) & Edge Lines	No Shoulder Sign & Vertical Panel

INTERSTATE

Average Drop-off	
≤ 2 IN	Low Shoulder Sign (Optional)
> 2 IN ≤ 6 IN	Shoulder Drop Off Sign & Edge Lines or Shoulder Drop Off Sign & Channelizing Device
> 6 IN	Concrete Barrier (if drop off is < 12 FT from edge of travel lane), Shoulder Drop Off Sign, & Edge Lines

- If a portable concrete barrier will be required then the deflection shall be considered in the design.
- For interstate ramps, refer to non-interstate drop offs.

STANDARD DEVICE SPACING AND BUFFER SPACE

Speed Limit (prior to construction)	MERGING TAPER LENGTH (L) Lane Width (FT)				Standard device spacing in feet: Along taper	Along buffer	BUFFER SPACE
MPH	9	10	11	12			FT
25	94	105	115	125	20	40	155
30	135	150	165	180	30	60	200
35	184	205	225	245	35	70	250
40	240	267	294	320	40	80	305
45	405	450	495	540	40	80	360
50	450	500	550	600	40	80	425
55	495	550	605	660	40	80	495
60	540	600	660	720	40	80	570
65	585	650	715	780	40	80	645
70	630	700	770	840	40	80	730
75	675	750	825	900	40	80	820

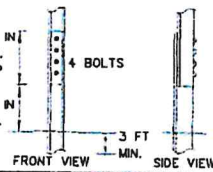
Speed Limit (prior to construction)	SHIFTING TAPER LENGTH (L) 1/2(W) Lane Shift (FT)						Standard device spacing in feet: Along taper	Along buffer	BUFFER SPACE
MPH	2	4	6	8	10	12			FT
25	11	21	32	42	52	63	20	40	155
30	15	30	45	60	75	90	30	60	200
35	21	41	62	82	102	123	35	70	250
40	27	54	80	107	134	160	40	80	305
45	45	90	135	180	225	270	40	80	360
50	50	100	150	200	250	300	40	80	425
55	55	110	165	220	275	330	40	80	495
60	60	120	180	240	300	360	40	80	570
65	65	130	195	260	325	390	40	80	645
70	70	140	210	280	350	420	40	80	730
75	75	150	225	300	375	450	40	80	820

Speed Limit (prior to construction)	SHOULDER TAPER LENGTH 1/2(W) Shoulder Width (FT)						Standard device spacing in feet: Along taper	Along buffer	BUFFER SPACE
MPH	2	4	6	8	10	12			FT
25	7	14	21	29	35	42	20	40	155
30	10	20	30	40	50	60	30	60	200
35	14	28	41	55	68	82	35	70	250
40	18	36	54	72	89	107	40	80	305
45	30	60	90	120	150	180	40	80	360
50	34	67	100	134	167	200	40	80	425
55	37	74	110	147	184	220	40	80	495
60	40	80	120	160	200	240	40	80	570
65	44	87	130	174	217	260	40	80	645
70	47	94	140	187	234	280	40	80	730
75	50	100	150	200	250	300	40	80	820

- All termination and flagger tapers are 100 feet. (MIN. 6 channelizing devices per lane equally spaced 20 feet apart.)
- See TTC Standards for flagger taper.
- See MUTCD for taper formulas.

- ALLOWABLE LAP SPLICE FOR U-CHANNEL POST

U-Channel posts may be spliced where long lengths are required. The upper section shall overlap the lower section by at least 24 inches. The bottom edge of the upper section of the splice shall be a minimum of 24 inches above the ground. The spliced sections shall be secured with at least four 5/16 inch diameter hex bolts spaced equally along the splice.



STATE EXHIBIT NO. 1
DOCKET NO. ENV2025-01
PAGE 280 OF 695 PAGES

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste 301, Shreveport, Louisiana 71107
Phone: (318) 686-7106 Fax: (318) 403-4469

ISSUED FOR: ☐ PRELIMINARY ■ PERMIT ■ BIDDING ☐ CONSTRUCTION

BRICKYARD TRUCKING
BIENVILLE PARISH
LA HWY 792

TEMPORARY TRAFFIC CONTROL PLAN

TEMPORARY TRAFFIC CONTROL GENERAL NOTES SHEET
TTC-00 (C)

DOTD TRAFFIC ENGINEERING

Date SEPTEMBER 202-
Scale 1"=1'
Drawn RHL
Job 39336
Sheet C-6.3
of C6 Sheets

04019890

DETENTION REPORT

PREPARED FOR:
Brickyard Trucking
LA Hwy 792
Bienville Parish, LA

STATE OF LOUISIANA
ROBERT L. ROLLINS
License No. 45316
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
9/9/24

Mohr and Associates, Inc.
Consulting Civil Engineers & Land Surveyors
1324 N. Hearne Ave., Ste 301 Phone : (318) 686-7190
Shreveport, Louisiana 71107 Fax : (318) 402-4400

September 9, 2024

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 281 OF 689 PAGES

Hydrograph Report

04019890

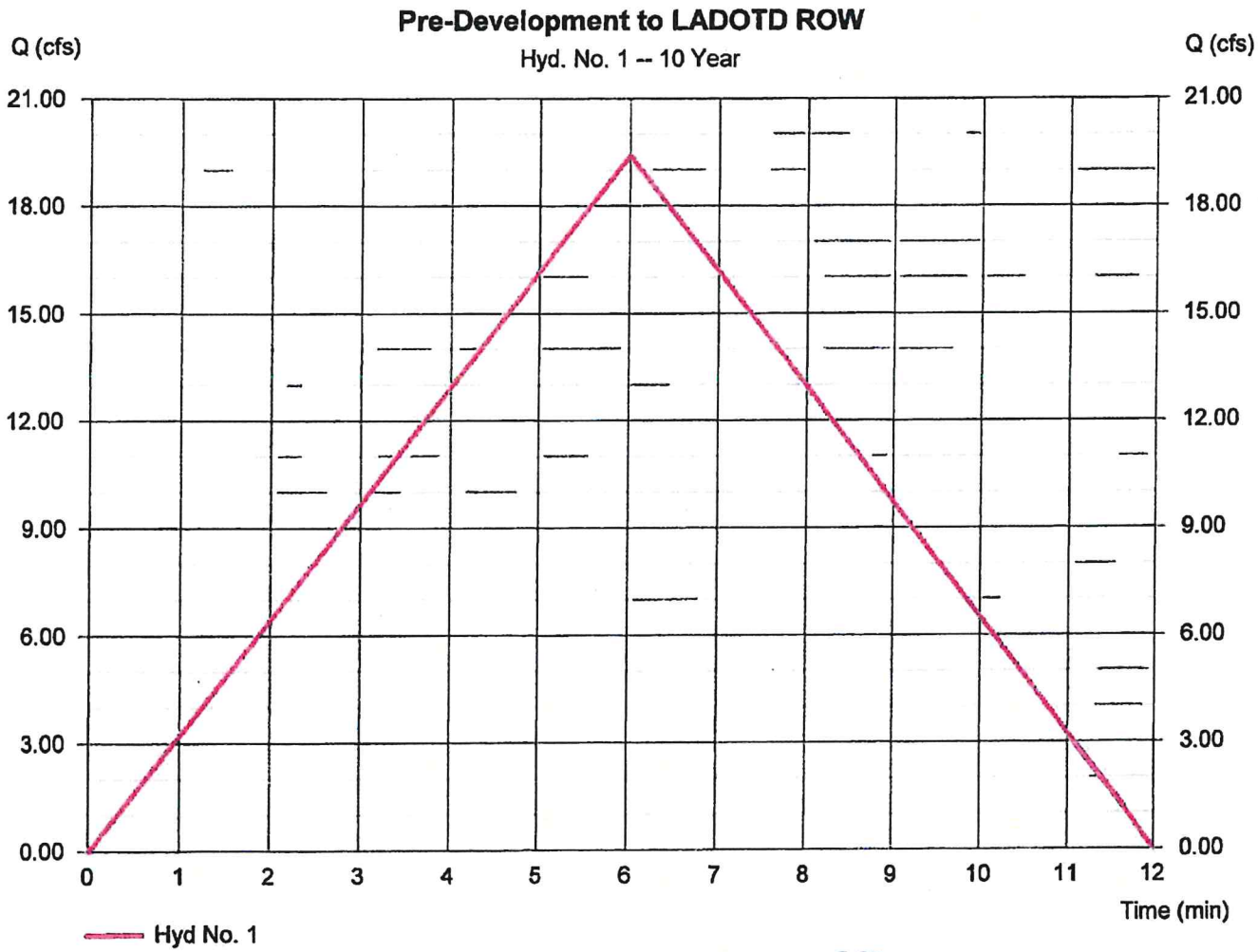
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Wednesday, 09 / 11 / 2024

Hyd. No. 1

Pre-Development to LADOTD ROW

Hydrograph type	= Rational	Peak discharge	= 19.43 cfs
Storm frequency	= 10 yrs	Time to peak	= 6 min
Time interval	= 1 min	Hyd. volume	= 6,994 cuft
Drainage area	= 4.860 ac	Runoff coeff.	= 0.52
Intensity	= 7.688 in/hr	Tc by TR55	= 6.00 min
IDF Curve	= LADOTD REGION 3.IDF	Asc/Rec limb fact	= 1/1



STATE EXHIBIT NO. 1
DOCKET NO. Env2025-01
PAGE 282 OF 699 PAGES

Hydrograph Report

04019890

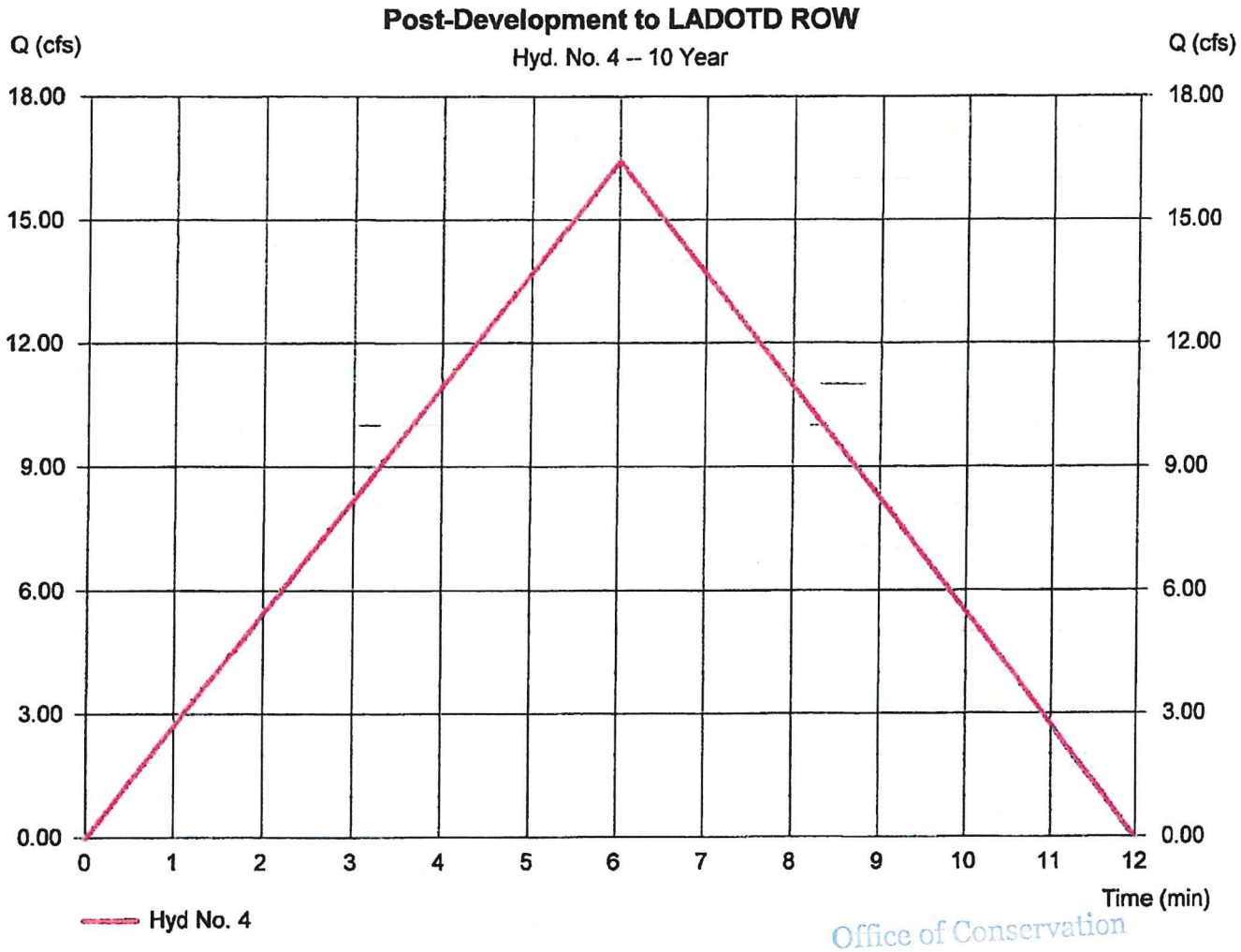
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Wednesday, 09 / 11 / 2024

Hyd. No. 4

Post-Development to LADOTD ROW

Hydrograph type	= Rational	Peak discharge	= 16.44 cfs
Storm frequency	= 10 yrs	Time to peak	= 6 min
Time interval	= 1 min	Hyd. volume	= 5,918 cuft
Drainage area	= 4.860 ac	Runoff coeff.	= 0.44
Intensity	= 7.688 in/hr	Tc by User	= 6.00 min
IDF Curve	= LADOTD REGION 3.IDF	Asc/Rec limb fact	= 1/1



Hydrograph Report

04019890

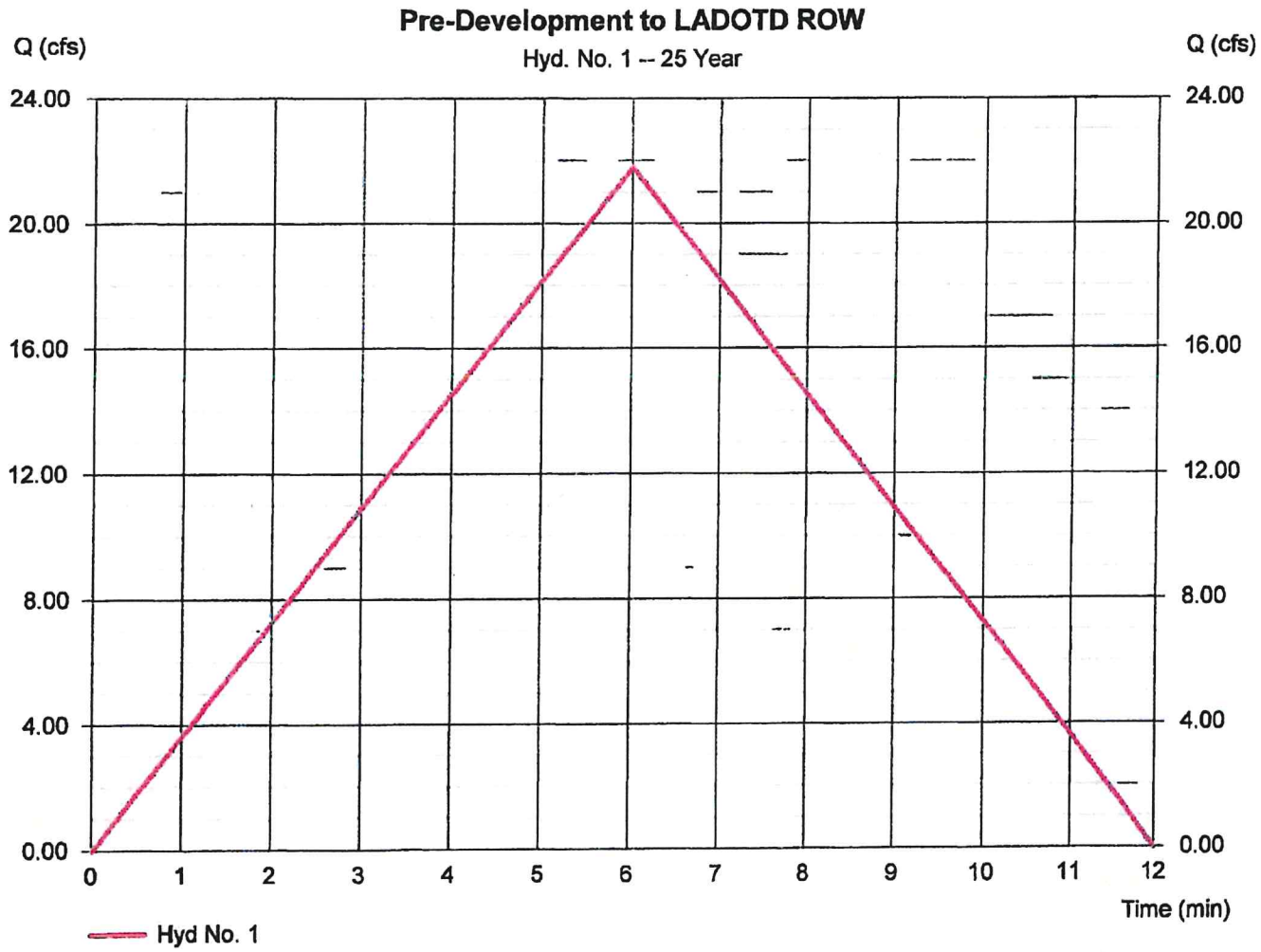
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Wednesday, 09 / 11 / 2024

Hyd. No. 1

Pre-Development to LADOTD ROW

Hydrograph type	= Rational	Peak discharge	= 21.82 cfs
Storm frequency	= 25 yrs	Time to peak	= 6 min
Time interval	= 1 min	Hyd. volume	= 7,854 cuft
Drainage area	= 4.860 ac	Runoff coeff.	= 0.52
Intensity	= 8.633 in/hr	Tc by TR55	= 6.00 min
IDF Curve	= LADOTD REGION 3.IDF	Asc/Rec limb fact	= 1/1



Hydrograph Report

04019890

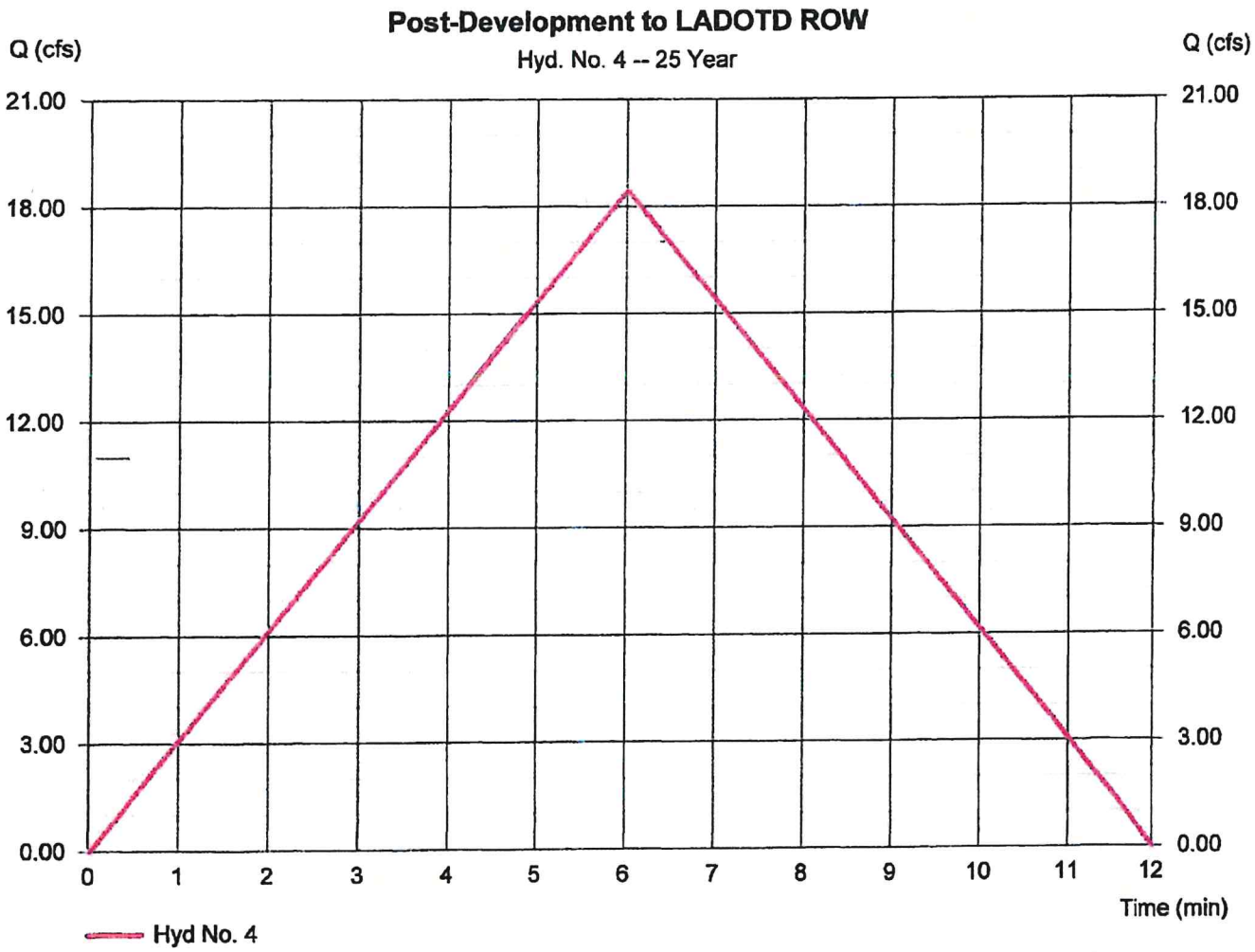
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Wednesday, 09 / 11 / 2024

Hyd. No. 4

Post-Development to LADOTD ROW

Hydrograph type	= Rational	Peak discharge	= 18.46 cfs
Storm frequency	= 25 yrs	Time to peak	= 6 min
Time interval	= 1 min	Hyd. volume	= 6,646 cuft
Drainage area	= 4.860 ac	Runoff coeff.	= 0.44
Intensity	= 8.633 in/hr	Tc by User	= 6.00 min
IDF Curve	= LADOTD REGION 3.IDF	Asc/Rec limb fact	= 1/1



STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 285 OF 699 PAGES

Hydrograph Report

04019890

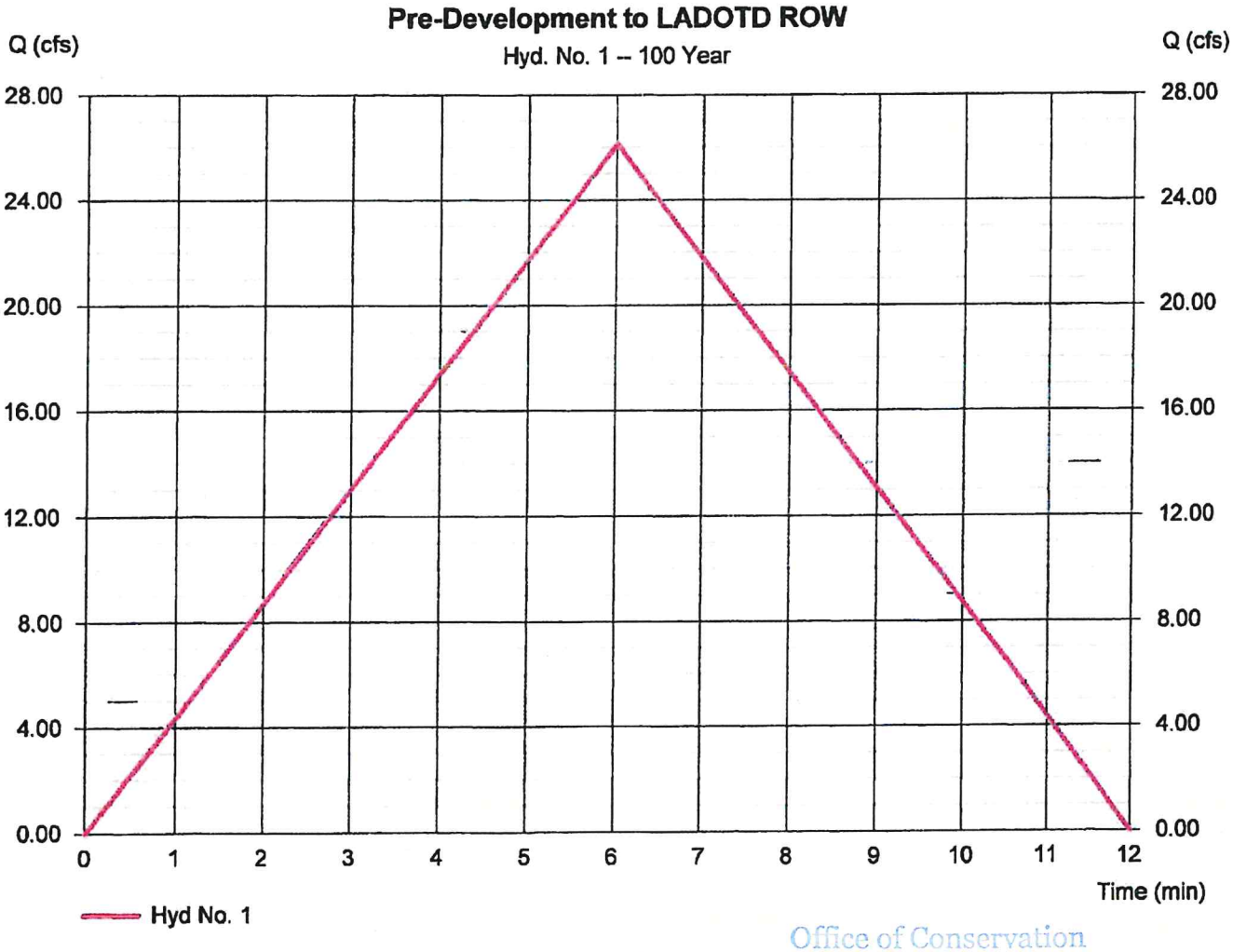
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Wednesday, 09 / 11 / 2024

Hyd. No. 1

Pre-Development to LADOTD ROW

Hydrograph type	= Rational	Peak discharge	= 26.16 cfs
Storm frequency	= 100 yrs	Time to peak	= 6 min
Time interval	= 1 min	Hyd. volume	= 9,416 cuft
Drainage area	= 4.860 ac	Runoff coeff.	= 0.52
Intensity	= 10.350 in/hr	Tc by TR55	= 6.00 min
IDF Curve	= LADOTD REGION 3.IDF	Asc/Rec limb fact	= 1/1



STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 286 OF 699 PAGES

Hydrograph Report

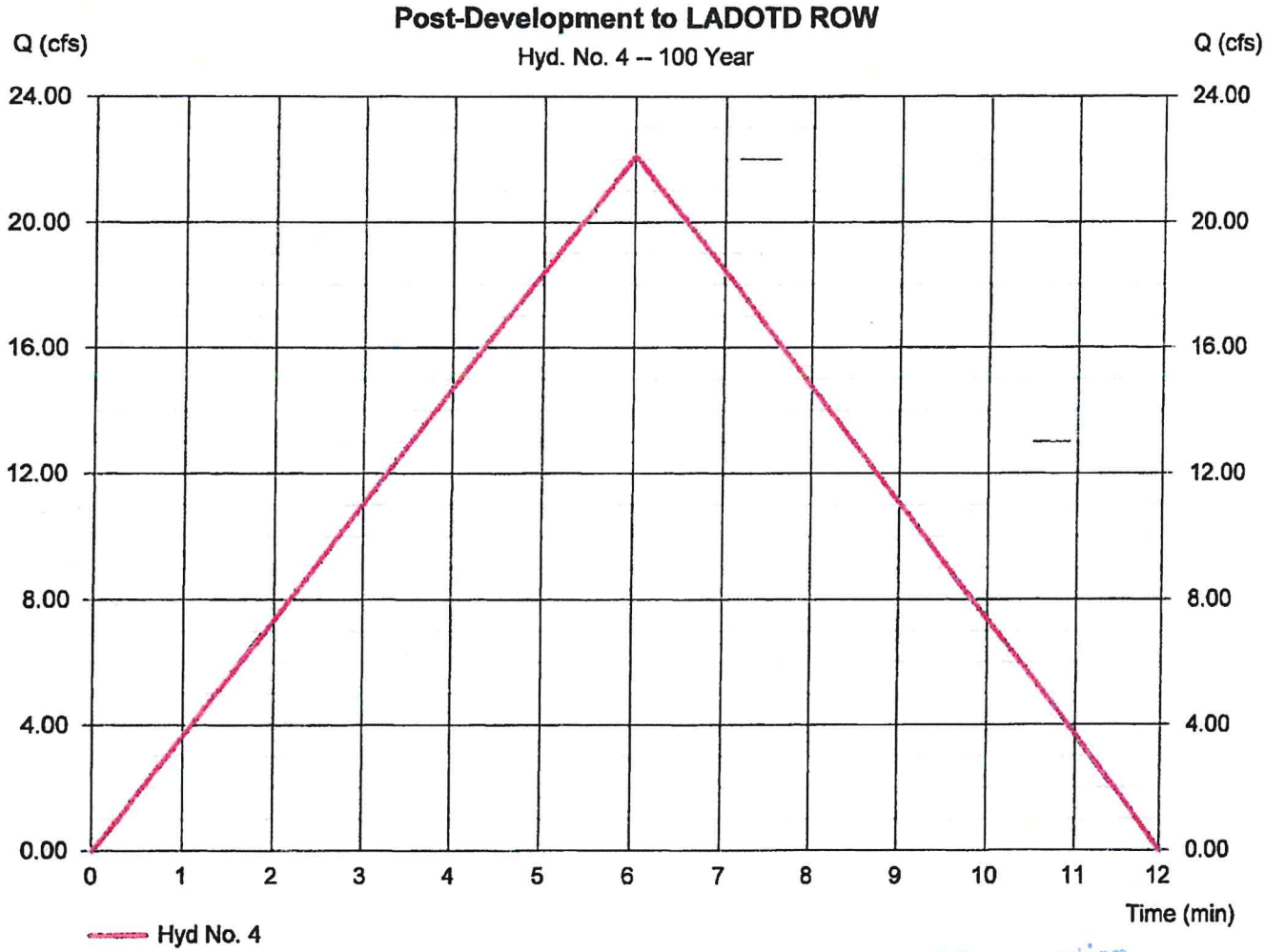
04019890

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Wednesday, 09 / 11 / 2024

Hyd. No. 4

Post-Development to LADOTD ROW

Hydrograph type	= Rational	Peak discharge	= 22.13 cfs
Storm frequency	= 100 yrs	Time to peak	= 6 min
Time interval	= 1 min	Hyd. volume	= 7,967 cuft
Drainage area	= 4.860 ac	Runoff coeff.	= 0.44
Intensity	= 10.350 in/hr	Tc by User	= 6.00 min
IDF Curve	= LADOTD REGION 3.IDF	Asc/Rec limb fact	= 1/1



Hydraflow Rainfall Report 04019890

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Wednesday, 09 / 11 / 2024

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	———
2	82.5417	11.6000	0.8918	———
3	0.0000	0.0000	0.0000	———
5	89.8117	13.5000	0.8549	———
10	92.0175	14.0000	0.8286	———
25	98.7660	14.3000	0.8095	———
50	105.7832	14.0000	0.8028	———
100	106.0570	13.5000	0.7834	———

File name: LADOTD REGION 3.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	6.74	5.33	4.43	3.80	3.33	2.97	2.68	2.45	2.26	2.09	1.95	1.83
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	7.41	6.04	5.12	4.46	3.96	3.57	3.25	2.99	2.77	2.58	2.42	2.28
10	8.02	6.61	5.65	4.95	4.42	4.00	3.66	3.38	3.14	2.93	2.76	2.60
25	8.99	7.46	6.41	5.65	5.06	4.59	4.21	3.89	3.62	3.39	3.20	3.02
50	9.95	8.25	7.09	6.24	5.59	5.07	4.65	4.30	4.01	3.75	3.53	3.34
100	10.79	8.94	7.69	6.77	6.07	5.52	5.07	4.69	4.38	4.10	3.87	3.66

Tc = time in minutes. Values may exceed 60.

Precip. file name: Z:\Documents\Engineering\NRCS\LADOTD Regoin III.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	3.75	3.60	0.00	4.90	5.80	7.00	8.00	9.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Property Owner

Name: Scott Wooten
Company: Brickyard Trucking LLC
Mailing Address: 415 Texas St
Unit: 400
City: Shreveport
State: Louisiana
Zip: 71101
Phone: (318) 377-5755
Cell:
E-Mail: scott.wooten@saltlickllc.com

Designated Contact

Name: Robert Rollins
Company: Mohr and Associates, Inc
Phone: (318) 686-7190
Fax:
E-Mail: rrollins@mohrandassoc.com
Relationship: Engineer
Authorized to Sign: No

Property Information

Street Address: Highway 792
City: Jamestown
State: Louisiana
Zip: 71045
Parish:
District:
Property Type:
Surface:

Bienville District 04 Developed Asphalt

Property is located on the N side of 1.84 miles N of LA 154.

Lot Depth:
746 ft.

Frontage Width:
891 ft.

Proposed Building Dimensions:
208 x 109 ft.

Proposed Driveway Width:
36 ft.

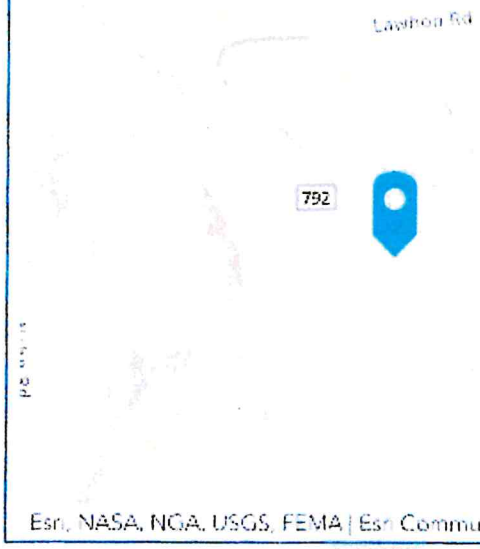
Distance from Centerline of Roadway to Property Line:
34 ft.

Setback from Right-of-Way to nearest buildings/gas pumps/ etc.:
28 ft.

Distance from Property Lines to Nearest Driveways/Roadways:
190 ft.

Property Latitude:
32.3697

Property Longitude:
-93.2134



Proposed Use

Temporary:
No

Temporary Use:

Existing:

Proposed Use:

Other

Sq Ft.:	Units:	Fueling Positions:	Lanes:
22,672	0	0	0

Students:	Attendees:	Beds:
0	0	0

Comments:

Will access connection become a public road?
No

Will the full development be built in phases?
No

Select All that Apply:
- ☑ Applicant requests more than one access connection.
- ☐ Property is within 1/2 mile of an existing traffic signal.
- ☐ Applicant requests a new traffic signal.
- ☐ Applicant requests a new median opening.
- ☐ Requested access connection location aligns with an existing signal or intersection.
- ☐ Existing median opening or portion thereof, is within the frontage limits of the property.
- ☐ Requested access connection is not on a state route, but is within 1/4 mile of a state route.
- ☐ Railroad crossing located within 1/4 mile.
- ☐ Applicant requests a roundabout.
- ☐ Property has frontage on an existing local or parish roadway.
- ☐ Property is within the functional area of intersection or limits of turn lane.
- ☐ None of the above apply

Additional Info

Does the applicant have knowledge of any State Highway access permits serving this property, or adjacent properties, in which the applicant has, or may have, a property interest?
No

Details:

Does the property owner own or have any interests in any adjacent properties?

Details:

No

Are there other existing or dedicated public streets, roads, highways, or access easements bordering or within the property?

No

This application is for:

New Construction

Proposed Changes:

- ☐ Repave parking lot
- ☐ Reconfigure parking area
- ☐ Remodel interior of building(s)
- ☐ Remodel exterior of building(s)
- ☐ Build addition to building(s) to increase size

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 292 OF 699 PAGES

Rowden Consulting, LLC
Environmental Services

May 22, 2024

Kristin Sanders, State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4241

Re: Due Diligence Review Request
Bienville Parish Commercial Saltwater Disposal Facility
13.22 acres, Highway 792, Bienville Parish, LA

Ms. Sanders,

Rowden Consulting, LLC is working with the owner of the referenced property, Brickyard Trucking, LLC, in the planning of a proposed saltwater disposal facility in Bienville Parish, Louisiana. Brickyard Trucking, LLC is the owner and developer of the new facility, and their mailing address is 415 Texas Street, Suite 400, Shreveport, LA 71101. The property will be developed by a private corporation on private land. We do not anticipate any federal permits being required for the development. No Section 404 permits will be required and no public funds are being used to develop the project. While the project is being undertaken by a private developer, we are requesting your review so that we may ensure compliance with federal and state preservation programs.

The proposed project is located along the northeast side of Louisiana Highway 792 approximately 1.7 miles north of Jamestown (Lat/Long: 32.37054443° N, 93.21301270° W). Some limited excavation and clearing will be required to develop the project, which will include a saltwater disposal facility, three disposal wells, a tank battery, truck loading areas, and an access drive to treat approved exploration and production waste fluids. The property is largely covered in dilapidated buildings and concrete-paved areas formerly associated with a brick plant. In review of historic aerials (attached), the former brick plant appears to have been constructed in the 1960s. All or portions of it will be demolished to facilitate site development.

We would like to ask the Louisiana Office of Cultural Development to advise us if the site is listed on the National Register of Historic Places or any lists maintained by your office, and to advise us if there are other cultural or historic sensitivity issues which might need to be considered during our development plans for the site. Also, if regulations do not apply to this project due to a lack of SHPO regulation or federal nexus, we would appreciate receiving documentation confirming that regulations do not apply.

Thank you for your help with this matter.

Sincerely,

Jeremy Rowden, PG

STATE EXHIBIT NO. 1
DOCKET NO. ENV 2025-01
PAGE 293 OF 699 PAGES

Enclosures

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.

Chip McGimsey
Office of Cultural Development
State Archaeologist

Date 06/20/2024

Office of Conservation
FEB 14 2025
Environmental Division

P.O. Box 978 • 23334 Oak Grove Rd. • Bullard, Texas 75757
903.894.6410 (O) • 903.894.7511 (F) • www.RowdenConsulting.com

Rowden Consulting, LLC
Environmental Services

May 22, 2024

Kristin Sanders, State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4241

Re: Due Diligence Review Request
Bienville Parish Commercial Saltwater Disposal Facility
13.22 acres, Highway 792, Bienville Parish, LA

Ms. Sanders,

Rowden Consulting, LLC is working with the owner of the referenced property, Brickyard Trucking, LLC, in the planning of a proposed saltwater disposal facility in Bienville Parish, Louisiana. Brickyard Trucking, LLC is the owner and developer of the new facility, and their mailing address is 415 Texas Street, Suite 400, Shreveport, LA 71101. The property will be developed by a private corporation on private land. We do not anticipate any federal permits being required for the development. No Section 404 permits will be required and no public funds are being used to develop the project. While the project is being undertaken by a private developer, we are requesting your review so that we may ensure compliance with federal and state preservation programs.

The proposed project is located along the northeast side of Louisiana Highway 792 approximately 1.7 miles north of Jamestown (Lat/Long: 32.37054443° N, 93.21301270° W). Some limited excavation and clearing will be required to develop the project, which will include a saltwater disposal facility, three disposal wells, a tank battery, truck loading areas, and an access drive to treat approved exploration and production waste fluids. The property is largely covered in dilapidated buildings and concrete-paved areas formerly associated with a brick plant. In review of historic aerials (attached), the former brick plant appears to have been constructed in the 1960s. All or portions of it will be demolished to facilitate site development.

We would like to ask the Louisiana Office of Cultural Development to advise us if the site is listed on the National Register of Historic Places or any lists maintained by your office, and to advise us if there are other cultural or historic sensitivity issues which might need to be considered during our development plans for the site. Also, if regulations do not apply to this project due to a lack of SHPO regulation or federal nexus, we would appreciate receiving documentation confirming that regulations do not apply.

Thank you for your help with this matter.

Sincerely,

Jeremy Rowden, PG

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 294 OF 699 PAGES

Enclosures

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.

Chip McGimsey
Office of Cultural Development
State Archaeologist

Date 06/20/2024

Office of Conservation
FEB 14 2025
Environmental Division

P.O. Box 978 • 23334 Oak Grove Rd. • Bullard, Texas 75757
903.894.6410 (O) • 903.894.7511 (F) • www.RowdenConsulting.com

Rowden Consulting, LLC
Environmental Services

May 22, 2024

Kristin Sanders, State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4241

Re: Due Diligence Review Request
Bienville Parish Commercial Saltwater Disposal Facility
13.22 acres, Highway 792, Bienville Parish, LA

Ms. Sanders,

Rowden Consulting, LLC is working with the owner of the referenced property, Brickyard Trucking, LLC, in the planning of a proposed saltwater disposal facility in Bienville Parish, Louisiana. Brickyard Trucking, LLC is the owner and developer of the new facility, and their mailing address is 415 Texas Street, Suite 400, Shreveport, LA 71101. The property will be developed by a private corporation on private land. We do not anticipate any federal permits being required for the development. No Section 404 permits will be required and no public funds are being used to develop the project. While the project is being undertaken by a private developer, we are requesting your review so that we may ensure compliance with federal and state preservation programs.

The proposed project is located along the northeast side of Louisiana Highway 792 approximately 1.7 miles north of Jamestown (Lat/Long: 32.37054443° N, 93.21301270° W). Some limited excavation and clearing will be required to develop the project, which will include a saltwater disposal facility, three disposal wells, a tank battery, truck loading areas, and an access drive to treat approved exploration and production waste fluids. The property is largely covered in dilapidated buildings and concrete-paved areas formerly associated with a brick plant. In review of historic aerials (attached), the former brick plant appears to have been constructed in the 1960s. All or portions of it will be demolished to facilitate site development.

We would like to ask the Louisiana Office of Cultural Development to advise us if the site is listed on the National Register of Historic Places or any lists maintained by your office, and to advise us if there are other cultural or historic sensitivity issues which might need to be considered during our development plans for the site. Also, if regulations do not apply to this project due to a lack of SHPO regulation or federal nexus, we would appreciate receiving documentation confirming that regulations do not apply.

Thank you for your help with this matter.

Sincerely,

Jeremy Rowden, PG

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 295 OF 699 PAGES

Enclosures

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.

Chip McGimsey
Office of Cultural Development
State Archaeologist

Date 06/20/2024

Office of Conservation
FEB 14 2025
Environmental Division

P.O. Box 978 • 23334 Oak Grove Rd. • Bullard, Texas 75757
903.894.6410 (O) • 903.894.7511 (F) • www.RowdenConsulting.com

Rowden Consulting, LLC
Environmental Services

May 22, 2024

Kristin Sanders, State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4241

Re: Due Diligence Review Request
Bienville Parish Commercial Saltwater Disposal Facility
13.22 acres, Highway 792, Bienville Parish, LA

Ms. Sanders,

Rowden Consulting, LLC is working with the owner of the referenced property, Brickyard Trucking, LLC, in the planning of a proposed saltwater disposal facility in Bienville Parish, Louisiana. Brickyard Trucking, LLC is the owner and developer of the new facility, and their mailing address is 415 Texas Street, Suite 400, Shreveport, LA 71101. The property will be developed by a private corporation on private land. We do not anticipate any federal permits being required for the development. No Section 404 permits will be required and no public funds are being used to develop the project. While the project is being undertaken by a private developer, we are requesting your review so that we may ensure compliance with federal and state preservation programs.

The proposed project is located along the northeast side of Louisiana Highway 792 approximately 1.7 miles north of Jamestown (Lat/Long: 32.37054443° N, 93.21301270° W). Some limited excavation and clearing will be required to develop the project, which will include a saltwater disposal facility, three disposal wells, a tank battery, truck loading areas, and an access drive to treat approved exploration and production waste fluids. The property is largely covered in dilapidated buildings and concrete-paved areas formerly associated with a brick plant. In review of historic aerials (attached), the former brick plant appears to have been constructed in the 1960s. All or portions of it will be demolished to facilitate site development.

We would like to ask the Louisiana Office of Cultural Development to advise us if the site is listed on the National Register of Historic Places or any lists maintained by your office, and to advise us if there are other cultural or historic sensitivity issues which might need to be considered during our development plans for the site. Also, if regulations do not apply to this project due to a lack of SHPO regulation or federal nexus, we would appreciate receiving documentation confirming that regulations do not apply.

Thank you for your help with this matter.

Sincerely,

Jeremy Rowden, PG

Enclosures

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 296 OF 699 PAGES

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.

Chip McGimsey
Office of Cultural Development
State Archaeologist

Date 06/20/2024

Office of Conservation
FEB 14 2025
Environmental Division

P.O. Box 978 • 23334 Oak Grove Rd. • Bullard, Texas 75757
903.894.6410 (O) • 903.894.7511 (F) • www.RowdenConsulting.com

Rowden Consulting, LLC
Environmental Services

May 22, 2024

Kristin Sanders, State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4241

Re: Due Diligence Review Request
Bienville Parish Commercial Saltwater Disposal Facility
13.22 acres, Highway 792, Bienville Parish, LA

Ms. Sanders,

Rowden Consulting, LLC is working with the owner of the referenced property, Brickyard Trucking, LLC, in the planning of a proposed saltwater disposal facility in Bienville Parish, Louisiana. Brickyard Trucking, LLC is the owner and developer of the new facility, and their mailing address is 415 Texas Street, Suite 400, Shreveport, LA 71101. The property will be developed by a private corporation on private land. We do not anticipate any federal permits being required for the development. No Section 404 permits will be required and no public funds are being used to develop the project. While the project is being undertaken by a private developer, we are requesting your review so that we may ensure compliance with federal and state preservation programs.

The proposed project is located along the northeast side of Louisiana Highway 792 approximately 1.7 miles north of Jamestown (Lat/Long: 32.37054443° N, 93.21301270° W). Some limited excavation and clearing will be required to develop the project, which will include a saltwater disposal facility, three disposal wells, a tank battery, truck loading areas, and an access drive to treat approved exploration and production waste fluids. The property is largely covered in dilapidated buildings and concrete-paved areas formerly associated with a brick plant. In review of historic aerials (attached), the former brick plant appears to have been constructed in the 1960s. All or portions of it will be demolished to facilitate site development.

We would like to ask the Louisiana Office of Cultural Development to advise us if the site is listed on the National Register of Historic Places or any lists maintained by your office, and to advise us if there are other cultural or historic sensitivity issues which might need to be considered during our development plans for the site. Also, if regulations do not apply to this project due to a lack of SHPO regulation or federal nexus, we would appreciate receiving documentation confirming that regulations do not apply.

Thank you for your help with this matter.

Sincerely,

Jeremy Rowden, PG

Enclosures

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 297 OF 699 PAGES

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.

Chip McGimsey
Office of Cultural Development
State Archaeologist

Date 06/20/2024

Office of Conservation
FEB 14 2025
Environmental Division

P.O. Box 978 • 23334 Oak Grove Rd. • Bullard, Texas 75757
903.894.6410 (O) • 903.894.7511 (F) • www.RowdenConsulting.com

Rowden Consulting, LLC
Environmental Services

May 22, 2024

Kristin Sanders, State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4241

Re: Due Diligence Review Request
Bienville Parish Commercial Saltwater Disposal Facility
13.22 acres, Highway 792, Bienville Parish, LA

Ms. Sanders,

Rowden Consulting, LLC is working with the owner of the referenced property, Brickyard Trucking, LLC, in the planning of a proposed saltwater disposal facility in Bienville Parish, Louisiana. Brickyard Trucking, LLC is the owner and developer of the new facility, and their mailing address is 415 Texas Street, Suite 400, Shreveport, LA 71101. The property will be developed by a private corporation on private land. We do not anticipate any federal permits being required for the development. No Section 404 permits will be required and no public funds are being used to develop the project. While the project is being undertaken by a private developer, we are requesting your review so that we may ensure compliance with federal and state preservation programs.

The proposed project is located along the northeast side of Louisiana Highway 792 approximately 1.7 miles north of Jamestown (Lat/Long: 32.37054443° N, 93.21301270° W). Some limited excavation and clearing will be required to develop the project, which will include a saltwater disposal facility, three disposal wells, a tank battery, truck loading areas, and an access drive to treat approved exploration and production waste fluids. The property is largely covered in dilapidated buildings and concrete-paved areas formerly associated with a brick plant. In review of historic aerials (attached), the former brick plant appears to have been constructed in the 1960s. All or portions of it will be demolished to facilitate site development.

We would like to ask the Louisiana Office of Cultural Development to advise us if the site is listed on the National Register of Historic Places or any lists maintained by your office, and to advise us if there are other cultural or historic sensitivity issues which might need to be considered during our development plans for the site. Also, if regulations do not apply to this project due to a lack of SHPO regulation or federal nexus, we would appreciate receiving documentation confirming that regulations do not apply.

Thank you for your help with this matter.

Sincerely,

Jeremy Rowden, PG

Enclosures

STATE EXHIBIT NO. 1
DOCKET NO. Ew2225A-01
PAGE 298 OF 699 PAGE

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.

Chip McGimsey
Office of Cultural Development
State Archaeologist

Date 06/20/2024

Office of Conservation
FEB 14 2025
Environmental Division

P.O. Box 978 • 23334 Oak Grove Rd. • Bullard, Texas 75757
903.894.6410 (O) • 903.894.7511 (F) • www.RowdenConsulting.com

Rowden Consulting, LLC
Environmental Services

May 22, 2024

Kristin Sanders, State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4241

Re: Due Diligence Review Request
Bienville Parish Commercial Saltwater Disposal Facility
13.22 acres, Highway 792, Bienville Parish, LA

Ms. Sanders,

Rowden Consulting, LLC is working with the owner of the referenced property, Brickyard Trucking, LLC, in the planning of a proposed saltwater disposal facility in Bienville Parish, Louisiana. Brickyard Trucking, LLC is the owner and developer of the new facility, and their mailing address is 415 Texas Street, Suite 400, Shreveport, LA 71101. The property will be developed by a private corporation on private land. We do not anticipate any federal permits being required for the development. No Section 404 permits will be required and no public funds are being used to develop the project. While the project is being undertaken by a private developer, we are requesting your review so that we may ensure compliance with federal and state preservation programs.

The proposed project is located along the northeast side of Louisiana Highway 792 approximately 1.7 miles north of Jamestown (Lat/Long: 32.37054443° N, 93.21301270° W). Some limited excavation and clearing will be required to develop the project, which will include a saltwater disposal facility, three disposal wells, a tank battery, truck loading areas, and an access drive to treat approved exploration and production waste fluids. The property is largely covered in dilapidated buildings and concrete-paved areas formerly associated with a brick plant. In review of historic aerials (attached), the former brick plant appears to have been constructed in the 1960s. All or portions of it will be demolished to facilitate site development.

We would like to ask the Louisiana Office of Cultural Development to advise us if the site is listed on the National Register of Historic Places or any lists maintained by your office, and to advise us if there are other cultural or historic sensitivity issues which might need to be considered during our development plans for the site. Also, if regulations do not apply to this project due to a lack of SHPO regulation or federal nexus, we would appreciate receiving documentation confirming that regulations do not apply.

Thank you for your help with this matter.

Sincerely,

Jeremy Rowden, PG

Enclosures

STATE EXHIBIT NO. 1
DOCKET NO. 2025-01
PAGE 299 OF 699 PAGES

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.

Chip McGimsey
Office of Cultural Development
State Archaeologist

Date 06/20/2024

Office of Conservation
FEB 14 2025
Environmental Division

P.O. Box 978 • 23334 Oak Grove Rd. • Bullard, Texas 75757
903.894.6410 (O) • 903.894.7511 (F) • www.RowdenConsulting.com

Raines & Associates, LLC

August 15, 2024

Office of Environmental Services
Louisiana Department of Environmental Quality
Permits/ Registration Division
P.O. Box 4313
Baton Rouge, LA 70821-4312

RE: Brickyard Trucking, LLC
Application for Approval of Miscellaneous Permitting Actions
Bienville Parish, Louisiana

To Whom This May Concern:

On behalf of our client, Brickyard Trucking, LLC, please find enclosed an original, and two (2) copies of the application for approval of miscellaneous permitting actions, including all required fees and attachments.

Thank you for your assistance in processing this application. If you need any additional information regarding this application, please feel free to contact me at (318) 687-3771.

Sincerely,

Robert B. Raines, Jr
Geologist

Enclosure

STATE EXHIBIT NO. 1
DOCKET NO. 2025-01
PAGE 300 OF 699 PAGES

Office of Conservation
SEP 20 2024
Environmental Division

Raines & Associates, LLC - 415 Braemar Road -Shreveport, LA 71106
(318) 218-7945 - bobbyrainesjr@gmail.com

TABLE OF CONTENTS

Section **Page**

Figures

Appendix

1.0 INTRODUCTION

1.1 Background

Brickyard Trucking, LLC (Brickyard) is permitting three commercial salt water disposal wells (SWD) near Jamestown (Bienville Parish), Louisiana to serve the exploration and production community. The facility includes eight (8) 1,000- bbl produced water settling tanks, two (2) 750-bbl desanding tanks two (2) 1,000-bbl gun barrel tanks, two (2) 400-bbl oil tanks, two (2) 750-barrel suction tanks, and four (4) injection pumps that will pump directly to the proposed wells. As a part of the permit application for the three SWD's, ALTEC Environmental Consulting, LLC (ALTEC) was asked to determine if the need for an air permit application was necessary, due to the amount of produced water scheduled to be disposed of at the facility.

1.2 Process Description

When a transporter arrives on-site to deliver a load of E&P Waste fluid, a trained Brickyard employee will log the truck in and acquire proper documentation to determine that the acceptance of all such material is in accordance with LAC 43:XIX.545.A-G. The trained employee will be present during the loading process to monitor, assist and assure the unloading is conducted according to policy to prevent spills. Drivers are required to comply with warning signs and to remain on the unloading site while off-loading operations are underway. Drivers are also required to inspect tank drains and outlets before and after loading operations and to notify facility personnel of any potential problems. The seamless concrete unloading pad contains 6-in. roll over berms on four sides to prevent the escape of any E&P Wastes spilled during off-loading. The unloading pad will be constructed of seamless/sealed concrete. Any spilled fluids travel downslope towards a seamless integrated concrete sump, equipped with a float actuated sump pump to prevent the offsite release or accumulation of any fluids on the unloading pad in compliance with LAC 43:XIX.509.B.4. The driver will connect a four inch (4-in.) connection with to the tail end of the tank truck, and the valve opened to allow the contents to be pumped by centrifugal pumps through screen baskets to a manifold where it is directed through two (2) 750-barrel steel settling tanks. The fluids will then be sent through two (2) series of four (4) 1,000-barrel steel tanks (8 Total) for solids separation and some minimal hydrocarbon separation. The fluids will then by transferred via centrifuge pumps to the two (2) steel 1,000-barrel gun barrels for separating hydrocarbons from the water. The separated hydrocarbons are skimmed from the tops of the 1000-barrel tanks and siphoned from the gun barrels and transferred to two (2) 400-barrel steel oil tanks. Fluid from the gun barrels is directed to two (2) 750-barrel steel suction tanks. Fluid from the two (2) 750-barrel suction tanks are then transferred by one of four (4) triplex pumps to one (1) of the three (3) approved SWD wells. Flow meters installed at the approved SWD wells will record volumes disposed. The entire system is contained by a 4-ft. concrete containment that is slightly

sloped towards the center. A drainage trough traverses the center of the containment and sloped towards a collection sump to contain and collect any storm water, spills or leaks. Absorbent pads will be in place to absorb any minor amounts of E&P Waste fluid that may be spilled. The unloading process will be monitored for any problems, and if such a problem occurs onsite personnel will immediately cease unloading operations, until such problem is resolved.

1.3 Project Description

Based on permitted flow into the SWD, estimated API gravity of the petroleum products in the produced water, and percentage of petroleum products in the produced water, ALTEC performed calculations to determine if an air permit was warranted for the facility. As stipulated in Louisiana Act 547, as promulgated in *LAC 33:III.501.B.2.d*, if facility-wide sources are less than 5 tons per year of a criteria pollutant, less than 15 tons of all pollutants combined, and less than the minimum emission rate (MER) for each toxic air pollutant pursuant to R.S. 30:2060, the facility does not require an air permit. ALTEC used Tanks 4.09D to estimate the working and breathing losses of the tanks. Flash losses from produced water storage tanks at saltwater disposal sites can be considered negligible, provided the saltwater/produced water experiences no pressure or temperature changes before it enters the system. ALTEC conservatively estimated that 0.5 percent of the maximum produced water throughput (25,000 bbls/day) would be hydrocarbons. Loading losses as the petroleum from the two (2) 400-bbl tanks are loaded onto trucks for sale has also been taken into account.

2.0 TANKS 4.09D MODELING

2.1 Modeling Setup

The Facility will be permitted to dispose a maximum of 25,000 bbl per day of produced water. The produced water is conservatively estimated to be 99.5% salt water, and 0.5% petroleum condensate. The API gravity of the petroleum products will be light, ranging between 40 and 50. In reality, similar facilities are unlikely to produce more than 300 barrels of oil in a given year.

2.2 Modeling Results

The results of the modeling show that there will be 4.12 tons of VOC emissions per year from the operations at the proposed facility. It is also estimated that there will be 0.37 tons of toxic air pollutant (TAP) emissions, comprised of benzene and n-hexane, from this facility. Since this is below the 5 tons per year criteria pollution limit and below the minimum emission rate for the TAPs, there is no need for an air permit for this facility.

FIGURES

APPENDIX A

APPLICATION FOR APPROVAL OF MISCELLANEOUS PERMITTING ACTIONS

Department of Environmental Quality Office of Environmental Services Air Permits Division P.O. Box 4313 Baton Rouge, LA 70821-4313 (225) 219-3417	**LOUISIANA** **Application for Approval of Miscellaneous Permitting Actions**	DEQ LOUISIANA

PLEASE TYPE OR PRINT

1. Facility Information

Facility Name or Unit Name (if any) Proposed Commercial SWD Facility – Bienville Parish	☐ All Process Units ☐ Process Unit-Specific Action
Agency Interest Number (A.I. Number) N/A	**Currently Effective Permit Number(s)**
Company - Name of Owner Brickyard Trucking, LLC	
Company - Name of Operator (if different from Owner) N/A	
Parent Company (if Company – Name of Owner given above is a division) N/A	
Parish(es) where facility is located: Bienville	
Federal Tax-ID	

2. Type of Request

Check only one box to indicate the type of request being made.

☒ Small Source Exemption*†
☐ Exemption To Test†
☐ Variance**†
☐ Letter of Response/Letter of No Objection†
☐ Administrative Amendment†
☐ Permit Rescission Date of closure: ____/____/____
☐ Application Withdrawal
☐ Change of Tank Service
☐ Relocation of a Portable Facility
☐ Authorization to Construct and Operate (ATC)†

* Fee required
† Justification required
** Fee required unless source is operating under an air permit.

Estimated date that requested activity will commence April 2025

3. Application Fee

Complete this section if a fee is required for the request being made. Consult instructions.

Fee Code: 2010 Amount Enclosed: $ 300

Electronic Fund Transfer (EFT): If paying the application fee using an Electronic Fund Transfer (EFT), please include the EFT Transaction Number, the Date that the EFT was made, and the total dollar amount submitted in the EFT. If not paying the application fee using EFT, leave blank.

EFT Transaction Number	**Date of Submittal**	**Total Dollar Amount**
_____	_____	$_____

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 306 OF 699 PAGES

4. Description of Exceptional Circumstances to Justify a Variance Request

Requested Duration of Variance: _____ *Months* _____ *Days*

Explain the need for the variance.
Identify the affected source(s), as well as the applicable regulation(s) from which the source(s) need a variance. Include relevant details as necessary (e.g., a description of the how the process normally functions and how it is operating now) and describe any measures undertaken or that will be undertaken to remedy the situation prompting the variance request.
N/A

Identify the exceptional circumstances.
Identify the exceptional circumstances that preclude strict conformity with the regulation(s) identified above. Explain how strict conformity with such regulations would cause would 1.) cause undue hardship; 2.) be unreasonable; 3.) be impractical; or 4.) not be feasible under the circumstances; or would otherwise result in the practical closing and elimination of any lawful business, occupation, or activity without sufficient corresponding benefit or advantage to the people of the state.
N/A

Note: It is important that the reason for the variance request be made plain. The explanation of extenuating circumstances will form the primary basis upon which LDEQ will either grant or deny the variance request.

5. Required Information

Submittal of this Information Is Not Optional

For all requests:

Detailed description of the proposed activity is included. ☒

Justification for the request is included. (Justification may include supporting calculations, reasoning to support a determination of why strict conformity with the regulations is not feasible, etc) ☒

For Relocation of a Portable Facility requests only:

Documentation is attached that shows compliance with all applicable zoning criteria for the proposed location (for Relocation of a Portable Facility requests only). [Required per LAC 33:III.513.C.1.a] ☐

A map showing the proposed location of the Portable Facility is included (for Relocation of a Portable Facility requests only) [Required per LAC 33:III.513.C.2] ☐

Enter the **current** location of the facility (for Relocation of a Portable Facility requests only):

Street	City	Parish

Latitude _____ **Longitude** _____

Enter the **proposed** location of the facility (for Relocation of a Portable Facility requests only):

Street	City	Parish

Latitude _____ **Longitude** _____

Enter the Make, Model, and Serial Number of each portable combustion emissions source to be permitted. Otherwise, leave blank. Do *NOT* list any motor vehicles. Add rows as necessary (for Relocation of Portable Facility requests only).

Make	Model	Serial Number

6. Emissions Summary Table

For each pollutant, enter the pre-project emission rate in the "Before" column and enter the post-project emission rate in the "After" column. Enter the difference between the "Before" and "After" values in the "Change" column. Add rows as necessary to show any Toxic Air Pollutant (TAP) or Hazardous Air Pollutant (HAP) emissions. All values in this table should be represented in tons per year or per variance period (if applying for a variance).

Pollutant	Before (tons per year/variance period)	After (tons per year/variance period)	Change (tons per year/variance period)
$PM_{2.5}$	0	0	-
PM_{10}	0	0	-
SO_2	0	0	-
NO_X	0	0	-
CO	0	0	-
VOC	0	4.12	4.12
CO_2e	0	6.08	6.08

7. Contact Information

a. Person to contact with written correspondence					
Name	Scott Wooten				
Title	Manager				
Company	Brickyard Trucking, LLC				
Suite, mail drop, or division	Suite 400				
Street or P.O. Box	415 Texas Street				
City	Shreveport	**State**	LA	**Zip**	71101
Business phone	(318) 377-5755				
Email address	scott.wooten@saltlickllc.com				

b. Person who prepared this report					
Name	Robert B Raines III, P.E.				
Title	Vice President				
Company	ALTEC Environmental Consulting, LLC				
Suite, mail drop, or division					
Street or P.O. Box	1111A Hawn Avenue				
City	Shreveport	**State**	LA	**Zip**	71107
Business phone	(318) 687-3771				
Email address	beau.raines@altecenv.com				

8. Certification of Compliance With Applicable Requirements

For corporations only: By signing this form, I certify that, in accordance with the definition of Responsible Official found in LAC 33:III.502, **(1)** I am a president, secretary, treasurer, or vice-president in charge of a principal business function, or other person who performs similar policy or decision-making functions; or **(2)** I am a duly authorized representative of such person; am responsible for the overall operation of one or more manufacturing, production, or operating facilities addressed in this permit application; and either the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or the delegation of authority has been approved by LDEQ prior to this certification.*

I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information contained in this Application for Approval of Miscellaneous Permitting Actions, including all attachments thereto, are true, accurate, and complete. Further, I have been informed that any written approval from LDEQ does not relieve the proposed activity from the requirement to comply with any other city, parish, state, and/or federal requirements.

Responsible Official:

Name (please print or type): Scott Wooten

Signature:

Title: Manager

Date: 8/16/2024

*Approval of a delegation of authority can be requested by completing a Duly Authorized Representative Designation Form (Form_7218) available on LDEQ's website at http://deq.louisiana.gov/page/air-permit-applications.

APPENDIX B

EMISSION CALCULATIONS

Brickyard Trucking, LLC
Sitewide Emissions Summary

		Annual Potential Emissions (tpy)										
		Air Criteria Pollutants						GHGs			Toxic Air Pollutants	
Source ID	Source Description	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO	VOC	CO_2	CH_4	CO_{2e}	Benzene	n-Hexane
PW Tank 1	Standing Losses from the 1,000-bbl Saltwater Holding Tank #1	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
PW Tank 2	Standing Losses from the 1,000-bbl Saltwater Holding Tank #2	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
PW Tank 3	Standing Losses from the 1,000-bbl Saltwater HoldingTank #3	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
PW Tank 4	Standing Losses from the 1,000-bbl Saltwater HoldingTank #4	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
PW Tank 5	Standing Losses from the 1,000-bbl Saltwater HoldingTank #5	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
PW Tank 6	Standing Losses from the 1,000-bbl Saltwater HoldingTank #6	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
PW Tank 7	Standing Losses from the 1,000-bbl Saltwater HoldingTank #7	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
PW Tank 8	Standing Losses from the 1,000-bbl Saltwater HoldingTank #8	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
GB Tank 1	Standing Losses from the 1,000-bbl Gun Barrel Tank #1	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
GB Tank 2	Standing Losses from the 1,000-bbl Gun Barrel Tank #2	-	-	-	-	-	0.27	-	0.019		0.0003	0.024
DS Tank 1	Standing Losses from the 750-bbl Desanding Tank 1	-	-	-	-	-	0.31	-	0.022		0.0004	0.028
DS Tank 2	Standing Losses from the 750-bbl Desanding Tank 2						0.31		0.022		0.0004	0.028
Oil Tank 1	Working and Breathing Emissions from the 400-bbl Oil Storage Tank #1	-	-	-	-	-	0.25	-	0.02		2.8E-04	0.02
Oil Tank 2	Working and Breathing Emissions from the 400-bbl Oil Storage Tank #2						0.25		0.02		2.8E-04	0.02
Loading	Truck Loading Emissions	-	-	-	-	-	0.30	-	0.02		3.4E-04	0.03
Fugitive	Fugitive Emissions	-	-	-	-	-	0.01	-	0.00		6.5E-06	0.00

Total:	-	-	-	-	-	4.12	-	0.29	6.08	0.005	0.369

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 1
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #1

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 2
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #2

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

STATE EXHIBIT NO. 1
DOCKET NO. EW2025-01
PAGE 312 OF 699 PAGES

Office of Conservation
SEP 20 2024
Environmental Division

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 3
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #3

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 4
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #4

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 5
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #5

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 6
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #6

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 7
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #7

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: PW Tank 8
Source Description: Standing Losses from the 1,000-bbl Produced Water Holding Tank #8

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: GB Tank 1
Source Description:
Standing Losses from the 1,000-bbl Gun Barrel Tank #1

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

STATE EXHIBIT NO. 1
DOCKET NO. Env2025-01
PAGE 319 OF 699 PAGES

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: GB Tank 2
Source Description:
Standing Losses from the 1,000-bbl Gun Barrel Tank #2

Total Emissions using Tanks 4.09D (lb/year): 611.78 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.070

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0043	0.0043	0.0190
Ethane	5.6%	0.0039	0.0039	0.0171
Propane	17.6%	0.0123	0.0123	0.0538
n-Butane	27.1%	0.0189	0.0189	0.0829
iso-Butane	1.5%	0.0010	0.0010	0.0046
n-Pentane	14.6%	0.0102	0.0102	0.0447
iso-Pentane	1.5%	0.0010	0.0010	0.0046
Heptane	9.2%	0.0064	0.0064	0.0281
Octane	6.9%	0.0048	0.0048	0.0211
Higher chain hydrocarbons	1.8%	0.0013	0.0013	0.0055
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0055	0.0055	0.0242
Total TAP Emissions		0.0056	0.0056	0.0245
Total VOC Emissions		0.0616	0.0616	0.2698

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: DS Tank 1
Source Description:
Standing Losses from the 750-bbl Desanding Tank #1

Total Emissions using Tanks 4.09D (lb/year): 701.35 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.080

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0050	0.0050	0.0217
Ethane	5.6%	0.0045	0.0045	0.0196
Propane	17.6%	0.0141	0.0141	0.0617
n-Butane	27.1%	0.0217	0.0217	0.0950
iso-Butane	1.5%	0.0012	0.0012	0.0053
n-Pentane	14.6%	0.0117	0.0117	0.0512
iso-Pentane	1.5%	0.0012	0.0012	0.0053
Heptane	9.2%	0.0074	0.0074	0.0323
Octane	6.9%	0.0055	0.0055	0.0242
Higher chain hydrocarbons	1.8%	0.0014	0.0014	0.0063
Benzene (TAP)	0.1%	0.0001	0.0001	0.0004
n-Hexane (TAP)	7.9%	0.0063	0.0063	0.0277
Total TAP Emissions		0.0064	0.0064	0.0281
Total VOC Emissions		0.0706	0.0706	0.3093

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: DS Tank 2
Source Description:
Standing Losses from the 750-bbl Desanding Tank #2

Total Emissions using Tanks 4.09D (lb/year): 701.35 (Assumes 0.5% of product is hydrocarbons)
Total Emissions using Tanks 4.09D (lb/hr): 0.080

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0050	0.0050	0.0217
Ethane	5.6%	0.0045	0.0045	0.0196
Propane	17.6%	0.0141	0.0141	0.0617
n-Butane	27.1%	0.0217	0.0217	0.0950
iso-Butane	1.5%	0.0012	0.0012	0.0053
n-Pentane	14.6%	0.0117	0.0117	0.0512
iso-Pentane	1.5%	0.0012	0.0012	0.0053
Heptane	9.2%	0.0074	0.0074	0.0323
Octane	6.9%	0.0055	0.0055	0.0242
Higher chain hydrocarbons	1.8%	0.0014	0.0014	0.0063
Benzene (TAP)	0.1%	0.0001	0.0001	0.0004
n-Hexane (TAP)	7.9%	0.0063	0.0063	0.0277
Total TAP Emissions		0.0064	0.0064	0.0281
Total VOC Emissions		0.0706	0.0706	0.3093

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: Oil Tank 1
Source Description: Working and Breathing Emissions from the 400-bbl Oil Tank #1

Total Emissions using Tanks 4.09D (lb/year): 564.89
Total Emissions using Tanks 4.09D (lb/hr): 0.064

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0040	0.0040	0.0175
Ethane	5.6%	0.0036	0.0036	0.0158
Propane	17.6%	0.0113	0.0113	0.0497
n-Butane	27.1%	0.0175	0.0175	0.0765
iso-Butane	1.5%	0.0010	0.0010	0.0042
n-Pentane	14.6%	0.0094	0.0094	0.0412
iso-Pentane	1.5%	0.0010	0.0010	0.0042
Heptane	9.2%	0.0059	0.0059	0.0260
Octane	6.9%	0.0044	0.0044	0.0195
Higher chain hydrocarbons	1.8%	0.0012	0.0012	0.0051
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0051	0.0051	0.0223
Total TAP Emissions		0.0052	0.0052	0.0226
Total VOC Emissions		0.0569	0.0569	0.2491

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on two turnovers per month.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: Oil Tank 1
Source Description: Working and Breathing Emissions from the 400-bbl Oil Tank #2

Total Emissions using Tanks 4.09D (lb/year): 564.89
Total Emissions using Tanks 4.09D (lb/hr): 0.064

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0040	0.0040	0.0175
Ethane	5.6%	0.0036	0.0036	0.0158
Propane	17.6%	0.0113	0.0113	0.0497
n-Butane	27.1%	0.0175	0.0175	0.0765
iso-Butane	1.5%	0.0010	0.0010	0.0042
n-Pentane	14.6%	0.0094	0.0094	0.0412
iso-Pentane	1.5%	0.0010	0.0010	0.0042
Heptane	9.2%	0.0059	0.0059	0.0260
Octane	6.9%	0.0044	0.0044	0.0195
Higher chain hydrocarbons	1.8%	0.0012	0.0012	0.0051
Benzene (TAP)	0.1%	0.0001	0.0001	0.0003
n-Hexane (TAP)	7.9%	0.0051	0.0051	0.0223
Total TAP Emissions		0.0052	0.0052	0.0226
Total VOC Emissions		0.0569	0.0569	0.2491

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on two turnovers per month.

Operator:	Brickyard Trucking, LLC
Facility:	Commercial SWD Disposal Facility
Location:	Bienville Parish, Louisiana
Source ID:	Load-1
Source Description:	Truck Loading emissions

Data:

Max Load from the Oil Tank	100,000	gal of petroleum per year
Vapor MW (M):	65.00	(value calculated by Tanks 4.09D)
Bulk Liquid Temperature (T):	526.81	°R (value calculated by Tanks 4.09D)
TVP at Bulk Temperature (P):	3.01	psia (value calculated by Tanks 4.09D)
Saturation Factor (S):	1.45	Splash loading; dedicated normal service

Loading Loss Determination:

AP-42 Loading Loss Equation [(1)]**:**

L = 12.46 SPM/T

where:

L = Loading Losses (lb/1000 gal)

S = Saturation Factor (based on tank and loading type)[(2)]

P = True Vapor Pressure (psia)

M = Molecular Weight of Vapor

T = Temperature of Bulk Liquid (R)

Loading Loss:

$$L = 12.46 \frac{(1.45)\ (3.01)\ (65)}{(526.81)} = 6.71 \text{ lb/1000 gal}$$

Maximum Yearly Emissions:

$$\frac{100{,}000 \text{ gal}}{\text{yr}} \left| \frac{6.71 \text{ lb}}{1000 \text{ gal}} \right| \frac{1 \text{ ton}}{2000 \text{ lb}} = 0.335 \frac{\text{ton TOC}}{\text{yr}}$$

Maximum Hourly Emissions:

$$\frac{0.335 \text{ ton TOC}}{\text{yr}} \left| \frac{2000 \text{ lb TOC}}{1 \text{ ton TOC}} \right| \frac{1 \text{ yr}}{730 \text{ hr}} = 0.9192 \frac{\text{lb TOC}}{\text{hr}}$$

STATE EXHIBIT NO. 1
DOCKET NO. ENV 2025-01
PAGE 325 OF 699 PAGES

Operator:	Brickyard Trucking, LLC
Facility:	Commercial SWD Disposal Facility
Location:	Bienville Parish, Louisiana
Source ID:	Load-1
Source Description:	Truck Loading emissions

Component	Stream Weight %[3]	Average Hourly Emissions (lbs/hr)[4]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0570	0.0570	0.0208
Ethane	5.6%	0.0515	0.0515	0.0188
Propane	17.6%	0.1618	0.1618	0.0590
n-Butane	27.1%	0.2491	0.2491	0.0909
iso-Butane	1.5%	0.0138	0.0138	0.0050
n-Pentane	14.6%	0.1342	0.1342	0.0490
iso-Pentane	1.5%	0.0138	0.0138	0.0050
Heptane	9.2%	0.0846	0.0846	0.0309
Octane	6.9%	0.0634	0.0634	0.0231
Higher chain hydrocarbons	1.8%	0.0165	0.0165	0.0060
Benzene (TAP)	0.1%	0.0009	0.0009	0.0003
n-Hexane (TAP)	7.9%	0.0726	0.0726	0.0265
Total TAP Emissions		0.0735	0.0735	0.0268
Total VOC Emissions		0.8107	0.8107	0.2959

(1) AP-42 Section 5.2, Equation 1

(2) AP-42 Section 5.2. Table 5.2-1, Saturation Factors for Calculating Petroleum Liquid Loading Losses

(3) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(4) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

Operator: Brickyard Trucking, LLC
Facility: Commercial SWD Disposal Facility
Location: Bienville Parish, Louisiana
Source ID: Fug-1
Source Description: Site fugitive emissions from transfer pumps and manifolds

EPA Fugitive Emission Estimation Methods
EPA - 453/R-95-017, Table 2-4. Oil and Gas Production Operations Average Emissions

Emission Sources	*Quantities*	*Total Orgaic Compounds (TOCs) Emission Factors*	*Total Hours per Year*	*Total Pounds per Source*
COMPRESSOR SEALS	0	0.03080 LB/HR	8,760 HR/YR	= **0.00 LB/YR**
CONNECTORS	450	0.00024 LB/HR	8,760 HR/YR	= **946.08 LB/YR**
PUMP SEALS	15	0.00005 LB/HR	8,760 HR/YR	= **6.96 LB/YR**
RELIEF VALVES	5	0.03080 LB/HR	8,760 HR/YR	= **1,349.04 LB/YR**
VALVES	150	0.00022 LB/HR	8,760 HR/YR	= **289.08 LB/YR**

Descriptions	Count
Compressor Sea	0
Connectors	450
Pump Seals	15
Relief Valves	5
Valves	150

TOTAL POUNDS TOC PER YEAR = **12.96 LB/YR**

TOTAL TONS TOC PER YEAR = **0.01 TONS/YR**

TOTAL POUNDS TOC PER HOUR = **0.00 LB/HR**

* It's assumed 0.5% of produced water contains hydrocarbons.

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 327 OF 619 PAGES

Office of Conservation
SEP 20 2024
Environmental Division

Operator:	Brickyard Trucking, LLC
Facility:	Commercial SWD Disposal Facility
Location:	Bienville Parish, Louisiana
Source ID:	Fug-1
Source Description:	Site fugitive emissions from transfer pumps and manifolds

Component	Stream Weight %[1]	Average Hourly Emissions (lbs/hr)[2]	Maximum Hourly Emissions (lbs/hr)	Annual Emissions (tons/yr)
Methane	6.2%	0.0001	0.0001	0.0004
Ethane	5.6%	0.0001	0.0001	0.0004
Propane	17.6%	0.0003	0.0003	0.0011
n-Butane	27.1%	0.0004	0.0004	0.0018
iso-Butane	1.5%	0.0000	0.0000	0.0001
n-Pentane	14.6%	0.0002	0.0002	0.0009
iso-Pentane	1.5%	0.0000	0.0000	0.0001
Heptane	9.2%	0.0001	0.0001	0.0006
Octane	6.9%	0.0001	0.0001	0.0004
Higher chain hydrocarbons	1.8%	0.0000	0.0000	0.0001
Benzene (TAP)	0.1%	0.0000	0.0000	0.0000
n-Hexane (TAP)	7.9%	0.0001	0.0001	0.0005
Total TAP Emissions		0.0001	0.0001	0.0005
Total VOC Emissions		0.0013	0.0013	0.0057

(1) Speciation of Tank Emissions are based on "Air Emissions Species Manual - Vol. I: Volatile Organic Compound Species Profiles" 2nd ed.

(2) Average, maximum and annual emissions are based on 25,000 barrels per day of produced water.

APPENDIX C

TANKS 4.09D MODELING RESULTS

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AQD Storage Tank Calculation Tool (21294)
Calculation Report
Based on AP-42 (06/2020) Section 7.1: Organic Liquid Storage Tanks

Print this page

INPUT SUMMARY

Identification		
Tank type		Vertical Fixed Roof
Tank identifier		1,000 bbl Saltwater Tank
Meteorological Data:		
Nearest major city:		Shreveport, LA
Tank Contents:		
Data source		Calculator Database
Liquid category		Crude Oil
Liquid name		Midcontinent Crude Oil
Tank Dimensions:		
Tank shell height, ft	H_S	20.0000
Tank diameter, ft	D	12.0000
Maximum liquid height, ft	H_{LX}	18.0000
Minimum liquid height, ft	H_{LN}	2.0000
Liquid height, ft	H_L	10.0000
Number of turnovers per year, dimensionless	N	3.6934
Annual net throughput, gal/yr		50,000.0000
Annual net throughput, bbl/yr	Q	1,190.4762
Flashing/vapor balanced unloading?		Yes
Paint Characteristics:		
Shell color/shade		White
Shell condition		New
Roof color/shade		White
Roof condition		New
Roof Characteristics:		
Roof type		Dome Roof
Tank roof height, ft	H_R	0.0000
Tank dome roof radius, ft	R_R	12
Breather Vent Settings:		

Breather vent vacuum setting, psig	P_{BV}	-0.0300
Breather vent pressure setting, psig	P_{BP}	0.0300

Insulation Characteristics:

Tank insulation	None
Tank heating	No

METEOROLOGICAL DATA

Nearest major city:		Shreveport, LA
Average daily ambient temperature, °R	T_{AA}	525.7500
Average daily minimum ambient temperature, °R	T_{AN}	515.8000
Average daily maximum ambient temperature, °R	T_{AX}	535.7000
Average daily ambient temperature range, °R	ΔT_A	19.9000
Average wind speed, mph	v	7.2000
Average daily total insolation factor, Btu/ft^2•d	I	1,424.0000
Atmospheric pressure, psi	P_A	14.5600

LIQUID DATA

Liquid category		Crude Oil
Liquid name		Midcontinent Crude Oil
Liquid bulk temperature, °R	T_B	526.4762
Average daily liquid surface temperature, °R	T_{LA}	527.0930
Average daily minimum liquid surface temperature, °R	T_{LN}	521.9053
Average daily maximum liquid surface temperature, °R	T_{LX}	532.2808
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3226
Vapor pressure at the average daily minimum liquid surface temperature, psia	P_{VN}	3.0064
Vapor pressure at the average daily maximum liquid surface temperature, psia	P_{VX}	3.6650
Vapor molecular weight, lb/lb-mole	M_V	50.0000
Reid vapor pressure, psia	RVP	5.0000
Constant in vapor pressure equation, dimensionless	A	11.2634
Constant in vapor pressure equation, °R	B	5,303.9235

CALCULATION DETAILS

Standing Losses

Standing losses, lb/yr	L_S	417.8423
Vapor space volume, ft^3	V_V	1,223.9394
Vapor density, lb/ft^3	W_V	0.0293
Vapor space expansion factor, per day	K_E	0.0926
Vented vapor saturation factor, dimensionless	K_S	0.3441

Vapor Space Volume

Vapor space volume, ft^3	V_V	1,223.9394
Tank diameter, ft	D	12.0000
Vapor space outage, ft	H_{VO}	10.8220

Vapor Space Outage

Vapor space outage, ft	H_{VO}	10.8220
Tank shell height, ft	H_S	20.0000
Liquid height, ft	H_L	10.0000
Roof outage, ft	H_{RO}	0.8220

Roof Outage

Roof outage, ft	H_{RO}	0.8220
Tank roof height, ft	H_R	1.6080
Tank shell radius, ft	R_S	6.0000
Tank dome roof radius, ft	R_R	12.0000

Vapor Density

Vapor density, lb/ft^3	W_V	0.0293
Vapor molecular weight, lb/lb-mole	M_V	50.0000
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3226
Ideal gas constant, $psia \cdot ft^3/lb\text{-}mole \cdot °R$	R	10.7310
Average vapor temperature, °R	T_V	527.7098
Tank roof surface solar absorptance, dimensionless	α_R	0.1700
Tank shell surface solar absorptance, dimensionless	α_S	0.1700
Average daily total insolation factor, $Btu/ft^2 \cdot d$	I	1,424.0000

Vapor Space Expansion Factor

Vapor space expansion factor, per day	K_E	0.0926
Average daily vapor temperature range, °R	ΔT_V	20.7510
Average daily vapor pressure range, psi	ΔP_V	0.6586
Breather vent pressure setting range, psig	ΔP_B	0.0600
Atmospheric pressure, psi	P_A	14.5600
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3226

Average daily liquid surface temperature, °R	T_{LA}	527.0930
Vented Vapor Saturation Factor		
Vented vapor saturation factor, dimensionless	K_S	0.3441
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3226
Vapor space outage, ft	H_{VO}	10.8220
Working Losses		
Working losses, lb/yr	L_W	147.0521
Net working loss throughput, ft^3/yr	V_Q	6,683.3333
Turnover factor, dimensionless	K_N	1.0000
Working loss product factor for fixed roof tanks, dimensionless	K_P	0.7500
Vapor density, lb/ft^3	W_V	0.0293
Vent setting correction factor, dimensionless	K_B	1.0000

EMISSIONS SUMMARY

Total Losses		
Standing losses, lb/yr	L_S	417.8423
Working losses, lb/yr	L_W	147.0521
Total routine losses, lb/yr	L_T	564.8944

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 333 OF 699 PAGES

Office of Conservation
SEP 20 2024
Environmental Division

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AQD Storage Tank Calculation Tool (21294)
Calculation Report
Based on AP-42 (06/2020) Section 7.1: Organic Liquid Storage Tanks

Print this page

INPUT SUMMARY

Identification

Tank type		Vertical Fixed Roof
Tank identifier		1,000 bbl Saltwater Tank

Meteorological Data:

Nearest major city:		Shreveport, LA

Tank Contents:

Data source		Calculator Database
Liquid category		Crude Oil
Liquid name		Midcontinent Crude Oil

Tank Dimensions:

Tank shell height, ft	H_S	25.0000
Tank diameter, ft	D	15.5000
Maximum liquid height, ft	H_{LX}	23.0000
Minimum liquid height, ft	H_{LN}	2.0000
Liquid height, ft	H_L	15.0000
Number of turnovers per year, dimensionless	N	33.7327
Annual net throughput, gal/yr		1,000,000.0000
Annual net throughput, bbl/yr	Q	23,809.5238
Flashing/vapor balanced unloading?		Yes

Paint Characteristics:

Shell color/shade		White
Shell condition		New
Roof color/shade		White
Roof condition		New

Roof Characteristics:

Roof type		Dome Roof
Tank roof height, ft	H_R	0.0000
Tank dome roof radius, ft	R_R	15.25

Breather Vent Settings:

Breather vent vacuum setting, psig	P_{BV}	-0.0300
Breather vent pressure setting, psig	P_{BP}	0.0300

Insulation Characteristics:

Tank insulation	None
Tank heating	No

METEOROLOGICAL DATA

Nearest major city:		Shreveport, LA
Average daily ambient temperature, °R	T_{AA}	525.7500
Average daily minimum ambient temperature, °R	T_{AN}	515.8000
Average daily maximum ambient temperature, °R	T_{AX}	535.7000
Average daily ambient temperature range, °R	ΔT_A	19.9000
Average wind speed, mph	v	7.2000
Average daily total insolation factor, Btu/ft^2•d	I	1,424.0000
Atmospheric pressure, psi	P_A	14.5600

LIQUID DATA

Liquid category		Crude Oil
Liquid name		Midcontinent Crude Oil
Liquid bulk temperature, °R	T_B	526.4762
Average daily liquid surface temperature, °R	T_{LA}	527.0988
Average daily minimum liquid surface temperature, °R	T_{LN}	521.9219
Average daily maximum liquid surface temperature, °R	T_{LX}	532.2756
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3230
Vapor pressure at the average daily minimum liquid surface temperature, psia	P_{VN}	3.0073
Vapor pressure at the average daily maximum liquid surface temperature, psia	P_{VX}	3.6647
Vapor molecular weight, lb/lb-mole	M_V	50.0000
Reid vapor pressure, psia	RVP	5.0000
Constant in vapor pressure equation, dimensionless	A	11.2634
Constant in vapor pressure equation, °R	B	5,303.9235

CALCULATION DETAILS

Standing Losses

Standing losses, lb/yr	L_S	701.3490
Vapor space volume, ft^3	V_V	2,091.5234
Vapor density, lb/ft^3	W_V	0.0293
Vapor space expansion factor, per day	K_E	0.0924
Vented vapor saturation factor, dimensionless	K_S	0.3387

Vapor Space Volume

Vapor space volume, ft^3	V_V	2,091.5234
Tank diameter, ft	D	15.5000
Vapor space outage, ft	H_{VO}	11.0843

Vapor Space Outage

Vapor space outage, ft	H_{VO}	11.0843
Tank shell height, ft	H_S	25.0000
Liquid height, ft	H_L	15.0000
Roof outage, ft	H_{RO}	1.0843

Roof Outage

Roof outage, ft	H_{RO}	1.0843
Tank roof height, ft	H_R	2.1161
Tank shell radius, ft	R_S	7.7500
Tank dome roof radius, ft	R_R	15.2500

Vapor Density

Vapor density, lb/ft^3	W_V	0.0293
Vapor molecular weight, lb/lb-mole	M_V	50.0000
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3230
Ideal gas constant, $psia \cdot ft^3/lb\text{-}mole \cdot °R$	R	10.7310
Average vapor temperature, °R	T_V	527.7213
Tank roof surface solar absorptance, dimensionless	α_R	0.1700
Tank shell surface solar absorptance, dimensionless	α_S	0.1700
Average daily total insolation factor, $Btu/ft^2 \cdot d$	I	1,424.0000

Vapor Space Expansion Factor

Vapor space expansion factor, per day	K_E	0.0924
Average daily vapor temperature range, °R	ΔT_V	20.7074
Average daily vapor pressure range, psi	ΔP_V	0.6573
Breather vent pressure setting range, psig	ΔP_B	0.0600
Atmospheric pressure, psi	P_A	14.5600
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3230

Average daily liquid surface temperature, °R	T_{LA}	527.0988
Vented Vapor Saturation Factor		
Vented vapor saturation factor, dimensionless	K_S	0.3387
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3230
Vapor space outage, ft	H_{VO}	11.0843
Working Losses		
Working losses, lb/yr	L_W	2,941.3004
Net working loss throughput, ft^3/yr	V_Q	133,666.6667
Turnover factor, dimensionless	K_N	1.0000
Working loss product factor for fixed roof tanks, dimensionless	K_P	0.7500
Vapor density, lb/ft^3	W_V	0.0293
Vent setting correction factor, dimensionless	K_B	1.0000

EMISSIONS SUMMARY

Total Losses		
Standing losses, lb/yr	L_S	701.3490
Working losses, lb/yr	L_W	2,941.3004
Total routine losses, lb/yr	L_T	3,642.6494

STATE EXHIBIT NO. 1
DOCKET NO. Env 2025-01
PAGE 337 OF 699 PAGES

Office of Conservation
SEP 20 2024
Environmental Division

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
AQD Storage Tank Calculation Tool (21294)
Calculation Report
Based on AP-42 (06/2020) Section 7.1: Organic Liquid Storage Tanks

Print this page

INPUT SUMMARY

Identification		
Tank type		Vertical Fixed Roof
Tank identifier		1,000 bbl Saltwater Tank
Meteorological Data:		
Nearest major city:		Shreveport, LA
Tank Contents:		
Data source		Calculator Database
Liquid category		Crude Oil
Liquid name		Midcontinent Crude Oil
Tank Dimensions:		
Tank shell height, ft	H_S	32.0000
Tank diameter, ft	D	15.2500
Maximum liquid height, ft	H_{LX}	30.0000
Minimum liquid height, ft	H_{LN}	2.0000
Liquid height, ft	H_L	25.0000
Number of turnovers per year, dimensionless	N	26.1358
Annual net throughput, gal/yr		1,000,000.0000
Annual net throughput, bbl/yr	Q	23,809.5238
Flashing/vapor balanced unloading?		Yes
Paint Characteristics:		
Shell color/shade		White
Shell condition		New
Roof color/shade		White
Roof condition		New
Roof Characteristics:		
Roof type		Dome Roof
Tank roof height, ft	H_R	0.0000
Tank dome roof radius, ft	R_R	15.25
Breather Vent Settings:		

Breather vent vacuum setting, psig	P_{BV}	-0.0300
Breather vent pressure setting, psig	P_{BP}	0.0300

Insulation Characteristics:

Tank insulation	None
Tank heating	No

METEOROLOGICAL DATA

Nearest major city:		Shreveport, LA
Average daily ambient temperature, °R	T_{AA}	525.7500
Average daily minimum ambient temperature, °R	T_{AN}	515.8000
Average daily maximum ambient temperature, °R	T_{AX}	535.7000
Average daily ambient temperature range, °R	ΔT_A	19.9000
Average wind speed, mph	v	7.2000
Average daily total insolation factor, Btu/ft^2•d	I	1,424.0000
Atmospheric pressure, psi	P_A	14.5600

LIQUID DATA

Liquid category		Crude Oil
Liquid name		Midcontinent Crude Oil
Liquid bulk temperature, °R	T_B	526.4762
Average daily liquid surface temperature, °R	T_{LA}	527.0545
Average daily minimum liquid surface temperature, °R	T_{LN}	521.7935
Average daily maximum liquid surface temperature, °R	T_{LX}	532.3155
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3202
Vapor pressure at the average daily minimum liquid surface temperature, psia	P_{VN}	2.9998
Vapor pressure at the average daily maximum liquid surface temperature, psia	P_{VX}	3.6674
Vapor molecular weight, lb/lb-mole	M_V	50.0000
Reid vapor pressure, psia	RVP	5.0000
Constant in vapor pressure equation, dimensionless	A	11.2634
Constant in vapor pressure equation, °R	B	5,303.9235

CALCULATION DETAILS

Standing Losses

Standing losses, lb/yr	L_S	611.7891
Vapor space volume, ft^3	V_V	1,469.3842
Vapor density, lb/ft^3	W_V	0.0293
Vapor space expansion factor, per day	K_E	0.0940
Vented vapor saturation factor, dimensionless	K_S	0.4140

Vapor Space Volume

Vapor space volume, ft^3	V_V	1,469.3842
Tank diameter, ft	D	15.2500
Vapor space outage, ft	H_{VO}	8.0446

Vapor Space Outage

Vapor space outage, ft	H_{VO}	8.0446
Tank shell height, ft	H_S	32.0000
Liquid height, ft	H_L	25.0000
Roof outage, ft	H_{RO}	1.0446

Roof Outage

Roof outage, ft	H_{RO}	1.0446
Tank roof height, ft	H_R	2.0435
Tank shell radius, ft	R_S	7.6250
Tank dome roof radius, ft	R_R	15.2500

Vapor Density

Vapor density, lb/ft^3	W_V	0.0293
Vapor molecular weight, lb/lb-mole	M_V	50.0000
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3202
Ideal gas constant, $psia \cdot ft^3/lb\text{-}mole \cdot °R$	R	10.7310
Average vapor temperature, °R	T_V	527.6327
Tank roof surface solar absorptance, dimensionless	α_R	0.1700
Tank shell surface solar absorptance, dimensionless	α_S	0.1700
Average daily total insolation factor, $Btu/ft^2 \cdot d$	I	1,424.0000

Vapor Space Expansion Factor

Vapor space expansion factor, per day	K_E	0.0940
Average daily vapor temperature range, °R	ΔT_V	21.0440
Average daily vapor pressure range, psi	ΔP_V	0.6676
Breather vent pressure setting range, psig	ΔP_B	0.0600
Atmospheric pressure, psi	P_A	14.5600
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3202

Average daily liquid surface temperature, °R	T_{LA}	527.0545

Vented Vapor Saturation Factor

Vented vapor saturation factor, dimensionless	K_S	0.4140
Vapor pressure at average daily liquid surface temperature, psia	P_{VA}	3.3202
Vapor space outage, ft	H_{VO}	8.0446

Working Losses

Working losses, lb/yr	L_W	2,939.3063
Net working loss throughput, ft^3/yr	V_Q	133,666.6667
Turnover factor, dimensionless	K_N	1.0000
Working loss product factor for fixed roof tanks, dimensionless	K_P	0.7500
Vapor density, lb/ft^3	W_V	0.0293
Vent setting correction factor, dimensionless	K_B	1.0000

EMISSIONS SUMMARY

Total Losses

Standing losses, lb/yr	L_S	611.7891
Working losses, lb/yr	L_W	2,939.3063
Total routine losses, lb/yr	L_T	3,551.0954

APPENDIX D

MINIMUM EMISSION RATES TABLE

c. calculations of estimates of emissions before and after the changes are completed, in sufficient detail to allow assessment of the validity of the calculations;

d. for sources that have been operating in Louisiana for a period of at least five years, a listing of all violations of Louisiana air quality laws or regulations for which the owner or operator is responsible, including all violations for which a compliance schedule has been established and which have been cited in administrative enforcement actions by the department, and for which all rights of review and appeal have been exhausted. Applicants under a compliance schedule shall also demonstrate that they have made satisfactory progress in meeting the conditions of the compliance schedule. Applicants shall also provide a listing of all administrative or judicial actions taken against the owner or operator within the last five years under Louisiana environmental laws or regulations, including emergency cease and desist orders, notices of violation, compliance orders, penalty notices, or other administrative orders and any administrative or judicial proceedings that could result in such actions, and any other compliance history information requested by the administrative authority;

e. for sources that have not been operating in Louisiana for at least five years, a listing of all enforcement actions taken against the owner or operator for violations of United States federal or state environmental laws or regulations, and any other compliance history information requested by the administrative authority.

4. Any application corresponding to a major source that emits or is permitted to emit any Class I or Class II toxic air pollutant shall include a description of all federal standards (i.e., any standards promulgated by the US EPA in 40 CFR Part 63) and compliance methods applicable to units being permitted.

5. The department may request a dispersion modeling report demonstrating compliance with the ambient air standard developed by the owner or operator in accordance with the department's air toxics modeling procedures.

6. The owner or operator shall provide such other pertinent information as may be necessary for a complete understanding of the application that is being reviewed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 and 2060 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Air Quality Division, LR 17:1204 (December 1991), amended LR 18:1363 (December 1992), LR 19:891 (July 1993), repromulgated LR 19:1314 (October 1993), amended LR 23:59 (January 1997), amended by the Office of the Secretary, LR 25:661 (April 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2461 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2447 (October 2005), LR 33:2093 (October 2007), LR 33:2623 (December 2007).

§5112. Tables—51.1, 51.2, and 51.3

Table 51.1
Minimum Emission Rates Toxic Air Pollutants
Class I. Known and Probable Human Carcinogens

Compounds	CAS Number	Synonyms	Minimum Emission Rate (Pounds/year)
Acrylonitrile	107-13-1		35.0
Arsenic (and compounds) [1] [12]	7440-38-2		25.0
Asbestos (friable)	1332-21-4		25.0
Benzene	71-43-2	Benzol, Coal naphtha	260.0
Beryllium (and compounds) [1]	7440-41-7	Glucinum	25.0
Bis (2-chloroethyl) ether	111-44-4	Dichloroethyl ether	2,180.0
Cadmium (and compounds) [1]	7440-43-9		25.0
Chromium VI (and compounds) [1] [12]	7440-47-3		25.0
1,2-Dibromoethane	106-93-4	Ethylene bromide, Ethylene dibromide	25.0
Epichlorohydrin	106-89-8	2-Chloropropylene oxide	3,400.0
Ethylene oxide	75-21-8		35.0
Formaldehyde	50-00-0	Methylene oxide	260.0
Nickel (and compounds) [1]	7440-02-0		25.0
Nickel (refinery dust) [1]	7440-02-0		25.0
Propylene oxide	75-56-9	Methyl ethylene oxide	700.0
Vinyl chloride	75-01-4	Chloroethene, Monochloride ethylene	240.0

Table 51.1
Minimum Emission Rates Toxic Air Pollutants
Class II. Suspected Human Carcinogens and Known or Suspected Human Reproductive Toxins

Compounds	CAS Number	Synonyms	Minimum Emission Rate (Pounds/year)
Acetaldehyde	75-07-0	Acetic aldehyde	700.0
Acetonitrile	75-05-8	Cyanomethane, Methyl cyanide	5,000.0
Acrolein	107-02-8	Acrylic aldehyde	25.0
Acrylamide	79-06-1	Acrylic amide	25.0

Table 51.1 Minimum Emission Rates Toxic Air Pollutants Class II. Suspected Human Carcinogens and Known or Suspected Human Reproductive Toxins			
Compounds	**CAS Number**	**Synonyms**	**Minimum Emission Rate (Pounds/year)**
Allyl chloride	107-05-1	3-chloropropene	25.0
Aniline	62-53-3	Aminobenzene, Phenylamine	600.0
Antimony (and compounds) [1]	7440-36-0		37.5
Barium (and compounds) [1]	7440-39-3		37.5
Biphenyl	92-52-4	1,1-biphenyl, Xenene	97.5
1,3-Butadiene	106-99-0	Biethylene	25.0
Carbon disulfide	75-15-0	Carbon bisulfide	2,400.0
Carbon tetrachloride	56-23-5	Tetrachloromethane	83.5
Chlorinated dibenzo-p-dioxins [2]	3268-87-9		0.0001
Chlorinated dibenzo furans [3]	51207-31-9		0.0001
Chlorine dioxide	10049-04-4	Chlorine peroxide	25.0
Chlorobenzene	108-90-7	Benzene chloride	25.0
Chloroethane	75-00-3	Ethyl chloride	20,000.0
Chloroform	67-66-3	Trichloromethane	69.5
Chloromethane	74-87-3	Methyl chloride	7,750.0
Chloroprene	126-99-8		2,700.0
Copper (and compounds)[1]	7440-50-8		25.0
Diaminotoluene	25376-45-8		250.0
Dibutyl phthalate	84-74-2	DBP	380.0
1,4-Dichlorobenzene	106-46-7	p-Dichlorobenzene	20,000.0
1,2-Dichloroethane	107-06-2	Ethylene dichloride, EDC	48.5
Dichloromethane	75-09-2	Methylene chloride, DCM	540.0
1,2-Dicloropropane	78-87-5	Propylene dichloride	20,000.0
1,3-Dichloropropylene	542-75-6	1,3-dichloropropene, DCP	340.0
2,4-Dinitrotoluene [5]	121-14-2	2,4-DNT	100.0
2,6-Dinitrotoluene [5]	606-20-2		100.0
1,4-Dioxane	123-91-1	Diethylene dioxide, p-dioxane	1,040.0
Ethyl acrylate	140-88-5	Ethyl propenoate	1,500.0
Ethyl benzene	100-41-4	Phenylethane	20,000.0
Glycol ethers [6]	109-86-4		1,200.0
Hexachloro-1,3-butadiene	87-68-3	Hexachlorobutadiene	25.0
Hexachlorobenzene	118-74-1	Perchlorobenzene	870.0
Hexachloroethane	67-72-1	Perchloroethane	700.0
Hydrazine	302-01-2		25.0
Manganese (and compounds) [1]	7439-96-5		75.0
Mercury (and compounds) [1]	7439-97-6		25.0
Naphthalene (and Methylnaphthalenes) [11]	91-20-3	Camphor tar	1,990.0
Nitrobenzene	98-95-3	Nitrobenzol	400.0
2-Nitropropane	79-46-9	Dimethylnitromethane	2,700.0
Phenol	108-95-2	Benzenol, Carbolic acid	1,400.0
Polynuclear aromatic hydrocarbons [7]	206-44-0	PAHs	25.0
Selenium (and compounds) [1]	7782-49-2		25.0
Styrene	100-42-5	Vinylbenzene	2,000.0
1,1,2,2-Tetrachloroethane	79-34-5	Acetylene Tetrachloride	300.0
Tetrachloroethylene	127-18-4	Antisol 1, Carbon dichloride, Perchloroethylene	2,800.0
Toluene-2, 4-diisocyanate [8]	584-84-9		25.0
Toluene-2, 6-diisocyanate [8]	91-08-7		25.0
1,1,2-Trichloroethane	79-00-5	Vinyl trichloride	4,000.0
Trichloroethylene	79-01-6	Acetylene trichloride	900.0
Vinylidene chloride	75-35-4	1, 1-dichloroethylene	1,500.0
Xylene (mixed isomers) [9]	1330-20-7	ortho-xylene, meta-xylene, para-xylene	20,000.0

Table 51.1 Minimum Emission Rates Toxic Air Pollutants Class III. Acute and Chronic (Non-Carcinogenic) Toxins			
Compounds	**CAS Number**	**Synonyms**	**Minimum Emission Rate (Pounds/year)**
Acrylic acid	79-10-7	Acroleic acid, Propene acid	400.0
Ammonia [10]	7664-41-7		1,200.0
n-Butyl alcohol	71-36-3	n-butanol	11,000.0
Carbonyl sulfide	463-58-1	Carbon oxysulfide	1,000.0
Chlorine	7782-50-5		100.0
Cresol [4]	1319-77-3		1,600.0

Table 51.1
Minimum Emission Rates Toxic Air Pollutants
Class III. Acute and Chronic (Non-Carcinogenic) Toxins

Compounds	CAS Number	Synonyms	Minimum Emission Rate (Pounds/year)
Cumene	98-82-8	Isopropyl benzene	18,000.0
Ethylene glycol	107-21-1		9,000.0
n-Hexane	110-54-3		13,000.0
Hydrochloric acid	7647-01-0	Hydrogen chloride	500.0
Hydrofluoric acid	7664-39-3	Fluoric acid, Hydrogen fluoride	63.0
Hydrogen cyanide	74-90-8	Cyclon	800.0
Hydrogen sulfide	7783-06-4		1,000.0
Maleic anhydride	108-31-6	cis-Butenedioic anhydride	70.0
Methanol	67-56-1	Methyl alcohol	20,000.0
Methyl ethyl ketone	78-93-3	MEK	20,000.0
Methyl isobutyl ketone	108-10-1	MIBK	15,000.0
Methyl methacrylate	80-62-6		20,000.0
Nitric acid	7697-37-2		300.0
Phosgene	75-44-5	Carbonyl chloride	30.0
Phthalic anhydride	85-44-9		400.0
Propionaldehyde	123-38-6		700.0
Pyridine	110-86-1	Azine	1,200.0
Sulfuric acid	7664-93-9		75.0
Toluene	108-88-3	Methylbenzene	20,000.0
1,1,1-Trichloroethane	71-55-6	Chloroethene	20,000.0
Vinyl acetate	108-05-4		2,600.0
Zinc (and compounds) [1][12]	7440-66-6		200.0

Explanatory Notes:

[1] Includes any unique chemical substance that contains the listed metal as part of that chemical's infrastructure, excluding barium sulfate. Barium sulfate has been delisted as a toxic air pollutant and should not be included as part of the metals and compounds emissions. Concentrations are based on µg (×)/m^3, where × is the elemental form of the metal.

[2] Includes only 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), and octachlorodibenzo-p-dioxin (OCDD).

[3] Includes all isomers of chlorinated dibenzo-furans.

[4] Includes o-, m-, and p-cresol, and mixed isomers.

[5] Includes 2,4- and 2,6-dinitrotoluene and mixed isomers.

[6] Glycol ethers refers to the following compounds:

Ethylene glycol monomethyl ether (CAS Number 109864)

Ethylene glycol monomethyl ether acetate (CAS Number 110496)

Ethylene glycol monoethyl ether (CAS Number 110805)

Ethylene glycol monoethyl ether acetate (CAS Number 111159)

Diethylene glycol dimethyl ether (CAS Number 111966)

Ethylene glycol dimethyl ether (CAS Number 110714)

[7] Includes organic compounds with more than one fused benzene ring and which have a boiling point greater than or equal to 100°C. Those compounds listed as Naphthalene and Methylnaphthalene are not to be included as PAHs for the purposes of this regulation.

[8] Includes toluene-2,4- and 2,6-diisocyanate and mixed isomers.

[9] Includes o-, m-, and p-xylene, and mixed isomers.

[10] Excludes soil or foliar application of ammonia in agricultural practices.

[11] Includes the following compounds: Naphthalene (CAS Number 91-20-3), Methylnaphthalene (CAS Number 1321-94-4), 1-Methylnaphthalene (CAS Number 90-12-0), 2-Methylnaphthalene (CAS Number 91-57-6).

[12] Zinc chromates and zinc arsenates are Class I TAPs regulated as carcinogens under Chromium VI (and compounds) and arsenic (and compounds) TAP categories.

Table 51.2
Louisiana Toxic Air Pollutant Ambient Air Standards

Compounds	CAS Number	Class	Ambient Air Standard [14]	
			(µg/m^3*) (8 Hour Avg.)	(µg/m^3**) (Annual Avg.)
Acetaldehyde	75-07-0	II		45.50
Acetonitrile	75-05-8	II	810.00	
Acrolein	107-02-8	II	5.40	
Acrylamide	79-06-1	II		0.08
Acrylic acid	79-10-7	III	140.00	
Acrylonitrile	107-13-1	I		1.47
Allyl chloride	107-05-1	II	71.40	
Ammonia [11]	7664-41-7	III	640.00	
Aniline	62-53-3	II	181.00	
Antimony (and compounds) [1]	7440-36-0	II	11.90	
Arsenic (and compounds) [1] [13]	7440-38-2	I		0.02

APPENDIX E

VOC PROFILE SPECIATION REPORT FROM AIR EMISSIONS SPECIES MANUAL

United States
Environmental Protection
Agency

Office of Air Quality
Planning And Standards
Research Triangle Park, NC 27711

EPA-450/2-90-001a
January 1990

AIR

EPA

Air Emissions Species Manual

Volume I
Volatile Organic Compound Species Profiles

Second Edition

[redacted]

VOC Profile Speciation Report

Profile Name : Fixed Roof Tank - Crude Oil Production
Profile Number : 0296
Data Quality : C

Control Device : Uncontrolled
Reference(s) : 59, 72
Data Source : Engineering evaluation of test data and literature data

SCC Assignments: 40301010, 40301011, 40301012, 40301109

Saroad	CAS Number	Name	Spec_MW	Spec_WT	Peak
43115		C-7 CYCLOPARAFFINS	98.19	1.30	
43116		C-8 CYCLOPARAFFINS	112.23	0.50	
43122		ISOMERS OF PENTANE	72.15	1.50	
43201	74-82-8	METHANE	16.04	6.20	
43202	74-84-0	ETHANE	30.07	5.60	
43204	74-98-6	PROPANE	44.09	17.60	
43212	106-97-8	N-BUTANE	58.12	27.10	
43214	75-28-5	ISO-BUTANE	58.12	1.50	
43220	109-66-0	N-PENTANE	72.15	14.60	
43231	110-54-3	HEXANE	86.17	7.90	
43232	142-82-5	HEPTANE	100.20	9.20	
43233	111-65-9	OCTANE	114.23	6.90	
45201	71-43-2	BENZENE	78.11	0.10	
TOTAL				100.00	

STATE EXHIBIT NO. 1
DOCKET NO. Env2025-01
PAGE 348 OF 699 PAGES

Office of Conservation
SEP 20 2024
Environmental Division