CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE

August 20, 2025

ADDENDUM NO. 1

TO: **ALL BIDDERS**

SUBJECT: **PERKINS ROAD**
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)

CITY-PARISH PROJECT No. 12-CS-HC-0015

BID DATE: TUESDAY, AUGUST 26, 2025

The following revisions shall be incorporated in and take precedence over any conflicting part of the original contract documents.

PART 1, UNIFORM CONSTRUCTION BID FORMS

PART 1

Replace Part 1 pages 1 of 9 thru 9 of 9 with the attached Part 1 pages 1 of 7 thru 7 of 7 Revised 8/19/2025. (Attached)

PART 1A, BID FORMS REQUIRED BY STATUE OR BY LOUISIANA ADMINISTRATIVE CODE

PART 1A

Replace Part 1A pages 1 of 6 thru 6 of 6 with the attached Part 1A pages 1 of 4 thru 4 of 4 Revised 8/19/2025. (Attached)

PART 2, SPECIAL PROVISIONS AND CONTRACT DOCUMENTS

PART 2

Replace Part 2 pages 1 of 267 thru 267 of 267 with the attached Part 2 pages 1 of 266 thru 266 of 266 Revised 8/19/2025. (Attached)

RESPONSES TO BIDDER QUESTIONS

QUESTION 1:
Section 4 of ACT 384/HB578 has been amended and reenacted La. R.S. 47:305.7 to read that public projects shall be exempt from sales and use taxes imposed by any taxing authority, and the exemption extends to purchases made by general contractor's or their subcontractors. Will a tax-exempt certificate be issued for this project?
RESPONSE:
The City-Parish will not issue a tax-exempt certificate. Direction regarding exemption should be obtained through the Louisiana Department of Revenue.

QUESTION 2:
Is this project Federally Funded?
RESPONSE:
No.

QUESTION 3:
Are Prevailing Wages required on this project? If so, please provide the applicable wage rates.
RESPONSE:
No.

QUESTION 4:
What is the engineer's estimate/budget on this project?
RESPONSE:
The estimate will be disclosed at time of bid opening.

QUESTION 5:
I do not see a "fence system" detail on the Perkins Road job. Can you please give me some feedback on this?
RESPONSE:
Please refer to the specifications on design and construction requirements.

QUESTION 6:
I noticed in several instances of the "sign to be removed" that it appears to be a mailbox? Is this correct?
RESPONSE:
Mailboxes shall not be removed.

QUESTION 7:
Also, are we to dispose of all signs that we remove, electric and non electric? Do we disposed of the charging station? Will the light fixtures/poles need to be disposed of by contractor?
RESPONSE:
Contractor required to dispose of sign, materials, and electrical components. Signs are not being salvaged by the City-Parish.

QUESTION 8:
There are some bollards to be removed as well. There's a back flow preventer right behind it. Do we do anything with that?
RESPONSE:
Utilities will be relocated by the utility provider.

QUESTION 9:
Is there a decorative stamp or specific color required for the fence?
RESPONSE:
The City-Parish will review and approve the fence design and color prior to construction.

QUESTION 10:
These people want us to remove the pool in their backyard on sheet 38?
RESPONSE:
Yes, contractor required to demolish existing pool and backfill.

QUESTION 11:
Is the bid form missing bid items? How is the contractor to be paid for the sidewalk, driveways, adjustments, Handicap ramps, etc.
RESPONSE:
This is a demo, clearing and grubbing job. There is no hardscape scope. The background is for informational purposes only on sheets 24 - 44. Please reference the legend, symbols and hatching for the demo, clearing and grubbing scope.

QUESTION 12:
These business signs that are to be removed, is the owner salvaging them? For example sheet 26 the big Exxon sign – what is contractor to do with it??
RESPONSE:
The Exxon sign shall be removed. Contractor required to dispose of sign. Signs are not being salvaged by the owner.

QUESTION 13:
Is the contractor required to put silt fene around all these locations where we are removing trees?
Response:
Silt Fencing should be placed in grubbed areas detailed in plans.

QUESTION 14:
Please confirm the two houses are to be completely demolished 13258 and 13266 Perkisn.
RESPONSE:
Yes, homes to be demolished.

QUESTION 15:
Please advise what is required for the sign removal. I am assuming some of these larger signs have piling/foundations that are not exposed. Are we do remove entire thing or cut off at existing ground elevation? Please advise. These business signs that are to be removed, is the owner salvaging them? For example sheet 26 the big Exxon sign – what is contractor to do with it??
RESPONSE:
Signs including foundations are to be completely removed. Contractor required to dispose of sign. Signs are not being salvaged by the owner.

QUESTION 16:
The note says contractor to coordinate with owner for disconnection and removal of sign. Who is responsible for the cost as there is no pay item for removal of signs.
RESPONSE:
Removal of signs is paid for as structures and obstructions. The contractor has to let the property owner know ahead of time so that they can disconnect power.

QUESTION 17:
For the existing fence to be removed where the new decorative fence is going, what is the existing foundation? Are there piles in the ground for columns? How deep?
RESPONSE:
No construction drawings were provided for the existing wall and the foundation is unknown.

QUESTIONS 18:
Is there a decorative stamp or specific color required for the fence?
RESPONSE:
The City-Parish will review and approve the fence design and color prior to construction of the wall.

QUESTION 19:
Are the residents aware that their pool is being removed as per sheet 38?
RESPONSE:
Yes.

QUESTION 20:
on the Kensington Estates Wall Term Sheet page 2 of 5 item 5. Landscaping à it says we are to make efforts to protect the existing landscaping but the plans call for all of that to be cleared and grubbed. Please advise.
RESPONSE:
Landscaping outside the limits the clearing and grubbing area identified on the plans should be protected.

UNIFORM CONSTRUCTION BID FORMS

With reference to Page UCBF 1 of 2, the Bidder shall indicate receipt of this Addendum in the space provided. Failure to indicate receipt of this Addendum may be cause for the bid to be rejected.

For online www.centralbidding.com bidders: An acknowledgment of this addendum will be prompted by the Expedite bidding program prior to formally submitting the bid. Technical addendums may have been created on the Central Bidding website for any changes made due to errors of input of schedule of bid items. The technical addendums might not be numbered the same as paper copy addendums that DPW issues to contractors who have picked up plans directly from them. Contractor should be aware that the technical addendums must be acknowledged when submitting the bid.

APPROVED:

Daniel Rosenquist, P.E.
Chief Design & Construction Engineer

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

PART 1

UNIFORM CONSTRUCTION BID FORMS

FOR

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)

CITY-PARISH PROJECT No. 12-CS-HC-0015

BID DATE: TUESDAY, AUGUST 26, 2025

BID TIME: 2:00 P.M., LOCAL TIME

BID OF:

_____

(CONTRACTOR'S NAME)

INSTRUCTIONS FOR SUBMITTING BID

1. Submit "PART 1A, BID FORMS REQUIRED BY STATUE OR BY THE LOUISIANA ADMINISTRATIVE CODE" prior to the opening of bids.

2. Submit "PART 1, BID FORMS" only as your bid.

3. Retain "PART 2, SPECIAL PROVISIONS AND CONTRACT DOCUMENTS" for your records.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: City of Baton Rouge
Parish Of East Baton Rouge
Purchasing Division Room 826
222 Saint Louis St. City Hall
Baton Rouge, LA, 70802
(Owner to provide name and address of owner)

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)
C.P. Project No. 12-CS-HC-0015
(*Owner to provide name of project and other identifying information)*

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: The MOVEBR Program Management Team and the Department of Transportation and Drainage Engineering Division and dated: August 19, 2025 .

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

No._____ Dated: _____ No._____ Dated: _____ No._____ Dated: _____ No._____ Dated: _____

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($ _____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** **A CORPORATE RESOLUTION OR WRITTER EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made part of this bid.

BID BOND
(Required for Bids Over $25,000)

That we, the undersigned, _____, as Principal (Bidder), and_____as Surety, are hereby held and firmly bound unto the City of Baton Rouge and Parish of East Baton Rouge as Owner, in the penal sum of five percent (5%) of the amount bid for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain Bid, attached hereto and hereby made a part hereof to enter into an Agreement in writing, for:

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE

CITY-PARISH PROJECT NO. 12-CS-HC-0015

NOW THEREFORE,

(a) If said Bid shall be rejected, or in the alternative,

(b) If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish bonds for his faithful performance of said Contract and for furnishing materials in connection therewith and shall in all other respects perfect the Agreement created by the acceptance of said Bid,

then this obligation shall be void; otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any extension.

IN WITNESS WHEREOF, Said Principal and Surety have hereunto set their hands and seals, this _____ day of _____ , 20___.

PRINCIPAL (BIDDER)	**SURETY**
_____	_____
_____	_____
_____	_____
(Address)	(Address)
By:_____	By:_____
_____	_____
(Typed Name and Title)	(Typed Name and Title)

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

Description: **Clearing and Grubbing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010100	1	LUMP	$ _____ . _____	$ _____ . _____

Description: **Removal of Trees (13" to 24")**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010301	280	EACH	$ _____ . _____	$ _____ . _____

Description: **Removal of Trees (Over 36")**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010303	18	EACH	$ _____ . _____	$ _____ . _____

Description: **Removal of Structures and Obstructions**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020100	1	LUMP	$ _____ . _____	$ _____ . _____

Description: **Removal of Structures and Foundation (Station 107+50 and 108+50)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020101	2	EACH	$ _____ . _____	$ _____ . _____

Description: **Removal of Decorative Wall**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020102	2054	LF	$ _____ . _____	$ _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

Description: **Removal of Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020300	**1981**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Saw Cutting Concrete or Asphalt**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020900	**2211**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Embankment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2031400	**1103**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **8" Thermoplastic Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010908	**1026**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Yard Drain Inlet (702-21)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020602	**24**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Hay Bales**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030200	**6**	**EACH**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

Description: **Temporary Silt Fencing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030500	**17034**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Seed**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030800	**394**	**LB**	**$** _____ . _____	**$** _____ . _____

Description: **Fertilizer**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030900	**3000**	**LB**	**$** _____ . _____	**$** _____ . _____

Description: **Water**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031000	**219**	**MGAL**	**$** _____ . _____	**$** _____ . _____

Description: **Slab Sod**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031500	**225**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Storm Water Pollution Prevention Plan**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031600	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

Description: **Temporary Signs and Barricades**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9050100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Integral Concrete Curb (6" Barrier)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070106	**935**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Mobilization**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9090100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Pre-Construction Video**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9140100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Fence System**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900103	**2054**	**LF**	**$** _____ . _____	**$** _____ . _____

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF TRANSPORTATION AND DRAINAGE
ENGINEERING DIVISION

PART 1A

BID FORMS REQUIRED BY STATUE OR BY LOUISIANA ADMINISTRATIVE CODE

FOR

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)

CITY-PARISH PROJECT No. 12-CS-HC-0015

BID DATE: TUESDAY, AUGUST 26, 2025

BID TIME: 2:00 P.M., LOCAL TIME

BID OF:

_____

(CONTRACTOR'S NAME)

INSTRUCTIONS FOR SUBMITTING BID

1. Submit " PART 1A, BID FORMS REQUIRED BY STATUE OR BY THE LOUISIANA ADMINISTRATIVE CODE" prior to the opening of bids.

2. Submit " PART 1, BID FORMS" only as your bid.

3. Retain "PART 2, SPECIAL PROVISIONS AND CONTRACT DOCUMENTS" for your records.

_____

_____

NAME OF PROJECT

_____ _____

PROJECT NUMBER **DATE OF BID**

ATTESTATION CLAUSE REQUIRED BY LA. R.S. 38:2227 (PAST CRIMINAL CONVICTIONS OF BIDDERS)

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:23)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

(a) Theft (R.S. 14:67)
(b) Identity Theft (R.S. 14:67.16)
(c) Theft of a business record (R.S.14:67.20)
(d) False accounting (R.S. 14:70)
(e) Issuing worthless checks (R.S. 14:71)
(f) Bank fraud (R.S. 14:71.1)
(g) Forgery (R.S. 14:72)
(h) Contractors; misapplication of payments (R.S. 14:202)
(i) Malfeasance in office (R.S. 14:134)

_____ _____

NAME OF BIDDER **NAME OF AUTHORIZED SIGNATORY OF BIDDER**

_____ _____

DATE **TITLE OF AUTHORIZED SIGNATORY OF BIDDER**

_____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

La. R.S. 38:2212.10 AFFIDAVIT

I,_____ , as the authorized representative of the Bidder in accordance with La. R.S. 38:2212.10 hereby certify signing below and by bidding on a contract with the City of Baton Rouge, Parish of East Baton Rouge the following:

(1) The Bidder is registered and participates in a status verification system to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens.

(2) The Bidder shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

(3) The Bidder shall require all subcontractors to submit to the employer a sworn affidavit verifying compliance with Paragraphs (1) and (2) above.

_____
Signature of Affiant

_____
Printed Name of Affiant

_____
Title of Affiant

SWORN TO AND SUBSCRIBED BEFORE ME this _____ day of _____, 2025.

_____
Notary Public

Printed Name of Notary:_____

Bar Roll No./Notary No._____

My Commission Expires: _____

AFFIDAVIT

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared

_____

who, being duly sworn did depose and say: That he is a duly authorized representative of _____

_____

receiving value for services rendered in connection with:

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)

CITY-PARISH PROJECT No. 12-CS-HC-0015

a public project of the City of Baton Rouge, Parish of East Baton Rouge, Louisiana: that he has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by him whose services in connection with the construction, alteration, or demolition of the public building or project or in securing the public contract were in the regular course of their duties for him; and that no part of the contract price received by him was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by him whose services in connection with the construction of the public building or project were in the regular course of their duties for him.

This affidavit is executed in compliance with the provisions of LA R.S. 38:2224.

_____
Affiant's Signature

SWORN TO AND SUBSCRIBED before me, on this_____ day of _____ 2025.
Baton Rouge, Louisiana.

_____
NOTARY PUBLIC

PART 2

SPECIAL PROVISIONS

AND

CONTRACT DOCUMENTS

FOR

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)

CITY-PARISH PROJECT No. 12-CS-HC-0015

BID DATE: TUESDAY, AUGUST 26, 2025

BID TIME: 2:00 P.M., LOCAL TIME

PREPARED BY:

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

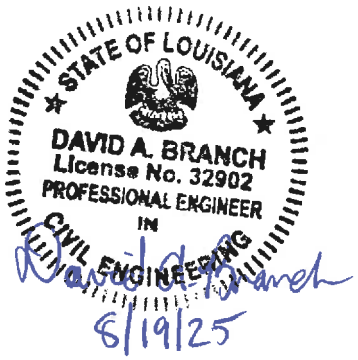


TABLE OF CONTENTS

SECTION

To be published three times
Legal- July 25, August 1, and 8, 2025

THE ADVOCATE
BATON ROUGE, LOUISIANA

NOTICE TO CONTRACTORS

The City of Baton Rouge and Parish of East Baton Rouge will receive electronic or paper bids for the construction of the following project:

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE)
CITY-PARISH PROJECT NO. 12-CS-HC-0015

PROJECT DESCRIPTION: Roadway / Side clearing and Grubbing, Tree Removal, Decorative Wall, Cocrete Removal, Drainage.

Electronic or sealed bids will be received until 2:00 p.m. Local Time, TUESDAY **AUGUST 26, 2025** by the Purchasing Division, Room 826, City Hall, 222 Saint Louis Street, Baton Rouge, Louisiana 70802. No bids will be received after 2:00 p.m. on the same day and date.

Bid Openings can be in person or via teleconference.

Teleconference Call-in Information

Join by phone
+1-408-418-9388 United States Toll
Access code: 263 373 080 (followed by the # button)

Alternate numbers to call if number above is not available, which may occur due to network traffic (use the same Access Code, followed by the # button):
United States Toll (Boston) +1-617-315-0704
United States Toll (Chicago) +1-312-535-8110
United States Toll (Dallas) +1-469-210-7159
United States Toll (Denver) +1-720-650-7664
United States Toll (Jacksonville) +1-904-900-2303
United States Toll (Los Angeles) +1-213-306-3065

Electronic bids and electronic bid bonds for the solicitation will be downloaded by the City of Baton Rouge and Parish of East Baton Rouge, Purchasing Division.

Beginning as soon as feasible after the bid closing time all electronic bids will be downloaded and publicly read aloud along with all paper bids received, if any, in 806 of City Hall immediately after the 2:00 p.m. bid closing.

Bids, amendments to bids, or request for withdrawal of quotations, received after time specified for bid opening shall not be considered for any cause whatsoever.

Bids shall be firm for a period of sixty (60) days from the date of the opening of bids and no bid shall be withdrawn for any reason during this period of time except as allowed per R.S. 38:2214.C.

Official Bid Documents are available at Central Bidding (www.centralbidding.com). Electronic Bids may be submitted at Central Bidding (www.centralbidding.com). For questions related to the electronic bidding

process, please call Central Bidding at 225-810-4814. **Paper copies** of the plans, specifications and contract documents are on file and may be obtained from the Public Works and Planning Center located at 1100 Laurel St., Engineering Division, Room 137 or Post Office Box 1471, Baton Rouge, Louisiana 70821, upon payment of Forty-Four Dollars ($44.00). (Make checks payable to the City of Baton Rouge and Parish of East Baton Rouge.) Fees for plans, specifications and contract documents are to cover the cost of reproduction and are non-refundable in accordance with Louisiana Revised Statutes.

A Certified Check or Cashier's Check, payable to the Parish of East Baton Rouge or a satisfactory Bid Bond executed by the Bidder and an acceptable surety, in an amount equal to five percent (5%) of the total bid, shall be submitted with each bid.

Bids shall be received electronically via www.centralbidding.com or on solicitation bid forms furnished by the City of Baton Rouge and Parish East Baton Rouge, and only those bids shall be received by the City-Parish which is submitted by those Contractors in whose names the **solicitation bid** forms and/or specifications were issued. In no event shall **paper solicitation** forms be issued later than twenty-four (24) hours prior to the hour and date set for receiving proposals.

The City of Baton Rouge and Parish of East Baton Rouge has established a Socially and Economically Disadvantaged Business Enterprise (SEDBE) program in accordance with Revised Statute RS 33:2233.4. It is the policy of the Parish to ensure that Eligible Business Enterprises EBE's, certified in accordance with the Parish program, have an equal opportunity to receive and participate in parish contracts.

For this project the EBR Parish Purchasing office has directed a review of the scope of work and has established a minimum EBE goal of 10% of the contract amount. All Bidders shall achieve this goal or demonstrate good faith efforts to achieve the goal. Good faith efforts include meeting this EBE goal or providing documentation demonstrating that the Bidder made sufficient good faith efforts in attempting to meet this goal. Only EBE firms certified under the Parish SEDBE Certification Program at the time of submittal of the bid will count toward this EBE goal. To be considered responsive, the apparent low bidder must submit EBE Forms 1, 1A, and 2, and Letters of EBE Certification, as appropriate within 10 days after bid opening

All Contractors bidding on this work shall comply with all provisions of the State Licensing Law for Contractors, R.S. 37:2150-2163, as amended, for all public contracts. It shall also be the responsibility of the General Contractor to assure that all subcontractors comply with this law. If required for bidding, Contractors must hold an active license issued by the Louisiana State Licensing Board for Contractors in the classification of HIGHWAY, STREET AND BRIDGE CONSTRUCTION, and must show their license number on the face of the bid envelope and the Uniform Public Works Bid Form.

In accordance with La. R.S. 38:2214 (B) the City of Baton Rouge and Parish of East Baton Rouge reserves the right to reject any and all bids for just cause. In accordance with La. R.S. 38:2212 (A)(1)(b), the provisions and requirements of this Section, those stated in the advertisement for bids, and those required on the bid form, shall not be considered as informalities and shall not be waived by any public entity.

For additional information please contact Zach Schmidt P.E., Project Manager, at zach.schmidt@csrsinc.com.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: City of Baton Rouge
Parish Of East Baton Rouge
Purchasing Division Room 826
222 Saint Louis St. City Hall
Baton Rouge, LA, 70802
(Owner to provide name and address of owner)

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE,
AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)
C.P. Project No. 12-CS-HC-0015
(*Owner to provide name of project and other identifying information)*

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: The MOVEBR Program Management Team and the Department of Transportation & Drainage and dated: August 19, 2025.

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

No._____ Dated: _____ No._____ Dated: _____ No._____ Dated: _____

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($ _____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** **A CORPORATE RESOLUTION OR WRITTER EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made part of this bid.

BID BOND
(Required for Bids Over $25,000)

That we, the undersigned, _____, as Principal (Bidder), and_____
as Surety, are hereby held and firmly bound unto the City of Baton Rouge and Parish of East Baton Rouge as Owner, in the penal sum of five percent (5%) of the amount bid for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain Bid, attached hereto and hereby made a part hereof to enter into an Agreement in writing, for :

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)
CITY-PARISH PROJECT NO. 12-CS-HC-0015

NOW THEREFORE,

(a) If said Bid shall be rejected, or in the alternative,

(b) If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish bonds for his faithful performance of said Contract and for furnishing materials in connection therewith and shall in all other respects perfect the Agreement created by the acceptance of said Bid,

then this obligation shall be void; otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any extension.

IN WITNESS WHEREOF, Said Principal and Surety have hereunto set their hands and seals, this _____ day of _____ , 20___.

PRINCIPAL (BIDDER)	**SURETY**
_____	_____
_____	_____
_____	_____
(Address)	(Address)
By:_____	By:_____
_____	_____
(Typed Name and Title)	(Typed Name and Title)

THIS PAGE IS INTENTIONALLY BLANK

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

FOR INFORMATION ONLY

Description: **Clearing and Grubbing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Trees (13" to 24")**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010301	**280**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Trees (Over 36")**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010303	**18**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Structures and Obstructions**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Structures and Foundation (Station 107+50 and 108+50)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020101	**2**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Decorative Wall**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020102	**2054**	**LF**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

FOR INFORMATION ONLY

Description: **Removal of Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020300	**1981**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Saw Cutting Concrete or Asphalt**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020900	**2211**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Embankment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2031400	**1103**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **8" Thermoplastic Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010908	**1026**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Yard Drain Inlet (702-21)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020602	**24**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Hay Bales**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030200	**6**	**EACH**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

FOR INFORMATION ONLY

Description: **Temporary Silt Fencing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030500	17034	LF	$ _____ . _____	$ _____ . _____

Description: **Seed**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030800	394	LB	$ _____ . _____	$ _____ . _____

Description: **Fertilizer**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030900	3000	LB	$ _____ . _____	$ _____ . _____

Description: **Water**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031000	219	MGAL	$ _____ . _____	$ _____ . _____

Description: **Slab Sod**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031500	225	SY	$ _____ . _____	$ _____ . _____

Description: **Storm Water Pollution Prevention Plan**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031600	1	LUMP	$ _____ . _____	$ _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
SIEGEN LANE TO PECUE LANE
Project Number: 12-CS-HC-0015

Description: **Temporary Signs and Barricades**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9050100	1	LUMP	$ _____ . _____	$ _____ . _____

Description: **Integral Concrete Curb (6" Barrier)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070106	935	LF	$ _____ . _____	$ _____ . _____

Description: **Mobilization**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9090100	1	LUMP	$ _____ . _____	$ _____ . _____

Description: **Pre-Construction Video**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9140100	1	LUMP	$ _____ . _____	$ _____ . _____

Description: **Fence System**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900103	2054	LF	$ _____ . _____	$ _____ . _____

FOR INFORMATION ONLY

SPECIAL PROVISIONS

The Standard Specifications referred to herein are the 1997 City of Baton Rouge, Parish of East Baton Rouge Standard Specifications for Public Works Construction. The Standard Specifications are hereby amended to include the following Special Provisions and where applicable shall take precedence over the aforementioned Standard Specifications. When any part of the Standard Specifications is unaltered by the following Special Provisions, the unaltered provisions of the Standard Specifications shall remain in effect.

Copies of the Standard Specifications may be obtained from the Department of Public Works, Engineering Division, Engineering Division, Room 137, Public Works and Planning Center, 1100 Laurel Street or Post Office Box 1471, Baton Rouge, Louisiana 70821 (Telephone No. [225] 389-3186).

NOTICE TO BIDDERS

For Individual Bids (Quotations) exceeding $25,000, the following shall apply:

a). A Bid Bond, cashier's check or certified check is required to be submitted with the proposal.
b). A Performance and Payment Bond will be required for the contract.
c). The Contract shall be approved by the Metropolitan Council.
d). The Contract shall be recorded with the Recorder of Mortgages.
e). Retainage shall be withheld until receipt of a clear lien certificate following the 45-day lien period after the Metropolitan Council has approved final acceptance of the Contract.

The above requirements of this Notice to Bidders do not apply to individual quotations of $25,000.00 or less.

EXAMINATION OF PLANS, SPECIFICATION, SPECIAL PROVISIONS AND SITE OF WORK

Before preparing his bid, each bidder is expected to make a field examination of the proposed work and to fully acquaint himself with conditions relating to construction and labor so that he may fully understand the facilities, difficulties and restrictions attending the execution of the work under this contract. Bidders should thoroughly examine and be familiar with the Plans, Specifications and Contract Documents.

Submission of a bid shall be considered prima facie evidence that the bidder has made such an examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the plans, project specifications and documents.

PART I GENERAL PROVISIONS

SECTION 2 BIDDING REQUIREMENTS Section 2 of the Standard Specifications is amended to include the following**:**

Bidders are advised to familiarize themselves with Section 2 of the Standard Specifications, particularly the requirements of Subsections 2 - 2 and 2 - 4 that would render the bid irregular.

Indicated below is a sample copy of a Unit Price Bid Form showing how this form is to be properly filled out. For non-electronic submittals the form may be hand written (all written entries must be in ink) or typed; and it is necessary to **FILL IN ALL BLANK SPACES.** In the event of a conflict between the Unit Price Extension and the Unit Price, the unit price shall govern. **SPACES LEFT BLANK SHALL CAUSE THE PROPOSAL TO BE DECLARED IRREGULAR.**

Louisiana Uniform Public Work Bid Form
Unit Price Form

DESCRIPTION: *(Owner to provide)*		**Clearing and Grubbing**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010100	**1**	**LUMP**	**$ 56,000.00**	**$ 56,000.00**
DESCRIPTION: *(Owner to provide)*		**Removal of Concrete Pavement**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020300	**1,130**	**SY**	**$ 9.08**	**$ 10,260.40**
DESCRIPTION: *(Owner to provide)*		**Unrestrained Joint Ductile Iron Sewer Force Main (36")**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
804010Q	**1,546**	**LF**	**$ 342.64**	**$ 529,721.44**
DESCRIPTION: *(Owner to provide)*		**Fertilizer**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030900	**11,600**	**LB**	**$ 0.45**	**$ 5,220.00**

Total of the Unit Price extensions must be entered on the Louisiana Uniform Public Bid Form furnished herein.

2-2 PREPARATION OF PROPOSAL FORM: This sub-section of the Standard Specifications is deleted and replaced by the following:

Each bidder must submit his bid proposal on the form furnished herein. Altered or substitute forms will not be accepted. The term "altered" shall mean any change in an item, quantity, price or amount set forth in the unit price form, except where necessary to correct an obvious error in the printed form. The blank spaces in the unit price form provided for each reference item must be filled in according to the requirements of the bid proposal form. The bidder must state the price written in ink or typed, for which he proposes to do each reference item of the work contemplated, and the bidder shall make an extension of the total cost of the reference item which must be inserted at the place indicated in the bid proposal form. Where "no" dollars or "no" cents is part of the price bid, the numeral "0" shall be inserted in the appropriate spaces. Where a Contract item is to be paid by the Owner or others, a price for this purpose will be pre-inserted in the unit price form. In case of a conflict between the Unit Price Extension and the Unit Price, the Unit Price shall govern. Should the Unit Price Extension be illegible, the

Unit Price shall govern. Errors in unit price extensions will be corrected. The total bid amount will be the summation of the correct unit price extensions. Any revisions to bid prices shall be initialed by the bidder or the bidder's authorized representative before submitting bid to Owner. The bidder must acknowledge all issued addendums in the place provided in the Uniform Public Works Bid Form.

All bidders shall be duly registered with the Louisiana Secretary of State and authorized to do business in the State of Louisiana in order to qualify as a bidder. The authority of the signature of the person submitting the bid shall not be acceptable unless one of the following conditions are met:

A. The signature on the bid is that of any corporate officer listed on the most current annual report on file with the Secretary of State, or the signature on the bid is that of any member of a partnership listed in the most current partnership records on file with the secretary of state.

B. The signature on the bid is that of an authorized representative of the corporation, partnership, or other legal entity and the bid is accompanied by a corporate resolution, certification as to the corporate principal, or other documents indicating authority which are acceptable to the public entity.

C. The corporation, partnership, or other legal entity has filed in the appropriate records of the Secretary of State in which the public entity is located, an affidavit, resolution, or other acknowledged or authentic document indicating the names of all parties authorized to submit bids for public contracts. Such document on file with the secretary of state shall remain in effect and shall be binding upon the principal until specifically rescinded and canceled from the records of the office.

D. As required by La. R.S. 38:2212.

By signing the bid, the bidder certifies compliance with the above.

For projects requiring a licensed Contractor, the Louisiana State Contractor's License Number shall be entered on the bid envelope and the Uniform Public Works Bid Form. By entering such license number, the bidder certifies that the license number provided is recognized by the Louisiana State Licensing Board for Contractors for the work to be performed under this Project. All bids shall comply with Louisiana law including, but not limited to, La. R.S. 37:2163.

Excluded Parties List and UEI Verification: To be awarded a contract using federal funding, the bidder must be eligible to receive a contract as determined by the Federal Government's Excluded Parties List. Prior to contract award the successful bidder will be required to secure an Unique Entity ID (UEI) through www.sam.gov. Each bidder must have an active UEI prior to award of the contract.

2-3 PROPOSAL GUARANTY All reference to countersigning bonds shall be deleted.

2-7 PUBLIC OPENING OF PROPOSALS: Delete the last sentence of this section and replace with the following:

Upon opening all bids, bids will be checked for irregularities, then tabulated and forwarded to the department in charge of the work for review and recommendation. Tabulation of all bids received shall be available for public inspection and are posted for viewing on the following web page: http://city.brla.gov/dept/purchase/bidresults.asp. These bid tabulations are for informational purposes only and shall not be considered final until reviewed and approved by the Purchasing Director and department concerned.

2-8 QUALIFICATIONS OF BIDDERS: This subsection is amended to include the following:

2-8.1 OTHER DOCUMENTATION AND INFORMATION: In accordance with La. R.S. 38:2212 B.(3)(b)

prior to the opening of all bids all bidders shall fully execute and submit all bid forms, included herein as Part 1A "BID FORMS REQUIRED BY STATUE OR BY THE LOUISIANA ADMINISTRATIVE CODE**" shall be completed and submitted prior to the bid opening of all bids related to a contract for public works either enclosed in a separate envelope, included in their sealed bid envelope or uploaded electronically via the Central Bidding software**. Failure of the Bidder to fully execute and submit these forms prior to the date and time established for the receipt of bids shall result in the bid being declared "non-responsive". These documents that are to be submitted PRIOR TO BID OPENING include the following:

- **Past Criminal Convictions: (**Form AT-1: ATTESTATION CLAUSE**).** In accordance with LA RS 38:2227 a Bidder must attest to past criminal convictions
- **Verification of Employees:** (Form AF-1: Legal Citizen Affidavit). In accordance with LA RS 38:2212.10 a Bidder must be registered and participate in the "E-Verify" Program and conform to the statutory requirements of the law.
- **Public Contract Affidavit:** In accordance with LA RS 38:2224

2-8.2 DOCUMENTS TO BE SUBMITTED WITHIN 10 DAYS AFTER BID OPENING: After bids are submitted and opened **THE APPARENT LOW BIDDER** shall complete and submit the following documents:

- SEDBE Form 1: As noted on Section 3-10, Form 1 must be completed by the low bidder to accurately detail the work to be performed by the Low Bidder and by sub-consultants and all other entities participating in the project in order to assure compliance with the SEDBE Goal.

- SEDBE Form 1A: As noted in Section 3-10 must be completed by each sub-contractor completely and accurately to confirm their certification status and their proposed work.

- In the event that the low bidder cannot completely meet or exceed the advertised SEDBE goal, then the low bidder must complete and submit SEDBE Form 2 to document their best efforts made in their attempt to achieve that goal. All Forms, 1, 1A, 2, and attachments will be submitted to the City-Parish purchasing office for review to confirm compliance with SEDBE PROGRAM requirements.

- **Debarment and Suspension:** (Form DB: CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS). A contractor shall not be allowed to bid on any work if he is presently debarred, suspended, proposed for debarment, or voluntarily excluded from transactions by any Federal department or agency. Additional information is provided in the instructions that accompany the Form DB.

2-9 EXAMINATION OF PLANS, SPECIFICATIONS AND WORK SITE: This subsection is amended as noted to revise subsection 2-9.1 and replace as follows:

2-9.1 Interpretation of Documents: A prospective bidder in doubt as to the meaning of any part of the plans, specifications, or other proposed contract documents shall submit to the engineer a written request for an interpretation thereof at least 7 working days prior to the opening of bids. If during examination or review of the bid documents, project plans and specifications the bidder becomes aware of any error, omission, ambiguity or deficiency of any kind that may have a significant impact on the bid or the performance of the project the bidder shall provide written notice to the engineer within 24 hours prior to the bid. By submitting a bid, without noticing the engineer, the bidder warrants that they know of no such error, omission, or deficiency.

2-10 QUANTITIES AND UNIT PRICES

2-10.2 CHANGES IN ESTIMATED QUANTITIES: This subsection is amended as follows:

Scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as herein provided, without invalidating the prices bid except as follows:

When changes in the quantity of an item result in an increase of more than 25% of the original contract quantity, the City-Parish reserves the right to make payment for the additional quantity in excess of the 25% increase at a negotiated unit price or force account procedures in accordance with Subsection 10-4.

2-10.4 UNIT PRICES OR LUMP SUM PAY ITEMS: This sub-section of the Standard Specifications is deleted and replaced by the following:

Work and materials, equipment and equipment rental will be paid for in accordance with the unit prices or lump sum reference pay items in the Contract Documents. If no reference pay item is provided for an item of work, material or equipment required under the Contract Documents, it will be considered as having been included in the prices bid for the pay items in the Contract Documents. The Contractor shall perform all work required in the Contract Documents and accept payment pursuant to the Unit Price Bid Form as full and final compensation for all work performed under the contract including all incidental, overhead and subsidiary costs and work not measured for payment as described under the individual reference pay items listed in the Unit Price Bid Form.

The Contractor will be required to provide a breakdown of lump sum items after award of contract to be used for monthly payments purposes.

SECTION 3 CONTRACT AWARD AND EXECUTION OF CONTRACT

Subsection 3-7 of the Standard Specifications is amended as follows, and Subsection 3-10 is added.

3-7 PERFORMANCE AND PAYMENT BOND: All reference to countersigning bonds shall be deleted.

3-10 SOCIALLY AND ECONONOMICALLY DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENTS

The City of Baton Rouge and Parish of East Baton Rouge's Socially and Economically Disadvantaged Business Enterprise Program ("the Program") is made part of this contract and incorporated hereto as if copied in extensor. Bidders, Respondents, and Proposers must comply with the Program. Copies of these documents are available upon request from City of Baton Rouge and Parish of East Baton Rouge ("City-Parish") Purchasing Division, 222 St. Louis Street, 8th Floor, Room 826, Baton Rouge, LA 70802. For questions or clarification about the Program, please contact the SEDBE Liaison Officer at the Purchasing Division, at (225) 389-3259.

PART I – POLICY/ COMPLIANCE

(A) The City-Parish strongly encourages the acquisition of goods and services from and direct participation of Eligible Business Enterprise ("EBEs"). The term EBE shall have the meaning set forth in the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program.

The Program is a race- and gender-neutral program intended to provide additional contracting and procurement opportunities for certified small, disadvantaged, woman-owned, minority-owned, veteran-owned, and service-disabled veteran-owned business enterprises by encouraging contractors who receive City-Parish contracts to use good-faith efforts to utilize such certified entities in the performance of those contracts. The City-Parish desires to achieve, to the greatest extent possible, commercially meaningful and useful participation by EBEs. By providing equitable opportunities for EBEs, the City-Parish derives multiple benefits, including contributing to

the economic vitality of our communities and ensuring a broader selection of competitively priced goods and services.

Bidders should present a responsible plan that provides for participation of qualified EBEs. Participation shall be counted toward meeting the contract goals only by business entities certified under the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program. The direct participation goal can be achieved through direct ownership, joint venture participation, owner/operator agreements, or subcontract agreements for participation.

The City-Parish may set project goals on a project specific basis as noted on the Public Notice to Bidders or Advertisement for bids. Bidders are encouraged to exceed these goals.

If a Bidder does not meet the full EBE goal, then written documentation must be provided showing their good faith efforts to secure EBE participation, the unavailability of potential EBE firms, and provide justification as to why such goals cannot be met that is found to be acceptable to the SEDBE Liaison Officer. Failure to obtain an EBE goal shall not be a determining factor for awarding a contract.

(B) FAILURE TO COMPLY WITH SEDBE REQUIREMENTS: All City-Parish contract performers (Prime Contractors, Subcontractors, etc.) are hereby notified that failure to carry out the EBE obligation, as set forth, shall constitute a breach of contract. The breach of contract will be reviewed by City-Parish which may result in termination of the contract or other remedies deemed appropriate for the given situation.

(C) SUBCONTRACTS: All Prime Contractors, and Subcontractors, hereby shall include the following clauses in all contracts that offer further subcontracting opportunities.

The Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of City-Parish's Socially and Economically Disadvantaged Business Enterprise Program in the award and administration of City-Parish contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient (City-Parish) deems appropriate.

(D) AWARD OF EBE SUBCONTRACTS: The Contractor shall, no later than three (3) business days from the award of a contract, execute formal contracts or purchase orders with the EBE(s) included on Form 1.

(E) COUNTING EBE PARTICIPATION: City-Parish will count EBE participation toward overall and contract goals as provided in City-Parish's Socially and Economically Disadvantaged Business Enterprise Program ("the Program"). City-Parish will only count EBE participation by those EBEs performing commercially useful functions. City-Parish Purchasing Division will not count the participation of EBE Subcontractors toward a Contractor's final compliance with its EBE obligations on a contract until the amount being counted has actually been paid to the EBE.

The Contractor may count its entire expenditure to EBE manufacturers (i.e., a supplier that produces goods from raw materials or substantially alters them before resale). The Contractor may count sixty percent (60%) of its expenditures to EBE suppliers that are not manufacturers, provided that the EBE supplier performs a commercially useful function in the supply process.

A Contractor shall not count the value of any payment made to an EBE for work that was further subcontracted out by the EBE to a non-EBE.

PART II – PROCEDURE TO DETERMINE QUALIFICATION STATEMENT OR PROPOSAL COMPLIANCE

(A) ELIGIBILITY OF SEDBEs: To be counted toward the participation Goals pursuant to the Program, an EBE must be certified by the City-Parish at the time a bid or proposal is submitted. The fact that an EBE is certified does not necessarily mean that it has the qualifications and experience for the type of work required by any particular Contract. The responsibility for determining whether an EBE has the qualifications and experience for the type of work required by the Contract rests with the Contractor. To be deemed an EBE certified entity, firms must complete the City-Parish's certification process. Only EBE certified firms under the City-Parish at the time the Bid opening will count toward the EBE goal.

(B) REPORTING FORMS 1, 1A, AND 2: The following fully completed forms shall be furnished to the City-Parish by the lowest bidder within 10 days after the bid opening. Failure to complete the forms properly and completely will constitute the bid as being deemed non-responsive. The forms shall have all blank spaces filled in completely and correctly. These forms are as follows:

FORM 1 – EBE RESPONSIVENESS FORM (copy attached): It is the obligation of the Respondent to make good faith efforts to meet the EBE goal. Respondents can demonstrate their good faith efforts either by meeting the contract goal or by documenting good faith efforts taken to obtain EBE participation. The Form 1 shall accurately detail the work proposed by the Respondents to be performed by Respondent and all entities participating in the project and, if it is a bid or proposal, the percent value of that work. If a Respondent is unable to fully meet the EBE goal of this contract, the Respondent shall submit a Form 2 form and all documentation demonstrating the good faith efforts made to comply with the EBE requirements.

FORM 1A - REQUIRED PARTICIPATION QUESTIONNAIRE FORM (copy attached): Form 1A shall accurately detail the work to be performed by each and every firm participating in the project. A Form 1A must be submitted for the Contractor and for each Subcontractor included on Form 1. In addition, each participating EBE firm must submit a current letter of EBE certification along with its Form 1A.

FORM 2 - Good Faith Efforts (copy attached): Form 2 is only required when the prime firm is unable to fully meet the EBE contract goal. Form 2 shall provide documentation of good faith efforts made to obtain EBE participation. Form 2 must be accompanied by supporting documentations such as, but not be limited to, phone logs, facsimiles, and e-mail correspondence with potential EBE firms. Further explanation of good faith efforts may be found in the Instructions for Form 2. It is up to City-Parish to make a fair and reasonable judgment whether a Respondent made adequate good faith efforts to achieve the contract goal.

FORM 3 - Monthly Utilization/Participation SEDBE Report (copy attached): Form 3 shall be submitted to the Field Engineer along with monthly payment requests and shall accurately represent the amount paid to EBE Subcontractors during that invoice period. This form must be submitted with every monthly invoice regardless of the amount of payment or lack of payment. The form shall be signed by the Contractor and the SEDBE Subcontractor(s) if payment has been made during that month. SEDBE participations will not be counted toward the Contractor's commitment until payment has been rendered to the SEDBE. Failure to submit the required reports may result in withholding of payment or partial payments to the Contractor until the required forms are submitted.

REQUEST FOR REMOVAL AND/OR SUBSTITUTION OF EBE SUBCONTRACTOR (copy attached): The Contractor shall utilize the specific EBEs listed on their Form 1 to perform the work and supply the materials for work listed unless the Contractor obtains the City-Parish's written consent via City-Parish Purchasing Division's Request for Removal and/or Substitution of EBE Subcontractor form. In addition to post-award terminations, this provision applies to pre-award deletions of or substitutions for EBE firms put forward by offers in negotiated procurements. Any and all requests for authorization to remove and/or substitute an EBE Subcontractor must be made in writing by the Contractor, or Subcontractor seeking removal or substitution. This includes, but is not limited to, instances in which a Contractor wants to perform work originally designated for an EBE subcontractor with its own forces or those of an affiliate, a non-EBE firm, or with another EBE firm. This request shall document the scope and value of work to be affected. The Contractor making the request must include the name(s) of replacement EBE and non-EBE Subcontractor(s).

Before transmitting to the City-Parish its request to terminate and/or substitute a EBE Subcontractor, the Contractor must give notice in writing to the EBE Subcontractor, with a copy to the City-Parish Purchasing Division, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the EBE five days to respond to the Contractor's notice and advise the City-Parish Purchasing Division and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City-Parish Purchasing Division should not approve the Contractor's action.

If required in a particular case as a matter of public necessity (e.g., safety), the City-Parish Purchasing Division may provide a response period shorter than five days. When an EBE subcontractor is terminated via the City-Parish Purchasing Division written approval or fails to complete its work on the contract for any reason, the City-Parish Purchasing Division requires the Contractor to make Good Faith Efforts to find another EBE subcontractor to substitute for the original EBE. These Good Faith Efforts shall be directed at finding another EBE to perform at least the same amount of work under the contract as the EBE that was terminated, to the extent needed to meet the contract goal established for the procurement.

The Good Faith Efforts shall be documented by the contractor. If the City-Parish Purchasing Division requests documentation regarding Good Faith Efforts on substitutions, the contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary, at the request of the contractor, and the City-Parish Purchasing Division shall provide a written determination to the contractor stating whether or not Good Faith Efforts have been demonstrated. The Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed EBE unless the City-Parish Purchasing Division written consent has been provided via the City-Parish Purchasing Division's Request for Removal and/or Substitution of EBE Subcontractor. Failure by the Contractor to carry out these requirements is a material breach of the contract and may result in the termination of the contract.

CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE
Form 1
EBE Responsiveness Form
INSTRUCTIONS

Column A. Indicate the firm's role: Contractor, subcontractor, manufacturer, regular dealer/supplier, or broker/agent. Note that only 60% of the value of regular dealer/supplier commissions and fees can be counted toward Socially and Economically Disadvantaged Business Enterprise participation. All firms participating EBE and non-EBE , prime and subs) must be included on the form.

Column B. Provide the name and address of the firm.

Column C. Provide the principal contact person and phone number of the firm.

Column D. Describe the work, goods, and/or services to be provided by the firm.

Column E. Indicate the percent value of the amount of work assigned to the firm. Total percent value of work should equal 100% to account for all work being performed on the contract.

Column F. Indicate whether firm is an EBE or non-EBE. EBE-certified means to be certified by the EBRP Socially and Economically Disadvantaged Business Enterprise Program.

Form 1
EBE Responsiveness Form

EBRP Project Title: _____ Project No.: _____

EBE Contract Goal: _____%

A	B	C	D	E	F
FIRM ROLE ***(Prime, sub-contractor manufacturer, supplier, etc.)***	**FIRM NAME AND ADDRESS**	**PRINCIPAL CONTACT NAME AND PHONE NUMBER**	**WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED**	**% VALUE OF WORK / PURCHASES***	**EBE or non-EBE**
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	

TOTAL VALUE OF PARTICIPATION FROM CONTINUATION PAGES:

	%	%
Enter Total Bid Amount	Total Must Equal 100%	Total EBE Participation
$	%	%

TOTAL VALUE OF PARTICIPATION:

**Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.*

➲*If Total EBE participation is less than the goal, refer to the Good Faith Efforts section of the instructions and attach a Form 2 and all other necessary documentation. Firms must be EBE certified with an authorized agent of the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division to count participation towards the goal.*

The undersigned prime firm will enter into a formal written agreement with the subcontractors identified herein for work and/or goods and services as shown in this schedule, conditioned upon the execution of a contract with the City of Baton Rouge and Parish of East Baton Rouge. The undersigned agrees to be contractually bound to maintain the level of EBE participation set forth above. Failure to comply with this agreement constitutes breach of contract.

Signature: _____ Date: _____

Printed Name: _____ Title: _____

Form 1 EBE Responsiveness Form Continuation Page 1

A	B	C	D	E	F
FIRM ROLE *(Prime, sub-contractor manufacturer, supplier, etc.)*	FIRM NAME AND ADDRESS	PRINCIPAL CONTACT NAME AND PHONE NUMBER	WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED	% VALUE OF WORK / PURCHASES*	EBE or non-EBE
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	

** Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.*

TOTAL VALUE OF PARTICIPATION FOR CONTINUATION PAGE 1:

Total % Value of Work Purchases	Total EBE Participation
%	%

Form 1
EBE Responsiveness Form
Continuation Page 2

A	B	C	D	E	F
FIRM ROLE *(Prime, subcontractor manufacturer, supplier, etc.)*	FIRM NAME AND ADDRESS	PRINCIPAL CONTACT NAME AND PHONE NUMBER	WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED	% VALUE OF WORK / PURCHASES*	EBE or non-EBE
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	

** Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.*

TOTAL VALUE OF PARTICIPATION FOR CONTINUATION PAGE 2:

Total % Value of Work Purchases	Total EBE Participation
%	%

Form 1A
Required Participation Questionnaire

INSTRUCTIONS: A fully completed Form 1A "Required Participation Questionnaire" must be submitted for the prime firm, each subcontractor, and any other tier or subcontractor, as a condition of responsiveness. This information is to be collected and documented for all City of Baton Rouge and Parish of East Baton Rouge projects as required by the City of Baton Rouge and Parish of East Baton Rouge. All items requested on the form are required, if an item is not applicable, respondents shall enter N/A. Each prime firm participating as a joint venture should complete a separate form and indicate (Item 9) that the response is a joint venture.

<table>
<tr><td>1. Project name, project number and date of submittal:</td><td>2. Official name of firm:

Indicate if prime or subcontractor:</td><td>3. Address of office to perform work:</td></tr>
<tr><td>4. Name of parent company, if any:</td><td>5. Location of headquarters (city):</td><td>6. Age of firm:</td></tr>
<tr><td>7. Name, title, and telephone number of principal contact:</td><td colspan="2">8. Indicate Any Special Status:

☐ Small business ☐ SBA certified
☐ Minority-owned business ☐ LAUCP DBE certified
☐ Woman-owned business ☐ EBE Certified with CITY-PARISH

*A firm participating as a EBE must be certified by the City of Baton Rouge and Parish of East Baton Rouge SEDBE Program by the date of submittal. Current letter of certification shall be attached.</td></tr>
<tr><td>9. Is this submittal a joint venture (JV)?
☐ Yes ☐ No</td><td colspan="2">10. Summary of firm's annual revenues (please insert index number from below):

Last Year: _____ 2 Years ago: _____ 3 Years ago: _____</td></tr>
<tr><td>If so, has the JV worked together before?
☐ Yes ☐ No</td><td colspan="2">Ranges of annual revenues received:
Index:
1 less than $500,000 4 $2,000,000 to $4,000,000
2 $500,000- $1,000,000 5 $5,000,000 to $6,000,000
3 $1,000,000 to $2,000,000 6 $6,000,000 or greater</td></tr>
</table>

I do solemnly declare and affirm under the penalties of perjury that the contents of this document are true and correct, and that I am authorized on behalf of this firm to make this affidavit.

Signature: _____ Date: _____

Printed Name: _____ Title: _____

CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE
Form 2
Good Faith Efforts
INSTRUCTIONS:

If required, attach a completed Form 2 and supporting documents to establish that Good Faith Efforts were undertaken to secure EBE participation:

The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain EBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Conducting market research to identify small business contractors and suppliers and soliciting through all reasonable and available means the interest of all certified EBEs that have the capability to perform the work of the contract. This may include attendance at pre-bid and business matchmaking meetings and events, advertising and/or written notices, posting of Notices of Sources Sought and/or Requests for Proposals, written notices or emails to all DBEs listed in the State's directory of transportation firms that specialize in the areas of work desired (as noted in the DBE directory) and which are located in the area or surrounding areas of the project. The bidder should solicit this interest as early in the acquisition process as practicable to allow the EBEs to respond to the solicitation and submit a timely offer for the subcontract. The bidder should determine with certainty if the EBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by EBEs in order to increase the likelihood that the EBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units (for example, smaller tasks or quantities) to facilitate EBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces. This may include, where possible, establishing flexible timeframes for performance and delivery schedules in a manner that encourages and facilitates EBE participation.

C. Providing interested EBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation with their offer for the subcontract.

D. Negotiating in good faith with interested EBEs. It is the bidder's responsibility to make a portion of the work available to EBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available EBE subcontractors and suppliers, so as to facilitate EBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of EBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional Agreements could not be reached for EBEs to perform the work.

E. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including EBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using EBEs is not in itself sufficient reason for a bidder's failure to meet the contract EBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from EBEs if the price difference is excessive or unreasonable.

F. Not rejecting EBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations,

or associations and political or social affiliations (for example union vs. non-union status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal. Another practice considered an insufficient good faith effort is the rejection of the EBE because its quotation for the work was not the lowest received. However, nothing in this paragraph shall be construed to require the bidder or prime contractor to accept unreasonable quotes in order to satisfy contract goals.

G. Contractor's inability to find a replacement EBE at the original price is not alone sufficient to support a finding that good faith efforts have been made to replace the original EBE. The fact that the contractor has the ability and/or desire to perform the contract work with its own forces does not relieve the contractor of the obligation to make good faith efforts to find a replacement EBE, and it is not a sound basis for rejecting a prospective replacement EBE's reasonable quote.

H. Making efforts to assist interested EBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

I. Making efforts to assist interested EBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

J. Effectively using the services of available minority/women/veteran community organizations; minority/women/veteran contractors' groups; local, State, and Federal minority/women/veteran business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of EBEs.

Form 2
Good Faith Efforts

If the Respondent cannot fully meet the EBE goal of this Contract, the Respondent shall complete Form 2 **and attach documentation demonstrating the Respondent's good faith efforts.** It is up to City of Baton Rouge and Parish of East Baton Rouge Purchasing Division to make a fair and reasonable judgment whether a Respondent that did not meet the contract goal made adequate good faith efforts.

I,_____, certify that on the date(s) below I invited the following proposed EBE subcontractor(s) to respond or propose work items to be performed on:

PROJECT NAME: _____

PROJECT NO: _____

Date of Request	Name and Address of EBE Firm	Transmittal Type	Work Items Sought	Describe Response and/or Follow-up

I do solemnly declare and affirm under the penalties of perjury that the contents of this document are true and correct, and that I am authorized on behalf of this firm to make this affidavit.

Signature: _____ Date: _____

Printed Name: _____ Title: _____

☐ Sporting documentation of Good Faith Efforts is attached (required).

Form 3
City of Baton Rouge and Parish of East Baton Rouge
Contractor or Consultant Monthly SEDBE Report

INSTRUCTIONS: This report covers the previous estimate period and shall be submitted to the Project Manager Representative or Project Inspector with the current month's pay estimate. The Prime firm shall prepare one form for each EBE firm participating in the project. Questions should be directed to the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division through the assigned project manager. **Signatures from EBE firms who received payment during the reporting period are required.** No signature is required if no payments were made to the EBE firm during the reporting period. **If actual EBE item of work is different than that approved at the time of award, the Substitution Form must be completed (If you have not already done so).**

PRIME FIRM INFORMATION:

Prime Firm Name		Phone Number	
Project Name			
City Parish Project No.		State Project No	
Project Start Date		Est. Project Completion Date	
Original Contract Amount $	Change Orders (count)	Current Contract Value $	EBE Commitment _____ %
Invoice Number	Report Period Begin Date	Report Period End Date	

SUBCONTRACTOR INFORMATION:

EBE Subcontractor		
EBE Contact		EBE Phone Number
Original Subcontract Amount $	Original Commitment to Firm _____ %	Current Subcontract Value $
Amount Paid to Sub This Period $	Amount Paid to Sub to Date $	
Scheduled Date of Sub Services (or state ongoing)	Estimated Date of Completion of Sub Services	
Item Number/Description of Work Performed by Sub		

By signing below, I attest that the information provided is complete accurate, and true to the best of my knowledge.

Prime Firm's Authorized Signature: _____ Date: _____

Print name: _____ Title: _____

Subcontractor's Authorized Signature: _____ Date: _____

Print name: _____ Title: _____

I certify that the contracting records and on-site performance of the EBE has been monitored. **If actual EBE item of work is different than that approved at the time of award, the Substitution Form must be completed.**

Project Manager Representative/Inspector's Signature: _____ Date: _____

Print name: _____ Title: _____

EBRP Project Manager or SEDBELO has reviewed this form.

SEDBELO's or Authorized Owner's Representative's Signature: _____ Date: _____

City of Baton Rouge and Parish of East Baton Rouge
Guidance for Removal and/or Substitution of a SEDBE Firm

Contractor must receive prior written consent from the **City-Parish** before terminating an EBE subcontractor listed in response to the City-Parish solicitation. This includes, but is not limited to, instances in which the Contractor seeks to perform work that was originally designated for a EBE subcontractor, or to another EBE or non-EBE subcontractor. All requests must be accompanied by documentation of good faith efforts made to maintain the EBE commitment percentage on the total contract value.

The City-Parish Purchasing Division may provide written consent only if it agrees that the Contractor has good cause to terminate the EBE firm. Good Cause includes the following circumstances:

1. The listed EBE subcontractor fails or refuses to execute a written contract;

2. The listed EBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the EBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;

3. The listed EBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements.

4. The listed EBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

5. The listed EBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings or applicable state law;

6. The City-Parish Purchasing Division has determined that the listed EBE subcontractor is not a responsible contractor;

7. The listed EBE subcontractor voluntarily withdraws from the project and provides to the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division written notice of its withdrawal;

8. The listed EBE is ineligible to receive EBE credit for the type of work required;

9. An EBE owner dies or becomes disabled with the result that the listed EBE contractor is unable to complete its work on the contract;

10. Other documented good cause that the City-Parish Purchasing Division determines compels the termination of the EBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate an EBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the EBE subcontractor was engaged or so that the Contractor can substitute another EBE or non-EBE subcontractor after contract award.

11. Before transmitting to the City-Parish Purchasing Division its request to terminate and/or substitute an EBE subcontractor, the prime contractor must give notice in writing to the EBE subcontractor, with a copy to the City-Parish Purchasing Division, of its intent to request to terminate and/or substitute, and the reason for the request.

12. The Contractor must give the EBE five days to respond to the prime contractor's notice and advise the City-Parish Purchasing Division and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City-Parish Purchasing Division should not approve the Contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the City-Parish Purchasing Division may provide a response period shorter than five days.

13. In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or substitutions for EBE firms put forward by offerors in negotiated procurements.

14. After Good Cause is demonstrated by the Contractor and approved by the Purchasing Division, the contractor must make good faith efforts to replace an EBE that is terminated with another certified EBE, to the extent needed to meet the contract goal.

15. In this situation, we will require the Contractor to provide copies of new or amended subcontracts, or documentation of good faith efforts. If the contractor fails or refuses to comply in the time the City-Parish Purchasing Division specified, our contracting office will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the contractor still fails to comply, the contracting officer may issue a termination for default proceeding.

City of Baton Rouge and Parish of East Baton Rouge

Request for Removal and/or Substitution of a EBE Firm

Project Name		
City Parish Project No.	State Project No.	EBE Commitment
Prime Firm Name		Phone Number
Original Contract Amount	Change Orders (Count)	Current Contract Value
Subcontractor to be removed		
Proposed substitute subcontractor		
Value of current subcontract	Value of proposed subcontract	

Reason for removal or substitution (state in detail, attach supporting documentation if necessary):

Describe the good faith efforts made/ in progress to maintain EBE participation in order to continue to meet the EBE commitment:

Prime Firm's Authorized Signature: _____ Date: _____

Type or Print Name: _____ Title: _____

SECTION 5 CONTROL OF WORK

5-7 COORDINATION OF PLANS AND SPECIFICATIONS: This sub-section of the Standard Specifications is deleted and replaced by the following:

The plans, specifications and other Contract Documents will govern the work to be done. Anything mentioned in the specifications and not shown on the plans, or shown on the plans and not mentioned in the specifications, shall be of like effect as though shown or mentioned in both.

Specifications and plans referred to in the Contract Documents shall be considered as being included in the document in which such reference is made. When a particular specification or standard is referred to, such reference shall be to the specification or standard, including officially adopted revisions and amendments thereto, which is in force at the time of advertising for bids.

In case of conflict, the order of precedence of the following documents in controlling the work shall be:

1. Permit from outside agencies required by law
2. Issued addendums
3. Special provisions
4. Plans
5. Supplemental specifications (only those which are bound to these documents)
6. Standard specifications
7. Standard plans

Calculated dimensions will govern over scaled dimensions.

Change orders and approved revisions to plans and specifications will take precedence over Contract Documents listed above. The Contractor shall take no advantage of any error or omission in the plans or Project specifications. If the Contractor discovers such an error or omission, he shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as deemed necessary to fulfill the intent of the plans and Project specifications.

5-15 FIELD RECORD DRAWINGS: This section of the Standard Specifications is amended by adding the following subsection:

The Contractor shall provide a set of Field Record Drawings for all sanitary sewer Work including both alignment and profile to the Engineer. Drawings should be developed from actual field readings. Raw data should be available for submission at any time upon request. Field Record Drawings having survey data shall be stamped by a Professional Land Surveyor registered in the State of Louisiana. All fittings, valves, manholes, tie-ins or taps, etc. shall be located by GPS (+/- 1 meter accuracy) based on the La. State Plane Coordinate System (south) as shown on Contract Documents, and shall be provided on the Field Record Drawings.

Contractor shall legibly mark Field Record Drawings to record actual changes made during construction, including, but not limited to:

a. Date of change.

b. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.

c. Horizontal and vertical locations of existing and new underground facilities and appurtenances, and other underground structures, equipment, or Work. Reference to at least two measurements to permanent surface improvements.

d. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
e. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.

f. Changes made by addenda and field orders, Work Change Directive, Change Order, Requests for Information, and Engineer's written interpretation and clarification using consistent symbols for each and showing appropriate document reference number.

SECTION 6 CONTROL OF MATERIALS

6-8 STORAGE OF MATERIALS AND EQUIPMENT: Delete this subsection and replace with the following:

Portions of the right-of-way may be used for storage and for placing the Contractor's plant and equipment only with prior approval of the Engineer. Materials and equipment shall be stored so as to insure preservation of their fitness for the work, and in a manner that leaves the material and equipment accessible to inspectors. Storage shall not interfere with the prosecution of the work or with public travel and convenience. Whether in public right-of-way or Contractor's own storage yard, Contractor shall store materials in a planned and orderly manner that does not endanger employee or public safety nor create a public nuisance or inconvenience.

Construction materials and equipment may not be stored or parked in streets, roads, or highways after unloading except where such street or road is provided with an acceptable detour approved by the Engineer. All such materials or equipment not installed or used in the construction shall be stored elsewhere by the Contractor at his or her expense.

Excavated or imported material, except that which is to be used as immediate backfill in the adjacent trench, may not be stored in public streets, roads, or highways unless otherwise authorized by the Engineer. After placing backfill, all excess excavated or imported material shall be removed from the site immediately after backfilling operations are completed at the site.

6-8.1 Contractor Storage Yards: Unless specified otherwise, the Contractor shall be responsible for providing and maintaining necessary material storage facilities, utilities, field offices, temporary roads, fences, security, etc. for prosecuting the Work. Property used for storage of the materials and equipment should be appropriately zoned. If the Contractor desires to use property that is not appropriately zoned for storage of materials and equipment, the Contractor must obtain permission to do so from DPW. DPW may grant the request after due consideration of the character of the surrounding property, availability of alternative locations, accessibility to adjacent roadways, and the potential nuisance that may be caused by storage on the proposed property. In granting such permission DPW may impose limits on the use of the property including, but not limited to, duration, hours of operation, access, and the nature of materials stored on the property.

SECTION 7 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

7-1 LAWS TO BE OBSERVED: This sub-section of the Standard Specifications is amended to include:

The Contractor is responsible for the coordination with local law enforcement for the escort of delivery trucks within the limits of the Parish of East Baton Rouge for the delivery of oversize loads (example: precast concrete piles or precast-prestressed girders) to the construction site. The contractor shall contact the local law enforcement captain a minimum of forty-eight (48) hours in advance to obtain law enforcement for escorts for

the delivery of materials. Fees for police escorts will be at no direct pay.

7-2 INSURANCE: This sub-section of the Standard Specifications is deleted and replaced by the following:

Surety Requirements: Performance, Payment and Other Bonds must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury.

Certification Regarding Unpaid Workers Compensation Insurance: Prior to award of contract the successful proposer shall provide an affidavit relating to unpaid workers compensation insurance (LA R.S. 23:1726B) to the engineer. The contractor shall use the Attestations Affidavit form on the following page to submit said affidavit to the engineer.

Contractor shall have and maintain, until final acceptance of the Work by the Owner and Council, the minimum insurance described herein with an insurance company authorized to do business in the State of Louisiana that has an industry rating of at least A-, Class VI, according to Best's Key Rating Guide. Contractor shall deliver to Owner certificates of insurance showing such insurance is in effect prior to execution of the Contract, which certificates shall incorporate a provision that no cancellation or change in such insurance shall be effected without at least thirty (30) days prior written notice being given to the Owner and Engineer. These requirements shall not be construed to limit any obligations of indemnity and/or defense of the Contractor or Surety, but constitutes minimum insurance requirements which must be provided and maintained.

A. Standard Workmen's Compensation - Full statutory liability under Louisiana law with Employer's Liability Coverage.

B. Commercial General Liability coverage (ISO form CG 00 01) when the Contract amount is as follows:

1. General Aggregate:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE
Less than 1,000,000	$1,000,000
$1,000,000 to $5,000,000	$2,000,000
$5,000,000 to $10,000,000	$3,000,000
Greater than $10,000,000	$4,000,000

2. Products-Completed Operations aggregate:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE
Less than 1,000,000	$1,000,000
$1,000,000 to $5,000,000	$2,000,000
$5,000,000 to $10,000,000	$3,000,000
Greater than $10,000,000	$4,000,000

3. Personal and Advertising Injury:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE
Less than $5,000,000	$1,000,000
Greater than $5,000,000	$2,000,000

4. Each Occurrence:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE

Less than $5,000,000	$1,000,000
Greater than $5,000,000	$2,000,000

The above Commercial General Liability coverage shall not be narrowed by endorsement without the express written agreement of Owner.

C. Business Auto Policy - Combined single limit $1,000,000

D. Umbrella Liability: Lower primary limits will be accepted if Umbrella Coverage is provided with limits of at least $1,000,000 in excess of primary coverage shown on the certificate.

E. The City of Baton Rouge, Parish of East Baton Rouge and the Department of Public Works shall be named on all liability policies described above as "additional insured" as respects liability arising out of the Project; products and completed operations of the Contractor, as well as premises owned, occupied or used by the Contractor. The additional insured coverage shall contain no special limitations on the scope of protection afforded to any additional insured. It is understood that the business auto policy under "Who is an Insured" automatically provides liability coverage in favor of the Owner. Any failure of Contractor to comply with any reporting provision of any policy shall not affect coverage provided to an additional insured.

F. Waiver of subrogation in favor of the City of Baton Rouge, Parish of East Baton Rouge, is required on Worker's Compensation insurance.

G. The certificate holder shall be listed as follows:

City of Baton Rouge, Parish of East Baton Rouge
Attn: Purchasing Division
Post Office Box 1471
Baton Rouge, Louisiana 70821

H. The insurance to be provided by Contractor shall not include any provision, exclusion or endorsement precluding coverage for claims between insured's and/or additional insured's.

7-5.4 RIGHT-OF-WAY: This sub-section of the Standard Specifications is deleted and replaced as follows:

The available servitudes and rights-of-way for the construction of this improvement are those shown on the plans. Additional areas that may be required shall be obtained by the Contractor.

Unless otherwise shown on the plans or directed by the Project Engineer any improvements located within the construction limits may be temporarily removed for the execution of the work. Upon completion of the work, all items removed shall be reinstalled, and/or relocated, or restored to a condition equal to the condition that existed before the obstruction was removed.

7-7 PREVENTION OF SOIL EROSION AND WATER POLLUTION: The contractor, by signing this contract, certifies under penalty of law that he understands and will abide by the terms and conditions of the Storm Water Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit.

The Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES)

program requires discharges from construction sites be managed to prevent pollutants from entering waters of the United States in accordance with the Clean Water Act (33 U.S.C. §1342 (Sections 402(p) and 405 of Public Law 100-4)). Authority to issue storm water discharge permits for construction activities in the state of Louisiana has been delegated to the Louisiana Department of Environmental Quality (DEQ) by EPA. Currently, discharges are regulated through two General Permits: LAR100000 for construction activities that disturb greater than 5 acres and LAR200000 for construction activities that disturb between 1 and 5 acres.

The Contractor has the day-to-day operational control over the construction activities which occur at the site. Therefore, under the General Permit provisions, the Contractor is required to develop a SWPPP (Storm Water Pollution Prevention Plan) for the construction activities associated with the project. Additionally for construction activities that will disturb more than 5 acres, the Contractor is required to file a Notice of Intent (NOI) for the project with DEQ, and must maintain a copy of both the contractor's NOI and SWPPP at the jobsite. Contractor must submit copies of their SWPPP and NOI to the City-Parish Department of Public Works for informational purposes prior to initiation of construction activities at the site. The contractor shall complete and submit a (NOT) as operator to the DEQ after final stabilization of the site, in accordance with the terms of the permit.

The Contractor shall protect the Project and adjoining properties from soil erosion and siltation by effective and continuous erosion control methods. Areas of soil exposed by construction operations shall be kept to a minimum. The Storm Water Pollution Prevention Plan shall include Section 903 of the standard specifications along with the applicable supplemental specifications and special provisions, and Standard Plan 903-01 "Storm Water Pollution Prevention Plan Best Management Practices" and Standard Plan 903-02 "Temporary Erosion Control Installation Details".

SECTION 8 UTILITIES

8-4.3 UTILITIES TO BE ADJUSTED: This Subsection of the Standard Specifications is amended to include the following.

Existing utilities shall not be adjusted or relocated.

SECTION 9 PROSECUTION AND PROGRESS OF WORK

9-1 SUBLETTING OF CONTRACT: This sub-section of the Standard Specifications is deleted and replaced by the following:

With written permission of the Director, the Contractor may sublet all items of work not designated in the Contract as "Specialty Items" and not more than 50% of the Contract amount. Items designated as specialty items may be subcontracted without written permission of the Director. The Contractor will not be allowed to sublet more than 50% of the material cost. No subcontractor shall sublet any portion of the authorized work without written permission of the Contractor and the Director.

No subcontract will relieve the Contractor of his responsibility under the Contract and Bonds. The Contractor will be as solely responsible to the Owner for any acts or omissions of all subcontractors and all persons employed by any subcontractor. All transactions of the Engineer will be with the Contractor. Subcontractors will be considered only in the capacity of employees or workmen and shall be subject to the same requirements as to character and competency.

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold harmless Owner from any claim of damage, cost expense or amount owed under any lien or claim of privilege, including, but not limited to, attorney fees, involving Contractor's subcontractors or suppliers.

Refer to Section 3-10 for additional conditions for Subletting to comply with Socially and Economically Disadvantaged Business provisions.

9-2 NOTICE TO PROCEED: This sub-section of the Standard Specifications is amended to include the following:

The public entity shall issue to the contractor a notice to proceed with the project or work order not later than thirty calendar days following the date of execution of the contract by both parties, whichever execution date is later. However, the public entity and the contractor, upon mutual written consent of both parties, may agree to extend the deadline to issue the notice to proceed.

9-3 PROGRESS SCHEDULE

The Contractor shall submit to the Project Engineer a computerized construction progress schedule giving a schedule of operations that provides for completion of work within the Contract Time. The accepted construction progress schedule will be used as the basis of establishing the controlling item of work and as a check on the progress of the work. The construction progress schedule shall show only one controlling item of work for each day.

9-3.1 Schedule Submittal and Acceptance: A minimum of three (3) days before the pre-construction meeting is held, the Contractor shall submit to the Engineer for review the proposed schedule. Unless otherwise noted, the schedule will become the basis for the Project timeline form which all deviations will be considered. Acceptance of the schedule by the Engineer means only that the proposed schedule has been reviewed for general conformity with the scope, logic and purpose or required sequence of construction. Acceptance by the Engineer means only that the Department agrees that if the Contractor can and does follow the schedule, the Project will apparently be completed within the allotted Contract Time. Under no circumstances shall acceptance of the schedule be construed to relieve the Contractor from his responsibility to complete the Project within the allotted Contract Time or to dictate to the Contractor how to perform his work or what amount of manpower and equipment to use in order for him to complete the Project.

9-3.2 Availability of Schedule: The Contractor shall have ten (10) copies of the schedule available at the preconstruction meeting.

9-3.3 Progress Update: The Contractor must update the progress on the schedule at a minimum of monthly. If so required by the Engineer, either due to the complexity of the Project or if the Contractor has fallen behind on the progress of the Work as indicated on the schedule, the Engineer can require that the progress update schedule be submitted more frequently than monthly. The Engineer and the Contractor will decide when these updates are due.

9-3.4 Schedule Revisions: If the Contractor's operations are affected by changes in the plans or amount of work, of if the Contractor has failed to comply with the original schedule, or if the logic or sequence of construction has been changed, the Contractor shall submit a revised construction progress schedule. This revised schedule shall show how the Contractor proposes to prosecute the balance of the Work. The Contractor shall submit the revised schedule for acceptance within fourteen (14) days after being requested by the Engineer or progress payments may be withheld. Acceptance of the schedule shall be in accordance with Subsection 9-3.1.

9-3.5 Schedule Requirements: At a minimum the following types of schedules will be required:

A. Projects less than $1,000,000.00
    1. Bar chart showing major items of work and durations
    2. Activity descriptions for major items of work
    3. Bar chart should be chronologically sequenced
B. Projects between $1,000,000.00 and $3,000,000.00

1. Critical Path Method (CPM) developed bar chart.
2. Activity description and duration
3. Sequence or Construction Milestones
4. Float for each activity
5. Progress line for progress update.

C: Projects over $3,000,000.00

1. Activity nodes
2. Activity descriptions
3. Activity durations
4. Sequence and interdependence of all activities
5. Shop drawings, submittals and approvals
6. Fabrication and delivery activities.
7. Activities not longer than 15 day durations.
8. Float for each activity
9. Progress line for progress update
10. Bar chart and logic sequence charts

Provide a minimum of four (4) copies for approval purposes and a minimum of two (2) copies for progress update purposes.

9-4.1 DISQUALIFICATION: This Subsection of the Standard Specifications is amended to include the following.

In the event the Contractor is placed in default by the City-Parish for failure to accept the contract as bid after being awarded by City-Parish or otherwise unsatisfactory performance, the Contractor may be subject to up to six (6) months suspension from bidding on any City-Parish work. In any event, the contractor is not eligible to re-bid any project for which he has been placed in default.

9-7 TEMPORARY SUSPENSION OF WORK: This Subsection of the Standard Specifications is amended to include the following.

In order to reduce air pollution, the contractor shall suspend all operations on this project, except those operations necessary to protect against the loss or damage to life property, on days that the Louisiana Department of Environmental Quality (LaDEQ) forecasts will be “Ozone Alert” days. The order to suspend operations of the project will be in writing and will be sent to the contractor as soon as possible the day before the forecasted “Ozone Alert" day. The contractor shall resume operations on the project the following day, unless the LaDEQ forecasts the day will also be an “Ozone Alert” day whereupon the contractor will be issued another 1-day suspension order in writing.

The contractor will be granted a one (1) calendar day extension of contract time; however, the City-Parish will not be liable for any additional costs incurred by the contractor due to an “Ozone Alert” suspension order.

9-8.1 DETERMINATION OF CONTRACT TIME: This sub-section of the Standard Specifications is deleted and replaced by the following:

The Contract Time will begin on the date stated in the Notice to Proceed and will continue until all contract pay items and punch list items are complete.

When the Contract Time is on a calendar day basis, it shall consist of the number of calendar days stated in the Contract counting from the date of beginning stated in the NTP, including all Sundays, holidays and non-working days. All calendar days elapsing between the effective dates of any orders of the Engineer to suspend work and to resume work for suspensions not the fault of the Contractor shall be excluded.

The Engineer, in his sole discretion, may stop Contract Time when he has determined that the Work can be safely and effectively used by the public for its intended purpose and the remaining work can be completed within thirty (30) days. If all work is not complete within thirty (30) days, Contract Time charges will be resumed retroactive to the date Contract Time was stopped.

9-8.2.2 ADVERSE WEATHER: This subsection is deleted and replaced by the following:

Based on NOAA data, the following are the normal number of adverse weather days for the parish. An adverse weather day is one on which rainfall or wet soil conditions will prevent the Contractor from performing at least five (5) hours of work on the controlling item as shown on the construction progress schedule. The normal number of adverse weather days have been considered in determining the Contract Time.

Normal Number of Adverse Weather Days Per Calendar Month

Jan	8	April	6	July	7	Oct	5
Feb	6	May	8	Aug	5	Nov	7
Mar	5	June	6	Sept	5	Dec	7

If the Contractor believes that the actual number of adverse weather days exceeds the normal number of adverse weather days for any month, the Contractor must submit a written request to the Engineer for an extension of Contract Time. Such request shall be accompanied by supporting documentation and shall be received by the Engineer by the 15th of the following month. The Contractor will be notified in writing within fifteen (15) days as to the amount of Contract Time extension, if any, that is deemed justified by the Engineer and will be granted. If the Contractor fails to submit such requests in accordance with the foregoing procedure, no Contract Time extensions based on adverse weather will be considered.

The Contractor shall use the Weather and Working Day Report on the following page for tracking and documenting adverse weather days. The documentation shall be submitted as stated above.

WEATHER AND WORKING-DAY REPORT

Est. No. ______________________________ Date ______________

Est. Period from ______________ to ______________

City-Parish Project No. ______________________

Street: ____

Contractor ______________________ Address ______________________

Month	Day of Month	Sundays & Holidays	Weather Conditions	Contract Days	Lost Days	Cause of Losing Day
			TOTALS FOR THIS PERIOD:			
			TOTAL CONTRACT DAYS, PREVIOUS REPORT:			
			GRAND TOTAL CONTRACT DAYS TO DATE:			

I have reviewed the above and concur with the Project Engineer's recommendations.

____

Contractor (or Auth. Representative)

I hereby certify that the above information is correct to the best of my knowledge and belief.

____

Project Engineer

NOTE: Original, and cc: Estimate Unit cc: District Engineer cc: Contractor

9-8.2.3 EXTENSION OF TIME DUE TO UNFORESEEN DELAYS: This subsection is added to the Contract:

If the Contractor believes that the schedule is delayed due to unforeseen conditions, the Contractor must submit a written request to the Engineer for an extension of Contract Time and/or change the project milestone dates. Such request shall be accompanied by supporting documentation, supporting Construction Schedule, and shall be received by the Engineer by the 15th of the following month. The submittal must show that the unforeseen delays have impacted the critical path items such that the Contractor cannot meet the overall Contract Time.

The Contractor will be notified in writing within fifteen (15) days as to the amount of Contract Time extension, if any, that is deemed justified by the Engineer and will be granted. If the Contractor fails to submit such requests in accordance with the foregoing procedure, no Contract Time extensions and/or change in milestone dates based on delays due to unforeseen conditions will be considered.

The Contractor shall use the Weather and Working Day Report for tracking and documenting delays due to unforeseen conditions. The documentation shall be submitted as stated above. In order for a delay to be justified, the Contractor shall have to provide documentation showing that the critical path of the project schedule has been impacted.

9-8.3 Failure to Complete On Time: This sub-section of the Standard Specifications is deleted and replaced by the following:

For each calendar day that the work remains uncompleted after expiration of the Contract Time as extended, and for each calendar day beyond 45 days after substantial completion that any punch list (incomplete or non-conforming) work remains incomplete, the sum specified in the Contract for liquidated damages will be deducted from the monthly progress payments for the work, not as a penalty but as stipulated damages; if not specified, the sum listed below will be deducted.

Permitting the Contractor to continue the work after expiration of the Contract Time as extended will not operate as a waiver of the Owner or Owner of its rights under the Contract.

Original Contract Amount (Dollars)		Daily Charge (Dollars)
From More Than	To and including	
------	25,000	150
25,000	50,000	250
50,000	100,000	270
100,000	500,000	430
500,000	1,000,000	605
1,000,000	2,000,000	700
2,000,000	5,000,000	1000
5,000,000	10,000,000	1500
10,000,000	------	2500

The amount of liquidated damages will be deducted from monthly progress payments for the work under the Contract or any other contract the Contractor has with the Owner or Owner, and the Contractor and his surety shall be liable for and shall pay the Owner any and all liquidated damages in excess of amounts due the Contractor under the Contract.

9-9 DEFAULT OF CONTRACT: This Subsection of the Standard Specifications is amended by adding the following requirements after the last paragraph:

Any contractor placed in default for any of the conditions specified above shall be ineligible to bid any City-Parish work for a period of 6 months from the date of the default or until the reason for the default is remedied, whichever is earlier.

SECTION 10 MEASUREMENT AND PAYMENT

10-6 PARTIAL PAYMENTS: Subsection 10-6 is amended to include the addition of sub-section 10-6.1, as follows:

10-6.1 Request for Partial Payment – Reporting and Sub-Contractor Payments:

SEDBE Form 3, as provided in Section 3-10, shall be submitted each month with the Estimate of Value of Work Done to Date for payment from the City-Parish. The completed Form 3 shall accurately represent the amount paid to EBE Subcontractors prior to that invoice period. This form must be submitted with every monthly invoice regardless of the amount of payment or lack of payment. This form shall be signed by the Contractor and signed by the SEDBE Subcontractor(s) if payment has been made for that month. SEDBE participation will not officially be counted toward the Prime Contractor's commitment until payment has been rendered to the SEDBE. Failure to submit the required reports may result in the withholding of payment or partial payments to the Contractor until the required forms are submitted.

10-7 PAYMENT FOR STOCKPILED OR STORED MATERIALS:

This subsection of the Standard Specifications is deleted and replaced by the following:

Upon written request, the invoice cost, less the retainage specified in Subsection 10-6, of approved materials stored or stockpiled at the Project site or other designated location in the vicinity of such construction will be paid. Stored materials shall be considered those materials procured for the Project but will not be incorporated into the work for a minimum of thirty (30) calendar days from delivery. Payment will not exceed the total estimated quantity required to complete the Project. The agreed value will not exceed the appropriate portion of the Contract item or items in which such materials are to be incorporated. Payment will be limited to materials classified as Major Items. Major Items for this project will be limited to all Concrete Precast Units (sanitary sewer and drainage), exclusive of castings. Perishable articles and small warehouse items will not be included.

Payment for stockpiled or stored materials will not constitute acceptance. It shall be the Contractor's responsibility to protect the material from damage while in storage.

The contractor shall furnish the Engineer a certified inventory of the quantity of each stockpiled item and its invoiced cost when advance payment is requested. Within thirty (30) calendar days after payment by the Owner, the Contractor shall submit a copy of a certified paid invoice statement to the Engineer for each item for which payment has been made. If certification of payment is not presented within the thirty (30) day period, the advanced payment will be deducted from the next progress payment.

Ownership of materials for which advancements have been made by the Owner shall not vest in the Owner until such materials are incorporated in the work and accepted by the Owner and the Owner shall not release the Contractor from responsibility for any portion thereof. The Contractor shall save the Owner harmless in the event of loss or damage of materials for which advancements have been made. The amounts advanced on stockpiled or stored materials will be deducted from payments of monthly estimates as the materials are incorporated into the work.

SECTION 201 CLEARING AND GRUBBING

Section 201 of the Standard Specifications is deleted in its entirety and replaced by the following:

201-1 DESCRIPTION: This work consists of clearing, grubbing, trimming/pruning, removing and disposing

of vegetation and debris within rights-of-way, servitudes and easement areas, or as shown on the plans, except items that are designated to remain or to be removed under other items. Erosion control shall be in accordance with Section 903.

201-2 GENERAL REQUIREMENTS: Clearing and grubbing shall be done to the limits of the required right of way and servitudes unless otherwise designated on the plans. Trees, stumps, roots and other protruding vegetative obstructions shall be cleared and grubbed. No grinding of stumps will be allowed unless approved by the Project Engineer. Roots and nonperishable solid objects which will be at least 3 feet below subgrade or embankment slope will be permitted to remain if they do not extend more than 6" above original ground line or low water level.

The Project Engineer will designate trees, shrubs, plants and other items to remain, and the Contractor shall preserve such items. Trees designated to remain shall be protected as shown on the plans. Equipment, materials and supplies shall not be stored in proximity of items designated to remain. In case of damage to bark, trunks, limbs or roots of vegetation designated to remain, the Contractor shall repair such damage by AAN horticultural and tree surgery practices. Low hanging, unsound or unsightly branches on trees or shrubs designated to remain shall be removed as directed. Branches extending over roadbed shall be trimmed at least 20 feet above pavement.

Trees shall not be felled outside rights-of-way, servitudes or easement areas. Damage outside rights-of-way, servitudes or easement areas caused by the Contractor's operations shall be the Contractor's responsibility.

Except in areas to be excavated, holes left from clearing and grubbing shall be backfilled with surrounding soil types or soil complying with subsection 203-2(a) and compacted to at least the density of surrounding soils.

Burning will not be allowed unless allowed by ordinances and specified to be allowed in the contract. If burning of material is allowed, it shall be under the constant care of watchman. Burning of materials shall not jeopardize anything designated to remain on the right-of-way, the surrounding forest cover, or other adjacent property. The Contractor shall be responsible for burning in accordance with all laws and ordinances, including, but not limited to, the current regulations of the Louisiana Department of Environmental Quality.

Timber to be cleared which has not been removed prior to beginning the work shall become the property of the Contractor unless otherwise indicated on the plans.

On private property or areas designated in the plans where cut timber is to remain the property of landowner, the Contractor shall top the tree and neatly stack the logs outside the project limits. The Contractor shall remove and dispose tree top and stump.

Stump holes and other holes left from clearing and grubbing shall be filled by blading the area or backfilling with existing materials or soil complying with Subsection 203-2(a) and compacted to at least the density of the surrounding soils.

Contractor shall be required to maintain project limits such that grass and weeds do not reach a height of more than 12 inches and allowed to remain in such condition for more than 2 weeks.

201-3 TRIMMING AND PRUNING OF TREES: Work includes trimming or pruning trees designated on the drawings to allow clearance for other associated work within City-Parish right-of-way and/or servitudes. Such trimming or pruning shall follow good standard arboricultural practices. All work shall be done in accordance with arboricultural practices as set forth in the National Arborist Association’s publication “Standards for Pruning for Shade Trees” and Safety Requirements for Tree Pruning, Trimming, Repairing, or Removal (ANSI-Z133).

201-3.1 Contractor Requirements: Contractor must employ an ISA Certified Arborist and/or a Certified Tree Worker, who is on each job site at all times during tree trimming or pruning activities. They shall have

knowledge of the natural habits of the trees so that their natural crown shapes will be preserved when removing any of the wood (branches, leaders, etc.). Contractor must meet the general standards of safety set forth in Section 1-8 of ANSI – Z133. Contractors shall be responsible for the enforcement of these provisions to ensure that their employees are following these safety standards.

201-3.2 Traffic Control: The Contractor shall be solely responsible for pedestrian and vehicular safety and control within the work site and shall provide the necessary warning devices, barricades, and personnel needed to give safety, protection, and warning to persons and vehicular traffic within the area.

201-3.3 Utility Agency Coordination: Contractor shall coordinate with relative utility agency any time assistance is needed to work safely around overhead or underground installations. Tree trimming and removal operations may be conducted in areas where overhead electric, telephone, and cable television facilities exist. The Contractor shall protect all utilities from damage, shall immediately contact the appropriate utility agency if damage should occur, and shall be responsible for all claims for damage due to his operations.

The Contractor shall make arrangements with the utility agency for removal of all necessary limbs and branches that may conflict with or create a personal injury hazard in conducting the operations of this project.

201-3.4 Execution: Class I, II, III, and IV specifications of the National Arborist Association "Pruning Standards for Shade Trees" shall be used except that in no instance will topping be employed on any trees, but rather directional pruning and drop crotching shall be substituted for Class IV standards.

All large, established trees (over 8" in diameter) trimmed to maintain a 20-foot clearance over the streets and/or required work and 8-foot clearance over sidewalks. Small trees (8" diameter or under) also pruned to provide as much street and sidewalk clearance as possible without adversely affecting the vitality of the tree. They shall also have a side clearance of 0 to 2 feet along these corridors to keep growth out of travel space. In both cases, a live crown ratio of at least 50% on each tree must remain after pruning. Branches whose ends are limber enough to bend down, under weight of rain, and fall within the specified clearances shall also be trimmed in the same way. All limbs exceeding one inch in diameter must be precut to prevent splitting.

All branches $3^1/_2$ inches in diameter shall be lowered to the ground by rope. All cuts made are to be flush with the parent stem and parallel with the flow of sap. Tearing, ripping or pulling off of branches is prohibited. Only handsaws, power saws or tools, pole saws or pruners are to be used in any trimming work.

Climbing irons, spurs, or spikes are not used on trees to be trimmed or pruned. Any tree damage caused by Contractor is to be repaired immediately to the satisfaction of the City-Parish Arborist at no additional cost to the Owner. Trees damaged beyond repair, as judged by the City-Parish Arborist, are removed by the Contractor at no additional expense to the Owner and replaced by a tree of size and species designated by the City-Parish Arborist.

Any damage to property as the result of the Contractor's operations shall be the responsibility of the Contractor. The Contractor shall take all necessary precautions to eliminate damage to adjacent trees and shrubs, lawns, or other real or personal property. Holes made in the lawn, regardless of size, shall be filled with sandy loam soil and sodded in accordance with Section 903 at no additional cost to the Owner. Vegetation surrounding a tree marked for trimming shall be disturbed as little as possible.

All wood, limbs, brush, and chips cut down must be hauled away within the same day that it is cut. All open loads of debris must be covered and tied down with tarpaulins or equivalent, when being transported on public streets according to applicable state and local laws and regulations. Dump fees are the responsibility of the Contractor. All areas where tree work has been performed must be left broom clean. The work area shall be kept safe at all times until the clean-up operation is completed. The work site shall be returned to the same state it existing in prior to trimming and pruning work or better.

201-4 CHANNEL CLEARING: Channel clearing consists of cutting, mowing, stacking, treating and clearing of all weeds, brush, trees and debris from within the channel and berms of open drainage channels.

The Contractor shall notify the Project Engineer at least 2 weeks prior to beginning work so that areas and trees or plants not to be cleared can be marked.

Unless otherwise directed, structures located within clearing limits may be temporarily removed for execution of the work. Upon completion of the work, items removed shall be reinstalled or relocated to a condition equal to the condition that existed before the structure was removed. The Contractor shall be liable for damage due to his operations to structures in the clearing area or on adjacent property.

Within the channel, weeds, brush, and trees shall be cut flush with the ground surface, except that trees along steep slopes at the waters edge may be cut to a height of approximately 3 feet and tapered in decreasing height to flush with ground level as you move up the slope.

Tree stumps shall be chemically treated to provide at least 90% kill of regrowth. Immediately after cutting, tree stumps shall be split and treated with Tordon 101R or RTU in accordance with the manufacturer's instructions at the rate of 1.0 ml of undiluted material per 3" of stump diameter, after which a red vegetable or agricultural dye shall be applied. The Contractor shall comply with State and Federal regulations governing labeling and use of herbicides.

All felled material shall be promptly removed from the channel. Felled material suitable for chipping may be chipped and spread on the cleared areas outside the channel slope; material not chipped shall be disposed of beyond the project in accordance with Subsection 202-2.

201-5 CLEARING AND EDGING OF VEGETATION ON SIDEWALKS AND PATHS: This work consists of removing vegetative growth and soil build-up encroaching upon existing sidewalk or path surfaces, joints, and edges. Contractor may use both hand operated and motor-powered tools for this work. Tools shall be capable of trimming vegetation all the way back to the edges of the pavement without damaging the pavement. Edging shall leave approximately ¼" gap between edge of pavement and adjacent grade. All vegetation, debris, and soil shall be removed from the sidewalk or path and properly disposed of by the Contractor within the same day that it is cleared and edged. Dump fees are the responsibility of the Contractor. All sidewalks and paths where clearing and edging has been performed must be left broom clean. Once operations are complete Contractor shall notify Project Engineer for inspection of the work and to identify any potential repairs or rehabilitation needed for the existing sidewalk or path.

201-6 MEASUREMENT: Hauling and disposal shall not be measured separately for payment. If a pay item for clearing and grubbing, removal of trees, tree trimming and pruning, or channel clearing is included in the contract, measurement will be made as follows:

a. **Clearing and Grubbing:** Clearing and grubbing will be measured per acre or on a lump sum basis, as specified. The quantity for acre measurement will be the contract quantity, adjusted as required due to plan errors or plan changes.

b. **Removal of Trees:** Removal of trees will be measured per each tree of specified size range in diameter removed. Tree diameter shall be measured at a location four (4) feet from ground level and approved by the Project Engineer. This item is to be used only when trees have been designated in the plans to be removed on an individual unit basis.

c. **Channel Clearing:** Channel clearing will be measured on a lump sum basis.

d. **Tree Trimming and Pruning:** Trimming and pruning of trees will be measured per each tree of

specified size range in diameter trimmed. Tree diameter shall be measured at a location four feet from ground level and approved by the Engineer. This item is to be used only when trees have been designated in the plans to be trimmed and pruned on an individual unit basis.

e. **Clearing and Edging of Vegetation on Sidewalks and Paths**: Clearing and edging of vegetation will be measured per each square yard of sidewalk or path as designated on the Drawings or as directed by the Project Engineer.

201-7 PAYMENT: If a pay item for clearing and grubbing, removal of trees or channel clearing is included in the contract, payment will be made as follows:

a. **Clearing and Grubbing:** Payment will be made at the contract unit price per acre or the contract lump sum price, as specified, which includes all required clearing and grubbing on the project.

b. **Removal of Trees:** Payment for removal of trees will be made at the contract unit price per each tree of specified size range in diameter removed.

c. **Channel Clearing:** Payment will be made at the contract lump sum price.

d. **Tree Trimming and Pruning:** Payment for trimming and pruning of trees will be made at the contract unit price per each tree of specified size range in diameter trimmed. Tree trimming under this item shall be as designated on the Drawings or as directed by the Project Engineer. Contractor shall coordinate with the property owner prior to trimming and pruning.

e. **Clearing and Edging of Vegetation on Sidewalks and Paths**: Payment will be made at the contract unit price per square yard of sidewalk or path as designated on the Drawings or as directed by the Project Engineer.

If no pay item for clearing and grubbing, removal of trees, tree trimming and pruning, or channel clearing is included in the contract, no direct payment will be made for this work.

201-8 PAY ITEMS:

Item No.	Item	Unit
2010100	Clearing and Grubbing	Lump Sum
2010200	Clearing and Grubbing	Acre
2010300	Removal of Trees (6” to 12”)	Each
2010301	Removal of Trees (13” to 24”)	Each
2010302	Removal of Trees (25” to 36”)	Each
2010303	Removal of Trees (Over 36”)	Each
2010400	Channel Clearing	Lump Sum
2010401	Light Channel Clearing	Lump Sum
2010402	Dense Channel Clearing	Lump Sum
2010500	Trimming and Pruning of Trees (6” to 12”)	Each
2010501	Trimming and Pruning of Trees (13” to 24”)	Each
2010502	Trimming and Pruning of Trees (25” to 36”)	Each
2010503	Trimming and Pruning of Trees (Over 36”)	Each
2010504	Trimming and Pruning of Trees	Lump Sum
2010600	Clearing and Edging of Vegetation on	Square Yard

SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

This section is amended to include the following:

202-2 CONSTRUCTION: The Contractor shall remove and dispose of signs located within the project right of way. This includes removal of signs, pilings, sign foundations, conduit, wiring, and all other related items. The Contractor will be responsible for the coordination of electrical disconnect for the signs if required.

SECTION 203 EXCAVATION AND EMBANKMENT

Section 203 of the Standard Specifications is deleted and replaced by the following:

203-1 DESCRIPTION: This work consists of excavation, disposal, placement and compaction of soil materials for roadways and other structures, excavation for ditches and channels, and other grading operations necessary for the work in accordance with these specifications and in conformity with the lines, grades, thicknesses and typical sections shown on the plans or established. Excavated material may be used in accordance with Subsection 203-07. Erosion control shall be in accordance with Section 903.

203-2 GENERAL EXCAVATION: General excavation consists of excavation of materials within the right-of-way, servitudes or easements, except channel excavation or structural excavation. General excavation also includes unsuitable material in accordance with Subsection 203-5.

203-3 CHANNEL EXCAVATION: Channel excavation consists of excavation for drainage beyond the limits of the roadway section (except for wing ditches at cuts), inlet and outlet ditches to structures or roadways, changes in or deepening of stream channels, berm ditches, ditches parallel or adjacent to the roadway beyond the limits of the roadway section, and material excavated under bridges.

203-4 STRUCTURAL EXCAVATION: Structural excavation consists of excavation for construction of retaining walls, bridge foundations and other structures.

203-5 UNSUITABLE MATERIAL: Unsuitable materials are soils that will decay or produce subsidence in the embankment, or materials containing stumps, roots, logs, humus, or other material not satisfactory for use in the embankment or other construction purposes. The engineer will determine the material to be removed. Unsuitable materials shall be removed and disposed of as general excavation.

203-6 EMBANKMENT MATERIAL: Embankment material consists of soils required for construction of embankments or other portions of the work. Embankment shall be obtained from an approved source and shall be used in accordance with Subsection 203-7.

The contractor shall notify the engineer at least 5 days in advance of borrow sampling operation so that if necessary, the engineer may schedule the observation of the sampling and classification work by an independent laboratory. The contractor will not be permitted to begin borrow operations until materials are approved for use. Prior to commencing borrow operations; the contractor shall submit to the Department a copy of the written agreement between the contractor and land owner.

203-7 SOIL USAGE. At the contractor's expense, an independent laboratory will test and classify soil in accordance with DOTD TR 423 from samples taken in the original location or from designated stockpiles. Soil shall be classified and approved prior to its being placed in embankments or other final positions on the project. Blending in the pit to adjust percent silt or sand will not be permitted. Soils which

do not meet Liquid Limit or PI requirements shall not be blended to reduce Liquid Limit or PI. Soils may be treated with lime to reduce PI in accordance with Subsection 203-7(d). Soil properties will be determined by the test methods shown in Table 203-1.

Table 203-1
Soil Properties

Property	Test Method
Plasticity Index (PI)	DOTD TR 428
Liquid Limit (LL)	DOTD TR 428
% Organic	DOTD TR 413
% Silt	DOTD TR 407
pH	DOTD TR 430

(a) Usable Soils: Usable soils shall have a maximum PI of 25 and a maximum organic content of 5 percent. Soils with a silt content of 50 percent or greater and also a PI of 10 or less will not be allowed.

(b) Nonplastic Embankment: Nonplastic embankment shall be as specified in Subsection 203-10.

(c) Headers: Headers are that portion of the embankment within 500 feet of a bridge end. Headers shall be constructed for their full height with usable soils having a minimum PI of 11, a maximum PI of 25, and a maximum silt content of 65 percent. No lime treatment to the soil to meet the PI requirements will be permitted. Headers shall be compacted to 98 percent of maximum dry density in accordance with Subsection 203-8.

(d) Embankments other than Headers: Embankments shall be constructed with usable soils, except soil with a PI greater than 25 and less than 35 will be permitted when treated with a minimum of 6 percent lime, by volume, provided the organic content and silt requirements given in Heading (a) are met. If the contractor uses lime treatment, it will be at no direct pay. Lime treatment shall be Type D Treatment conforming to Section 303.

(1) The contractor may request in writing that usable soils for temporary detour roads have a PI not to exceed 45 and a maximum silt content of 75 percent provided:

a. This material will be removed and not become part of the permanent embankment.
b. The contractor agrees to take responsibility for any additional maintenance required.

(e) Plastic Soil for Slopes:

(1) Embankment Material: The outside layer of embankment (fill sections) will consist of a plastic soil blanket in accordance with Subsection 203-11. Sampling in the pit may be allowed if an identifiable strata can be isolated. Otherwise, sampling will be from dedicated stockpiles.

(2) Cut Slopes, PI Less than 10: When soils having a PI less than 10 exists on cut slopes, the contractor shall undercut 12 inches and place a plastic soil blanket conforming to Subsection 203-11.

(3) Cut Slopes, PI 10 or Greater: When soils having a PI of 10 or greater but with a pH less than 5.5, or greater than 8.5, exist on cut slopes, the contractor shall undercut and place a plastic soil blanket complying with Subsection 203-11. In lieu of furnishing a plastic soil blanket, the soil may be modified in place so that the pH of the soil complies with the requirements of Subsection 203-11, at the option of the engineer and concurrence of the contractor. In such case payment will be in accordance with existing items or Subsection 10-4, as applicable, not to exceed the cost of undercut and replacement.

(f) Usable Soils for Slope Adjustments and Shoulder Widening: When the thickness of embankment material used for slope adjustment is less than 12 inches, a plastic soil complying with Subsection 203-11 will be required. If the thickness is greater than 12 inches, the contractor will be allowed to substitute plastic soil for usable soil, provided the widening is not directly below a paved shoulder.

203-8 GENERAL REQUIREMENTS: Excavation and embankment construction consists of constructing roadway embankments, including preparation of areas on which they are to be placed; constructing drainage excavation; backslope construction; constructing dikes, when required; placing and compacting approved material in areas where unusable material has been removed; placing and compacting embankment material in

holes, pits and other depressions; and placing and compacting embankment materials for backfilling structures. Prior to beginning excavation, grading or embankment operations in an area, all necessary clearing and grubbing in that area shall have been completed. Prior to any embankment operations in an area, all corresponding roadside ditches shall be cut to facilitate drainage in that area. Embankment materials shall not be placed or spread on portland cement concrete or asphaltic concrete pavements. Pavement surfaces, edges and joints shall not be damaged during embankment operations.

Final excavation and embankment slope lines shall be uniform in appearance. Measurements shall be made as necessary to assure that the elevations at the top, bottom, and intermediate breaks in the slope are such that a minimum acceptable slope is achieved. The slopes shall be straight without valleys or humps, as determined by visual inspection. If an apparent discrepancy is discovered upon visual inspection, measurements shall be taken a minimum of every 10 feet measured along the slope between theoretical break points in the embankment. When these measurements reveal slope variances by more than 0.03 ft/ft, too steep, or 0.15 ft/ft, too flat, the slopes shall be reworked by the contractor until these criteria have been met. The top of embankment shall not vary from the established grade by more than ±0.1 foot.

Embankment material shall be in accordance with Subsection 203-7 and shall be placed in uniform layers not exceeding 12 inches of uncompacted thickness. Each layer shall be placed for the full width of embankment, blended as necessary to obtain a uniform material, brought to a uniform moisture content, and compacted by approved methods to a minimum of 95.0 percent of maximum dry density before the next layer is placed. Maximum dry density will be determined in accordance with DOTD TR 415 or TR 418 and percent in-place density in accordance with DOTD TR 401. The density of the embankment shall be such that the density of the type of base course being constructed as given in Table 203-8 shall be met.

Table 203-8
Base Course Density

Base Course Type	Percent of Maximum Density
Soil Cement	95%
Aggregate Base Course	
Sand Clay Gravel	100%
Stone	95%
Treated Layer Under Asphaltic Concrete	95%

The moisture content at the time of compaction, tested in accordance with DOTD TR 403, shall be within a range of ±2.0 percent of optimum moisture established in accordance with DOTD TR 415 or TR 418 or the lifts shall be reprocessed and recompacted until these requirements are met. Operations shall be conducted to prevent lamination between lifts. Laminations between lifts shall be corrected prior to placing additional lifts. Surfaces of excavated areas and embankments shall be smooth and uniform. Material outside construction limits shall not be disturbed.

Excavated material shall become the property of the contractor. Soils from excavation areas may be used when approved in embankments or other finished sections. Surplus or unusable excavated material shall be disposed of by the contractor in accordance with Subsection 202-2 or as provided in this Subsection.

Channel excavation and rough grading shall be performed simultaneously, unless otherwise directed or permitted. Roots, stumps or other vegetative obstructions in sides and bottom of ditches and channel changes shall be cut to conform to required cross section and grade. Excavated material shall be placed sufficient to protect the integrity of the slope but in no case closer than 3 feet (1.0 m) from the edge of ditch.

When obliteration of old roadways is required, it shall include grading operations necessary to satisfactorily incorporate the old roadway into the new roadway and surroundings in order to provide a pleasing appearance and to allow drainage.

When preparing surface layers on which the embankment or base is to be placed, the engineer will require the contractor to attempt all normal earthwork construction methods before undercutting or modifying the soil with additives. Such construction methods may include, but are not limited to, the following and will be at no direct pay:

(a) Draining and drying of the surface until the material is within the limits of optimum moisture before compaction is attempted.
(b) Using lighter construction equipment for manipulating, disking, drying and compacting the material.
(c) Dumping successive loads of material in a uniformly distributed layer of a thickness necessary to support equipment while placing subsequent layers.
(d) Rerouting heavy construction equipment around the area until the embankment can support the equipment without damage to foundation soils.

Unstable materials shall be removed by undercutting, unless otherwise directed, and backfilled to required section with usable soils as directed.

When undercutting is required, the contractor shall conduct the operations in such manner that the engineer can make necessary measurements before backfill is placed.

When excavation and embankment construction results in surface soils having a PI less than 10 or pH less than 5.5 or greater than 8.5, the contractor shall place a plastic soil blanket complying with Subsection 203-11.

The contractor shall be responsible for the stability of embankments until final acceptance. Construction activities, which may lead to subsequent embankment damage, will not be permitted. When embankments are constructed on a surface sloping more than 6:1 from the horizontal, the slope of the ground on which the embankment is to be placed shall be cut into steps, as directed, before fill is placed.

When a new roadway is to be constructed on an existing roadbed, and the surface of the existing roadbed is within 2 feet of finished sub-grade, the existing roadbed shall be scarified full width to a depth of not less than 9 inches and recompacted in accordance with this subsection.

When an embankment is to be constructed to a height of less than 5 feet, heavy sod and objectionable vegetation shall be removed from the area on which the embankment is to be placed. The area shall be scarified to a depth of approximately 9 inches. This area shall be recompacted to at least 95.0 percent of maximum dry density. Maximum dry density will be determined in accordance with DOTD TR 415 or TR 418 and percent in-place density in accordance with DOTD TR 401. When height of fill is 5 feet or more, removal of sod will not be required but the area on which embankment is to be placed shall be disked to the satisfaction of the engineer and recompacted before construction of embankment.

When embankment material is to be deposited only on one side of abutments, wing walls, piers, or culvert head walls, the area immediately adjacent to the structure shall not be compacted to the extent that it will cause excessive pressure against the structure. Fill adjacent to the end bent of a bridge shall not be placed higher than the top of the substructure until the superstructure is in place. When the embankment is to be deposited on both sides of a concrete wall or similar structure, operations shall be conducted so that the embankment is always at approximately the same elevation on both sides of the structure. Backfilling of structures shall be performed in accordance with Section 701-7.

When embankments are constructed in lakes, streams, swamps or other unstable areas and unstable material cannot be removed or the area drained, the requirement for placing material in layers as outlined above may be waived. When this requirement is waived, the embankment shall be placed by end dump or other approved methods to an elevation where normal construction methods can begin. Embankments placed above this elevation shall be constructed in layers as specified above. When a wave of unsuitable material is forced up in front of the end dumping operation, it shall become the property of the contractor and be removed as necessary,

and will not be allowed to be trapped and be incorporated in the embankment except as part of plastic soil for slopes.

203-9 CUT AREA PREPARATION: The top 12 inches shall be scarified and compacted to such density that the compaction requirements of the type base course being constructed given in Table 1 shall be met. Construction, compaction, and testing requirements shall be in accordance with Subsection 203-8.

When unstable soils are encountered, the engineer will determine the limits to be undercut. The contractor shall excavate to a stable foundation or to the depth required by the engineer and backfill to existing grade. Undercut shall be constructed and tested in accordance with Subsection 203-8.

When a stable foundation cannot be reached, the embankment materials shall be "bridged-in" and the remaining embankment constructed in accordance with Subsection 203-8 to existing grade.

203-10 NONPLASTIC EMBANKMENT:

(a). Materials: Nonplastic embankment material shall be an approved sand or stone with a maximum organic content of 4.0 percent, unless otherwise specified on the plans.

1. Sand: Sand embankment shall consist of nonplastic material with at least 75 percent passing the No. 4 sieve and containing not more than 15 percent passing the No. 200 sieve when tested in accordance with DOTD TR 112 and DOTD TR 113.

2. Stone: Stone shall be coarse stone listed on QPL 2 with a dry rodded unit weight of no greater than 95 pounds per cubic foot when tested in accordance with AASHTO T19. Stone shall comply with the following gradation:

U.S. Sieve	Percent Passing
2 inch	100
1 ½ inch	85 – 100
¾ inch	35 – 88
No. 4	0 – 10

(b) General Requirements: Unsuitable material defined in Subsection 203-5 shall not be entrapped in the embankment. The contractor shall remove any such material at no direct pay.

Surcharge materials shall remain on the embankment for at least the specified number of days after approval of the increment. Damage to embankment increments due to the contractor's operations shall be satisfactorily repaired by the contractor at no direct pay. The contractor will be permitted to remove excess surcharge materials after the surcharge period. Verification cross sections of the final embankment will be taken after removal of the surcharge. The Department will assume liability for subsidence after these cross sections are taken. After all embankment increments have been surcharged, excess surcharge material shall be satisfactorily disposed of in accordance with Section 202-2 at no direct pay.

Except for shell or stone embankments, the contractor shall furnish and place a plastic soil blanket complying with Subsection 203-11.

(c) Nonplastic Embankment Construction: Nonplastic embankments shall be constructed by mechanical methods. Unless otherwise shown on the plans, material shall be placed in lifts not exceeding 15 inches uncompacted thickness after establishing a working table as directed. Each lift shall be compacted and tested in accordance with Subsection 203-8.

203-11 PLASTIC SOIL BLANKET: Plastic soil blanket shall consist of soils having a minimum PI of 11, maximum PI of 35, a maximum silt content of 65 percent, and a pH not less than 5.5 or greater than 8.5, and a minimum organic content of 3 percent. The contractor will be allowed to blend organic materials to achieve the

minimum 3 percent organic content. The plastic soil blanket shall support a satisfactory stand of grass in accordance with Section 903. The minimum thickness of the soil blanket will be 12 inches. Areas requiring a plastic soil blanket shall be approved prior to placement of the plastic soil blanket. After materials are placed and spread, lumps, stones, roots and other foreign matter shall be removed from the area. Soil blanket material shall be spread and rolled in a manner that leaves a uniform surface. Any remaining ridges or grooves, including cleat tracks from the dozer, will be parallel to the roadway during the period of time between placement and seeding.

Plastic soil blanket shall be placed in a timely manner to prevent erosion.

203-12 GEOTEXTILE FABRICS: General: This work consists of furnishing and placing geotextile fabric in accordance with these specifications and in conformance with the details shown on the plans.

(a) Materials: The geotextile fabric shall comply with Section 1022-8.

(b) Construction Requirements: Rolls of geotextile fabric shall be kept covered and protected from ultraviolet degradation at all times until use. Geotextile fabric that has been installed shall be covered with embankment within 7 calendar days. When ultraviolet damage occurs, the geotextile fabric shall be removed and replaced. The geotextile fabric shall be placed at the locations shown on the plans or as directed. Adjacent rolls of geotextile fabric will be overlapped or sewn. When rolls are overlapped, the overlap shall be a minimum of 18 inches, or as specified in the plans, including the ends of the rolls. The top layer of the geotextile fabric shall be parallel with adjacent rolls and in the direction of embankment placement. When rolls are sewn, the contractor shall join adjacent rolls by sewing with polyester or kevlar thread. Field sewing shall employ the "J" seam or "Butterfly" seam with the two pieces of geotextile fabric mated together, turned in order to sew through 4 layers of fabric and sewn with 2 rows of Type 401, two-thread chain stitch. Where the ground is covered with water or soil is saturated, sewing of the geotextile fabric will be required.

The geotextile fabric shall be placed as smooth as possible with no wrinkles or folds, except in curved road sections. For curved road sections, the geotextile fabric shall be folded to accommodate the curve. The fold shall be in the direction of construction and pinned or stapled. Ruts that occur during construction shall be filled and compacted prior to placement of geotextile fabric.
Damaged geotextile fabric shall be either removed and replaced with new geotextile fabric or covered with a second layer of geotextile fabric extending 2 feet in each direction from the damaged area.

203-13 QUALITY CONTROL: The contractor shall locate, select, and place material conforming to specification requirements. The contractor shall control his processes, including performing tests and making adjustments as necessary, to result in a uniform quality product meeting all the requirements of the plans and specifications. Tests for in-place moisture content shall be performed by the contractor in accordance with DOTD TR 403, at a frequency that will ensure that the material is within the tolerances of optimum moisture. Tests for in-place density shall be performed by the contractor in accordance with DOTD TR 401 at a frequency that will ensure that the compactive effort is producing a uniform product that conforms to specification requirements. The contractor shall control placement and finishing to ensure conformance with the lines, grades, thickness, and typical cross-sections shown on the plans or established.

Sections will be inspected prior to acceptance testing. Obviously deficient areas shall be corrected prior to acceptance testing. Proof rolling shall be done with a loaded dump truck if so requested by the engineer.

203-14 ACCEPTANCE: The Department will perform inspection, sampling, and testing for acceptance. Any area that is deficient will require correction whether identified by inspection or testing.

The embankment (with surcharge, if required) will be approved in increments of 1,000 feet, except terminal increments which may be less than 1,000 feet.

Maximum density for earthwork will be determined in accordance with DOTD TR 415 or DOTD TR 418; in-

place density will be determined in accordance with DOTD TR 401.

203-15 CHANNELS:

(a) **Excavation:** If slides occur during the work, slide material shall be removed from the channel bottom, and slopes restored to required section.

Inlets of side ditches and tributaries shall be graded to a minimum bottom width of 2 feet and side slopes not steeper than 2:1.

Where bridges are of ample size, the channel shall be excavated to required section beneath the bridge. If bridges are not of ample size to accommodate the required section, the channel shall be excavated as directed under the bridge.

Where the channel goes through culverts, the culverts shall be cleaned of dirt and debris.

(b) **Backfill:** Material from channel excavation that is reasonably free of vegetation and debris may be used for channel backfill. Backfill shall be placed in layers not exceeding 12" uncompacted thickness and each layer compacted to at least 90% of maximum density determined by AASHTO T 99.

203-16 MEASUREMENT:

(a) General: Unless otherwise specified, plastic soil for slopes in accordance with 203-7(e) will be considered incidental to the embankment and will not be measured separately, but will be measured as embankment.

(b) General Excavation, Embankment and Nonplastic Embankment:
The measurement of quantities will be computed by the average end area method and will be that area bound by (1) the original ground line established by location (plan) cross sections (if accurate) or new original cross sections obtained by the contractor, and (2) the final theoretical pay line as shown on the plans, or established by the engineer, adjusted for field changes.

After clearing and grubbing operations, the contractor will take original cross sections for the entire length of the project. All original cross sections shall be taken in the presence of a designated DPW employee. Cross sections shall be taken at sufficient intervals to accurately determine earthwork quantities, not to exceed 100 linear feet. The cross sections shall be taken in accordance with Department procedures, and results must be furnished to the Department in a format satisfactory to the engineer. The Department reserves the right to take additional cross sections as needed to verify the contractor’s cross sections. In the event the cross sections do not verify, the contractor will investigate and reconcile any differences.

The original cross sections will be used to determine the accuracy of the location cross sections by using random sections not farther apart than 1000 linear feet and centerline elevations at intervals of 100 linear feet. The location cross sections will be considered to be usable if the average of the differentials do not exceed ±0.3 foot. For significant portions of the project with obvious errors between location and original cross sections, the contractor's original field cross sections will be used, and will not be part of the verification process. In all cases where location sections are unavailable, new originals are to be taken and used.

The final theoretical pay line shall be derived from the profile grade, typical section and ditch grades shown in the plans, along with approved plan changes and other field changes made by the engineer. No increase in quantities will be authorized for overbuilding unless directed by the engineer.

Pay lines for surcharged embankments will be the theoretical surcharge lines shown on the plans. No measurement will be made for removing and disposing of excess surcharge materials.

When payment is made for embankment in its final position, no additional quantity will be measured due to settlement, compaction, erosion or other cause.
Excavation and embankment for crossovers, turnouts, driveway approaches or other minor installations will not be included in the measurement. A depth and width tolerance of ±1.5 feet (±0.5 m) will be allowed for excavation of unsuitable material. Overdepth and overwidth will be waived at no direct pay; however, no measurement for payment will be made for additional embankment material required to backfill areas beyond theoretical unsuitable material lines.

Measurement will be made by one or more of the following methods:
(1) Plan Quantity: The quantities of excavation and embankment will be those shown in the plans, provided the project is constructed essentially to the theoretical pay line.
When the plans have been revised or when disagreement exists between the contractor and the engineer as to the accuracy of the plan quantities for the entire project, or any substantial portion thereof, either party may require that quantities be revised. The party requesting the revision will be responsible for isolating and detailing the error in an easily understood format which may include cross sections, sketches, and computations. The revision will be verified and agreed to by the other party.
No payment will be made to the contractor to recompute new plan quantities.
(2) Final Field Cross Sections: When payment lines are not shown on the plans and cannot be established, in lieu of final theoretical pay lines, final field cross sections will be used to determine pay quantities for excavation and embankment.

(c) Borrow Material (Truck Measure): The material will be measured by the cubic yard in hauling vehicles on the jobsite.
(d) Ditch Grading: Ditch grading will be measured by the station along the ditch centerline.
(e) Excavation and Embankment: When payment for excavation and embankment is specified to be made on a lump sum basis, this item includes performing all excavation, embankment and grading work necessary for construction of the project. It is the contractor's responsibility to determine the correct quantities of earthwork required to complete this item. No adjustment in contract price will be made due to errors in any estimated earthwork quantities shown on the plans. Payment for any required borrow material will be included in the contract price for this item.
(f) Geotextile Fabric: The quantity of geotextile fabric for payment will be the contract quantity, adjusted as required due to plan errors or plan changes.
(g) Channel Backfill: The quantity of channel backfill for payment will be the contract quantity, adjusted as required due to plan errors or plan changes.

203-17 PAYMENT: Payment will be made at the contract unit prices.

Payment for undercut and roadway obliteration will be made as "General Excavation". Plastic soil blanket will be included in the pay volume for the embankment. Excavation for plastic soil blanket in cut sections, when required, will be made as general excavation and payment for the required plastic soil blanket will be made as embankment.

203-18 PAY ITEMS:

Item No.	Item	Unit
2030100	General Excavation	Cubic Yard
2030200	Embankment	Cubic Yard
2030210	Nonplastic Embankment	Cubic Yard
2030300	Borrow Material (Truck Measure)	Cubic Yard
2030400	Channel Excavation	Cubic Yard
2030500	Structural Excavation	Cubic Yard

2030700	Ditch Grading	Station
2030800	Excavation and Embankment	Lump Sum
2030900	Geotextile Fabric	Square Yard
2031000	Channel Backfill	Cubic Yard

PART VII DRAINAGE WORK

Delete the Part in its entirety and replace with the following:

SECTION 701

CULVERTS AND STORM DRAINS

701-1 DESCRIPTION: This work consists of furnishing, installing, and cleaning culverts and storm drains in accordance with these specifications and in conformity with the lines and grades as shown on the plans or as established by the Engineer.

When an item for "Storm Drain Pipe" is included in the contract, the Contractor has the option of furnishing either reinforced concrete pipe or thermoplastic pipe in accordance with Section 1015 unless otherwise specified.

701-2 MATERIALS: Materials shall conform to the following Sections and Subsections:

Bedding Material	1001-6
Backfill Sand	1001-7
Portland Cement Concrete	1005
Reinforcing Steel	1006-1
Joint Systems	1015-1
Reinforced Concrete Pipe	1015-2.1
Reinforced Concrete Pipe Arch	1015-2.2
Thermoplastic Pipe	1015-4
Precast Concrete Box Culvert Units	1017-1
Geotextile Fabric	1022-8

701-2.1 Material Type Abbreviations:

a. Reinforced Concrete Pipe:

1. RCP — Reinforced Concrete Pipe
2. RCPA — Reinforced Concrete Pipe Arch

b. Corrugated Metal Pipe:

1. CAP — Corrugated Aluminum Pipe
2. CAPA — Corrugated Aluminum Pipe Arch
3. CMP — Corrugated Metal Pipe
4. CMPA — Corrugated Metal Pipe Arch
5. CSP — Corrugated Steel Pipe
6. CSPA — Corrugated Steel Pipe Arch

c. Thermoplastic Pipe:

1. TPP — Thermoplastic Pipe
2. PVCP — Polyvinyl Chloride Pipe
3. RPVCP — Ribbed Polyvinyl Chloride Pipe
4. CPEPSW — Corrugated Polyethylene Pipe Single Wall
5. CPEPDW — Corrugated Polyethylene Pipe Double Wall

701-2.2 Joint Type Abbreviations:

a. T1 Type 1 Joint
b. T2 Type 2 Joint
c. T3 Type 3 Joint

701-3 TRENCHING AND BEDDING:

a. Excavation: Ensure that the sides of the trench excavation are stable, as evidenced by the sides of the trench being able to maintain a vertical cut face. Consider the sides unstable if fissures develop in the face of or adjacent to the open excavation; if the edge of excavation subsides; if material ravels, spalls, or slumps from the face of the excavation; or if the bottom of the excavation bulges or heaves. In all cases of apparent distress or when the trench excavation exceeds five feet in depth, sloping, benching, and shoring will be required in accordance with the OSHA trench safety standards. Unless otherwise permitted, all trench sheeting shall be removed. For pipe installations utilizing trench boxes, do not disturb the installed pipe and its embedment when moving trench boxes. Move the trench box carefully to avoid trench wall displacement or damage. As the trench box is moved, fill any voids left by the trench box and carefully place and compact the backfill material adjacent to and all along the side of the trench box walls.

Control rainfall runoff or excess moisture by dewatering sumps, wells, well points, or other approved procedures during excavation, bedding installation, over-excavated trench backfilling, pipe placement, and pipe backfill.

Trenches shall be excavated to specified width; if not specified, trenches shall be excavated to a width of at least 18" on each side of conduit. Trenches shall be excavated to the depth required accommodate placement of bedding material.

b. Over-excavation: If unsuitable or unstable bearing material is encountered at trench bottom, unstable material shall be excavated as directed and replaced with limestone encapsulated in geotextile fabric. Payment for additional excavation and stone below specified bedding layer under pipe will be made as extra work in accordance with Subsection 10-4.

c. Forming Pipe Bed: Bedding material shall be placed and mechanically compacted in accordance with Standard Plan 701-01. Lifts shall not be more than 6" thick (compacted).

When the bottom of the pipe is not laid in a trench but constructed above natural soils, construct a uniform bed as specified for the bottom of a trench.

701-4 LAYING CONDUIT: Laying shall begin at downstream end of line. Conduit shall be in contact with foundation throughout its length. Bell or groove ends of conduit and outside circumferential laps of corrugated steel pipe shall be placed facing upstream. Riveted seam corrugated steel pipe shall be placed with longitudinal laps at sides. Lift holes shall be plugged with concrete plug wrapped with plastic gasket material (Ramnek) and covered with a minimum 18”x18” geotextile fabric suitably secured to the pipe. Corrugated steel pipe with lifting lugs shall be handled only by the lugs, and those without lugs shall be handled only by rope slings.

After laying pipe and before placing backfill, the Project Engineer will inspect the pipe for alignment, grade, integrity of joints, and coating damage.

701-4.1 Relaying Pipe: When existing pipe is to be re-laid, pipe shall be removed by methods that will not damage pipe and suitable sections re-laid as specified for new pipe.

701-5 JOINTING CONDUIT: For concrete, metal, and plastic pipes, use Types 2 and 3 joints wrapped with geotextile fabric for a minimum of 12 inches on each side of the joint for pipe 36 inches or less in diameter and a minimum of 18 inches on each side of the joint for pipe greater than 36 inches in diameter. Wrap the ends of the fabric around the circumference of the pipe and overlap at least 10 inches. Secure the edges and ends of fabric for the entire circumference of the pipe.

701-5.1 Joint Usage: Type 3 (T3) joints shall be used for all conduits under or adjacent to pavement, including roadway cross drains, side drains, driveway culverts, and storm drain systems.

701-5.2 Concrete Pipe and Precast Box Culverts: Concrete pipe may be either bell and spigot or tongue and groove. Join pipe sections so that ends are fully entered, and inner surfaces are flush and even. Conduit ends shall be cleaned of dirt and other foreign matter and shall be dry. Use an approved mechanical pipe puller for joining pipes over 36 inches in diameter. For pipe 36 inches or less in diameter, use any approved method for joining pipe that does not damage the pipe.

Joints shall comply with Section 1015. Seal with gasket material installed in accordance with the manufacturer's recommendations.

701-5.3 Corrugated Metal Pipe: Pipe sections shall be joined by coupling bands centered over joint. Coupling bands shall be made of the same base metal and coatings as the pipe. Flexible rubber gasket material shall be placed on entire circumference of pipe under band in 2 corrugations on each side of joint.

a. **Round Pipe:** Coupling bands shall be secured by 2 rods and lugs on each side of joint.

b. **Arch Pipe:** For pipe sizes less than 36" round equivalent, 1-piece bands, 12-inch minimum width, shall be used; for larger pipe sizes, 2-piece bands, 21-inch minimum width, shall be used. Bands shall be secured by angle or strap connections.

701-5.4 Plastic Pipe: Joints for plastic pipe shall be bell and spigot or split coupling bands.

a. **Bell and Spigot Joints:** Gaskets shall be rubber O-rings. Just before jointing, O-ring and gasket seat shall be cleaned of dirt and other foreign material and coated with a flax soap lubricant. Join pipe sections so the ends are fully entered and inner surfaces are flush and even. Use any approved method that does not damage the pipe.

b. **Split Coupling Joints:** Split coupling bands shall comply with all dimensional and material requirements of Subsection 1015-4.3. Center the bands over the joint. Secure the split coupling band to the pipe with a minimum of five stainless steel or other approved corrosion resistant bands.

Place gasket material in the first two corrugation recesses on each side of the pipe connection. Also place gasket material on each band connection to prevent leakage. When using flexible plastic gasket material, it shall be a minimum of 1/2 inch in size. Tighten the bands to create overlap of the band and adequately compress the gasket material.

701-5.4 Joining New Pipes to Existing Pipes and/or Repairing Existing Pipe Joint Separation: Where the joining of pipes of different materials is required or approved, this work shall be done utilizing special adapters and couplers manufactured specifically for this purpose. The adapters and couplers shall be installed and securely attached to both pipe barrels according to the manufacturer's recommendations. If a coupler is not commercially available, the Contractor may use concrete collars as approved by the Engineer to extend the ends of existing pipes that have been damaged or to join different types or sizes of pipes. A 12-inch-wide strip of Class B, C, or D geotextile fabric shall be wrapped around and centered about the joint of the new and existing pipes. A plywood formed concrete collar shall be poured around and centered

about the joint, a minimum two feet wide at a minimum six-inch thickness from outer diameter of pipe. Concrete collar shall be Class 5B3000 concrete mixture and conform to Section 601.

701-6 CAST-IN-PLACE BOX CULVERTS: Cast-in-place reinforced concrete box culverts shall be constructed in accordance with Section 601.

Concrete base slab or footings shall be placed at least 24 hours before wall forms are placed.

For culverts 4 feet or less in height, walls and top slab may be constructed monolithically. Construction joints shall be vertical.

For culverts more than 4 feet in height, concrete walls shall be allowed to set for at least 7 days before top slab is placed.

Each wingwall shall be constructed monolithically.

701-7 BACKFILL: Backfill shall be placed and mechanically compacted in lifts not more than 6" thick (compacted). Cast-in-place box culverts shall not be backfilled until concrete has attained at least 2500 psi compressive strength.

a. **Conduits Under or Within 5 Feet of Pavement:** Backfill shall be sand or sand aggregate compacted to at least 95% of maximum density determined by DOTD TR 401; however, the top 12" of backfill for conduits not under pavement shall be usable excavated soils or select material.

b. **Conduits More Than 5 Feet from Pavement:** Backfill may be sand, sand aggregate, usable excavated soils, or select material; however, the top 12" shall be usable soils or select material. Backfill shall be compacted to at least the density of undisturbed surrounding ground.

c. **Metal Pipe:** Backfill for steel pipe shall have at least 1500 ohm-cm resistivity and a pH of at least 5.

d. **Pipes Subject to Construction Traffic:** Construct the embankment or pipe backfill to a minimum height of 24 inches over the pipe before allowing heavy construction equipment to cross the installation. Where practical, do not construct installations with less than 24 inches of cover over the top of the pipe until after completing the heavy hauling over the pipe location. After completion of hauling operations, remove excess cover material. Remove and reinstall or replace, pipe damaged by hauling and backfilling operations at no direct pay.

701-8 JACKED OR BORED PIPE:

a. **General:** Pipes 30" diameter and greater shall be jacked, and pipes less than 30" shall be bored.

Work shall begin at outfall end of pipe when possible. When grade at jacking or boring end is below ground surface, pits shall be excavated for conducting operations and placing joints of pipe. Sheeting and bracing shall be provided to prevent earth caving.

For pipe with bell joints, if outside bell diameter exceeds outside barrel diameter by more than 1", pipe shall be cased or pressure grouted its full length. Casing shall be an approved type and size.

b. **Jacking:** Heavy duty jacks for forcing pipe through embankment shall be provided. Even pressure shall be applied to all jacks and shall be transmitted to pipe end through a jacking head

designed so that pressure is uniformly applied around ring of pipe. Provide a backstop or jacking frame to adequately resist pressure of the jacks under load.

Pipe shall be set on guides fastened together to support pipe in proper direction at correct grade. Cushioning material, such as plywood, shall be provided between sections of concrete pipe.

Material shall be excavated ahead of pipe and removed through pipe. Excavation shall not extend more than 2 feet beyond forward end of pipe. Distance shall be reduced when necessary to prevent damage to embankment.

A steel cutting edge may be used around forward end of pipe, constructed so that it will transmit pressures uniformly around ring of pipe.

Jacking shall continue without interruption, to prevent pipe from becoming set in embankment.

Pipe shall not vary more than 1/4" in 10 feet from established line and grade. Any variation shall be regular with no abrupt changes in direction. Any pipe damaged or misaligned during the jacking operation shall be removed and replaced by the Contractor at no direct pay.

c. **Boring:** Boring shall be done mechanically, using a pilot hole approximately 2" in diameter. Pilot hole shall extend through embankment and shall be checked for line and grade before boring begins. Variations from line and grade shall not exceed those specified for jacking. Pilot hole shall serve as centerline of larger diameter hole to be bored.

Use of water and other fluids with boring operations will be permitted only to lubricate cuttings. Jetting will not be permitted.

In unconsolidated soil, a gel-forming colloidal drilling fluid consisting of at least 10% high- grade bentonite may be used to consolidate cuttings of bit, seal walls, provide support of hole, and furnish lubrication for removal of cuttings and installation of pipe.

Overcutting in excess of 1" shall be remedied by pressure grouting entire length of installation.

701-9 CLEANING PIPES

a. **Existing Pipes:** Clean designated pipes of soil, debris, and other materials to the invert of the pipe by approved methods that will not damage the pipes. Satisfactorily repair all damage caused by the **cleaning** operations at no direct pay. Dispose of removed soil, debris, and other materials in accordance with subsection 203-8 or as otherwise approved in writing.

b. **Contractor Installed Pipes:** Prior to final acceptance, clean pipes of all debris and soil to the invert of the pipe at no direct pay. Dispose of removed soil, debris, and other materials in accordance with subsection 203-8 or as otherwise approved in writing.

701-10 STUBBING AND PLUGGING PIPES: Construct pipe plugs with Class 5B3000 concrete complying with Section 1005. Thickness of plug and method of construction shall be a minimum of 18 inches or as directed.

When stubbing new pipes are to be stubbed into new or existing pipes or other structures, make the connection with approved mortar complying with ASTM C1329.

701-11 ACCEPTANCE: After completion of embankment and prior to roadway surfacing, the Project Engineer shall inspect pipes for proper alignment and integrity of joints. Contractor shall correct any misaligned pipe or defective joints at no direct pay.

Prior to final inspection of project, all new and relaid conduit shall be cleaned of debris and soil in accordance with 701-9. Existing conduit which was extended shall also be cleaned of debris and soil within project limits.

701-11.1 Plastic Pipe: Plastic pipe shall not exceed a vertical deflection of more than 5%. Maximum allowable deflections shall be governed by the mandrel requirements stated herein. Perform deflection tests no sooner than 30 calendar days after installation and compaction of backfill. Clean the pipe and inspect for offsets and obstructions prior to testing.

For pipe 36 inches and less in diameter, pull a mandrel through the pipe by hand to ensure that maximum allowable deflections have not been exceeded. The mandrel must be approved by the engineer prior to use. Use of an unapproved, mandrel or a mandrel altered or modified after approval mandrel will invalidate the test. If the mandrel fails to pass through the pipe, the pipe is over-deflected.
Unless otherwise permitted, uncover over-deflected pipe and, if not damaged, reinstall. Do not reinstall damaged pipe. Remove and replace with new pipe. Any pipe subjected to any method or process other than removal, which attempts, even successfully, to reduce or cure any over-deflection, shall be removed and replaced with new pipe.

Use a rigid, nonadjustable, odd-numbered leg (minimum 9 legs) mandrel having a length not less than its nominal diameter or 24 inches, whichever is less. The minimum diameter at any point shall be 5.0 percent less than the base inside diameter of the pipe being tested. The mandrel shall be fabricated of steel, aluminum, or other approved material fitted with pulling rings at each end. The nominal pipe size and outside diameter of the mandrel shall be stamped or engraved on some segment other than a runner. Furnish a suitable carrying case.

For pipe larger than 36 inches in diameter, determine deflection by a method approved by the engineer. If a mandrel is selected, the minimum diameter, length, and other requirements shall conform to the above requirements.

Conduct mandrel testing in the presence of the engineer. Mandrel testing shall be at no direct pay.

701-11.2 Corrugated Metal Pipe: If the inside diameter of metal pipe or rise dimension of metal pipe arch deflects more than 5.0 percent from original dimensions, remove and reinstall the metal pipes or pipe arches, unless they do not rebound or are damaged. Remove pipes or pipe arches which are damaged or do not rebound; and replace at no direct pay. Measurement of deflection will be made by the engineer away from rerolled ends.

701-12 MEASUREMENT: Quantities of conduit for payment will be the contract quantities, adjusted as required due to plan errors or plan changes.

No measurement for payment will be made for excavation, bedding, geotextile fabric or backfill, except for removal and replacement of unstable foundation material as specified under Subsection 701-3.

Quantities of jacked or bored pipe for payment will be the design lengths as specified on the plans and adjustments thereto. Design quantities will be adjusted if the Project Engineer makes changes to adjust to field conditions, if plan errors are proven, or if design changes are made. Required excavation, sheeting, bracing, falsework, casing, joint materials and grouting will not be measured for payment. Pipe cost is included in the pay item.

Adapter/coupler or concrete collar required to join new pipes to existing pipes shall be measured per each location as identified in the plans.

Cleaning of existing pipes will be measured by the linear foot of pipe cleaned and accepted.

Plugging and stubbing of pipes will not be measured for payment.

701-13 PAYMENT: Payment for concrete or metal pipe will be made at the contract unit price per linear foot for the specified conduit sizes and types, which includes all labor, materials, equipment, tools, and incidentals necessary to complete the work.

When plastic pipe is shown on the plans or elected to be used by the Contractor, payment will be made at the contract unit price per linear foot of the types and sizes specified in accordance with the payment schedule of Table 701-1.

Table 701-01
Payment Schedule for Plastic Pipe

Percent Payment	Stage of Completeness
75	After placement and backfill has been completed
25	After the pipe has met vertical deflection requirements in accordance with 701-11.1

Payment for jacked or bored pipe will be made at the contract unit price per linear foot, which includes all labor, materials, equipment, tools, and incidentals necessary to complete the work.

Payment for adapter/coupler or concrete collar required to join new pipes to existing pipes shall be made per each location as identified in the plans. The cost of the adapter/coupler or concrete collar shall be paid for under the pay item Concrete Collar.

Payment for cleaning existing pipes will be made at the contract unit price per cleaned linear foot.

701-14 PAY ITEMS:

Item No.	Item	Unit
70101--	__" Storm Drain Pipe	Linear Foot
70102--	__" Reinforced Concrete Pipe	Linear Foot
70103--	__" Reinforced Concrete Pipe Arch	Linear Foot
70104--	__" Reinforced Concrete Box Culvert	Linear Foot
70105--	__" Corrugated Metal Pipe	Linear Foot
70106--	__" Corrugated Metal Pipe Arch	Linear Foot
70107--	__" Polymer Coated Corrugated Steel Pipe	Linear Foot
70108--	__" Polymer Coated Corrugated Steel Pipe Arch	Linear Foot
70109--	__" Thermoplastic Pipe	Linear Foot
7011000	Relaid Pipe	Linear Foot
70111--	__" Jacked or Bored Drain Pipe	Linear Foot
7012000	Concrete Collar	Each
9900042	Cleaning Existing Pipes	Linear Foot

SECTION 702

DRAIN MANHOLES, INLETS, JUNCTION BOXES AND END TREATMENTS

702-1 DESCRIPTION: This work consists of constructing and adjusting storm drain manholes, inlets, junction boxes, and culvert end treatments, and safety ends in accordance with these specifications and in conformity with lines and grades shown on the plans.

702-2 MATERIALS: Materials shall conform to the following Sections and Subsections:

Bedding Material	1001-6
Backfill Sand	1001-7
Portland Cement Concrete (Class 6A4000)	1005
Reinforcing Steel	1006-1
Brick	1010-1
Frames, Grates and Covers	1011-5
Metalwork Paint	1012-4
Plastic Gasket Material	1015-1
Precast Concrete Drainage Units	1017

The Contractor may furnish structures of either cast-in-place concrete or precast concrete units.

702-3 CONSTRUCTION:

a. **General:** Excavation shall extend 18" from outside of structure on all sides. Remove all logs, stumps, and other undesirable material. Structures shall be set on a 6" compacted thickness of bedding material if foundation soil is stable; if foundation soil is unstable, unstable soil shall be removed as directed and replaced with bedding material, and payment therefore will be made as extra work in accordance with Subsection 10-4. Bedding material shall be compacted in accordance with Subsection 701-3. At time structure is placed, excavation shall be dry.

Pipes shall be flush with inside walls of structure and project outside sufficiently for proper connection with the next conduit section. Completed new or adjusted structures shall be cleaned of dirt and debris.

b. **Brick Structures:** Brick structures shall only be allowed when specifically shown on the plans or as directed by the Project Engineer.

Concrete foundations for brick structures shall be constructed in accordance with Section 601 and shall be placed 24 hours before brickwork is begun. Brick shall be clean, wetted immediately before laying, and laid on a full mortar bed. Joints between courses of bricks shall be a uniform thickness of 3/8". If new work is to be joined to existing or unfinished work, contact surfaces shall be cleaned and moistened.

No water shall be permitted to stand or run on brickwork until mortar has set. Inside and outside surfaces of structure shall be plastered with 1/2" thick mortar.

c. **Concrete Structures:** Cast-in-place concrete structures shall be constructed in accordance with Section 601.

Drainage structures shown on the plans are based on cast-in-place construction. Precast concrete structures may be substituted by the Contractor, however any modifications of precast units or inability to use precast units due to field conditions that otherwise can be installed by cast-in-place methods shall be the sole responsibility of the Contractor. No additional compensation shall be given to the Contractor due to modification or elimination

of preordered precast units.

Precast concrete structures shall be manufactured in accordance with Section 1017. Joints between

precast concrete units shall be sealed with flexible plastic gasket material.

Prior to installing gasket materials, the gasket seat shall be cleaned of dirt and other foreign matter and shall be dry. At temperatures below 60°F, gasket material shall be heated before installation.

d. **Pipe Connections:** At pipe connections with structure, a 1/2" diameter bead of hydrophilic elastic sealant shall be placed around pipe at center of structure wall and also along center of wall opening. Space between pipe and wall shall then be grouted up from both sides of wall.

For cast in place drainage structures: Use non-shrink grout for pipe connections to concrete drainage structures, unless otherwise shown on Drawings. Grout pipe penetration in place on both inside and outside of drainage structures.

For precast drainage structures: Provide watertight connections in accordance with ASTM C 923 and ASTM F 2510 as applicable.

e. **Safety End Treatments:** Furnish and install safety ends on cross drains and roadside culverts in accordance with these specifications, plans and as directed. Cast-in-place concrete structures shall be constructed in accordance with Section 601. Bolt pipe runners in place as shown on the plans. Cast bolts into the plastic concrete or place in approximately one inch diameter holes and epoxy in place using an approved anchor system.

f. **Adjusting Structures:** If grade adjustment of existing structures is required, frames, covers and gratings shall be removed, and structure walls reconstructed as specified for new work. Frames, covers and grates shall be cleaned and placed in good repair (or replaced, if specified), and reset at required elevation.

Structures may also be adjusted with metal adjusting rings connected to existing ring by either welding at least 30% of circumference or by using an epoxy system designed for metal- to-metal adhesion.

g. **Frames, Covers and Grates:** Frames shall be set in a full mortar bed. Nongalvanized parts shall be coated with jet black metalwork paint satisfactory to the Project Engineer.

h. **Backfill:** Backfill shall be placed in accordance with the plan details and in lifts not more than 8" thick (loose). With approval of the Project Engineer, layer thickness may be increased to 12 inches with verification of satisfactory installation and performance.

1. Paved Areas (within 5 feet of roadway): Backfill shall be sand or sand aggregate (bedding material) and compacted to a minimum of 95 percent of the maximum dry density as determined by ASTM D698.
2. Nonpaved Areas: Backfill can be sand, sand aggregate or usable soils and be compacted to at least the density of undisturbed surrounding ground.

Dispose of excavated material not satisfactory for backfill and surplus material in accordance with Subsection 203-8.

702-4 MEASUREMENT: New and adjusted inlets, manholes, junction boxes, and safety end

treatments will be measured per each. Trench drains will be measured by the linear foot.

702-5 PAYMENT: Payment will be made at the contract unit prices, which includes excavation, bedding and backfill.

702-6 PAY ITEMS:

Item No.	Item	Unit
70201--	Single Curb Inlet (Type)	Each
70202--	Double Curb Inlet (Type)	Each
70203--	Single Grate Inlet (Type)	Each
70204--	Double Grate Inlet (Type)	Each
70205--	Weir Inlet (Type)	Each
7020600	Yard Drain Inlet	Each
70207--	Drain Manhole (Type)	Each
70208--	Junction Box (Type)	Each
70209--	Trench Drain (_" Width)	Linear Foot
7021000	Adjusting Drain Manholes, Inlets and Junction Boxes	Each
7022100	Cross Drain Safety End Treatment	Each
7022200	Culvert Safety End Treatment	Each

SECTION 703

PIPE UNDERDRAINS

703-1 DESCRIPTION: This work consists of furnishing and constructing pipe underdrain systems.

703-2 MATERIALS: Materials shall conform to the following Subsections:

Bedding Material	1001-6
Plastic Pipe	1015-4
Geotextile Fabric	1022-7

Fittings and materials necessary to make splices of plastic pipe underdrain and to make connections of the perforated plastic pipe to non-perforated plastic pipe shall be from the same pipe manufacturer. Fittings shall be designed to prevent soil or aggregate intrusion into the piping.

703-3 CONSTRUCTION:

a. **Perforated Pipe:** Trench shall be lined with geotextile fabric and a layer of bedding material at least 3" thick placed in bottom of trench before pipe is laid. Adjoining sheets of geotextile fabric shall be lapped a minimum of 18 inches. Pipe shall be securely jointed and firmly embedded in bedding material. Upgrade ends of pipe shall be capped or plugged and exposed ends shall be covered with galvanized hardware cloth.

Pipe shall be backfilled with bedding material to at least 3" over pipe. Remainder of backfill shall be usable soil placed in layers not more than 12" thick (loose) and compacted as directed.

b. **Nonperforated Pipe:** Pipe sections shall be securely jointed, joints wrapped with 24" wide geotextile fabric and backfilled with usable soil in layers not more than 12" thick (loose) compacted as directed. Exposed outfall ends of pipe shall be covered with galvanized hardware cloth.

703-4 MEASUREMENT: Quantities of pipe underdrains for payment will be the contract quantities, adjusted as required due to plan errors or plan changes.

703-5 PAYMENT: Payment for pipe underdrains will be made at the contract unit prices per linear foot, which includes excavation, bedding material, pipe, fittings, geotextile fabric, backfill and hardware cloth.

703-6 PAY ITEMS:

Item No.	Item	Unit
70301--	__" Perforated Pipe Underdrain	Linear Foot
70302--	__" Nonperforated Pipe Underdrain	Linear Foot

SECTION 704

REVETMENTS AND CHANNEL PAVING

704-1 DESCRIPTION: This work consists of furnishing and constructing revetments for protection of embankment slopes, stream channels, culvert end treatments, and other areas. Revetments shall be constructed in accordance with these specifications and in conformity with the details shown on the plans or as directed.

When an item for "Flexible Revetment" is included in the contract, the Contractor has the option of constructing revetments of either riprap, sacked concrete or cabled articulated concrete block mattress. Unless directed otherwise, use the same type of revetment at each location.

704-2 MATERIALS: Materials shall conform to the following Sections and Subsections:

Riprap	1001-8
Portland Cement Concrete (Class 6A4000)	1005
Reinforcing Steel	1006-1
Geotextile Fabric	1022-7
Premolded Expansion Material	1007-1

704-3 CONSTRUCTION:

a. **General:** Slopes and areas to be re-vetted and channel areas to be paved shall be dry or dewatered. Logs, stumps and other undesirable material shall be removed, and areas brought to required grade and compacted to at least the density of surrounding undisturbed ground.

All revetments, except cast-in-place concrete, shall be placed on geotextile fabric.

b. **Geotextile Fabric:** Ends of fabric shall be buried as specified. Adjacent fabric strips shall be lapped at least 18" and pinned at maximum 5-foot intervals. Do not damage geotextile fabric during revetment placement. Repair damaged geotextile fabric or replace as directed by the Engineer.

c. **Cast-in-Place Concrete:** Before concrete is placed, 1/4" premolded expansion material shall be placed around piles, columns, and other structural elements as directed.

Slope paving shall commence at toe and progress upslope. Paving of other areas shall be placed as directed. Concrete shall be placed, consolidated and cured in accordance with Section 502.

d. **Stone Revetment:** Toe and end walls shall be constructed by placing riprap in trench lined with geotextile fabric. Placement of riprap shall begin at bottom of slope in a layer having the specified average thickness and progress upslope. A tolerance of 2 inches above or below the specified thickness will be allowed. Openings between stones shall not expose fabric. Riprap shall comply with Section 705.

e. **Cable Articulated Concrete Block Mattress:** Sufficiently excavate the area in which the mattress is to be placed to ensure that the mattress is resting on the bottom of the trench. Excavate the trench to an elevation six inches below the grade line shown on the plans. The mattress placement direction shall be as shown on the plans or as directed by the Engineer. Where requiring more than one width or length of mattress, bind adjacent mattresses together according to plan details or manufacturer’s recommendations to the satisfaction of the Engineer.

After completion of revetment, topsoil shall be spread over revetment to fill cell openings and/or annular spaces, and area shall be seeded and fertilized in accordance with Section 903.

f. **Sacked Concrete Revetment:** Concrete for sacked revetment shall be wet-batched. Sacks shall be burlap uniformly filled to approximately 3/4 cubic foot. Open end shall be folded under bag during placement. Sacks of wet-batched concrete shall be placed in one layer in contact with adjacent sacks and tamped into position. Placement of sacked concrete on slopes shall begin at toe and progress upslope. Sacked concrete for other areas shall be placed as directed.

704-4 MEASUREMENT: Quantities for payment will be the contract quantities, adjusted as required due to plan errors or plan changes.

Design quantities are based on surface area of revetment and channel paving. Site preparation, toewalls and sidewalls, geotextile fabric, premolded expansion material and topsoil will not be measured for payment. Excavation, cables, and ties for cabled articulated concrete block mattress will not be measured for payment.

704-5 PAYMENT: Payment for revetments and channel paving will be made at the contract unit price per square yard, which includes furnishing and installing all materials as shown on the plan details and in accordance with this section.

Payment for seed and fertilizer will be made in accordance with Section 903.

704-6 PAY ITEMS:

Item No.	Item	Unit
7040100	Flexible Revetment	Square Yard
7040200	Cable Articulated Concrete Block Mattress	Square Yard
7040300	Stone Revetment	Square Yard
7040400	Sacked Concrete Revetment	Square Yard
70405--	__" Cast-in-Place Concrete Revetment	Square Yard
70406--	__" Concrete Channel Paving	Square Yard

SECTION 705

RIPRAP

705-1 DESCRIPTION: This work consists of furnishing and placing riprap in accordance with these specifications and in conformity to lines, grades, and thickness shown on the plans or as directed.

705-2 MATERIALS: Materials shall conform to the following Subsections:

Riprap	1001-8
Geotextile Fabric	1022-7

Visually inspect riprap at the source, project site, or both to control gradation. Any difference of opinion between Engineer and Contractor will be resolved by checking the gradation of two random truckloads (or equivalent size samples). Furnish equipment, labor, and a sorting site at no direct pay.

705-3 CONSTRUCTION:

705-3.1 Riprap: Areas on which riprap is to be placed shall be graded to required section and compacted as directed. Geotextile fabric shall be placed on areas prior to placing riprap. Ends of fabric shall be buried for anchorage, and adjacent fabric strips shall be lapped at least 18" and pinned at maximum 5-foot intervals.

Riprap shall be placed by methods that do not damage geotextile fabric. Larger stones shall be placed first and smaller stones used to fill in areas between larger stones so that no geotextile fabric is exposed. Repair damaged geotextile fabric or replace as directed by the Engineer. Surface of completed riprap installation shall be uniform.

When placement in water currents is required, riprap shall be placed by methods that compensate for drift. Furnish necessary facilities, equipment, and personnel for checking riprap depth and distribution.

705-3.2 Filter Stone: When specified, place filter stone on the prepared slope or area before placement of riprap. When filter stone is placed underwater, free dumping will not be permitted. Use controlled methods for underwater placement using bottom dump buckets or wire rope baskets lowered through the water to the point of placement. Contractor shall place riprap promptly after placement of filter stone.
Unless shown otherwise on the plans or directed by the Engineer, filter stone shall be Riprap Class 10 lb or less.

705-4 MEASUREMENT: Riprap and filter stone may be measured on a square yard, cubic yard, or weight basis as specified. No measurement will be made for excavation or backfilling.

a. Square Yard: The quantity of riprap for payment will be that actually placed to the limiting dimensions shown on the plans or as directed by the Engineer.

b. Cubic Yard: Measurement will be made by the cubic yard, truck measure, at jobsite. Materials delivered by weight will be measured by the ton from certified weight tickets, and divided by 1.5 to determine pay quantity.

c. Ton: Measurement will be made by the ton from certified weight tickets.

705-5 PAYMENT: Payment for riprap will be made at the contract unit price, which includes geotextile fabric. Filter stone will be paid for as riprap.

705-6 PAY ITEMS:

Item No.	Item	Unit
70501--	__" Thick Riprap (Riprap Class)	Square Yard
70502--	__-lb Riprap	Cubic Yard
70503--	__-lb Riprap	Ton

SECTION 903 EROSION CONTROL:

This Section of the Standard Specifications is deleted in its entirety and replaced by the following:

903-1 DESCRIPTION: This work consists of providing all; administrative, labor, materials, equipment, and accessories required to permit, install, monitor, maintain, and remove where required, temporary and permanent sedimentation and erosion control measures.

903-2 MATERIALS: Materials shall comply with the following Sections and Subsections.

Fertilizer	1022-2
Seed	1022-3
Straw Mulch & Fiber Mulch	1022-5
Straw Mat	1022-7.1
Excelsior Mat	1022-7.2
Slab Sod	1022-9

Materials not covered by project specifications shall meet commercial grade standards and shall be approved before being incorporated into the project. No testing of materials used in temporary erosion control features will be required. Acceptance of temporary erosion control materials will be by visual inspection.

903-3 CONSTRUCTION: Installation of temporary erosion control features shall be coordinated with construction of permanent erosion control features to ensure effective erosion control at all times. The contractor shall install or construct temporary erosion control features prior to initiation of land disturbance activities.

903-3.1 Temporary Erosion Control and Storm Water Pollution Prevention Plan: In accordance with Section 7-7 the contractor will abide by the terms and conditions of the Storm Water Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit. The Contractor shall prevent to the maximum extent practicable the transmission of soil particles into streams, canals, lakes, reservoirs or other waterways. Except as necessary for construction, excavated material shall not be deposited in streams or impoundments, or in a position close enough to be washed into waterways by high water or runoff.

Lands or waters outside construction limits shall not be disturbed, except as authorized. The contractor shall not unnecessarily strip vegetation near stream banks.

For disturbed areas greater than 1 acre including but not limited to: project construction limits, staging and disposal areas, temporary access roads, detours, and borrow areas, the contractor shall be required to develop a SWPPP (Storm Water Pollution Prevention Plan). The contractor shall contact LADEQ for the latest specific requirements regarding the Storm Water General Permit and Notice of Intent.

The engineer may limit exposure of unprotected earth and may direct the contractor to provide immediate permanent or temporary erosion or pollution control measures to prevent contamination of streams, lakes, reservoirs, canals or other impoundments or prevent detrimental effects on property outside the right-of-way.

For projects with a total cumulative disturbed area greater than 1 acre including but not limited to: project construction limits, staging and disposal areas, temporary access roads, detours, and borrow areas, the contractor shall be required to develop a SWPPP (Storm Water Pollution Prevention Plan) by completing the current EPA SWPPP template. The contractor shall contact LADEQ for the latest specific requirements regarding the appropriate LADEQ Storm Water General Permit, Notice of Intent, and Notice of Termination forms.

As required by the contract documents and as detailed in the contractors SWPPP, the contractor shall place, monitor, and maintain; temporary seed, fertilizer, mulch, sandbags, hay bales, silt fences, slope drains, sediment check dams, sediment basins, and other best management practices. Earth berms shall be constructed as needed to direct water away from slopes.

The use of erosion control features or methods other than those in the contract shall be as contained in the

Contractors SWPPP and shall be considered included in the lump sum cost for the development and maintenance of the SWPPP .

(a) **Temporary Seeding, Fertilizing and Mulching:** Seeding, fertilizing and mulching shall be performed in accordance with Subsection 903-3.2, modified as follows. Ground preparation shall be limited to blading the area; grass seed shall be a fast-growing species suitable to the area; application rates of seed, fertilizer and mulch may be reduced when directed.

(b) **Sandbags and Hay Bales:** Sandbags shall be 1 cubic foot burlap bags, filled at least 3/4 full with sand. Hay bales shall be standard size bales and shall be secured by stakes.

(c) **Slope Drains:** Slope drains shall be constructed of pipe, riprap or other suitable material, with riprap protection at the discharge end.

(d) **Sediment Basins:** Sediment basins shall be excavated to collect silt, and shall be cleaned out as necessary to maintain their effectiveness. Basin outfall shall be riprap protected.

(e) **Sediment Check Dams:** Check dams shall be constructed in ditches, and shall consist of logs and brush or fencing.

(f) **Silt Fencing:** Silt fencing shall be geotextile fabric, either wire-supported or self-supported, attached to posts.

(g) **Curb Inlet Protection:** Temporary sediment control device or measure to prevent silt, sediment and debris from entering storm drain curb inlets. Inlet protection is to be implemented at existing curb inlets prior to construction. The device shall be centered against the curb inlet with a minimum of 12 inches of the device overhanging on each side of the inlet opening. No part of the device, or ponding created by the device, shall interfere with the flow of traffic, create a safety hazard, or cause property damage. Effective curb inlet protection must be provided throughout the project until all sources with potential for discharging into inlets have been paved or stabilized. Contractor shall remove curb inlet protection once surface restoration in the contributing drainage area is complete. Due care shall be taken to ensure sediment does not fall into the inlet and impede the intended function of the device. Any material falling into the inlet shall be removed. Contractor shall maintain devices and remove all accumulated sediment and debris from surface and vicinity of unit after each rain event or as directed by Engineer in order to provide adequate sediment holding capacity and performance of device.

(h) **Maintenance of Erosion Control Features:** The contractor shall install, construct, repair, and maintain temporary erosion control features within 48 hours of initiation of land disturbance activities. Temporary erosion control features shall be inspected at least once every 14 calendar days, in advance of any anticipated rain events, and within 24 hours after a rainfall event of 0.5 inches or greater. The features are to be maintained as described below or replaced as directed at no direct pay.

(1)**Temporary Seeding**: The seeded areas showing erosion after inspection shall be reseeded if necessary.

(2)**Mulches:** Mulched areas showing erosion shall be repaired and the mulch reapplied if necessary.

(3)**Straw or Hay Bale Barriers:** The bale barriers shall be inspected after each rainfall and time frame as defined above and at least daily during prolonged rainfall. Close attention shall be paid to the repair of damaged bales, "end runs" and undercutting beneath bales.

(4)**Slope Drains:** Slope drains shall be inspected weekly and after each rainfall as defined above, and repairs made if necessary. The contractor shall avoid the placement of any material on and prevent construction traffic across the slope drain.

(5)**Sediment Check Dams:** Sediment deposits shall be removed when the deposits reach one-half the height of the check dam. Inspections shall be made to insure that the center of the dam is lower than the edges. Erosion around the edges shall be corrected immediately.

(6)**Silt Fencing:** Sediment deposits shall be removed when the deposits reach one-half the height of the fence. If the fabric on the silt fence decomposes or becomes ineffective, the fabric shall be replaced promptly.

(7)**Temporary Stone Construction Entrance and/or Wash Racks:** The construction entrance shall be maintained to allow for removal of mud from the tires. The sediment from the wash rack runoff shall be removed once the wash rack is no longer performing as intended.

(i) **Removal of Temporary Erosion Control Features:** Temporary erosion control features existing at the time of construction of permanent erosion control features shall be removed or incorporated into the soil in such manner that no detrimental effect will result. The engineer may direct that temporary features be left in place.

903-3.2 Permanent Erosion Control:

903-3.2.1 Seeding and Fertilizing: Seed beds shall be disked and pulverized at least 3" deep; then leveled and lightly rolled prior to seeding. Seed shall be applied by one of the following methods:

(a) **Broadcast:** Seed and fertilizer shall be uniformly spread by hand or mechanical methods. If hand spreading is used, seed and fertilizer shall be sown in 2 directions at right angles to each other.

(1) **Fertilizer:** Fertilizer shall be applied at the following rate:

Type	Pounds Per Acre
8-8-8	1,000
12-12-12	667
13-13-13	615
16-16-16	500

(2) **Seed:** Seed shall be sown at the following rate:

	Seed Mixture and Rate/1000 SF
March-September	1 Lb Hulled Bermuda
October-February	1 Lb Unhulled Bermuda and 2 Lb Winter Rye

(b) **Hydroseeding:** Seed, fertilizer, mulch and tackifier shall be placed in a single mechanical operation at the following rates:

	Planting Mixture and Rate (Lb/1000 SF)					
	Hulled Bermuda Seed	Unhulled Bermuda Seed	Winter Rye Seed	Water Soluble Fertilizer	Fiber Mulch	Soil Tackifier
March-September	1	-	-	30	35	1.5
October-February	-	1	2	30	35	1.5

903-3.2.2 Watering: Seeded and sodded areas shall be watered at a rate of 5 gal/sy immediately after seed is broadcast or sod is placed. When necessary, additional water shall be applied to seeded or sodded areas to supplement natural rainfall until the Owner accepts the work. Water shall be applied with approved sprinkling equipment what will spread the water evenly and in a manner that will not cause erosion of the soil surface.

903-3.2.3 Mulching:

903-3.2.3.1 Straw Mulch: Straw mulch shall be spread on seeded areas at rate of 2 ton/acre.

903-3.2.3.2 Fiber Mulch: Fiber mulch shall be spread on seeded areas at rate of 1-1½ tons/acre.

903-3.2.4 Erosion Blanket: Erosion control blankets shall be straw or excelsior mats and shall be placed on seeded areas.

On slopes, blanket strips shall be placed either transverse or parallel to slope. Blanket shall be turned down into 6" anchor slots at top and bottom of slope. Mats shall be stapled to ground at maximum 6-foot intervals staggered on adjacent rows. Straw mats shall be overlapped 6" on ends and sides; excelsior blanket strips shall be tightly butted with adjacent strips at ends and sides.

In ditches, blanket strips shall be placed parallel to ditch, beginning at downstream end. Sides and ends of excelsior strips shall be tightly butted with adjacent strips; sides and ends of straw mats shall be turned down into 6" deep anchor slots at ends and sides. Mats shall be stapled to ground at maximum 4-foot intervals, staggered on adjacent rows.

903-3.2.5 Slab Sod: Areas to be slab sodded shall be disked and pulverized at least 3" deep. The Contractor shall commence work on lawns and grassed areas within fourteen (14) days from the completion of the repair, work, or final disturbance of the area. Prior to slab sodding, topsoil shall be uniformly spread over areas and lightly compacted. Areas to be sodded shall be finish graded, tilled, raked and debris removed. The Engineer shall approve the finish grade of all areas prior to application of sod. The Contractor shall furnish sod equal to and similar in type as the surrounding area.

Approximately 90% of the required fertilizer shall be placed on the area prior to placing sod, and the remainder of the fertilizer shall be broadcast after the sod is placed. Sod shall be rolled or tamped after placement.

Upon completion of sodding operations, all excess soil, stones, and debris remaining shall be removed from the construction area. Sodded areas shall be protected against traffic or other use by placing warning signs or erecting barricades as necessary. The Contractor, at no additional cost, shall repair any areas damaged prior to actual acceptance by the Owner.

The sodded area will not be accepted until a satisfactory stand of grass has been established. A satisfactory stand of grass is defined as a full lawn cover of the predominant vegetative species existing prior to the beginning of the Work over the disturbed areas, with grass free of weeds, alive and growing, leaving no bare spots larger that ¾ square yard within a radius of ten (10) feet. If a satisfactory stand of grass has not been obtained within a reasonable period of time, the Engineer shall instruct the Contractor in writing that the vegetative cover is not adequate and that additional measures shall be undertaken by the Contractor to establish the required satisfactory stand of grass.

903-4 MEASUREMENT:

(a) **Temporary Erosion Control:** When temporary erosion and pollution control measures are required due to the contractor's negligence or failure to install permanent controls, such work shall be performed by the contractor at no direct pay. Required temporary erosion and pollution control work which is not due to the contractor's negligence will be measured as follows:

(1) **Seed, Fertilizer and Mulch:** Measurement will be made in accordance with Heading (b) below.

(2) **Sandbags, Hay Bales, Sediment Basins and Sediment Check Dams:** Measurement will be made per each.

(3) **Silt Fencing and Slope Drains:** Measurement will be made by the linear foot.

(4) **Temporary Curb Inlet Protection:** Measurement will be made by the linear foot.

When temporary erosion control work is ordered and is not covered by contract items, the work shall be performed

as extra work in accordance with Sections 4-2 and 10-4 except that no extra work order will be required prior to starting work.

The construction of temporary earth berms along edges of the roadway to prevent erosion during grading and subsequent operations will not be measured for payment.

In case of failure of the contractor to control erosion, or siltation, the Engineer may employ outside assistance or use his own forces to provide the necessary corrective measures, and the cost thereof will be deducted from payments for the work. Partial payments will be withheld until satisfactory temporary erosion control is established.

(b) **Permanent Erosion Control:**

(1) **Seed:** Seed will be measured by the pound.

(2) **Fertilizer:** Fertilizer will be measured by the pound. The estimated quantity shown in the plans is based on Type 8-8-8 fertilizer. If other types are used, the measured quantities will be multiplied by the following factors to determine pay quantities:

Type	Factor
12-12-12	1.5
13-13-13	1.625
16-16-16	2.0

(3) **Water:** Water will be measured in units of 1,000 gallons; however, water used in hydroseeding slurry will not be measured for payment.

(c) **Slab Sod:** This item shall be measured per square yard of sod installed within the pay limits and as approved by the Engineer prior to removal or disturbance of existing grassed area. Payment shall not be made for sod placed outside of the approved pay limits in areas damaged by the Contractor.

(d) **Mulch and Erosion Control Mats:** Quantities of slab sod, mulch and erosion control mats for payment will be the contract quantities, adjusted as necessary if the engineer makes changes to fit field conditions, if plan errors are proven, or if design changes are made.

(e) **Stormwater Pollution Prevention Plan:** Other than the contract items and items directed to be installed by the engineer, no measurement will be made for the development, administration, permitting, install, monitoring, maintenance, and removal where required, of the SWPPP.

903-5 PAYMENT: Payment for temporary and permanent erosion control items that are included as contract items will be made at the contract unit prices.

Payment for devices used to correct unforeseen conditions will be made at the contract unit price for similar devices shown on the plans, or as extra work if plan details are not applicable.

Payment for sod will be full compensation for topsoil, finish grading, tilling, raking, debris removal, sod, water, fertilizer, rolling or tamping, and protection.

Payment for obtaining and maintaining the necessary permits; design of the Storm Water Pollution Prevention Plan (SWPPP) and associated documentation (to include but not limited to the NOI and the NOT if necessary), and all labor, equipment or materials required for the implementation of the SWPPP, except for the installation and maintenance of those erosion control pay items already included in the plans, shall be made under Item 9031600.

Partial payments for the Storm Water Pollution Prevention Plan item will be made in accordance with the following schedule.

% of Total Contract Amount Earned	% of Lump Sum Price to be Paid

1st Partial Estimate	15
10	25
25	30
50	50
75	75
100	100

903-6 PAY ITEMS:

Item No.	Item	Unit
9030100	Temporary Sand Bags	Each
9030200	Temporary Hay Bales	Each
9030300	Temporary Sediment Basins	Each
9030400	Temporary Sediment Check Dams	Each
9030500	Temporary Silt Fencing	Linear Foot
9030600	Temporary Slope Drains	Linear Foot
9030610	Temporary Curb Inlet Protection	Linear Foot
9030700	Topsoil	Cubic Yard
9030800	Seed	Pound
9030900	Fertilizer	Pound
9031000	Water	M-Gallons
9031100	Straw Mulch	Square Yard
9031200	Asphalt Mulch	Square Yard
9031300	Fiber Mulch	Square Yard
9031400	Erosion Control Mat	Square Yard
9031500	Slab Sod	Square Yard
9031600	Storm Water Pollution Prevention Plan	Lump Sum

SECTION 905 TRAFFIC SIGNS, STRIPING AND RAISED MARKERS

905-3.1.1 TEMPORARY SIGNS AND BARRICADES: – This Subsection of the Standard Specifications is amended to include the following.

PROJECT SIGN Two (2) project signs shall be constructed, painted, lettered and erected in accordance with the details shown the following page. If paint or lettering is damaged it shall be touched up after erection. The project signs shall be installed at each end of the project at locations satisfactory to the Engineer and so not to cause a sight or safety problem. Upon completion of the project, the signs shall be removed and disposed of by the Contractor.

No direct payment will be made to the contractor for the project signs. Project signs shall be installed by the contractor prior to beginning work.

CITY-PARISH PROJECT SITE SIGN
GENERAL NOTES:

1. BELOW PROJECT SIGN GRAPHIC IS A SAMPLE. USE OF CONTRACTOR'S NAME AND CURRENT COUNCILMEMBER NAMES ARE SUBJECT TO CHANGE. REQUIREMENTS FOR PROJECT SPECIFIC SIGN MUST BE VERIFIED BY CONTACTING MOVEBR@BRLA.GOV PRIOR TO MAKING OF SIGN.

2. THE SIGN SHALL BE CONSTRUCTED WITH ½" SINGLE FACE OMEGA BOARD (4'X8')

3. THE SIGN BACKGROUND SHALL BE WHITE OMEGA BOARD WITH 4 COLOR PROCESS PRINT AS SPECIFIED, SIGN EDGES SHALL BE COVERED AND TRIMMED WHITE VINYL EDGE (TYPICAL OMEGA BOARD FINISH)

4. THE CONTRACTOR SHALL ERECT AND MAINTAIN SIGN UNTIL THE PROJECT IS COMPLETED AND ACCEPTED. THE SIGN SHALL BE ERECTED AT A LOCATION DETERMINED BY THE PROJECT ENGINEER SO NOT TO CAUSE A SIGHT PROBLEM.

5. UNLESS OTHERWISE DIRECTED, THE SIGN SHALL BECOME THE PROPERTY OF THE CITY-PARISH UPON COMPLETION OF THE PROJECT.

6. SIGN SHALL BE ATTACHED TO TWO 4"X4" WOLMANIZED POSTS (PAINTED WHITE) 10' LONG WITH MINIMUM BURY OF 3'.

7. POST SHALL BE 2' O/C FROM EDGES OF SIGN AND TOP POSTS SHALL BE FLUSH WITH TOP OF SIGN.

8. SIGN SHALL BE FASTENED TO POST WITH 6 (3/8" XTO 3-1/2) GALVANIZED LAG BOLTS WITH GALVANIZED CUT WASHER. 3 PER POST, 6" FROM TOP/BOTTOM AND AT 2' MID-POINT. BOLT HEADS TOO BE PAINTED WITH ENAMEL PAINT TO MATCH SIGN COLORS.

9. ORIGINAL ARTWORK CAN BE PROVIDED TO CONTRACTOR UPON REQUEST BY SENDING AN EMAIL TO MOVEBR@BRLA.GOV

905-3.2.2 Permanent Striping: This subsection is hereby deleted and Section 1195 Pavement Markings substituted therefore.

905-3.3 (c) Marker Application: The subsection is amended to add the following:

Adhesive bed area shall be equal to the bottom area of markers, and adhesive shall be applied in sufficient quantity to cause excess adhesive to be forced out around the perimeter of the marker. Voids in markers with an open grid pattern on bottom shall be filled with adhesive during placement.

Unless otherwise directed, the raised pavement markers shall be installed prior to the placement of the thermoplastic striping.

905-3.3 (d) Blue Marker: The following subsection is hereby added:

905-3.3 (d) Blue Marker:

Blue raised reflective markers shall be placed at the locations of the existing markers or as directed. Unless otherwise directed, a blue marker shall be placed in the center of the closest lane opposite each fire hydrant.

SECTION 907 CONCRETE CURBS, WALKS, DRIVES, AND INCIDENTAL PAVING

Section 907 of the Standard Specifications is deleted in its entirety and replaced by the following:

907-1 DESCRIPTION: This work consists of furnishing and constructing portland cement concrete curbs, walks, drives and incidental paving.

907-2 MATERIALS: Materials shall conform to the following Sections and Subsections.

Portland Cement Concrete (Class 5.5B3800)	1005
Reinforcing Steel	1006-1
Joint Filler	1007
Curing Compound	1008-1

907-3 CONSTRUCTION:

a. **Subgrade:** The top 6" of subgrade shall be scarified and recompacted to at least 95% of maximum density determined by AASHTO T 99. Subgrade surface shall be moistened at time concrete is placed.

b. **Forms:** Forms shall be of either wood at least 1½" thick or metal, and shall be such that forms remain in position during concreting.

c. **Slip-Forming:** Concrete may be placed by slip-form methods. Slip-formed concrete shall be placed with an extrusion machine designed to spread, consolidate and finish concrete in 1 pass of the machine such that minimum hand finishing is necessary. Sliding forms shall be rigidly held together to prevent spreading of forms. After passing of forms there shall be no noticeable slumping of concrete. Finished concrete shall be free from voids. Any additional finishing required shall be performed immediately after placement.

d. **Integral Curb:** Curb forms shall be fastened to slab forms immediately after completion of pavement finishing. Concrete curbing shall be placed within 30 minutes after pavement has been finished.

Integral curb may be placed after pavement has hardened, provided deformed reinforcing dowel bars of specified size, type and spacing are inserted in concrete immediately after pavement has been finished.

Concrete for curb shall be spaded or vibrated sufficiently to eliminate voids, tamped to bring mortar to

surface, floated smooth, and brush finished to a gritty texture. Edges shall be tooled to specified radius.

Curb joints shall match those in pavement and shall extend entirely through curb. Joints shall be filled with same filler used in the pavement, and curb edges at joints shall be tooled to a 1/4" radius.

e. **Combination Curb and Gutter:** Concrete shall be struck off, spaded or vibrated to eliminate voids, tamped to bring mortar to surface, floated smooth, and brush finished to a gritty texture.

Curb and gutter shall be scored 3" deep at 20-foot intervals. Expansion joints shall be placed in curb and gutter at 100-foot intervals and at beginning and end of curvature at street intersections. Premolded 1/2" thick expansion joint filler shall extend for entire width and depth of curb and gutter, and joint edges shall be tooled to a 1/4" radius.

f. **Walks, Drives and Incidental Paving:** Concrete shall be struck off, consolidated, tamped to bring mortar to surface, floated smooth, and brush finished to a gritty texture.

1. **Walks:** Walks shall be scored 1/2" deep at intervals equal to width of walk, and expansion joints shall be placed in walks at 100-foot intervals and at junctions with curbs, drives and other walks. Expansion joints shall consist of 1/2" thick premolded joint filler extending for full width and depth of walk. Premolded 1/4" thick joint material shall be placed around manholes, utility poles, etc. that extend through walks.

2. **Drives:** Drives wider than 16 feet shall be longitudinally scored 1/2" deep at intervals of not more than 16 feet, and drives longer than 16 feet shall be scored 1/2" transversely at intervals of not more than 16 feet. Expansion joints shall be placed at junctions with curbs and concrete pavements. Expansion joints shall consist of 1/2" thick premolded joint filler extending for full width and depth of drive.

3. **Incidental Paving:** Paving shall be scored 1/2" deep at intervals of not more than 16 feet in any direction. Paving adjacent to jointed concrete shall be jointed to match adjacent concrete.

g. **Curing and Protection:** Curing and protection of concrete shall be in accordance with Subsection 502-9.

907-4 GRINDING AND HORIZONTAL SAW CUTTING OF EXISTING CONCRETE: Grinding and horizontal saw cutting are similar treatments for making corrective adjustments to grades of existing concrete pavement for sidewalks and paths to remove potential tripping hazards. Contractor shall use equipment that can grind or cut specified surfaces without causing spalls at cracks, joints, or other locations.

Concrete grinding or cutting shall be used to remove vertical offsets of 1 inch or less at joints and perpendicular to the flow of pedestrian traffic. Grinding or cutting of any offset greater than one inch must be approved by the Project Engineer. The repaired section surface shall have essentially the same or slightly rougher texture as the undamaged portion on either side of the joint or score line. Repaired surface shall conform to the non-slip coefficient of friction (ASTM C 1028 standard COF of 0.5 or above). This can be achieved by roughening the surface with a saw blade or other approved method. Grinding or cutting shall result in a slope no greater than 1:12.

The Contractor shall set up a pedestrian detour around the work area or, if permitted by the Project Engineer in lieu of a pedestrian detour, shall stop work to permit pedestrians to travel through work area on the sidewalk or path. The Contractor shall control all dust and shall clean all areas of debris caused by grinding or saw cutting operation at the end of each workday, or more frequently if deemed necessary by the Project Engineer. Sidewalks and paths shall be passable at the end of each workday or shall be barricaded and the closure and detour route shall be well marked.

907-5 MEASUREMENT: Quantities of integral curb, combination curb and gutter, walks, drives, incidental paving, and grinding or saw cutting (horizontal) of existing concrete for payment will be the contract quantities adjusted as required due to plan errors or plan changes.

907-6 PAYMENT: Payment for integral curb and combination curb and gutter will be made at the

contract unit prices per linear foot. Payment for walks, drives and incidental paving will be made at the contract unit prices per square yard. Payment for grinding or saw cutting (horizontal) existing concrete will be made at the contract unit price per square foot.

No direct payment will be made for excavation, backfill or joint filler.

907-7 PAY ITEMS:

Item No.	Item	Unit
90701--	Integral Concrete Curb (Type)	Linear Foot
90702--	Concrete Curb and Gutter (Width)	Linear Foot
90703--	__" Concrete Walks	Square Yard
90704--	__" Concrete Drives	Square Yard
90705--	Concrete Step (Width)	Each
90706--	__" Incidental Concrete Paving	Square Yard
9070700	Grinding or Horizontal Saw Cutting Existing Concrete	Square Foot

SECTION 914 PRE-CONSTRUCTION VIDEO:
Part IX of the Standard Specifications is amended to add the following:

SECTION 914
PRE-CONSTRUCTION VIDEO

914-1 DESCRIPTION: The Contractor shall furnish all labor, materials and equipment to perform color audio-video recording of the project site surfaces as specified herein. Contractor shall furnish to the Owner an original and one (1) copy of a continuous color and audio-video DVD recording of the project sites.

914-2 OWNER RIGHTS: The Owner reserves the right to reject the audio-video DVD because of poor quality, unintelligible audio or uncontrolled pan or zoom. Any video rejected by the Owner shall be re-videoed at no additional cost to the Owner. The contractor shall submit one (1) DVD to the Owner for format and content approval prior to the start of any work.

914-3 REQUIREMENTS: Prior to the commencement of any construction, equipment or material mobilization, the Contractor shall perform an audio-video survey of each project site area which will be excavated or which has the potential to be disturbed by the Contractor's operations. Specific areas of this project include, but are not limited to:

a. All areas to be entered by vehicles or equipment, including construction areas for both internal and excavated improvements.

b. Areas requiring manhole work.

c. Paved and unpaved areas which will be entered by vehicles or equipment.

d. Other areas that may be impacted by the Work, including work staging areas and field offices, as directed by the Owner.

The video recording shall be performed by a qualified audio-video taping firm or individual knowledgeable in construction practices and experienced in the implementation of established inspection procedures.

The Contractor shall be responsible for the timely execution of the preconstruction audio-video survey, its vantage points, and quality. The Contractor shall cooperate with the photographer's work and provide reasonable auxiliary services as requested, including access and use of temporary facilities including temporary lighting.

914-4 PHOTOGRAPHER'S QUALIFICATIONS: Photographer shall be a firm or an individual of established reputation who has been regularly engaged as professional photographer for not less than three (3) years. The photographer must have had previous experience video documenting a minimum of ten (10) miles of preconstruction work. Any apprentice photographer must be continuously supervised by an above-described experienced photographer. The photographer shall retain the original unedited video DVD for five (5) years after the date of final acceptance. During this period, the photographer shall fill orders by the Engineer for extra copies of DVD's priced at prevailing local commercial rates.

914-5 SUBMITTAL REQUIREMENTS: Submitted DVD's shall be reviewed and approved by the Owner within five (5) days of submittal of a satisfactory survey. Should the DVD not provide adequate coverage to fully illustrate the physical condition of the work area or not be in compliance with the specifications, project areas shall be re-surveyed prior to the initiation of construction at the project sites, with no additional cost to the Owner.

The Contractor shall provide two (2) copies; labeled on the DVD and jewel case cover as follows:

Face of DVD & Case Cover

PRECONSTRUCTION AUDIO-VIDEO SURVEY

Contract No._____ Project Title:_____

Contractor:_____ DVD No._____

Date Televised (MM/YY):_____ Date Submitted _____

Inside of Case Cover

Work Area	Street, Address/Location	Starting Video Counter No.

Note: The Contractor may record the surface videos of as many line segments as possible on a single DVD.
A cumulative index correlating the various segments of video coverage to the corresponding DVD's shall be supplied to the Owner. This index shall identify each segment in the video by location, engineering stationing corresponding to the stationing on the contract documents, video counter number, viewing side, point starting from, traveling direction, and ending point. Written documentation must coincide with the information on the tape so as to make easy retrieval of locations sought for at a later date.

The video portion of the recording shall produce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls, or any other form of picture imperfection. The audio portion of the recording shall reproduce precise and concise explanatory notes by the camera operator with proper volume, clarity and freedom from distortion.

The recorder shall record the color signal with a minimum horizontal resolution of 400 lines. The color video camera shall have a minimum horizontal resolution of 700 lines at the center.

To preclude the possibility of tampering or editing, the DVD shall display continuous digital information including the following:

a. Date and time of the recording; date information will contain the month, day and year; time information will contain hours, minutes and seconds, separated by colons.

b. The engineering stationing corresponding to the stationing on the contract documents, or as directed by the Owner.

Digital information shall appear at the bottom of the viewing screen and in no way interfere with the video portion of the recording.

At the start of each video recording segment, an identification summary shall be read into the record simultaneously with a wide-angle view with digital information. The identification summary shall include the following:

a. DVD number
b. The Contractor shall identify EBROSCO
c. Contract number and name
d. Contractor's name
e. Date and time
f. Manhole numbers
g. General location and name of street
h. Weather
i. Direction of travel and viewing direction

The recording shall include the coverage of all surface and other site features located in areas to be affected by the Work, extending to a minimum of 15 feet outside the actual right of way (street, construction, etc.). The surface features recorded shall include, but not be limited to, roadways, driveways, sidewalks, curbs, culverts, headwalls, retaining walls, buildings, above-ground utilities, parks, lawns, landscaping, trees, tree canopies, shrubbery and fences. The area of coverage shall extend to 50 feet from the proposed work site but shall also include all unpaved areas and access routes where vehicles or equipment will pass.

Video recording may be ordered outside of the area of coverage in order to establish those features deemed necessary by the Owner.

Video recording coverage shall include documentation of the condition of the surface and other site features located within the area of coverage and shall be supported by appropriate audio description. Audio description shall be made simultaneously with the video recording.

Houses and buildings shall be identified visually and verbally by house number in such a manner that structures of the proposed system (i.e., manholes on a sewer system) can be located by reference.

The coverage shall be continuous (i.e., the camera shall not be turned off once recording has begun) to the greatest extent possible.

The rate of travel for video recording shall be determined by the number, size and value of the surface and other site features within the construction area of coverage so as to produce a clear, detailed view of each feature. At no time shall the rate of travel exceed 44 feet per minute. Forward motion of the camera shall be halted when viewing objects or structures outside the limits of the street or easement being documented.

The photographer shall pan and zoom in and out at a reasonable rate so as to control sufficiently the clarity of objects being viewed.

When recording in rights-of-way, the camera shall be mounted on a steady base. Horizontal and vertical shots shall be made from the base, in order to insure proper perspective. The distance from the camera lens to the ground shall be not less than 12 feet. If not accessible by motorized vehicle, height shall be determined by the distance from ground to shoulder height of the camera operator.

Contractor shall furnish all auxiliary lighting as required to produce a quality recording.
At no time will the Contractor be allowed to use any electrical circuits within a building on private properties.

All video recording shall be performed during regular business hours, unless otherwise approved by the Owner.

No video recording shall be performed if the weather is not acceptable, such as rain, fog, or elongated shadows that distort perception and tend to prevent clear resolution.

914-6 PAY ITEMS:

Item No.	Item	Unit
9140100	Pre-Construction Video	Lump

PART X MATERIALS

SECTION 1011 STRUCTURAL METALS

1011-5 IRON CASTINGS: This subsection is deleted and replaced by the following:

1011-5 IRON CASTINGS: Iron castings to be true to pattern in form and dimensions and free form pouring faults, sponginess, cracks, blowholes and other defects in positions affecting their value for service intended. Castings shall be boldly filleted at angles, and rises shall be sharp and perfect. Castings shall be cleaned of scale and sanded to a smooth, clean, uniform surface.

a. Gray Iron Castings shall conform to the latest edition of AASHTO M 306.

b. Malleable Castings shall conform to ASTM A 47, Grade 32510.

c. Ductile Iron Castings shall conform to ASTM A 536, Grade 60-40-18.

SECTION 1015 DRAIN PIPE: Section 1015 of the Standard Specifications is deleted in its entirety and replaced by the following:

SECTION 1015

DRAIN PIPE

1015-1 JOINT SYSTEMS FOR DRAIN PIPE AND PRECAST CONCRETE DRAIN UNITS: All pipe joint systems and materials shall be listed on the LADOTD Approved Materials List (AML).

a. Type 1 Joints (T1): Type 1 pipe joints shall be soil tight and shall not leak when the pipe joint assembly is filled with water.

b. Type 2 Joints (T2): Type 2 pipe joints shall not leak when subjected to 5 psi hydrostatic pressure for 10 minutes.

c. Type 3 Joints (T3): Type 3 Joints shall not leak when subjected to 10 psi hydrostatic pressure for 10 minutes. Also, concrete shall not leak when deflected to create a position ½ inch wider than the assembled position on one side and subjected to hydrostatic pressure for an additional 10 minutes. Flexible pipe shall not leak when then deflected by 5 percent of the original diameter and subjected to 10 psi hydrostatic pressure for an additional 10 minutes.

d. A Type 2 or 3 joint system may be substituted for a Type 1 joint system; a Type 3 joint system may

be substituted for a Type 2 joint system.

e. Use gaskets from the AML.

1015-2 CONCRETE DRAIN PIPE:

1015-2.1 Reinforced Concrete Pipe (RCP): Pipe shall conform to ASTM C 76, Class III, Wall A, B, or C Pipe. When extra strength pipe is required, use either Class IV or Class V as specified, Wall A, B, or C.

1015-2.2 Reinforced Concrete Pipe Arch (RCPA): Pipe arch shall conform to ASTM C 506, Class III pipe arch.

1015-2.3 Precast Reinforced Concrete Box Culverts (RCB): Precast box culvert shall conform to ASTM C1577 amended as follows:

a. Use Table 1.

b. Provide concrete with a Surface Resistivity at 28 days of 22 (kΩ-cm).

c. When approved, minor surface cavities or irregularities which do not impair the service value of the unit and which can be corrected without marring its appearance shall be pointed with patching material from the Approved Materials List as soon as forms are removed.

1015-2.4 Joints and Gaskets: Joint systems shall comply with subsection 1015-1. Rubber gaskets for pipe joints shall comply with ASTM C443. Flexible sealants for pipe joints shall comply with ASTM C990.

1015-3 CORRUGATED METAL PIPE:

1015-3.1 Corrugated Steel Pipe and Pipe Arch: Pipe shall conform to AASHTO M 36, Types I and II, amended as follows:

a. Pipe and pipe arch shall be galvanized in accordance with AASHTO M 218.

b. Elbows, tees, and other in-line fittings shall be fabricated from sheets of the same thickness and coating material as the pipe or pipe arch to which they are joined.

c. For helical pipe, no coil splices at pipe manufacturing plants will be allowed for pipe 30 inches in diameter or less. Helical pipe requiring joints shall have annular ends and shall have the ends of seams welded a minimum of 2 inches. Helical pipe ends shall be rerolled a minimum of two full standard corrugations to the same corrugation depth as the pipe when used with the appropriate jointing system.

d. Pipe larger than 30 inches in diameter or any diameter longer than 30 feet shall have a minimum of two lifting lugs.

e. All corrugated steel pipe or pipe arches shall be either bituminous coated or polymer coated.

1. Bituminous coated pipe shall be coated in accordance with AASHTO M 190, Type A, fully bituminous coated.

2. Polymer coated pipe shall conform to AASHTO M 245, Grade 10/10.

f. Pipe arch dimensions shall comply with AASHTO M 245 and Table 1015-1.

1015-3.2 Corrugated Aluminum Pipe and Pipe Arch: Pipe shall conform to AASHTO M 196, amended as follows:

a. Helical pipe shall have annular ends and shall have the ends of seams welded a minimum of 2 inches. Helical pipe ends shall be rerolled a minimum of two full standard corrugations to the same corrugation depth as the pipe when used with the appropriate jointing system.

b. Pipe larger than 30" inches in diameter or any diameter longer than 30 feet shall have a minimum of two lifting lugs.

c. Aluminum alloy sheet used in fabricating pipe shall conform to the applicable requirements of AASHTO M 197 for Alclad Alloy 3004-H34 for annular pipe, and Alclad Alloy 3004-H32 for helical pipe.

d. Pipe arch dimensions shall comply with Table 1015-1.

1015-3.3 Joints and Gaskets: Joint systems shall comply with subsection 1015-1. For Type 1 joints, provide at least one line of approved gasket material under the band on each pipe end.

a. Gaskets for pipe joint systems shall be from the AML.

1. Rubber gaskets for pipe joints shall comply with ASTM C443. Gasket cross section shall be the following:
   i. For pipe 36 inches in diameter or less – 13/16-inch
   ii. For pipe greater than 36 inches in diameter with ½-inch deep corrugations – 7/8-inch
   iii. For pipe greater than 36 inches in diameter with 1-inch deep corrugations – 1 3/8-inch

2. Preformed flexible gaskets for pipe joints shall comply with ASTM C990. Gasket material shall be a minimum of 1 inch for ½-inch corrugation depth, and a minimum of 1 ½ inches for 1-inch corrugation depth.

b. Coupling bands shall be same gage and coating as pipe (with a maximum of 12 gage). Coating shall be the same as used on the conduit. Minimum band width shall be 12 inches.

c. Steel banding rods shall comply with AASHTO M 270, Grade 36 (M 270M, Grade 250). Welding of rods will not be permitted. No more than two splices will be allowed.

d. Hardware shall be galvanized in accordance with ASTM A153 or B633, Class Fe/ZN 25 or an approved mechanical galvanizing process complying with B695 that provides the same coating thickness.

TABLE 1015-1

CORRUGATED METAL PIPE ARCH DIMENSIONS (INCHES)

	Steel & Aluminum	**Steel**
Round Equivalent, Inches	**2 2/3 in. by 1/2 in. Corrugation**	**3 in. by 1 in. or 5 in. by 1 in. Corrugation**
15	17 x 13	--
18	21 x 15	--
21	24 x 18	--
24	28 x 20	--
30	35 x 24	--
36	42 x 29	40 x 31
42	49 x 33	46 x 36
48	57 x 38	53 x 41
54	64 x 43	60 x 46
60	71 x 47	66 x 51

66 72	77 x 52 83 x 57	73 x 55 81 x 59
78 84 90 96 102 108 114 120	-- -- -- -- -- -- -- --	87 x 63 95 X 67 103 x 71 112 x 75 117 x 79 128 x 83 137 x 87 142 x 91

1015-4 THERMOPLASTIC PIPE: Thermoplastic pipe and joint systems may be of any of the following types and shall be products listed on the AML. Thermoplastic pipe for underdrains and yard drains shall be perforated or no-perforated, as specified, and shall be from the AML. Perforations, if specified, shall comply with AASHTO M 252. Joints shall be bell and spigot type with rubber gaskets conforming to ASTM F 477. Perforations, if specified, shall conform to AASHTO M 252.

1015-4.1 Polyvinyl Chloride (PVC) Pipe:

a. Smooth Wall PVC Pipe (PVCP): PVCP and gasket materials shall comply with AASHTO M 278 or ASTM 3034, SDR 35.

b. Ribbed PVC Pipe (RPVCP): RPVCP may be either open profile or dual wall construction in accordance with the specified ASTM standards. Pipe and gasket materials shall comply with ASTM F 794 or ASTM F 949, Series 46 with UV inhibitors, and the resin shall have a minimum cell classification of 12454-C as defined in ASTM D 1784.

1015-4.2 Polyethylene (PE) Pipe:

a. Corrugated Polyethylene Pipe Single Wall (CPEPSW): CPEPSW shall be perforated and shall comply with AASHTO M 252, Type C. Perforations shall comply with AASHTO M 252. Do not use CPEPSW as shoulder outlet underdrain pipe.

b. Corrugated Polyethylene Pipe Double Wall (CPEPDW):

1. When used for storm drain pipe, cross drains, or culverts, CPEPDW pipe and gasket materials shall comply with AASHTO M 294, Type S, with a minimum resin cell classification of 435400C in accordance with ASTM D3350.

2. When used for plastic underdrain pipe, the pipe and joint system shall comply with AASHTO M 252.

3. When used for yard drain pipe, the pipe and joint system shall comply with AASHTO M 252, Type S, with a minimum resin cell classification of 424420C in accordance with ASTMASTM D 3350, or AASHTO M 294, Type S, with a minimum resin cell classification of 435400C in accordance with ASTM D3350.

1015-4.3 Joint Systems for Thermoplastic Pipe: Joint systems shall comply with subsection 1015-1. When using split coupling bands, use one piece that is composed of the same material as the pipe. The bands shall be the same thickness as the base pipe. The width of the band shall be equal to one-half the diameter of the pipe but a minimum of 12 inches wide.

SECTION 1017 PRECAST CONCRETE SEWER AND DRAIN UNITS

Delete this Section in its entirety and replace with the following:

SECTION 1017
PRECAST CONCRETE SEWER AND DRAIN UNITS

1017-1 PRECAST CONCRETE BOX CULVERTS: Precast reinforced concrete box culvert sections shall conform to ASTM C 850, table 1.

1017-2 PRECAST CONCRETE MANHOLES:

a. Precast reinforced concrete manhole sections, transitions, conical sections, and base shall conform to ASTM C 478 and shall be designed for an AASHTO HS-20 loading. Frames and covers shall conform to Subsection 1011-5. Lifting inserts shall be embedded in manhole walls; through-wall holes will not be permitted.

b. Pipe connection openings shall be 4"±1/2" larger than pipe O.D.

c. Sewer manhole bases shall have paved inverts, and sewer manhole sections shall have rubber gasket joints conforming to ASTM C 990 or C 443.

d. Sewer manholes shall be externally sealed with rubber seal wraps conforming to ASTM C 877 (Type III – Chemically-Bonded Adhesive Butyl Bands).

1017-3 PRECAST CONCRETE DRAIN INLETS AND JUNCTION BOXES:

a. Materials, workmanship and curing shall be as specified for precast manholes in ASTM C 478. Frames, grates and covers shall conform to Subsection 1011-5. Lifting devices shall be embedded in walls; through-wall holes will not be permitted.

b. Pipe connection openings shall be 4"+1/2" larger than pipe O.D.

ITEM 9900103: FENCE SYSTEM

DESCRIPTION: This work consists of designing and installing a decorative fence system along the Kensington Subdivision and Ruelle de Grace frontage in accordance with these specifications and in conformity with the location shown in the construction contract plans or established by the engineer. The fence construction will be performed as a design-build activity by the contractor or a subcontractor and will be built during the initial Clearing and Grubbing phase of the Perkins Road construction project. Yard drains will be located behind the fence, beyond the required right-of-way, in the property owners' yards. The yard drains will outfall temporarily to the existing ditch along Perkins Road, and they will be tied to the permanent storm drain in the final condition.

PERFORMANCE GOALS:

The contractor shall provide a fence system that meets the following performance goals:

1. Consistent in color, texture, and style according to owner's desired aesthetic as outlined in the Kensington Estates Wall Term Sheet, July 2024.
2. Maintains its structural integrity based on the loads and load factors described herein.
3. Minimizes negative impacts to the adjacent properties and roadway.
4. Meets the minimum height requirements set forth by the owner.
5. Provides ease of access for inspection and maintenance.

SCOPE: The contractor shall design and construct the fence to the account for and include, but not limited to, all applicable loads, geometry, joints, drainage, and soil conditions.

DESIGN:

Loads and Load Factors: Load and load factors shall be in accordance with ASCE 7-22.

1. Wind load:
    a. $q = 0.000256(K_z)(K_{zt})(K_d)(K_e)V^2$ (psf)
    b. Exposure B
    c. Risk Category I
2. Dead Load: Concrete Unit Weight, γ_c: 150 lbs/ft^3
3. Load Combinations:
    a. Strength Limit State
    b. (1.) 1.4D
    c. (4.) 1.2D + 1.0W + L
    d. (5.) 0.9D + 1.0W

Reinforced Concrete: Concrete design shall be in accordance with ACI-318-19(22)

1. Concrete 28-day Compressive Strength
    a. Precast Concrete: $f'_c = 6{,}000$ psi
    b. Cast-in-Place: $f'_c = 4{,}000$ psi
2. Reinforcing Steel: $f_y = 60$ ksi
3. Welded Wire Fabric: $f_y = 65$ ksi

Foundations: Contractor shall select and design a foundation system that complies with the parameters of the geotechnical report and sufficiently carries the loads imparted by the fence structure for the Strength limit state. Foundation options include, but are not limited to, auger cast piles, driven piles, helical piles, and drilled shafts.

Documentation: Design calculations shall be sealed by a professional engineer registered in Louisiana.

MATERIALS: Fence panels, posts, and foundations shall be constructed of reinforced concrete.

Concrete: Concrete mix proportions and components shall conform to ACI-211 and the component standards therein.

Deformed reinforcing steel: Shall conform to ASTM A615.

Weld-wire steel fabric: Shall conform to ASTM A1064.

CONSTRUCTION: The fence system shall be constructed according to following requirements:

1. Top of fence shall be 8'-0" above existing grade.
2. Maximum fence panel length shall be 20'-0".
3. Minimum panel thickness shall be 4".
4. Fence system elements (panels, posts, foundations) may be cast-in-place or precast concrete at the contractor's option. It the responsibility of the contractor to ensure that the fence system design is compatible with the chosen option.
5. Casting Tolerances:
    a. Overall height and width: $\pm 1/4$"
    b. Thickness: $\pm 3/16$"
    c. Plan of side mold: $\pm 1/16$"
    d. Openings: $\pm 1/2$"
    e. Out of square: $1/32$" per foot but not more than $\pm 3/8$" total along any side
    f. Warping: $5/32$" per foot distance to nearest corner
    g. Bowing: $1/240$ panel dimension

6. Erection Tolerances:
    a. Variation from plum: $\pm 1/4$"
    b. Panel alignment: $\pm 1/4$"
    c. Top of panel elevation: $\pm 1/2$"
    d. Elevation of adjacent panels: $\pm 1/2$"
    e. Joint taper over panel length: $\pm 1/2$"
    f. Top of pile cap elevation: $\pm 1/2$"
    g. Post alignment: ±1"
    h. Post placement:
        i. Variation from specified location: $\pm 1/2$"
        ii. Variation from specified elevation: $\pm 1/2$"
7. Construction shall minimize impacts to adjacent property to the extent possible. Contractor shall ensure proper drainage in relation to existing properties and roadway during and after construction. Contractor will make reasonable efforts to protect the existing landscape during removal of the existing wall.
8. Decorative Fence will be connected to existing side fences.
9. Electrical connections will be made available for the side entrance walls at Notting Hill and St. Albans.
10. Sequencing: Existing fence will remain in place during construction of the decorative fence unless approved by adjacent property owner.
11. Access: Homeowners have agreed to provide access as needed for fence and drainage construction.

PAYMENT: Payment will be made at the contract price per linear foot of fence system, which will include all labor, materials, tools, equipment, and incidentals, including hardware necessary to complete the work.

Item No.	Item	Unit
9900103	Fence System	Linear Foot

Hon. Doug Welborn, EBR Clerk of Court
ORIG: 181 BNDL: 13323 MB
DATE: 7/22/2024 TIME: 10:05 AM
# of Pages-5

Kensington Estates Wall Term Sheet

CITY-PARISH PROJECT NO. 12-CS-HC-0015
PROJECT NAME: PERKINS ROAD
SIEGEN LANE TO PECUE LANE
PARCEL NOS: 10-1, 10-2, 10-4, 10-5, 11-2, 11-4
11-6, 11-8, 11-9, 12-1, 12-2, 12-3 and 12-4

Between

The City of Baton Rouge and the Parish of East Baton Rouge
(herein referred to as "City-Parish)

And

Kensington Homeowners Association
Fay Hai Dang (Parcel 10-1)
Zia O. Tammami (Parcel 10-2)
Charlotte Spears Tammami (Parcel 10-2)
Damien J. Danzie (Parcel 10-4)
Chavez Cammon (Parcel 10-5)
Nikisha C. Cammon (Parcel 10-5)
Laurence Martin Sanchas (Parcel 11-2)
Juliet Jasmin Sanchas (Parcel 11-2)
Jeffrey M. Foster (Parcel 11-4)
Lola D. Foster (Parcel 11-4)
Michael C. Campagna (Parcel 11-6)
Barbara Purdue Campagna (Parcel 11-6)
Shaine M. Darbonne (Parcel 11-8)
Trang Le (Parcel 11-8)
Isaac L. Hanks (Parcel 11-9)
Melissa S. Hanks (Parcel 11-9)
Jeffrey K. Harper (Parcel 12-1)
Lindsay V. Harper (Parcel 12-1)
Ranada Johnson Ferrand (Parcel 12-2)
Arran T. Ferrand (Parcel 12-2)
Scott Davis Johnson (Parcel 12-3)
Janis C. Johnson (Parcel 12-3)
Phong Quoc Tran (Parcel 12-4)
Huy Dong Ta (Parcel 12-4)

(The above are jointly herein referred to as "Kensington Homeowners")

Certified True and Correct Copy
CertID: 2024072200088

East Baton Rouge Parish
Deputy Clerk Of Court

Generated Date:
7/22/2024 10:06 AM

Alteration and subsequent re-filing of this certified copy may violate La. R.S. 14:132, 133, and/or RPC Rule 3.3(a)(3).

A. Kensington Estates Basic Wall Design Parameters

1. Materials – 2 options to be determined by Kensington Estates HOA:
   i. Rebar enforced concrete masonry unit (CMU) wall with columns and footings sufficient to support the wall.
   ii. Precast reinforced concrete wall panels with columns and footings sufficient to support the wall.

2. Height
   i. Minimum 8' tall.

3. Finish
   i. Both sides of the wall are to have Concrete or Stucco finish and are to be primed and painted. Color to be determined by Kensington Estates HOA.
   ii. Precast concrete wall – pattern and color to be determined by Kensington Estates HOA, if selected.

4. Lighting
   i. Electrical connections will be made available for side entrance walls at both Notting Hill and St. Albans locations.

5. Landscaping
   i. Not included, but the City-Parish, will make reasonable efforts to protect the existing landscape in removing and discarding of the existing wall.

6. The wall will be continuous and will be connected to each Kensington Homeowner's existing side fence.

B. Drainage

1. A rear yard drain system will be installed on Kensington Homeowners property to allow adequate drainage through new wall to existing drainage system along Perkins Rd. Drainage system will include a mixture of catch basins and pipes as needed.

C. Sequencing

1. Existing walls will remain in place during construction of the wall. Wall will be connected to existing side fences at each Kensington Homeowner's property. Upon completion of the wall, the existing wall will be demolished and removed. One or more sections may need to be removed to provide access during construction.

Certified True and Correct Copy
CertID: 2024072200088

East Baton Rouge Parish
Deputy Clerk Of Court

Generated Date:
7/22/2024 10:06 AM

Alteration and subsequent re-filing of this certified copy may violate La. R.S. 14:132, 133, and/or RPC Rule 3.3(a)(3).

D. Access

1. Kensington Homeowners agree to provide access as needed for wall and drainage construction.

E. Cost

1. The City-Parish will be responsible for all costs, of any nature whatsoever, related to the demolition and removal of the old wall and all site preparation needed for construction of the new wall, together with all drainage related costs and electrical connection cost as mentioned in section 4 and B. Cost is to include all site preparation, final grading, and any unforeseen expenses associated for the building of the new wall.

F. Rights

1. Upon completion of the new wall, Kensington Estates HOA are hereby given final approval rights, which will not be unreasonably withheld.

Kensington Homeowners have agreed to accept the alternative offer based on the City-Parish replacing the existing wall. The design of the wall has been mutually agreed upon by the Kensington Homeowners and the City-Parish.

Certified True and Correct Copy
CertID: 2024072200088

Kay S. Vidrine
East Baton Rouge Parish
Deputy Clerk Of Court

Generated Date:
7/22/2024 10:06 AM

Alteration and subsequent re-filing of this certified copy may violate La. R.S. 14:132, 133, and/or RPC Rule 3.3(a)(3).

Signatures:

Kensington HOA Board of Directors:

Board President _____ Date: 7.10.24

Board Treasurer _____ Date: 7-15-24

Board Secretary _____ Date: 7-15-24

Fay Hai Dang _____ Date: 7-15-24

Zia O. Tammami _____ Date: 7-10-2024

Charlotte S. Tammami _____ Date: 7-10-24

Damien J. Danzie _____ Date: 7-[illegible]

Chavez Cammon _____ Date: 7-10-24

Nikisha C. Cammon _____ Date: 7-10-24

Laurence M. Sanchas _____ Date: 7.15.24

Juliet J. Sanchas _____ Date: 7.15.24

Jeffrey M. Foster _____ Date: 7-15-24

Lola D. Foster _____ Date: 7-15-24

Michael C. Campagna _____ Date: 7-10-24

Barbara P. Campagna _____ Date: 7-10-24

Shaine M. Darbonne _____ Date: 7-15-24

Trang Le _____ Date: 7/15/24

Isaac L. Hanks _____ Date: 7/17/24

Certified True and Correct Copy
CertID: 2024072200088

Kay S. Vidrine
East Baton Rouge Parish
Deputy Clerk Of Court

Generated Date:
7/22/2024 10:06 AM

Alteration and subsequent re-filing of this certified copy may violate La. R.S. 14:132, 133, and/or RPC Rule 3.3(a)(3).

Melissa S. Hanks _____ Date: 7-17-24

Jeffrey K. Harper _____ Date: 7-17-24

Lindsay V. Harper _____ Date: 7-17-24

Ranada ~~J. Ferrand~~ Johnson _____ Date: 7-17-24

Arran T. Ferrand _____ Date: 7-17-24

Scott D. Johnson _____ Date: 7-17-24

Janis C. Johnson _____ Date: 7-17-24

Phong Q. Tran _____ Date: 7/15/24

Huy Dong Ta _____ Date: 7/15/24

Certified True and Correct Copy
CertID: 2024072200088

Kay S. Vidrine
East Baton Rouge Parish
Deputy Clerk Of Court

Generated Date:
7/22/2024 10:06 AM

Alteration and subsequent re-filing of this certified copy may violate La. R.S. 14:132, 133, and/or RPC Rule 3.3(a)(3).

FINAL REPORT OF
GEOTECHNICAL INVESTIGATION

PROPOSED ROADWAY EXPANSION

PERKINS RD. (SIEGEN LN. to PECUE LN.)

BATON ROUGE, LOUISIANA

TBG PROJECT NO. 5483G

Prepared for:

MOVEBR PROGRAM MANAGEMENT TEAM

DEPARTMENT OF TRANSPORTATION AND DRAINAGE

BATON ROUGE, LOUISIANA

TheBetaGroup
engineering and construction services

1428½ Claire Avenue, Gretna, Louisiana 70053

(504) 227-2273 • fax: (504) 227-2274

7250 Stennis Airport Rd., Suite 206 Kiln, Mississippi 39556

(228) 466-2556 • fax: (228) 466-2571

Betagroupgc.com

TheBetaGroup
engineering and construction services

June 7, 2021

MOVEBR Program Management Team
Department of Transportation and Drainage
Baton Rouge, La. 70810

Attn: Ms. Kate Brady Prejean, AVP, P.E.

Reference: Final Report of Geotechnical Investigation
Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
TBG Report No. 5483G

Dear Ms. Prejean:

The Beta Group, LLC (TBG) has performed a Geotechnical Investigation for the above referenced site in Baton Rouge, Louisiana. As authorized by you, this project was performed in accordance with our proposal dated March 4, 2020. The attached report presents our understanding of the project, reviews our exploration procedures, describes existing site and general subsurface conditions, and presents our evaluations and recommendations.

We have enjoyed working with you on this project and look forward to assisting you during the continuing design and construction activities. Please contact us at any time if you have any questions regarding this report or need further service.

Sincerely,
THE BETA GROUP, LLC

STATE OF LOUISIANA
Alexander Jaramillo
License No 38324
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

Alex Jaramillo, P.E.
Senior Project Engineer

Anjelica Moran, E.I.
Project Engineer

TABLE OF CONTENTS

PURPOSE AND SCOPE OF SERVICES

PURPOSE OF STUDY

The purpose of the Geotechnical Investigation was to explore the subsurface conditions at the site and to provide geotechnical design recommendations for the proposed Roadway Expansion, site preparation, earthwork and quality control measures related to these design aspects.

SCOPE OF SERVICES

To accomplish the stated purposes, we executed the following:

1. Documented existing surface conditions and features at the project site and the marked boring locations.

2. Performed a subsurface exploration consisting of twenty (20) undisturbed soil test borings. Each undisturbed soil boring was drilled to the 10 ft. depth below the existing ground surface in the general alignment of the Perkins Rd. beginning at Siegen Ln. extending southeast to Pecue Ln.

3. Performed laboratory testing on selected soil samples to ascertain soil properties for engineering purposes.

4. Evaluated the findings of the subsurface exploration and laboratory data relative to general subsurface characterization, support, and other geotechnical aspects of the project.

Our scope of services did not include a survey of boring locations and elevations, quantity estimates, preparation of plans or specifications, or the identification and evaluation of environmental aspects of the project site.

PROPOSED PROJECT DESCRIPTION

The project will consist of widening Perkins Rd. beginning at Siegen Ln. extending southeast approximately 7,500 lin. ft. to Pecue Ln., in Baton Rouge, Louisiana. Perkins Rd. is currently a two (2) lane roadway and will be widened to become a four (4) lane roadway. This project will also consist of the construction of pedestrian and bike paths on the north and south sides of Perkins Rd.

SUBSURFACE EXPLORATION

FIELD EXPLORATION

The subsurface exploration consisted of twenty (20) undisturbed soil test borings (designated as B-1 thru B-20) performed between September 9th and September 16th, 2020 at the referenced site and at the approximate locations shown on the attached Boring Location Plans (Figure No.1 thru Figure No.3).

The soil test boring locations were located in the field by a TBG representative. The boring locations were plotted and topographical information was estimated. The methods used in the determination of the boring locations shown on the Boring Location Plans should be considered approximate.

The soil test borings were drilled utilizing a truck mounted drill rig at the designated locations shown on the Boring Location Plans. Undisturbed sampling was performed continuously to the 10 ft. depth, with a 3-inch diameter thin-walled tube sampler. Representative samples were removed from the tubes and placed in moisture-proof containers for laboratory testing.

When material was encountered, which could not be sampled by undisturbed methods, the Standard Penetration Test was performed. This test consists of driving a two-inch diameter split spoon sampler 1 ft. (after first seating it 6 inches) with a 140 lb. hammer falling 30 inches. The number of blows required to drive the sampler gives an indication of the density of the material.

The soil test borings were advanced through the soil overburden to the assigned termination depth of 10 ft. below the existing ground surface.

Subsurface water level readings were obtained at the soil test borings immediately upon completion of the drilling process and after a period of 15 minutes. Upon completion of the drilling activities, the boreholes were backfilled with auger cuttings (soil) and high-strength concrete as per LADOTD requirements.

LABORATORY TESTING

Laboratory tests were conducted on selected samples in general accordance with ASTM standards. The laboratory testing performed for this project consisted of:

- Atterberg Limits
- Unconfined Compression Tests
- Natural Moisture Content
- Unit Weight Determination
- Percent Passing #200 Sieve

The test results could not be summarized on the soil profiles. The test results are summarized in the individual Boring Logs in the Appendix of this report.

SITE AND SUBSURFACE CONDITIONS

SITE CONDITIONS

TBG performed reconnaissance of the site on August 25th, 2020. The site is located in the general alignment of Perkins Rd., beginning at Siegen Ln. extending southeast approximately 7,500 lin. ft. to Pecue Ln., in Baton Rouge La. The soil borings were performed in the existing pavement of Perkins Rd. due to the location of the existing utilities. The utilities are located on the north and south sides of the roadway. The existing asphalt shows signs of distress such as cracking and/or rutting throughout the entire length of the project site.

SUBSURFACE CONDITIONS

Boring B-1: Reference to the log of boring B-1 shows that beginning at the ground surface, there is 5 in. of asphalt followed by very stiff gray silty clay to the 2 ft. depth. This is proceeded by medium stiff gray silty clay to the 4 ft. depth. This clay is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-2: Reference to the log of boring B-2 shows that beginning at the ground surface, there is 5 in. of asphalt followed by very stiff gray silty clay with organics and stones to the 2 ft. depth. This layer is underlain by medium stiff to stiff tan and light gray silty clay to the 8 ft. depth. This clays is proceeded by stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-3: Reference to the log of boring B-3 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones to the 2 ft. depth. This sand is underlain by stiff tan and light gray silty clay with sand and organics to the 4 ft. depth

and is proceeded by soft tan and light gray silty clay to the 6 ft. depth. This clay is followed by stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-4: Reference to the log of boring B-4 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-5: Reference to the log of boring B-5 shows that beginning at the ground surface, there is 6.5 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by medium stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-6: Reference to the log of boring B-6 shows that beginning at the ground surface, there is 9 in. of asphalt followed by dense brown silty sand with stones to the 2 ft. depth. This sand is underlain by medium stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-7: Reference to the log of boring B-7 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-8: Reference to the log of boring B-8 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones to the 2 ft. depth. This sand is underlain by stiff tan and light gray silty clay to the 4 ft. depth and proceeded by soft to medium stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-9: Reference to the log of boring B-9 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-10: Reference to the log of boring B-10 shows that beginning at the ground surface, there is 7 in. of asphalt followed by dense brown silty sand with stones to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-11: Reference to the log of boring B-11 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by medium stiff gray and tan silty clay to the 4 ft. depth and is proceeded by medium stiff tan and light gray silty clay with ferrous nodules to the 6 ft. depth. This clay is followed by very stiff tan and gray silty clay with stones to the 8 ft. depth and underlain by very stiff light gray and reddish tan silty clay to at least the boring's termination depth of 10 ft.

Boring B-12: Reference to the log of boring B-12 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones to the 2 ft. depth. This sand is underlain by soft to medium stiff tan and light gray silty clay to the 6 ft. depth and proceeded by stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-13: Reference to the log of boring B-13 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by stiff tan and light gray silty clay to the 4 ft. depth. This is proceeded by soft tan and light gray silty clay to the 6 ft. depth. This layer is followed by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth.

Boring B-14: Reference to the log of boring B-14 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-15: Reference to the log of boring B-15 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by very stiff light gray silty clay to the 4 ft. depth and is proceeded by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-16: Reference to the log of boring B-16 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones to the 2 ft. depth. This sand is underlain by medium stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-17: Reference to the log of boring B-17 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stones and trace clay to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-18: Reference to the log of boring B-18 shows that beginning at the ground surface, there is 6 in. of asphalt followed by dense brown silty sand with stone and trace clay to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-19: Reference to the log of boring B-19 shows that beginning at the ground surface, there is 6.5 in. of asphalt followed by dense brown silty sand to the 2 ft. depth. This sand is underlain by medium stiff to stiff tan and light gray silty clay to at least the boring's termination depth of 10 ft.

Boring B-20: Reference to the log of boring B-20 shows that beginning at the ground surface, there is 5 in. of asphalt followed by dense brown silty sand to the 2 ft. depth. This sand is underlain by stiff gray silty clay with stones to the 4 ft. depth and is proceeded by medium stiff to stiff tan and light gray silty clay to the 8 ft. depth. This clay is followed by soft tan and light gray silty clay to at least the boring's termination depth of 10 ft.

GROUNDWATER CONDITIONS

At the time of performing the soil borings, subsurface water was not encountered in any of the soil borings. It should be noted that groundwater levels tend to fluctuate with seasonal and climatic changes, as well as with some types of construction operations. As such, groundwater levels at other times of the year may be different than those described in this report. These observations were made while completing the soil borings and may not have become fully static at the time of measurement. If groundwater is important to construction, it should be measured at that time.

ENGINEERING EVALUATION & RECOMMENDATIONS

The following evaluations and recommendations are based on our observations at the site, interpretation of the field and soil laboratory data obtained during this exploration, and our experience with similar subsurface conditions and projects. Subsurface conditions in unexplored

locations may vary from those encountered. If the project location or the project design information changes, we request that we be advised so that we may re-evaluate our recommendations.

Design recommendations for the proposed Roadway Expansion for the given location are dependent on the soil and site conditions analyzed. The subsurface exploration aids the geotechnical engineer in determining the necessary geotechnical recommendations needed. In addition, since the method of construction greatly affects the soils intended for the proposed Roadway Expansion, consideration must be given to the implementation of suitable methods of site preparation, material compaction, and other aspects of construction.

ROADWAY PAVEMENT

It is understood that the proposed Roadway Expansion will be constructed with rigid (concrete) pavement or flexible (asphalt) pavement to allow for vehicular traffic. Traffic conditions were provided by Ms. Kate Brady Prejean, AVP, P.E. of the MOVEBR Program Management Team and is estimated to be 32,000 vehicles per day. The pavement components were determined using the methods presented in the AASHTO Guide for Design and Pavement Structures, 1993 version.

Based on the soil borings, it is believed that the surface soils could be assigned a Coefficient of Subgrade Reaction (k value) of 230 psi per inch for rigid (concrete) pavement design and a California Bearing Ratio (CBR) of 15 for flexible (asphalt) pavement design. This assumes that the existing subgrade is stripped of all vegetation, soft or loose surface soil, deleterious materials, etc. and is well drained prior to construction of the Roadway Expansion. Any new fill needed to replace the excavated material or to raise the pavement grade could consist of a good quality compacted granular material.

RIGID (CONCRETE) PAVEMENT

In order to achieve a 20 year design life based on the provided traffic conditions, a concrete thickness of at least 12 in. is recommended for design. This concrete thickness assumes an ultimate flexural strength for the concrete of at least 700 lbs. per sq. in. Based on information provided by Mr. Seneca Toussant, P.E. of La Terra Engineering, LLC, it is understood the travel lanes of the proposed Roadway Expansion will be 11 ft. in width and roadway shoulders will not

be constructed, therefore a load transfer coefficient of 3.2 was used in design. Further design parameters and assumptions are provided in the table below. The design parameters are based on the Louisiana DOTD Pavement Design Guidelines.

Modulus of Rupture (Sc)	600 psi
Elastic Modulus of Slab (Ec)	$4.2*10^6$ psi
Soil Support Value	3.6
Elastic Modulus of Base Material	30,000 psi
K-Value	490 pci
Equivalency Factor	1.7686
Assumed Percent Truck Traffic	10%
Assumed Directional Distribution	50%
Assumed Design Lane Distribution	90%

It is recommended the concrete be underlain by a base or leveling course of at least 12 in. of good quality granular material. This could consist of "pumped" river sand having less than 10% fines passing the No. 200 Sieve. This granular material should be compacted to a minimum dry density of 100% of its maximum dry density as determined by AASHTO T 99. This material should be placed in 6 in. loose lifts and compaction tests should be taken for each lift. The base material should be constructed over a prepared subgrade and should overlay a geotextile fabric to allow for separation.

Expansion and construction joints should be doweled or keyed to allow for good transfer of load and should be well sealed to prevent the intrusion of surface waters into the pavement base and natural subgrade.

Reference is also made to the City of Baton Rouge and Parish of East Baton Rouge Standard Specifications, City of Baton Rouge and Parish of East Baton Rouge Special Provisions, the State of Louisiana, Department of Transportation and Development (LADOTD) Road Design Manual, LADOTD Pavement Design Guide, LADOTD Standard Specifications for Roads and Bridges, American Association of State Highway and Transportation Officials (AASHTO) LRFD

Bridge Design Specifications, Latest Editions for additional guidelines and recommendations regarding pavement construction. This includes subgrade preparation; drainage and stripping; pavement materials (concrete, base, etc.); placement method and compaction requirements; paving equipment; and conditions; etc.

FLEXIBLE (ASPHALT) PAVEMENT – ALTERNATE 1

In order to achieve a 20 year design life based on the provided traffic conditions, it is recommended that a total improved thickness of at least 41 in. be considered for design. This could consist of 6 in. of good quality asphalt, placed over a base course of at least 15 in. of crushed stone aggregate, and 20 in. of well graded granular material for a subbase course.

The base course should be constructed over the prepared subbase. Base course material should consist of a crushed stone aggregate. The crushed stone aggregate to a minimum dry density of 95% of its maximum dry density as determined by AASHTO T 99. This material should be placed in 6 in. to 8 in. loose lifts and compaction tests should be taken for each lift.

The subbase course should be constructed over a prepared subgrade as mentioned above. The subbase material should consist of good quality granular material. This could consist "pumped" river sand having less than 10% fines passing the No. 200 Sieve. This granular material should be compacted to a minimum dry density of 95% of its maximum dry density as determined by ASTM D 698A. This material should be placed in 6 in. to 8 in. loose lifts and compaction tests should be taken for each lift. The subbase material should over lay a geotextile fabric to allow for separation with the existing subgrade.

We recommend the asphalt courses be placed as late as possible in the project so that the effects of settlement can be reduced. Proper drainage during and after construction is essential to the success of flexible asphaltic pavement systems.

Flexible pavements are susceptible to failures due to poor surface and subsurface drainage. Asphalt pavement generally requires surface sealing with a thin (½ inch) hot mix asphaltic concrete or an asphalt slurry seal at a 4 to 5-year interval to maintain a good pavement system because the local climate tends to weaken and oxidize the surface.

Reference is also made to the City of Baton Rouge and Parish of East Baton Rouge Standard Specifications, City of Baton Rouge and Parish of East Baton Rouge Special Provisions, the State of Louisiana, Department of Transportation and Development (LADOTD) Road Design Manual, LADOTD Pavement Design Guide, LADOTD Standard Specifications for Roads and Bridges, American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specifications, Latest Editions for additional guidelines and recommendations regarding pavement construction. This includes subgrade preparation; drainage and stripping; pavement materials (concrete, base, etc.); placement method and compaction requirements; paving equipment; and conditions; etc.

FLEXIBLE (ASPHALT) PAVEMENT - ALTERNATE 2

In order to achieve a 20 year design life based on the provided traffic conditions, 6 in. of asphalt placed over 30 in. of a chemically treated subgrade is adequate for design. The chemically treated subgrade must have a CBR value of 70 or greater. The chemically treated subgrade should be compacted to a minimum dry density of 95% of its maximum dry density as determined by AASHTO T 99.

Flexible pavements are susceptible to failures due to poor surface and subsurface drainage. Asphalt pavement generally requires surface sealing with a thin (½ inch) hot mix asphaltic concrete or an asphalt slurry seal at a 4 to 5-year interval to maintain a good pavement system because the local climate tends to weaken and oxidize the surface.

Reference is also made to the City of Baton Rouge and Parish of East Baton Rouge Standard Specifications, City of Baton Rouge and Parish of East Baton Rouge Special Provisions, the State of Louisiana, Department of Transportation and Development (LADOTD) Road Design Manual, LADOTD Pavement Design Guide, LADOTD Standard Specifications for Roads and Bridges, American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specifications, Latest Editions for additional guidelines and recommendations regarding pavement construction. This includes subgrade preparation; drainage and stripping; pavement materials (concrete, base, etc.); placement method and compaction requirements; paving equipment; and conditions; etc.

PAVEMENT CONSTRUCTION

It is our opinion that the methods, means and sequence of construction of the proposed Roadway Expansion are the responsibility of the contractor who should be experienced in this type construction. However, it should be recognized that the fully or partially constructed pavement sections may be subjected to heavier construction equipment, such as bulldozers, spreaders, rollers, concrete trucks, dump trucks, etc. Therefore, appropriate measures should be taken by the contractor in terms of site preparation, base/subbase placement and compaction, selection of paving equipment, etc. to assure the performance of the pavement section during and after construction.

Construction of the proposed Roadway Expansion should only be attempted when the subgrade is dry and stable and after good drainage has been established in the area. If these surface soils are not well drained prior to and during construction, "pumping" may occur which would inhibit proper compaction of the rigid pavement base or flexible pavement subbase. They would have to be stripped from the site and replaced with pavement base or subbase material. A geotextile fabric could be placed beneath the pavement improvement base and/or subbase to separate it from the soil subgrade.

GEOTEXTILE

If a geotextile is needed it should be a, Class C or Class D, non-woven fabric with an apparent opening size (AOS) smaller than the U.S. No. 70 sieve. The geotextile should be able to retain the underlying soil without clogging.

CONSTRUCTION QUALITY CONTROL

The Geotechnical Engineer of record should be retained to monitor and test earthwork activities, base, subbase and subgrade preparations, as well as any additional construction activities. We recommend that TBG be employed to monitor the earthwork construction, and to report that the recommendations contained in this report are completed in a satisfactory manner. Our continued involvement on the project will aid in the proper implementation of the recommendations discussed herein. The following is a recommended scope of services:

- Review of project plans and construction specifications to verify that the recommendations presented in this report have been properly interpreted and implemented.
- Observe the earthwork process to document that subsurface conditions encountered during construction are consistent with the conditions anticipated in this report.
- Observe the subgrade conditions before placing structural materials.
- Observe the placement and compaction of all structural materials, and perform laboratory and field compaction testing.

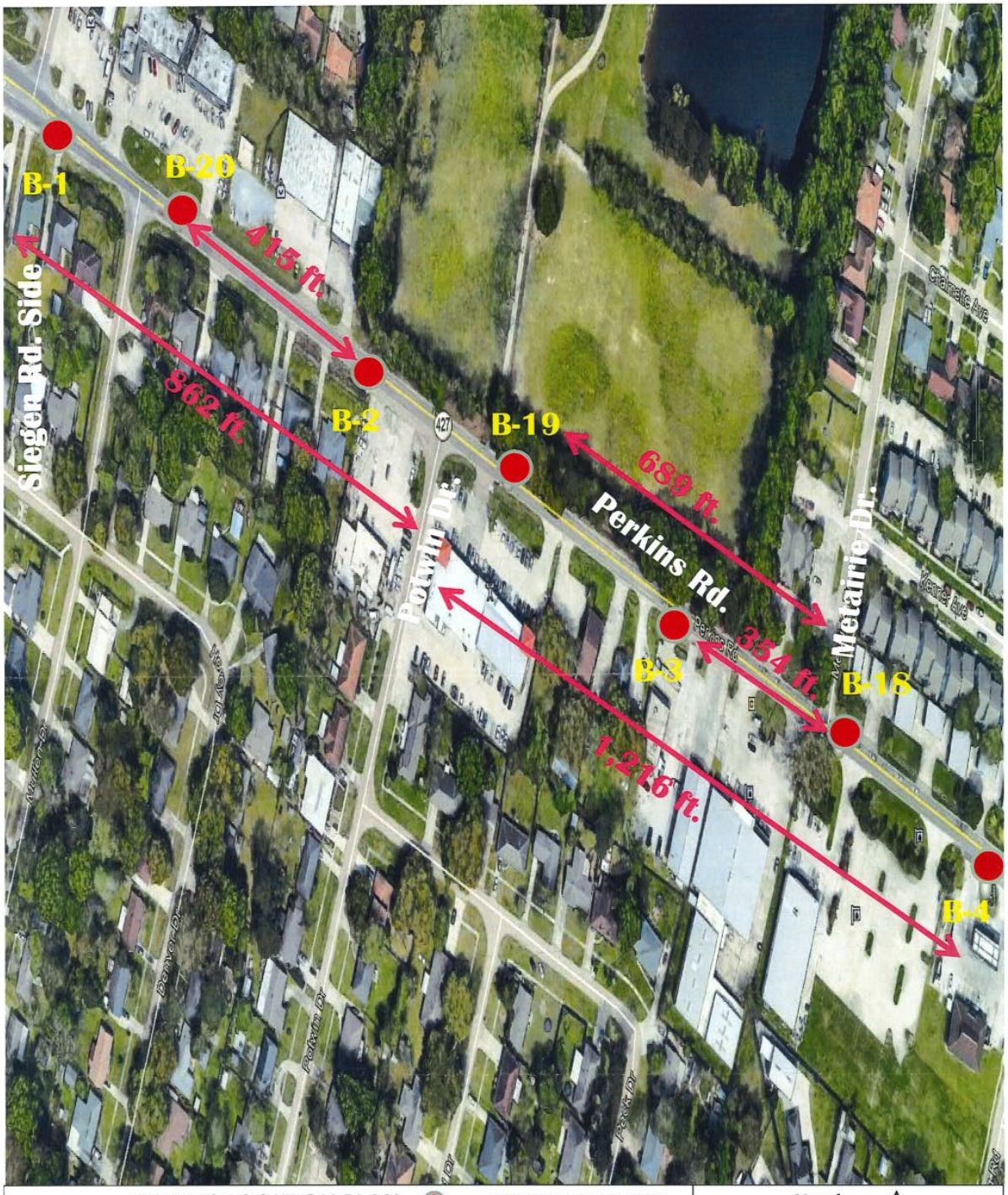
LIMITATIONS

This report has been prepared for the exclusive use of MOVEBR Program Management Team and their assigns for specific application to the referenced property in accordance with generally accepted geotechnical engineering practices.

No other warranty, expressed or implied, is made. These recommendations do not reflect variations in subsurface conditions that may be intermediate of the boring location or in unexplored areas of the site. Should such variations become apparent during construction, we reserve the right to re-evaluate our recommendations based upon on-site observations of the conditions.

In the event changes are made in the proposed construction plans, the recommendations presented in this report shall not be considered valid unless reviewed by our firm and modified or verified in writing.

Appendix



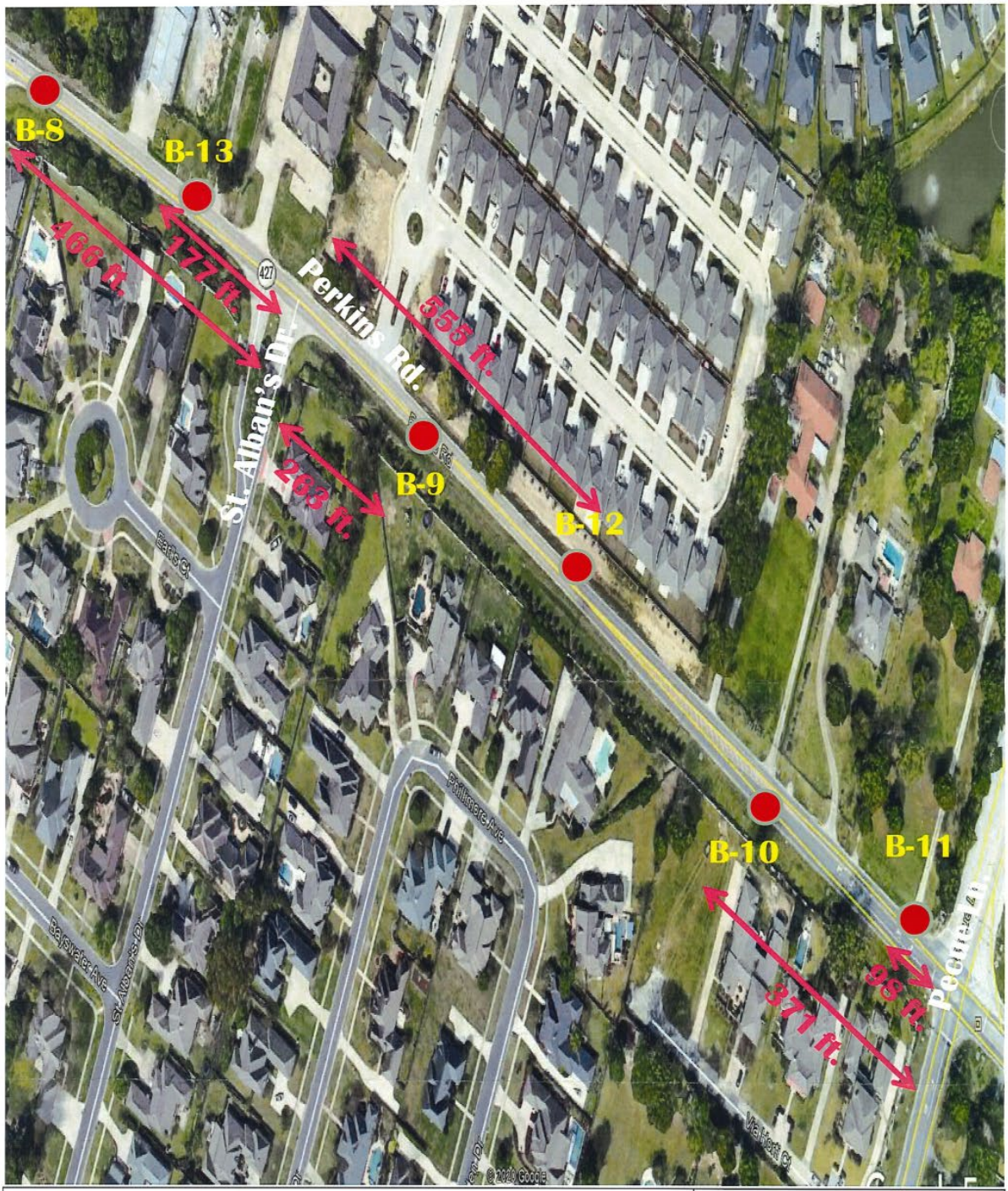
BORING LOCATION PLAN ● **BORING LOCATION** | **North** ▲

THE BETA GROUP, LLC. 1428½ Claire Ave, Gretna, Louisiana, 70053 504-227-2273 fax: 504-227-2274 Betagroupgc.com	Client: MOVEBR Program Management Team Project: Proposed Roadway Expansion Location: Baton Rouge, Louisiana TBG Project No: 5483G Date: 10/7/2020 Scale: Not To Scale — Figure 1

BORING LOCATION PLAN	BORING LOCATION	North

THE BETA GROUP, LLC.
1428½ Claire Ave, Gretna, Louisiana, 70053
504-227-2273 fax: 504-227-2274
Betagroupgc.com

Client:	MOVEBR Program Management Team
Project:	Proposed Roadway Expansion
Location:	Baton Rouge, Louisiana
TBG Project No:	5483G
Date:	10/7/2020
	Scale: Not To Scale — Figure 2



BORING LOCATION PLAN	BORING LOCATION	North

THE BETA GROUP, LLC.
1428½ Claire Ave, Gretna, Louisiana, 70053
504-227-2273 fax: 504-227-2274
Betagroupgc.com

Client:	MOVEBR Program Management Team
Project:	Proposed Roadway Expansion
Location:	Baton Rouge, Louisiana
TBG Project No:	5483G
Date:	10/7/2020
	Scale: Not To Scale — Figure 3

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-01

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/9/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 22' 2.72"
Long. 91° 4' 19.79"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (5 Inches)
☒			16 b/f 11-7-9		19								Very Stiff Gray SILTY CLAY (CL) (A-6)
			6 b/f 5-3-3		21								Medium Stiff Gray SILTY CLAY (CL) (A-6)
	5		1.25 (P)	0.71	24	118	47	18	29				Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-7-6)
			2.0 (P)	0.87	23	125							
			2.25 (P)	1.49	21	124							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-02

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/9/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 22' 0.24"
Long. 91° 4' 12.33"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (5 Inches)
☒			22 b/f 24-12-10		16								Very Stiff Light Gray SILTY CLAY (CL) w/ Organics and Stones (A-6)
			13 b/f 4-6-7		25		46	14	32				Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-7-6)
	5		1.25 (P)	0.72	28	122							
			2.0 (P)	0.90	26	125							
			2.0 (P)	1.55	21	130							Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 37 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-03

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/9/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 57.78"
Long. 91° 4' 4.88"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			33 b/f 0-0-33		10					12			Dense Brown SILTY SAND (SM) w/ Stones (Base Layer) (A-2-4)
			9 b/f 3-4-5		26								Stiff Tan and Light Gray SILTY CLAY (CL) w/ Sand and Organics (A-6)
	5		1.0 (P)	0.45	26	126	36	16	20				Soft Tan and Light Gray SILTY CLAY (CL) (A-6)
			2.0 (P)	1.36	21	129							Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
			2.25 (P)	1.23	21	126							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-04

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 55.23"
Long. 91° 3' 57.46"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			32 b/f 0-0-32		8					21			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			11 b/f 4-5-6		25								Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.5 (P)	0.52	26	124							
			1.25 (P)	0.76	24	123	36	12	24				
			2.25 (P)	1.01	20	129							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-05

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 52.61"
Long. 91° 3' 49.52"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (taf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6.5 Inches)
☒			33 b/f 0-0-33		6					21			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			7 b/f 2-3-4		28		44	15	29				Medium Stiff Tan and Light Gray SILTY CLAY (CL) (A-7-6)
	5		1.5 (P)	0.74	24	123							
			2.25 (P)	0.60	25	122							
			2.25 (P)	0.74	20	129							Medium Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	10												Boring completed at 10 ft

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method: Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-06

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 50.05"
Long. 91° 3' 42.04"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (9 Inches)
☒			30 b/f 0-0-30		4					11			Dense Brown SILTY SAND (SM) w/ Stones (Base Layer) (A-2-4)
			1.75 (P)	0.97	26	118	40	18	22				Medium Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.75 (P)	0.91	22	125							
			1.5 (P)		25								
			1.5 (P)	0.93	25	125							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 37 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-07

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 47.76"
Long. 91° 3' 35.02"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			32 b/f 0-0-32		5					22			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			2.5 (P)	1.30	23	125	33	21	12				Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		2.0 (P)		24								
			1.25 (P)	0.79	23	121							
			1.75 (P)	1.08	19	127							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-08

TheBetaGroup engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 45.29"
Long. 91° 3' 20.38"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			30 b/f 0-0-30		3					14			Dense Brown SILTY SAND (SM) w/ Stones (Base Layer) (A-2-4)
			13 b/f 5-6-7		33					98			Stiff Tan and Light Gray SILTY CLAY (CL) (A-7-6)
	5		2.0 (P)	0.62	19	129	30	16	14				Soft to Medium Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
			1.0 (P)	0.33	25	116							
			1.5 (P)	0.71	24	121							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method	
	Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-09

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/14/20
Logged by: L. Adams
Driller: T. Roche
Rig: CME 75

Location: Lat. 30° 21' 42.42"
Long. 91° 3' 20.38"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			31 b/f 0-0-31		3					17			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			1.75 (P)	1.50	26	120							Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.5 (P)	0.53	24	124	40	21	19				
			2.0 (P)	1.68	17	127							
			2.25 (P)	1.00	21	129							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 37 ft.
	Boring Abandonment Method: Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-10

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/14/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 39.12"
Long. 91° 3' 13.37"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (7 Inches)
☒			33 b/f 0-0-33		2					15			Dense Brown SILTY SAND (SM) w/ Stones (Base Layer) (A-2-4)
			3.0 (P)	1.28	26	120							Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.5 (P)	0.58	24	120							
			1.5 (P)	0.45	24	119	37	16	21				
			2.75 (P)	1.33	21	127							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 39 ft.
	Boring Abandonment Method	
	Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-11

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/16/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 38.11"
Long. 91° 3' 10.48"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			30 b/f 0-0-30		3					18			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			7 b/f 2-3-4		24		40	18	22				Medium Stiff Gray and Tan SILTY CLAY (CL) (A-6)
	5		1.75 (P)	0.75	20	126							Medium Stiff Tan and Light Gray SILTY CLAY (CL) w/ Ferrous Nodules (A-6)
			2.75 (P)	2.68	20	122							Very Stiff Tan and Gray SILTY CLAY (CL) w/ Stones (A-6)
			3.75 (P)	2.40	20	129							Very Stiff Light Gray and Reddish Tan SILTY CLAY (CL) (A-6)
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 37 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG001R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-12

TheBetaGroup engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/16/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 41.29"
Long. 91° 3' 17.54"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			30 b/f 0-0-30		2					13			Dense Brown SILTY SAND (SM) w/ Stones (Base Layer) (A-2-4)
			7 b/f 6-4-3		28								Soft to Medium Stiff Tan and Light Gray SILTY CLAY (CL) (A-7-6)
	5		2.0 (P)	0.37	24	119	44	20	24				
			2.25 (P)	1.30	21	127							Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
			2.5 (P)	1.10	22	128							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 37 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG301 01R 5483G.GPJ LOG301R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-13

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/16/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 44.51"
Long. 91° 3' 24.8"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			30 b/f 0-0-30		2					17			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			1.5 (P)	1.07	25	123							Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.75 (P)	0.24	25	125							Soft Tan and Light Gray SILTY CLAY (CL) (A-6)
			1.75 (P)	1.14	19	128	33	15	18				Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
			2.5 (P)	0.56	20	130							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 37 ft.
	Boring Abandonment Method: Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-14

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 47"
Long. 28° 3' 33.16"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			30 b/f 0-0-30		4					15			Dense Brown SILTY SAND (SM) w/ Stones (Base Layer) (A-2-4)
			1.75 (P)	1.14	26	121	42	18	24				Stiff Tan and Light Gray SILTY CLAY (CL) (A-7-6)
	5		2.0 (P)	0.98	24	123							Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
			2.5 (P)	1.57	18	128							
			2.75 (P)	1.13	18	125							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 43 ft.
	Boring Abandonment Method: Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-15

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 49.41"
Long. 91° 3' 39.59"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			30 b/f 0-0-30		5					21			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			30 b/f 9-12-18		18					98			Very Stiff Light Gray SILTY CLAY (CL) (A-6)
	5		1.5 (P)	0.84	25	123	37	15	22				Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
			1.75 (P)	0.96	25	123							
			1.25 (P)	1.00	20	127							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method: Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-16

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 51.77"
Long. 91° 3' 46.76"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			31 b/f 0-0-31		4					13			Dense Brown SILTY SAND (SM) w/ Stones (Base Layer) (A-2-4)
			8 b/f 3-4-4		25		46	17	29				Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-7-6)
	5		2.0 (P)	0.81	24	123							
			2.0 (P)	0.57	26	122							
			2.0 (P)	0.60	19	130							Medium Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-17

TheBetaGroup engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 54.39"
Long. 91° 3' 54.44"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (taf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			31 b/f 0-0-31		6					24			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			14 b/f 6-6-8		20								Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.25 (P)	0.68	26	125	36	16	20				
			1.0 (P)	0.77	26	129							
			2.0 (P)	1.21	21	128							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 40 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-18

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/11/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 56.88"
Long. 91° 4' 1.92"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6 Inches)
☒			31 b/f 0-0-31		7					21			Dense Brown SILTY SAND (SM) w/ Stones and Trace Clay (Base Layer) (A-2-4)
			12 b/f 3-6-6		23								Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.5 (P)	0.68	24	123							
			2.0 (P)	0.77	27	121	37	17	20				
			2.5 (P)	1.21	21	128							
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 39 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-19

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/9/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

Location: Lat. 30° 21' 59.45"
Long. 91° 4' 9.57"
Surface Elevation:

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (6.5 Inches)
☒			32 b/f 0-0-32		9					10			Dense Brown SILTY SAND (SM) (Base Layer) (A-3)
			12 b/f 4-5-7		21								Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
	5		1.5 (P)	1.14	21	128	36	13	23				
			2.5 (P)	0.71	20	128							
			2.25 (P)	1.65	19	129							
	10												Boring completed at 10 ft.

Ground Water Level Data
☒ No free water encountered

Boring Advancement Method
Continuous
0 to 10 ft.

Boring Abandonment Method
Borehole backfilled with soil upon completion

Notes
Estimated Ground Surface Elevation: 39 ft.

Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/28/21

Proposed Roadway Expansion
Perkins Rd. (Siegen Ln. to Pecue Ln.)
Baton Rouge, Louisiana

MOVEBR Program Management Team
10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

LOG OF SOIL BORING B-20

TheBetaGroup
engineering and construction services

Sheet 1 of 1

File: 5483G
Date: 9/9/20
Logged by: L.Adams
Driller: T.Roche
Rig: CME 75

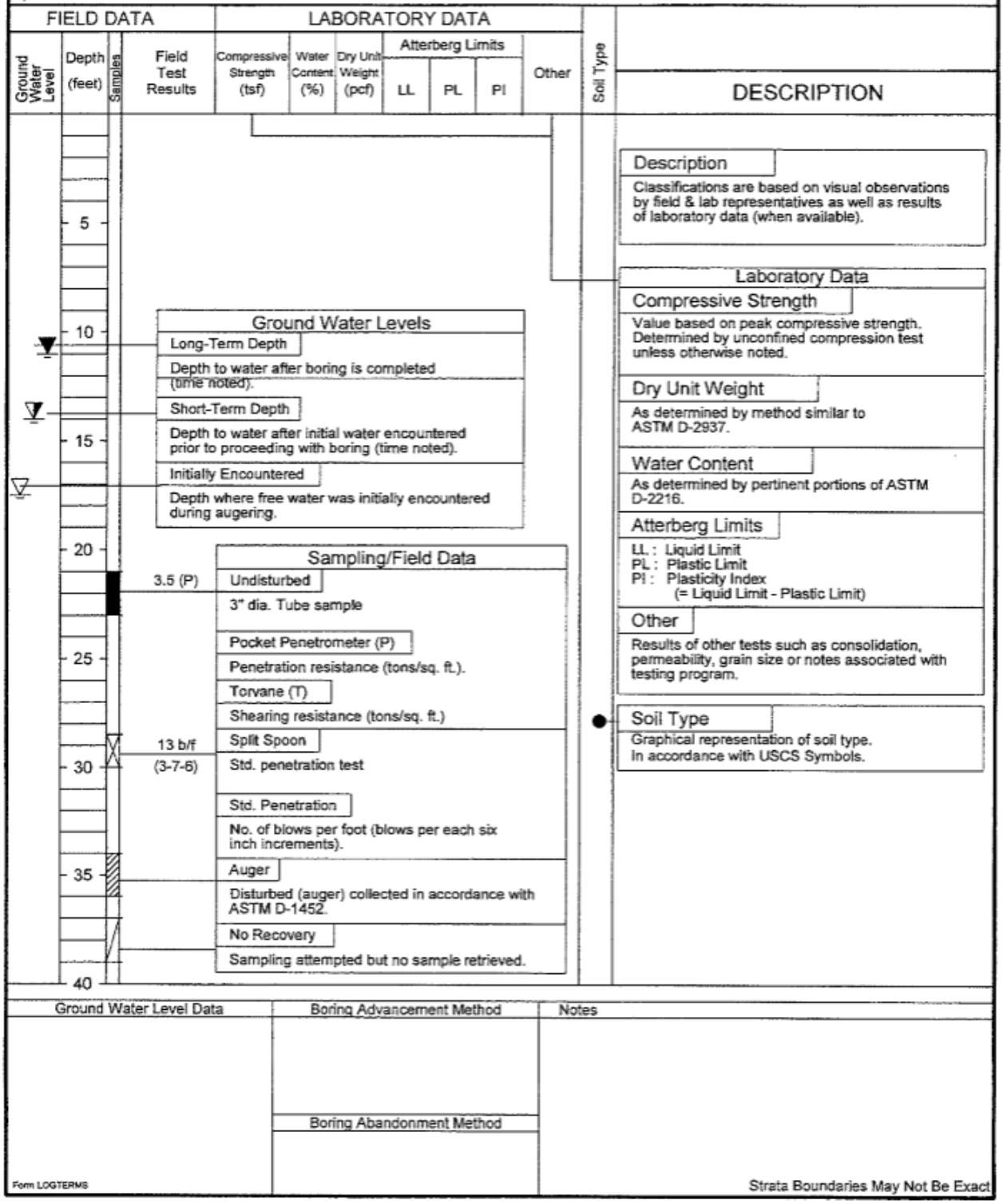
Location: Lat. 30° 22' 1.92"
Long. 91° 4' 16.84"
Surface Elevation:

FIELD DATA				LABORATORY DATA									
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Wet Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Percent Passing #200 Sieve	Organic Content	Soil Type	Description
													Asphalt (5 Inches)
☒			30 b/f 0-0-30		10					14			Dense Brown SILTY SAND (SM) (Base Layer) (A-2-4)
			13 b/f 11-8-5		18								Stiff Gray SILTY CLAY (CL) w/ Stones (A-6)
	5		2.25 (P)	1.14	25	125							Medium Stiff to Stiff Tan and Light Gray SILTY CLAY (CL) (A-6)
			2.75 (P)	0.67	25	127	37	17	20				
			0.75 (P)	0.37	27	124							Soft Tan and Light Gray SILTY CLAY (CL) (A-6)
	10												Boring completed at 10 ft.

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	Continuous 0 to 10 ft.	Estimated Ground Surface Elevation: 37 ft.
	Boring Abandonment Method Borehole backfilled with soil upon completion	Strata Boundaries and Sample Lengths May Not Be Exact

ARD LOG01 01R 5483G.GPJ LOG01R.GDT 5/26/21

DESCRIPTION OF TERMS AND SYMBOLS USED ON SOIL BORING LOG



UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

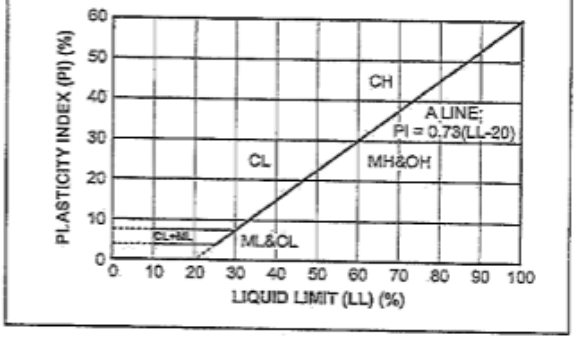
LABORATORY CLASSIFICATION CRITERIA

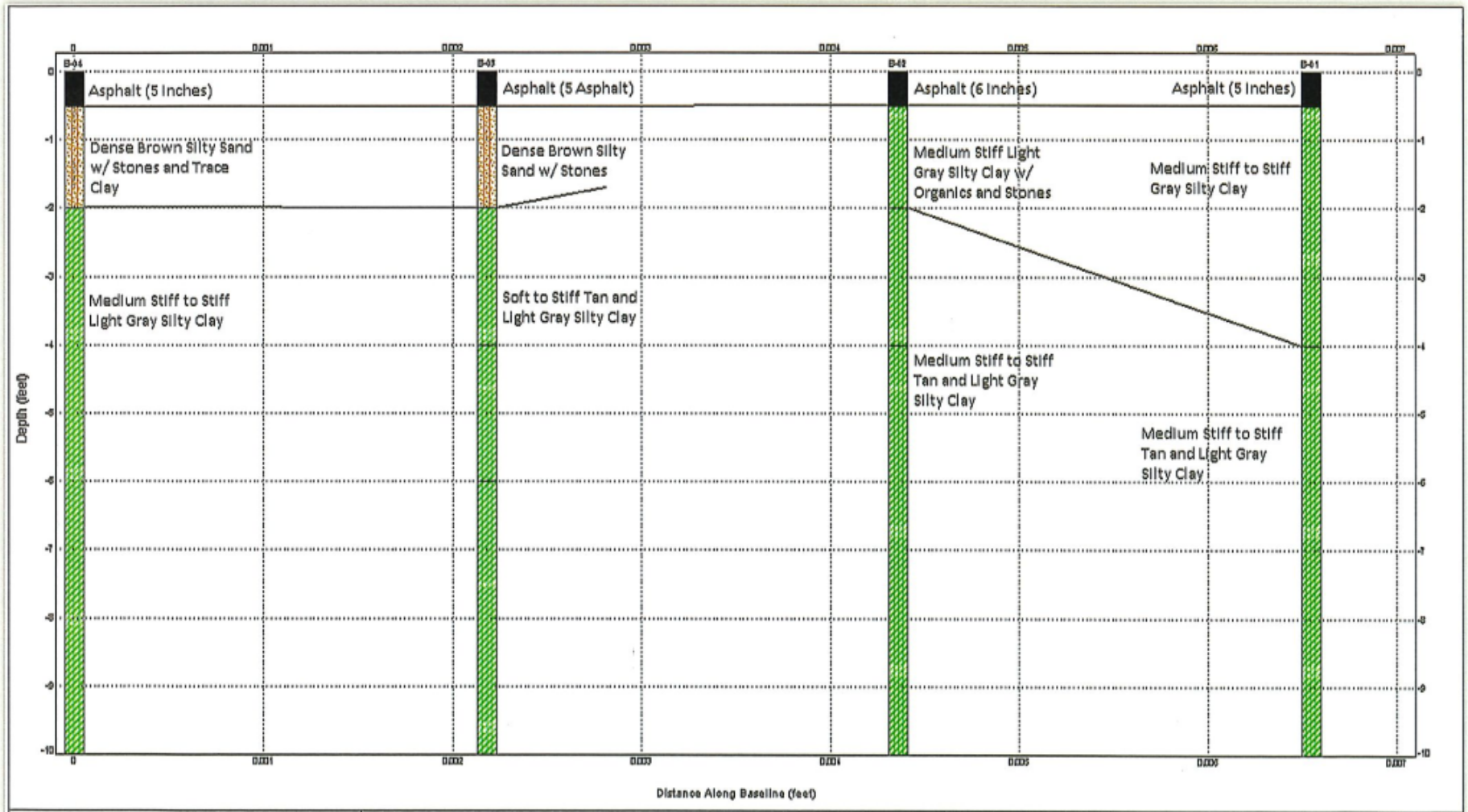
GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent	GW, GP, SW, SP
More than 12 percent	GM, GC, SM, SC
5 to 12 percent	Borderline cases requiring dual symbols

PLASTICITY CHART





The Beta Group

Telephone:
Fax:

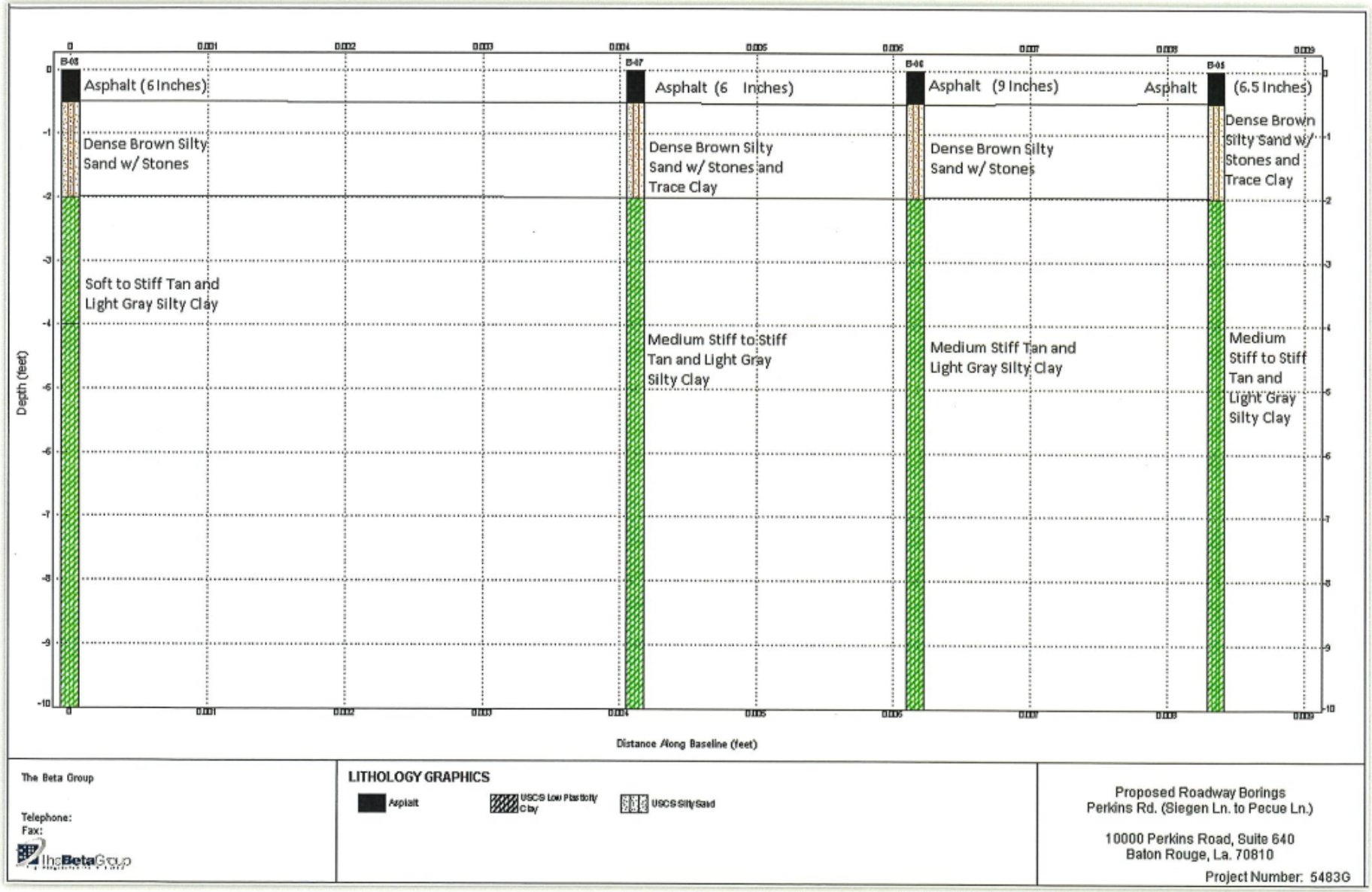
LITHOLOGY GRAPHICS

Asphalt | USCS Low Plasticity Clay | USCS SiltySand

Proposed Roadway Borings
Perkins Rd. (Siegen Ln. to Pecue Ln.)

10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

Project Number: 5483G



The Beta Group

Telephone:
Fax:

TheBetaGroup

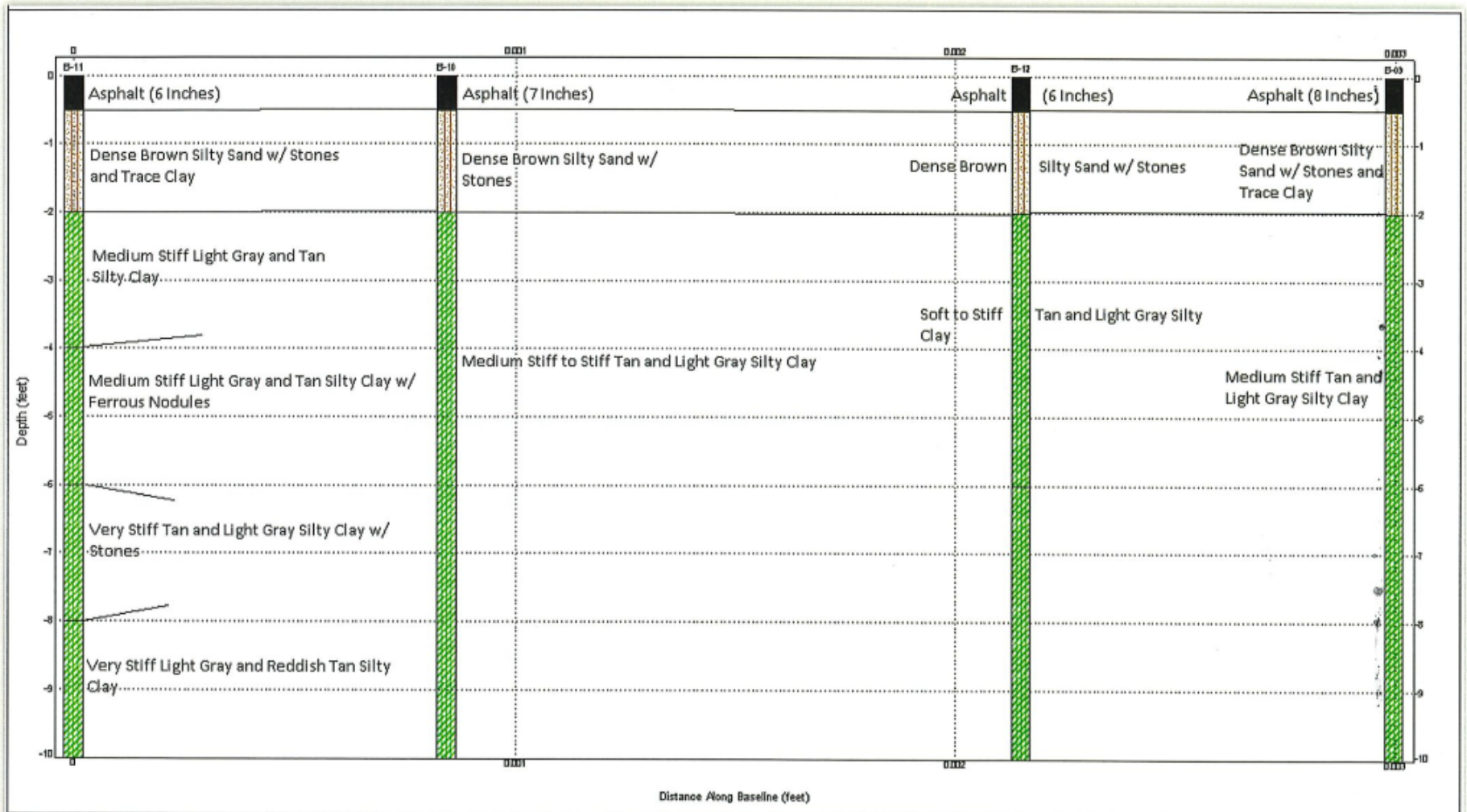
LITHOLOGY GRAPHICS

Asphalt | USCS Low Plasticity Clay | USCS Silty Sand

Proposed Roadway Borings
Perkins Rd. (Siegen Ln. to Pecue Ln.)

10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

Project Number: 5483G



The Beta Group

Telephone:
Fax:

TheBetaGroup

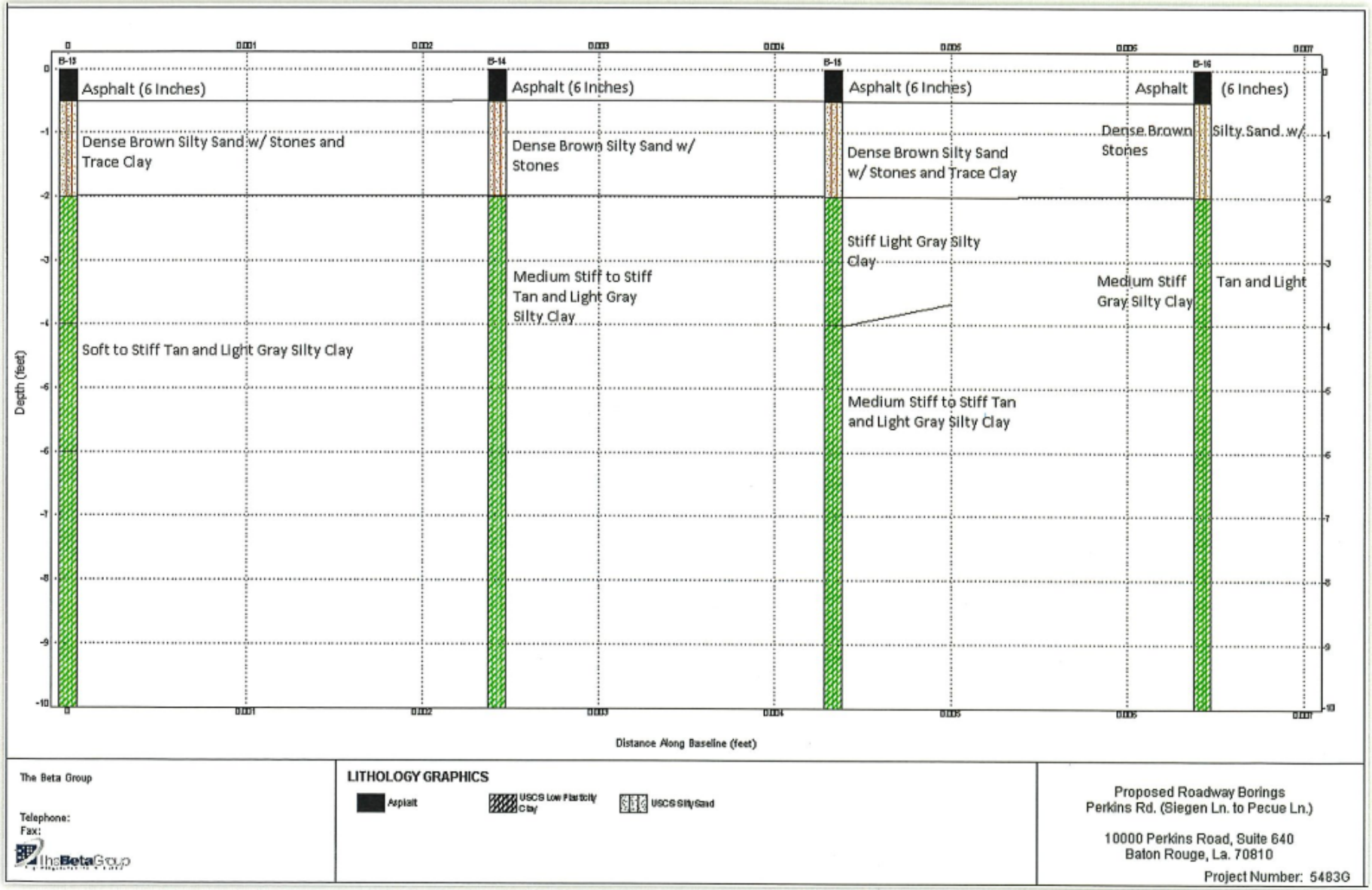
LITHOLOGY GRAPHICS

Asphalt | USCS Low Plasticity Clay | USCS Silty Sand

Proposed Roadway Borings
Perkins Rd. (Siegen Ln. to Pecue Ln.)

10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

Project Number: 5483G



The Beta Group

Telephone:
Fax:

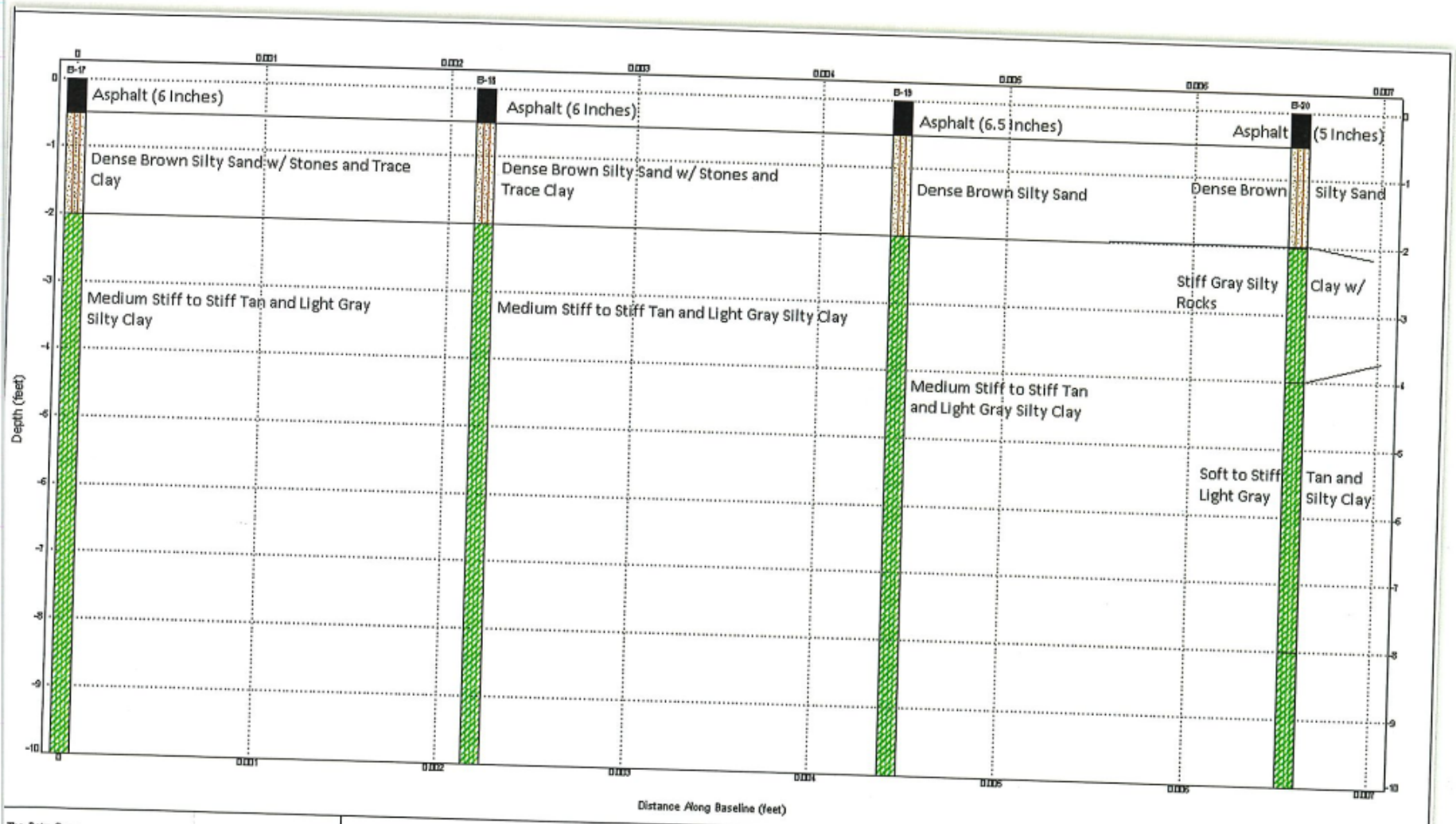
LITHOLOGY GRAPHICS

Asphalt
USCS Low Plasticity Clay
USCS Silty Sand

Proposed Roadway Borings
Perkins Rd. (Siegen Ln. to Pecue Ln.)

10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

Project Number: 5483G



The Beta Group

Telephone:
Fax:

TheBetaGroup

LITHOLOGY GRAPHICS

Asphalt
USCS Low Plasticity Clay
USCS SiltySand

Proposed Roadway Borings
Perkins Rd. (Siegen Ln. to Pecue Ln.)

10000 Perkins Road, Suite 640
Baton Rouge, La. 70810

Project Number: 54830

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: 6/7/2021 **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:** PAVEMENT DESIGN

FIGURE 21.8
NATURAL SUBGRADE

USCS	CBR	K
OH	2	75
CH	3	100
OL	5	160
MH	6	160
ML	10	200
CL	10	200
CLS	15	230
SP	18	240
SM	25	290
SW	30	330
GC	30	330
GM	50	500
GP	40	450
GW	70	650

FIGURE 20.17
ASPHALT @ 68 °F

No.	E (psi)	a_1
1	100,000	0.20
2	150,000	0.25
3	200,000	0.30
4	250,000	0.33
5	300,000	0.36
6	350,000	0.39
7	400,000	0.42
8	450,000	0.44
9	500,000	0.46
10	NONE	0

FIGURE 20.16
ROADWAY BASE

No.	USCS	CBR	a_2
1	CLAY	10	0.038
2	SP	18	0.070
3	SM	25	0.082
4	SW	30	0.095
5	GC	30	0.095
6	GP	40	0.108
7	GM	50	0.118
8	GW	70	0.130
9	STONE	80	0.136
10	ROCK-F	90	0.138
11	ROCK-I	100	0.140
12	NONE	0	0

FIGURE 20.15
ROADWAY SUBBASE

No.	USCS	CBR	a_3
1	CH	3	0.070
2	CL	10	0.080
3	SC	15	0.090
4	SP	18	0.096
5	SM	25	0.102
6	SW	30	0.110
7	GC	30	0.110
8	GP	40	0.120
9	GM	50	0.128
10	GW	70	0.130
11	STONE	80	0.132
12	ROCK-F	90	0.134
13	ROCK-I	100	0.140
14	NONE	0	0

USCS =	CLS		**E (psi) =**	8	**USCS =**	9	**USCS =**	4
	15	230		0		0		0
CBR =	15	230	**a_1 =**	0.440	**a_2 =**	0.136	**a_3 =**	0.096

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: 6/7/2021 **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:** 0

TABLE 20.14

DRAINAGE		TIME	
1	EXCELLENT	2	HRS
2	GOOD	1	DAY
3	FAIR	1	WEEK
4	POOR	1	MONTH
5	V. POOR	0	NEVER

TABLE 20.15

DRAINAG % TIME EXPOSURE TO MISTURE							
DRAINAGE		< 1 %	1-5 %		5-25%	>25%	
1	EXCELLENT	1.375	1.325		1.25	1.2	1.2
2	GOOD	1.3	1.2		1.075	1	1
3	FAIR	1.2	1.1		0.9	0.8	0.8
4	POOR	1.1	0.925		0.7	0.6	0.6
5	V. POOR	1	0.85		0.575	0.4	0.4

DRAINAGE = 2 **EXPOSURE =** 30 % m_1 = 1.00 m_2 = 1.00

ROADWAY RELIABILITY		URBAN	RURAL	
CLASS	TYPE	A	B	
1	INTERSTATE AND FREEWAYS	99	97	99
2	OTHER PRINICIPAL ARTERIALS	97	95	97
3	COLLECTORS	90	85	90
4	LOCAL	75	70	75

S_o	
FLEXIBLE	RIGID
0.45	0.35

CLASS = 2 **TYPE:** A

RELIABILITY = 97 Z_R = -1.282

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: 6/7/2021 **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:** 0

FIGURE 21.5
LOSS OF SUPPORT FACTORS

BASE MATERIAL TYPE		E	LS
1	CEMENT-TREATED GRANULAR BASE	1.5E+06	0.5
2	CEMENT AGGREGATE MIXTURES	7.5E+05	0.5
3	ASPHALT-TREATED BASE	6.8E+05	0.5
4	BITUMINOUS STABLIZED MIXTURES	1.7E+05	0.5
5	LIME-STABILIZED MIXTURES	4.5E+04	2.0
6	UNBOUND ANGULAR MATERIALS	3.0E+04	2.0
7	FINE GRAUNED OR NATURAL SUBGRADE MATERIALS	2.2E+04	2.5
8	NONE	0.0E+00	3.0

MATERIAL TYPE = 6 **LS =** 2

0	0.5	1	2	2.5	3
250	168	85	27	20	14

K (pci) = 230 ***K* (pci) =** 490

TABLE 20.14

DRAINAGE		TIME	
1	EXCELLENT	2	HRS
2	GOOD	1	DAY
3	FAIR	1	WEEK
4	POOR	1	MONTH
5	V. POOR	0	NEVER

TABLE 21.9

DRAINAGE		% TIME EXPOSURE TO MOISTURE					
		< 1 %	1-5 %		5-25%	>25%	
1	EXCELLENT	1.225	1.175		1.125	1.1	1.1
2	GOOD	1.175	1.125		1.05	1	1
3	FAIR	1.125	1.05		0.95	0.9	0.9
4	POOR	1.05	0.95		0.85	0.8	0.8
5	V. POOR	0.95	0.85		0.75	0.7	0.7

DRAINAGE = 2 **EXPOSURE =** 30 % **C_d =** 1.00

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE:	6/7/2021		**TITLE:**	Proposed Perkins Rd expansion (move BR)			
JOB:	5483G		**SECTION:**				
CONCRETE PAVEMENT SECTION:							
CONCRETE:							
t (inch) =	12	**S_c (psi) =**	600	**E_c (psi) =**	4.20E+06	**J =**	3.2
BASE:							
t (inch) =	12	**USCS =**	SP				
SUBGRADE:							
USCS =	CLS	**K (pci) =**	230				
COMPOSITE:		***K* (pci) =**	490				
TRAFFIC:		**Volume (H or L) =**	H	**p_i =**	4.3		
		p_t =	2.5	**ΔPSI =**	1.8		
C_d =	1.00						
RELIABILITY =	0.97	**Z_R =**	-1.282	**S_o =**	0.35		
AADT =	32,000						
Directional Distribution	0.5	**Design Lane Distribution**	0.9	**Percent Trucks**	0.1	**Truck Factor**	1.7686
ESAL =	1.86E+07	W_{18}		**SERVICE LIFE =**	18.78	Years	

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: 6/7/2021 **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:**

FLEXIBLE SECTION:	**ASPHALT**	**BASE**	**SUBBASE**
	a_1 = 0.440	a_2 = 0.136	a_3 = 0.096
		m_2 = 1	m_3 = 1
THICKNESS (inch) =	6	15	20

SUBGRADE: **USCS =** CLS **CBR =** 15 **M_r (psi) =** 22500

TRAFFIC: **Volume (H or L) =** H **p_i =** 4.3
p_t = 2.5 **ΔPSI =** 1.8

RELIABILITY = 0.97 **Z_R =** -1.282 **S_o =** 0.45

AADT = 32,000

Asphalt Only: **SN =** 2.64 **FIGURE 20.20**

$Log_{10}(W_{18})$ =	-0.577	5.252	-0.200	-0.101	10.097	-8.070	=	6.401
ESAL =	2.5E+06	W_{18}		**SERVICE LIFE =**		0.04	Years	

Asphalt & Base: **SN =** 4.680 **FIGURE 20.20**

$Log_{10}(W_{18})$ =	-0.577	7.061	-0.200	-0.330	10.097	-8.070	=	7.981
ESAL =	9.6E+07	W_{18}		**SERVICE LIFE =**		1.64	Years	

Asphalt, Base & Subbase: **SN =** 6.600 **FIGURE 20.20**

$Log_{10}(W_{18})$ =	-0.577	8.244	-0.200	-0.410	10.097	-8.070	=	9.084
ESAL =	1.2E+09	W_{18}		**SERVICE LIFE =**		20.80	Years	

Unpaved: **SN =** 3.960 **FIGURE 20.20**

$Log_{10}(W_{18})$ =	-0.577	6.510	-0.200	-0.263	10.097	-8.070	=	7.497
ESAL =	3.1E+07	W_{18}		**SERVICE LIFE =**		0.54	Years	

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: 5/25/2021
TITLE: Proposed Perkins Rd expansion (move BR)
JOB: 5483G **SECTION:** 0
FLEXIBLE SECTION:
ALL MULTIPLE TRACTOR & SEMI-TRAILERS UNITS

NUMBER BASED ON MAXIMUM AADT			
YEARS	f_d	NO BASE	BASE
1	0.53	6278770	13010
5	0.53	1255754	2602
10	0.53	627877	1301
20	0.53	313938	650
25	0.53	251151	520
30	0.53	209292	434

NUMBER BASED ON MINIMUM AADT			
YEARS	f_d	NO BASE	BASE
1	1.52	2189308	4536
5	1.52	437862	907
10	1.52	218931	454
20	1.52	109465	227
25	1.52	87572	181
30	1.52	72977	151

ALL SINGLE TRUCK UNITS

NUMBER BASED ON MAXIMUM AADT			
YEARS	f_d	NO BASE	BASE
1	0.04	83193697	172378
5	0.04	16638739	34476
10	0.04	8319370	17238
20	0.04	4159685	8619
25	0.04	3327748	6895
30	0.04	2773123	5746

NUMBER BASED ON MINIMUM AADT			
YEARS	f_d	NO BASE	BASE
1	0.16	20798424	43094
5	0.16	4159685	8619
10	0.16	2079842	4309
20	0.16	1039921	2155
25	0.16	831937	1724
30	0.16	693281	1436

ALL TRUCKS

NUMBER BASED ON MAXIMUM AADT			
YEARS	f_d	NO BASE	BASE
1	0.07	47539255	98502
5	0.07	9507851	19700
10	0.07	4753926	9850
20	0.07	2376963	4925
25	0.07	1901570	3940
30	0.07	1584642	3283

NUMBER BASED ON MINIMUM AADT			
YEARS	f_d	NO BASE	BASE
1	0.39	8532687	17680
5	0.39	1706537	3536
10	0.39	853269	1768
20	0.39	426634	884
25	0.39	341307	707
30	0.39	284423	589

BASED ON URBAN SYSTEM HIGHWAY DESIGN (The Asphalt Institute)
ASSUMING NO TRAFFIC GROWTH
ASSUMING MAAT 60 °F ASPHALT
f_d Design Lane Factor **AADT =** 32,000

Base:	**ESAL =**	1.21E+09 W18	**SERVICE LIFE =**	20.80	Years
No Base:	**ESAL =**	2.52E+06 W18	**SERVICE LIFE =**	0.04	Years

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: ####### **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:** PAVEMENT DESIGN

FIGURE 21.8
NATURAL SUBGRADE

USCS	CBR	K
OH	2	75
CH	3	100
OL	5	160
MH	6	160
ML	10	200
CL	10	200
CLS	15	230
SP	18	240
SM	25	290
SW	30	330
GC	30	330
GM	50	500
GP	40	450
GW	70	650

FIGURE 20.17
ASPHALT @ 68 °F

No.	E (psi)	a_1
1	100,000	0.20
2	150,000	0.25
3	200,000	0.30
4	250,000	0.33
5	300,000	0.36
6	350,000	0.39
7	400,000	0.42
8	450,000	0.44
9	500,000	0.46
10	NONE	0

FIGURE 20.16
ROADWAY BASE

No.	USCS	CBR	a_2
1	CLAY	10	0.038
2	SP	18	0.070
3	SM	25	0.082
4	SW	30	0.095
5	GC	30	0.095
6	GP	40	0.108
7	GM	50	0.118
8	GW	70	0.130
9	STONE	80	0.136
10	ROCK-F	90	0.138
11	ROCK-I	100	0.140
12	NONE	0	0

FIGURE 20.15
ROADWAY SUBBASE

No.	USCS	CBR	a_3
1	CH	3	0.070
2	CL	10	0.080
3	SC	15	0.090
4	SP	18	0.096
5	SM	25	0.102
6	SW	30	0.110
7	GC	30	0.110
8	GP	40	0.120
9	GM	50	0.128
10	GW	70	0.130
11	STONE	80	0.132
12	ROCK-F	90	0.134
13	ROCK-I	100	0.140
14	NONE	0	0

USCS =	CLS		**E (psi) =**	8	**USCS =**	8	**USCS =**	14
	15	230		0		0		0
CBR =	15	230	**a_1 =**	0.440	**a_2 =**	0.130	**a_3 =**	0.000

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: ####### **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:** 0

TABLE 20.14

DRAINAGE		TIME	
1	EXCELLENT	2	HRS
2	GOOD	1	DAY
3	FAIR	1	WEEK
4	POOR	1	MONTH
5	V. POOR	0	NEVER

TABLE 20.15

DRAINAG	% TIME EXPOSURE TO MISTURE					
DRAINAGE		**< 1 %**	**1-5 %**		**5-25%**	**>25%**
1	EXCELLENT	1.375	1.325		1.25	1.2
2	GOOD	1.3	1.2		1.075	1
3	FAIR	1.2	1.1		0.9	0.8
4	POOR	1.1	0.925		0.7	0.6
5	V. POOR	1	0.85		0.575	0.4

DRAINAGE = 2 **EXPOSURE =** 30 % **m_1 =** 1.00 **m_2 =** 1.00

ROADWAY RELIABILITY		URBAN	RURAL	
CLASS	**TYPE**	**A**	**B**	
1	INTERSTATE AND FREEWAYS	99	97	99
2	OTHER PRINICIPAL ARTERIALS	97	95	97
3	COLLECTORS	90	85	90
4	LOCAL	75	70	75

S_o	
FLEXIBLE	**RIGID**
0.45	0.35

CLASS = 2 **TYPE:** A

RELIABILITY = 97 **Z_R =** -1.282

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: ####### **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:** 0

FIGURE 21.5
LOSS OF SUPPORT FACTORS

BASE MATERIAL TYPE		E	LS
1	CEMENT-TREATED GRANULAR BASE	1.5E+06	0.5
2	CEMENT AGGREGATE MIXTURES	7.5E+05	0.5
3	ASPHALT-TREATED BASE	6.8E+05	0.5
4	BITUMINOUS STABLIZED MIXTURES	1.7E+05	0.5
5	LIME-STABILIZED MIXTURES	4.5E+04	2.0
6	UNBOUND ANGULAR MATERIALS	3.0E+04	2.0
7	FINE GRAUNED OR NATURAL SUBGRADE MATERIALS	2.2E+04	2.5
8	NONE	0.0E+00	3.0

MATERIAL TYPE = 5 **LS =** 2

0	0.5	1	2	2.5	3
250	168	85	27	20	14

K (pci) = 230 ***K* (pci) =** 2000

TABLE 20.14

DRAINAGE		TIME	
1	EXCELLENT	2	HRS
2	GOOD	1	DAY
3	FAIR	1	WEEK
4	POOR	1	MONTH
5	V. POOR	0	NEVER

TABLE 21.9

DRAINAGE		% TIME EXPOSURE TO MOISTURE					
		< 1 %	1-5 %		5-25%	>25%	
1	EXCELLENT	1.225	1.175		1.125	1.1	1.1
2	GOOD	1.175	1.125		1.05	1	1
3	FAIR	1.125	1.05		0.95	0.9	0.9
4	POOR	1.05	0.95		0.85	0.8	0.8
5	V. POOR	0.95	0.85		0.75	0.7	0.7

DRAINAGE = 2 **EXPOSURE =** 30 % **C_d =** 1.00

SOIL AND FOUNDATION INVESTIGATIONS
PAVEMENT ANALYSES - AASHTO APPROACH

DATE: 5/25/2021 **TITLE:** Proposed Perkins Rd expansion (move BR)

JOB: 5483G **SECTION:**

FLEXIBLE SECTION:	**ASPHALT**	**BASE**	**SUBBASE**
	a_1 = 0.440	a_2 = 0.130	a_3 = 0.000
		m_2 = 1	m_3 = 1
THICKNESS (inch) =	6	30	0

SUBGRADE: **USCS =** CLS **CBR =** 15 **M_r (psi) =** 22500

TRAFFIC: **Volume (H or L) =** H **p_i =** 4.3

p_t = 2.5 **ΔPSI =** 1.8

RELIABILITY = 0.97 **Z_R =** -1.282 **S_o =** 0.45

AADT = 32,000

Asphalt Only:		**SN =**	2.64	**FIGURE 20.20**				
$Log_{10}(W_{18})$ =	-0.577	5.252	-0.200	-0.101	10.097	-8.070	=	6.401
ESAL =	2.5E+06	W_{18}		**SERVICE LIFE =**		0.04	Years	
Asphalt & Base:		**SN =**	6.540	**FIGURE 20.20**				
$Log_{10}(W_{18})$ =	-0.577	8.212	-0.200	-0.409	10.097	-8.070	=	9.053
ESAL =	1.1E+09	W_{18}		**SERVICE LIFE =**		19.36	Years	
Asphalt, Base & Subbase:		**SN =**	6.540	**FIGURE 20.20**				
$Log_{10}(W_{18})$ =	-0.577	8.212	-0.200	-0.409	10.097	-8.070	=	9.053
ESAL =	1.1E+09	W_{18}		**SERVICE LIFE =**		19.36	Years	
Unpaved:		**SN =**	3.900	**FIGURE 20.20**				
$Log_{10}(W_{18})$ =	-0.577	6.460	-0.200	-0.257	10.097	-8.070	=	7.454
ESAL =	2.8E+07	W_{18}		**SERVICE LIFE =**		0.49	Years	

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT:		
SAMPLE LOCATION: B-1	#3 (4 – 6)		
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION: light Gray & Tan Silty Clay			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			44	29	8	102	73	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		21.68	24.13	22.09	23.74	21.12	
	(B)TARE PLUS DRY SOIL WT.		19.69	21.76	19.72	22.21	19.95	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		15.19	16.93	15.17	13.59	13.56	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			27	18	12			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

S301

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

47-18

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____ CHECKED BY_____

THE BETA GROUP, LLC 10/10/2013

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project:	Sample Location: B-1
Technician: CR	Sampled By:
TBG No.: 54836	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT

Location /Boring-	1 (0-2)	2 (2-4)			
Description	Brn silty clay	Brn silty clay			
Tare No.	09	J.J			
(1) Weight of soil (wet) (grams)	141.2	136.6			
(2) Weight of soil (dry) (grams)	120.1	114.7			
(3) Weight of pan (grams)	21	8.1			
(4) Water weight (grams) (1 – 2)	21.1	21.9			
(5) Soil weight (grams) (2 – 3)	112.0	106.6			
Water content (%) (4)/(5)*100	18.8	20.5			

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-1 SAMPLE: 3 DEPTH: 4-6 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St light Gray & Tan Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.75	2.83	2.80	2.06
Length (in)	5.76	5.75	5.78	5.76	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	Y-5	
WWS + Tare (g)	187.3	
WDS + Tare (g)	152.5	
WW (g)		
Wt. Tare (g)	8.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1104.5

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☒ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-1 SAMPLE: 4 DEPTH: 6-8 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Light Gray & Tan Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.84	2.83	2.84	2.0
Length (in)	5.69	5.66	5.68	5.68	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	0-8	
WWS + Tare (g)	223.5	
WDS + Tare (g)	183.5	
WW (g)		
Wt. Tare (g)	8.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1178.5

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE: _____

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☒ Combination ☐ Other _____

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483b

PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-1 SAMPLE: S DEPTH: 8-10 ☐ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: St. Tan & Light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.89	2.88	2.87	2.88	2.0
Length (in)	5.77	5.77	5.74	5.76	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T3	
WWS + Tare (g)	166.1	
WDS + Tare (g)	138.5	
WW (g)		
Wt. Tare (g)	8.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1216

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☑ Combination ☐ Other _____

Comments:	

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Roadway Expansion	Sample Location: B-2
Technician:	Sampled By:
TBG No.: 54836	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT Att

Location /Boring-	1 (0-2)	2 (2-4)			
Description	Gry Silty Clay w/ org. & Stones	Gry Silty Clay w/ Moisture & Stones			
Tare No.	0-2	X-3			
(1) Weight of soil (wet) (grams)	158.4	134.3			
(2) Weight of soil (dry) (grams)	137.6	109.0			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)	20.8	25.3			
(5) Soil weight (grams) (2 – 3)	129.5	100.9			
Water content (%) (4)/(5)*100	16.1	25.1			

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BYI NO.: 5989C	PROJECT: Proposed Roadway Expansion		
SAMPLE LOCATION: B-2	#2 (2-4')		
TECHNICIAN:	DATE SAMPLED: 9.9.2013	SAMPLED BY: GMD	TEST DATE:
MATERIAL DESCRIPTION: Gray Sandy Clay w/ Plasticity & Silt			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			A37	A38	A40	25	19	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		26.89	26.43	19.61	21.76	21.72	
	(B)TARE PLUS DRY SOIL WT.		24.99	24.42	17.37	21.00	20.94	
	(C)WATER WT. =A-B	W_w	1.9	2.01	2.24	0.76	0.78	
	(D)TARE WT.		20.46	20.14	13.05	15.37	15.14	
	(E)DRY SOIL WT. =B-D	W_s	4.53	4.28	4.32	5.63	5.8	
WATER CONTENT=C/E		W	41.9	47	51.9			
NUMBER OF BLOWS			30	23	13			
CONVERSION FACTOR			1.0223	0.9900	0.9239			
TRIAL LIQUID LIMIT VALUE			42.9	46.5	47.9			

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

45.8 — 13.5 S35

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-2 SAMPLE: 3 DEPTH: 4 – 6 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan and light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.73	2.74	2.74	2.74	2.05
Length (in)	5.64	5.62	5.60	5.62	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T-40	
WWS + Tare (g)	218.9	
WDS + Tare (g)	173.4	
WW (g)		
Wt. Tare (g)	8.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1058

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☒ Combination ☐ Other _____

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-2 SAMPLE: 4 DEPTH: 6 - 8 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M. St Tan and Light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.85	2.84	2.84	2.0
Length (in)	5.71	5.67	5.69	5.69	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T18	
WWS + Tare (g)	215.5	
WDS + Tare (g)	172.9	
WW (g)		
Wt. Tare (g)	8.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1179
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☒ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-2 SAMPLE: 5 DEPTH: 8-10 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☒ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: St Tan + light brown Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.81	2.79	2.77	2.72	2.1
Length (in)	5.71	5.71	5.67	5.70	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J-16	
WWS + Tare (g)	215.5	
WDS + Tare (g)	179.8	
WW (g)		
Wt. Tare (g)	81	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1187.5
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☒ Bulging
☐ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project:	Sample Location: B-3
Technician: CR	Sampled By:
TBG No.: 54836	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT

Location /Boring-	1 (0-2)	2 (2-4)			
Description	Brown sand w/ stones	[illegible]			
Tare No.	T22	0-7			
(1) Weight of soil (wet) (grams)	1561	140.1			
(2) Weight of soil (dry) (grams)	143.2	113.2			
(3) Weight of pan (grams)	87	8.1			
(4) Water weight (grams) (1 – 2)	12.90	26.9			
(5) Soil weight (grams) (2 – 3)	135.1	105.1			
Water content (%) (4)/(5)*100	9.5	25.6			

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-3 SAMPLE: 3 DEPTH: 4-6 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: So Tan and Light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.75	2.79	2.82	2.79	2.0
Length (in)	5.60	5.69	5.51	5.60	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T-22	
WWS + Tare (g)	109.6	
WDS + Tare (g)	88	
WW (g)		
Wt. Tare (g)	8.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1138.5
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☒ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G **PROJECT:**

TECHNICIAN: ER DATE TESTED: 9/17/2020 CHECKED BY: _____

BORING: B-3 SAMPLE: 4 DEPTH: 6 - 8 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: St. Light Gray & Tan Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.86	2.83	2.84	2.0
Length (in)	5.68	5.68	5.68	5.68	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J23	
WWS + Tare (g)	201.5	
WDS + Tare (g)	167.8	
WW (g)		
Wt. Tare (g)	8.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 12.12
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

FAILURE SKETCH	
☐ Diagonal Plane ☑ Bulging ☐ Combination ☐ Other _____	

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/17/2020 CHECKED BY:

BORING: B-3 SAMPLE: 5 DEPTH: 8—10 ☑ft; ☐ m Block:

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: St Tan & Light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.82	2.83	2.81	2.82	2.02
Length (in)	5.73	5.71	5.74	5.71	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-1	
WWS + Tare (g)	195.1	
WDS + Tare (g)	162.1	
WW (g)		
Wt. Tare (g)	33.1	
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch):_____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1223
VOLUME (cm^3):
TOTAL UNIT WT. (lb/ft^3):
DRY DENSITY (lb/ft^3):
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%):

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☑ Combination ☐ Other_____

Comments:	

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT: [illegible] Roadway Expansion		
SAMPLE LOCATION: B-4 #4 (6 - 8)			
TECHNICIAN:	DATE SAMPLED: 9.9.20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Tan & Gray Clay w/ [illegible]			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			A36	A22	A19	3	59	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		27.14	26.90	26.67	21.90	21.59	
	(B)TARE PLUS DRY SOIL WT.		25.35	25.19	24.82	20.99	20.73	
	(C)WATER WT. =A-B	Ww						
	(D)TARE WT.		20.30	20.39	20.31	15.17	15.41	
	(E)DRY SOIL WT. =B-D	Ws						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			30	22	13			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

7

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_______________

CHECKED BY_________

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Loading Effects Soils	Sample Location: B-4
Technician: JL	Sampled By: GCO
TBG No.: 5493G	Test Procedure: ASTM D2216
Date Sampled: 9.9.20	Test Date: 9.17.20

WATER CONTENT

Location /Boring-	1(0-2)	2(2-4)			
Description	Brown Sand w/ Stones	Tan/Gry silty clay w/ ferric Nodules			
Tare No.	V4	T9			
(1) Weight of soil (wet) (grams)	159.9	144.6			
(2) Weight of soil (dry) (grams)	149.0	117.0			
(3) Weight of pan (grams)	81	81			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT: Pump Loading Expansion

TECHNICIAN: [illegible] DATE TESTED: 9.17.20 CHECKED BY: ____

BORING: B-4 SAMPLE: 3 DEPTH: 4 - 6 ☑ft; ☐ m Block: ____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____

SAMPLE DESCRIPTION: Moist Tan & Gray Clay w/ Siltstone & Ferric Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.83	2.83	2.83	2.02
Length (in)	5.72	5.74	5.73	5.73	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T2d	A4
WWS + Tare (g)	264.7	204.5
WDS + Tare (g)	207.2	163.7
WW (g)		
Wt. Tare (g)	31	31
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1171.5

VOLUME (cm³): ____

TOTAL UNIT WT. (lb/ft³): ____

DRY DENSITY (lb/ft³): ____

Gs: ____ ☐ Assumed ☐ Measured

SATURATION: (%): ____

TRIAXIAL STATION NO. ____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

- ☑ Diagonal Plane
- ☐ Bulging
- ☐ Combination
- ☐ Other ____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 PROJECT: Pkwy Landing Expansion

TECHNICIAN: JA DATE TESTED: 9.17.20 CHECKED BY: _____

BORING: B-4 SAMPLE: 4 DEPTH: 6 - 8 ☐ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: Med St. Tan Gray Clay w/ Rootlets

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.82	2.84	2.82	2.02
Length (in)	5.70	5.72	5.71	5.71	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T7	A-5
WWS + Tare (g)	22.60	144.9
WDS + Tare (g)	17.68	119.0
WW (g)		
Wt. Tare (g)	8.1	91
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1157.0

VOLUME (cm³): _____

TOTAL UNIT WT. (lb/ft³): _____

DRY DENSITY (lb/ft³): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

FAILURE SKETCH	
☐ Diagonal Plane ☐ Bulging ☑ Combination ☐ Other _____	

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836

PROJECT: Pier [illegible] Expansion

TECHNICIAN: JA DATE TESTED: 9.17.20 CHECKED BY: ______

BORING: B-4 SAMPLE: S DEPTH: 8-10 ☐ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: St light Gray Tan Clay w/ Plasticene

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.85	2.85	2.85	2.01
Length (in)	5.72	5.74	5.74	5.74	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J-5	J-17
WWS + Tare (g)	226.7	262.6
WDS + Tare (g)	185.0	219.4
WW (g)		
Wt. Tare (g)	31	31
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1241.0

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

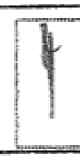
TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other Vertical



TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Loading Expansion	Sample Location: B-5
Technician: JA	Sampled By: Geo
TBG No.: 5493 G	Test Procedure: ASTM D2216
Date Sampled: 9.9.20	Test Date: 9.17.20

WATER CONTENT

Location /Boring-	116-21	212-41 Aft			
Description	Brown Sand w/ Stones	Tan Brown Clay			
Tare No.	O-9	E-CO			
(1) Weight of soil (wet) (grams)	198.6	142.2			
(2) Weight of soil (dry) (grams)	178.4	112.9			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT: Ray Loading Expansion

TECHNICIAN: JA DATE TESTED: 9.17.20 CHECKED BY: ____________

BORING: B-5 SAMPLE: 3 DEPTH: 4-6 ☑ft; ☐ m Block: ____________

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____________

SAMPLE DESCRIPTION: Moist Stiff Tan & light Gray clay w/ Fe stains & Fe nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.83	2.85	2.83	2.02
Length (in)	5.72	5.74	5.73	5.73	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	H-8	O-3
WWS + Tare (g)	216.9	212.6
WDS + Tare (g)	170.0	172.8
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1168.5

VOLUME (cm³): ____________

TOTAL UNIT WT. (lb/ft³): ____________

DRY DENSITY (lb/ft³): ____________

Gs: ________ ☐ Assumed ☐ Measured

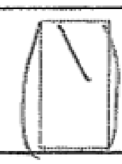
SATURATION: (%): ____________

TRIAXIAL STATION NO. ____________

DISPLACEMENT RATE:

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other ____________



Comments: –

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836

PROJECT: Prop Foundry Expansion

TECHNICIAN: JL DATE TESTED: 9.17.20 CHECKED BY: _____

BORING: B-5 SAMPLE: 4 DEPTH: 6 - 8 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☒ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: Med Stiff Tan & light Gray Clay w/ Plasticene

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.82	2.82	2.82	2.82	2.03
Length (in)	5.74	5.74	5.75	5.75	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T-8	T-5
WWS + Tare (g)	103.1	179.6
WDS + Tare (g)	87.9	144.9
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 149.5

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE: _____

FAILURE SKETCH	
☐ Diagonal Plane ☐ Bulging ☐ Combination ☒ Other Vertical	

Comments:

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT: Prop Lordsburg Expansion

TECHNICIAN: JA DATE TESTED: 9.17.20 CHECKED BY: _____

BORING: B-5 SAMPLE: S DEPTH: 8 - 10 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: Moist Tan & Gray Clay w/ Plasticity & Ferric Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.87	2.83	2.85	2.00
Length (in)	5.73	5.72	5.72	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E17	T17
WWS + Tare (g)	203	178.3
WDS + Tare (g)	179.8	150.4
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 123.7

VOLUME (cm³): _____

TOTAL UNIT WT. (lb/ft³): _____

DRY DENSITY (lb/ft³): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE: _____

FAILURE SKETCH
☑ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other _____

Comments:

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Roadway Expansion	Sample Location: B-6
Technician: CR	Sampled By:
TBG No.: 54836	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT 200

Location /Boring-	1 (0-2)	4 (6-8)			
Description	Brown Sand + Stones	Tan Silty clay			
Tare No.	T22	J-5			
(1) Weight of soil (wet) (grams)	164.2	170.5			
(2) Weight of soil (dry) (grams)	158.7	138.4			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY:_____

BORING: B-6 SAMPLE: 2 DEPTH: 2 - 4 ☑ft; ☐ m Block:_____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER_____

SAMPLE DESCRIPTION: Med St light Gray & Tan Silty Clay w Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.85	2.83	2.84	2.01
Length (in)	5.74	5.67	5.71	5.71	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	X-3	T5
WWS + Tare (g)	188.4	144.9
WDS + Tare (g)	150.8	116.9
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐_____		

AS-RECEIVED SAMPLE DIA. (inch):_____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1125
VOLUME (cm^3):_____
TOTAL UNIT WT. (lb/ft^3):_____
DRY DENSITY (lb/ft^3):_____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%):_____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other_____

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT:		
SAMPLE LOCATION: B-6	#1		(0 – 2)
TECHNICIAN: CR	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	T22
(A)TARE WT.	8.1
(B)PRE-WASH WT.	158.7
(C)PRE-WASH SOIL WT. =B-A	150.6
(D)AFTER-WASH WT.	36.9
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	14.5

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483A	PROJECT:		
SAMPLE LOCATION: B-6	#2		(2 - 4)
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION:	Silty Clay w ferrous Nodules		

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			31	3	32	A40	A19	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		29.37	29.03	27.76	24.59	28.74	
	(B)TARE PLUS DRY SOIL WT.		25.68	24.98	23.86	22.88	27.46	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		14.88	15.17	15.35	13.17	20.34	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			28	17	10			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

40 - 18

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY: _____

BORING: B-6 SAMPLE: 3 DEPTH: 4-6 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan Silty Clay w ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.87	2.87	2.87	2.0
Length (in)	5.74	5.73	5.73	5.73	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	0-7	0-8
WWS + Tare (g)	225.3	195.5
WDS + Tare (g)	184.5	161.9
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 121.1
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other Vertical

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G **PROJECT:**

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-6 SAMPLE: 5 DEPTH: 8-10 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.85	2.85	2.85	2.02
Length (in)	5.75	5.75	5.78	5.76	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	O-2	T3
WWS + Tare (g)	138.1	182.6
WDS + Tare (g)	111.9	147.7
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1165.5
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 54836	PROJECT:		
SAMPLE LOCATION: B-7	#2		(2 - 4)
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION: Light Gray & Tan Silty Clay			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			30	40	61	A44	A35	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		27.39	29.04	27.86	26.44	20.43	
	(B)TARE PLUS DRY SOIL WT.		24.42	25.65	24.63	25.37	19.17	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		15.29	15.33	15.29	20.31	13.18	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			30	26	16			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

S138

33 - 21

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT:		
SAMPLE LOCATION: B-7	#1		(0 - 2)
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_W						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_S						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	G-4
(A)TARE WT.	8.1
(B)PRE-WASH WT.	139.6
(C)PRE-WASH SOIL WT. =B-A	131.5
(D)AFTER-WASH WT.	22.2
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	13.2

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Roadway Expansion	Sample Location: B-7
Technician: CR	Sampled By:
TBG No.: 54836	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT 200

Location /Boring-	1 (0-2)	3 (4-6)			
Description	Brown Sand + Stones	Tan+Light Gray Silty Clay			
Tare No.	G-4	J-13			
(1) Weight of soil (wet) (grams)	145.8	125.2			
(2) Weight of soil (dry) (grams)	139.6	102.8			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY:_____

BORING: B-7 SAMPLE: 2 DEPTH: 2 - 4 ☒ft; ☐ m Block:_____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER_____

SAMPLE DESCRIPTION: M.St Light Gray and Tan Silty Clay w ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.82	2.81	2.82	2.01
Length (in)	5.71	5.71	5.66	5.69	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-4	V-1
WWS + Tare (g)	225.2	184.7
WDS + Tare (g)	184.5	151.2
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch):_____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1169
VOLUME (cm^3):_____
TOTAL UNIT WT. (lb/ft^3):_____
DRY DENSITY (lb/ft^3):_____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%):_____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☒ Combination ☐ Other_____

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 PROJECT:

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-7 SAMPLE: 4 DEPTH: 6 - 8 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan & light Gray Silty Clay w ferrous nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.88	2.85	2.78	2.83	2.0
Length (in)	5.67	5.66	5.62	5.65	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	O-9	T10
WWS + Tare (g)	212.4	142.2
WDS + Tare (g)	172.8	117.2
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1138.5
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☒ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY: _____

BORING: B-7 SAMPLE: 5 DEPTH: 8 - 10 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: St. Tan + Light Gray Silty Clay w Ferrous Nodules + Organics

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.86	2.86	2.86	2.02
Length (in)	5.78	5.79	5.74	5.77	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-1	J-16
WWS + Tare (g)	159.3	195.9
WDS + Tare (g)	134.	166.2
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1193.5

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☒ Bulging
☐ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 54836	PROJECT:		
SAMPLE LOCATION: B-8	#2		(2 – 4)
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_W						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_S						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	E-10
(A)TARE WT.	8.1
(B)PRE-WASH WT.	107.4
(C)PRE-WASH SOIL WT. =B-A	99.3
(D)AFTER-WASH WT.	9.8
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	98.3

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BT! NO.: 54836	PROJECT:		
SAMPLE LOCATION: B-8	#1		(0 - 2)
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	T7
(A)TARE WT.	8.1
(B)PRE-WASH WT.	159.0
(C)PRE-WASH SOIL WT. =B-A	150.9
(D)AFTER-WASH WT.	143.9
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	10.0

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PL %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project:	Sample Location: B-8
Technician: CR	Sampled By:
TBG No.: S4836	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT

Location /Boring-	1 (0-2)	2 (2-4)			
Description	Brown Sand + Stones	Tan + Light Gray Silty Clay			
Tare No.	T7	E-10			
(1) Weight of soil (wet) (grams)	163.2	131.9			
(2) Weight of soil (dry) (grams)	159.0				
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483 G	PROJECT: Loop Loader > Expansion		
SAMPLE LOCATION: B - 8 # 1 (-)			
TECHNICIAN:	DATE SAMPLED: 4.11.20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836

PROJECT: [illegible]

TECHNICIAN: JG DATE TESTED: 10·5·20 CHECKED BY: ____

BORING: B-8 SAMPLE: — DEPTH: — ☑ft; ☐ m Block: ____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____

SAMPLE DESCRIPTION: ____

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2	2	2.	2.	2.
Length (in)	5.	5.	5.	5.	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.		
WWS + Tare (g)		
WDS + Tare (g)		
WW (g)		
Wt. Tare (g)		
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): ____

VOLUME (cm³): ____

TOTAL UNIT WT. (lb/ft³): ____

DRY DENSITY (lb/ft³): ____

G_s: ____ ☐ Assumed ☐ Measured

SATURATION: (%): ____

TRIAXIAL STATION NO. ____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other ____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836

PROJECT: Pier landing expansion

TECHNICAL: JT DATE TESTED: 10·5·20 CHECKED BY: ______

BORING: B-8 SAMPLE: # DEPTH: - ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: ______

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2	2.	2.	2.	2.
Length (in)	5.	5.	5.	5.	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.		
WWS + Tare (g)		
WDS + Tare (g)		
WW (g)		
Wt. Tare (g)		
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): ______

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other ______

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 **PROJECT:** Pine Meadow Expansion

TECHNICIAN: JD DATE TESTED: 10-5-20 CHECKED BY: _____

BORING: B-8 SAMPLE: U DEPTH: _____ ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: _____

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.	2.	2.	2.	2.
Length (in)	5.	5.	5.	5.	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.		
WWS + Tare (g)		
WDS + Tare (g)		
WW (g)		
Wt. Tare (g)		
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): _____
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other _____

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483 ~~5585~~

PROJECT:

TECHNICIAN: _____ DATE TESTED: _____ CHECKED BY: _____

BORING: B-8 SAMPLE: 3 DEPTH: 4 - 6 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan & light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.84	2.85	2.84	2.01
Length (in)	5.75	5.70	5.68	5.71	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-10	T11
WWS + Tare (g)	236	143
WDS + Tare (g)	221.5	121.2
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1226
VOLUME (cm³): _____
TOTAL UNIT WT. (lb/ft³): _____
DRY DENSITY (lb/ft³): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☒ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

5483

FILE NO.: 5583b

PROJECT:

TECHNICIAN: _____ DATE TESTED: _____ CHECKED BY: _____

BORING: B-8 SAMPLE: 4 DEPTH: 6-8 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: SO Tan & Light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.86	2.86	2.86	2.02
Length (in)	5.78	5.78	5.79	5.78	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T15	E-4
WWS + Tare (g)	181.5	162.5
WDS + Tare (g)	145	131.2
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1106.5
VOLUME (cm³): _____
TOTAL UNIT WT. (lb/ft³): _____
DRY DENSITY (lb/ft³): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other _____

ATT

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

5483

FILE NO.: ~~5,583~~

PROJECT:

TECHNICIAN: _____ DATE TESTED: _____ CHECKED BY: _____

BORING: B-8 SAMPLE: 5 DEPTH: (8-10) ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan & Light bray Silty Clay w Peat nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.86	2.84	2.85	2.02
Length (in)	5.77	5.76	5.78	5.77	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T-1	Y-9
WWS + Tare (g)	112.0	182
WDS + Tare (g)	90.3	147.9
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1047.5

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other _____

The etaGroup
engineering & construction services

MOISTURE WORKSHEET

Project:	Expan...	Sample Location:	B-9
Technician:		Sampled By:	Geo
TBG No.:	376	Test Procedure: ASTM D2216	
Date Sampled:	9.19.20	Test Date:	

WATER CONTENT

Location Boring-	10-2				
Description	[illegible]				
Tare No.	[illegible]				
(1) Weight of soil (wet) (grams)	187.7				
(2) Weight of soil (dry) (grams)	181.7				
(3) Weight of pan (grams)	8.1				
(4) Water weight (grams) (1 – 2)	6.0				
(5) Soil weight (grams) (2 – 3)	173.6				
Water content (%) (4)/(5)*100	3.5				

WATER CONTENT

Location Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT: Road Reading Expansion		
SAMPLE LOCATION: B-9	#3 (4 - 6)		
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Tan Clay w/ Moisture & Ferric Nodules			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			29	44	8	75	72	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		30.81	27.49	28.32	23.02	21.70	
	(B)TARE PLUS DRY SOIL WT.		24.92	23.86	24.36	21.40	20.30	
	(C)WATER WT. =A-B	W_w	3.89	3.63	3.96	1.62	1.4	
	(D)TARE WT.		16.94	15.20	15.17	13.70	13.65	
	(E)DRY SOIL WT. =B-D	W_s	9.98	8.66	9.19	7.7	6.65	
WATER CONTENT=C/E		W	39	41.9	42.0	%		
NUMBER OF BLOWS			28	19	14			
CONVERSION FACTOR			1.0138	0.9673	0.9322			
TRIAL LIQUID LIMIT VALUE			39.5	40.5	39.2			

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

5738

39.7 − 21.0

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5493G PROJECT: Prop Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9.23 CHECKED BY: _____

BORING: B-9 SAMPLE: # 2 DEPTH: 2 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: St. Tan & Gray Clay w/ trace Rootlets

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.94	2.87	2.95	2.85	2.03
Length (in)	5.74	5.77	5.78	5.78	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-3	Y-1
WWS + Tare (g)	97.1	129.9
WDS + Tare (g)	92.5	103.9
WW (g)		
Wt. Tare (g)	31	97
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1078

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other Vertical

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G PROJECT: Prop Roadway Expansion

TECHNICIAN: JA DATE TESTED: 9-23 CHECKED BY: _____

BORING: B-9 SAMPLE: # 3 DEPTH: 4-6 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☒ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: med St "Tan" Clay w/ Asphalt & Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.85	2.87	2.86	2.0
Length (in)	5.71	5.72	5.73	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	A4	T15
WWS + Tare (g)	106.5	184.6
WDS + Tare (g)	86.9	86.1
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☒ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No
WWS (g): 1195
VOLUME (cm³): _____
TOTAL UNIT WT. (lb/ft³): _____
DRY DENSITY (lb/ft³): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☒ Other Vertical

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54776 PROJECT: Prop Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9.23 CHECKED BY:

BORING: B-9 SAMPLE: #4 DEPTH: 6-8 ☑ft; ☐ m Block:

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: Stiff Tan Light Grey clay w/ [illegible] & [illegible] [illegible]

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.84	2.84	2.84	2.84	2.0
Length (in)	5.73	5.70	5.72	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J-3	G-5
WWS + Tare (g)	166.4	210.1
WDS + Tare (g)	138.8	181.1
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1276

VOLUME (cm^3):

TOTAL UNIT WT. (lb/ft^3):

DRY DENSITY (lb/ft^3):

G_s: ☐ Assumed ☐ Measured

SATURATION: (%):

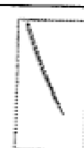
TRIAXIAL STATION NO.

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other



TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54936

PROJECT: Prop Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9.27 CHECKED BY: ____

BORING: B-9 SAMPLE: #1 DEPTH: 8-10 ☑ft; ☐ m Block: ____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____

SAMPLE DESCRIPTION: Moist Tan to light gray clay w/plastic

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.88	2.88	2.88	2.88	2.03
Length (in)	5.89	5.89	5.82	5.86	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T20	T11
WWS + Tare (g)	65.8	188.4
WDS + Tare (g)	54.8	157.2
WW (g)		
Wt. Tare (g)	31	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1255

VOLUME (cm³): ____

TOTAL UNIT WT. (lb/ft³): ____

DRY DENSITY (lb/ft³): ____

Gs: ____ ☐ Assumed ☐ Measured

SATURATION: (%): ____

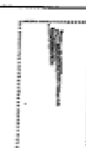
TRIAXIAL STATION NO. ____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other sketch



-

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO: 5483G	PROJECT: Road Loading Expansion		
SAMPLE LOCATION: B-10	# 4 (6 - 8)		
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Tan & light Gray clay w/ Asbestos & Ferns Nodules			

		LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.		1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.		111	88	A1	40	30	
WEIGHT IN GRAMS (A) TARE PLUS WET SOIL WT.		20.04	20.18	19.80	21.34	21.36	
WEIGHT IN GRAMS (B) TARE PLUS DRY SOIL WT.		18.31	18.39	17.91	20.53	20.49	
WEIGHT IN GRAMS (C) WATER WT. =A-B	W_w	1.73	1.79	1.89	0.81	0.87	
WEIGHT IN GRAMS (D) TARE WT.		13.63	13.64	13.23	15.33	15.28	
WEIGHT IN GRAMS (E) DRY SOIL WT. =B-D	W_s	4.68	4.75	4.68	5.20	5.21	
WATER CONTENT=C/E	W	37	37.7	40.4			
NUMBER OF BLOWS		25	18	11			
CONVERSION FACTOR		1.0000	0.9610	0.9054			
TRIAL LIQUID LIMIT VALUE		37	36.2	36.6			

513

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

36.6 — 16.1

MINUS 200

TARE NO.	
(A) TARE WT.	
(B) PRE-WASH WT.	
(C) PRE-WASH SOIL WT. =B-A	
(D) AFTER-WASH WT.	
(E) WT. PASS=B-D	
(F) %PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G

PROJECT: [illegible] Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9.23 CHECKED BY: ____

BORING: B-10 SAMPLE: #2 DEPTH: 2-4 ☑ft; ☐ m Block: ____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____

SAMPLE DESCRIPTION: St - Tan & [illegible] Gr CL w/ [illegible] [illegible] Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.87	2.86	2.86	2.01
Length (in)	5.78	5.77	5.76	5.76	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J23	J-8
WWS + Tare (g)	81.5	1294
WDS + Tare (g)	66.0	1091
WW (g)		
Wt. Tare (g)	87	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1021

VOLUME (cm³): ____

TOTAL UNIT WT. (lb/ft³): ____

DRY DENSITY (lb/ft³): ____

G_s: ____ ☐ Assumed ☐ Measured

SATURATION: (%): ____

TRIAXIAL STATION NO. ____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other ____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54976

PROJECT: Rte Roadway Expansion

TECHNICAL: JA DATE TESTED: 9-23 CHECKED BY:

BORING: B-10 SAMPLE: #3 DEPTH: 4-6 ☑ft; ☐ m Block:

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: Med Stiff Tan & light brn clay w/ [illegible] Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.84	2.84	2.83	2.84	2.02
Length (in)	5.72	5.76	5.74	5.74	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	A-5	G-10
WWS + Tare (g)	193.3	226.7
WDS + Tare (g)	157.3	184.4
WW (g)		
Wt. Tare (g)	31	31
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1181

VOLUME (cm^3):

TOTAL UNIT WT. (lb/ft^3):

DRY DENSITY (lb/ft^3):

G_s: ________ ☐ Assumed ☐ Measured

SATURATION: (%):

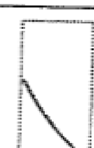
TRIAXIAL STATION NO.

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other



TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G

PROJECT: Prop Roadway Expansion

TECHNICAL: JP DATE TESTED: 9.23 CHECKED BY: ______

BORING: B-10 SAMPLE: #4 DEPTH: 6 - 8 ☑ ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: St Tan & Light Gray Clay w/ Rust & Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.87	2.86	2.86	2.02
Length (in)	5.79	5.77	5.78	5.78	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	V-4	T6
WWS + Tare (g)	123.6	178.6
WDS + Tare (g)	100.9	145.1
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1016.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

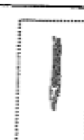
TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other Vertical



TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G

PROJECT: Crop Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9.23 CHECKED BY: ____

BORING: B-10 SAMPLE: #5 DEPTH: 8 - 10 ☑ft; ☐ m Block: ____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____

SAMPLE DESCRIPTION: St Light Gray & Tan Clay w/ Plasticity

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.85	2.87	2.86	2.02
Length (in)	5.79	5.79	5.77	5.78	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-10	X-2
WWS + Tare (g)	237.2	252.6
WDS + Tare (g)	198.0	210.9
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1223

VOLUME (cm³): ____

TOTAL UNIT WT. (lb/ft³): ____

DRY DENSITY (lb/ft³): ____

G_s: ____ ☐ Assumed ☐ Measured

SATURATION: (%): ____

TRIAXIAL STATION NO. ____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other ____

The eta Group
engineering and construction services

MOISTURE WORKSHEET

Project: Pine Ridge Expansion	Sample Location: B-11
Technician: JD	Sampled By: Geo
TBG No.: S18736	Test Procedure: ASTM D2216
Date Sampled: 4.16.20	Test Date: 20

WATER CONTENT ***

Location /Boring-	1 (0-2)	2 (2-4)			
Description	Brown sandy Stones	Brown gravelly w/ sand			
Tare No.	C-7	C-2			
(1) Weight of soil (wet) (grams)	221.6	124.5			
(2) Weight of soil (dry) (grams)	214.5	102.3			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)	7.1	22.2			
(5) Soil weight (grams) (2 – 3)	206.4	94.2			
Water content (%) (4)/(5)*100	3.4	23.6			

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT: Road Loading Expansion		
SAMPLE LOCATION: B-11	# 2 (2 - 4)		
TECHNICIAN:	DATE SAMPLED: 9.16.20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Gray & Tan clay w/ silt			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			117	86	A47	A14	92	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		20.19	20.10	20.10	20.76	20.30	
	(B)TARE PLUS DRY SOIL WT.		18.36	18.18	18.04	19.62	19.76	
	(C)WATER WT. =A-B	W_w	1.83	1.92	2.06	1.14	1.04	
	(D)TARE WT.		13.60	13.53	13.38	13.32	13.53	
	(E)DRY SOIL WT. =B-D	W_s	4.76	4.65	4.66	6.30	5.73	
WATER CONTENT=C/E		W	38.4	41.3	44.2			
NUMBER OF BLOWS			30	21	15			
CONVERSION FACTOR			1.0223	0.9791	0.9401			
TRIAL LIQUID LIMIT VALUE			39.3	40.4	41.6			

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

40.4 — 18.1 = 22.3

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G

PROJECT: Prop Roadway Expansion

TECHNICIAN: JA DATE TESTED: 9.23 CHECKED BY: ______

BORING: B-11 SAMPLE: #3 DEPTH: 4-6 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: Med Stf Tan & Light Gray Clay w/ Plasticene & Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.86	2.86	2.86	2.0
Length (in)	5.77	5.72	5.71	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	77	8-3
WWS + Tare (g)	39.9	234.5
WDS + Tare (g)	34.4	196.0
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1215.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other ______

TheBetaGroup engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G

PROJECT: Prop Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9-23 CHECKED BY: ______

BORING: B-11 SAMPLE: #4 DEPTH: 6-8 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: V. St Tan & Gry CL w/ Plastic & Silt

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.84	2.87	2.80	2.85	2.0
Length (in)	5.74	5.72	5.73	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J-13	T16
WWS + Tare (g)	145.3	204.0
WDS + Tare (g)	125.0	169.0
WW (g)		
Wt. Tare (g)	31	31
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1052.5

VOLUME (cm^3): ______

TOTAL UNIT WT. (lb/ft^3): ______

DRY DENSITY (lb/ft^3): ______

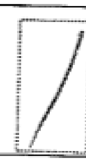
G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

FAILURE SKETCH
☑ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other ______



Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G PROJECT: Prop Roadway Repairs

TECHNICIAN: JA DATE TESTED: 9.23 CHECKED BY:

BORING: B-11 SAMPLE: # 5 DEPTH: 9 - 10 ☒ ft; ☐ m Block:

TYPE SAMPLE: ☒ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: V. St. Light Grey, Red, & Tan Clay w/ Pl. Specimen

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.82	2.82	2.82	2.03
Length (in)	5.72	5.71	5.76	5.73	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T21	J-5
WWS + Tare (g)	180.4	205.3
WDS + Tare (g)	151.9	173.1
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☒ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1217.0

VOLUME (cm³):

TOTAL UNIT WT. (lb/ft³):

DRY DENSITY (lb/ft³):

G_s: ☐ Assumed ☐ Measured

SATURATION: (%):

TRIAXIAL STATION NO.

DISPLACEMENT RATE:

FAILURE SKETCH	
☐ Diagonal Plane ☐ Bulging ☐ Combination ☒ Other Vertical	

Comments:	

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: [illegible] Roadway Expansion	Sample Location: B-12
Technician: JA	Sampled By: Geo
TBG No.: 5[illegible]	Test Procedure: ASTM D2216
Date Sampled: 9-16-20	Test Date:

WATER CONTENT

Location /Boring-	1(0-2)	2(2-4)			
Description	Brown sandy stones	[illegible]			
Tare No.	0-2	J-3			
(1) Weight of soil (wet) (grams)	157.6	146.9			
(2) Weight of soil (dry) (grams)	154.3	116.3			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)	3.30	30.6			
(5) Soil weight (grams) (2 – 3)	146.2	108.2			
Water content (%) (4)/(5)*100	2.3	28.3			

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
Engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT: Road Loading Experiment		
SAMPLE LOCATION: B-12 # 3 (4 - 6)			
TECHNICIAN:	DATE SAMPLED: 9.16.20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Tan Gray Clay w/ Platy Limestone			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			58	43	16	110	A23	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		25.97	27.74	26.84	23.34	23.09	
	(B)TARE PLUS DRY SOIL WT.		22.79	23.76	23.04	21.76	21.47	
	(C)WATER WT. =A-B	W_w	3.18	3.98	3.80	1.58	1.62	
	(D)TARE WT.		15.49	15.09	15.24	13.64	13.43	
	(E)DRY SOIL WT. =B-D	W_s	7.30	8.67	7.80	8.12	8.04	
WATER CONTENT=C/E		W	43.6	45.9	48.7			
NUMBER OF BLOWS			24	16	12			
CONVERSION FACTOR			0.9951	0.9474	0.9150			
TRIAL LIQUID LIMIT VALUE			43.3	43.5	44.6			

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

43.8 — 19.8

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5497G

PROJECT: Prop Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9.24 CHECKED BY:

BORING: B-12 SAMPLE: # 3 DEPTH: 4-6 ☑ ft; ☐ m Block:

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: SD Tan/Grey clay w/ fine sand

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.81	2.83	2.82	2.82	2.04
Length (in)	5.74	5.75	5.76	5.75	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	Y-9	6-7
WWS + Tare (g)	229.1	144.9
WDS + Tare (g)	132.7	117.6
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 112.2

VOLUME (cm^3):

TOTAL UNIT WT. (lb/ft^3):

DRY DENSITY (lb/ft^3):

G_s: ☐ Assumed ☐ Measured

SATURATION: (%):

TRIAXIAL STATION NO.

DISPLACEMENT RATE:

FAILURE SKETCH
☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54976

PROJECT: Crop Roadway Expansion

TECHNICIAN: JP DATE TESTED: 9-24 CHECKED BY: ______

BORING: B-12 SAMPLE: # 4 DEPTH: 6-8 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: Stiff to v. stiff gray clay w/ plastic [illegible]

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.85	2.85	2.85	2.0
Length (in)	5.74	5.76	5.75	5.75	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	6-7	T-5
WWS + Tare (g)	72.6	183.5
WDS + Tare (g)	62.2	153.3
WW (g)		
Wt. Tare (g)	31	31
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1155.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

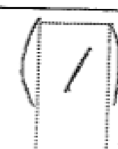
TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other ______



TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: S4?7G

PROJECT: Prop Roadway Expansion

TECHNICAL: JP DATE TESTED: 9-24 CHECKED BY: ____________

BORING: B-12 SAMPLE: #5 DEPTH: 8-10 ☑ft; ☐ m Block: ____________

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____________

SAMPLE DESCRIPTION: St Tan-Light Fine clay w/ Ore specimen

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.86	2.87	2.86	2.0
Length (in)	5.72	5.74	5.73	5.73	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	0-0	Y-5
WWS + Tare (g)	1547	298.9
WDS + Tare (g)	1280	246.4
WW (g)		
Wt. Tare (g)	81	8.1
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1236

VOLUME (cm³): ____________

TOTAL UNIT WT. (lb/ft³): ____________

DRY DENSITY (lb/ft³): ____________

G_s: ________ ☐ Assumed ☐ Measured

SATURATION: (%): ____________

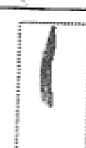
TRIAXIAL STATION NO. ____________

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other Vertical



TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Roadway Expansion	Sample Location: B-14
Technician: CR	Sampled By:
TBG No.: 5483a	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT

Location /Boring-	1 (0-2)				
Description	Brown Sand and Stones				
Tare No.	T8				
(1) Weight of soil (wet) (grams)	143.7				
(2) Weight of soil (dry) (grams)	138.9				
(3) Weight of pan (grams)	8.1				
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY:

BORING: B-14 SAMPLE: 2 DEPTH: (2-4) ☑ft; ☐ m Block:

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: St Gray & light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.81	2.84	2.86	2.84	2.01
Length (in)	5.73	5.72	5.71	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T-1	T13
WWS + Tare (g)	177.2	163.7
WDS + Tare (g)	142.5	131.3
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1154

VOLUME (cm^3):

TOTAL UNIT WT. (lb/ft^3):

DRY DENSITY (lb/ft^3):

G_s: ☐ Assumed ☐ Measured

SATURATION: (%):

TRIAXIAL STATION NO.

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 **PROJECT:**

TECHNICIAN: LR DATE TESTED: 9/30/20 CHECKED BY: _____

BORING: B-14 SAMPLE: 3 DEPTH: 4-6 ☒ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan + Light Gray Silty Clay

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.85	2.81	2.84	2.0
Length (in)	5.70	5.68	5.66	5.68	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J-3	Q-13
WWS + Tare (g)	168.4	230.1
WDS + Tare (g)	135.4	187.3
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1157.5
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☒ Combination ☐ Other _____

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT:

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY:

BORING: B-14 SAMPLE: 4 DEPTH: 6 - 8 ☑ ft; ☐ m Block:

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: St Tan & Light Gray Silty Clay w Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.71	2.84	2.87	2.81	2.0
Length (in)	5.65	5.63	5.64	5.63	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T17	T9
WWS + Tare (g)	142.7	184.4
WDS + Tare (g)	121.4	157
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1164

VOLUME (cm^3):

TOTAL UNIT WT. (lb/ft^3):

DRY DENSITY (lb/ft^3):

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%):

TRIAXIAL STATION NO.

DISPLACEMENT RATE:

FAILURE SKETCH	
☐ Diagonal Plane ☐ Bulging ☐ Combination ☑ Other vertical	

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 **PROJECT:**

TECHNICIAN: CR DATE TESTED: _____ CHECKED BY: _____

BORING: B-14 SAMPLE: 5 DEPTH: 8 - 10 ☒ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: St. Tan & Light Gray Silty Clay w ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.86	2.89	2.87	2.01
Length (in)	5.78	5.76	5.76	5.77	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	O - O	T-21
WWS + Tare (g)	173.1	228.3
WDS + Tare (g)	146.6	194.2
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1114
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☒ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483E	PROJECT:		
SAMPLE LOCATION: B-14	#2		(2 – 4)
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION: Gray & Light Gray Silty Clay			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			1	59	58	A32	A38	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		31.37	27.95	29.28	26.59	26.22	
	(B)TARE PLUS DRY SOIL WT.		26.71	24.25	24.85	25.66	25.31	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		15.33	15.41	15.25	20.46	20.15	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			27	19	13			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

42-1r

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PL, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

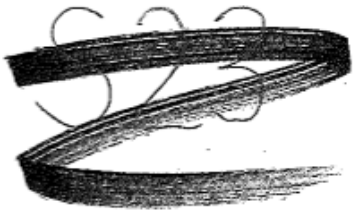
TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 54836	PROJECT:		
SAMPLE LOCATION: B-15	#3 (4-6)		
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION: Tan & Light Gray Silty Clay			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			37	A35	28	A22	A36	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		26.37	26.47	29.34	27.47	29.14	
	(B)TARE PLUS DRY SOIL WT.		23.28	23.38	25.36	26.33	27.69	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		15.27	15.44	15.36	20.40	20.33	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			30	23	17			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.



39-19

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT:		
SAMPLE LOCATION: B-15	#2 (2 - 4)		
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	T18
(A)TARE WT.	8.1
(B)PRE-WASH WT.	121.5
(C)PRE-WASH SOIL WT. =B-A	113.4
(D)AFTER-WASH WT.	10.2
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	91.0

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 54836	PROJECT:		
SAMPLE LOCATION: B-15	#1 (0 - 2)		
TECHNICIAN:	DATE SAMPLED:	SAMPLED BY:	TEST DATE:
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	H8
(A)TARE WT.	8.1
(B)PRE-WASH WT.	153.2
(C)PRE-WASH SOIL WT. =B-A	145.1
(D)AFTER-WASH WT.	29.6
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	16.3

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

E BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Roadway Expansion	Sample Location: B-15
Technician: TR	Sampled By:
TBG No.: 54836	Test Procedure: ASTM D2216
Date Sampled:	Test Date:

WATER CONTENT

Location /Boring-	200 1 (0-2)	200 1 (2-4)			
Description	Brown Sand & Stones	light brown clayey silt.			
Tare No.	H8	T18			
(1) Weight of soil (wet) (grams)	159.9	141.9			
(2) Weight of soil (dry) (grams)	153.2	121.5			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY: _____

BORING: B-15 SAMPLE: 3 DEPTH: 4-6 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan & Light Grey Silty Clay w Organics

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.82	2.83	2.87	2.84	2.01
Length (in)	5.73	5.71	5.72	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	Y-5	T-6
WWS + Tare (g)	242.8	186.7
WDS + Tare (g)	195.4	151.5
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1170
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836 **PROJECT:**

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY: _____

BORING: B-15 SAMPLE: 4 DEPTH: 6 – 8 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: M.St Tan + Light Gray Silty Clay w Organics

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.84	2.82	2.84	2.02
Length (in)	5.76	5.74	5.74	5.75	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	G-3	E-9
WWS + Tare (g)	208.7	158.9
WDS + Tare (g)	167.7	128.5
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____
TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1196
VOLUME (cm^3): _____
TOTAL UNIT WT. (lb/ft^3): _____
DRY DENSITY (lb/ft^3): _____
G_s: _____ ☐ Assumed ☐ Measured
SATURATION: (%): _____

TRIAXIAL STATION NO. _____
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☑ Combination
☐ Other _____

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT:

TECHNICIAN: CR DATE TESTED: 9/30/20 CHECKED BY: _____

BORING: B-15 SAMPLE: 5 DEPTH: 8-10 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☐ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: Mst Tan + Light Gray Silty Clay w Organics

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.83	2.86	2.89	2.86	2.02
Length (in)	5.77	5.77	5.77	5.77	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	H-9	O-3
WWS + Tare (g)	197	227.8
WDS + Tare (g)	163.3	190.5
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1215.5

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☒ Combination ☐ Other vertical

Comments:	

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT: Prop Roadway Expansion		
SAMPLE LOCATION: B-16	# 2 1 2 - 4 '		
TECHNICIAN:	DATE SAMPLED: 9.9.20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Light Gray & Tan Clay w/ Plasticity			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			42	25	19	A2	A7	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		21.83	21.81	21.70	20.32	19.59	
	(B)TARE PLUS DRY SOIL WT.		19.81	19.72	19.47	19.31	18.67	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		15.36	15.39	15.15	13.42	13.33	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			25	16	11			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

S24

46-17

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Proposed Loading Expansion	Sample Location: B-16
Technician: JS	Sampled By: GCO
TBG No.: 5493G	Test Procedure: ASTM D2216
Date Sampled: 9.9.20	Test Date: 9.17.20

WATER CONTENT

Location /Boring-	116-21	202-41			
Description	brown sand w/ stones	light brown SILTY SAND			
Tare No.	X-2	T21			
(1) Weight of soil (wet) (grams)	161.3	160.3			
(2) Weight of soil (dry) (grams)	155.1	81.7			
(3) Weight of pan (grams)	8.1	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5483G

PROJECT: [illegible] Roadway Expansion

TECHNICIAN: JA DATE TESTED: 9.17.20 CHECKED BY: ______

BORING: B-16 SAMPLE: 3 DEPTH: 4-[illegible] ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: [illegible] Tan & light gray clay w/ plastic [illegible] & [illegible] Roadway

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.85	2.84	2.85	2.01
Length (in)	5.73	5.72	5.71	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-4	X-3
WWS + Tare (g)	157.5	211.0
WDS + Tare (g)	128.5	171.7
WW (g)		
Wt. Tare (g)	34	34
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1177.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	[illegible]

FAILURE SKETCH

- ☑ Diagonal Plane
- ☐ Bulging
- ☐ Combination
- ☐ Other ______

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836

PROJECT: Clay Landing Expansion

TECHNICIAN: JA DATE TESTED: 9.17.20 CHECKED BY: _____

BORING: B-9 SAMPLE: 4 DEPTH: 6 - 8 ☒ ft; ☐ m Block: _____

TYPE SAMPLE: ☒ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: Med St Tan & Light Gray Clay w/ Plastic & Ferris Nodule

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.86	2.87	2.86	2.02
Length (in)	5.79	5.78	5.79	5.79	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	Y-9	G-a
WWS + Tare (g)	1958	276.7
WDS + Tare (g)	1581	221.7
WW (g)		
Wt. Tare (g)	8.7	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1169.5

VOLUME (cm³): _____

TOTAL UNIT WT. (lb/ft³): _____

DRY DENSITY (lb/ft³): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE: _____

FAILURE SKETCH	
☒ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other _____	

Comments:

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 54836

PROJECT: Pcp Lordway Expansion

TECHNICIAN: JA DATE TESTED: 9.17.20 CHECKED BY: ______

BORING: B-16 SAMPLE: 5 DEPTH: 8 - 10 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: Med St Tan & light Gray clay w/ Plasticene & ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.83	2.88	2.85	2.0
Length (in)	5.69	5.70	5.69	5.69	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T11	T15
WWS + Tare (g)	137.4	172.9
WDS + Tare (g)	116.5	146.1
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☐ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1247.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other ______

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Log Landing Expansion	Sample Location: B-17
Technician: JA	Sampled By: Geo
TBG No.: 54836	Test Procedure: ASTM D2216
Date Sampled: 9-11-20	Test Date: 9.18.20

WATER CONTENT

Location /Boring-	110-27	212-41			
Description	Brown Sandy Silt	Light Grey Clay Plastic			
Tare No.	X-2	T6			
(1) Weight of soil (wet) (grams)	185.7	181.5			
(2) Weight of soil (dry) (grams)	174.9	152.4			
(3) Weight of pan (grams)	8.7	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: Prop lading Edmonson

TECHNICAL: JA DATE TESTED: 9-18-20 CHECKED BY: ______

BORING: B-17 SAMPLE: #3 DEPTH: 4 - 6 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: Med St Tan Silty Clay w/ Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.74	2.74	2.72	2.74	2.07
Length (in)	5.67	5.65	5.66	5.66	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T3	H8
WWS + Tare (g)	262.7	165.7
WDS + Tare (g)	218.1	133.3
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

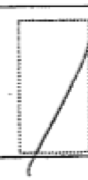
AS-RECEIVED SAMPLE DIA. (inch): ______
TRIMMED FOR TESTING: ☐ Yes; ☐ No
WWS (g): 1175.5
VOLUME (cm³): ______
TOTAL UNIT WT. (lb/ft³): ______
DRY DENSITY (lb/ft³): ______
G_s: ______ ☐ Assumed ☐ Measured
SATURATION: (%): ______

TRIAXIAL STATION NO. ______
DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other ______



TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: [illegible]

TECHNICIAN: JA DATE TESTED: 9-18-20 CHECKED BY: ____

BORING: B-17 SAMPLE: # 4 DEPTH: 6-8 ☑ft; ☐ m Block: ____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____

SAMPLE DESCRIPTION: Med St Tan Clay w/ Silt [illegible]

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.77	2.77	2.78	2.77	2.05
Length (in)	5.68	5.70	5.69	5.69	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	0-8	T8
WWS + Tare (g)	118.2	193.9
WDS + Tare (g)	116.4	156.1
WW (g)		
Wt. Tare (g)	87	87
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1162.5

VOLUME (cm³): ____

TOTAL UNIT WT. (lb/ft³): ____

DRY DENSITY (lb/ft³): ____

G_s: ____ ☐ Assumed ☐ Measured

SATURATION: (%): ____

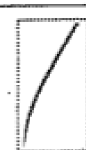
TRIAXIAL STATION NO. ____

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other ____



TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: Prop Lab + Expansion

TECHNICIAN: JA DATE TESTED: 9-19-20 CHECKED BY: _____

BORING: B-17 SAMPLE: # 5 DEPTH: 8-10 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: St Lt Gry & Tan Clay w/ Pleistocene

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.85	2.85	2.87	2.85	2.01
Length (in)	5.73	5.75	5.74	5.74	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	Y-5	T5
WWS + Tare (g)	239.5	226.7
WDS + Tare (g)	199.1	189.3
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1274.5

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

FAILURE SKETCH	
☑ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other _____	

Comments:	

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT: Perry Roadway Expansion #3 (4 - 6)		
SAMPLE LOCATION: B-17			
TECHNICIAN:	DATE SAMPLED: 9-11-20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Tan & Silty Clay w/ Ferro Nodules			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			108	75	72	A3S	61	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		19.83	20.24	19.99	21.45	21.46	
	(B)TARE PLUS DRY SOIL WT.		18.17	18.52	18.19	20.62	20.60	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		13.36	13.70	13.62	15.43	15.29	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			30	21	14			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

530

36-14

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____

CHECKED BY_____

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5427G	PROJECT: Perry Landing Expansion		
SAMPLE LOCATION: B-18	#4 (6-8)		
TECHNICIAN:	DATE SAMPLED: 9-11-20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Tan clay w/ silt & ferric Nodules			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			116	113	109	40	37	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		20.02	20.31	20.19	21.81	22.53	
	(B)TARE PLUS DRY SOIL WT.		18.29	18.44	18.27	20.87	21.48	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		13.53	13.48	13.48	15.34	15.26	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			27	21	15			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

SSS

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

37-17

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_______________

CHECKED BY_________

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Ivy Landing Expansion	Sample Location: B-18
Technician: JA	Sampled By: Gev
TBG No.: 54376	Test Procedure: ASTM D2216
Date Sampled: 9-11-20	Test Date: 9.13.20

WATER CONTENT

Location /Boring-	160-21	202-21			
Description	Brown Sand w/ Shells	Tan Clay w/ Fossils/Shells			
Tare No.	T21	E-10			
(1) Weight of soil (wet) (grams)	163.3	119.3			
(2) Weight of soil (dry) (grams)	153.6	98.4			
(3) Weight of pan (grams)	87	87			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

WATER CONTENT

Location /Boring				
Description				
Tare No.				
(1) Weight of soil (wet) (grams)				
(2) Weight of soil (dry) (grams)				
(3) Weight of pan (grams)				
(4) Water weight (grams) (1 – 2)				
(5) Soil weight (grams) (2 – 3)				
Water content (%) (4)/(5)*100				

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: Pop Lake Expansion

TECHNICIAN: JA DATE TESTED: 9-18-20 CHECKED BY: ______

BORING: B-18 SAMPLE: #3 DEPTH: 4-6 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: Mottled Tan & [illegible] [illegible] clay w/ [illegible] & ferric nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.84	2.84	2.84	2.84	2.
Length (in)	5.75	5.77	5.77	5.77	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	E-1	T17
WWS + Tare (g)	89.4	185.6
WDS + Tare (g)	72.9	150.7
WW (g)		
Wt. Tare (g)	8.1	8.1
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1178.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

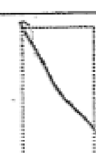
TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other ______



THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: Prop lake [illegible] Edmonson

TECHNICAL: JA DATE TESTED: 9-19-20 CHECKED BY: ____

BORING: B-17 SAMPLE: #4 DEPTH: 6-8 ☑ft; ☐ m Block: ____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ____

SAMPLE DESCRIPTION: Med St Tan Clay w/ Silt & Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.82	2.82	2.83	2.82	2.05
Length (in)	5.76	5.78	5.77	5.77	

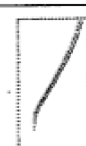
MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T22	E-9
WWS + Tare (g)	183.3	174.8
WDS + Tare (g)	147.9	139.3
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ____		

AS-RECEIVED SAMPLE DIA. (inch): ____
TRIMMED FOR TESTING: ☐ Yes; ☐ No
WWS (g): 1145.5
VOLUME (cm³): ____
TOTAL UNIT WT. (lb/ft³): ____
DRY DENSITY (lb/ft³): ____
G_s: ____ ☐ Assumed ☐ Measured
SATURATION: (%): ____

TRIAXIAL STATION NO. ____
DISPLACEMENT RATE:

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other ____



Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: [illegible]

TECHNICIAN: JA DATE TESTED: 9-18-20 CHECKED BY: ______

BORING: B-18 SAMPLE: # 5 DEPTH: 8 – 10 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: Sh Tan & light Gry Clay w/ [illegible] nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.87	2.88	2.86	2.87	2.0
Length (in)	5.72	5.73	5.74	5.73	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	B-7	X-3
WWS + Tare (g)	232.1	242.9
WDS + Tare (g)	192.1	262.0
WW (g)		
Wt. Tare (g)	87	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1242.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

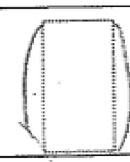
TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☑ Bulging
☐ Combination
☐ Other ______



/

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5423G	PROJECT: Troy Loading Expansion
SAMPLE LOCATION: B-19 #3 (4-6)	TEST DATE:
TECHNICIAN:	DATE SAMPLED: 9-11-20 · SAMPLED BY: Geo
MATERIAL DESCRIPTION: Tan & Light Gray Clay w/ [illegible] & Ferrous Nodules	

		LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.		1 (20-30)	2 (15-20)	3 (10-20)	1	2	
TARE NO.		110	85	A17	32	58	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.	20.28	21.83	20.05	21.85	21.54	
	(B)TARE PLUS DRY SOIL WT.	18.63	19.68	18.16	21.11	20.82	
	(C)WATER WT. =A-B W_w						
	(D)TARE WT.	13.64	13.69	13.21	15.36	15.25	
	(E)DRY SOIL WT. =B-D W_s						
WATER CONTENT=C/E w							
NUMBER OF BLOWS		30	18	13			
CONVERSION FACTOR							
TRIAL LIQUID LIMIT VALUE							

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

53

36 -13

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PL, %	
PI	
CLASSIFICATION	

TECHNICIAN________________

CHECKED BY________

THE BETA GROUP, LLC

10/10/2013

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 54836	PROJECT: Loop Roadway Expansion		
SAMPLE LOCATION: B-19 #1 10-21			
TECHNICIAN: JA	DATE SAMPLED: 9.11.20	SAMPLED BY: Grec	TEST DATE: 9.21.20
MATERIAL DESCRIPTION:			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.								
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.							
	(B)TARE PLUS DRY SOIL WT.							
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.							
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS								
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	572
(A)TARE WT.	85.5
(B)PRE-WASH WT.	224.7
(C)PRE-WASH SOIL WT. =B-A	139.2
(D)AFTER-WASH WT.	215.7
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	6.7

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_____ CHECKED BY_____

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Acy Loading Expansion	Sample Location: B-19
Technician: JA	Sampled By: Gev
TBG No.: 5437G	Test Procedure: ASTM D2216
Date Sampled: 9-11-20	Test Date: 9-13-20

WATER CONTENT

Location /Boring-	1(0-2)	2(2-4)			
Description	Brn Sand w/ Stones	Gry clay w/ Fissures & Ferrous Nodules			
Tare No.	532	Y-4			
(1) Weight of soil (wet) (grams)	237.3	164.9			
(2) Weight of soil (dry) (grams)	224.7	137.6			
(3) Weight of pan (grams)	85.5	87			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: [illegible]

TECHNICIAN: JA DATE TESTED: 9-18-20 CHECKED BY: ________

BORING: B-19 SAMPLE: #3 DEPTH: 4 - 6 ☑ft; ☐ m Block: ________

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ________

SAMPLE DESCRIPTION: St Tan & light Gray clay w/ [illegible] Ferrous Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.84	2.88	2.86	2.01
Length (in)	5.74	5.76	5.72	5.74	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	7-1	E-4
WWS + Tare (g)	2137	250.4
WDS + Tare (g)	1784	209.0
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ________		

AS-RECEIVED SAMPLE DIA. (inch): ________

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1274

VOLUME (cm³): ________

TOTAL UNIT WT. (lb/ft³): ________

DRY DENSITY (lb/ft³): ________

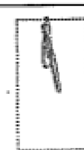
G_s: ________ ☐ Assumed ☐ Measured

SATURATION: (%): ________

TRIAXIAL STATION NO. ________

DISPLACEMENT RATE:

FAILURE SKETCH
☐ Diagonal Plane ☐ Bulging ☐ Combination ☑ Other Vertical



Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: [illegible]

TECHNICIAN: JA DATE TESTED: 9-19-20 CHECKED BY:

BORING: B-19 SAMPLE: # 4 DEPTH: 6 - 8 ☑ ft; ☐ m Block:

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: St light Gray & Tan Clay w/ [illegible] & ferrous nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.86	2.86	2.86	2.86	2.0
Length (in)	5.72	5.72	5.72	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	6-3	6-0
WWS + Tare (g)	254.0	234.9
WDS + Tare (g)	212.9	197.7
WW (g)		
Wt. Tare (g)	8.7	8.1
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1241

VOLUME (cm³):

TOTAL UNIT WT. (lb/ft³):

DRY DENSITY (lb/ft³):

G_s: ☐ Assumed ☐ Measured

SATURATION: (%):

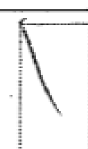
TRIAXIAL STATION NO.

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☑ Diagonal Plane
☐ Bulging
☐ Combination
☐ Other



TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: S437G

PROJECT: Prop lab ... Expansion

TECHNICIAN: JA DATE TESTED: 9-19-20 CHECKED BY: ______

BORING: B-19 SAMPLE: # 5 DEPTH: 8-10 ☑ft; ☐ m Block: ______

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER ______

SAMPLE DESCRIPTION: St ... Gray Clay w Plastecene & Ferris Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.82	2.84	2.85	2.83	2.03
Length (in)	5.77	5.74	5.74	5.74	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	Y-1	Y-9
WWS + Tare (g)	106.1	165.7
WDS + Tare (g)	96.1	140.1
WW (g)		
Wt. Tare (g)	81	81
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐ ______		

AS-RECEIVED SAMPLE DIA. (inch): ______

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1085.5

VOLUME (cm³): ______

TOTAL UNIT WT. (lb/ft³): ______

DRY DENSITY (lb/ft³): ______

G_s: ______ ☐ Assumed ☐ Measured

SATURATION: (%): ______

TRIAXIAL STATION NO. ______

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other Vertical

TheBetaGroup
engineering and construction services

MOISTURE WORKSHEET

Project: Ivy Academy Expansion	Sample Location: B-26
Technician: JA	Sampled By: Geo
TBG No.: 5437G	Test Procedure: ASTM D2216
Date Sampled: 9.11.20	Test Date: 9.13.20

WATER CONTENT

Location /Boring-	B-26	B-26			
Description	Stones w/ Brown Sand	Brown clayey Fine Sand w/ Rocks			
Tare No.	SBG1	T9			
(1) Weight of soil (wet) (grams)	210.8	197.0			
(2) Weight of soil (dry) (grams)	199.8	168.3			
(3) Weight of pan (grams)	86.6	8.1			
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

WATER CONTENT

Location /Boring					
Description					
Tare No.					
(1) Weight of soil (wet) (grams)					
(2) Weight of soil (dry) (grams)					
(3) Weight of pan (grams)					
(4) Water weight (grams) (1 – 2)					
(5) Soil weight (grams) (2 – 3)					
Water content (%) (4)/(5)*100					

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G PROJECT: Prop. Laden Expansion

TECHNICIAN: JA DATE TESTED: 9-19-20 CHECKED BY: _____

BORING: B-26 SAMPLE: #3 DEPTH: 4-6 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: Brown Tan & Light Gray Clay w/ Silt & Fine Nodules

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.79	2.79	2.80	2.80	2.06
Length (in)	5.75	5.77	5.76	5.76	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	G-5	T15
WWS + Tare (g)	192.3	167.1
WDS + Tare (g)	155.9	134.9
WW (g)		
Wt. Tare (g)	31.0	31.7
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1158

VOLUME (cm^3): _____

TOTAL UNIT WT. (lb/ft^3): _____

DRY DENSITY (lb/ft^3): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

FAILURE SKETCH	
☑ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other _____	

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: Prop Lake 4 Expansion

TECHNICIAN: JA DATE TESTED: 9-19-20 CHECKED BY: _____

BORING: B-20 SAMPLE: ST 4 DEPTH: 6 – 8 ☑ ft; ☐ m Block: _____

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER _____

SAMPLE DESCRIPTION: Med St Tan & Light Gray Clay w/ Silt & Fine Sand

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.82	2.82	2.82	2.82	2.04
Length (in)	5.73	5.75	5.74	5.74	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	J8	T11
WWS + Tare (g)	186.5	1106
WDS + Tare (g)	150.1	94.9
WW (g)		
Wt. Tare (g)	87	31
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☐ 110°C ☐ 40°C ☐ _____		

AS-RECEIVED SAMPLE DIA. (inch): _____

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1195.5

VOLUME (cm³): _____

TOTAL UNIT WT. (lb/ft³): _____

DRY DENSITY (lb/ft³): _____

G_s: _____ ☐ Assumed ☐ Measured

SATURATION: (%): _____

TRIAXIAL STATION NO. _____

DISPLACEMENT RATE:

FAILURE SKETCH	
☑ Diagonal Plane ☐ Bulging ☐ Combination ☐ Other _____	

Comments:	

TheBetaGroup
engineering and construction services

THE BETA GROUP GEOTECHNICAL TESTING LABORATORY
UNDRAINED / UNCONFINED COMPRESSION TEST DATA SHEET
COHESIVE SOIL SPECIMEN
ASTM STANDARD D 2850

FILE NO.: 5487G

PROJECT: [illegible]

TECHNICIAN: JA DATE TESTED: 9-18-20 CHECKED BY:

BORING: B-20 SAMPLE: # 5 DEPTH: 8 - 10 ☑ft; ☐ m Block:

TYPE SAMPLE: ☑ UNDISTURBED; ☐ COMPACTED; ☐ OTHER

SAMPLE DESCRIPTION: SO Tan [illegible] Gray Clay w/ [illegible]

MEASUREMENT	(1)	(2)	(3)	Average	L/D
Diameter (in)	2.81	2.80	2.82	2.81	2.04
Length (in)	5.71	5.72	5.73	5.72	

MOISTURE CONTENT		
Parameter	Initial	Final
Tare No.	T6	6-10
WWS + Tare (g)	164.0	134.0
WDS + Tare (g)	130.6	108.0
WW (g)		
Wt. Tare (g)	31	31
WDS (g)		
MC (%)		
FINAL MC: ☑ Trimmings; ☐ Entire Specimen		
OVEN TEMP: ☑ 110°C ☐ 40°C ☐		

AS-RECEIVED SAMPLE DIA. (inch):

TRIMMED FOR TESTING: ☐ Yes; ☐ No

WWS (g): 1152

VOLUME (cm³):

TOTAL UNIT WT. (lb/ft³):

DRY DENSITY (lb/ft³):

G_s: ☐ Assumed ☐ Measured

SATURATION: (%):

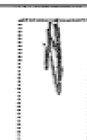
TRIAXIAL STATION NO.

DISPLACEMENT RATE:

Comments:	

FAILURE SKETCH

☐ Diagonal Plane
☐ Bulging
☐ Combination
☑ Other vertical



TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5423G	PROJECT: [illegible] Roadway Expansion		
SAMPLE LOCATION: B-20 #7 (6-8)			
TECHNICIAN:	DATE SAMPLED: 9-11-20	SAMPLED BY: Geo	TEST DATE:
MATERIAL DESCRIPTION: Tan & Lgt Gray clay w/ silt & ferrous nodules			

			LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.			1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.			106	92	A14	28	30	
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.		21.64	20.02	19.98	21.99	22.35	
	(B)TARE PLUS DRY SOIL WT.		19.53	18.24	18.08	21.07	21.33	
	(C)WATER WT. =A-B	W_w						
	(D)TARE WT.		13.59	13.56	13.35	15.35	15.28	
	(E)DRY SOIL WT. =B-D	W_s						
WATER CONTENT=C/E		W						
NUMBER OF BLOWS			30	20	15			
CONVERSION FACTOR								
TRIAL LIQUID LIMIT VALUE								

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

525

37-17

MINUS 200

TARE NO.	
(A)TARE WT.	
(B)PRE-WASH WT.	
(C)PRE-WASH SOIL WT. =B-A	
(D)AFTER-WASH WT.	
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PL, %	
PI	
CLASSIFICATION	

TECHNICIAN_______________ CHECKED BY_________

TheBetaGroup
engineering and construction services

LABORATORY SUMMARY WORK SHEET

BTI NO.: 5483G	PROJECT: [illegible] Roadway Expansion			
SAMPLE LOCATION: B-2a # 1 (6-2')				
TECHNICIAN: JA		DATE SAMPLED: 9.11.20	SAMPLED BY: Geo	TEST DATE: 9.21.20
MATERIAL DESCRIPTION:				

		LIQUID LIMIT			PLASTIC LIMIT		MOISTURE
TRIAL NO.		1 (20-30)	2 (15-25)	3 (10-20)	1	2	
TARE NO.							
WEIGHT IN GRAMS	(A)TARE PLUS WET SOIL WT.						
	(B)TARE PLUS DRY SOIL WT.						
	(C)WATER WT. =A-B — Ww						
	(D)TARE WT.						
	(E)DRY SOIL WT. =B-D — Ws						
WATER CONTENT=C/E	W						
NUMBER OF BLOWS							
CONVERSION FACTOR							
TRIAL LIQUID LIMIT VALUE							

Note: For One-point method LL values shall be within 1.0% of each other. PL values shall be within 1.4%.

MINUS 200

TARE NO.	S301
(A)TARE WT.	86.6
(B)PRE-WASH WT.	199.8
(C)PRE-WASH SOIL WT. =B-A	113.2
(D)AFTER-WASH WT.	175.1
(E)WT. PASS=B-D	
(F)%PASS=E/C x100	21.8

Atterbergs

MC, %	
FINER NO. 200, %	
RETAINED NO. 4, %	
LL, %	
PI, %	
PI	
CLASSIFICATION	

TECHNICIAN_______________ CHECKED BY_________

AGREEMENT

This Agreement made and entered into at Baton Rouge, Louisiana, effective this ___ day of _____, 20___, by and between the **CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE**, hereinafter called "Owner", and ____, hereinafter called "Contractor".

The Contractor shall perform all work required by the Contract Documents for the construction of:

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)
CITY-PARISH PROJECT NO. 12-CS-HC-0015

The following Contract Documents are all hereby made a part of this Agreement to the same extent as if incorporated herein in full:

1. Notice to Contractors
2. Uniform Construction Bid Forms
3. Unit Price Bid Form
4. Special Provisions/Technical Specifications
5. The Construction Drawings
6. Supplemental Specification
7. The Standard Specifications
8. The following enumerated addenda _____

CONTRACT TIME

The entire contract shall be completed in all details and ready for final acceptance within **One Hundred Eighty (180) calendar days** after date stipulated in the Notice to Proceed. Time is of the essence of the contract and the Notice to Proceed will be issued promptly. Contract time extensions will only be allowed in accordance with provisions in the Contract Documents.

FAILURE TO COMPLETE WORK ON TIME

Should the Contractor fail to complete the work within the contract time, as extended, liquidated damages in the amount of **$700.00** per day, will be assessed Contractor in accordance with the Contract Documents.

INTERPRETATIONS OF CONTRACT PROVISIONS

The interpretations of the provisions of this contract by the Director, Department of Transportation & Drainage, shall be binding upon both parties hereto.

CONTRACT PRICE

The amount to be paid to the Contractor by the Owner is _____Contract price shown is based on the Unit Price Form included in Contractor's Uniform Public Works Bid Form for the project, showing approximate quantities and unit prices therefore. The final contract price will be determined by the actual quantities in place at the unit prices set forth in said unit price form and any other modifications or changes as mutually agreed upon in writing.

PAYMENT

The Owner will make partial or progress payments less applicable retainage, based upon monthly estimates, in accordance with the Contract Documents and subsection 10-6 of the Standard Specifications.

Upon satisfactory completion of the work, the Owner will make a final payment in accordance with provisions of the Contract Documents.

INSURANCE, INDEMNITY AND LEGAL REGULATIONS

Insurance, indemnity requirements and legal regulations shall conform to those stated in the Contract Documents.

RIGHT TO AUDIT

The Contractor shall permit the authorized representative of the City-Parish to periodically inspect and audit all data and records of the Contractor relating to his performance under this contract.

IN WITNESS WHEREOF, the parties hereto have executed this agreement effective as of the date first written above.

WITNESSES:

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE

_____

By: _____

Emile "Sid" Edwards, Mayor President

_____

CONTRACTOR

_____

By: _____

_____

(Type Name and Title)

PERFORMANCE AND PAYMENT BOND (Required For Contracts Over $25,000)

That we, the undersigned ____ as principal, hereinafter referred to as "Contractor" and ____, duly authorized to transact business in the State of Louisiana as surety, are held and firmly bound unto the City of Baton Rouge and Parish of East Baton Rouge, hereinafter referred to as "Owner", in the penal sum of _____lawful money of the United States, for the payment of which well and truly to be made, the said principal and the said surety do hereby bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally, by these presents as follows:

The condition of this obligation is such that whereas, the Contractor by an instrument in writing attached hereto and bearing date of _____ , 20_____ has agreed with said Owner to furnish labor, materials, tools and equipment to construct: **PERKINS ROAD, CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE, (SIEGEN LANE TO PECUE LANE), CITY-PARISH PROJECT NO. 12-CS-HC-0015**
shown on plans and specified thereby and in the specifications, proposals and agreement forming the contract documents thereto attached.

NOW THEREFORE, if said Contractor shall well and truly in good, sufficient and workmanship manner, and to the satisfaction of the Owner, perform and complete the work required and shall pay all costs, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to the Owner complete and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to the Owner by reason of any default or neglect of the said Contractor in the performance of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, That the said surety for value received hereby stipulates and agrees that no change, extension of time, alterations, or addition to the terms of that contract, or the work to be performed thereunder, or the specifications accompanying the same, shall in anywise affect its obligation on the bond and it does hereby waive notice of any change, extension of time, alterations, or addition to the terms of the contract, or the work, or the specifications.

PROVIDED FURTHER, That if the Contractor, or his, their, or its subcontractors fail to duly pay for any labor, materials, team hire, sustenance, provisions, provender or any other supplies or materials used or consumed or for any materials or supplies furnished for use by such contractors or his, their, or its subcontractors in performance of the work contract to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest and attorney's fees as provided by law.

IN WITNESS WHEREOF, Said Principal and Surety have hereunto set their hands and seals this _____day of
_____ , 20___.

CONTRACTOR/(BIDDER)	**SURETY**
_____	_____
_____	_____
_____ (Address)	_____ (Address)
By:_____	By:_____
_____ (Typed Name and Title)	_____ (Typed Name and Title)
_____ (WITNESS)	_____ (WITNESS)

Revised M

AFFIDAVIT

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared

_____

who, being duly sworn did depose and say: That he is a duly authorized representative of _____

_____

receiving value for services rendered in connection with:

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE LANE)

CITY-PARISH PROJECT No. 12-CS-HC-0015

a public project of the City of Baton Rouge, Parish of East Baton Rouge, Louisiana: that he has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by him whose services in connection with the construction, alteration, or demolition of the public building or project or in securing the public contract were in the regular course of their duties for him; and that no part of the contract price received by him was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by him whose services in connection with the construction of the public building or project were in the regular course of their duties for him.

This affidavit is executed in compliance with the provisions of LA R.S. 38:2224.

_____
Affiant's Signature

SWORN TO AND SUBSCRIBED before me, on this_____ day of _____ 2025.
Baton Rouge, Louisiana.

_____
NOTARY PUBLIC

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
STATE OF LOUISIANA

Department of Public Works
Engineering Division (2008)

CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

(1) The party signing below hereby certifies, to the best of his knowledge and belief, that he and the officers, directors, members and/or principals of the represented organization:

(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from any transactions by any governmental body or entity;

(b) have not within a three-year period preceding this certification been found guilty of or had a civil judgment rendered against them for misapplication of funds, fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) are not presently indicted for or otherwise criminally or civilly charged by any governmental entity with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) have not within a three-year period preceding this certification had one or more public transactions (Federal, State or Local) terminated for cause or default.

(2) Where the party signing below is unable to certify to any of the statements in this certification, such party signing below shall attach an explanation to this proposal.

_____
ORGANIZATION NAME

_____
NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

_____
SIGNATURE DATE

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
STATE OF LOUISIANA

Department of Public Works
Engineering Division

INSTRUCTIONS FOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

1. By signing and submitting this CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS, the certifying party stipulates that the certification is made in strict accordance with these instructions.

2. The inability of a person to provide the certification required will not necessarily result in disqualification. The certifying party shall submit an explanation of why it cannot provide the certification set out on this form. The certification or explanation will be considered in connection with the determination whether to disqualify the certifying party. However, failure of the certifying party to furnish a certification or an explanation shall disqualify such certifying party from participation in the Project.

3. The certification is a material representation of fact upon which reliance will be placed when this transaction/contract is entered into. If it is later determined that the certifying party knowingly rendered an erroneous certification, in addition to other remedies available, the transaction/contract may be terminated for cause or default and the certifying party shall be liable for all costs, expenses and damages including attorney fees.

4. The certifying party shall provide immediate written notice to the Owner if at any time the certifying party learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The certifying party agrees by submitting this certification that, should the proposed transaction/contract be entered into, the certifying party shall not knowingly enter into any lower tier transaction with a person or entity who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this Project, unless authorized by the Owner in writing.

6. The certifying party further agrees by submitting this certification that it will obtain an identical certification from all lower tier contractors/subcontractors.

7. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required. The knowledge and information of the certifying party is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

8. If the certifying party knowingly enters into a lower tier transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this Project, in addition to other remedies available, the transaction/contract may be terminated for cause or default and the certifying party shall be liable for all costs, expenses and damages including attorney fees.

_____

_____

NAME OF PROJECT

_____ _____

PROJECT NUMBER **DATE OF BID**

ATTESTATION CLAUSE REQUIRED BY LA. R.S. 38:2227 (PAST CRIMINAL CONVICTIONS OF BIDDERS)

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:23)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

(a) Theft (R.S. 14:67)
(b) Identity Theft (R.S. 14:67.16)
(c) Theft of a business record (R.S.14:67.20)
(d) False accounting (R.S. 14:70)
(e) Issuing worthless checks (R.S. 14:71)
(f) Bank fraud (R.S. 14:71.1)
(g) Forgery (R.S. 14:72)
(h) Contractors; misapplication of payments (R.S. 14:202)
(i) Malfeasance in office (R.S. 14:134)

_____ _____

NAME OF BIDDER **NAME OF AUTHORIZED SIGNATORY OF BIDDER**

_____ _____

DATE **TITLE OF AUTHORIZED SIGNATORY OF BIDDER**

_____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

La. R.S. 38:2212.10 AFFIDAVIT

I,_____ , as the authorized representative of the Bidder in accordance with La. R.S. 38:2212.10 hereby certify signing below and by bidding on a contract with the City of Baton Rouge, Parish of East Baton Rouge the following:

(1) The Bidder is registered and participates in a status verification system to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens.

(2) The Bidder shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

(3) The Bidder shall require all subcontractors to submit to the employer a sworn affidavit verifying compliance with Paragraphs (1) and (2) above.

_____
Signature of Affiant

_____
Printed Name of Affiant

_____
Title of Affiant

SWORN TO AND SUBSCRIBED BEFORE ME this _____ day of _____, 2025.

_____
Notary Public

Printed Name of Notary:_____

Bar Roll No./Notary No._____

My Commission Expires: _____

AFFIDAVIT

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared

_____

who, being duly sworn did depose and say: That he is a duly authorized representative of _____

_____

receiving value for services rendered in connection with:

PERKINS ROAD
CLEARING AND GRUBBING, DECORATIVE FENCE, AND DRAINAGE
(SIEGEN LANE TO PECUE)

CITY-PARISH PROJECT No. 12-CS-HC-0015

a public project of the City of Baton Rouge, Parish of East Baton Rouge, Louisiana: that he has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by him whose services in connection with the construction, alteration, or demolition of the public building or project or in securing the public contract were in the regular course of their duties for him; and that no part of the contract price received by him was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by him whose services in connection with the construction of the public building or project were in the regular course of their duties for him.

This affidavit is executed in compliance with the provisions of LA R.S. 38:2224.

_____
Affiant's Signature

SWORN TO AND SUBSCRIBED before me, on this_____ day of _____ 2025.
Baton Rouge, Louisiana.

_____
NOTARY PUBLIC