CONSENT AGENDA
DRAINAGE DISTRICT
BOARD OF DIRECTORS
June 2, 2015
9:00 A.M.

NOTICE is hereby given in accordance with Chapter 551, Texas Government Code, that a SPECIAL MEETING of the Drainage District #1 Board of Directors will be held at the Edinburg Council Chambers 415 W. University Drive, Edinburg, Hidalgo County, Texas. Discussion and possible action relating to the following business will be transacted:

NOTICE TO THE PUBLIC
CONSENT AGENDA

The following items are of a routine or administrative nature. The Drainage District #1 Board has been furnished with background and support on each item, and/or it has been discussed at a previous meeting. All items will be acted upon by one vote without being discussed separately unless requested by a Board Member, in which event the item or items will immediately be withdrawn for individual consideration in its normal sequence after the items not requiring separate discussion have been acted upon. The remaining items will be adopted by one vote.

1. Approval of check register and payment of claims and bills - County Treasurer

2. **AI -49898** A. Request approval to issue payment for Invoice No. 0062246 in the amount of $75.00 from Melden & Hunt, Inc. related to Professional Services from May 01, 2015 to May 31, 2015 for Edinburg Pump House. P.O. No. 626946

3. **AI -49904** A. Request approval to issue payment for Invoice No. Application for Final Payment in the amount of $8,703.90 from R. Gutierrez Engineering related to work done for Pct. 2 Rural Drainage Development- Seminole Valley Subdivision Area Drainage Improvements.

4. **AI -49905** A. Request approval to issue payment for Invoice No. Application for Retainage in the amount of $31,174.90 from R. Gutierrez Engineering related to work done for Pct. 2 Rural Drainage Development- Seminole Valley Subdivision Area Drainage Improvements.

5. **AI -49906** A. Request approval to issue payment for Invoice No. 11325140 in the amount of $25,738.60 from L&G Consulting Engineers Inc. related to Work Authorization No. 4- Mission Inlet Recertification Project. P.O. No. 624010.

6. **AI -49907** A. Request approval to issue payment for Invoice No. 11325117 in the amount of $11,023.19 from L&G Consulting Engineers related to Work Authorization No. 2- La Joya Relief Route Analysis. P.O. No. 622697.

7. **AI -49908** A. Request approval to issue payment for Invoice No. 11325137 in the amount of $17,201.54 from L&G Consulting Engineers related to Work Authorization No. 1- Mission Inlet Recertification Project. P.O. No. 622510.

8. **AI -49909** A. Request approval to issue payment for Invoice No. 20152308 in the amount of $2,699.00 for TEDSI Infrastructure Group related to Work Authorization No. 14- Pct. 1 2012 Bond Referendum Field Surveying, Water Quality and Architectural Services for the Lower Rio Grande Valley Regional Water Management Program- Preliminary Planning & Development Professional Services from March 01, 2015 to March 31, 2015. P.O. No. 623576.

9. **AI -49910** A. Request approval to issue payment for Invoice No. 20142145 in the amount of $28,762.12 from TEDSI Infrastructure Group related to Work Authorization No. 15- SH 68 Segment D for Professional Services from January 01, 2014 to October 31, 2014. P.O. No. 623261-14.

10. **AI -49914** A. Request approval to issue payment for Invoice No. 20152312 in the amount of $46,633.74 for TEDSI Infrastructure Group related to Work Authorization No. 15- SH 68 Segment D for Professional Services from November 01, 2014 to March 31, 2015. P.O. No. 623261.

11. **AI -49931** A. Request approval to issue payment for Invoice No. 20152305 in the amount of $4,032.31 from TEDSI Infrastructure Group related to Professional Services from January 24, 2015 to April 17, 2015 for the Lower Rio Grande Valley Regional Water Management Program- Environmental. P.O. No. 623577.

12. **AI -49932** A. Request approval to issue payment for Invoice No. 20152222 in the amount of $1,670.08 for TEDSI Infrastructure Group related to Work Authorization No. 8- Lower Rio Grande Valley Regional Water Management Program- General Management Consultant for Professional Services done for the month of January 2015. P.O. No. 623578.

13. **AI -49934** A. Request approval to issue payment for Invoice No. 20152306 in the amount of $6,705.44 for TEDSI Infrastructure Group related to Work Authorization No. 12- Lower Rio Grande Valley Regional Water Management Program- Legal for Professional Services done for the month of March 2015. P.O. No. 623665.

14. **AI -49935** A. Request approval to issue payment for Invoice No. 20142174 in the amount of $3,847.01 for TEDSI Infrastructure Group related to Work Authorization No. 7- Spanish Palms for Professional Services from May 01, 2014 to November 30, 2014. P.O. No. 623664.

15. **AI -49936** A. Request approval to issue payment for TEDSI Infrastructure Group related to Work Authorization No. 17- Spanish Palms Outfall Improvements of Material Testing & Construction Management. 1. Invoice No. 20152275 $1,600.00 Professional Services from Notice to Proceed to February 28, 2015 2. Invoice No. 20152309 $1,860.72 March 2015

AI -49898 **2.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 0062246 in the amount of $75.00 from Melden & Hunt, Inc. related to Professional Services from May 01, 2015 to May 31, 2015 for Edinburg Pump House. P.O. No. 626946

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 0062246

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:55 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/28/2015 02:35 PM
Final Approval Date: 05/29/2015		

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: **5/14/2015**

Engineer/Firm Name: **MELDEN & HUNT**

Project Name/Number: **EDBG PUMP HOUSE**

Invoice No.: **0062246**

Purchase Order No.: **626946**

Received By: **Rosa Arce**

Forwarded to: **Joey Garza**

Total # of Pages Submitted: **Original Sub: 90pg.**

Attachments: **Submitted w/backup & plans forwarded to Jsalazar**

Additional Comments:

Invoice

MELDEN & HUNT, INC.
Consulting Engineers
115 West McIntyre
Edinburg, Texas 78541

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 14 2015
10:42 AM / PM
BY: Rosa Lee

Hidalgo County Drainage District #1
Attention: Raul Sesin, General Manager
902 N. Doolittle
Edinburg, TX 78541

May 14, 2015
Project No: 00000.01
Invoice No: 0062246

Project 00000.01 General Misc. Printing
Copying 1 File & 1 Set of Plans, Edinburg Pump House
Purchase Order Number: 626946

Professional Services from May 01, 2015 to May 31, 2015

Fee

Number of Sets of Plans	1.00
Fee Each	75.00
Total Fee	75.00

Total Earned	75.00	
Previous Fee Billing	0.00	
Current Fee Billing	75.00	
Total Fee		**75.00**
Total this Invoice		**$75.00**

AI -49904 **3.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. Application for Final Payment in the amount of $8,703.90 from R. Gutierrez Engineering related to work done for Pct. 2 Rural Drainage Development- Seminole Valley Subdivision Area Drainage Improvements.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. Application for Final Payment

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	05/29/2015 03:55 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/28/2015 03:04 PM
Final Approval Date: 05/29/2015		

R. Gutierrez Engineering Corporation — Transmittal Form

TO: Claudette Guerrero

Hidalgo County Drainage District 1

FROM: Javier Gutierrez

SUBJECT: Pct2 Rural Drainage Development - Seminole Valley Subdivsion Area Drainage Improvements

PROJECT NO.: ENG13.001

DATE: May 5, 2015

WE ARE SENDING YOU ___ ATTACHED ___ UNDER SEPARATE COVER VIA Hand Delivery THE FOLLOWING ITEMS:

___ BLUEPRINTS	___ PLANS	___ SHOP DRAWINGS	___ CD
X CHANGE ORDER	___ SAMPLES	x PAYMENT REQUEST	X OTHER: Cert Subst Comp
___ BID TABULATION	___ CONTRACT DOCUMENTS	x RECORD DRAWINGS	___ 3 1/2" DISKETTE

QUANTITY / SETS	DATED	ITEM DESCRIPTION
1		Change Order #3 ✓
1		HCDD1 Payment Request Checklist ✓
1		Request for Final Payment ✓
1		Request for Retainage Release ✓
1		Record Drawings ✓

THESE ARE TRANSMITTED AS CHECKED BELOW:

___ FOR BIDS DUE	___ APPROVED AS NOTED	___ FOR YOUR RECORDS
___ FOR APPROVAL	___ APPROVED AS SUBMITTED	___ FOR YOUR ACKNOWLEDGEMENT
___ FOR YOUR USE	___ RETURN FOR CORRECTIONS	___ RESUBMIT FOR APPORVAL
___ AS REQUESTED	___ FOR FURTHER PROCESSING	___ ON LOAN
___ FOR REVIEW AND COMMENT	___ FOR SIGNATURE	___ OTHER

COMMENTS:

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 06 2015
9:48 AM (PM)
BY: Rosa Lee

Copy Distribution: file

Received by:

130 East Park Avenue - Pharr, Texas 78577 - Phone: (956) 782-2557 - Fax: (956) 782-2558 - Email: office@rgec.net

R. GUTIERREZ ENGINEERING CORPORATION

PAYMENT REQUEST CHECKLIST FOR HCDD1

Project # ENG13.001

Project Name: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Impvmts

Payment # Final & Retainage

Contractor RDH Site & Concrete

INFORMATION REQUIRED FOR PROCESSING

	Payment Requests Including FINAL	DOCUMENT SOURCE	ATTACHED
1	Application for Payment (Final)	Contractor	✓
2	Schedule of Values	Engineer	✓
3	Quantity Worksheet	Engineer	✓
4	List of Suppliers & Sub-Contractors	Contractor	✓
5	Partial / Final Waiver of Lien Suppliers & Sub-Contractors	Contractor	✓
6	TXDOT Form 252 Contract Time Statement	Engineer	✓
7	Employee Payroll Report w/ signed wage form	Contractor	✓ *
8	Change Orders #3 (FINAL QUANTITY ADJUSTMENTS)	Engineer	✓
9	Material Testing Reports (if not testing, memo from Engineer)	Engineer	✓

	RETAINAGE RELEASE	DOCUMENT SOURCE	ATTACHED
1	Application for Payment (Retainage Release)	Contractor	✓
2	Schedule of Values	Engineer	✓
3	Quantity Worksheet* (SUPPLIED W/ FINAL AMT REQUEST)	Engineer	N/A
4	Certificate of Construction Completion	Engineer	✓
5	Contractor's Affidavit of Release of Liens	Contractor	✓
6	Contractor's Affidavit of Payments of Debts & Claims	Contractor	✓
7	Consent of Surety to Final Payment	Contractor	✓
7	Record Drawings / As - Builts	Engineer	✓
8	Punch List	Engineer	✓

* Note: Item not needed if submitted together with Application for Final Payment.

CHANGE ORDER NUMBER THREE (3)

PROJECT: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

DATE OF ISSUANCE: _____ **EFFECTIVE DATE:** _____

OWNER: Hidalgo County Drainage District No. 1

CONTRACTOR: RDH Site & Concrete, LLC
1201 E. Moore Rd #89
Pharr, TX 78577

ENGINEER: R. Gutierrez Engineering Corporation
130 E. Park Ave.
Pharr, TX 78577

You are directed to make the following changes in the Contract Documents.

Description: **FINAL QUANTITY ADJUSTMENTS**

1. Construction Exit (Ty II) (Install) reduced to 0
2. Construction Exit (Ty II) (Remove) reduced to zero
3.
4.
5.
6.

Reason:

1. Not installed
2. Not installed so no need to remove
3.
4.
5.
6.

Attachments:

Change in Contract Price:		**CHANGE IN CONTRACT TIME:**	
Original Contract Price $ 307,273.00		Original Contract Time for Substantial Completion:	30 calendar days or dates
Net Changes from previous Change Order $ 7,500.00		Net change from previous Change Orders	23 calendar days
Contract Price prior to this Change Order $ 314,773.00		Contract Time prior to this Change Order Substantial Completion:	53 calendar days or dates
Net Increase (decrease) of this Change Order $ (3,024.00)		Net Increase (decrease) of this Change Order	63 calendar days
Contract Price with all approved Change Orders $ 311,749.00	Net % increase (decrease) from original contract price. 1.50 %	Contract Time with all approved Change Orders Substantial Completion:	116 calendar days or dates

RECOMMENDED:
By: _____ P.E.
Engineer (Authorized Signature)
Date: 5/5/15

APPROVED:
By: _____
Owner (Authorized Signature)
Date: _____

ACCEPTED:
By: _____
Contractor (Authorized Signature)
Date: 4-27-15

CHANGE ORDER NO. 3 TABULATION

PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

Item Number	Original Plan Quantity	C.O. #1 Quantities	C.O. #2 Quantities	C.O. #3 Quantities	Unit	Item Description	Unit Price	Revised Unit Price	Original Contract Cost	Change in Contract Cost of C.O.#1	Revised Contract Cost after C.O.#1	Change in Contract Cost of C.O.#2	Revised Contract Cost after C.O.#2	Change in Contract Cost of C.O.#3	Revised Contract Cost after C.O.#3
SEMINOLE VALLEY SUBDIVISION AREA															
1	2,114.00	2114.00	2114.00	2114.00	SY	Cellulose Fiber Mulch Seeding (Permanent) (Rural) (Clay)	$ 1.50	$ 1.50	$ 3,171.00	$ -	3,171.00	$ -	3,171.00	$ -	3,171.00
2	25.00	25.00	25.00	25.00	MG	Vegetated Watering	$ 20.00	$ 20.00	$ 500.00	$ -	500.00	$ -	500.00	$ -	500.00
3	515.00	515.00	515.00	515.00	CY	Cement Stabilized Backfill	$ 30.00	$ 30.00	$ 15,450.00	$ -	15,450.00	$ -	15,450.00	$ -	15,450.00
4	1,361.00	1361.00	1361.00	1361.00	LF	Trench Excavation Protection	$ 2.00	$ 2.00	$ 2,722.00	$ -	2,722.00	$ -	2,722.00	$ -	2,722.00
5	27.00	27.00	27.00	27.00	CY	Concrete Riprap (CL B) (5")	$ 130.00	$ 130.00	$ 3,510.00	$ -	3,510.00	$ -	3,510.00	$ -	3,510.00
6	188.00	188.00	188.00	188.00	LF	Concrete Box Culvert (6-Ft x 2-Ft)	$ 32.00	$ 32.00	$ 6,016.00	$ -	6,016.00	$ -	6,016.00	$ -	6,016.00
7	64.00	64.00	64.00	64.00	LF	Reinforced Concrete Pipe (42-IN) (CL III) (SPL)	$ 95.00	$ 95.00	$ 6,080.00	$ -	6,080.00	$ -	6,080.00	$ -	6,080.00
8	1,252.00	1252.00	1252.00	1252.00	LF	Reinforced Concrete Pipe (60-IN) (CL III) (SPL)	$ 180.00	$ 180.00	$ 225,360.00	$ -	225,360.00	$ -	225,360.00	$ -	225,360.00
9	1.00	1.00	1.00	1.00	EA	Inlet (Complete) (Ty M w/Grate)	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ -	5,000.00	$ -	5,000.00	$ -	5,000.00
10	1.00	1.00	1.00	1.00	EA	Junction Box (10-ft x 5-ft x/Grate)	$ 9,000.00	$ 9,000.00	$ 9,000.00	$ -	9,000.00	$ -	9,000.00	$ -	9,000.00
11	1.00	1.00	1.00	1.00	EA	Junction Box (10-ft x 5-ft)	$ 9,000.00	$ 9,000.00	$ 9,000.00	$ -	9,000.00	$ -	9,000.00	$ -	9,000.00
12	1.00	1.00	1.00	1.00	EA	Junction Box (16-ft x 5-ft)	$ 12,000.00	$ 12,000.00	$ 12,000.00	$ -	12,000.00	$ -	12,000.00	$ -	12,000.00
13	252.00	252.00	252.00	0.00	SY	Construction Exit (Ty II) (Install)	$ 6.00	$ 6.00	$ 1,512.00	$ -	1,512.00	$ -	1,512.00	$ (1,512.00)	0.00
14	252.00	252.00	252.00	0.00	SY	Construction Exit (Ty II) (Remove)	$ 6.00	$ 6.00	$ 1,512.00	$ -	1,512.00	$ -	1,512.00	$ (1,512.00)	0.00
15	144.00	144.00	144.00	144.00	LF	Temporary Sediment Control Fence	$ 10.00	$ 10.00	$ 1,440.00	$ -	1,440.00	$ -	1,440.00	$ -	1,440.00
16	40.00	40.00	40.00	40.00	LF	RCP Irrigation Pipe (36-IN)	$ 100.00	$ 100.00	$ 4,000.00	$ -	4,000.00	$ -	4,000.00	$ -	4,000.00
17	1.00	1.00	1.00	1.00	MO	Barricades, Signs and Traffic Handling	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ -	1,000.00	$ -	1,000.00	$ -	1,000.00
18	0.00	1.00	1.00	1.00	EA	Manhole Type M	$ -	$ 7,500.00	$ -	$ 7,500.00	7,500.00	$ -	7,500.00	$ -	7,500.00
Total Seminole Valley Subdivision Area									**$ 307,273.00**	**$ 7,500.00**	**$ 314,773.00**	**$ -**	**$ 314,773.00**	**$ (3,024.00)**	**$ 311,749.00**

4/22/2015
11:56 AM

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 5/6/2015

Engineer/Firm Name: R.Gutierrez Eng.

Project Name/Number: Rural Drian. Seminole Valley

Invoice No.: Application for Final PMT

Purchase Order No.:

Received By: Rosa Arce

Forwarded to: Joey Garza

Total # of Pages Submitted: 34 pages

Attachments: Change Order #3, Checklist, Retainage Release & Drawings

2pg. 1pg. 11pg. 24pg. = 72 pages

Additional Comments: $8,703.90

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

MAY 06 2015
2:48 AM / PM
BY: Rosalee

APPLICATION FOR FINAL PMT

To: Hidalgo County Drainage District No. 1 (OWNER)
From: RDH Site & Concrete, LLC (CONTRACTOR)
Contract: HCDD1-14-010-05-06
Project: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
OWNER's Contract No. HCDD1-14-010-05-06
For Work accomplished through the date of: April 22, 2015
ENGINEER's Project No.: ENG13.001

1.	Original Contract Price:			$ 307,273.00
2.	Net change by Change Orders and Written Agreements (+ or -):			$ 4,476.00
3.	Current Contract Price (1 plus 2):			$ 311,749.00
4.	Total completed and stored to date:			$ 311,749.00
5.	Retainage (per Agreement):			
	10% of completed Work:	$ 31,174.90		
	10% of stored material:	$ -		
	Total Retainage:			$ 31,174.90
6.	Total completed and stored to date less retainage (4 minus 5):			$ 280,574.10
7.	Less previous Application for Payments:			$ (271,870.20)
8.	Balance to Finish:			$ -
9.	AMOUNT DUE THIS APPLICATION (6 MINUS 7):			**$ 8,703.90**

Accompanying Documentation:

CONTRACTOR'S Certification:
The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered 1 through FINAL PMT inclusive; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Dated April 27, 2015
RDH Site & Concrete, LLC
CONTRACTOR
By: [signature]

State of Texas
County of Hidalgo
Subscribed and sworn to before me this 27 day of April, 2015
San Juanita Garcia
Notary Public
My Commission expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated 5/5/2015
R. GUTIERREZ ENGINEERING CORPORATION
ENGINEER
By: [signature], P.E.

Schedule of Values

Contractor Name: RDH Site & Concrete, LLC
Starting Date: October 13, 2014
Project Ending Date: February 5, 2015
Project Desc: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
Retainage Percent: 10%

Application: FINAL PMT
Application Date: 4/27/2015
Period To: 4/22/2015
Engineer's Project No.: ENG13.001
Engineer Firm R. Gutierrez Eng. Corp.

Summary

Contract Number	Description	Original Schedule Value	C.O. #1 Schedule Value	C.O. #2 Schedule Value	C.O. #3 Schedule Value	Application #1	Retainage for App #1	Payment for Application #1	Application #2	Retainage for App #2	Payment for Application #2	Final Application	Retainage for Final App	Payment for Final Application	Total Completed to Date	Retainage to Date	Total Completed Less Retainage	Previous Payments	Balance To Finish
HCDD1-14-010-05-06	PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements	$ 307,273.00	$ 314,773.00	$ 314,773.00	$ 311,749.00	$ 232,051.00	$ 23,205.10	$ 208,845.90	$ 70,027.00	$ 7,002.70	$ 63,024.30	$ 9,671.00	$ 967.10	$ 8,703.90	$ 311,749.00	$ 31,174.90	$ 280,574.10	$ 271,870.20	$ -
	TOTALS:	**$ 307,273.00**	**$ 314,773.00**	**$ 314,773.00**	**$ 311,749.00**	**$ 232,051.00**	**$ 23,205.10**	**$ 208,845.90**	**$ 70,027.00**	**$ 7,002.70**	**$ 63,024.30**	**$ 9,671.00**	**$ 967.10**	**$ 8,703.90**	**$ 311,749.00**	**$ 31,174.90**	**$ 280,574.10**	**$ 271,870.20**	**$ -**

Contractor Name: RDH Site & Concrete, LLC
Starting Date: October 13, 2014
Project Ending Date: February 5, 2015
Project Desc: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

Application: FINAL PMT
Application Date: April 27, 2015
Period To: April 22, 2015
Engineer's / County Project No.: ENG13.001

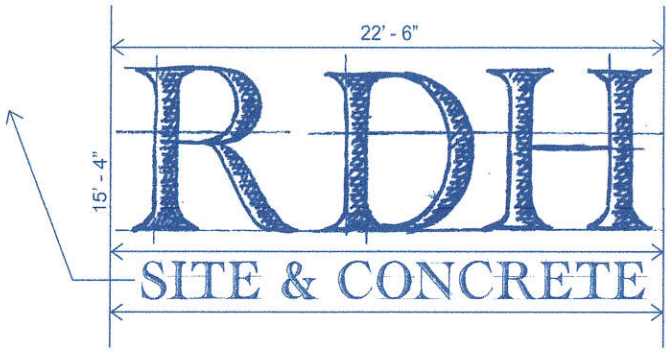
				Original Schedule Value			Change Order #1 Revised Schedule Value			Change Order #2 Revised Schedule Value			Change Order #3 Revised Schedule Value			Application #1			Application #2			Final Application				Balance To Finish	
No.	Item Code	Description	Unit	Original Rates	Quan	Dollars	Revised Rates	Quan	Dollars	Revised Rates	Quan	Dollars	Revised Rates	Quan	Dollars	Monthly Quan	QTY to Date	Item Cost (Monthly)	Monthly Quan	QTY to Date	Item Cost (Monthly)	Monthly Quan	QTY to Date	Item Cost (Monthly)	Total to Date	Quan	Dollars
		SEMINOLE VALLEY SUBDIVISION AREA																									
1	100	Cellulose Fiber Mulch Seeding (Permanent) (Rural) (Clay)	SY	$ 1.50	2,114.00	$ 3,171.00	$ 1.50	2,114.00	$ 3,171.00	$ 1.50	2,114.00	$ 3,171.00	$ 1.50	2,114.00	$ 3,171.00		-	$ -	-	-	$ -	2,114.00	2,114.00	$ 3,171.00	$ 3,171.00	0.00	$ -
2	110	Vegetated Watering	MG	$ 20.00	25.00	$ 500.00	$ 20.00	25.00	$ 500.00	$ 20.00	25.00	$ 500.00	$ 20.00	25.00	$ 500.00		-	$ -	-	-	$ -	25.00	25.00	$ 500.00	$ 500.00	0.00	$ -
3	132	Cement Stabilized Backfill	CY	$ 30.00	515.00	$ 15,450.00	$ 30.00	515.00	$ 15,450.00	$ 30.00	515.00	$ 15,450.00	$ 30.00	515.00	$ 15,450.00	265.00	265.00	$ 7,950.00	250.00	250.00	$ 7,500.00		-	$ -	$ 15,450.00	0.00	$ -
4	164	Trench Excavation Protection	LF	$ 2.00	1,361.00	$ 2,722.00	$ 2.00	1,361.00	$ 2,722.00	$ 2.00	1,361.00	$ 2,722.00	$ 2.00	1,361.00	$ 2,722.00	895.00	895.00	$ 1,790.00	466.00	466.00	$ 932.00		-	$ -	$ 2,722.00	0.00	$ -
5	400	Concrete Riprap (CL B) (5")	CY	$ 130.00	27.00	$ 3,510.00	$ 130.00	27.00	$ 3,510.00	$ 130.00	27.00	$ 3,510.00	$ 130.00	27.00	$ 3,510.00		-	$ -	27.00	27.00	$ 3,510.00		-	$ -	$ 3,510.00	0.00	$ -
6	400	Concrete Box Culvert (6-Ft x 2-Ft)	LF	$ 32.00	188.00	$ 6,016.00	$ 32.00	188.00	$ 6,016.00	$ 32.00	188.00	$ 6,016.00	$ 32.00	188.00	$ 6,016.00	188.00	188.00	$ 6,016.00		-	$ -		-	$ -	$ 6,016.00	0.00	$ -
7	402	Reinforced Concrete Pipe (42-IN) (CL III) (SPL)	LF	$ 30.00	64.00	$ 1,920.00	$ 30.00	64.00	$ 1,920.00	$ 30.00	64.00	$ 1,920.00	$ 30.00	64.00	$ 1,920.00		-	$ -	64.00	64.00	$ 1,920.00		-	$ -	$ 1,920.00	0.00	$ -
7a	403	Reinforced Concrete Pipe (42-IN) (CL III) (SPL) STORED MATS	LF	$ 65.00	64.00	$ 4,160.00	$ 65.00	64.00	$ 4,160.00	$ 65.00	64.00	$ 4,160.00	$ 65.00	64.00	$ 4,160.00	64.00	64.00	$ 4,160.00		-	$ -		-	$ -	$ 4,160.00	0.00	$ -
8	404	Reinforced Concrete Pipe (60-IN) (CL III) (SPL)	LF	$ 65.00	1,252.00	$ 81,380.00	$ 65.00	1,252.00	$ 81,380.00	$ 65.00	1,252.00	$ 81,380.00	$ 65.00	1,252.00	$ 81,380.00	895.00	895.00	$ 58,175.00	357.00	357.00	$ 23,205.00		-	$ -	$ 81,380.00	0.00	$ -
8a	405	Reinforced Concrete Pipe (60-IN) (CL III) (SPL) STORED MATS	LF	$ 115.00	1,252.00	$ 143,980.00	$ 115.00	1,252.00	$ 143,980.00	$ 115.00	1,252.00	$ 143,980.00	$ 115.00	1,252.00	$ 143,980.00	1,252.00	1,252.00	$ 143,980.00		-	$ -		-	$ -	$ 143,980.00	0.00	$ -
9	406	Inlet (Complete) (Ty M w/Grate)	EA	$ 5,000.00	1.00	$ 5,000.00	$ 5,000.00	1.00	$ 5,000.00	$ 5,000.00	1.00	$ 5,000.00	$ 5,000.00	1.00	$ 5,000.00	1.00	1.00	$ 5,000.00		-	$ -		-	$ -	$ 5,000.00	0.00	$ -
10	408	Junction Box (10-ft x 5-ft x/Grate)	EA	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00		-	$ -	0.80	0.80	$ 7,200.00	0.20	0.20	$ 1,800.00	$ 9,000.00	0.00	$ -
11	410	Junction Box (10-ft x 5-ft)	EA	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00		-	$ -	0.80	0.80	$ 7,200.00	0.20	0.20	$ 1,800.00	$ 9,000.00	0.00	$ -
12	462	Junction Box (16-ft x 5-ft)	EA	$ 12,000.00	1.00	$ 12,000.00	$ 12,000.00	1.00	$ 12,000.00	$ 12,000.00	1.00	$ 12,000.00	$ 12,000.00	1.00	$ 12,000.00		-	$ -	0.80	0.80	$ 9,600.00	0.20	0.20	$ 2,400.00	$ 12,000.00	0.00	$ -
13	464	Construction Exit (Ty II) (Install)	SY	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	0.00	$ -		-	$ -	-	-	$ -		-	$ -	$ -	0.00	$ -
14	464	Construction Exit (Ty II) (Remove)	SY	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	0.00	$ -		-	$ -	-	-	$ -		-	$ -	$ -	0.00	$ -
15	464	Temporary Sediment Control Fence	LF	$ 10.00	144.00	$ 1,440.00	$ 10.00	144.00	$ 1,440.00	$ 10.00	144.00	$ 1,440.00	$ 10.00	144.00	$ 1,440.00	48.00	48.00	$ 480.00	96.00	96.00	$ 960.00		-	$ -	$ 1,440.00	0.00	$ -
16	464	RCP Irrigation Pipe (36-IN)	LF	$ 100.00	40.00	$ 4,000.00	$ 100.00	40.00	$ 4,000.00	$ 100.00	40.00	$ 4,000.00	$ 100.00	40.00	$ 4,000.00	40.00	40.00	$ 4,000.00		-	$ -		-	$ -	$ 4,000.00	0.00	$ -
17	464	Barricades, Signs and Traffic Handling	MO	$ 1,000.00	1.00	$ 1,000.00	$ 1,000.00	1.00	$ 1,000.00	$ 1,000.00	1.00	$ 1,000.00	$ 1,000.00	1.00	$ 1,000.00	0.50	0.50	$ 500.00	0.50	0.50	$ 500.00		-	$ -	$ 1,000.00	0.00	$ -
18	464	Manhole Type M	EA	$ -	0.00	$ -	$ 7,500.00	1.00	$ 7,500.00	$ 7,500.00	1.00	$ 7,500.00	$ 7,500.00	1.00	$ 7,500.00		-	$ -	1.00	1.00	$ 7,500.00		-	$ -	$ 7,500.00	0.00	$ -
		TOTAL BASE AMOUNTS				**$ 307,273.00**			**$ 314,773.00**			**$ 314,773.00**			**$ 311,749.00**			**$ 232,051.00**			**$ 70,027.00**			**$ 9,671.00**	**$ 311,749.00**		**$ -**

Prepared and Checked By:

Printed Name: Javier Gutierrez

Signature:

Date: 5/15/15



May 1, 2015

R. Gutierrez Engineering
130 E. Park Ave
Phar, Texas 78577
956-782-2557
Javier@rgec.net

RE: HIDALGO COUNTY DRAINAGE DISTRICT NO.1
SEMINOLE VALLEY SUBDIVISION AREA IMPROVEMENTS
HCDD1-14-010-04-09

Mr. Gutierrez;

The Following is the list of suppliers used in the above mentioned project as per the County request:

L&R Precast
3807 N. Bentsen Palm Dr. Mission, Texas 78577 956-583-6293

L&R Ready Mix
3807 N. Bentsen Palm Dr. Mission, Texas 78577 956-583-6293

Rio Valley Pipe
7301 W. Expressway 83 Mission, Texas 78577 956-580-2502

RDH Site and Concrete, LLC does not hire any subcontractors, all work performed is completed by our firm.

If you have any questions, please call me (956)502-5426

Best Regards;

Dianaly De Hoyos, General Manager

PARTIAL/FINAL WAIVER OF LEIN

THE STATE OF TEXAS

COUNTY OF Hidalgo

The undersigned contracted with RDH Site and Concrete, LLC
to furnish Materials
in connection with certain improvements to real property located in Penitas Valley Subdivision
County, Texas, and owned by Hidalgo County Drainage District No. 1
Which improvements are described as follows:

Drainage

In consideration of Pay Estimate No 2 in the amount of five thousand six hundred twenty-five DOLLAR($ 5,625.00)and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed, the undersigned does hereby waive and release any mechanic's lien or materialmen's lien or claims of lien that the undersigned has or hereafter has on the above mentioned real property on account of any labor performed or materials furnished or to be furnished or labor performed and materials furnished by the undersigned pursuant to the above-mentioned contract or any constitutional lien that the undersigned may have.

Undersigned hereby guarantees that all bids for labor performed and/or materials furnished in the erection and construction of such improvements on the Property have been fully paid and satisfied and Undersigned does further guarantee that if for any reason a lien or liens are filed for material or labor against said Property arising out of any bills for material or labor in connection with the erection or construction of said improvements thereon, Undersigned will obtain a settlement of such lien or liens and a proper release thereof shall be obtained.

LR Pre Cast / LR Ready Mix
CONTRACTOR

BY: Lyra Carlos Vice President
TITLE

SWORN TO AND SUBSCRIBED BEFORE ME, on this the 1 day of April, 2015 to certify which witness my hand and seal of office.

San Juanita Garcia
NOTARY PUBLIC in and for the State of Texas

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

PARTIAL/FINAL WAIVER OF LEIN

THE STATE OF TEXAS

COUNTY OF Hidalgo

The undersigned contracted with RDH Sete and Concrete, LLC
to furnish materials
in connection with certain improvements to real property located in Jennifer Valley Subdivision
County, Texas, and owned by Hidalgo County Drainage District No. 1
Which improvements are described as follows:

Drainage

In consideration of Pay Estimate No 2 in the amount of twelve thousand eight hundred fifty eight/12 cents DOLLAR($ 12,858.12)and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed, the undersigned does hereby waive and release any mechanic's lien or materialmen's lien or claims of lien that the undersigned has or hereafter has on the above mentioned real property on account of any labor performed or materials furnished or to be furnished or labor performed and materials furnished by the undersigned pursuant to the above-mentioned contract or any constitutional lien that the undersigned may have.

Undersigned hereby guarantees that all bids for labor performed and/or materials furnished in the erection and construction of such improvements on the Property have been fully paid and satisfied and Undersigned does further guarantee that if for any reason a lien or liens are filed for material or labor against said Property arising out of any bills for material or labor in connection with the erection or construction of said improvements thereon, Undersigned will obtain a settlement of such lien or liens and a proper release thereof shall be obtained.

L & R Pre Cast
CONTRACTOR

BY: Lucia Carlos Vice President
TITLE

SWORN TO AND SUBSCRIBED BEFORE ME, on this the 1 day of April ,20 15 to certify which witness my hand and seal of office.

San Juanita Garcia
NOTARY PUBLIC in and for the State of Texas

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

PARTIAL/FINAL WAIVER OF LEIN

THE STATE OF TEXAS

COUNTY OF Hidalgo

The undersigned contracted with RDH Site and Concrete, LLC
to furnish Materials
in connection with certain improvements to real property located in Seminole Valley Subdivision
County, Texas, and owned by Hidalgo County Drainage district NO. 1
Which improvements are described as follows:

Drainage Pipe

In consideration of Pay Estimate No 1 in the amount of One hundred-seventy nine thousand one hundred-fifty eight dollars/82 DOLLAR($179,158.82) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed, the undersigned does hereby waive and release any mechanic's lien or materialmen's lien or claims of lien that the undersigned has or hereafter has on the above mentioned real property on account of any labor performed or materials furnished or to be furnished or labor performed and materials furnished by the undersigned pursuant to the above-mentioned contract or any constitutional lien that the undersigned may have.

Undersigned hereby guarantees that all bids for labor performed and/or materials furnished in the erection and construction of such improvements on the Property have been fully paid and satisfied and Undersigned does further guarantee that if for any reason a lien or liens are filed for material or labor against said Property arising out of any bills for material or labor in connection with the erection or construction of said improvements thereon, Undersigned will obtain a settlement of such lien or liens and a proper release thereof shall be obtained.

Rio Valley Pipe
CONTRACTOR

BY: Edgar Martinez CREDIT MNGR
TITLE

SWORN TO AND SUBSCRIBED BEFORE ME, on this the 11th day of June, 2015 to certify which witness my hand and seal of office.

NOTARY PUBLIC in and for the State of Texas

My Commission Expires: 12-12-2015

ERNESTO SAENZ
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 12-12-2015

Exhibit E-I

Contract Time Statement

PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

PAY REQUEST FINAL CONTRACTOR RDH Site and Concrete, LLC

PROJECT NO. HCDD1-14-010-05-06 City Alamo, Texas DATE WORK BEGAN 10/13/2014

TIME COMPUTED FROM 10/13/2014 DATE WORK COMPLETED

MONTH	DATE OR DAYS	WORKING DAYS CHARGED	DAYS CREDITED	DESCRIPTION
February	3			**(Project is Substantially Complete as of 2/3/15 - Contract Time Stops)**
	4			work on project (cleanup and punch list items)
	5			work on project (cleanup and punch list items)
	6			work on project (cleanup and punch list items)
	7			
	8			
	9			work on project (cleanup and punch list items)
	10			work on project (cleanup and punch list items)
	11			work on project (cleanup and punch list items)
	12			work on project (cleanup and punch list items)
	13			work on project (cleanup and punch list items)
	14			
	...			
	25			work on project (cleanup and punch list items)
	26			work on project (cleanup and punch list items)
	27			work on project (cleanup and punch list items)
	28			work on project (cleanup and punch list items)
March	1			
	2			work on project (cleanup and punch list items)
	3			work on project (cleanup and punch list items)
	4			
	5			
	6			work on project (cleanup and punch list items)
	7			
	...			
April	20			work on project (cleanup and punch list items)
	21			work on project (cleanup and punch list items)
	22			All items completed and notified HCDD1
TOTALS		0	0	

NO. OF CONTRACT CALANDER DAYS 116** NO. CALANDER DAYS CHARGED TO DATE **114**

ASSESSED LIQUIDATED DAMAGES: NO. DAYS 0 PER DAY $ TOTAL

CERTIFIED AS CORRECT (ONE COPY HAS BEEN GIVEN TO THE CONTRACTOR)

P.E.

PROJECT ENGINEER

*23 Days added per change order #1 (13 Rain / Too wet to work and 10 for additional MH)

**63 Days added per change order #2 for Rain / Too wet to work conditions and additional days for additional work and delay for confict in field

INSTRUCTIONS: PROJECT IDENTIFICATION SHOULD COVER CONTRACT. TIME CREDITED AND REASONS THEREFORE MUST CONFORM TO PROVISIONS OF CONTRACT. NO HOLIDAY CREDIT ALLOWED FOR DAYS PRECEDING OR FOLLOWING LEGAL HOLIDAYS. TIME SUSPENDED AND RESUMED MUST BE SUPPORTED BY COPY EACH OF LETTERS TO CONTRACTOR DATED ON OR BEFORE EFFECTIVE DATES. TIME EXTENSION MUST BE INDICATED AND REFERENCED TO RELATED PROVISION OF CONTRACT. SEE BOOKLET OF INSTRUCTIONS, CONSTRUCTION ESTIMATES DATED SEPTEMBER 1, 1956

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	19	2-6-15	SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 5 / S 4 / M 5 / T 6 / W / TH / F — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S	8 8 8	24	12.60	302.40							302.40
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240
OSCAR MONTANO-8794		PIPE LAYER	O											
			S	8 8 8	24	12.00	288							288
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

4 day of Feb, 2015, and ending the 6 day of Feb, 205,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 20

FOR WEEK ENDING 2-13-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE / HOURS WORKED EACH DAY							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS						(9) NET WAGES PAID FOR WEEK
				S 7	S 8	M 9	T 10	W 11	TH 12	F 13				FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S			8	8	8	4	4	32	12.60	403.20							403.20
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S			8	8	8	4	4	32	10.00	320							320
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S			8	8	8	4	4	32	12.00	384							384
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S			8	8	8	4	4	32	10.00	320							320
			O																	
			S																	
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

1 day of Feb, 2015, and ending the 13 day of Feb, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 21

FOR WEEK ENDING 2-20-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 14	S 15	M 16	T 17	W 18	TH 19	F 20 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S									10.00								
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S									10.00								
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

14 day of Feb, 2015, and ending the 20 day of Feb, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐
RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 22

FOR WEEK ENDING 2-27-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 21 / S 22 / M 23 / T 24 / W 25 / TH 26 / F 27 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S	8 8 8	24	12.60	302.40							302.40
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240.00
OSCAR MONTANO-8794		PIPE LAYER	O											
			S	8 8 8	24	12.00	288							240.00
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240.00
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

21 day of Feb, 2015, and ending the 27 day of Feb, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 23

FOR WEEK ENDING 3-6-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 28	S 1	M 2	T 3	W 4	TH 5	F 6 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S	8		8	8			8	32	12.60	403.20							403.20
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S	8		8	8			8	32	10.00	320							320
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S	8		8	8			8	32	12.00	384							384
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S	8		8	8			8	32	10.00	320							320
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

28 day of February, 2015, and ending the 6 day of March, 2015;

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89, PHARR, TEXAS 78577

PAYROLL NO. 24

FOR WEEK ENDING 3-13-15

PROJECT AND LOCATION: SEMINOLE VALLEY SUBDIVISION, ALAMO, TEXAS

PROJECT OR CONTRACT NO.: HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 7	S 8	M 9	T 10	W 11	TH 12	F 13 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S									10.00								
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S									10.00								
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

7 day of March 2015, and ending the 13 day of March 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐: RDH SITE AND CONCRETE,LLC

ADDRESS: 1201 E. MOORE RD 89, PHARR, TEXAS 78577

PAYROLL NO.: 25

FOR WEEK ENDING: 3-20-15

PROJECT AND LOCATION: SEMINOLE VALLEY SUBDIVISION, ALAMO, TEXAS

PROJECT OR CONTRACT NO.: HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 14 / S 15 / M 16 / T 17 / W 18 / TH 19 / F 20 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.60								
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

14 day of March, 2015, and ending the 20 day of March, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	26	3-27-15	SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 21 / S 22 / M 23 / T 24 / W 25 / TH 26 / F 27 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

21 day of March, 2015, and ending the 27 day of March, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	27	4-3-15

PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 28	S 29	M 30	T 31	W 1	TH 2	F 3 (HOURS WORKED EACH DAY)	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S									10.00								
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S									10.00								
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

28 day of March, 2015, and ending the 3 day of April, 2015,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 28

FOR WEEK ENDING 4-10-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 4 / S 5 / M 6 / T 7 / W 8 / TH 9 / F 10 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

NO WORK

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the 4 day of April, 2015, and ending the 10 day of April, 2015, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

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U.S. Department of Labor
Wage and Hour Division

PAYROLL

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	29	4-17-15	SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 11 / S 12 / M 13 / T 14 / W 15 / TH 16 / F 17 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O				NO WORK							
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the 11 day of April 2015, and ending the 17 day of April 2015 all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

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U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐: RDH SITE AND CONCRETE,LLC

ADDRESS: 1201 E. MOORE RD 89, PHARR, TEXAS 78577

PAYROLL NO.: 30

FOR WEEK ENDING: 4-24-15

PROJECT AND LOCATION: SEMINOLE VALLEY SUBDIVISION, ALAMO, TEXAS

PROJECT OR CONTRACT NO.: HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 18	S 19	M 20	T 21	W 22	TH 23	F 24 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S			4	4				8	10.00	80							80
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O			4	4				8									
			S									10.00	80							80
			O																	
			S																	
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the 18 day of April, 2015, and ending the 24 day of April 2015 all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

R. Gutierrez Engineering Corporation
Texas Engineering Firm Number: F-486
Texas Surveying Firm Number: 101650-00

May 5, 2015

Mr. Raul Sesin, PE, CFM
Hidalgo County Drainage District No. 1
902 Doolittle
Edinburg, Texas 78542

Subject: PCT2 Rural Drainage Development - Seminole Valley Subdivision Area Drainage Improvements
Contract #: HCDD1-14-010-04-09
Testing Requirements for Payment Request #FINAL PMT

Dear Mr. Sesin:

Please be advised that no material testing was required or done for this project since Payment Request #2 was submitted to your office on February 11, 2015.

Please call me at (956) 782-2557 if you have questions concerning this matter.

Sincerely,

Ramiro Gutierrez, P.E.
President

cc: file

130 East Park Avenue – Pharr, TX 78577 – Telephone: 956-782-2557 – Fax: 956-782-2558 – E-mail: rgutierrez@rgec.net

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 5/6/2015

Engineer/Firm Name: R.Gutierrez Eng.

Project Name/Number: Rural Drian. Seminole Valley

Invoice No.: Application for Retainage

Purchase Order No.:

Received By: Rosa Arce

Forwarded to: Joey Garza

Total # of Pages Submitted: 12 pages

Attachments: Change Order #3, Checklist, Final PMT & Drawings

2pg. 1pg. 33pg. 24pg. = 72 pages

Additional Comments: $31,174.90

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

MAY 0 6 2015

3:48 AM / PM

BY:

APPLICATION FOR RETAINAGE

To: Hidalgo County Drainage District No. 1 (OWNER)
From: RDH Site & Concrete, LLC (CONTRACTOR)
Contract: HCDD1-14-010-05-06
Project: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
OWNER's Contract No. HCDD1-14-010-05-06
For Work accomplished through the date of: April 22, 2015
ENGINEER's Project No.: ENG13.001

1.	Original Contract Price:		$ 307,273.00
2.	Net change by Change Orders and Written Agreements (+ or -):		$ 4,476.00
3.	Current Contract Price (1 plus 2):		$ 311,749.00
4.	Total completed and stored to date:		$ 311,749.00
5.	Retainage (per Agreement):		
	10% of completed Work:	$ -	
	10% of stored material:	$ -	
	Total Retainage:		$ -
6.	Total completed and stored to date less retainage (4 minus 5):		$ 311,749.00
7.	Less previous Application for Payments:		$ (280,574.10)
8.	Balance to Finish:		$ -
9.	AMOUNT DUE THIS APPLICATION (6 MINUS 7):		**$ 31,174.90**

Accompanying Documentation:

CONTRACTOR'S Certification:
The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered 1 through RETAINAGE inclusive; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Dated April 27, 2015

RDH Site & Concrete, LLC
CONTRACTOR

By:

State of Texas
County of Hidalgo
Subscribed and sworn to before me this 27
day of April, 2015

San Juanita García
Notary Public
My Commission expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated 5/5/15

R. GUTIERREZ ENGINEERING CORPORATION
ENGINEER

By: , P.E.

Schedule of Values

Contractor Name: RDH Site & Concrete, LLC
Starting Date: October 13, 2014
Project Ending Date: February 5, 2015
Project Desc: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
Retainage Percent: 10%

Application: RETAINAGE
Application Date: 4/27/2015
Period To: 4/22/2015
Engineer's Project No.: ENG13.001
Engineer Firm R. Gutierrez Eng. Corp.

Summary

Contract Number	Description	Original Schedule Value	C.O. #1 Schedule Value	C.O. #2 Schedule Value	C.O. #3 Schedule Value	Application #1	Retainage for App #1	Payment for Application #1	Application #2	Retainage for App #2	Payment for Application #2	Final Application	Retainage for Final App	Payment for Final Application	Total Completed to Date	Retainage to Date	Total Completed Less Retainage	Previous Payments	Balance To Finish
HCDD1-14-010-05-06	PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements	$ 307,273.00	$ 314,773.00	$ 314,773.00	$ 311,749.00	$ 232,051.00	$ 23,205.10	$ 208,845.90	$ 70,027.00	$ 7,002.70	$ 63,024.30	$ 9,671.00	$ 967.10	$ 8,703.90	$ 311,749.00	$ 31,174.90	$ 280,574.10	$ 280,574.10	$ -
	TOTALS:	**$ 307,273.00**	**$ 314,773.00**	**$ 314,773.00**	**$ 311,749.00**	**$ 232,051.00**	**$ 23,205.10**	**$ 208,845.90**	**$ 70,027.00**	**$ 7,002.70**	**$ 63,024.30**	**$ 9,671.00**	**$ 967.10**	**$ 8,703.90**	**$ 311,749.00**	**$ 31,174.90**	**$ 280,574.10**	**$ 280,574.10**	**$ -**

CERTIFICATE OF CONSTRUCTION COMPLETION

THIS IS TO CERTIFY THAT ON 3rd DAY OF March 2015, A FINAL INSPECTION was made of the project herein described:

CONTRACT

CONTRACT DATE: May 6, 2014
OWNER: Hidalgo County Drainage District No. 1
CONSTRUCTION CONTRACTOR: RDH Site & Concrete, LLC
OF THE CITY OF Pharr, STATE OF Texas

PROJECT DESCRIPTION

CONSTRUCTION OF: PCT2 Rural Drainage Development - Seminole Valley Subdivision Area Drainage Improvements

CONTRACT NO.: HCDD1-14-010-04-09

LOCATED IN OR NEAR THE CITY/PRECINCT OF: San Juan, Texas / Hidalgo County Precinct #2

THIS IS TO CERTIFY:

1. That the work has been completed in accordance with the plans and specifications and all addenda, change orders, supplemental agreements thereto, and with the following exceptions:
   None

2. That the sum of Zero and 00/100 Dollars – ($0.00) be deducted from the final payment of the Contractor is a fair and equitable settlement for the foregoing except work.

3. That the contractor has presented a "Certificate of Release" stating under oath, that all claims arising out of the performance of work have been fulfilled, and the OWNER is released from all claims arising under or by virtue of said contract.

4. That the CONTRACTOR has presented in behalf of itself and its sureties, satisfactory evidence that it is bound to repair, replace, and make good any faulty workmanship and/or materials discovered in the work within a period of one year from this date, as provided in said contract.

5.

AMOUNT OF ORIGINAL CONTRACT	$	307,273.00
PRESENT AMOUNT OF CONTRACT	$	311,749.00
TOTAL AMOUNT OF CONTRACT EARNED TO DATE	$	311,749.00
LESS: PREVIOUS PAYMENTS	$	280,574.10
BALANCE	$	31,174.90
AUTHORIZED DEDUCTIONS	$	0.00
AMOUNT OF FINAL PAYMENT	$	31,174.90

6. That the final payment in the amount of Thirty-One Thousand One Hundred Seventy-Four and 90/100 Dollars ($31,174.90) is now due and payable.

P.E.

Engineer's Signature
Ramiro Gutierrez, P.E.

CONCURRED BY:

RDH Site & Concrete, LLC

BY: Rogelio De Hoyos

TITLE: Owner

CONCURRED BY:

Hidalgo County Drainage District #1
Chairman of the Board

CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

PROJECT: Seminole Valley Drainage Improvements **PROJECT NO.** EN613.001
OWNER: Hidalgo County Drainage District No. 1
CONTRACTOR: RDH Site and Concrete, LLC
ENGINEER: R. Gutierrez

The Contractor, in accordance with the Contract Documents, and in consideration for the full and final payment to the Contractor for all services in connection with the project, does hereby waive and release any and all liens, or any and all claims to liens which the Contractor may have on or affecting the project as a result of its contract(s) for the Project or for performing labor and/or furnishing materials in any way connected with the construction of any aspect of the project. The Contractor further certifies and warrants that all subcontractors of labor and/or materials for the Project, except as listed below, have been paid in full for all labor and/or materials supplied to, for through or at the direct or indirect request of the Contractor prior to, through and including the date of this affidavit.

EXCEPTIONS: (If none, write "NONE". The Contractor shall furnish a bond acceptable to the Owner for each exception.)

NONE

CONTRACTOR

By

Title Owner

Subscribed and sworn to before me this 27 day of April, 2015

Notary Public: San Juanita Garcia

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

Form L

CONTRACTOR'S AFFIDAVIT OF PAYMENTS OF DEBTS AND CLAIMS

PROJECT: Seminole Valley Subdivision Drainage Impov. **PROJECT NO.** Eng13.001
OWNER: Hidalgo County Drainage District NO. 1
CONTRACTOR: RDH Site and Concrete, LLC
ENGINEER: R. Gutierrez

The Contactor in accordance with the Contract Documents, hereby certifies that, except as listed below, all obligations for all materials and equipment furnished, for all work labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or his property might in any way be held responsible have been paid in full or have otherwisse been satisfied in full.

EXCEPTIONS: (If none, write "NONE". The Contractor shall furnish a bond acceptable to the Owner for each exception.)

NONE

CONTRACTOR

By

Title Owner

Subscribed and sworn to before me this 27 day of April, 2015

Notary Public: SAN JUANITA GARCIA

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS

SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

CONSENT OF SURETY
TO FINAL PAYMENT

Conforms with the American Institute of Architects G707 form

OWNER ☐
ARCHITECT ☐
CONTRACTOR ☐
SURETY ☐
OTHER ☐

Bond No: PB11509800499

TO OWNER:
(Name and address)

Hidalgo County Drainage District #1
902 N. Doolittle Road
Edinburg, TX 78542

ARCHITECT'S PROJECT NO.: HCDD1-14-010-05-06

CONTRACT FOR: Drainage Improvements

CONTRACT DATED: 5/06/2014

PROJECT:
(Name and address)

PCT. 2 - Rural Drainage Development - Seminole Valley Subdivision Area Drainage Improvements

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

Philadelphia Indemnity Insurance Company
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004

, SURETY

on bond of
(Insert name and address of Contractor,

RDH SITE AND CONCRETE, LLC
1201 East Moore Road #89
Pharr, TX 78577

, CONTRACTOR

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

Hidalgo County Drainage District #1
902 N. Doolittle Road
Edinburg, TX 78542

, OWNER

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date: May 1, 2015
(Insert in writing the month followed by the numeric date and year.

Philadelphia Indemnity Insurance Company
(Surety)

Fred A. Thetford
(Signature of authorized representative,

Attest: Diane Brown
(Seal):

Fred A. Thetford, Jr., Attorney-in-fact
(Printed name and title)

PHILADELPHIA INDEMNITY INSURANCE COMPANY
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004
Power of Attorney

Bond No: PB11509800499

KNOW ALL PERSONS BY THESE PRESENTS: that **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint: **Jared Young, Fred A. Thetford, Jr., Tobin Tucker, Tom Young and Fred A. Thetford, III of Contract Bond Agency, LLC.**

Its true and lawful Attorney(s) in fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$25,000,000**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY at a meeting duly called the 1st day of July, 2011.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company to: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto; and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and biding upon the Company in the future with the respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 7TH DAY OF FEBRUARY 2013.

(Seal)

Robert D. O'Leary Jr., President & CEO
Philadelphia Indemnity Insurance Company

On this 7th day of February 2013, before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
DANIELLE PORATH, Notary Public
Lower Merion Twp., Montgomery County
My Commission Expires March 22, 2016

Notary Public: _____

residing at: Bala Cynwyd, PA

(Notary Seal)

My commission expires: March 22, 2016

I, Craig P. Keller, Executive Vice President, Chief Financial Officer and Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do herby certify that the foregoing resolution of the Board of Directors and this Power of Attorney issued pursuant thereto are true and correct and are still in full force and effect. I do further certify that Robert D. O'Leary Jr., who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY,

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 1st day of May, 2015.

Craig P. Keller, Executive Vice President, Chief Financial Officer & Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

R. Gutierrez Engineering Corporation — Transmittal Form

TO: Claudette Guerrero

Hidalgo County Drainage District 1

FROM: Javier Gutierrez

SUBJECT: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

PROJECT NO.: ENG13.001

DATE: February 11, 2015

WE ARE SENDING YOU ___ ATTACHED ___ UNDER SEPARATE COVER VIA Hand Delivery THE FOLLOWING ITEMS:

___ BLUEPRINTS	___ PLANS	___ SHOP DRAWINGS	___ CD
___ CHANGE ORDER	___ SAMPLES	x PAYMENT REQUEST	x OTHER:Certificate of Substantial Completion
___ BID TABULATION	___ CONTRACT DOCUMENTS	___ RECORD DRAWINGS	___ 3 1/2" DISKETTE

QUANTITY / SETS	DATED	ITEM DESCRIPTION
1		Payment Request #2
1		Certificate of Substantial Completion with Punch List Letter

THESE ARE TRANSMITTED AS CHECKED BELOW:

___ FOR BIDS DUE	___ APPROVED AS NOTED	___ FOR YOUR RECORDS
___ FOR APPROVAL	___ APPROVED AS SUBMITTED	___ FOR YOUR ACKNOWLEDGEMENT
___ FOR YOUR USE	___ RETURN FOR CORRECTIONS	___ RESUBMIT FOR APPORVAL
___ AS REQUESTED	___ FOR FURTHER PROCESSING	___ ON LOAN
___ FOR REVIEW AND COMMENT	___ FOR SIGNATURE	___ OTHER

COMMENTS:

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
FEB 12 2015
AM / PM

Copy Distribution: file

Received by: BY: Rosa Arce

130 East Park Avenue - Pharr, Texas 78577 - Phone: (956) 782-2557 - Fax: (956) 782-2558 - Email: office@rgec.net

R. Gutierrez Engineering Corporation
Engineering Firm Number: F-486
Surveying Firm Number: 101650-00

Certificate of Substantial Completion

PROJECT:	**PCT2 RURAL DRAINAGE DEVELOPMENT – SEMINOLE VALLEY SUBD AREA DRAINAGE IMPROVEMENTS**
PROJECT NUMBER:	**ENG13.001**
OWNER:	**HIDALGO COUNTY DRAINAGE DISTRICT NO. 1**
CONTRACTOR:	**RDH SITE & CONCRETE, LLC**

The Work performed under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below: Construction time is stopped at the day of Issuance.

Ramiro Gutierrez, P.E. — Engineer

By: Ramiro Gutierrez, P.E.

2/3/2015 — Date of Issuance

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

The Contractor will complete or correct the Work on the list of items attached hereto and complete the work by February 20, 2015.

RDH Site & Concrete, LLC — Contractor

By:

2/10/2015 — Date

The Owner accepts the Work or designated portion as substantially complete and will assume full possession thereof, in accordance with the contract documents.

Hidalgo County Drainage District No. 1 — Owner

By: _____

Date _____

130 East Park Avenue – Pharr, Texas 78577 – Phone: 956-782-2557 – Fax: 956-782-2558 – E-mail: rgutierrez@rgec.net

R. Gutierrez Engineering Corporation
Texas Engineering Firm Number: F-486
Texas Surveying Firm Number: 101650-00

February 5, 2015

Ms. Dianaly De Hoyos
RDH Site & Concrete, LLC
1201 E. Moore Road #89
Pharr, Texas 78577

Subject: Punch List – PCT2 Rural Drainage Development – Seminole Valley Subd Area Drainage Improvements Project (Contract No.:HCDD1-14-010-05-06)

Dear Ms. De Hoyos:

A walk through inspection of the above mentioned project was conducted by our office's construction inspector, Mr. Juan Uribe, on February 3, 2015 for the purpose of formulating a punch list of pending items required for construction completion and acceptance by Hidalgo County Drainage District No. 1.

The pending items are as follows:

1. Grates, rings, and covers on J-Box and Type-M Manhole need to be installed and adjusted.
2. Need to backfill around J-Box and Type-M Manhole
3. Need to grout around pipe on inside of J-Box and Type-M Manhole
4. Need to do cleanup around J-Box and Type-M Manhole
5. Need to finish install of wood and chain link fence
6. Need to finish removing excess dirt, do seeding and dress up project area
7. Need to grade on east side of project where it meets with a private farm
8. Need to remove excess dirt that is in drain ditch outfall
9. Need to finish installing silt fence
10. Address issues with property owner with regards to concrete driveway

Should you have any questions, please feel free to contact me at (956)782-2557 or rgutierrez@rgec.net.

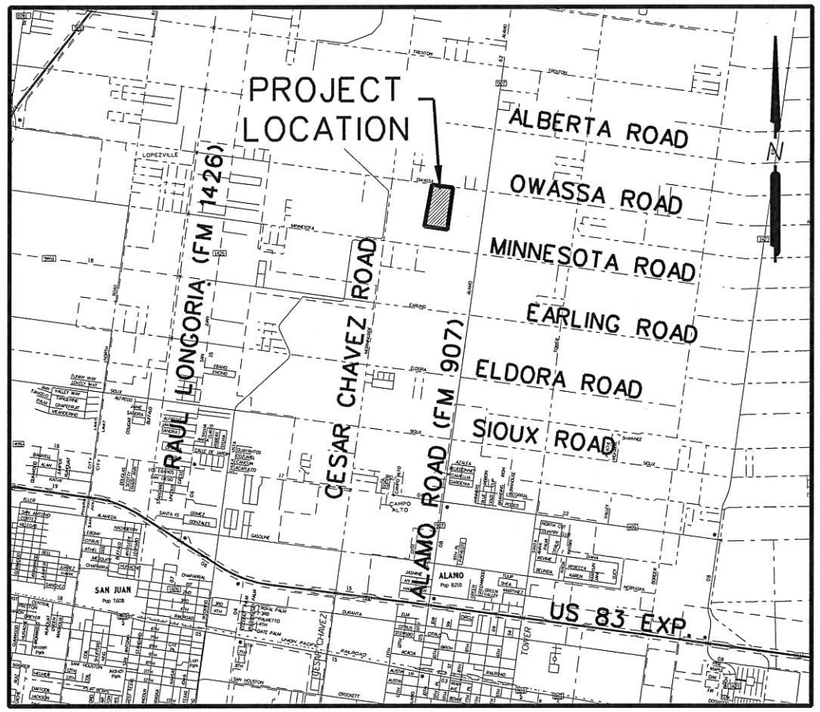
Sincerely,

Ramiro Gutierrez, P.E.
President

Cc. Godfrey Garza, Hidalgo County Drainage District No.1
Eddie Cantu, Commissioner Hidalgo County Precinct No.2

PCT. 2 RURAL DRAINAGE DEVELOPMENT
SEMINOLE VALLEY-SUBDIVISION AREA
DRAINAGE IMPROVEMENTS
2014
RECORD DRAWINGS

CONSTRUCTION OF NEW DRAINAGE SYSTEM:
CONSISTING OF STORM SEWER CONCRETE BOX CULVERT,
MANHOLES, INLETS, CONCRETE RIPRAP INSTALLATION.



INDEX OF SHEETS

GENERAL

1	COVER SHEET
2	GENERAL NOTES

SEMINOLE VALLEY

3	PROJECT LAYOUT
4	ESTIMATE & QUANTITIES
5	DRAINAGE AREA MAP
6	HYDRAULIC DATA
7-9	PLAN & PROFILE

STANDARDS

10	CEMENT STABLIZED BACKFILL DETAILS
11	TYPE "M" MANHOLE W/GRATE
12	JUNCTION BOX DETAIL
13	JUNCTION BOX W/GRATE DETAIL
14-20	BC (1),(4)-(5),(7)-(10)- 07
21	SPC -6 (SINGLE BOX CULVERTS PRECAST)
22	EC (1) - 09
23	EC (3) - 09
24	CRR-STD

HIDALGO COUNTY OFFICIALS

COUNTY JUDGE	RAMON GARCIA
COMMISSIONER PRECINCT NO. 1	A.C. CUELLAR, JR.
COMMISSIONER PRECINCT NO. 2	HECTOR "TITO" PALACIOS
COMMISSIONER PRECINCT NO. 3	JOE M. FLORES
COMMISSIONER PRECINCT NO. 4	JOSEPH PALACIOS

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108728

DATE: 03-17-15

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R. Gutierrez Engineering Corporation
Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REQUEST A "UTILITY LOCATE" PRIOR TO PREFORMING ANY EXCAVATION ON THE PROJECT.

2. INSTALLATION OF CONNECTION STRUCTURES TO BE COORDINATED WITH HIDALGO COUNTY DRAINAGE DISTRICT No. 1, AND HIDALGO COUNTY IRRIGATION DISTRICT No. 2

3. ALL UNSUITABLE EXCAVATED MATERIAL TO BE DISPOSED OF AS REQUIRED BY PROJECT ENGINEER.

4. CONTRACTOR TO MAINTAIN ALL EQUIPMENT AND TRANSPORTATION OF SAID EQUIPMENT WITHIN THE EXISTING RIGHT-OF-WAYS OR EASEMENTS OF HIDALGO COUNTY OR H.C.D.D. #1.

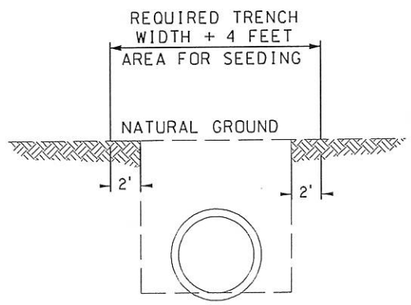
5. LOCATIONS OF UNDERGROUND FACILITIES ARE FROM BEST INFORMATION AVAILABLE. NEITHER THE OWNER OR ENGINEER WARRANT THE ACCURACY OF THE INFORMATION PROVIDED. ANY DEVIATIONS SHALL BE CALLED TO THE ENGINEER'S ATTENTION IMMEDIATELY.

6. THE CONTRACTOR SHALL PROVIDE AND INSTALL APPROPRIATE TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE TMUTCD, LATEST EDITION, AND AS APPROVED BY THE ENGINEER DURING CONSTRUCTION.

7. TRUCKS SHALL BE LOADED IN A MANNER SO AS TO AVOID LOSS OF LOADED MATERIAL OR ANY PORTION THEREOF DURING TRANSPORT. IN ACCORDANCE WITH STATE LAW, ALL TRUCKS SHALL UTILIZE TARPS OVER LOADED MATERIAL.

8. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY SURFACE IRREGULARITIES, AS DIRECTED BY THE ENGINEER, CAUSED BY THE CONTRACTOR'S LOADING OR HAULING OPERATIONS.

9. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES DURING THE INSTALLATION OF THE STRUCTURES AND DRAINAGE IMPROVEMENTS.



SEEDING DETAIL

10. ANY DAMAGES TO FENCES, WALKS, OR PRIVATE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

11. THE PREPARATION OF THESE PLANS REFLECTS INFORMATION, PROVIDED BY OTHERS, ON THE APPROXIMATE LOCATION AND EXISTENCE OF EXISTING UTILITIES AND ADJACENT PHYSICAL FEATURES. HOWEVER, THEY DO NOT IMPLY OR AFFIRM THAT ALL UTILITIES OR PHYSICAL FEATURES ARE SHOWN. GENERALLY SERVICE CONNECTIONS ARE NOT INDICATED ON THESE PLANS.CONTRACTOR SHALL DETERMINETHE EXACT HORIZONTAL AND VERTICAL LOCATIONS IN THE FIELD PRIOR TO COMMENCING WORK. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF THE OWNER IMMEDIATELY UPON ENCOUNTERING UNFORESEEN CONFLICTS. CONTRACTOR TO BE FULLY RESPONSIBLE FOR DAMAGES WHICH MIGHT OCCUR BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE EXISTING UTILITIES.

12. CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY TO RELOCATE OR DIVERT ANY UTILITY IN CONFLICT WITH PROPOSED CONSTRUCTION SO AS NOT TO DISRUPT SERVICE OF IT. CONTRACTOR SHALL RESTORE, RELOCATED, OR DIVERTED UTILITY TO ITS ORIGINAL CONDITION AND LOCATION WHEN APPLICABLE UPON COMPLETION OF CONSTRUCTION.

13. CONTRACTOR TO PROVIDE PUMPING CAPABILITIES AT OUTFALL AND OTHER POINTS ALONG PROJECT DURING CONSTRUCTION OF PROJECT AT ALL TIMES.

14. CONTRACTOR TO TAKE PRECAUTIONARY MEASURES WHEN WORKING IN VICINITY OF OVERHEAD ELECTRICAL TRANSMISSION LINE.

15. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER AND SEWER SERVICE TO ALL PROPERTIES DURING CONSTRUCTION.

16. CONTRACTOR SHALL CLEAN UP AND RESTORE TO ORIGINAL CONDITIONS OR BETTER.

17. CONTRACTOR TO COMPLY WITH T.P.D.E.S.

18. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARD OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS OUTLINED BY OSHA.

19. EXISTING PAVING, SIDEWALKS, DRIVEWAY, FENCING, ETC DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL OR BETTER CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.

20. CONTRACTOR TO COORDINATE INSTALLATION OF PROPOSED 6' x 2' CONCRETE BOX CULVERT AND REPLACEMENT OF EXISTING 36" RCLHPP IRRIGATION LINE WITH HIDALGO COUNTY IRRIGATION DISTRICT NO. 2. THIS WORK IS TO BE DONE AFTER MIDDLE OF THE OF JUNE. PLEASE CONTACT MR. BERT WESSLING AT (956)787-1422 FOR ADDITIONAL INFORMATION.

Professional Engineers & Land Surveyors
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(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No.: 486
R. Gutierrez Engineering Corporation

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

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DATE: 03/20/2014

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HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
GENERAL NOTES

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
2

F:\2013\ENG\001-LJ DRAIANGE\NORTH SECTION\PLANS\TYPICAL SECTION.DGN

CESAR CHAVEZ ROAD

RINCON DEL VALLE
NO. 5
VOL. 32.PG. 135
M.R.H.C.

BOCA RIO DR.

SEMINOLE VALLEY DR.

SEMINOLE VALLEY #4
SUBDIVISION
VOL. 48, PG. 146,
M.R.H.C.

OWASSA ROAD

LJ DRAIN DITCH

N

SCALE: 1"=300'

BEGIN PROJECT
STA. 10+42.00

SEMINOLE VALLEY DR.

PROP. 10'x5'
JUNCTION BOX

PROP. 16' x5'
JUNCTION BOX

PROP. TY "M"
MANHOLE W/GRATE

PROP. 10'x5'
JUNCTION BOX
W/ GRATE

PROP. CONC.
RIPRAP

PROP. 60" RCP
CL III (SPL)

PROP. 60" RCP
CL III (SPL)

END PROJECT
STA. 24+59.00

PROP. 2-6' x 2' CONC.
BOX CULVERT

BM #2
N=16612906.07
E=1108746.6097
EL=98.06

PROP. 2-42" RCP
CL III (SPL)

BM #1
N=16613324.7680
E=1109258.1734
EL=98.78

F:\2013\ENG\001-LJ DRAIANGE\NORTH SECTION\PLANS\PROJECT LAYOUT SEMINOLE.dgn

Professional Engineers & Land Surveyors
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FIRM No.: 486
R. Gutierrez Engineering Corporation

STATE OF TEXAS
HERNAN A. LUGO
108729
LICENSED
PROFESSIONAL ENGINEER

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DATE: 03/29/2014
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HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
PROJECT LAYOUT

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
3

SUMMARY OF DRAINAGE ITEMS (SEMINOLE VALLEY SUBDIVISION AREA)

SHEET NO./ STATION	ITEM 164 CELL FIB. SEED (PERM)(RURAL) (CLAY) (SY)	ITEM 166 FERTILIZER (TON) ⊗ ⊕	ITEM 168 VEGETATED WATERING (MG) +	ITEM 400 CEMENT STABLIZED BACKFILL (CY)	ITEM 400 STRUCT. EXCAV. (CY) ⊗	ITEM 400 GRAVEL BEDDING (12") ⊗ (CY)	ITEM 402 TRENCH EXCAVATION PROTECTION (CY)	ITEM 432 RIPRAP (CONC.)(5 IN) (CY)	ITEM 462 CONC. BOX CULV. (6'x2') (LF)	ITEM 464- RCP (SPL) SEWER (CL III) (RUBBER GASKET)		ITEM 465 MANHOLE TY "M" W/GRATE TOP (EA)	ITEM 465 MANHOLE (10'x5' JCT. BOX W/GRATE TOP) (EA)	ITEM 465 JUNCTION BOX (16'x5') (EA)	ITEM 465 JUNCTION BOX (10x5') (EA)	ITEM 0506 CONST. EXITS TY (II) (SY)	ITEM 0506 CONST. EXITS TY (II) (REMOVE) (SY)	ITEM 0506 TEMP. SEDIMENT CONTROL FENCE * (LF)	ITEM 4035 RC LOW HEAD PRSSR PIPE (CL III) (36") (LF)
										42" (LF)	60" (LF)								
	EST.	EST.	EST.	EST.	EST.		EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.
THRU-OUT PROJECT																252	252		
7	695	0.01	8	175	1550	65.5	457	27	188	-	360	-	-	1	-			24	40
8	934	0.01	11	225	1800	-	600	-	-	-	600	1	-	-	-			24	-
9	485	0.01	6	115	950	-	304	-	-	64	272	-	1	-	1			72	-
TOTAL	2,114	0.03	25	515	4300	65.5	1361	27	188	64	1,232	1	1	1	1	252	252	120	40

⊗ FOR CONTRACTORS INFORMATION ONLY (NON-PAY)

⊕ THE TONNAGE OF FERTILIZER IS BASED ON A RATE THAT WILL PROVIDE 100 LBS. OF NITROGEN PER ACRE AS IS BASED ON FERTILIZER CONTENT (N-P-K) OF 10-5-5.

\+ VEGETATED WATERING IS BASED ON A RATE OF 6788 GAL/AC/CYCLE FOR 8 CYCLES (1.4 GAL/SY PER CYCLE.)

* TEMP. SEDIMENT CONTROL FENCE: QUANTITY BASED ON 24 LF PER INLET.

Professional Engineers & Land Surveyors
130 E. PARK AVENUE ▪ PHARR, TEXAS 78577
(TEL) 956 782-2557 ▪ (FAX) 956 782-2558
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R. Gutierrez Engineering Corporation

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

ORIGINAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108728
DATE 03/20/2014
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HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
ESTIMATE & QUANTITIES

REVISION	DATE	BY

SCALE:
DATE:
FB No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
4

CESAR CHAVEZ ROAD

SCALE: 1"=300'

N

ST. PAUL AVE.

VIKING AVE.

MINNESOTA MEADOWS VOL. 30, PG. 85, M.R.H.C.

RINCON DEL VALLE NO. 5 VOL. 32, PG. 135, M.R.H.C.

BOCA RIO DR.

MINNESOTA MEADOWS UNIT NO. 2 VOL. 30, PG. 137, M.R.H.C.

MINNESOTA ROAD

LJ DRAIN DITCH

SEMINOLE VALLEY DR.

SEMINOLE VALLEY #4 VOL. SUBDIVISION 48, PG. 146, M.R.H.C.

OWASSA ROAD

BEGIN PROJECT STA. 10+42.00

SEMINOLE VALLEY DR.

PROP. 2-6'x2' CONC. BOX CULVERT

MD-1

MD-2

MD-3

PROP. 2-42'' RCP CL III (SPL)

OUT-D

D-1

D-1

PROP. 60'' RCP CL III (SPL)

END PROJECT STA. 24+59.00

DA-A2

FUTURE DRAINAGE AREA

ALAMO ROAD (FM 907)

LEGEND

DA-A3	DRAINAGE AREA I.D.
~~	DRAINAGE FLOW ARROWS
[ ]	DRAINAGE AREA BOUNDARIES
═══	PROPOSED STORM SEWER
MA-2	PROPOSED STORM SEWER STR. I.D.

5

F:\2013\ENG\001-LJ DRAINAGE\NORTH SECTION\PLANS\DAM SEMINOLE.dgn

Professional Engineers & Land Surveyors
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130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2551 • (FAX) 956 782-2558
FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
108729
LICENSED PROFESSIONAL ENGINEER

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DATE: 03/20/2014

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HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
DRAINAGE AREA MAP

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
5

OUTPUT FOR DESIGN FREQUENCY of: 10 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
D-1	0.2	10.60	130.10	130.10	1.87	0.000	3.962
	0.2	10.60	UNDEVELOPED				

On Grade Inlet Configuration Data

Inlet ID	Inlet Type	Inlet Length (ft)	Slopes Long (%)	Slopes Trans (%)	Gutter n	Gutter Depr. (ft)	Grate Width (ft)	Grate Type	Pond Width Allowed (ft)	Critic Elev. (ft)
D-1	Grate	3.00	0.50	2.00	0.014	n/a	3.00	Parall	12.00	95.50

On Grade Inlets Conmputation Data.

Inlet ID	Inlet Type	Total Q (cfs)	Intercept Capacity (cfs)	Q Bypass Allow (cfs)	Q Bypass Actual (cfs)	To Inlet ID	Required Length (ft)	Actual Length (ft)	Ponded Width (ft)
D-1	Grate	3.962	2.518	0.000	1.444		n/a	0.00	13.10

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
MD-2	BoxMh	0.200	10.60	130.10	1.87	0.000	84.20	88.162
MD-1	JnctBx	0.200	10.60	130.10	1.87	0.000	84.20	88.162
MD-3	JnctBx	0.200	10.60	130.10	1.87	0.000	84.20	88.162
D-1	Grate	0.200	10.60	130.10	1.87	0.000	84.20	88.162
OUT-D	Outlt	0.200	10.60	130.10	1.87	0.000	84.20	88.162

Conveyance Configuration Data

Run#	Node I.D. US	Node I.D. DS	Flowline Elev. US (ft)	Flowline Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
10	D-1	MD-3	90.38	90.33	Circ 2	0.00	3.50	32.00	0.16	0.013
20	MD-3	MD-2	90.33	89.34	Circ 1	0.00	5.00	658.00	0.15	0.013
30	MD-2	MD-1	88.79	87.92	Circ 1	0.00	5.00	574.00	0.15	0.013
40	MD-1	OUT-D	87.92	87.83	Box 2	6.00	2.00	94.00	0.10	0.013

Conveyance Hydraulic Computations. Tailwater = 96.000 (ft)

Run#	Hydraulic Gradeline US Elev (ft)	Hydraulic Gradeline DS Elev (ft)	Fr.Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
10	97.61	97.55	0.192	3.28	3.50	4.70	4.58	88.16	79.55	0.000
20	97.55	96.80	0.115	3.59	5.00	5.84	4.49	88.16	101.04	0.000
30	96.80	96.14	0.115	3.59	5.00	5.84	4.49	88.16	101.41	0.000
40	96.14	96.00	0.152	1.88	2.00	3.92	3.67	88.16	70.07	0.000

NOTES:
1.- CALCULATIONS COMPILED BY TXDOT WINSTORM V3.05
2.- STORM SEWER CALCULATIONS BASED ON MANNINGS FORMULAS
3.- JUNCTION LOSS WAS NOT TAKEN INTO ACCOUNT
4.- Q_{10} ADDED TO NODES IS BASED ON RUNOFF COLLECTED BY FUTURE STORM SEWER FROM DESIGNATED AREAS
5.- LJ DRAIN DITCH TAILWATER = 96.00 WAS ASSUMED FOR THIS DESIGN

F:\2013\ENG\001-LJ DRAIANGE\NORTH SECTION\PLANS\HYDATA SEMINOLE.dgn

R. Gutierrez Engineering Corporation
Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
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FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
108726
LICENSED
PROFESSIONAL ENGINEER

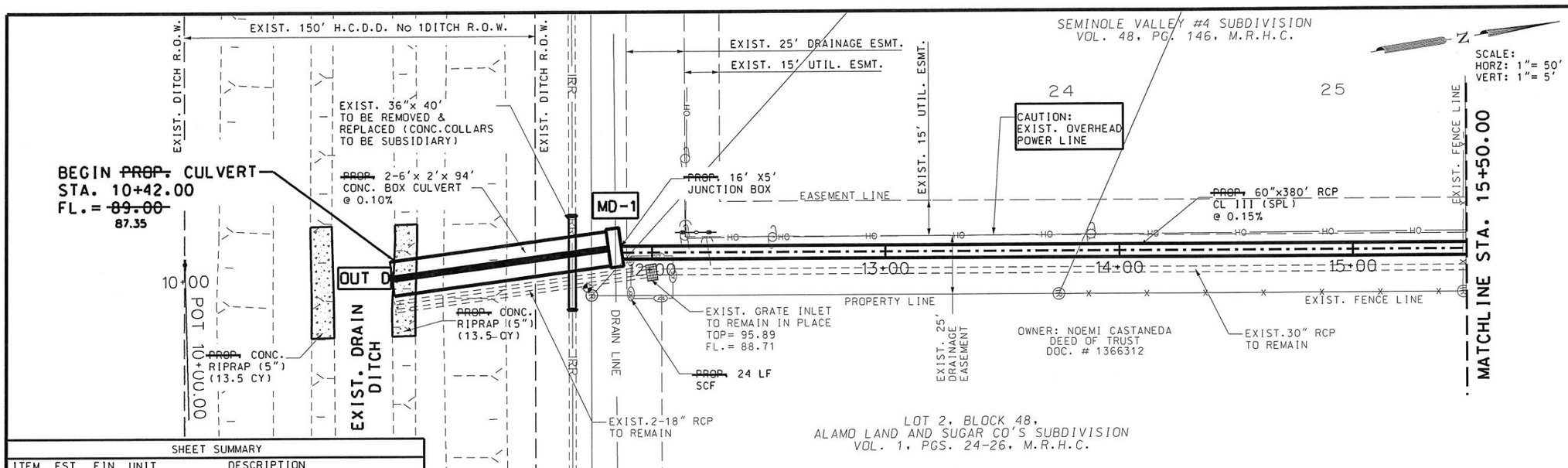
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DATE 03/20/2014
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HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
HYDRAULIC DATA SHEET

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

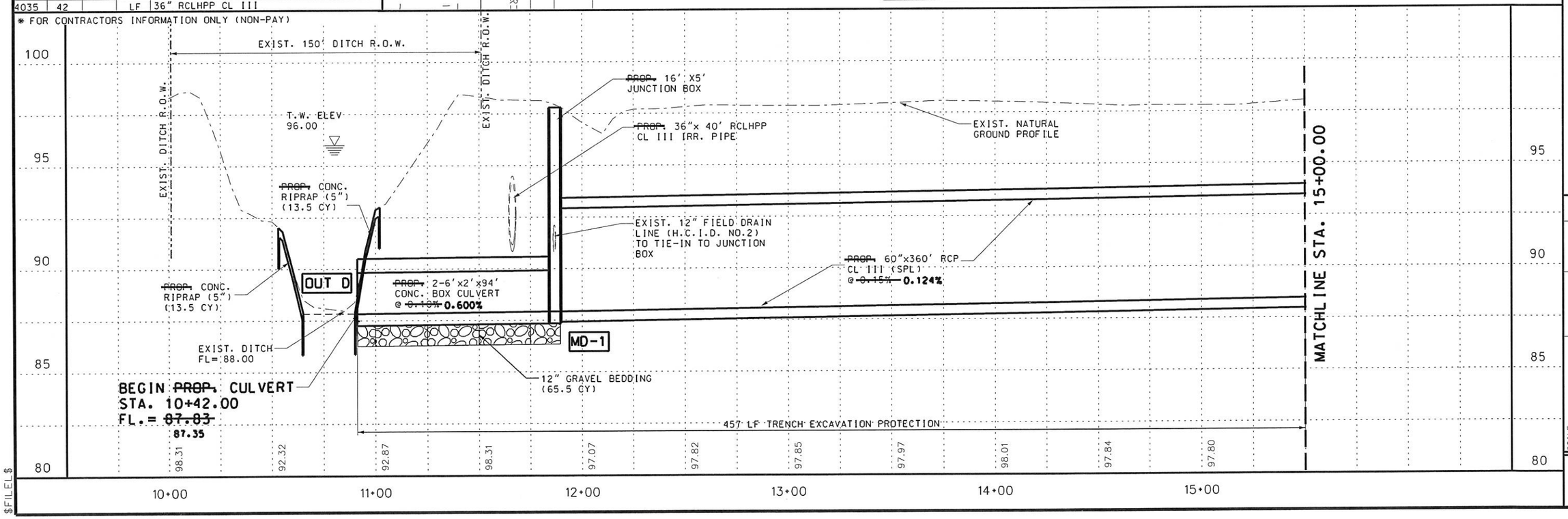
SHEET
6



SHEET SUMMARY				
ITEM	EST	FIN	UNIT	DESCRIPTION
164	695		SY	CELL FIB. SEED (PERM)(COOL)(CLAY)
166	0.01		TON	FERTILIZER
168	8		MG	VEGETATED WATERING
400	175		CY	CEMENT STABLIZED BACKFILL
400	1550		CY	STRUCTURE EXCAVATION*
400	65.5		CY	12" GRAVEL BEDDING *
402	457		LF	TRENCH EXCAVATION PROTECTION
432	27		CY	RIPRAP (CONC.)(5IN)
462	188		LF	CONC. BOX CULV (6'x2')
464	360		EA	RCP SEWER (CL III)(60")(SPL)
465	1		EA	16'x5' JUNCTION BOX
506	24		LF	TEMP SEDIMENT CONTROL FENCE
4035	42		LF	36" RCLHPP CL III

STR. I.D.	DESCRIPTION	STA./OFFSET	TOP OF STR. ELEV.	~~PROP.~~ FL. OF STR.	~~PROP.~~ FL. OF PIPE (NORTH)	~~PROP.~~ FL. OF PIPE (SOUTH)	~~PROP.~~ FL. OF PIPE (EAST)	~~PROP.~~ FL. OF PIPE (WEST)
MD-1	~~PROP.~~ 16'x5' JUNCTION BOX	STA. 11+81.00	~~98.00~~ 97.25	~~87.92~~ 88.26	~~87.92~~ 88.26	~~87.92~~ 88.26	-	-
OUT D	~~PROP.~~ OUTFALL	STA. 10+90.00	-	~~87.83~~ 87.35	~~87.83~~ 87.35	-	-	-

* FOR CONTRACTORS INFORMATION ONLY (NON-PAY)



Professional Engineers & Land Surveyors
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FIRM No. : 486
R. Gutierrez Engineering Corporation

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DATE 03-16-15
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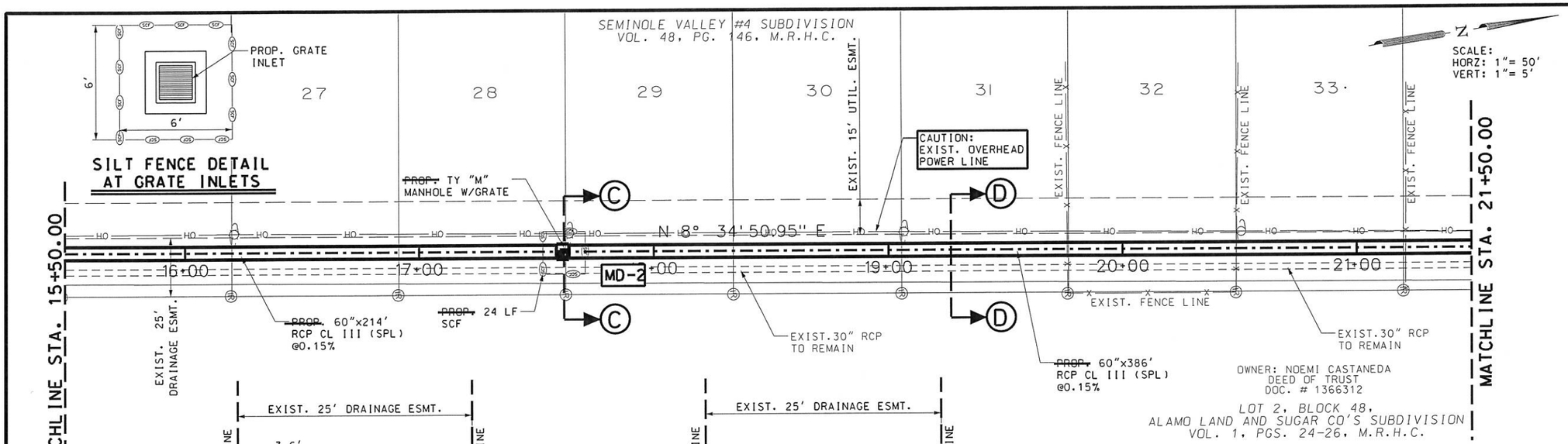
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
RECORD DRAWINGS

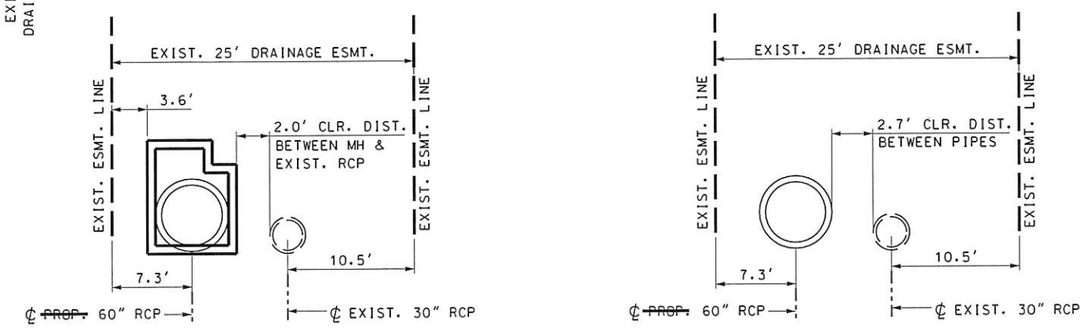
REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET 7

$FILE$



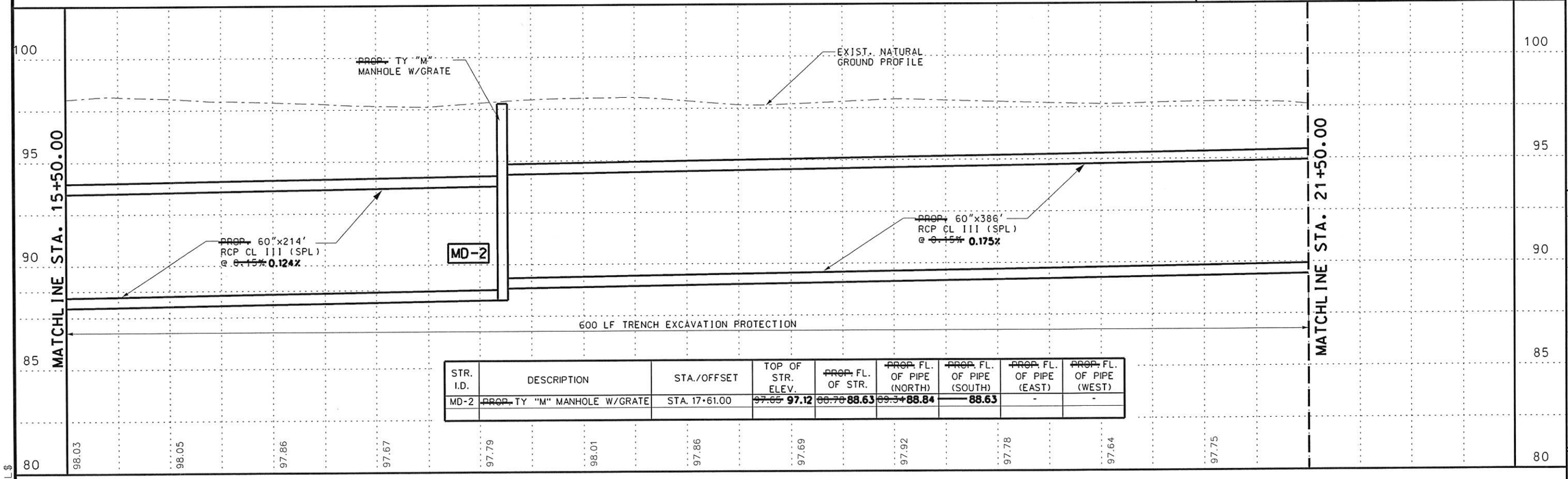


SECTION C-C

SECTION D-D

* FOR CONTRACTORS INFORMATION ONLY (NON-PAY)

SHEET SUMMARY				
ITEM	EST	FIN	UNIT	DESCRIPTION
164	934		SY	CELL FIB. SEED (PERM)(COOL)(CLAY)
166	0.01		TON	FERTILIZER
168	11		MG	VEGETATED WATERING
400	225		CY	CEMENT STABLIZED BACKFILL
400	1800		CY	STRUCTURE EXCAVATION*
402	600		LF	TRENCH EXCAVATION PROTECTION
464	600		EA	RCP SEWER (CL III)(60")(SPL)
465	1		EA	MANHOLE TY "M" W/GRATE
506	24		LF	TEMP SEDIMENT CONTROL FENCE



STR. I.D.	DESCRIPTION	STA./OFFSET	TOP OF STR. ELEV.	PROP. FL. OF STR.	PROP. FL. OF PIPE (NORTH)	PROP. FL. OF PIPE (SOUTH)	PROP. FL. OF PIPE (EAST)	PROP. FL. OF PIPE (WEST)
MD-2	PROP. TY "M" MANHOLE W/GRATE	STA. 17+61.00	~~97.65~~ 97.12	~~88.78~~ 88.63	~~89.34~~ 88.84	88.63	-	-

R. Gutierrez Engineering Corporation
Professional Engineers & Land Surveyors
130 E. PARK AVENUE ■ PHARR, TEXAS 78577
(TEL) 956 782-2557 ■ (FAX) 956 782-2558
FIRM No.: 486

STATE OF TEXAS · HERNAN A. LUGO · 108728 · LICENSED PROFESSIONAL ENGINEER

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DATE: 03-16-15

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DIST. # 1

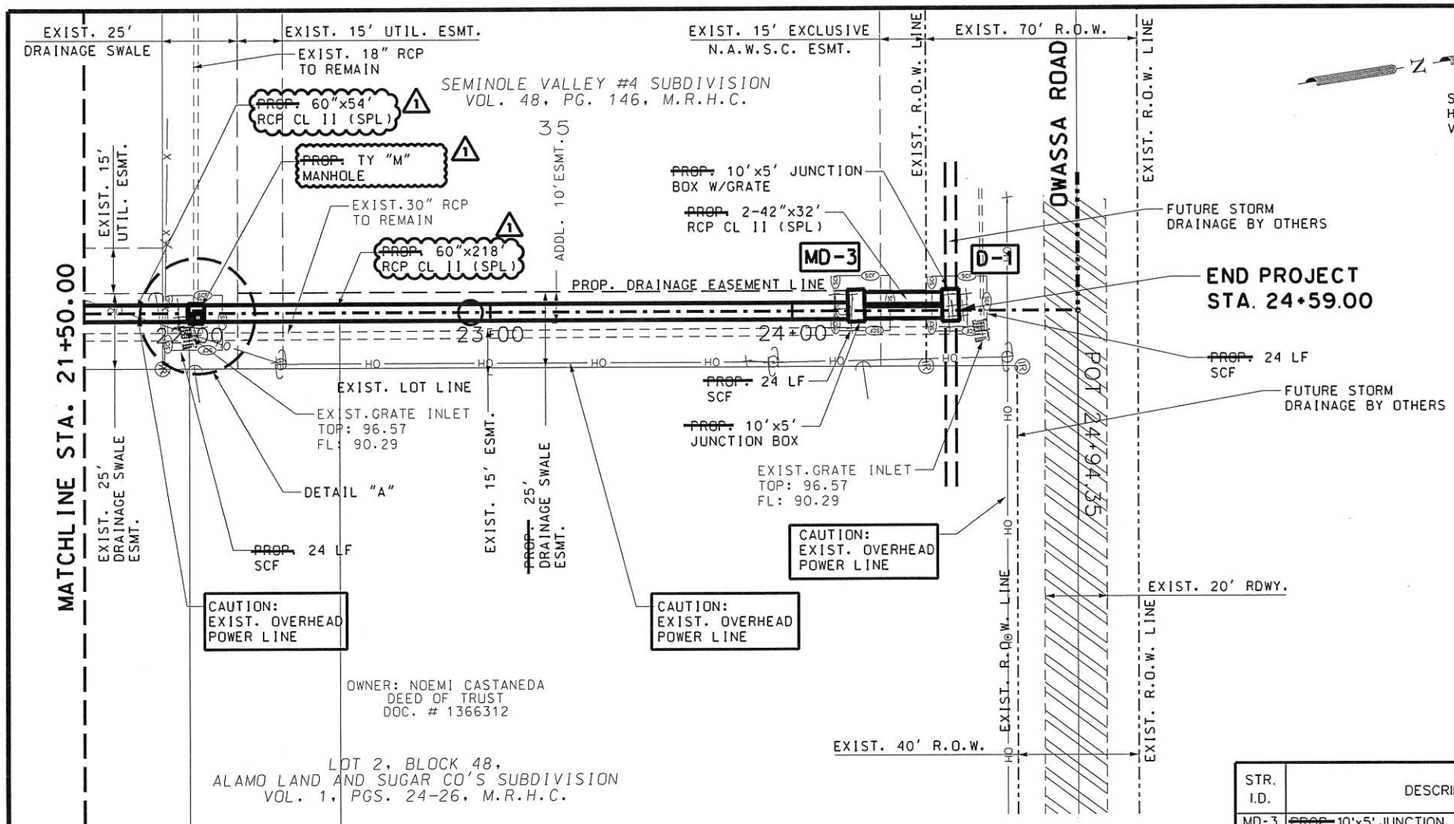
HIDALGO COUNTY DRAINAGE DIST. #1
SEMINOLE VALLEY SUBDIVISON AREA
RECORD DRAWINGS

REVISION	DATE	BY

SCALE:
DATE:
F.B. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET 8

$FILE$



SCALE:
HORZ: 1"= 50'
VERT: 1"= 5'

LEGEND

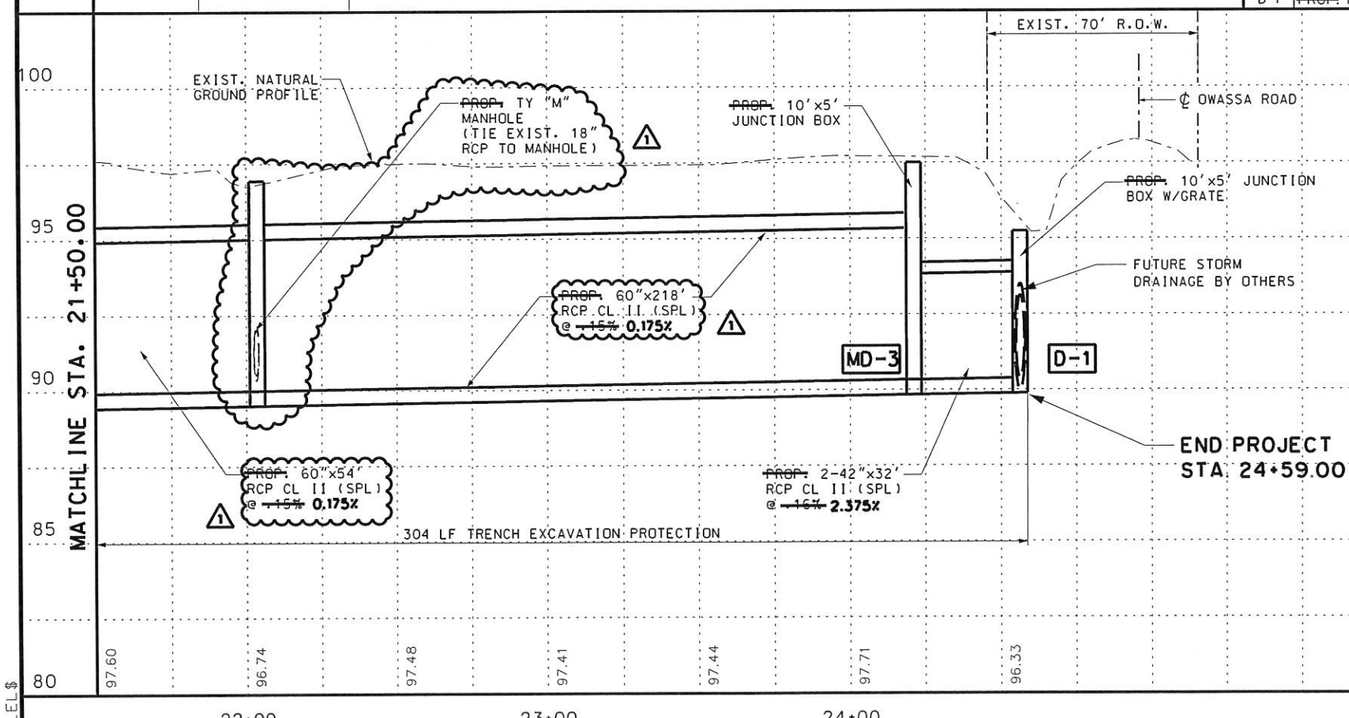
- MAIL BOX
- EXIST. 18' PIPE
- EXIST. FENCE
- EXIST. WATER LINE
- EXIST. TELEPHONE LINE
- EXIST. POWER LINE
- EXIST. SAN. SEWER LINE
- EXIST. IRRIGATION LINE
- GRATED INLET
- WATER METER
- TELEPHONE BOX
- GAS METER
- SANITARY SEWER MANHOLE
- CLEAN OUT
- SIGN
- FIRE HYDRANT
- DOWN GUY
- TEL MARKER
- TREE-2
- BENCH MARK
- IRON ROD
- POWER POLE
- CHANGE ORDER #1
- REVISION CLOUD

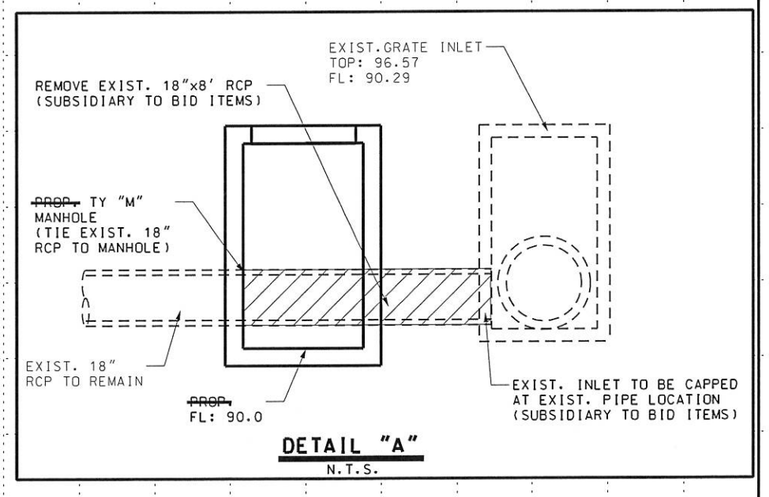
SHEET SUMMARY

ITEM	EST	FIN	UNIT	DESCRIPTION
164	485		SY	CELL FIB. SEED (PERM)(COOL)(CLAY)
166	0.01		TON	FERTILIZER
168	6		MG	VEGETATED WATERING
400	115		CY	CEMENT STABLIZED BACKFILL
400	950		CY	STRUCTURE EXCAVATION*
402	304		LF	TRENCH EXCAVATION PROTECTION
464	64		EA	RCP SEWER (CL III)(42")(SPL)
464	272		EA	RCP SEWER (CL III)(60")(SPL)
465	1		EA	TY "M" MANHOLE (1)
465	1		EA	10'x5' JUNCTION BOX
465	1		EA	10'x5' JUNCTION BOX W/GRATE TOP
506	72		LF	TEMP. SEDIMENT CONTROL FENCE

* FOR CONTRACTORS INFORMATION ONLY (NON-PAY)

STR. I.D.	DESCRIPTION	STA./OFFSET	TOP OF STR. ELEV.	~~PROP.~~ FL. OF STR.	~~PROP.~~ FL. OF PIPE (NORTH)	~~PROP.~~ FL. OF PIPE (SOUTH)	~~PROP.~~ FL. OF PIPE (EAST)	~~PROP.~~ FL. OF PIPE (WEST)
MD-3	~~PROP.~~ 10'x5' JUNCTION BOX	STA. 24+21.00	~~97.60~~ **97.95**	~~90.33~~ **89.99**	~~90.33~~ **89.99**	~~90.33~~ **89.99**	-	-
D-1	~~PROP.~~ 10'x5' JUNCTION BOX W/GRATE TOP	STA. 24+56.00	~~95.50~~ **96.16**	~~90.30~~ **90.75**	-	~~90.30~~ **90.75**	-	-





DETAIL "A"
N.T.S.

Professional Engineers & Land Surveyors
R. Gutierrez Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED PROFESSIONAL ENGINEER

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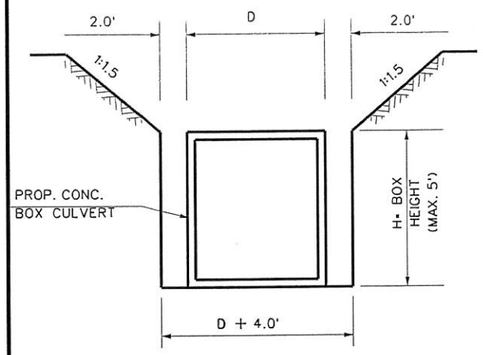
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
RECORD DRAWINGS

REVISION	DATE	BY

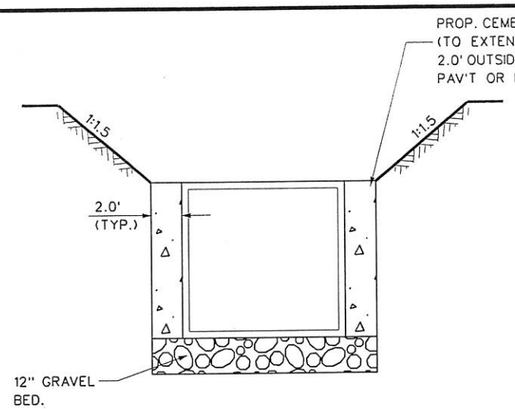
SCALE:
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SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
9

$FILE$



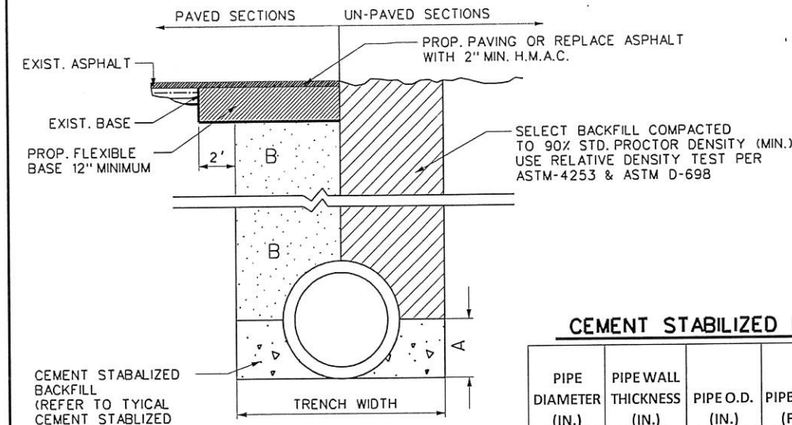
TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



TYPICAL CEMENT STABILIZED BACKFILL
(BOX CULVERT)
NTS

MIN. CLEAR DIST. BETWEEN PIPES

Equivalent Diameter	Min. Clear Dist.
18 in.	9 in.
24 in.	11 in.
30 in.	1 ft. 1 in.
36 in.	1 ft. 3 in.
42 in.	1 ft. 5 in.
48 in.	1 ft. 7 in.
54 in.	1 ft. 11 in.
60 to 84 in.	2 ft.



CEMENT STABILIZED BACKFILL

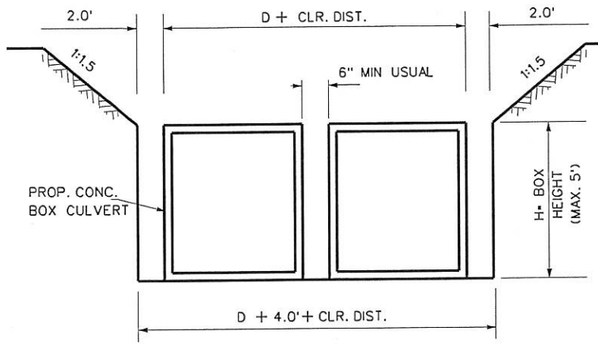
PIPE DIAMETER (IN.)	PIPE WALL THICKNESS (IN.)	PIPE O.D. (IN.)	PIPE O.D. (FT.)	VOLUME OF C.S.B. (PER FT. OF PIPE)
18	2.5	23.0	1.92	2.31
24	3.0	30.0	2.50	3.17
30	3.5	37.0	3.08	4.10
36	4.0	44.0	3.67	5.11
42	4.5	51.0	4.25	6.19
48	5.0	58.0	4.83	12.17
54	5.5	65.0	5.42	13.98
60	6.0	72.0	6.00	15.86
66	6.5	79.0	6.58	17.82
72	7.0	86.0	7.17	19.84

TYPICAL PIPE BEDDING AND
TRENCH BACKFILL DETAIL
NTS

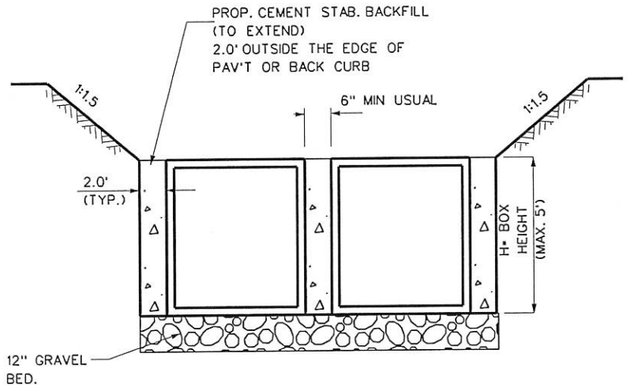
A CEMENT STABILIZED BACKFILL TO BE PLACED AFTER PIPE IS LAID, FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (REFER TO TYPICAL CEMENT STABILIZED BACKFILL DETAIL)

B (CITY STREETS, PARKING AREA, DRIVEWAYS) (STATE MAINTAINED ROADWAYS) COMPACTED SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT COMPACTED AS PER ASTM D-4253 AND ASTM D-698.

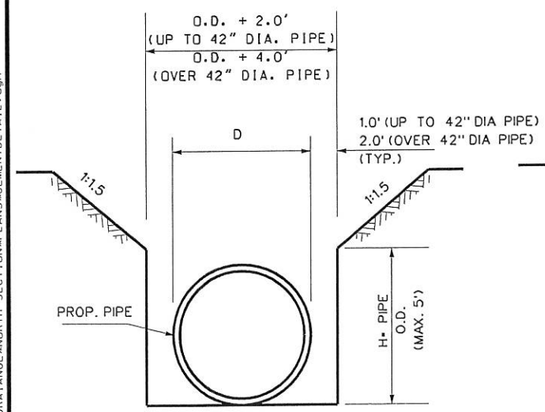
C EXCAVATED EARTH BACKFILL COMPACTED TO 90% STANDARD PROCTOR DENSITY (12" LIFT MECHANICAL COMPACTION). FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE. BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STANDARD PROCTOR DENSITY (USE RELATIVE DENSITY TEST PER ASTM D-4253 & ASTM D-698). THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURE BACKFILL MATERIAL SHALL BE SAND, APPROVED SITE SOIL, OR OTHER APPROVED SUBSTITUTE.



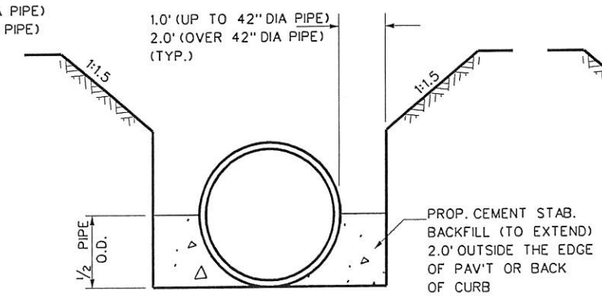
TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



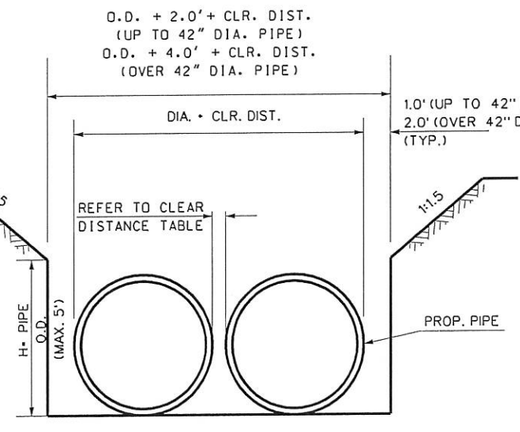
TYPICAL CEMENT STABILIZED BACKFILL
(BOX CULVERT)
NTS



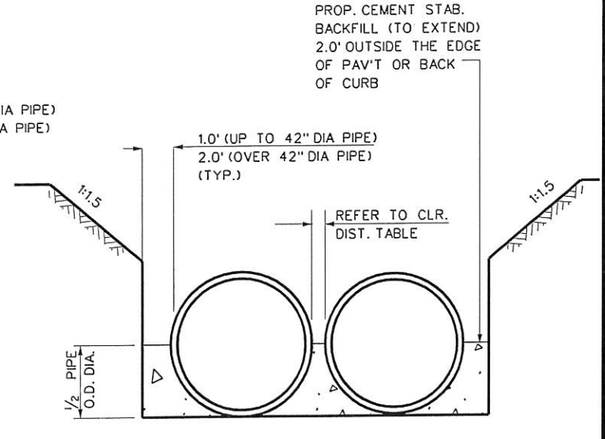
TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



TYPICAL CEMENT STABILIZED BACKFILL
(PIPE)
NTS



TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



TYPICAL CEMENT STABILIZED BACKFILL
(PIPE)
NTS

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FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

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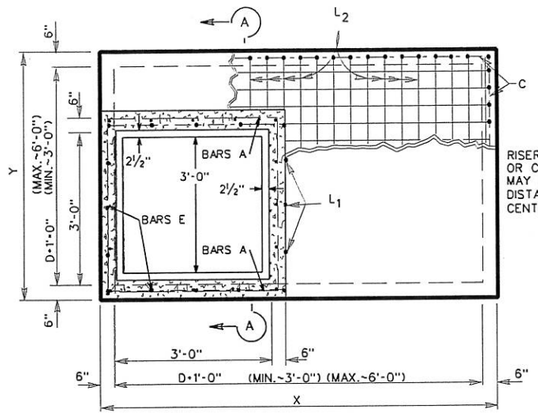
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
CEMENT STABLIZED BACKFILL DETAILS

REVISION	DATE	BY

SCALE:
DATE:
FB No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

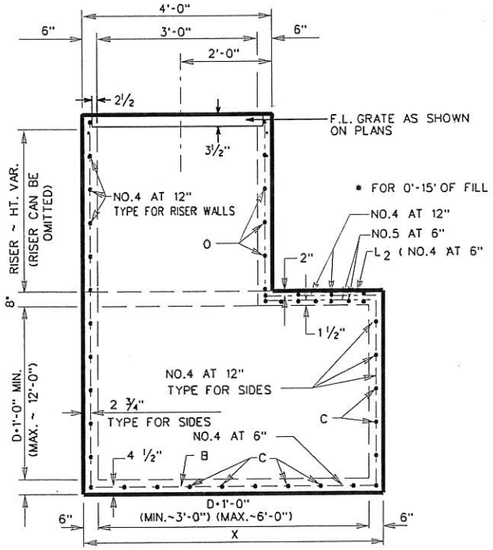
SHEET
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F:\2013\ENG\001-LJ DRAINAGE\NORTH SECTION\PLANS\CEMENTDETAIL.dgn

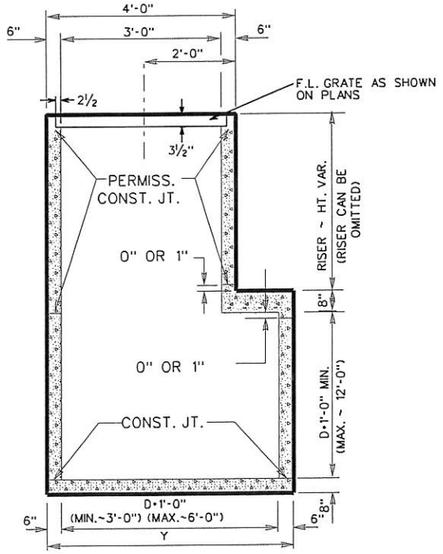


NOTE:
RISER, EITHER CAST-IN-PLACE OR CONCRETE PIPE, MAY BE LOCATED IN ANY CORNER. DISTANCE TO ROAD Q IS FROM CENTER OF STRUCTURE.

PLAN

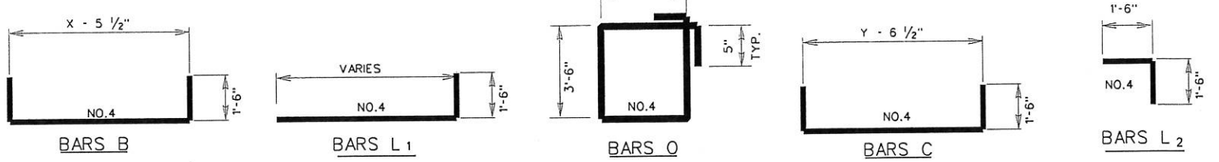


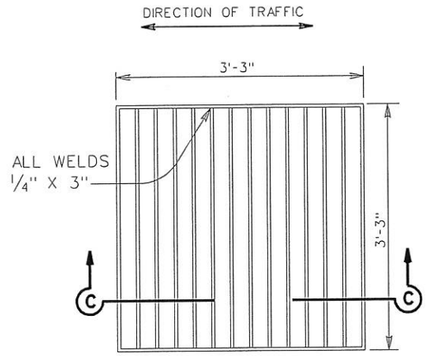
ELEVATION

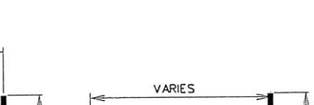


SECTION A-A

MANHOLE WITH CAST-IN-PLACE RISER

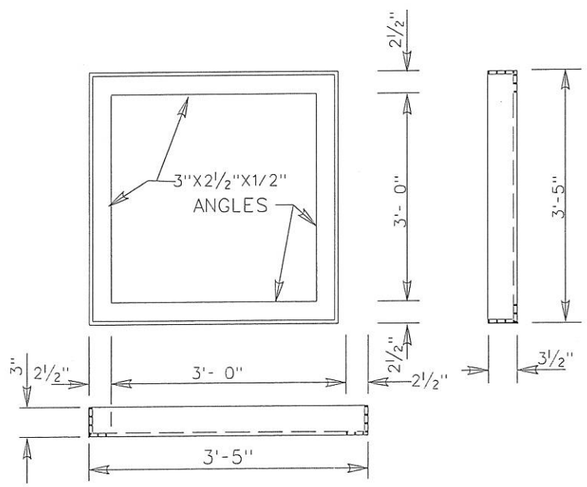






SECTION C-C

WELDED STEEL INLET GRATE



FRAME DETAIL

FRAME INLET GRATE TO BE SUBSIDIARY

GENERAL NOTES

UNLESS OTHERWISE SHOWN IN THE PLANS. PAYMENT WILL BE MADE FOR EACH MANHOLE OF THE TYPE M.
EXPOSED EDGES SHALL BE CHAMFERED 3/4".
ALTERNATE DESIGN DRAWINGS BEARING THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER WILL BE ACCEPTABLE FOR PRECAST CONSTRUCTION OF MANHOLES

SHOP DRAWINGS WILL NOT BE REQUIRED.

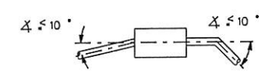
ALL MANHOLES LOCATED ON PAVED SURFACES WILL BE CONSTRUCTED WITH A COVER OF THE TYPE THAT WILL ENABLE IT TO BE BOLTED TO THE RING.

THE CONTRACTOR MAY WITH THE APPROVAL OF THE ENGINEER FURNISH MANHOLES OF EQUIVALENT STRUCTURAL DESIGN.

IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL. BLOCK-OUTS PIPES, ANCHOR BOLTS OR OTHER REINFORCING STEEL. THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.

THE RISER MAY BE CONSTRUCTED OF REINFORCED CONCRETE AS SHOWN OR OF REINFORCED CONCRETE PIPE, CLASS III, IN ACCORDANCE WITH ASTM DESIGNATION C-76. IF PIPE IS USED, JOINTS SHALL CONFORM TO THE ITEM "REINFORCED CONCRETE PIPE CULVERTS". PRECAST CONCRETE LIFT OFF COVER MAY BE SUBSTITUTED FOR "RING AND COVER".

CONNECTING PIPES SHOULD WITHIN 10 DEG. OF NORMAL TO INLET GRATE IF NECESSARY. PIPE ELBOW OR CURBED APPROACH ALIGNMENT SHOULD BE USED TO STAY WITHIN THIS LIMIT.



PIPES MAY ENTER ALL WALLS. THE MAXIMUM LEGTH OF PIPE THAT CAN BE ACCOMODATED IS 60". MORE THAN ONE PIPE MAY ENTER A SIDE SUBJECT TO THE MAXIMUM BOX DIMENSIONS SHOWN. THE CLEAR DISTANCE BETWEEN ADJACEMENT PIPES SHOULD BE 9" MINIMUM.

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108725
LICENSED
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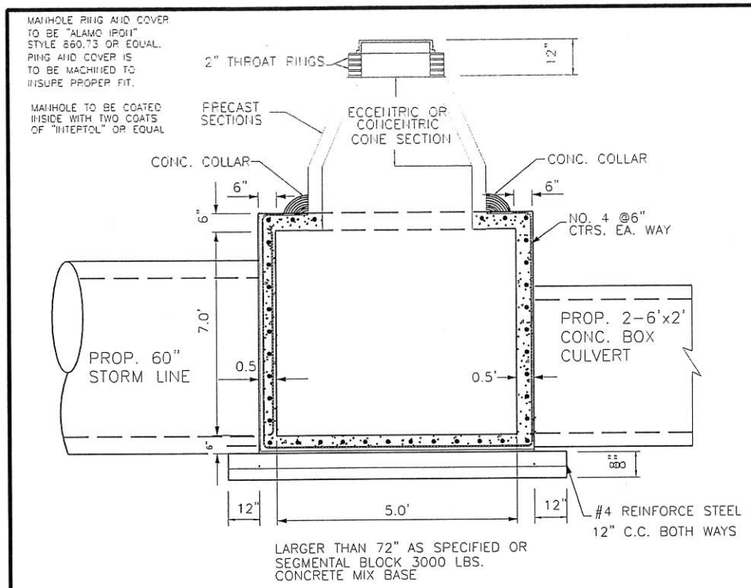
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
TY "M" MANHOLE W/GRATE

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

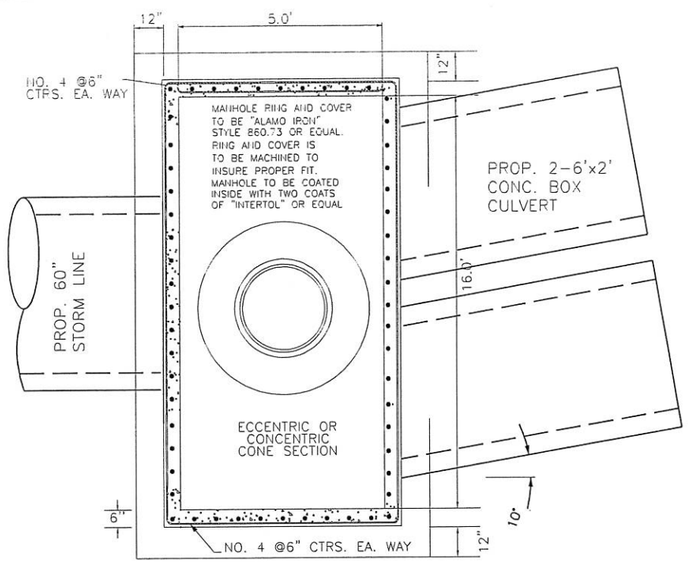
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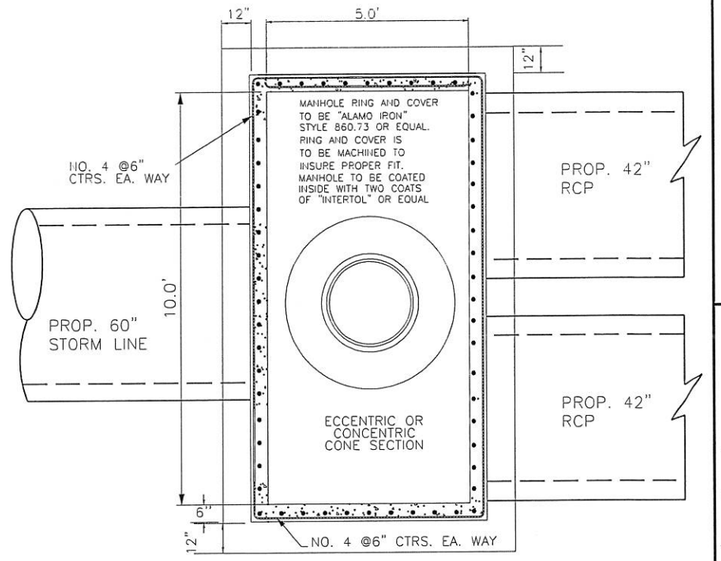
16'x5' JUNCTION BOX DETAIL SIDE VIEW

N.T.S.



16'x5' JUNTION BOX DETAIL TOP VIEW

N.T.S.



10'x5' JUNTION BOX DETAIL TOP VIEW

N.T.S.

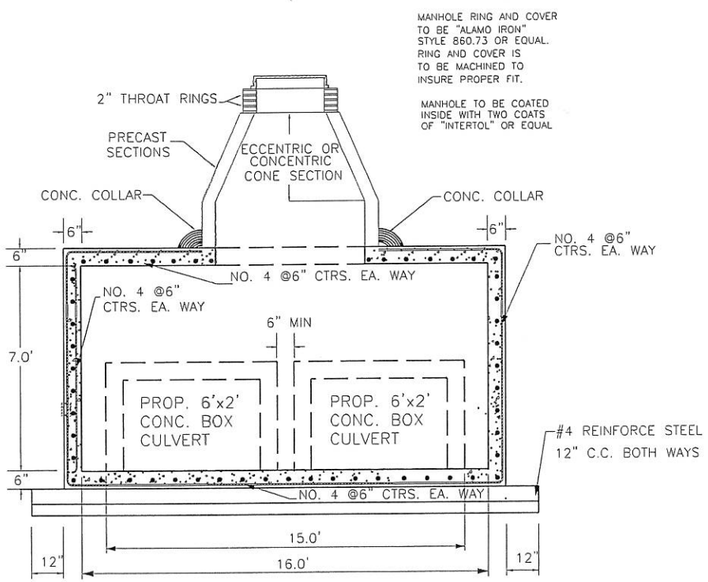
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MANHOLE RING AND COVER TO BE "ALAMO IRON" STYLE 860.73 OR EQUAL. RING AND COVER IS TO BE MACHINED TO INSURE PROPER FIT.

MANHOLE TO BE COATED INSIDE WITH TWO COATS OF "INTERTOL" OR EQUAL



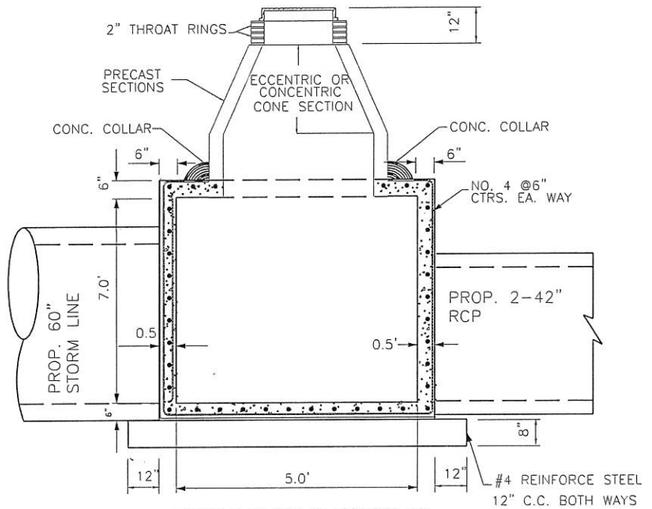
LARGER THAN 72" AS SPECIFIED OR SEGMENTAL BLOCK 3000 LBS. CONCRETE MIX BASE

16'x5' JUNCTION BOX DETAIL FRONT VIEW

N.T.S.

MANHOLE RING AND COVER TO BE "ALAMO IRON" STYLE 860.73 OR EQUAL. RING AND COVER IS TO BE MACHINED TO INSURE PROPER FIT.

MANHOLE TO BE COATED INSIDE WITH TWO COATS OF "INTERTOL" OR EQUAL



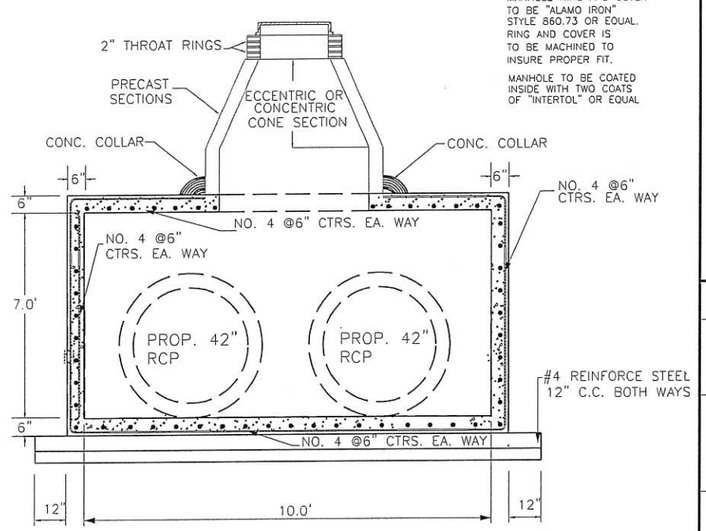
LARGER THAN 72" AS SPECIFIED OR SEGMENTAL BLOCK 3000 LBS. CONCRETE MIX BASE

10'x5' JUNCTION BOX DETAIL SIDE VIEW

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MANHOLE TO BE COATED INSIDE WITH TWO COATS OF "INTERTOL" OR EQUAL



LARGER THAN 72" AS SPECIFIED OR SEGMENTAL BLOCK 3000 LBS. CONCRETE MIX BASE

10'x5' JUNCTION BOX DETAIL FRONT VIEW

N.T.S.

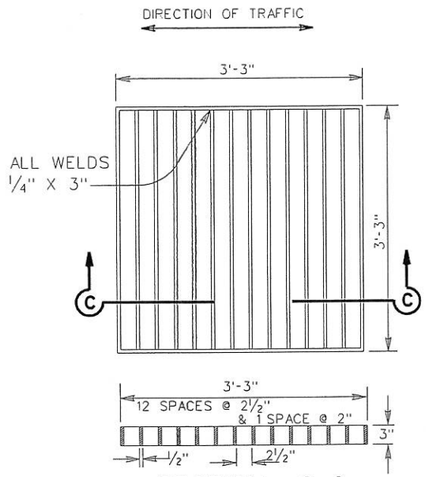
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
JUNCTION BOX DETAILS

BY	DATE	REVISION

SCALE:
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F.B. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

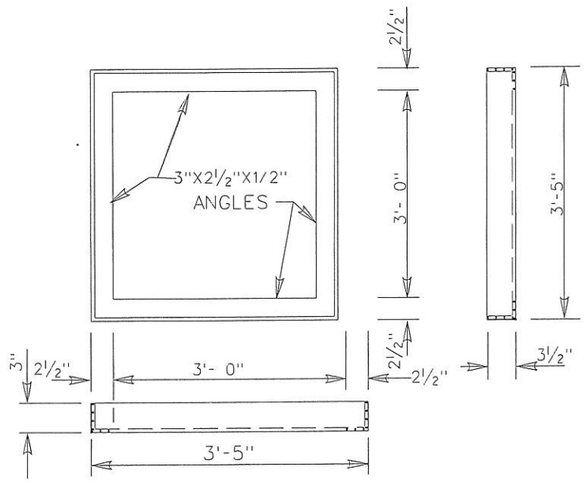
SHEET
12

F:\2013\ENG\001-LJ DRAINAGE\NORTH SECTION\PLANS\JUNCTION BOX DETAILS.DGN



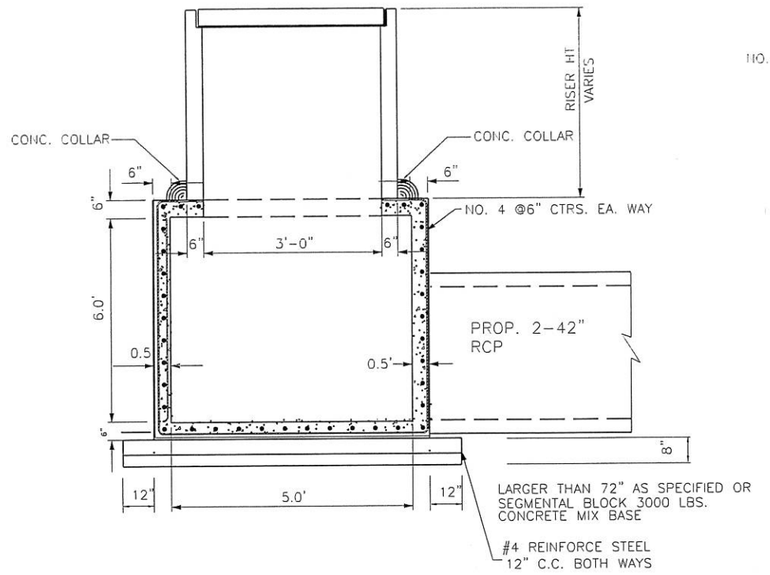
SECTION C-C

WELDED STEEL INLET GRATE



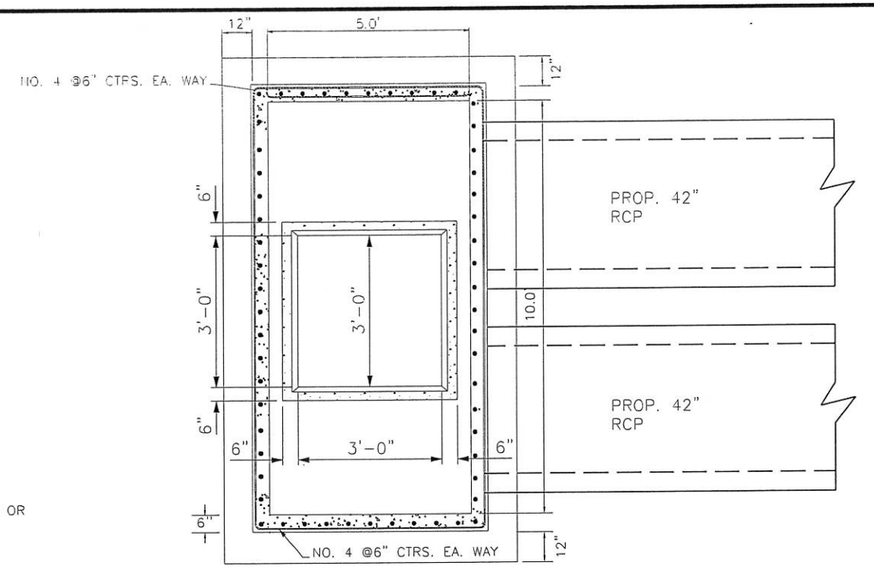
FRAME DETAIL

FRAME INLET GRATE TO BE SUBSIDIARY



JUNCTION BOX W/GRATE DETAIL – SIDE VIEW

N.T.S.



JUNTION BOX W/GRATE DETAIL – TOP VIEW

N.T.S.

GENERAL NOTES

UNLESS OTHERWISE SHOWN IN THE PLANS. PAYMENT WILL BE MADE FOR EACH MANHOLE OF THE TYPE M.
EXPOSED EDGES SHALL BE CHAMFERED 3/4".
ALTERNATE DESIGN DRAWINGS BEARING THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER WILL BE ACCEPTABLE FOR PRECAST CONSTRUCTION OF MANHOLES

SHOP DRAWINGS WILL NOT BE REQUIRED.

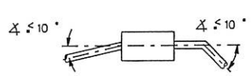
ALL MANHOLES LOCATED ON PAVED SURFACES WILL BE CONSTRUCTED WITH A COVER OF THE TYPE THAT WILL ENABLE IT TO BE BOLTED TO THE RING.

THE CONTRACTOR MAY WITH THE APPROVAL OF THE ENGINEER FURNISH MANHOLES OF EQUIVALENT STRUCTURAL DESIGN.

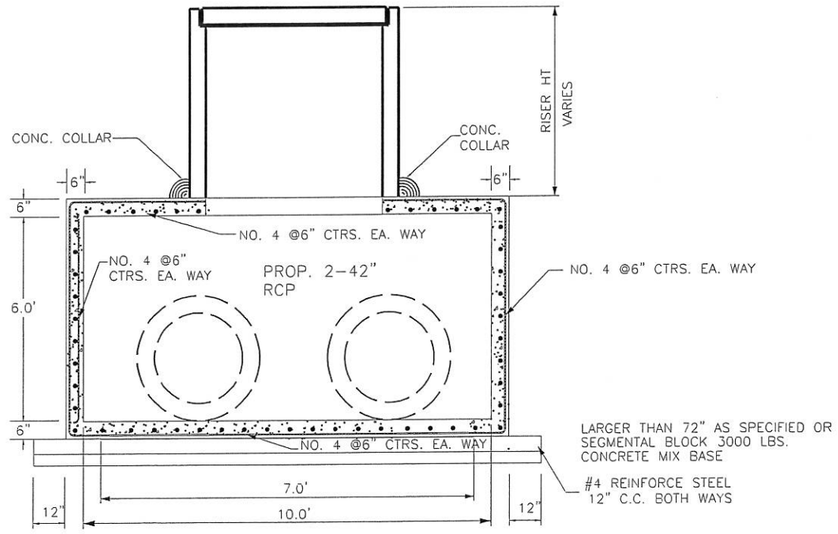
IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL. BLOCK-OUTS PIPES, ANCHOR BOLTS OR OTHER REINFORCING STEEL. THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.

THE RISER MAY BE CONSTRUCTED OF REINFORCED CONCRETE AS SHOWN OR OF REINFORCED CONCRETE PIPE, CLASS III, IN ACCORDANCE WITH ASTM DESIGNATION C-76. IF PIPE IS USED, JOINTS SHALL CONFORM TO THE ITEM "REINFORCED CONCRETE PIPE CULVERTS". PRECAST CONCRETE LIFT OFF COVER MAY BE SUBSTITUTED FOR "RING AND COVER".

CONNECTING PIPES SHOULD WITHIN 10 DEG. OF NORMAL TO INLET GRATE IF NECESSARY. PIPE ELBOW OR CURBED APPROACH ALIGNMENT SHOULD BE USED TO STAY WITHIN THIS LIMIT.



PIPES MAY ENTER ALL WALLS. THE MAXIMUM LEGTH OF PIPE THAT CAN BE ACCOMODATED IS 60". MORE THAN ONE PIPE MAY ENTER A SIDE SUBJECT TO THE MAXIMUM BOX DIMENSIONS SHOWN. THE CLEAR DISTANCE BETWEEN ADJACEMENT PIPES SHOULD BE 9" MINIMUM.



JUNCTION BOX W/GRATE DETAIL – FRONT VIEW

N.T.S.

Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. : 486

R. Gutierrez Engineering Corporation

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO P.E. 108728
DATE: 03/20/2014
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
JUNCTION BOX W/GRATE DETAIL

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
13

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DATE:
FILE:

Barricade and Construction (BC) Standard Sheets General Notes:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets", the TxDOT "Roadway Design Manual" or engineering judgment.
6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
12. The Engineer has the final decision on the location of all traffic control devices.
13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

Worker Safety Apparel Notes:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes prequalified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation
Traffic Operations Division - TE
Phone (512) 416-3134

WEB ADDRESSES FOR REFERENCED DOCUMENTS

Compliant Work Zone Traffic Control Devices List (CWZTCD)
http://www.txdot.gov/publications/traffic.htm

Texas Manual on Uniform Traffic Control Devices (TMUTCD)
http://www.txdot.gov/publications/traffic.htm

Standard Highway Sign Designs for Texas (SHSD)
http://www.txdot.gov/publications/traffic.htm

Traffic Engineering Standard Sheets
http://www.txdot.gov/business/disclaim.htm

Material Producer List
http://www.txdot.gov/business/producer_list.htm

Departmental Material Specifications (DMS)
http://www.txdot.gov/services/construction/material_specifications/

Roadway Design Manual
http://www.txdot.gov/services/general_services/manuals.htm

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

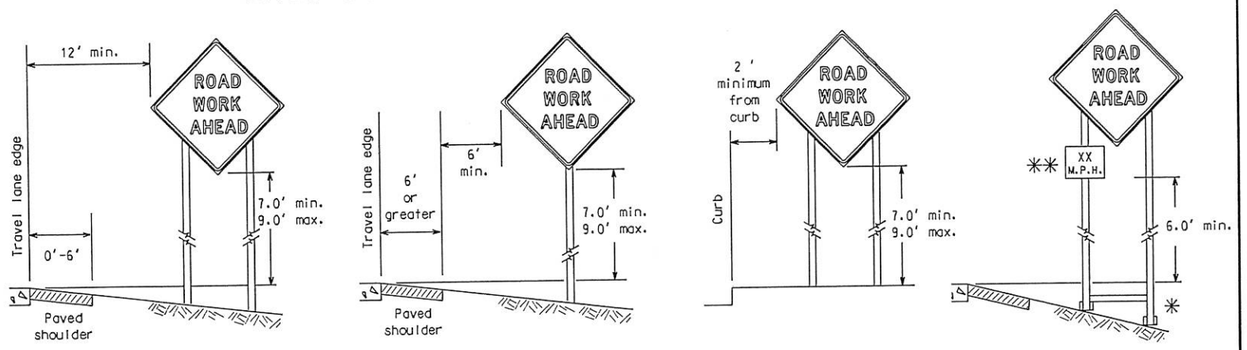
1 of 12 BC(1)-07

©TxDOT 11-4-02	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
REVISIONS	CONT	SECT	JOB	HIGHWAY
4-03				
9-07	DIST	COUNTY		SHEET NO.
	21	HIDALGO		14

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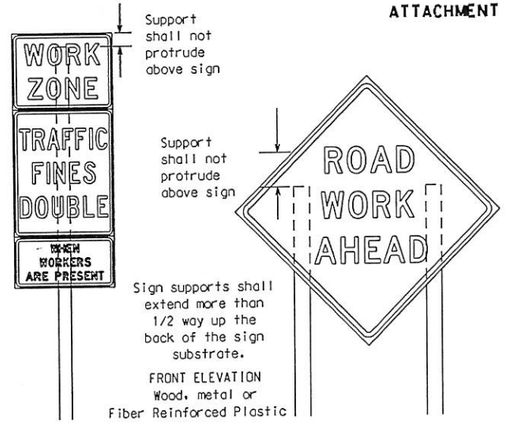
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

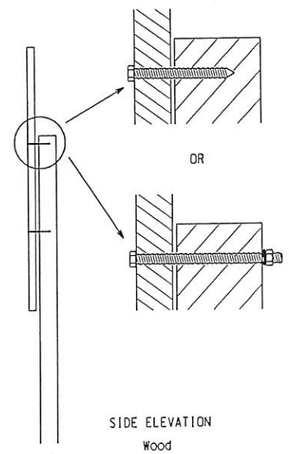


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

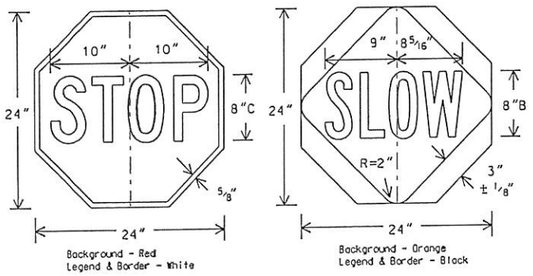
Nails will NOT be allowed.

Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same guage material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
2. When used at night, the STOP/SLOW paddle shall be retroreflectorized.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
6. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
7. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
8. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
10. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height,the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday, or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Engineer may allow the use of smaller size construction warning signs on secondary roads or city streets where speeds are low if the sign size is listed as an option on the "Typical Construction Warning Sign Size and Spacing" chart shown on BC(2).
2. The Contractor shall furnish the sign sizes shown in plans, the BC Sheets, the TCP sheets or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type C (High Specific Intensity), shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type E (Fluorescent Prismatic), shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This type of sign support meets the crashworthiness standards regardless of the direction of impact. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face. These materials can damage the retroreflectivity of sheeting.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact.
6. Rubber (such as tire inner tubes) shall NOT be used for sandbags.
7. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
8. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
9. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES STANDARD

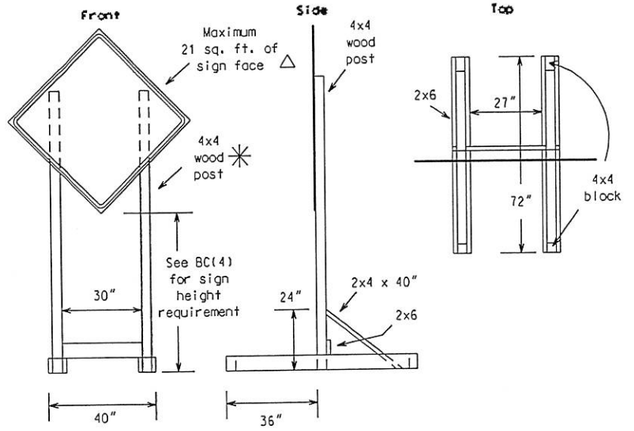
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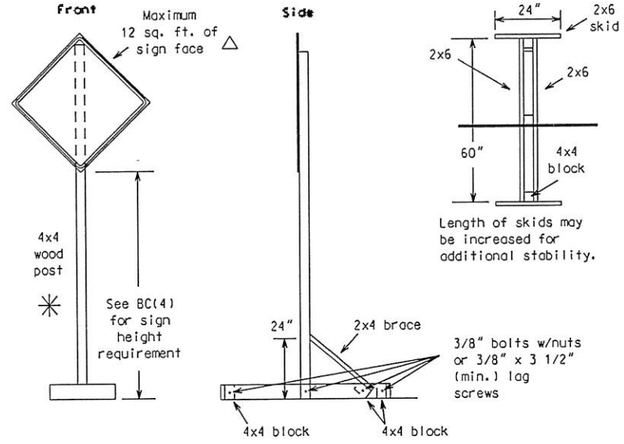
©TxDOT 11-4-02	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.
	21	HIDALGO		15

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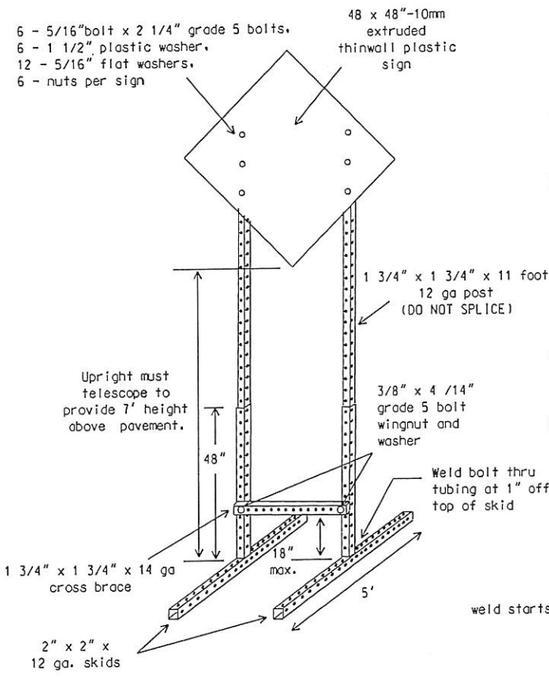
SKID MOUNTED WOOD SIGN SUPPORTS

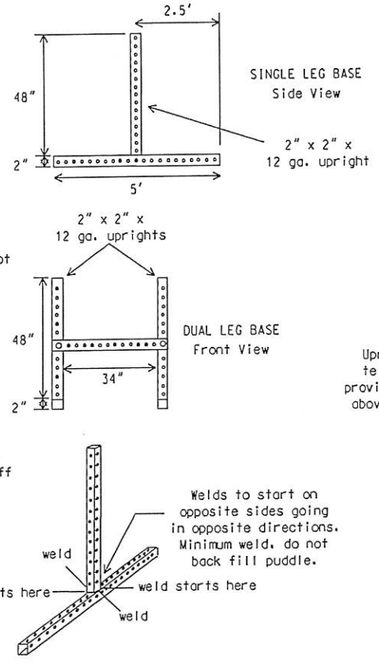
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □

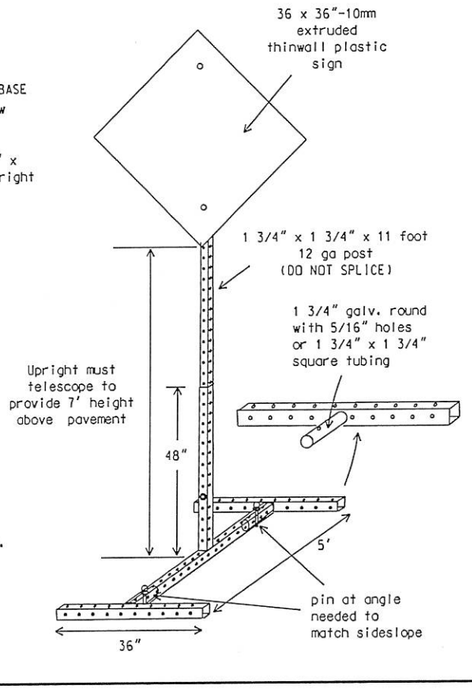




SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS



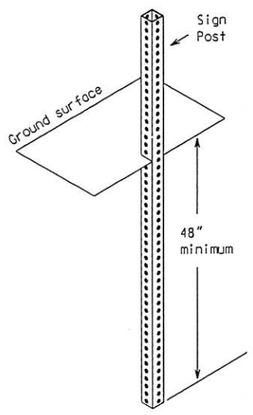




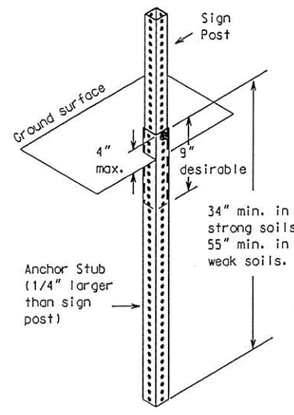
GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support. The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.

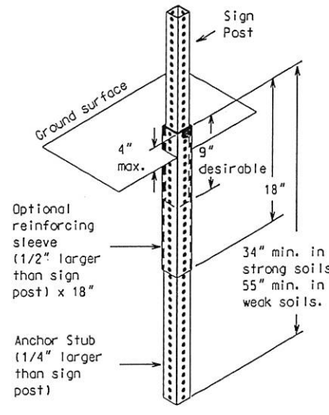
PERFORATED SQUARE METAL TUBING



OPTION 1
(Direct Embedment)



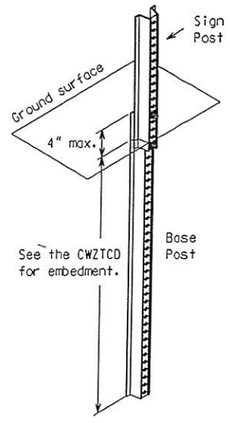
OPTION 2
(Anchor Stub)



OPTION 3
(Anchor Stub and Reinforcing Sleeve))

WING CHANNEL

Lap-splice/base bolted anchor



GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports. but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. More details of approved Long/Intermediate and Short Term supports can be found on the CWZTCD list. See BC(1) for website location.
3. No more than 2 sign posts shall be placed within a 7 ft. circle. except for specific materials noted on the CWZTCD List.
4. When project is completed. all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

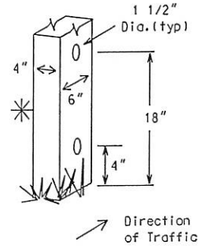
□ See BC(4) for definition of "Work Duration."

✳ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

△ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).



WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS

Nominal Post Size	No. of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	NO
4 x 4	2	21	36"	NO
4 x 6	1	21	36"	YES
4 x 6	2	36	36"	YES

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT STANDARD

5 of 12 BC(5)-07

©TxDOT 11-4-02	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.
	21	HIDALGO		16

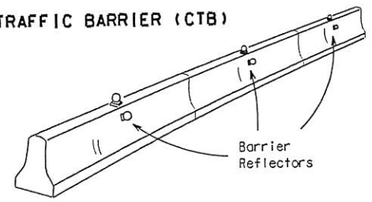
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BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

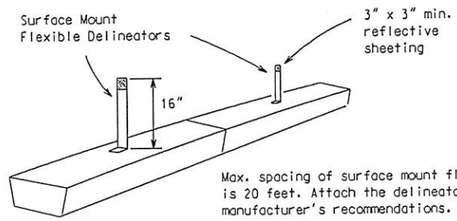
1. Barrier Reflectors shall be prequalified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors (Type C Delineators) can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 502.

CONCRETE TRAFFIC BARRIER (CTB)



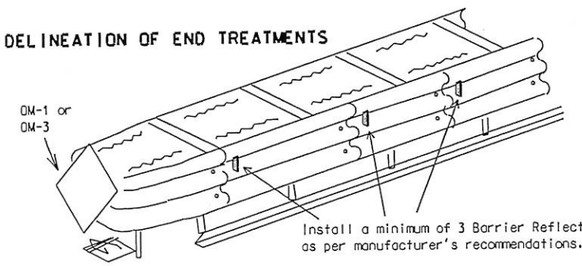
3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented. Yellow Barrier Reflectors shall be made with Type E Fluorescent Prismatic Yellow Retroreflective Sheeting. White reflectors shall be made with Type D White Prismatic sheeting.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

LOW PROFILE CONCRETE BARRIER (LPCB)



Max. spacing of surface mount flexible delineators is 20 feet. Attach the delineators as per manufacturer's recommendations.

DELINEATION OF END TREATMENTS



	APPROACHING TRAFFIC	
	BOTH SIDES	ONE SIDE
DELINEATION	OM-1	OM-3 or Vertical Panel

END TREATMENTS FOR CTB'S USED IN WORK ZONES

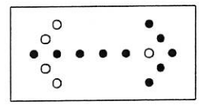
End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

TYPICAL FLASHING ARROW PANEL

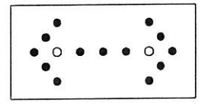
Arrow Panels may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Panel should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Panels should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Panel.
4. The Flashing Arrow Panel should be able to display the following symbols:

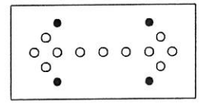
Flashing RIGHT (LEFT) ARROW



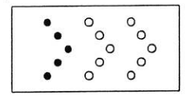
Flashing DOUBLE ARROW



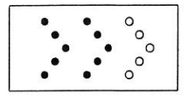
Flashing CAUTION

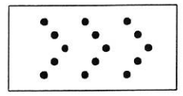


5. The "CAUTION" display consists of four corner lamps flashing simultaneously.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Panel shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.



Sequential Chevron





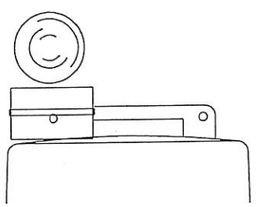
REQUIREMENTS

TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

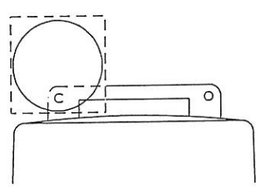
ATTENTION: Flashing Arrow Panels shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW PANEL FROM THE RIGHT-OF-WAY OR PLACE THE ARROW PANEL BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

11. The Flashing Arrow Panel shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Panel SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Panel provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted arrow panels should be 7 feet from roadway to bottom of panel.



Type C Warning Light or approved substitute mounted adjacent to the travel way.



Warning reflector may be round or square. Must have a reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type E Sheeting (Fluorescent Prismatic) meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type D (Non-fluorescent Prismatic).
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the dates shown in the CWZTCD to ensure that the TMA meets the age requirements and the crashworthiness criteria established by the Federal Highway Administration (FHWA) for TMAs.
4. Refer to the CWZTCD for a list of approved TMAs.
5. TMAs are required on freeways unless otherwise noted in the plans.
6. A TMA should be used anytime that it can be positioned approximately 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
7. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

Texas Department of Transportation
Traffic Operations Division

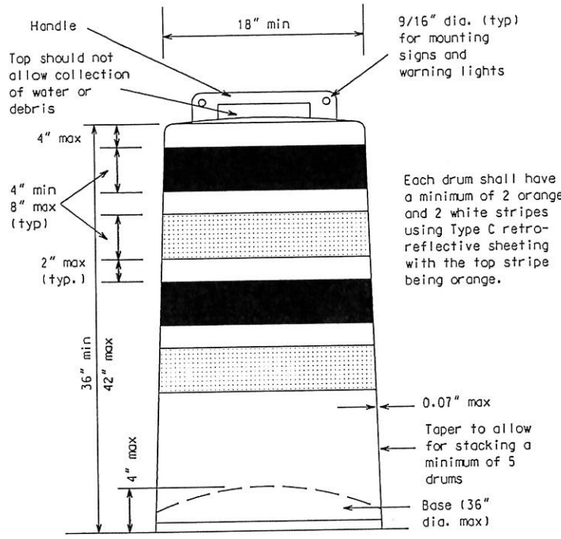
BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR STANDARD

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©TxDOT 11-4-02	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.
	21	HIDALGO		17

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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Prequalified plastic drums shall meet the following requirements:

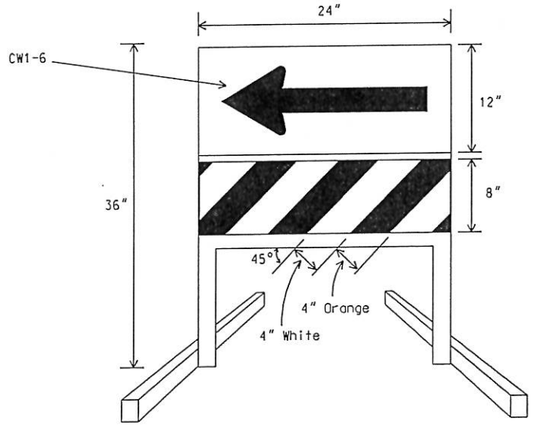
1. Plastic drums shall be a two-piece design: the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a minimum unballasted weight of 7.7 lbs. and maximum unballasted weight of 11 lbs. The wall of the drum body shall be a minimum of 0.07 inch in thickness. Weight of any drum supplied shall not vary more than 0.5 lb. from that of the prequalified sample.
10. Drum and base shall be marked with manufacturer's name and model number.

RETROREFLECTIVE SHEETING

1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Flat Surface Reflective Sheeting." High Specific Intensity (Type C) retroreflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

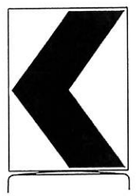
BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
4. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
5. Ballast shall not be placed on top of drums.
6. Adhesives may be used to secure base of drums to pavement.

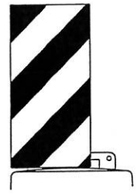


DIRECTION INDICATOR BARRICADE

1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CW1-6) sign in the size shown with a black arrow on a background of Type E Fluoprescent Prismatic Orange above a rail with Type C High Specific Intensity retroreflective sheeting in alternation 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass.
4. Double arrows on the Direction Indicator Barricade will not be allowed.
5. Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type E (Fluorescent Prismatic) sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type C (High Specific Intensity). Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

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CONT	SECT	JOB	HIGHWAY
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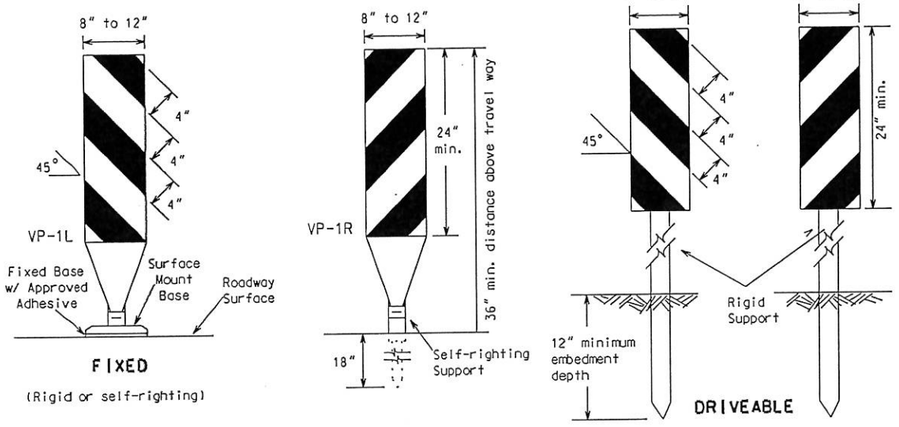
REVISIONS
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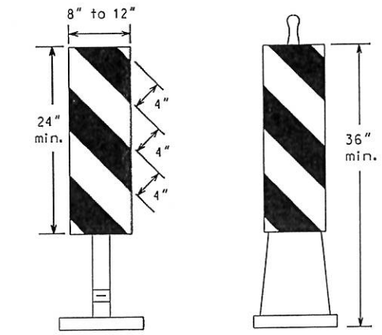
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CHANNELIZING DEVICES

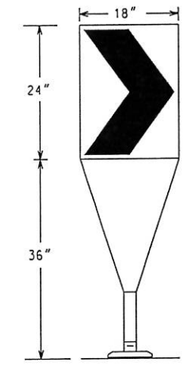
VERTICAL PANELS (VPs)



1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, shall have a minimum of 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is greater than 36 inches, a panel stripe of 6 inches shall be used.



CHEVRONS

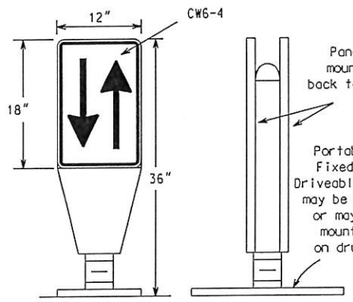


1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type E (Fluorescent Prismatic) conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall be black vinyl non-reflective decal sheeting meeting the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

GENERAL NOTES:

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh approximately 35 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.
8. Examples on this sheet are commonly used channelizing devices in work zones. For other devices, refer to the CWZTCD.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

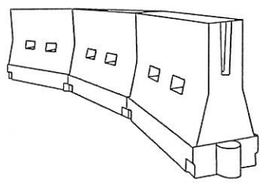


1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with simple tubular markers or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. Tubular markers or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black nonreflective legend. Sheeting for the OTLD shall be retroreflective Type E (Fluorescent Prismatic) conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall be black vinyl non-reflective decal sheeting meeting the requirements of DMS-8300.

Posted Speed	Formula	Minimum Desirable Taper Lengths ✳✳ 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'-75'
35		205'	225'	245'	35'	70'-90'
40		265'	295'	320'	40'	80'-100'
45	L=WS	450'	495'	540'	45'	90'-110'
50		500'	550'	600'	50'	100'-125'
55		550'	605'	660'	55'	110'-140'
60		600'	660'	720'	60'	120'-150'
65		650'	715'	780'	65'	130'-165'
70		700'	770'	840'	70'	140'-175'
75		750'	825'	900'	75'	150'-185'
80		800'	880'	960'	80'	160'-195'

✳✳Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS



LONGITUDINAL CHANNELIZING DEVICES

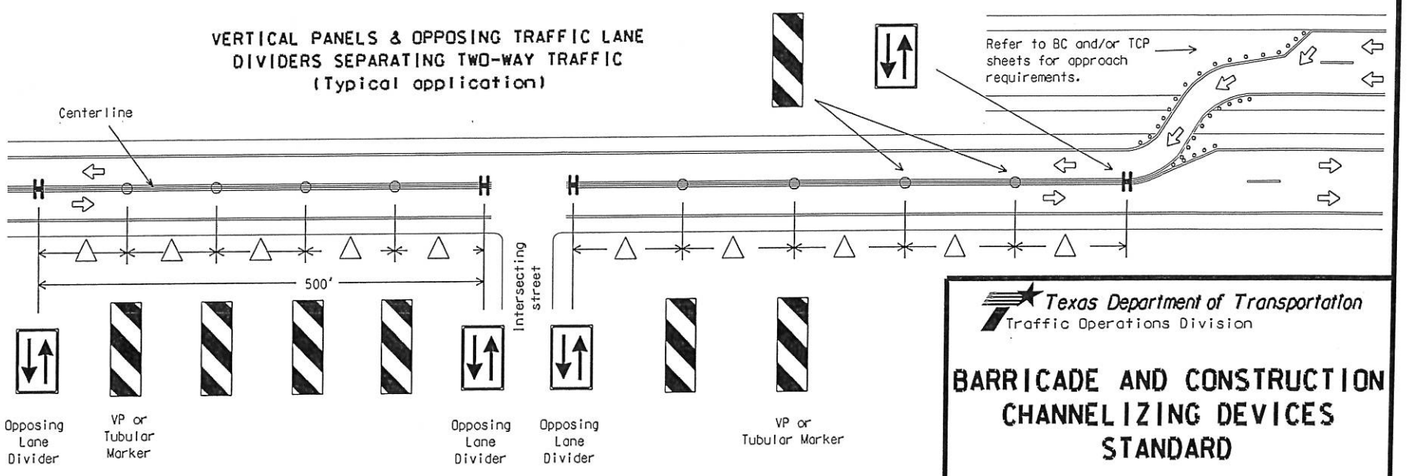
1. Longitudinal channelizing devices are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. **They are not designed to contain or redirect a vehicle on impact.**
2. Longitudinal channelizing devices may be used instead of a line of cones or drums.
3. Longitudinal channelizing devices shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Longitudinal channelizing devices should not be used to provide positive protection for obstacles, pedestrians or workers.
5. Longitudinal channelizing devices shall be retroreflective, or supplemented with retroreflective delineation as required for temporary barriers on BC(7)-07.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall be not less than 32 inches in height.

VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS SEPARATING TWO-WAY TRAFFIC (Typical application)



△ Spacing between the VP's or tubular markers shall not exceed 100 feet. On roadways with speeds less than 45 MPH, spacing between the tubular markers or VP's shall be as shown on the channelizing spacing table shown on this page. If the table shows spacing greater than 100 feet based on the roadway speed, then use a maximum of 100 feet spacing between the tubular markers or VP's. Every fifth channelizing device shall be an OTLD, except when the OLTD must be spaced closer to accomodate an intersection. Spacing between the OTLD shall not exceed 500 feet.

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

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	21	HIDALGO		19

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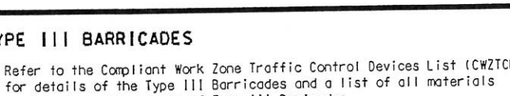
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TYPE III BARRICADES

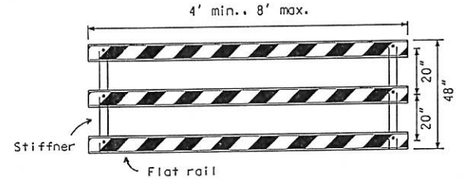
1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type III Barricades and a list of all materials used in the construction of Type III Baricades.
2. Type III Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specfication DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



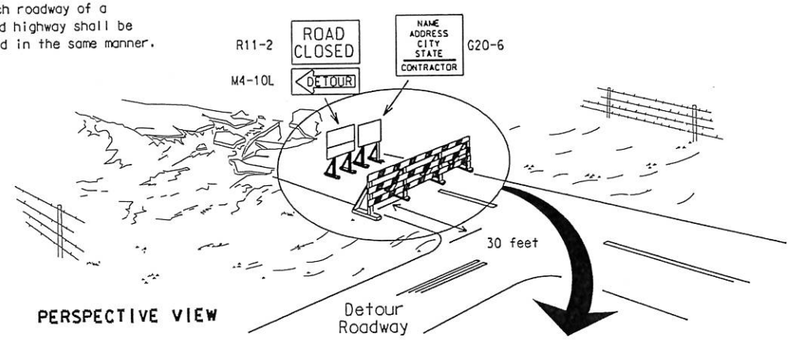
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



Stiffner may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

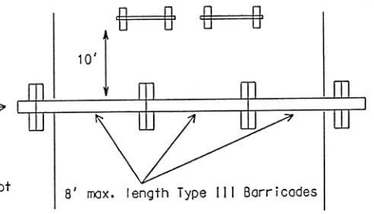
TYPE III BARRICADE (POST AND SKID) TYPICAL APPLICATION

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

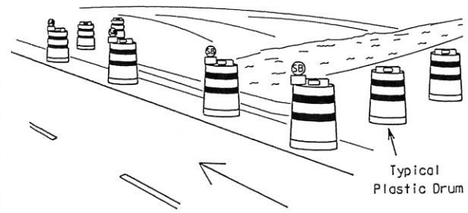
The three rails on Type III barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

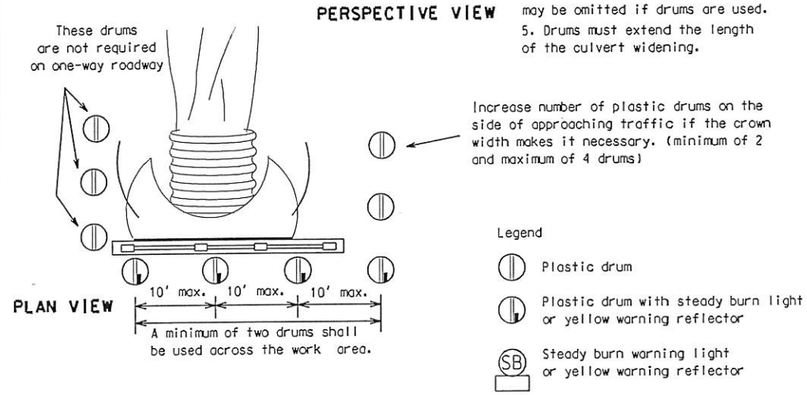
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type III Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



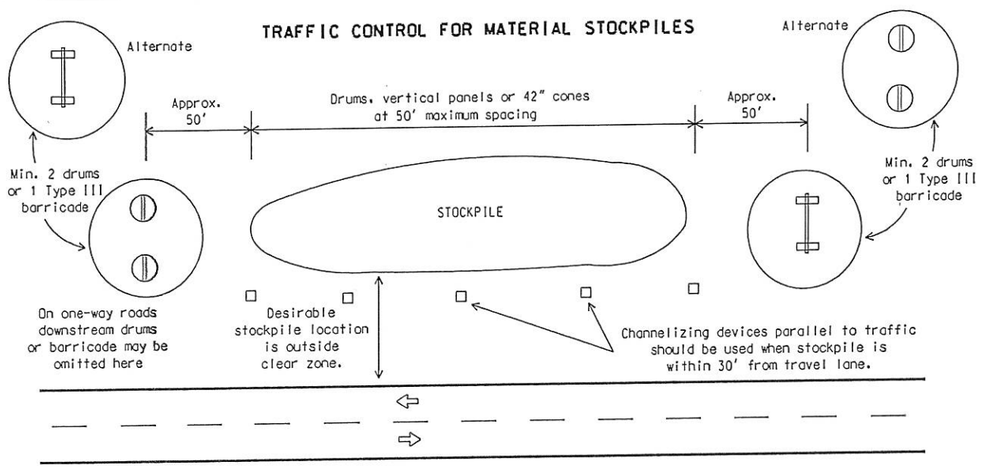
PERSPECTIVE VIEW

1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.

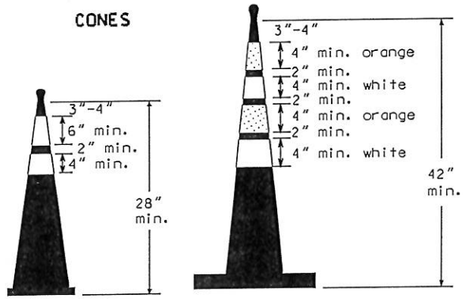


PLAN VIEW

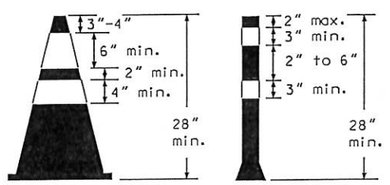
TRAFFIC CONTROL FOR MATERIAL STOCKPILES



CONES



Two-Piece cones

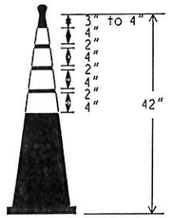


One-Piece cones Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be a minimum of 28 inches in height when used either on freeways or at nighttime.
2. Cones or tubular markers shall be predominantly orange, fluorescent red-orange, or fluorescent yellow-orange. They should be kept clean and bright for maximum visibility.
3. Cones used only for daytime operations do not require the reflectorized bands.
4. Cones and tubular markers used for nighttime operations shall be reflectorized. Reflectorized material shall have a smooth, sealed outer surface that displays the same approximate color during the day and night. The reflectorized bands shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
5. When used at night, appropriate personnel shall ensure that cones and tubular markers remain in their proper location and in an upright position.
6. Reflectorization of 28"cones shall consist of a minimum 6 inch band placed at least 3 inches but not more than 4 inches from the top, supplemented by a minimum 4 inch band spaced a minimum of 2 inches below the 6 inch band.
7. Reflectorization of 42" cones shall be provided by alternating 4 to 6" orange and white stripes with orange on top.
8. Reflectorization of tubular markers shall be a minimum of two 3 inch bands placed a maximum of 2 inches from the top with a maximum of 6 inches between bands.
9. One-piece cones or tubular markers are generally suitable for temporary usage (up to 8 hours) with other channelization devices such as vertical panels, drums or two-piece cones for long term usage. Care should be taken to ensure they remain in their proper location and in an upright position.
10. Cones or tubular markers used on each project shall be of the same size and shape.
11. The handle may be designed as a hook or other shape, fabricated from non-rigid materials similar to the cone material, and may extend up to a maximum of 8 inches above the top of cone. Length of the handle shall not be considered with regard to the overall height of the cone.



EDGELINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type C encapsulated bead (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

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BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

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LEVELS DISPLAYED

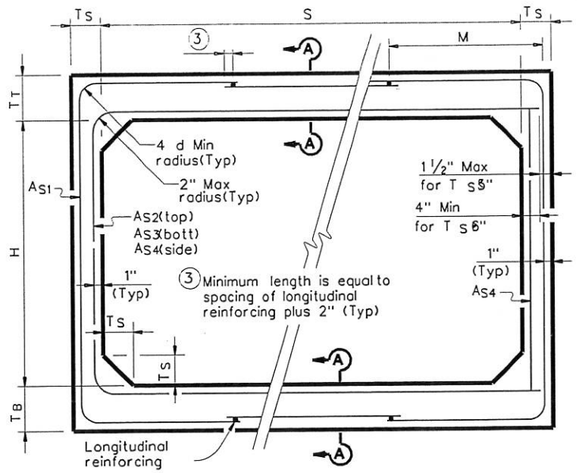
ACC:

BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (in²/ft) ②								Lift Weight (Tons) ①
S (ft)	H (ft)	T_T (in)	T_B (in)	T_S (in)	(ft)	(in)	A_{S1}	A_{S2}	A_{S3}	A_{S4}	A_{S5}	A_{S6}	A_{S7}	A_{S8}	
6	3	8	7	7	<2	-	0.20	0.31	0.22	0.17	0.19	0.19	0.19	0.17	7.9
6	3	7	7	7	2<3	43	0.21	0.24	0.19	0.17	-	-	-	-	7.5
6	3	7	7	7	3-5	39	0.17	0.18	0.17	0.17	-	-	-	-	7.5
6	3	7	7	7	10	39	0.17	0.18	0.19	0.17	-	-	-	-	7.5
6	3	7	7	7	15	38	0.22	0.24	0.24	0.17	-	-	-	-	7.5
6	3	7	7	7	20	38	0.28	0.31	0.31	0.17	-	-	-	-	7.5
6	3	7	7	7	25	38	0.35	0.38	0.39	0.17	-	-	-	-	7.5
6	3	7	7	7	30	38	0.42	0.46	0.46	0.17	-	-	-	-	7.5
6	4	8	7	7	<2	-	0.19	0.34	0.25	0.17	0.19	0.19	0.19	0.17	8.6
6	4	7	7	7	2<3	43	0.19	0.27	0.21	0.17	-	-	-	-	8.2
6	4	7	7	7	3-5	39	0.17	0.21	0.19	0.17	-	-	-	-	8.2
6	4	7	7	7	10	39	0.17	0.20	0.21	0.17	-	-	-	-	8.2
6	4	7	7	7	15	38	0.18	0.27	0.27	0.17	-	-	-	-	8.2
6	4	7	7	7	20	38	0.24	0.34	0.35	0.17	-	-	-	-	8.2
6	4	7	7	7	25	38	0.29	0.43	0.42	0.17	-	-	-	-	8.2
6	4	7	7	7	30	38	0.35	0.51	0.52	0.17	-	-	-	-	8.2
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6	5	7	7	7	10	39	0.17	0.22	0.23	0.17	-	-	-	-	8.9
6	5	7	7	7	15	38	0.17	0.28	0.29	0.17	-	-	-	-	8.9
6	5	7	7	7	20	38	0.20	0.37	0.38	0.17	-	-	-	-	8.9
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6	5	7	7	7	30	38	0.30	0.54	0.55	0.17	-	-	-	-	8.9
6	6	8	7	7	<2	-	0.19	0.38	0.30	0.17	0.19	0.19	0.19	0.17	10.0
6	6	7	7	7	2<3	52	0.17	0.32	0.26	0.17	-	-	-	-	9.6
6	6	7	7	7	3-5	52	0.17	0.24	0.22	0.17	-	-	-	-	9.6
6	6	7	7	7	10	43	0.17	0.23	0.24	0.17	-	-	-	-	9.6
6	6	7	7	7	15	39	0.17	0.29	0.31	0.17	-	-	-	-	9.6
6	6	7	7	7	20	39	0.18	0.38	0.39	0.17	-	-	-	-	9.6
6	6	7	7	7	25	38	0.23	0.46	0.48	0.17	-	-	-	-	9.6
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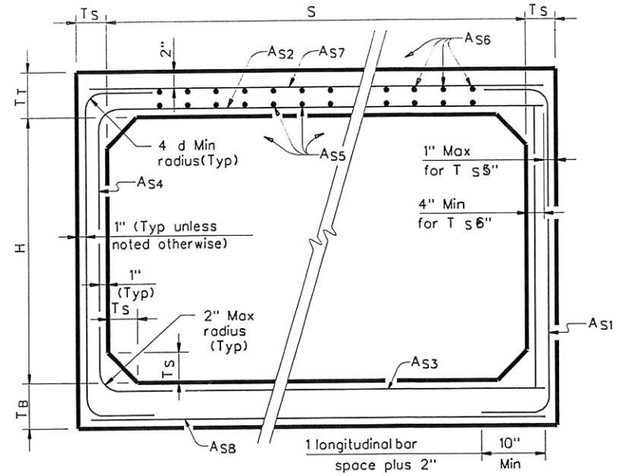
① For Box Length = 8'-0"

② A_{S1} thru A_{S4} and A_{S7} thru A_{S8} are minimum required areas of reinforcement per linear foot of box length. A_{S5} and A_{S6} are minimum required areas of reinforcement per linear foot of box width.



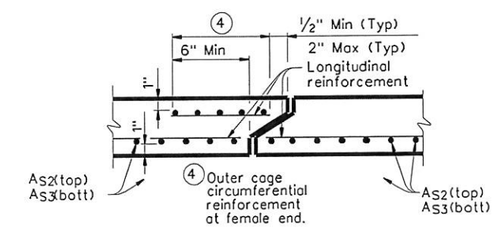
CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT



SECTION A-A

(TOP AND BOTTOM SLAB JOINT REINFORCEMENT)

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

All concrete shall be Class "H" Concrete with a minimum compressive strength of 5,000 psi.

See SCP-MD standard sheet for miscellaneous details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Shop plans for alternate designs shall be submitted in accordance with Item "Precast Concrete Structures".

HL93 LOADING

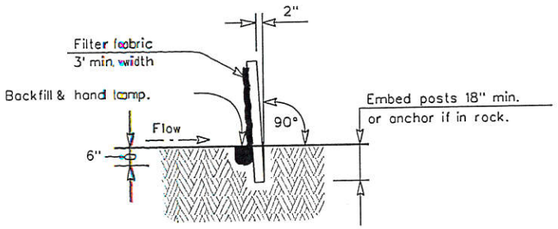
Texas Department of Transportation
Bridge Division

SINGLE BOX CULVERTS PRECAST
6'-0" SPAN

SCP-6

FILE: scp06ste.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT	CK: GAF
©TxDOT February 2010	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS				21
	COUNTY	CONTROL	SECT	JOB	HIGHWAY

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SECTION A-A

GENERAL NOTES

1. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

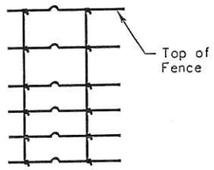
PLAN SHEET LEGEND

Sediment Control Fence —(SCF)—

SEDIMENT CONTROL FENCE USAGE GUIDELINES

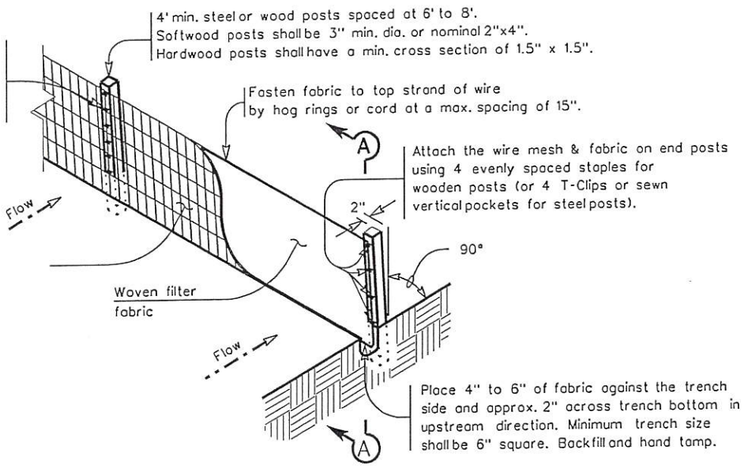
A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a max. flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.



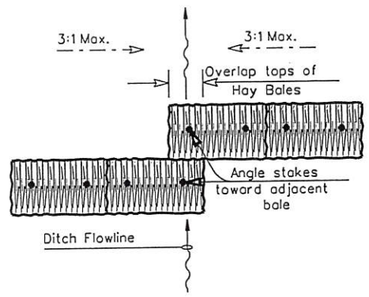
Galv. Hinge joint knot woven mesh (12.5 Ga. Min.) requires a minimum of five horizontal wires spaced at a max. 12 inches apart and all vertical wires spaced at a max. 12 inches apart.

Hinge Joint Knot Woven Mesh (Option)

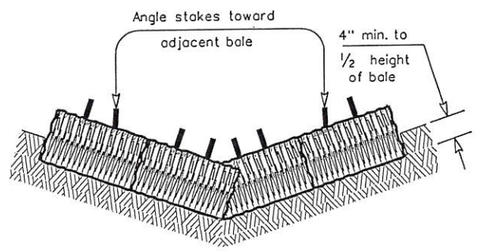


TEMPORARY SEDIMENT CONTROL FENCE

—(SCF)—



PLAN VIEW



PROFILE VIEW

PLANS SHEET LEGEND

Baled Hay —(BH)—

BALED HAY USAGE GUIDELINES

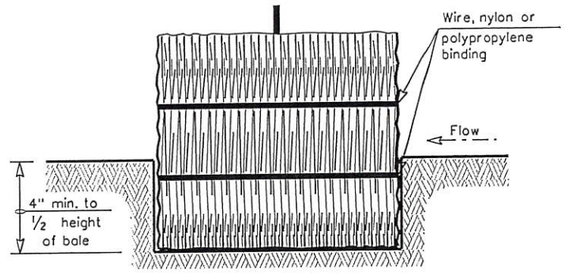
A Baled Hay installation may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A two year storm frequency may be used to calculate the flow rate to be filtered. The installation should be sized to filter a maximum flow thru rate of 5 GPM/FT^2 of cross sectional area. Baled hay may be used at the following locations:

1. Where the runoff approaching the baled hay flows over disturbed soil for less than 100'. If the slope of the disturbed soil exceeds 10%, the length of slope upstream the baled hay should be less than 50'.
2. Where the installation will be required for less than 3 months.
3. Where the contributing drainage area is less than ½ acre.

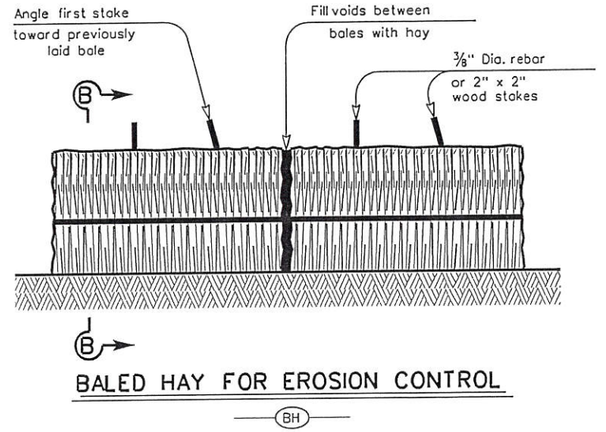
For Baled Hay installations in small ditches, the additional following considerations apply:

1. The ditch sideslopes should be graded as flat as possible to maximize the drainage flowrate thru the hay.
2. The ditch should be graded large enough to contain the overtopping drainage when sediment has filled to the top of the baled hay.

Bales should be replaced usually every 2 months or more often during wet weather when loss of structural integrity is accelerated.



SECTION B-B



BALED HAY FOR EROSION CONTROL

—(BH)—

GENERAL NOTES

1. Hay bales shall be a minimum of 30" in length and weigh a minimum of 50 Lbs.
2. Hay bales shall be bound by either wire or nylon or polypropylene string. The bales shall be composed entirely of vegetative matter.
3. Hay bales shall be embedded in the soil a minimum of 4" and where possible ½ the height of the bale.
4. Hay bales shall be placed in a row with ends tightly abutting the adjacent bales. The bales shall be placed with bindings parallel to the ground.
5. Hay bales shall be securely anchored in place with ⅜" Dia. rebar or 2" x 2" wood stakes, driven through the bales. The first stake shall be angled towards the previously laid bale to force the bales together.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

Texas Department of Transportation
Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

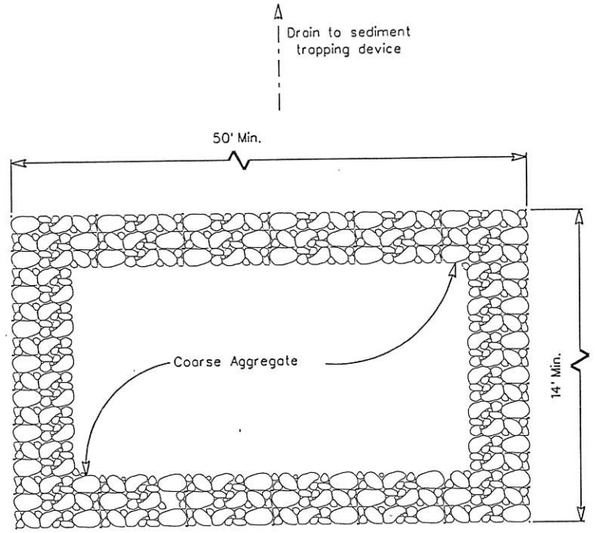
FENCE & BALED HAY

EC(1)-09

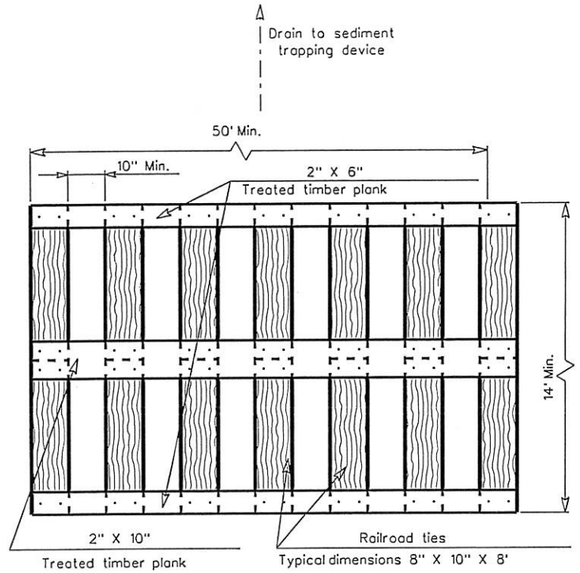
FILE: ec109.dgn	DN: TxDOT	CK: AM	DW: TV	CK: BD
©TxDOT June 1993	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.
	21	HIDALGO		22

DATE: $DATE$ $TIME$
FILE: $FILE$

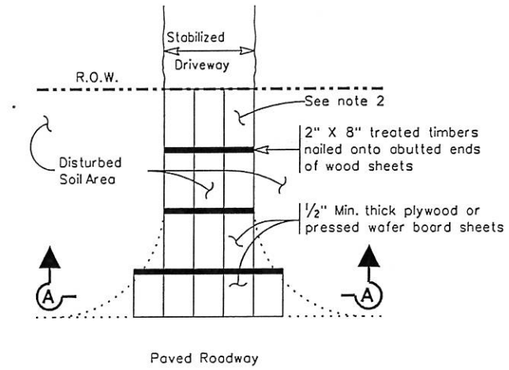
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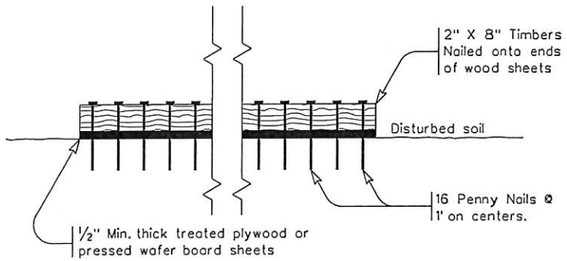
PLAN



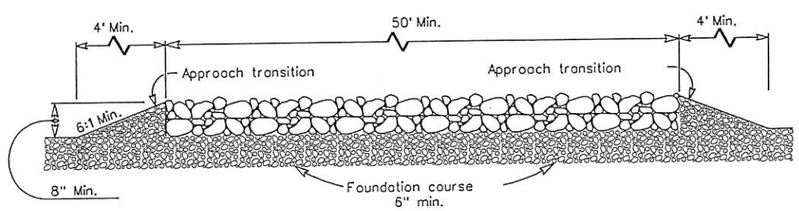
PLAN



PLAN



SECTION A-A

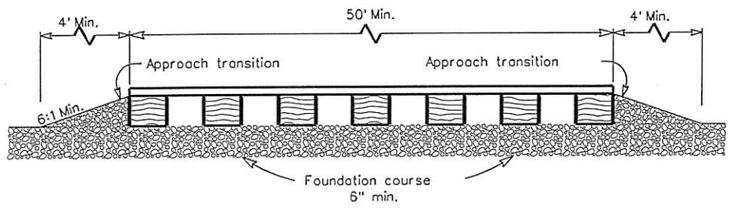


PROFILE

CONSTRUCTION EXIT (TYPE 1)

GENERAL NOTES

1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
2. The coarse aggregate should be open graded with a size of 4" to 8".
3. The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
5. The construction exit shall be graded to allow drainage to a sediment trapping device.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.



PROFILE

CONSTRUCTION EXIT (TYPE 2)

GENERAL NOTES

1. The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
2. The treated timber planks shall be attached to the railroad ties with ½"x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
5. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
6. The construction exit should be graded to allow drainage to a sediment trapping device.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

CONSTRUCTION EXIT (TYPE 3)

GENERAL NOTES

1. The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
2. The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

Texas Department of Transportation
Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

CONSTRUCTION EXITS

EC(3)-93

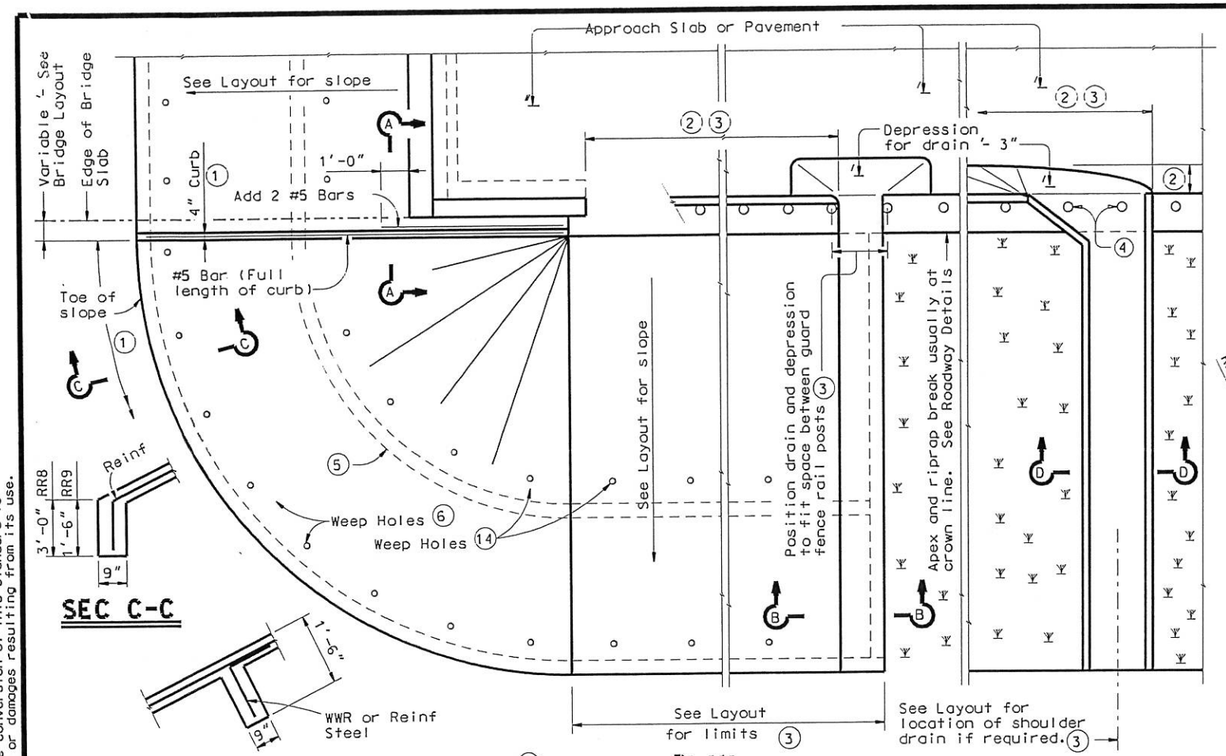
FILE: ec393.dgn	DN: TxDOT	CK: HEJ	DW: BD	CK:
©TxDOT June 1993 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.
	21	HIDALGO		23

DATE: $DATE$ $TIME$
FILE: $FILE$

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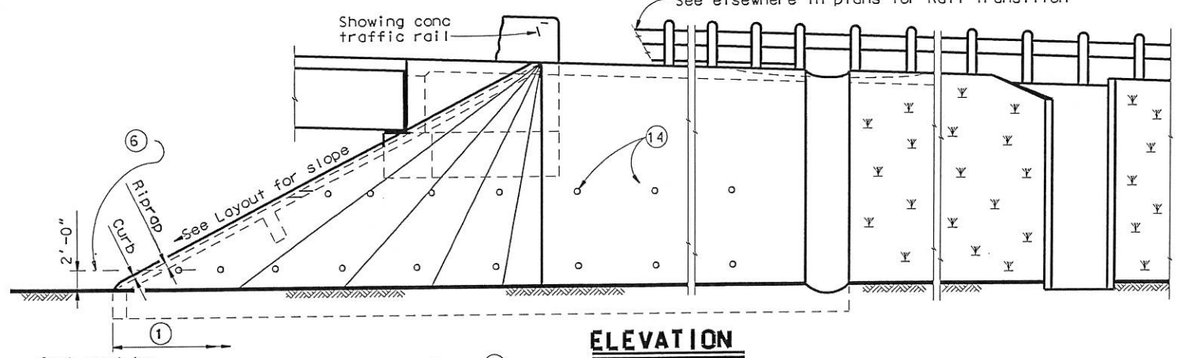
LEVELS DISPLAYED



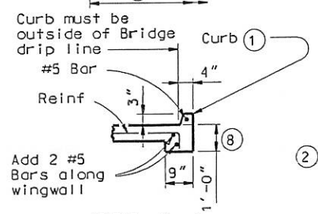
SEC C-C

PLAN

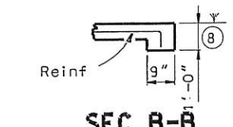
OPTIONAL INTERMEDIATE TOEWALL (5)



ELEVATION

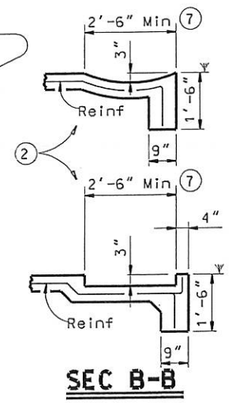


SEC A-A



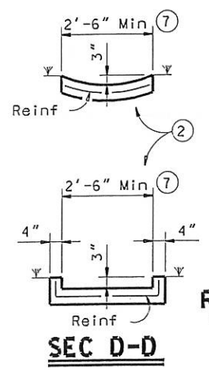
SEC B-B

(No Drain)



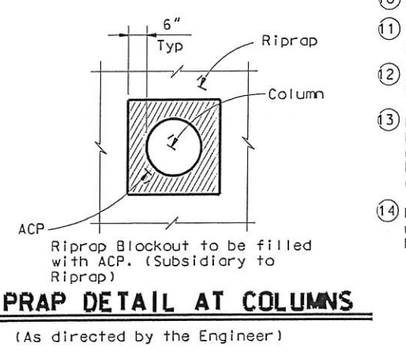
SEC B-B

(Shoulder Drain integral with riprap)



SEC D-D

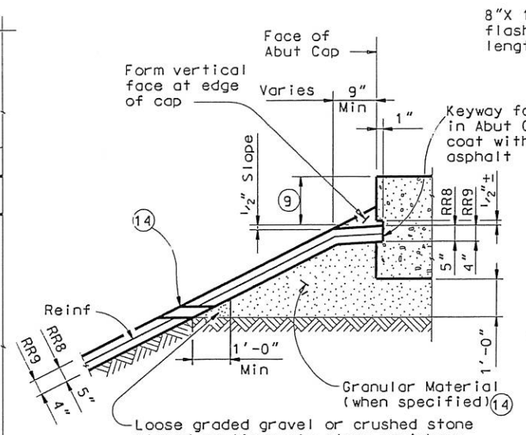
(Shoulder Drain)



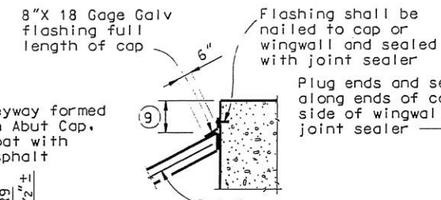
Riprap Blockout to be filled with ACP. (Subsidiary to Riprap)

RIPRAP DETAIL AT COLUMNS

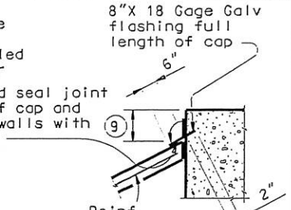
(As directed by the Engineer)



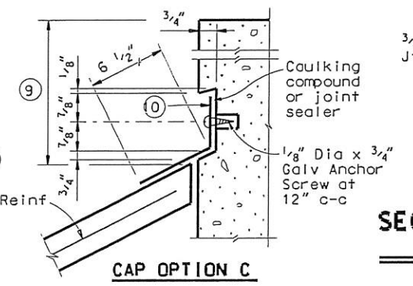
SHOWING KEYWAY OPTION



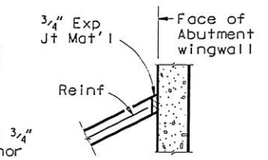
CAP OPTION A



CAP OPTION B

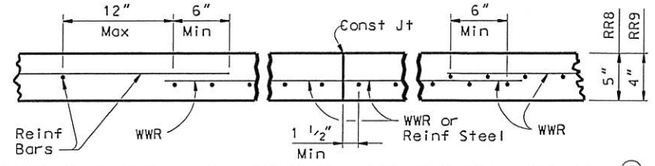


CAP OPTION C



SECT THRU RIPRAP AT WINGWALL (12)

SECTIONS THRU RIPRAP AT CAP (1)



DETAILS OF WWR, REINF AND CONST JOINT (3)

(1) When riprap is shown extended around header on layout, extend slab and toewall as shown and eliminate 4" curb.

(2) Limits and configuration of drains and depressions shall be as shown elsewhere in plans or as directed by the Engineer.

(3) Location of shoulder drain must consider limitations imposed by rail transition. Do not locate shoulder drains at expansion joints between approach slab and concrete pavement.

(4) See details elsewhere in plans for installation of guard fence posts through concrete riprap.

(5) The optional intermediate toewall shall be constructed when designated elsewhere in the plans or included in the specifications.

(6) Provide lower level of 2" Dia weep holes at 10' c-c backed by 1 CF packet of gravel and galvanized hardware cloth at all locations unless directed by the Engineer to eliminate.

(7) Wider or other drain configurations shall be used if shown elsewhere in plans or if directed by the Engineer.

(8) Wall extension may be reduced or modified if approved by the Engineer. Wall extension shall be increased to 1'-6" whenever the optional intermediate toewall is called for in the plans.

(9) Top of cap to top of riprap dimension varies as directed by the Engineer. Should be 9" Min for beam/slab type bridges and 1'-6" for slab span, box beam, or slab beam bridges.

(10) 8" x 18 Gage Galv Sheet Metal

(11) The sealing option of the joint between the face of cap and riprap shall be as designated by the Engineer or as shown elsewhere on plans.

(12) Flashing (shown in Cap Option A) may be used at wingwall in addition to Exp Jt Mat'l if shown on plans or directed by the Engineer.

(13) Reinforcing bars shall be #3 at 18" Spa c-c. Welded Wire Reinforcement (WWR) shall be 6X6-W2.9XW2.9. Combinations of WWR and reinforcing bars may be used if both are permitted. Lap splices shall be a minimum of 6 inches, measured from the transverse wire of WWR, and the ends of reinforcing bars.

(14) If granular material is specified, provide upper level of 2" Dia weep holes at 10' c-c backed by galvanized hardware cloth.

GENERAL NOTES:

Concrete shall be Class "B" with a minimum compressive strength of 2,000 psi unless noted elsewhere in plans.

All reinforcing steel shall be Grade 60.

Reinforcing other than that shown may be used by substituting reinforcement of equal or greater unit cross-sectional area. The maximum reinforcement spacing shall be 18 inches.

Construction joints or grooved joints extending the full slant slope height shall be at intervals of approximately 20 feet unless otherwise directed by the Engineer.

Hardware cloth, loose graded stone behind weep holes, flashing, or other sealing material shall not be paid for directly but shall be subsidiary to the bid item "Riprap".

Unless specified elsewhere in the plans to be only reinforcing bars, the riprap reinforcing may be composed of reinforcing bars, Welded Wire Reinforcement (WWR), or any suitable combination of both types.

See Layout for limits of riprap.

RR8 is to be used on stream crossings.

RR9 is to be used on other embankments.

FOR CONTRACTOR'S INFORMATION ONLY:
5" of RR8 = 0.015 CY/SF
4" of RR9 = 0.012 CY/SF
#3 Reinf at 18" c-c = 0.501 Lbs/SF
6X6-W2.9XW2.9 = 0.394 Lbs/SF

Texas Department of Transportation
Bridge Division

CONCRETE RIPRAP AND SHOULDER DRAINS EMBANKMENTS AT BRIDGE ENDS (TYPES RR8 & RR9)

CRR

FILE: crrsldet.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT April 2006	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 08-2007: Revised Note 6, removed "H" reference, added Note 14 & changed weep hole size & spacing.	21			24
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	HIDALGO				

AI -49905 **4.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. Application for Retainage in the amount of $31,174.90 from R. Gutierrez Engineering related to work done for Pct. 2 Rural Drainage Development- Seminole Valley Subdivision Area Drainage Improvements.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. Application for Retainage

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:55 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/28/2015 03:16 PM
Final Approval Date: 05/29/2015		

R. Gutierrez Engineering Corporation — Transmittal Form

TO: Claudette Guerrero

Hidalgo County Drainage District 1

FROM: Javier Gutierrez

SUBJECT: Pct2 Rural Drainage Development - Seminole Valley Subdivsion Area Drainage Improvements

PROJECT NO.: ENG13.001

DATE: May 5, 2015

WE ARE SENDING YOU ___ ATTACHED ___ UNDER SEPARATE COVER VIA Hand Delivery THE FOLLOWING ITEMS:

___ BLUEPRINTS	___ PLANS	___ SHOP DRAWINGS	___ CD
X CHANGE ORDER	___ SAMPLES	x PAYMENT REQUEST	X OTHER: Cert Subst Comp
___ BID TABULATION	___ CONTRACT DOCUMENTS	x RECORD DRAWINGS	___ 3 1/2" DISKETTE

QUANTITY / SETS	DATED	ITEM DESCRIPTION
1		Change Order #3 ✓
1		HCDD1 Payment Request Checklist ✓
1		Request for Final Payment ✓
1		Request for Retainage Release ✓
1		Record Drawings ✓

THESE ARE TRANSMITTED AS CHECKED BELOW:

___ FOR BIDS DUE	___ APPROVED AS NOTED	___ FOR YOUR RECORDS
___ FOR APPROVAL	___ APPROVED AS SUBMITTED	___ FOR YOUR ACKNOWLEDGEMENT
___ FOR YOUR USE	___ RETURN FOR CORRECTIONS	___ RESUBMIT FOR APPORVAL
___ AS REQUESTED	___ FOR FURTHER PROCESSING	___ ON LOAN
___ FOR REVIEW AND COMMENT	___ FOR SIGNATURE	___ OTHER

COMMENTS:

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 06 2015
9:48 AM (PM)
BY: Rosa Lee

Copy Distribution: file

Received by:

130 East Park Avenue - Pharr, Texas 78577 - Phone: (956) 782-2557 - Fax: (956) 782-2558 - Email: office@rgec.net

R. GUTIERREZ ENGINEERING CORPORATION

PAYMENT REQUEST CHECKLIST FOR HCDD1

Project # ENG13.001

Project Name: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Impvmts

Payment # Final & Retainage

Contractor RDH Site & Concrete

INFORMATION REQUIRED FOR PROCESSING

	Payment Requests Including FINAL	DOCUMENT SOURCE	ATTACHED
1	Application for Payment (Final)	Contractor	✓
2	Schedule of Values	Engineer	✓
3	Quantity Worksheet	Engineer	✓
4	List of Suppliers & Sub-Contractors	Contractor	✓
5	Partial / Final Waiver of Lien Suppliers & Sub-Contractors	Contractor	✓
6	TXDOT Form 252 Contract Time Statement	Engineer	✓
7	Employee Payroll Report w/ signed wage form	Contractor	✓ *
8	Change Orders #3 (FINAL QUANTITY ADJUSTMENTS)	Engineer	✓
9	Material Testing Reports (if not testing, memo from Engineer)	Engineer	✓

	RETAINAGE RELEASE	DOCUMENT SOURCE	ATTACHED
1	Application for Payment (Retainage Release)	Contractor	✓
2	Schedule of Values	Engineer	✓
3	Quantity Worksheet* (SUPPLIED W/ FINAL AMT REQUEST)	Engineer	N/A
4	Certificate of Construction Completion	Engineer	✓
5	Contractor's Affidavit of Release of Liens	Contractor	✓
6	Contractor's Affidavit of Payments of Debts & Claims	Contractor	✓
7	Consent of Surety to Final Payment	Contractor	✓
7	Record Drawings / As - Builts	Engineer	✓
8	Punch List	Engineer	✓

* Note: Item not needed if submitted together with Application for Final Payment.

CHANGE ORDER NUMBER THREE (3)

PROJECT: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

DATE OF ISSUANCE: _____ **EFFECTIVE DATE:** _____

OWNER: Hidalgo County Drainage District No. 1

CONTRACTOR: RDH Site & Concrete, LLC
1201 E. Moore Rd #89
Pharr, TX 78577

ENGINEER: R. Gutierrez Engineering Corporation
130 E. Park Ave.
Pharr, TX 78577

You are directed to make the following changes in the Contract Documents.

Description: **FINAL QUANTITY ADJUSTMENTS**

1. Construction Exit (Ty II) (Install) reduced to 0
2. Construction Exit (Ty II) (Remove) reduced to zero
3.
4.
5.
6.

Reason:

1. Not installed
2. Not installed so no need to remove
3.
4.
5.
6.

Attachments:

Change in Contract Price:		**CHANGE IN CONTRACT TIME:**	
Original Contract Price $ 307,273.00		Original Contract Time for Substantial Completion:	30 calendar days or dates
Net Changes from previous Change Order $ 7,500.00		Net change from previous Change Orders	23 calendar days
Contract Price prior to this Change Order $ 314,773.00		Contract Time prior to this Change Order Substantial Completion:	53 calendar days or dates
Net Increase (decrease) of this Change Order $ (3,024.00)		Net Increase (decrease) of this Change Order	63 calendar days
Contract Price with all approved Change Orders $ 311,749.00	Net % increase (decrease) from original contract price. 1.50 %	Contract Time with all approved Change Orders Substantial Completion:	116 calendar days or dates

RECOMMENDED:
By: _____ P.E.
Engineer (Authorized Signature)
Date: 5/5/15

APPROVED:
By: _____
Owner (Authorized Signature)
Date: _____

ACCEPTED:
By: _____
Contractor (Authorized Signature)
Date: 4-27-15

CHANGE ORDER NO. 3 TABULATION

PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

Item Number	Original Plan Quantity	C.O. #1 Quantities	C.O. #2 Quantities	C.O. #3 Quantities	Unit	Item Description	Unit Price	Revised Unit Price	Original Contract Cost	Change in Contract Cost of C.O.#1	Revised Contract Cost after C.O.#1	Change in Contract Cost of C.O.#2	Revised Contract Cost after C.O.#2	Change in Contract Cost of C.O.#3	Revised Contract Cost after C.O.#3
SEMINOLE VALLEY SUBDIVISION AREA															
1	2,114.00	2114.00	2114.00	2114.00	SY	Cellulose Fiber Mulch Seeding (Permanent) (Rural) (Clay)	$ 1.50	$ 1.50	$ 3,171.00	$ -	3,171.00	$ -	3,171.00	$ -	3,171.00
2	25.00	25.00	25.00	25.00	MG	Vegetated Watering	$ 20.00	$ 20.00	$ 500.00	$ -	500.00	$ -	500.00	$ -	500.00
3	515.00	515.00	515.00	515.00	CY	Cement Stabilized Backfill	$ 30.00	$ 30.00	$ 15,450.00	$ -	15,450.00	$ -	15,450.00	$ -	15,450.00
4	1,361.00	1361.00	1361.00	1361.00	LF	Trench Excavation Protection	$ 2.00	$ 2.00	$ 2,722.00	$ -	2,722.00	$ -	2,722.00	$ -	2,722.00
5	27.00	27.00	27.00	27.00	CY	Concrete Riprap (CL B) (5")	$ 130.00	$ 130.00	$ 3,510.00	$ -	3,510.00	$ -	3,510.00	$ -	3,510.00
6	188.00	188.00	188.00	188.00	LF	Concrete Box Culvert (6-Ft x 2-Ft)	$ 32.00	$ 32.00	$ 6,016.00	$ -	6,016.00	$ -	6,016.00	$ -	6,016.00
7	64.00	64.00	64.00	64.00	LF	Reinforced Concrete Pipe (42-IN) (CL III) (SPL)	$ 95.00	$ 95.00	$ 6,080.00	$ -	6,080.00	$ -	6,080.00	$ -	6,080.00
8	1,252.00	1252.00	1252.00	1252.00	LF	Reinforced Concrete Pipe (60-IN) (CL III) (SPL)	$ 180.00	$ 180.00	$ 225,360.00	$ -	225,360.00	$ -	225,360.00	$ -	225,360.00
9	1.00	1.00	1.00	1.00	EA	Inlet (Complete) (Ty M w/Grate)	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ -	5,000.00	$ -	5,000.00	$ -	5,000.00
10	1.00	1.00	1.00	1.00	EA	Junction Box (10-ft x 5-ft x/Grate)	$ 9,000.00	$ 9,000.00	$ 9,000.00	$ -	9,000.00	$ -	9,000.00	$ -	9,000.00
11	1.00	1.00	1.00	1.00	EA	Junction Box (10-ft x 5-ft)	$ 9,000.00	$ 9,000.00	$ 9,000.00	$ -	9,000.00	$ -	9,000.00	$ -	9,000.00
12	1.00	1.00	1.00	1.00	EA	Junction Box (16-ft x 5-ft)	$ 12,000.00	$ 12,000.00	$ 12,000.00	$ -	12,000.00	$ -	12,000.00	$ -	12,000.00
13	252.00	252.00	252.00	0.00	SY	Construction Exit (Ty II) (Install)	$ 6.00	$ 6.00	$ 1,512.00	$ -	1,512.00	$ -	1,512.00	$ (1,512.00)	0.00
14	252.00	252.00	252.00	0.00	SY	Construction Exit (Ty II) (Remove)	$ 6.00	$ 6.00	$ 1,512.00	$ -	1,512.00	$ -	1,512.00	$ (1,512.00)	0.00
15	144.00	144.00	144.00	144.00	LF	Temporary Sediment Control Fence	$ 10.00	$ 10.00	$ 1,440.00	$ -	1,440.00	$ -	1,440.00	$ -	1,440.00
16	40.00	40.00	40.00	40.00	LF	RCP Irrigation Pipe (36-IN)	$ 100.00	$ 100.00	$ 4,000.00	$ -	4,000.00	$ -	4,000.00	$ -	4,000.00
17	1.00	1.00	1.00	1.00	MO	Barricades, Signs and Traffic Handling	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ -	1,000.00	$ -	1,000.00	$ -	1,000.00
18	0.00	1.00	1.00	1.00	EA	Manhole Type M	$ -	$ 7,500.00	$ -	$ 7,500.00	7,500.00	$ -	7,500.00	$ -	7,500.00
Total Seminole Valley Subdivision Area									**$ 307,273.00**	**$ 7,500.00**	**$ 314,773.00**	**$ -**	**$ 314,773.00**	**$ (3,024.00)**	**$ 311,749.00**

4/22/2015
11:56 AM

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 5/6/2015

Engineer/Firm Name: R.Gutierrez Eng.

Project Name/Number: Rural Drian. Seminole Valley

Invoice No.: Application for Final PMT

Purchase Order No.:

Received By: Rosa Arce

Forwarded to: Joey Garza

Total # of Pages Submitted: 34 pages

Attachments: Change Order #3, Checklist, Retainage Release & Drawings

2pg. 1pg. 11pg. 24pg. = 72 pages

Additional Comments: $8,703.90

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

MAY 06 2015
2:48 AM / PM
BY: Rosalee

APPLICATION FOR FINAL PMT

To: Hidalgo County Drainage District No. 1 (OWNER)
From: RDH Site & Concrete, LLC (CONTRACTOR)
Contract: HCDD1-14-010-05-06
Project: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
OWNER's Contract No. HCDD1-14-010-05-06
For Work accomplished through the date of: April 22, 2015
ENGINEER's Project No.: ENG13.001

1.	Original Contract Price:			$ 307,273.00
2.	Net change by Change Orders and Written Agreements (+ or -):			$ 4,476.00
3.	Current Contract Price (1 plus 2):			$ 311,749.00
4.	Total completed and stored to date:			$ 311,749.00
5.	Retainage (per Agreement):			
	10% of completed Work:	$ 31,174.90		
	10% of stored material:	$ -		
	Total Retainage:			$ 31,174.90
6.	Total completed and stored to date less retainage (4 minus 5):			$ 280,574.10
7.	Less previous Application for Payments:			$ (271,870.20)
8.	Balance to Finish:			$ -
9.	AMOUNT DUE THIS APPLICATION (6 MINUS 7):			**$ 8,703.90**

Accompanying Documentation:

CONTRACTOR'S Certification:
The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered 1 through FINAL PMT inclusive; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Dated April 27, 2015
RDH Site & Concrete, LLC
CONTRACTOR
By: [signature]

State of Texas
County of Hidalgo
Subscribed and sworn to before me this 27 day of April, 2015
San Juanita Garcia
Notary Public
My Commission expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated 5/5/2015
R. GUTIERREZ ENGINEERING CORPORATION
ENGINEER
By: [signature], P.E.

Schedule of Values

Contractor Name: RDH Site & Concrete, LLC
Starting Date: October 13, 2014
Project Ending Date: February 5, 2015
Project Desc: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
Retainage Percent: 10%

Application: FINAL PMT
Application Date: 4/27/2015
Period To: 4/22/2015
Engineer's Project No.: ENG13.001
Engineer Firm R. Gutierrez Eng. Corp.

Summary

Contract Number	Description	Original Schedule Value	C.O. #1 Schedule Value	C.O. #2 Schedule Value	C.O. #3 Schedule Value	Application #1	Retainage for App #1	Payment for Application #1	Application #2	Retainage for App #2	Payment for Application #2	Final Application	Retainage for Final App	Payment for Final Application	Total Completed to Date	Retainage to Date	Total Completed Less Retainage	Previous Payments	Balance To Finish
HCDD1-14-010-05-06	PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements	$ 307,273.00	$ 314,773.00	$ 314,773.00	$ 311,749.00	$ 232,051.00	$ 23,205.10	$ 208,845.90	$ 70,027.00	$ 7,002.70	$ 63,024.30	$ 9,671.00	$ 967.10	$ 8,703.90	$ 311,749.00	$ 31,174.90	$ 280,574.10	$ 271,870.20	$ -
	TOTALS:	**$ 307,273.00**	**$ 314,773.00**	**$ 314,773.00**	**$ 311,749.00**	**$ 232,051.00**	**$ 23,205.10**	**$ 208,845.90**	**$ 70,027.00**	**$ 7,002.70**	**$ 63,024.30**	**$ 9,671.00**	**$ 967.10**	**$ 8,703.90**	**$ 311,749.00**	**$ 31,174.90**	**$ 280,574.10**	**$ 271,870.20**	**$ -**

Contractor Name: RDH Site & Concrete, LLC
Starting Date: October 13, 2014
Project Ending Date: February 5, 2015
Project Desc: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

Application: FINAL PMT
Application Date: April 27, 2015
Period To: April 22, 2015
Engineer's / County Project No.: ENG13.001

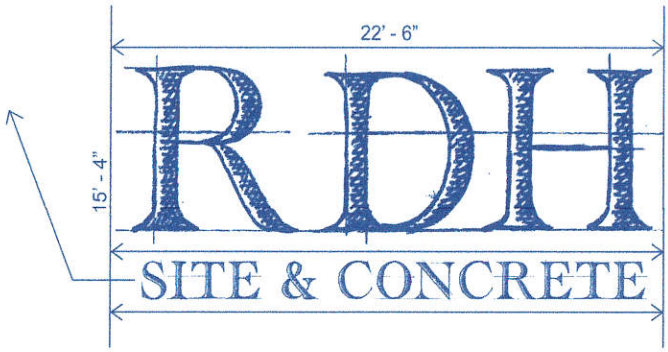
				Original Schedule Value			Change Order #1 Revised Schedule Value			Change Order #2 Revised Schedule Value			Change Order #3 Revised Schedule Value			Application #1			Application #2			Final Application				Balance To Finish	
No.	Item Code	Description	Unit	Original Rates	Quan	Dollars	Revised Rates	Quan	Dollars	Revised Rates	Quan	Dollars	Revised Rates	Quan	Dollars	Monthly Quan	QTY to Date	Item Cost (Monthly)	Monthly Quan	QTY to Date	Item Cost (Monthly)	Monthly Quan	QTY to Date	Item Cost (Monthly)	Total to Date	Quan	Dollars
		SEMINOLE VALLEY SUBDIVISION AREA																									
1	100	Cellulose Fiber Mulch Seeding (Permanent) (Rural) (Clay)	SY	$ 1.50	2,114.00	$ 3,171.00	$ 1.50	2,114.00	$ 3,171.00	$ 1.50	2,114.00	$ 3,171.00	$ 1.50	2,114.00	$ 3,171.00		-	$ -	-	-	$ -	2,114.00	2,114.00	$ 3,171.00	$ 3,171.00	0.00	$ -
2	110	Vegetated Watering	MG	$ 20.00	25.00	$ 500.00	$ 20.00	25.00	$ 500.00	$ 20.00	25.00	$ 500.00	$ 20.00	25.00	$ 500.00		-	$ -	-	-	$ -	25.00	25.00	$ 500.00	$ 500.00	0.00	$ -
3	132	Cement Stabilized Backfill	CY	$ 30.00	515.00	$ 15,450.00	$ 30.00	515.00	$ 15,450.00	$ 30.00	515.00	$ 15,450.00	$ 30.00	515.00	$ 15,450.00	265.00	265.00	$ 7,950.00	250.00	250.00	$ 7,500.00		-	$ -	$ 15,450.00	0.00	$ -
4	164	Trench Excavation Protection	LF	$ 2.00	1,361.00	$ 2,722.00	$ 2.00	1,361.00	$ 2,722.00	$ 2.00	1,361.00	$ 2,722.00	$ 2.00	1,361.00	$ 2,722.00	895.00	895.00	$ 1,790.00	466.00	466.00	$ 932.00		-	$ -	$ 2,722.00	0.00	$ -
5	400	Concrete Riprap (CL B) (5")	CY	$ 130.00	27.00	$ 3,510.00	$ 130.00	27.00	$ 3,510.00	$ 130.00	27.00	$ 3,510.00	$ 130.00	27.00	$ 3,510.00		-	$ -	27.00	27.00	$ 3,510.00		-	$ -	$ 3,510.00	0.00	$ -
6	400	Concrete Box Culvert (6-Ft x 2-Ft)	LF	$ 32.00	188.00	$ 6,016.00	$ 32.00	188.00	$ 6,016.00	$ 32.00	188.00	$ 6,016.00	$ 32.00	188.00	$ 6,016.00	188.00	188.00	$ 6,016.00		-	$ -		-	$ -	$ 6,016.00	0.00	$ -
7	402	Reinforced Concrete Pipe (42-IN) (CL III) (SPL)	LF	$ 30.00	64.00	$ 1,920.00	$ 30.00	64.00	$ 1,920.00	$ 30.00	64.00	$ 1,920.00	$ 30.00	64.00	$ 1,920.00		-	$ -	64.00	64.00	$ 1,920.00		-	$ -	$ 1,920.00	0.00	$ -
7a	403	Reinforced Concrete Pipe (42-IN) (CL III) (SPL) STORED MATS	LF	$ 65.00	64.00	$ 4,160.00	$ 65.00	64.00	$ 4,160.00	$ 65.00	64.00	$ 4,160.00	$ 65.00	64.00	$ 4,160.00	64.00	64.00	$ 4,160.00		-	$ -		-	$ -	$ 4,160.00	0.00	$ -
8	404	Reinforced Concrete Pipe (60-IN) (CL III) (SPL)	LF	$ 65.00	1,252.00	$ 81,380.00	$ 65.00	1,252.00	$ 81,380.00	$ 65.00	1,252.00	$ 81,380.00	$ 65.00	1,252.00	$ 81,380.00	895.00	895.00	$ 58,175.00	357.00	357.00	$ 23,205.00		-	$ -	$ 81,380.00	0.00	$ -
8a	405	Reinforced Concrete Pipe (60-IN) (CL III) (SPL) STORED MATS	LF	$ 115.00	1,252.00	$ 143,980.00	$ 115.00	1,252.00	$ 143,980.00	$ 115.00	1,252.00	$ 143,980.00	$ 115.00	1,252.00	$ 143,980.00	1,252.00	1,252.00	$ 143,980.00		-	$ -		-	$ -	$ 143,980.00	0.00	$ -
9	406	Inlet (Complete) (Ty M w/Grate)	EA	$ 5,000.00	1.00	$ 5,000.00	$ 5,000.00	1.00	$ 5,000.00	$ 5,000.00	1.00	$ 5,000.00	$ 5,000.00	1.00	$ 5,000.00	1.00	1.00	$ 5,000.00		-	$ -		-	$ -	$ 5,000.00	0.00	$ -
10	408	Junction Box (10-ft x 5-ft x/Grate)	EA	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00		-	$ -	0.80	0.80	$ 7,200.00	0.20	0.20	$ 1,800.00	$ 9,000.00	0.00	$ -
11	410	Junction Box (10-ft x 5-ft)	EA	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00	$ 9,000.00	1.00	$ 9,000.00		-	$ -	0.80	0.80	$ 7,200.00	0.20	0.20	$ 1,800.00	$ 9,000.00	0.00	$ -
12	462	Junction Box (16-ft x 5-ft)	EA	$ 12,000.00	1.00	$ 12,000.00	$ 12,000.00	1.00	$ 12,000.00	$ 12,000.00	1.00	$ 12,000.00	$ 12,000.00	1.00	$ 12,000.00		-	$ -	0.80	0.80	$ 9,600.00	0.20	0.20	$ 2,400.00	$ 12,000.00	0.00	$ -
13	464	Construction Exit (Ty II) (Install)	SY	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	0.00	$ -		-	$ -	-	-	$ -		-	$ -	$ -	0.00	$ -
14	464	Construction Exit (Ty II) (Remove)	SY	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	252.00	$ 1,512.00	$ 6.00	0.00	$ -		-	$ -	-	-	$ -		-	$ -	$ -	0.00	$ -
15	464	Temporary Sediment Control Fence	LF	$ 10.00	144.00	$ 1,440.00	$ 10.00	144.00	$ 1,440.00	$ 10.00	144.00	$ 1,440.00	$ 10.00	144.00	$ 1,440.00	48.00	48.00	$ 480.00	96.00	96.00	$ 960.00		-	$ -	$ 1,440.00	0.00	$ -
16	464	RCP Irrigation Pipe (36-IN)	LF	$ 100.00	40.00	$ 4,000.00	$ 100.00	40.00	$ 4,000.00	$ 100.00	40.00	$ 4,000.00	$ 100.00	40.00	$ 4,000.00	40.00	40.00	$ 4,000.00		-	$ -		-	$ -	$ 4,000.00	0.00	$ -
17	464	Barricades, Signs and Traffic Handling	MO	$ 1,000.00	1.00	$ 1,000.00	$ 1,000.00	1.00	$ 1,000.00	$ 1,000.00	1.00	$ 1,000.00	$ 1,000.00	1.00	$ 1,000.00	0.50	0.50	$ 500.00	0.50	0.50	$ 500.00		-	$ -	$ 1,000.00	0.00	$ -
18	464	Manhole Type M	EA	$ -	0.00	$ -	$ 7,500.00	1.00	$ 7,500.00	$ 7,500.00	1.00	$ 7,500.00	$ 7,500.00	1.00	$ 7,500.00		-	$ -	1.00	1.00	$ 7,500.00		-	$ -	$ 7,500.00	0.00	$ -
		TOTAL BASE AMOUNTS				**$ 307,273.00**			**$ 314,773.00**			**$ 314,773.00**			**$ 311,749.00**			**$ 232,051.00**			**$ 70,027.00**			**$ 9,671.00**	**$ 311,749.00**		**$ -**

Prepared and Checked By:

Printed Name: Javier Gutierrez

Signature:

Date: 5/15/15



May 1, 2015

R. Gutierrez Engineering
130 E. Park Ave
Phar, Texas 78577
956-782-2557
Javier@rgec.net

RE: HIDALGO COUNTY DRAINAGE DISTRICT NO.1
SEMINOLE VALLEY SUBDIVISION AREA IMPROVEMENTS
HCDD1-14-010-04-09

Mr. Gutierrez;

The Following is the list of suppliers used in the above mentioned project as per the County request:

L&R Precast
3807 N. Bentsen Palm Dr. Mission, Texas 78577 956-583-6293

L&R Ready Mix
3807 N. Bentsen Palm Dr. Mission, Texas 78577 956-583-6293

Rio Valley Pipe
7301 W. Expressway 83 Mission, Texas 78577 956-580-2502

RDH Site and Concrete, LLC does not hire any subcontractors, all work performed is completed by our firm.

If you have any questions, please call me (956)502-5426

Best Regards;

Dianaly De Hoyos, General Manager

PARTIAL/FINAL WAIVER OF LEIN

THE STATE OF TEXAS

COUNTY OF Hidalgo

The undersigned contracted with RDH Site and Concrete, LLC
to furnish Materials
in connection with certain improvements to real property located in Penitas Valley Subdivision
County, Texas, and owned by Hidalgo County Drainage District No. 1
Which improvements are described as follows:

Drainage

In consideration of Pay Estimate No 2 in the amount of five thousand six hundred twenty-five DOLLAR($ 5,625.00)and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed, the undersigned does hereby waive and release any mechanic's lien or materialmen's lien or claims of lien that the undersigned has or hereafter has on the above mentioned real property on account of any labor performed or materials furnished or to be furnished or labor performed and materials furnished by the undersigned pursuant to the above-mentioned contract or any constitutional lien that the undersigned may have.

Undersigned hereby guarantees that all bids for labor performed and/or materials furnished in the erection and construction of such improvements on the Property have been fully paid and satisfied and Undersigned does further guarantee that if for any reason a lien or liens are filed for material or labor against said Property arising out of any bills for material or labor in connection with the erection or construction of said improvements thereon, Undersigned will obtain a settlement of such lien or liens and a proper release thereof shall be obtained.

LR Pre Cast / LR Ready Mix
CONTRACTOR

BY: Lyra Carlos Vice President
TITLE

SWORN TO AND SUBSCRIBED BEFORE ME, on this the 1 day of April, 2015 to certify which witness my hand and seal of office.

San Juanita Garcia
NOTARY PUBLIC in and for the State of Texas

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

PARTIAL/FINAL WAIVER OF LEIN

THE STATE OF TEXAS

COUNTY OF Hidalgo

The undersigned contracted with RDH Sete and Concrete, LLC
to furnish materials
in connection with certain improvements to real property located in Jennifer Valley Subdivision
County, Texas, and owned by Hidalgo County Drainage District No. 1
Which improvements are described as follows:

Drainage

In consideration of Pay Estimate No 2 in the amount of twelve thousand eight hundred fifty eight/12 cents DOLLAR($ 12,858.12)and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed, the undersigned does hereby waive and release any mechanic's lien or materialmen's lien or claims of lien that the undersigned has or hereafter has on the above mentioned real property on account of any labor performed or materials furnished or to be furnished or labor performed and materials furnished by the undersigned pursuant to the above-mentioned contract or any constitutional lien that the undersigned may have.

Undersigned hereby guarantees that all bids for labor performed and/or materials furnished in the erection and construction of such improvements on the Property have been fully paid and satisfied and Undersigned does further guarantee that if for any reason a lien or liens are filed for material or labor against said Property arising out of any bills for material or labor in connection with the erection or construction of said improvements thereon, Undersigned will obtain a settlement of such lien or liens and a proper release thereof shall be obtained.

L & R Pre Cast
CONTRACTOR

BY: Lucia Carlos Vice President
TITLE

SWORN TO AND SUBSCRIBED BEFORE ME, on this the 1 day of April ,20 15 to certify which witness my hand and seal of office.

San Juanita Garcia
NOTARY PUBLIC in and for the State of Texas

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

PARTIAL/FINAL WAIVER OF LEIN

THE STATE OF TEXAS

COUNTY OF Hidalgo

The undersigned contracted with RDH Site and Concrete, LLC
to furnish Materials
in connection with certain improvements to real property located in Seminole Valley Subdivision
County, Texas, and owned by Hidalgo County Drainage district NO. 1
Which improvements are described as follows:

Drainage Pipe

In consideration of Pay Estimate No 1 in the amount of One hundred-seventy nine thousand one hundred-fifty eight dollars/82 DOLLAR($179,158.82) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed, the undersigned does hereby waive and release any mechanic's lien or materialmen's lien or claims of lien that the undersigned has or hereafter has on the above mentioned real property on account of any labor performed or materials furnished or to be furnished or labor performed and materials furnished by the undersigned pursuant to the above-mentioned contract or any constitutional lien that the undersigned may have.

Undersigned hereby guarantees that all bids for labor performed and/or materials furnished in the erection and construction of such improvements on the Property have been fully paid and satisfied and Undersigned does further guarantee that if for any reason a lien or liens are filed for material or labor against said Property arising out of any bills for material or labor in connection with the erection or construction of said improvements thereon, Undersigned will obtain a settlement of such lien or liens and a proper release thereof shall be obtained.

Rio Valley Pipe
CONTRACTOR

BY: Edgar Martinez CREDIT MNGR
TITLE

SWORN TO AND SUBSCRIBED BEFORE ME, on this the 11th day of June, 2015 to certify which witness my hand and seal of office.

NOTARY PUBLIC in and for the State of Texas

My Commission Expires: 12-12-2015

ERNESTO SAENZ
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 12-12-2015

Exhibit E-I

Contract Time Statement

PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

PAY REQUEST FINAL CONTRACTOR RDH Site and Concrete, LLC

PROJECT NO. HCDD1-14-010-05-06 City Alamo, Texas DATE WORK BEGAN 10/13/2014

TIME COMPUTED FROM 10/13/2014 DATE WORK COMPLETED

MONTH	DATE OR DAYS	WORKING DAYS CHARGED	DAYS CREDITED	DESCRIPTION
February	3			**(Project is Substantially Complete as of 2/3/15 - Contract Time Stops)**
	4			work on project (cleanup and punch list items)
	5			work on project (cleanup and punch list items)
	6			work on project (cleanup and punch list items)
	7			
	8			
	9			work on project (cleanup and punch list items)
	10			work on project (cleanup and punch list items)
	11			work on project (cleanup and punch list items)
	12			work on project (cleanup and punch list items)
	13			work on project (cleanup and punch list items)
	14			
	...			
	25			work on project (cleanup and punch list items)
	26			work on project (cleanup and punch list items)
	27			work on project (cleanup and punch list items)
	28			work on project (cleanup and punch list items)
March	1			
	2			work on project (cleanup and punch list items)
	3			work on project (cleanup and punch list items)
	4			
	5			
	6			work on project (cleanup and punch list items)
	7			
	...			
April	20			work on project (cleanup and punch list items)
	21			work on project (cleanup and punch list items)
	22			All items completed and notified HCDD1
TOTALS		0	0	

NO. OF CONTRACT CALANDER DAYS 116** NO. CALANDER DAYS CHARGED TO DATE **114**

ASSESSED LIQUIDATED DAMAGES: NO. DAYS 0 PER DAY $ TOTAL

CERTIFIED AS CORRECT (ONE COPY HAS BEEN GIVEN TO THE CONTRACTOR)

P.E.

PROJECT ENGINEER

*23 Days added per change order #1 (13 Rain / Too wet to work and 10 for additional MH)

**63 Days added per change order #2 for Rain / Too wet to work conditions and additional days for additional work and delay for confict in field

INSTRUCTIONS: PROJECT IDENTIFICATION SHOULD COVER CONTRACT. TIME CREDITED AND REASONS THEREFORE MUST CONFORM TO PROVISIONS OF CONTRACT. NO HOLIDAY CREDIT ALLOWED FOR DAYS PRECEDING OR FOLLOWING LEGAL HOLIDAYS. TIME SUSPENDED AND RESUMED MUST BE SUPPORTED BY COPY EACH OF LETTERS TO CONTRACTOR DATED ON OR BEFORE EFFECTIVE DATES. TIME EXTENSION MUST BE INDICATED AND REFERENCED TO RELATED PROVISION OF CONTRACT. SEE BOOKLET OF INSTRUCTIONS, CONSTRUCTION ESTIMATES DATED SEPTEMBER 1, 1956

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	19	2-6-15	SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 5 / S 4 / M 5 / T 6 / W / TH / F — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S	8 8 8	24	12.60	302.40							302.40
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240
OSCAR MONTANO-8794		PIPE LAYER	O											
			S	8 8 8	24	12.00	288							288
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

4 day of Feb, 2015, and ending the 6 day of Feb, 205,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 20

FOR WEEK ENDING 2-13-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE / HOURS WORKED EACH DAY							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS						(9) NET WAGES PAID FOR WEEK
				S 7	S 8	M 9	T 10	W 11	TH 12	F 13				FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S			8	8	8	4	4	32	12.60	403.20							403.20
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S			8	8	8	4	4	32	10.00	320							320
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S			8	8	8	4	4	32	12.00	384							384
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S			8	8	8	4	4	32	10.00	320							320
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

1 day of Feb, 2015, and ending the 13 day of Feb, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 21

FOR WEEK ENDING 2-20-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 14	S 15	M 16	T 17	W 18	TH 19	F 20 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S									10.00								
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S									10.00								
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

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Public Burden Statement

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

14 day of Feb, 2015, and ending the 20 day of Feb, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

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U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐
RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 22

FOR WEEK ENDING 2-27-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 21 / S 22 / M 23 / T 24 / W 25 / TH 26 / F 27 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S	8 8 8	24	12.60	302.40							302.40
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240.00
OSCAR MONTANO-8794		PIPE LAYER	O											
			S	8 8 8	24	12.00	288							240.00
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S	8 8 8	24	10.00	240							240.00
			O											
			S											
			O											
			S											
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			O											
			S											

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Public Burden Statement

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

21 day of Feb, 2015, and ending the 27 day of Feb, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 23

FOR WEEK ENDING 3-6-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 28	S 1	M 2	T 3	W 4	TH 5	F 6 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S	8		8	8			8	32	12.60	403.20							403.20
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S	8		8	8			8	32	10.00	320							320
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S	8		8	8			8	32	12.00	384							384
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S	8		8	8			8	32	10.00	320							320
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

28 day of February, 2015, and ending the 6 day of March, 2015;

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89, PHARR, TEXAS 78577

PAYROLL NO. 24

FOR WEEK ENDING 3-13-15

PROJECT AND LOCATION: SEMINOLE VALLEY SUBDIVISION, ALAMO, TEXAS

PROJECT OR CONTRACT NO.: HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 7	S 8	M 9	T 10	W 11	TH 12	F 13 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S									10.00								
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S									10.00								
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	
			O																	
			S																	

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

7 day of March 2015, and ending the 13 day of March 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐: RDH SITE AND CONCRETE,LLC

ADDRESS: 1201 E. MOORE RD 89, PHARR, TEXAS 78577

PAYROLL NO.: 25

FOR WEEK ENDING: 3-20-15

PROJECT AND LOCATION: SEMINOLE VALLEY SUBDIVISION, ALAMO, TEXAS

PROJECT OR CONTRACT NO.: HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 14 / S 15 / M 16 / T 17 / W 18 / TH 19 / F 20 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.60								
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

14 day of March, 2015, and ending the 20 day of March, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	26	3-27-15	SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 21 / S 22 / M 23 / T 24 / W 25 / TH 26 / F 27 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

21 day of March, 2015, and ending the 27 day of March, 2015

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

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U.S. Department of Labor
Wage and Hour Division

PAYROLL

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	27	4-3-15

PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 28	S 29	M 30	T 31	W 1	TH 2	F 3 (HOURS WORKED EACH DAY)	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S									10.00								
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O																	
			S									10.00								
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			S																	
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			S																	
			O																	
			S																	
			O																	
			S																	

NO WORK

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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the

28 day of March, 2015, and ending the 3 day of April, 2015,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐

RDH SITE AND CONCRETE,LLC

ADDRESS 1201 E. MOORE RD 89
PHARR, TEXAS 78577

OMB No.: 1235-0008
Expires: 02/28/2018

PAYROLL NO. 28

FOR WEEK ENDING 4-10-15

PROJECT AND LOCATION
SEMINOLE VALLEY SUBDIVISION
ALAMO, TEXAS

PROJECT OR CONTRACT NO.
HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 4 / S 5 / M 6 / T 7 / W 8 / TH 9 / F 10 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O											
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

NO WORK

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the 4 day of April, 2015, and ending the 10 day of April, 2015, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐	ADDRESS	PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION	PROJECT OR CONTRACT NO.
RDH SITE AND CONCRETE,LLC	1201 E. MOORE RD 89 PHARR, TEXAS 78577	29	4-17-15	SEMINOLE VALLEY SUBDIVISION ALAMO, TEXAS	HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 11 / S 12 / M 13 / T 14 / W 15 / TH 16 / F 17 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O											
			S			12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O											
			S			10.00								
OSCAR MONTANO-8794		PIPE LAYER	O											
			S			12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O				NO WORK							
			S			10.00								
			O											
			S											
			O											
			S											
			O											
			S											
			O											
			S											

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Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the 11 day of April 2015, and ending the 17 day of April 2015 all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☑ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NO WORK

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

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U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR ☑ OR SUBCONTRACTOR ☐: RDH SITE AND CONCRETE,LLC

ADDRESS: 1201 E. MOORE RD 89, PHARR, TEXAS 78577

PAYROLL NO.: 30

FOR WEEK ENDING: 4-24-15

PROJECT AND LOCATION: SEMINOLE VALLEY SUBDIVISION, ALAMO, TEXAS

PROJECT OR CONTRACT NO.: HCDD1-14-010-05-06

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE: S 18	S 19	M 20	T 21	W 22	TH 23	F 24 — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
ALBERTO CORTEZ-6744		EXCAVATOR OPERATOR 50,000 lbs or Less	O																	
			S									12.60								
JOSE MANUEL DE HOYOS-0135		COMMON LABOR	O																	
			S			4	4				8	10.00	80							80
OSCAR MONTANO-8794		PIPE LAYER	O																	
			S									12.00								
ROGELIO DE HOYOS-1363		COMMON LABOR	O			4	4				8									
			S									10.00	80							80
			O																	
			S																	
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(over)

Date 5/4/2015

I, DIANALY DEHOYOS (Name of Signatory Party) MANAGER (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) on the

SEMINOLE VALLEY SUBDIVISION IMPROVE (Building or Work); that during the payroll period commencing on the 18 day of April, 2015, and ending the 24 day of April 2015 all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

RDH SITE AND CONCRETE,LLC (Contractor or Subcontractor) from the full

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

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(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
DIANALY DEHOYOS-MANAGER	

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

R. Gutierrez Engineering Corporation
Texas Engineering Firm Number: F-486
Texas Surveying Firm Number: 101650-00

May 5, 2015

Mr. Raul Sesin, PE, CFM
Hidalgo County Drainage District No. 1
902 Doolittle
Edinburg, Texas 78542

Subject: PCT2 Rural Drainage Development - Seminole Valley Subdivision Area Drainage Improvements
Contract #: HCDD1-14-010-04-09
Testing Requirements for Payment Request #FINAL PMT

Dear Mr. Sesin:

Please be advised that no material testing was required or done for this project since Payment Request #2 was submitted to your office on February 11, 2015.

Please call me at (956) 782-2557 if you have questions concerning this matter.

Sincerely,

Ramiro Gutierrez, P.E.
President

cc: file

130 East Park Avenue – Pharr, TX 78577 – Telephone: 956-782-2557 – Fax: 956-782-2558 – E-mail: rgutierrez@rgec.net

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 5/6/2015

Engineer/Firm Name: R.Gutierrez Eng.

Project Name/Number: Rural Drian. Seminole Valley

Invoice No.: Application for Retainage

Purchase Order No.:

Received By: Rosa Arce

Forwarded to: Joey Garza

Total # of Pages Submitted: 12 pages

Attachments: Change Order #3, Checklist, Final PMT & Drawings

2pg. 1pg. 33pg. 24pg. = 72 pages

Additional Comments: $31,174.90

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

MAY 0 6 2015

3:48 AM / PM

BY:

APPLICATION FOR RETAINAGE

To: Hidalgo County Drainage District No. 1 (OWNER)
From: RDH Site & Concrete, LLC (CONTRACTOR)
Contract: HCDD1-14-010-05-06
Project: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
OWNER's Contract No. HCDD1-14-010-05-06
For Work accomplished through the date of: April 22, 2015
ENGINEER's Project No.: ENG13.001

1.	Original Contract Price:		$ 307,273.00
2.	Net change by Change Orders and Written Agreements (+ or -):		$ 4,476.00
3.	Current Contract Price (1 plus 2):		$ 311,749.00
4.	Total completed and stored to date:		$ 311,749.00
5.	Retainage (per Agreement):		
	10% of completed Work:	$ -	
	10% of stored material:	$ -	
	Total Retainage:		$ -
6.	Total completed and stored to date less retainage (4 minus 5):		$ 311,749.00
7.	Less previous Application for Payments:		$ (280,574.10)
8.	Balance to Finish:		$ -
9.	AMOUNT DUE THIS APPLICATION (6 MINUS 7):		**$ 31,174.90**

Accompanying Documentation:

CONTRACTOR'S Certification:
The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered 1 through RETAINAGE inclusive; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Dated April 27, 2015

RDH Site & Concrete, LLC
CONTRACTOR

By:

State of Texas
County of Hidalgo
Subscribed and sworn to before me this 27
day of April, 2015

San Juanita García
Notary Public
My Commission expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated 5/5/15

R. GUTIERREZ ENGINEERING CORPORATION
ENGINEER

By: , P.E.

Schedule of Values

Contractor Name: RDH Site & Concrete, LLC
Starting Date: October 13, 2014
Project Ending Date: February 5, 2015
Project Desc: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements
Retainage Percent: 10%

Application: RETAINAGE
Application Date: 4/27/2015
Period To: 4/22/2015
Engineer's Project No.: ENG13.001
Engineer Firm R. Gutierrez Eng. Corp.

Summary

Contract Number	Description	Original Schedule Value	C.O. #1 Schedule Value	C.O. #2 Schedule Value	C.O. #3 Schedule Value	Application #1	Retainage for App #1	Payment for Application #1	Application #2	Retainage for App #2	Payment for Application #2	Final Application	Retainage for Final App	Payment for Final Application	Total Completed to Date	Retainage to Date	Total Completed Less Retainage	Previous Payments	Balance To Finish
HCDD1-14-010-05-06	PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements	$ 307,273.00	$ 314,773.00	$ 314,773.00	$ 311,749.00	$ 232,051.00	$ 23,205.10	$ 208,845.90	$ 70,027.00	$ 7,002.70	$ 63,024.30	$ 9,671.00	$ 967.10	$ 8,703.90	$ 311,749.00	$ 31,174.90	$ 280,574.10	$ 280,574.10	$ -
	TOTALS:	**$ 307,273.00**	**$ 314,773.00**	**$ 314,773.00**	**$ 311,749.00**	**$ 232,051.00**	**$ 23,205.10**	**$ 208,845.90**	**$ 70,027.00**	**$ 7,002.70**	**$ 63,024.30**	**$ 9,671.00**	**$ 967.10**	**$ 8,703.90**	**$ 311,749.00**	**$ 31,174.90**	**$ 280,574.10**	**$ 280,574.10**	**$ -**

CERTIFICATE OF CONSTRUCTION COMPLETION

THIS IS TO CERTIFY THAT ON 3rd DAY OF March 2015, A FINAL INSPECTION was made of the project herein described:

CONTRACT

CONTRACT DATE: May 6, 2014
OWNER: Hidalgo County Drainage District No. 1
CONSTRUCTION CONTRACTOR: RDH Site & Concrete, LLC
OF THE CITY OF Pharr, STATE OF Texas

PROJECT DESCRIPTION

CONSTRUCTION OF: PCT2 Rural Drainage Development - Seminole Valley Subdivision Area Drainage Improvements

CONTRACT NO.: HCDD1-14-010-04-09

LOCATED IN OR NEAR THE CITY/PRECINCT OF: San Juan, Texas / Hidalgo County Precinct #2

THIS IS TO CERTIFY:

1. That the work has been completed in accordance with the plans and specifications and all addenda, change orders, supplemental agreements thereto, and with the following exceptions:
   None

2. That the sum of Zero and 00/100 Dollars – ($0.00) be deducted from the final payment of the Contractor is a fair and equitable settlement for the foregoing except work.

3. That the contractor has presented a "Certificate of Release" stating under oath, that all claims arising out of the performance of work have been fulfilled, and the OWNER is released from all claims arising under or by virtue of said contract.

4. That the CONTRACTOR has presented in behalf of itself and its sureties, satisfactory evidence that it is bound to repair, replace, and make good any faulty workmanship and/or materials discovered in the work within a period of one year from this date, as provided in said contract.

5.

AMOUNT OF ORIGINAL CONTRACT	$	307,273.00
PRESENT AMOUNT OF CONTRACT	$	311,749.00
TOTAL AMOUNT OF CONTRACT EARNED TO DATE	$	311,749.00
LESS: PREVIOUS PAYMENTS	$	280,574.10
BALANCE	$	31,174.90
AUTHORIZED DEDUCTIONS	$	0.00
AMOUNT OF FINAL PAYMENT	$	31,174.90

6. That the final payment in the amount of Thirty-One Thousand One Hundred Seventy-Four and 90/100 Dollars ($31,174.90) is now due and payable.

P.E.

Engineer's Signature
Ramiro Gutierrez, P.E.

CONCURRED BY:

RDH Site & Concrete, LLC

BY: Rogelio De Hoyos

TITLE: Owner

CONCURRED BY:

Hidalgo County Drainage District #1
Chairman of the Board

CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

PROJECT: Seminole Valley Drainage Improvements **PROJECT NO.** EN613.001
OWNER: Hidalgo County Drainage District No. 1
CONTRACTOR: RDH Site and Concrete, LLC
ENGINEER: R. Gutierrez

The Contractor, in accordance with the Contract Documents, and in consideration for the full and final payment to the Contractor for all services in connection with the project, does hereby waive and release any and all liens, or any and all claims to liens which the Contractor may have on or affecting the project as a result of its contract(s) for the Project or for performing labor and/or furnishing materials in any way connected with the construction of any aspect of the project. The Contractor further certifies and warrants that all subcontractors of labor and/or materials for the Project, except as listed below, have been paid in full for all labor and/or materials supplied to, for through or at the direct or indirect request of the Contractor prior to, through and including the date of this affidavit.

EXCEPTIONS: (If none, write "NONE". The Contractor shall furnish a bond acceptable to the Owner for each exception.)

NONE

CONTRACTOR

By

Title Owner

Subscribed and sworn to before me this 27 day of April, 2015

Notary Public: San Juanita Garcia

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS
SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

Form L

CONTRACTOR'S AFFIDAVIT OF PAYMENTS OF DEBTS AND CLAIMS

PROJECT: Seminole Valley Subdivision Drainage Impov. **PROJECT NO.** Eng13.001
OWNER: Hidalgo County Drainage District NO. 1
CONTRACTOR: RDH Site and Concrete, LLC
ENGINEER: R. Gutierrez

The Contactor in accordance with the Contract Documents, hereby certifies that, except as listed below, all obligations for all materials and equipment furnished, for all work labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or his property might in any way be held responsible have been paid in full or have otherwisse been satisfied in full.

EXCEPTIONS: (If none, write "NONE". The Contractor shall furnish a bond acceptable to the Owner for each exception.)

NONE

CONTRACTOR

By

Title Owner

Subscribed and sworn to before me this 27 day of April, 2015

Notary Public: SAN JUANITA GARCIA

My Commission Expires: February 8, 2017

NOTARY PUBLIC STATE OF TEXAS

SAN JUANITA GARCIA
My Commission Expires
February 8, 2017

CONSENT OF SURETY
TO FINAL PAYMENT

Conforms with the American Institute of Architects G707 form

OWNER ☐
ARCHITECT ☐
CONTRACTOR ☐
SURETY ☐
OTHER ☐

Bond No: PB11509800499

TO OWNER:
(Name and address)

Hidalgo County Drainage District #1
902 N. Doolittle Road
Edinburg, TX 78542

ARCHITECT'S PROJECT NO.: HCDD1-14-010-05-06

CONTRACT FOR: Drainage Improvements

CONTRACT DATED: 5/06/2014

PROJECT:
(Name and address)

PCT. 2 - Rural Drainage Development - Seminole Valley Subdivision Area Drainage Improvements

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

Philadelphia Indemnity Insurance Company
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004

, SURETY

on bond of
(Insert name and address of Contractor,

RDH SITE AND CONCRETE, LLC
1201 East Moore Road #89
Pharr, TX 78577

, CONTRACTOR

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

Hidalgo County Drainage District #1
902 N. Doolittle Road
Edinburg, TX 78542

, OWNER

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date: May 1, 2015
(Insert in writing the month followed by the numeric date and year.

Philadelphia Indemnity Insurance Company
(Surety)

Fred A. Thetford
(Signature of authorized representative,

Attest: Diane Brown
(Seal):

Fred A. Thetford, Jr., Attorney-in-fact
(Printed name and title)

PHILADELPHIA INDEMNITY INSURANCE COMPANY
One Bala Plaza, Suite 100
Bala Cynwyd, PA 19004
Power of Attorney

Bond No: PB11509800499

KNOW ALL PERSONS BY THESE PRESENTS: that **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint: **Jared Young, Fred A. Thetford, Jr., Tobin Tucker, Tom Young and Fred A. Thetford, III of Contract Bond Agency, LLC.**

Its true and lawful Attorney(s) in fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$25,000,000**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY at a meeting duly called the 1st day of July, 2011.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company to: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto; and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and biding upon the Company in the future with the respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 7TH DAY OF FEBRUARY 2013.

(Seal)

Robert D. O'Leary Jr., President & CEO
Philadelphia Indemnity Insurance Company

On this 7th day of February 2013, before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
DANIELLE PORATH, Notary Public
Lower Merion Twp., Montgomery County
My Commission Expires March 22, 2016

Notary Public: _____

residing at: Bala Cynwyd, PA

(Notary Seal)

My commission expires: March 22, 2016

I, Craig P. Keller, Executive Vice President, Chief Financial Officer and Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do herby certify that the foregoing resolution of the Board of Directors and this Power of Attorney issued pursuant thereto are true and correct and are still in full force and effect. I do further certify that Robert D. O'Leary Jr., who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY,

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 1st day of May, 2015.

Craig P. Keller, Executive Vice President, Chief Financial Officer & Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

R. Gutierrez Engineering Corporation — Transmittal Form

TO: Claudette Guerrero

Hidalgo County Drainage District 1

FROM: Javier Gutierrez

SUBJECT: PCT2 Rural Drainage Development - Seminole Valley Subd Area Drainage Improvements

PROJECT NO.: ENG13.001

DATE: February 11, 2015

WE ARE SENDING YOU ___ ATTACHED ___ UNDER SEPARATE COVER VIA Hand Delivery THE FOLLOWING ITEMS:

___ BLUEPRINTS	___ PLANS	___ SHOP DRAWINGS	___ CD
___ CHANGE ORDER	___ SAMPLES	x PAYMENT REQUEST	x OTHER:Certificate of Substantial Completion
___ BID TABULATION	___ CONTRACT DOCUMENTS	___ RECORD DRAWINGS	___ 3 1/2" DISKETTE

QUANTITY / SETS	DATED	ITEM DESCRIPTION
1		Payment Request #2
1		Certificate of Substantial Completion with Punch List Letter

THESE ARE TRANSMITTED AS CHECKED BELOW:

___ FOR BIDS DUE	___ APPROVED AS NOTED	___ FOR YOUR RECORDS
___ FOR APPROVAL	___ APPROVED AS SUBMITTED	___ FOR YOUR ACKNOWLEDGEMENT
___ FOR YOUR USE	___ RETURN FOR CORRECTIONS	___ RESUBMIT FOR APPORVAL
___ AS REQUESTED	___ FOR FURTHER PROCESSING	___ ON LOAN
___ FOR REVIEW AND COMMENT	___ FOR SIGNATURE	___ OTHER

COMMENTS:

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
FEB 12 2015
AM / PM

Copy Distribution: file

Received by: BY: Rosa Arce

130 East Park Avenue - Pharr, Texas 78577 - Phone: (956) 782-2557 - Fax: (956) 782-2558 - Email: office@rgec.net

R. Gutierrez Engineering Corporation
Engineering Firm Number: F-486
Surveying Firm Number: 101650-00

Certificate of Substantial Completion

PROJECT:	**PCT2 RURAL DRAINAGE DEVELOPMENT – SEMINOLE VALLEY SUBD AREA DRAINAGE IMPROVEMENTS**
PROJECT NUMBER:	**ENG13.001**
OWNER:	**HIDALGO COUNTY DRAINAGE DISTRICT NO. 1**
CONTRACTOR:	**RDH SITE & CONCRETE, LLC**

The Work performed under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below: Construction time is stopped at the day of Issuance.

Ramiro Gutierrez, P.E. — Engineer

By: Ramiro Gutierrez, P.E.

2/3/2015 — Date of Issuance

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

The Contractor will complete or correct the Work on the list of items attached hereto and complete the work by February 20, 2015.

RDH Site & Concrete, LLC — Contractor

By:

2/10/2015 — Date

The Owner accepts the Work or designated portion as substantially complete and will assume full possession thereof, in accordance with the contract documents.

Hidalgo County Drainage District No. 1 — Owner

By: _____

Date _____

130 East Park Avenue – Pharr, Texas 78577 – Phone: 956-782-2557 – Fax: 956-782-2558 – E-mail: rgutierrez@rgec.net

R. Gutierrez Engineering Corporation
Texas Engineering Firm Number: F-486
Texas Surveying Firm Number: 101650-00

February 5, 2015

Ms. Dianaly De Hoyos
RDH Site & Concrete, LLC
1201 E. Moore Road #89
Pharr, Texas 78577

Subject: Punch List – PCT2 Rural Drainage Development – Seminole Valley Subd Area Drainage Improvements Project (Contract No.:HCDD1-14-010-05-06)

Dear Ms. De Hoyos:

A walk through inspection of the above mentioned project was conducted by our office's construction inspector, Mr. Juan Uribe, on February 3, 2015 for the purpose of formulating a punch list of pending items required for construction completion and acceptance by Hidalgo County Drainage District No. 1.

The pending items are as follows:

1. Grates, rings, and covers on J-Box and Type-M Manhole need to be installed and adjusted.
2. Need to backfill around J-Box and Type-M Manhole
3. Need to grout around pipe on inside of J-Box and Type-M Manhole
4. Need to do cleanup around J-Box and Type-M Manhole
5. Need to finish install of wood and chain link fence
6. Need to finish removing excess dirt, do seeding and dress up project area
7. Need to grade on east side of project where it meets with a private farm
8. Need to remove excess dirt that is in drain ditch outfall
9. Need to finish installing silt fence
10. Address issues with property owner with regards to concrete driveway

Should you have any questions, please feel free to contact me at (956)782-2557 or rgutierrez@rgec.net.

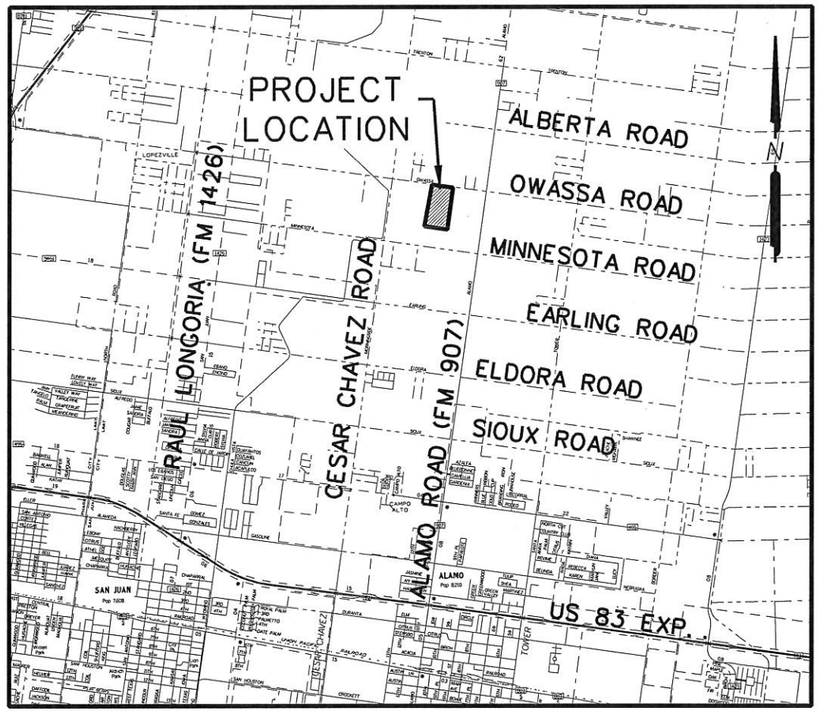
Sincerely,

Ramiro Gutierrez, P.E.
President

Cc. Godfrey Garza, Hidalgo County Drainage District No.1
Eddie Cantu, Commissioner Hidalgo County Precinct No.2

PCT. 2 RURAL DRAINAGE DEVELOPMENT
SEMINOLE VALLEY-SUBDIVISION AREA
DRAINAGE IMPROVEMENTS
2014
RECORD DRAWINGS

CONSTRUCTION OF NEW DRAINAGE SYSTEM:
CONSISTING OF STORM SEWER CONCRETE BOX CULVERT,
MANHOLES, INLETS, CONCRETE RIPRAP INSTALLATION.



INDEX OF SHEETS

GENERAL

1	COVER SHEET
2	GENERAL NOTES

SEMINOLE VALLEY

3	PROJECT LAYOUT
4	ESTIMATE & QUANTITIES
5	DRAINAGE AREA MAP
6	HYDRAULIC DATA
7-9	PLAN & PROFILE

STANDARDS

10	CEMENT STABLIZED BACKFILL DETAILS
11	TYPE "M" MANHOLE W/GRATE
12	JUNCTION BOX DETAIL
13	JUNCTION BOX W/GRATE DETAIL
14-20	BC (1),(4)-(5),(7)-(10)- 07
21	SPC -6 (SINGLE BOX CULVERTS PRECAST)
22	EC (1) - 09
23	EC (3) - 09
24	CRR-STD

HIDALGO COUNTY OFFICIALS

COUNTY JUDGE	RAMON GARCIA
COMMISSIONER PRECINCT NO. 1	A.C. CUELLAR, JR.
COMMISSIONER PRECINCT NO. 2	HECTOR "TITO" PALACIOS
COMMISSIONER PRECINCT NO. 3	JOE M. FLORES
COMMISSIONER PRECINCT NO. 4	JOSEPH PALACIOS

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108728

DATE: 03-17-15

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

R. Gutierrez Engineering Corporation
Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No. 486

GENERAL NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REQUEST A "UTILITY LOCATE" PRIOR TO PREFORMING ANY EXCAVATION ON THE PROJECT.

2. INSTALLATION OF CONNECTION STRUCTURES TO BE COORDINATED WITH HIDALGO COUNTY DRAINAGE DISTRICT No. 1, AND HIDALGO COUNTY IRRIGATION DISTRICT No. 2

3. ALL UNSUITABLE EXCAVATED MATERIAL TO BE DISPOSED OF AS REQUIRED BY PROJECT ENGINEER.

4. CONTRACTOR TO MAINTAIN ALL EQUIPMENT AND TRANSPORTATION OF SAID EQUIPMENT WITHIN THE EXISTING RIGHT-OF-WAYS OR EASEMENTS OF HIDALGO COUNTY OR H.C.D.D. #1.

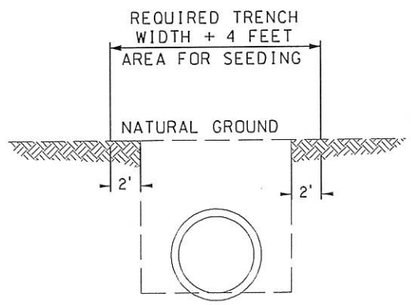
5. LOCATIONS OF UNDERGROUND FACILITIES ARE FROM BEST INFORMATION AVAILABLE. NEITHER THE OWNER OR ENGINEER WARRANT THE ACCURACY OF THE INFORMATION PROVIDED. ANY DEVIATIONS SHALL BE CALLED TO THE ENGINEER'S ATTENTION IMMEDIATELY.

6. THE CONTRACTOR SHALL PROVIDE AND INSTALL APPROPRIATE TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE TMUTCD, LATEST EDITION, AND AS APPROVED BY THE ENGINEER DURING CONSTRUCTION.

7. TRUCKS SHALL BE LOADED IN A MANNER SO AS TO AVOID LOSS OF LOADED MATERIAL OR ANY PORTION THEREOF DURING TRANSPORT. IN ACCORDANCE WITH STATE LAW, ALL TRUCKS SHALL UTILIZE TARPS OVER LOADED MATERIAL.

8. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY SURFACE IRREGULARITIES, AS DIRECTED BY THE ENGINEER, CAUSED BY THE CONTRACTOR'S LOADING OR HAULING OPERATIONS.

9. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES DURING THE INSTALLATION OF THE STRUCTURES AND DRAINAGE IMPROVEMENTS.



SEEDING DETAIL

10. ANY DAMAGES TO FENCES, WALKS, OR PRIVATE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

11. THE PREPARATION OF THESE PLANS REFLECTS INFORMATION, PROVIDED BY OTHERS, ON THE APPROXIMATE LOCATION AND EXISTENCE OF EXISTING UTILITIES AND ADJACENT PHYSICAL FEATURES. HOWEVER, THEY DO NOT IMPLY OR AFFIRM THAT ALL UTILITIES OR PHYSICAL FEATURES ARE SHOWN. GENERALLY SERVICE CONNECTIONS ARE NOT INDICATED ON THESE PLANS.CONTRACTOR SHALL DETERMINETHE EXACT HORIZONTAL AND VERTICAL LOCATIONS IN THE FIELD PRIOR TO COMMENCING WORK. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION OF THE OWNER IMMEDIATELY UPON ENCOUNTERING UNFORESEEN CONFLICTS. CONTRACTOR TO BE FULLY RESPONSIBLE FOR DAMAGES WHICH MIGHT OCCUR BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE EXISTING UTILITIES.

12. CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY TO RELOCATE OR DIVERT ANY UTILITY IN CONFLICT WITH PROPOSED CONSTRUCTION SO AS NOT TO DISRUPT SERVICE OF IT. CONTRACTOR SHALL RESTORE, RELOCATED, OR DIVERTED UTILITY TO ITS ORIGINAL CONDITION AND LOCATION WHEN APPLICABLE UPON COMPLETION OF CONSTRUCTION.

13. CONTRACTOR TO PROVIDE PUMPING CAPABILITIES AT OUTFALL AND OTHER POINTS ALONG PROJECT DURING CONSTRUCTION OF PROJECT AT ALL TIMES.

14. CONTRACTOR TO TAKE PRECAUTIONARY MEASURES WHEN WORKING IN VICINITY OF OVERHEAD ELECTRICAL TRANSMISSION LINE.

15. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER AND SEWER SERVICE TO ALL PROPERTIES DURING CONSTRUCTION.

16. CONTRACTOR SHALL CLEAN UP AND RESTORE TO ORIGINAL CONDITIONS OR BETTER.

17. CONTRACTOR TO COMPLY WITH T.P.D.E.S.

18. CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARD OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS OUTLINED BY OSHA.

19. EXISTING PAVING, SIDEWALKS, DRIVEWAY, FENCING, ETC DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL OR BETTER CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.

20. CONTRACTOR TO COORDINATE INSTALLATION OF PROPOSED 6' x 2' CONCRETE BOX CULVERT AND REPLACEMENT OF EXISTING 36" RCLHPP IRRIGATION LINE WITH HIDALGO COUNTY IRRIGATION DISTRICT NO. 2. THIS WORK IS TO BE DONE AFTER MIDDLE OF THE OF JUNE. PLEASE CONTACT MR. BERT WESSLING AT (956)787-1422 FOR ADDITIONAL INFORMATION.

Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No.: 486
R. Gutierrez Engineering Corporation

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108728
DATE: 03/20/2014

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
GENERAL NOTES

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
2

F:\2013\ENG\001-LJ DRAIANGE\NORTH SECTION\PLANS\TYPICAL SECTION.DGN

CESAR CHAVEZ ROAD

RINCON DEL VALLE
NO. 5
VOL. 32.PG. 135
M.R.H.C.

BOCA RIO DR.

SEMINOLE VALLEY DR.

SEMINOLE VALLEY #4
SUBDIVISION
VOL. 48, PG. 146,
M.R.H.C.

OWASSA ROAD

LJ DRAIN DITCH

N

SCALE: 1"=300'

BEGIN PROJECT
STA. 10+42.00

SEMINOLE VALLEY DR.

PROP. 10'x5'
JUNCTION BOX

PROP. 16' x5'
JUNCTION BOX

PROP. TY "M"
MANHOLE W/GRATE

PROP. 10'x5'
JUNCTION BOX
W/ GRATE

PROP. CONC.
RIPRAP

PROP. 60" RCP
CL III (SPL)

PROP. 60" RCP
CL III (SPL)

END PROJECT
STA. 24+59.00

PROP. 2-6' x 2' CONC.
BOX CULVERT

BM #2
N=16612906.07
E=1108746.6097
EL=98.06

PROP. 2-42" RCP
CL III (SPL)

BM #1
N=16613324.7680
E=1109258.1734
EL=98.78

F:\2013\ENG\001-LJ DRAIANGE\NORTH SECTION\PLANS\PROJECT LAYOUT SEMINOLE.dgn

Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
FIRM No.: 486
R. Gutierrez Engineering Corporation

STATE OF TEXAS
HERNAN A. LUGO
108729
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108729
DATE: 03/29/2014
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
PROJECT LAYOUT

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
3

SUMMARY OF DRAINAGE ITEMS (SEMINOLE VALLEY SUBDIVISION AREA)

SHEET NO./ STATION	ITEM 164 CELL FIB. SEED (PERM)(RURAL) (CLAY) (SY)	ITEM 166 FERTILIZER (TON) ⊗ ⊕	ITEM 168 VEGETATED WATERING (MG) +	ITEM 400 CEMENT STABLIZED BACKFILL (CY)	ITEM 400 STRUCT. EXCAV. (CY) ⊗	ITEM 400 GRAVEL BEDDING (12") ⊗ (CY)	ITEM 402 TRENCH EXCAVATION PROTECTION (CY)	ITEM 432 RIPRAP (CONC.)(5 IN) (CY)	ITEM 462 CONC. BOX CULV. (6'x2') (LF)	ITEM 464- RCP (SPL) SEWER (CL III) (RUBBER GASKET)		ITEM 465 MANHOLE TY "M" W/GRATE TOP (EA)	ITEM 465 MANHOLE (10'x5' JCT. BOX W/GRATE TOP) (EA)	ITEM 465 JUNCTION BOX (16'x5') (EA)	ITEM 465 JUNCTION BOX (10x5') (EA)	ITEM 0506 CONST. EXITS TY (II) (SY)	ITEM 0506 CONST. EXITS TY (II) (REMOVE) (SY)	ITEM 0506 TEMP. SEDIMENT CONTROL FENCE * (LF)	ITEM 4035 RC LOW HEAD PRSSR PIPE (CL III) (36") (LF)
										42" (LF)	60" (LF)								
	EST.	EST.	EST.	EST.	EST.		EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.	EST.
THRU-OUT PROJECT																252	252		
7	695	0.01	8	175	1550	65.5	457	27	188	-	360	-	-	1	-			24	40
8	934	0.01	11	225	1800	-	600	-	-	-	600	1	-	-	-			24	-
9	485	0.01	6	115	950	-	304	-	-	64	272	-	1	-	1			72	-
TOTAL	2,114	0.03	25	515	4300	65.5	1361	27	188	64	1,232	1	1	1	1	252	252	120	40

⊗ FOR CONTRACTORS INFORMATION ONLY (NON-PAY)

⊕ THE TONNAGE OF FERTILIZER IS BASED ON A RATE THAT WILL PROVIDE 100 LBS. OF NITROGEN PER ACRE AS IS BASED ON FERTILIZER CONTENT (N-P-K) OF 10-5-5.

\+ VEGETATED WATERING IS BASED ON A RATE OF 6788 GAL/AC/CYCLE FOR 8 CYCLES (1.4 GAL/SY PER CYCLE.)

* TEMP. SEDIMENT CONTROL FENCE: QUANTITY BASED ON 24 LF PER INLET.

Professional Engineers & Land Surveyors
130 E. PARK AVENUE ▪ PHARR, TEXAS 78577
(TEL) 956 782-2557 ▪ (FAX) 956 782-2558
FIRM No. : 486
R. Gutierrez Engineering Corporation

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

ORIGINAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108728
DATE 03/20/2014
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
ESTIMATE & QUANTITIES

REVISION	DATE	BY

SCALE:
DATE:
FB No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
4

CESAR CHAVEZ ROAD

SCALE: 1"=300'

N

ST. PAUL AVE.

VIKING AVE.

MINNESOTA MEADOWS VOL. 30, PG. 85, M.R.H.C.

RINCON DEL VALLE NO. 5 VOL. 32, PG. 135, M.R.H.C.

BOCA RIO DR.

MINNESOTA MEADOWS UNIT NO. 2 VOL. 30, PG. 137, M.R.H.C.

MINNESOTA ROAD

LJ DRAIN DITCH

SEMINOLE VALLEY DR.

SEMINOLE VALLEY #4 VOL. SUBDIVISION 48, PG. 146, M.R.H.C.

OWASSA ROAD

BEGIN PROJECT STA. 10+42.00

SEMINOLE VALLEY DR.

PROP. 2-6'x2' CONC. BOX CULVERT

MD-1

MD-2

MD-3

PROP. 2-42'' RCP CL III (SPL)

OUT-D

D-1

D-1

PROP. 60'' RCP CL III (SPL)

END PROJECT STA. 24+59.00

DA-A2

FUTURE DRAINAGE AREA

ALAMO ROAD (FM 907)

LEGEND

DA-A3	DRAINAGE AREA I.D.
~~	DRAINAGE FLOW ARROWS
[ ]	DRAINAGE AREA BOUNDARIES
═══	PROPOSED STORM SEWER
MA-2	PROPOSED STORM SEWER STR. I.D.

5

F:\2013\ENG\001-LJ DRAINAGE\NORTH SECTION\PLANS\DAM SEMINOLE.dgn

Professional Engineers & Land Surveyors
R. Gutierrez Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2551 • (FAX) 956 782-2558
FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
108729
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108729

DATE: 03/20/2014

ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE LAW.

HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
DRAINAGE AREA MAP

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
5

OUTPUT FOR DESIGN FREQUENCY of: 10 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
D-1	0.2	10.60	130.10	130.10	1.87	0.000	3.962
	0.2	10.60	UNDEVELOPED				

On Grade Inlet Configuration Data

Inlet ID	Inlet Type	Inlet Length (ft)	Slopes Long (%)	Slopes Trans (%)	Gutter n	Gutter Depr. (ft)	Grate Width (ft)	Grate Type	Pond Width Allowed (ft)	Critic Elev. (ft)
D-1	Grate	3.00	0.50	2.00	0.014	n/a	3.00	Parall	12.00	95.50

On Grade Inlets Conmputation Data.

Inlet ID	Inlet Type	Total Q (cfs)	Intercept Capacity (cfs)	Q Bypass Allow (cfs)	Q Bypass Actual (cfs)	To Inlet ID	Required Length (ft)	Actual Length (ft)	Ponded Width (ft)
D-1	Grate	3.962	2.518	0.000	1.444		n/a	0.00	13.10

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
MD-2	BoxMh	0.200	10.60	130.10	1.87	0.000	84.20	88.162
MD-1	JnctBx	0.200	10.60	130.10	1.87	0.000	84.20	88.162
MD-3	JnctBx	0.200	10.60	130.10	1.87	0.000	84.20	88.162
D-1	Grate	0.200	10.60	130.10	1.87	0.000	84.20	88.162
OUT-D	Outlt	0.200	10.60	130.10	1.87	0.000	84.20	88.162

Conveyance Configuration Data

Run#	Node I.D. US	Node I.D. DS	Flowline Elev. US (ft)	Flowline Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
10	D-1	MD-3	90.38	90.33	Circ 2	0.00	3.50	32.00	0.16	0.013
20	MD-3	MD-2	90.33	89.34	Circ 1	0.00	5.00	658.00	0.15	0.013
30	MD-2	MD-1	88.79	87.92	Circ 1	0.00	5.00	574.00	0.15	0.013
40	MD-1	OUT-D	87.92	87.83	Box 2	6.00	2.00	94.00	0.10	0.013

Conveyance Hydraulic Computations. Tailwater = 96.000 (ft)

Run#	Hydraulic Gradeline US Elev (ft)	Hydraulic Gradeline DS Elev (ft)	Fr.Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
10	97.61	97.55	0.192	3.28	3.50	4.70	4.58	88.16	79.55	0.000
20	97.55	96.80	0.115	3.59	5.00	5.84	4.49	88.16	101.04	0.000
30	96.80	96.14	0.115	3.59	5.00	5.84	4.49	88.16	101.41	0.000
40	96.14	96.00	0.152	1.88	2.00	3.92	3.67	88.16	70.07	0.000

NOTES:
1.- CALCULATIONS COMPILED BY TXDOT WINSTORM V3.05
2.- STORM SEWER CALCULATIONS BASED ON MANNINGS FORMULAS
3.- JUNCTION LOSS WAS NOT TAKEN INTO ACCOUNT
4.- Q_{10} ADDED TO NODES IS BASED ON RUNOFF COLLECTED BY FUTURE STORM SEWER FROM DESIGNATED AREAS
5.- LJ DRAIN DITCH TAILWATER = 96.00 WAS ASSUMED FOR THIS DESIGN

F:\2013\ENG\001-LJ DRAIANGE\NORTH SECTION\PLANS\HYDATA SEMINOLE.dgn

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FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
108726
LICENSED
PROFESSIONAL ENGINEER

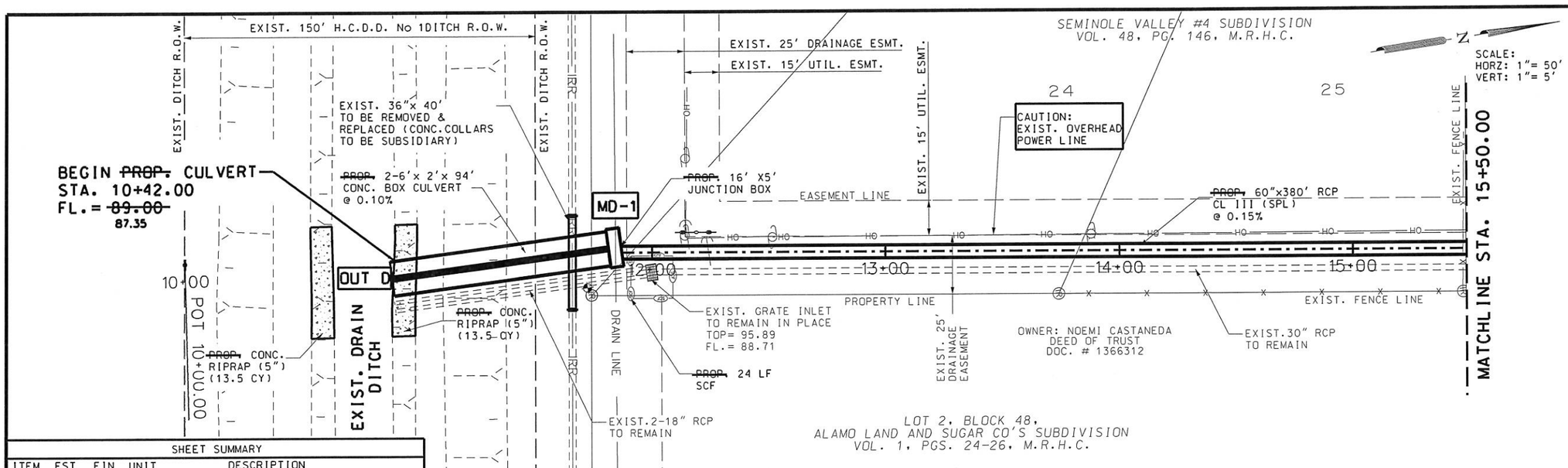
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DATE 03/20/2014
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HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
HYDRAULIC DATA SHEET

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

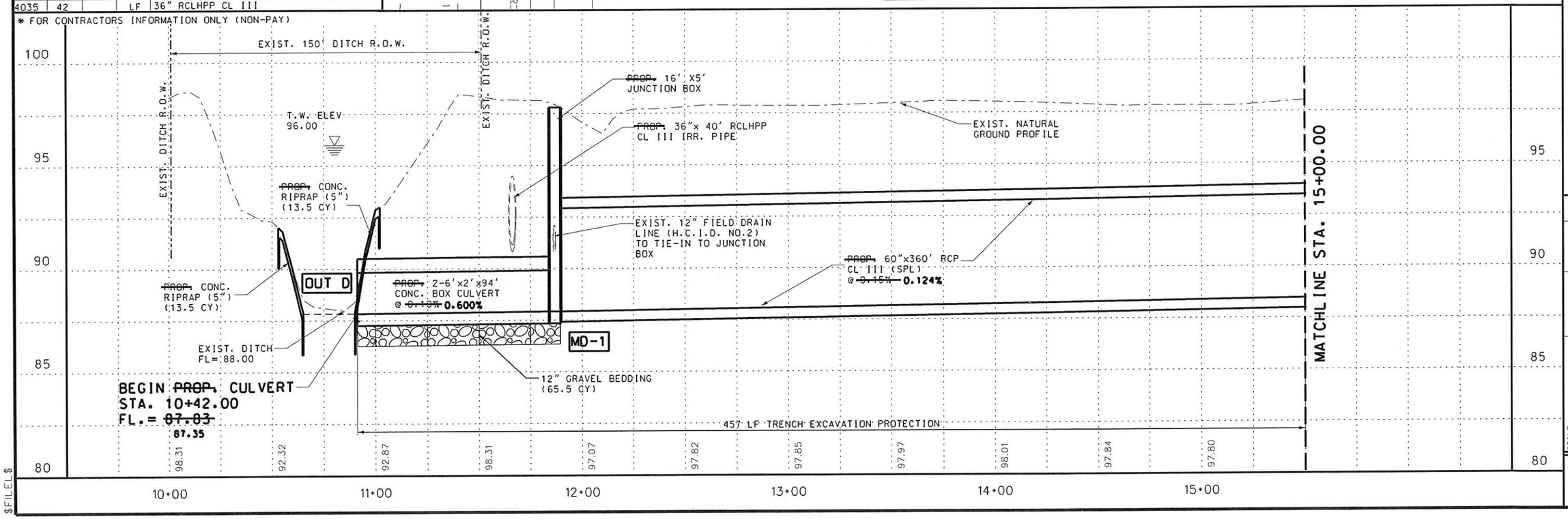
SHEET
6



SHEET SUMMARY				
ITEM	EST	FIN	UNIT	DESCRIPTION
164	695		SY	CELL FIB. SEED (PERM)(COOL)(CLAY)
166	0.01		TON	FERTILIZER
168	8		MG	VEGETATED WATERING
400	175		CY	CEMENT STABLIZED BACKFILL
400	1550		CY	STRUCTURE EXCAVATION*
400	65.5		CY	12" GRAVEL BEDDING *
402	457		LF	TRENCH EXCAVATION PROTECTION
432	27		CY	RIPRAP (CONC.)(5IN)
462	188		LF	CONC. BOX CULV (6'x2')
464	360		EA	RCP SEWER (CL III)(60")(SPL)
465	1		EA	16'x5' JUNCTION BOX
506	24		LF	TEMP SEDIMENT CONTROL FENCE
4035	42		LF	36" RCLHPP CL III

STR. I.D.	DESCRIPTION	STA./OFFSET	TOP OF STR. ELEV.	~~PROP.~~ FL. OF STR.	~~PROP.~~ FL. OF PIPE (NORTH)	~~PROP.~~ FL. OF PIPE (SOUTH)	~~PROP.~~ FL. OF PIPE (EAST)	~~PROP.~~ FL. OF PIPE (WEST)
MD-1	~~PROP.~~ 16'x5' JUNCTION BOX	STA. 11+81.00	~~98.00~~ 97.25	~~87.92~~ 88.26	~~87.92~~ 88.26	~~87.92~~ 88.26	-	-
OUT D	~~PROP.~~ OUTFALL	STA. 10+90.00	-	~~87.83~~ 87.35	~~87.83~~ 87.35	-	-	-

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R. Gutierrez Engineering Corporation

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY HERNAN A. LUGO, P.E. 108728I
DATE 03-16-15
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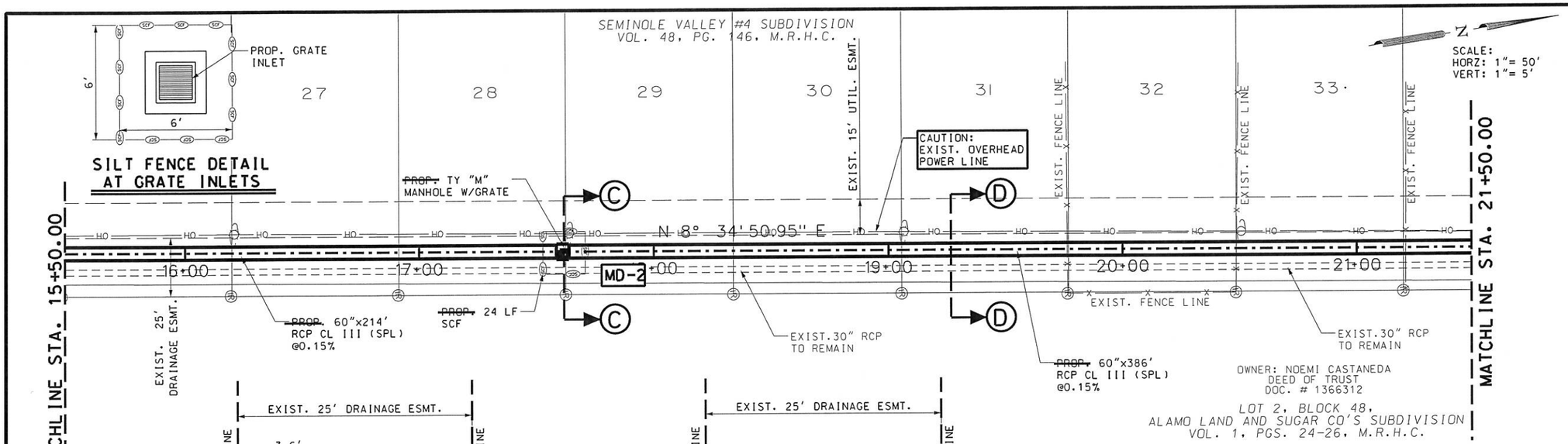
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
RECORD DRAWINGS

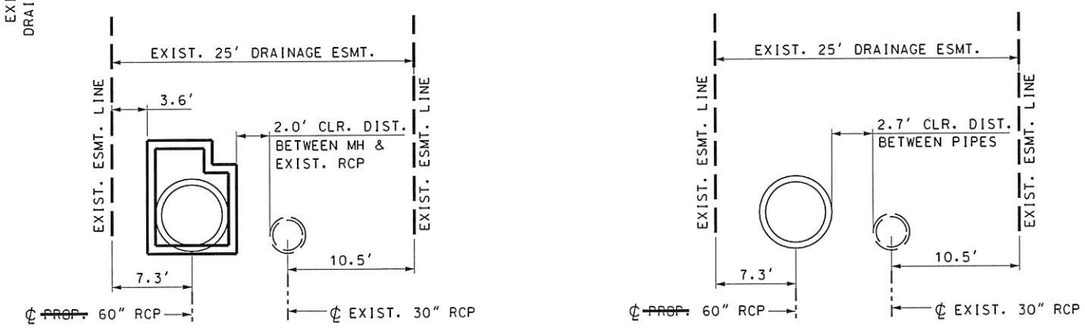
REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET 7

$FILE$



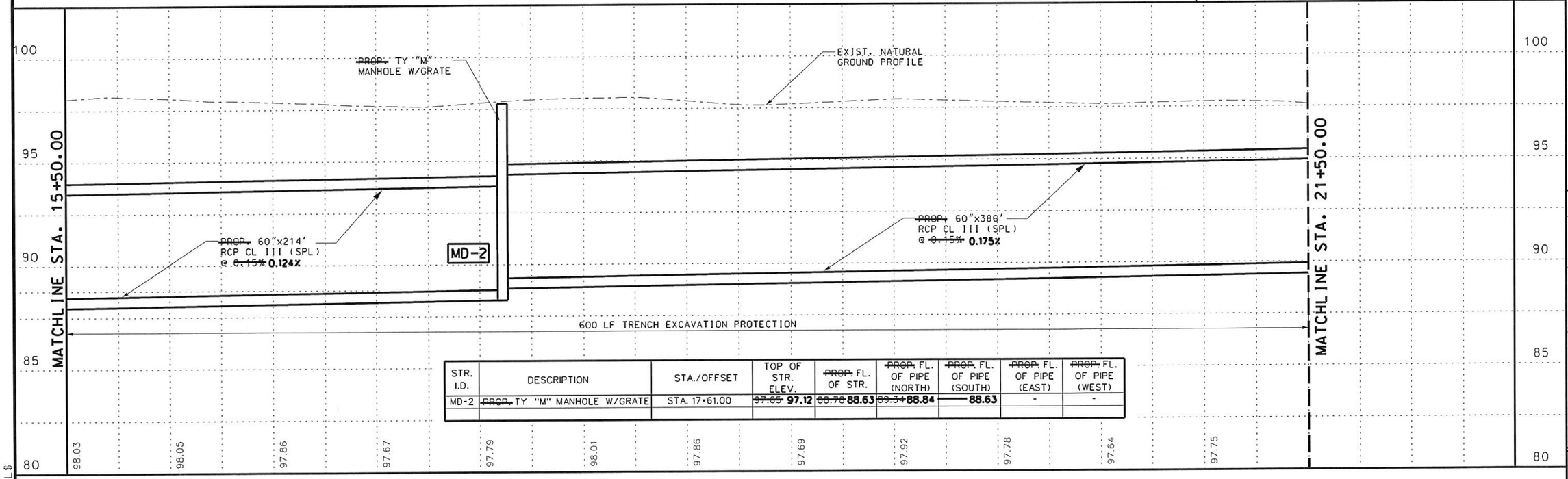


SECTION C-C

SECTION D-D

* FOR CONTRACTORS INFORMATION ONLY (NON-PAY)

SHEET SUMMARY				
ITEM	EST	FIN	UNIT	DESCRIPTION
164	934		SY	CELL FIB. SEED (PERM)(COOL)(CLAY)
166	0.01		TON	FERTILIZER
168	11		MG	VEGETATED WATERING
400	225		CY	CEMENT STABLIZED BACKFILL
400	1800		CY	STRUCTURE EXCAVATION*
402	600		LF	TRENCH EXCAVATION PROTECTION
464	600		EA	RCP SEWER (CL III)(60")(SPL)
465	1		EA	MANHOLE TY "M" W/GRATE
506	24		LF	TEMP SEDIMENT CONTROL FENCE



STR. I.D.	DESCRIPTION	STA./OFFSET	TOP OF STR. ELEV.	PROP. FL. OF STR.	PROP. FL. OF PIPE (NORTH)	PROP. FL. OF PIPE (SOUTH)	PROP. FL. OF PIPE (EAST)	PROP. FL. OF PIPE (WEST)
MD-2	PROP. TY "M" MANHOLE W/GRATE	STA. 17+61.00	~~97.65~~ 97.12	~~88.78~~ 88.63	~~89.34~~ 88.84	88.63	-	-

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STATE OF TEXAS · HERNAN A. LUGO · 108728 · LICENSED PROFESSIONAL ENGINEER

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DATE: 03-16-15

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DIST. # 1

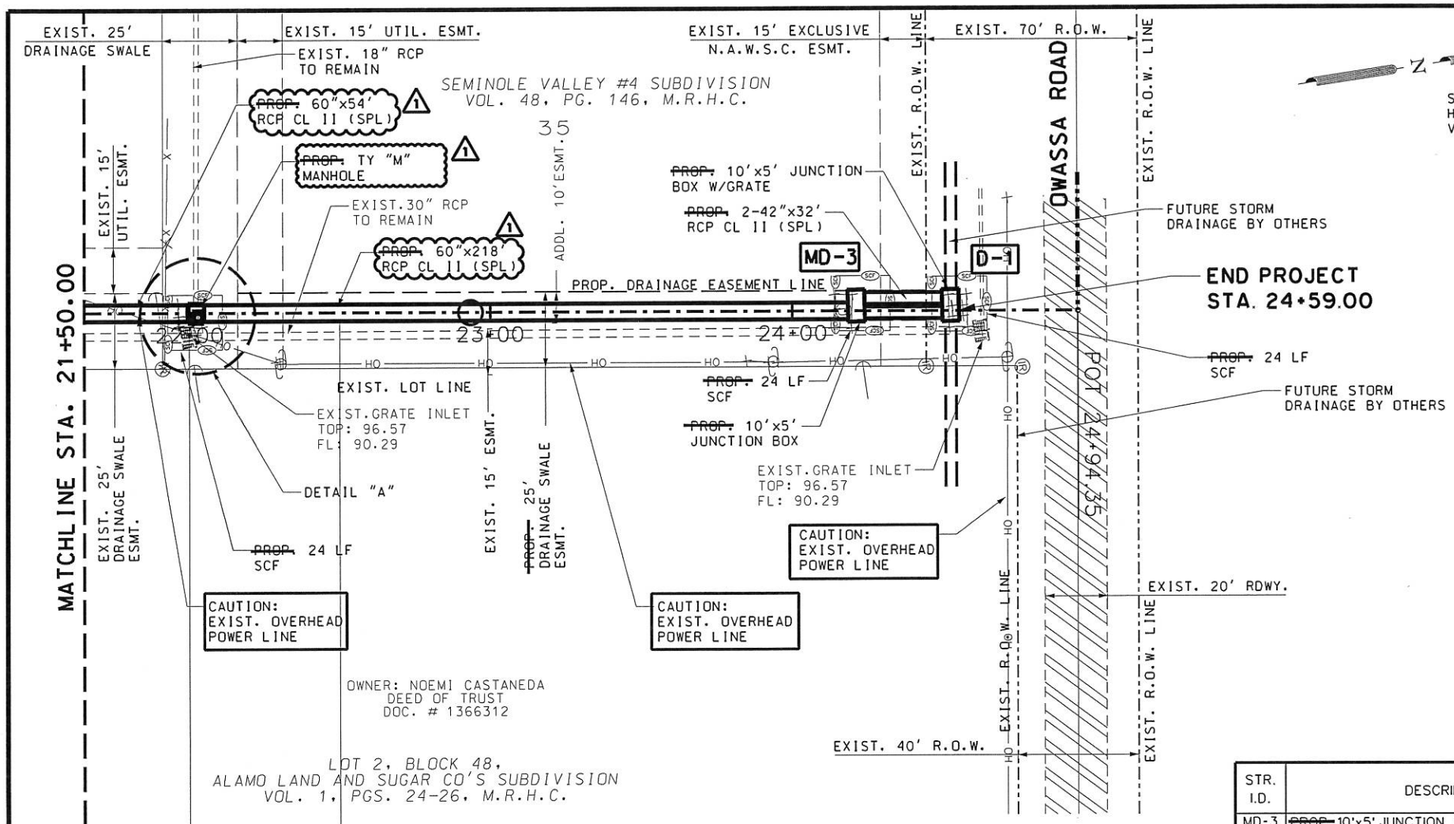
HIDALGO COUNTY DRAINAGE DIST. #1
SEMINOLE VALLEY SUBDIVISON AREA
RECORD DRAWINGS

REVISION	DATE	BY

SCALE:
DATE:
F.B. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET 8

$FILE$



SCALE:
HORZ: 1"= 50'
VERT: 1"= 5'

LEGEND

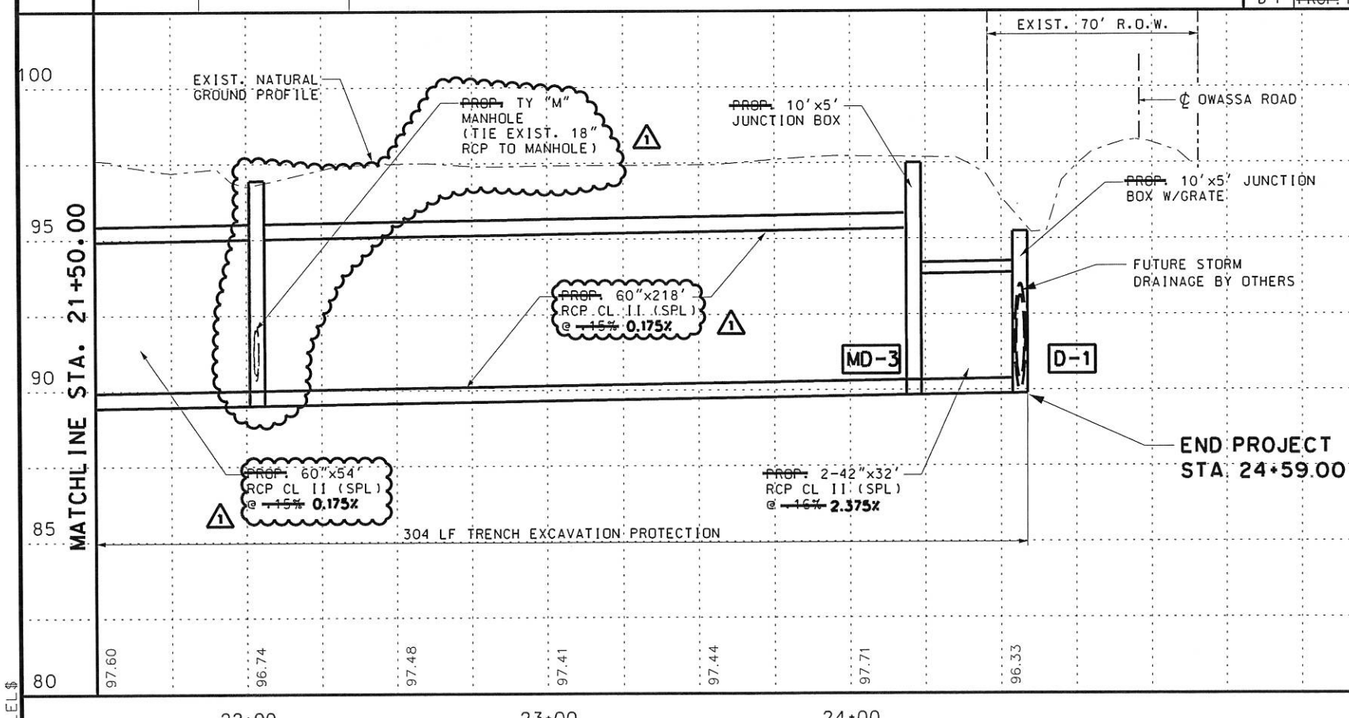
- MAIL BOX
- EXIST. 18' PIPE
- EXIST. FENCE
- EXIST. WATER LINE
- EXIST. TELEPHONE LINE
- EXIST. POWER LINE
- EXIST. SAN. SEWER LINE
- EXIST. IRRIGATION LINE
- GRATED INLET
- WATER METER
- TELEPHONE BOX
- GAS METER
- SANITARY SEWER MANHOLE
- CLEAN OUT
- SIGN
- FIRE HYDRANT
- DOWN GUY
- TEL MARKER
- TREE-2
- BENCH MARK
- IRON ROD
- POWER POLE
- CHANGE ORDER #1
- REVISION CLOUD

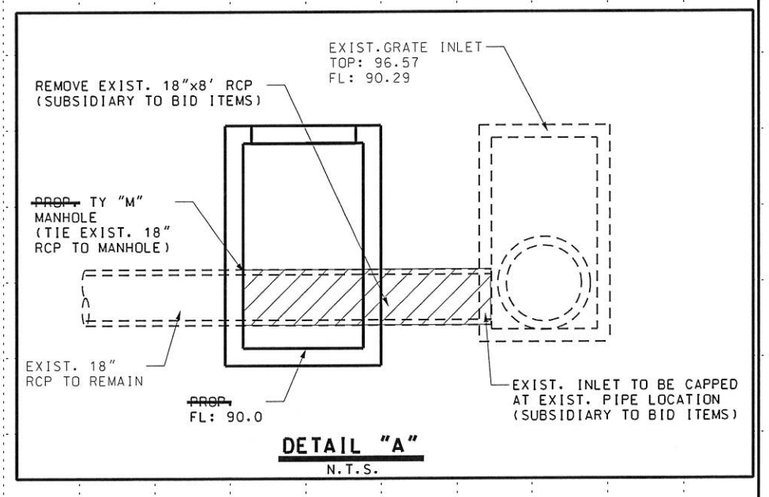
SHEET SUMMARY

ITEM	EST	FIN	UNIT	DESCRIPTION
164	485		SY	CELL FIB. SEED (PERM)(COOL)(CLAY)
166	0.01		TON	FERTILIZER
168	6		MG	VEGETATED WATERING
400	115		CY	CEMENT STABLIZED BACKFILL
400	950		CY	STRUCTURE EXCAVATION*
402	304		LF	TRENCH EXCAVATION PROTECTION
464	64		EA	RCP SEWER (CL III)(42")(SPL)
464	272		EA	RCP SEWER (CL III)(60")(SPL)
465	1		EA	TY "M" MANHOLE (1)
465	1		EA	10'x5' JUNCTION BOX
465	1		EA	10'x5' JUNCTION BOX W/GRATE TOP
506	72		LF	TEMP. SEDIMENT CONTROL FENCE

* FOR CONTRACTORS INFORMATION ONLY (NON-PAY)

STR. I.D.	DESCRIPTION	STA./OFFSET	TOP OF STR. ELEV.	~~PROP.~~ FL. OF STR.	~~PROP.~~ FL. OF PIPE (NORTH)	~~PROP.~~ FL. OF PIPE (SOUTH)	~~PROP.~~ FL. OF PIPE (EAST)	~~PROP.~~ FL. OF PIPE (WEST)
MD-3	~~PROP.~~ 10'x5' JUNCTION BOX	STA. 24+21.00	~~97.60~~ **97.95**	~~90.33~~ **89.99**	~~90.33~~ **89.99**	~~90.33~~ **89.99**	-	-
D-1	~~PROP.~~ 10'x5' JUNCTION BOX W/GRATE TOP	STA. 24+56.00	~~95.50~~ **96.16**	~~90.30~~ **90.75**	-	~~90.30~~ **90.75**	-	-





DETAIL "A"
N.T.S.

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FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
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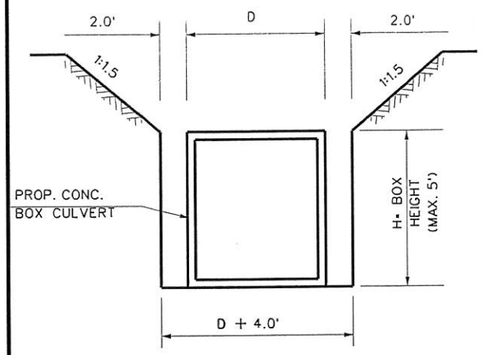
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
RECORD DRAWINGS

REVISION	DATE	BY

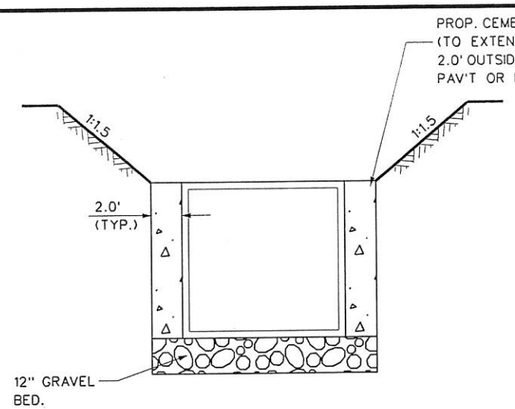
SCALE:
DATE:
F.B. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
9

$FILE$



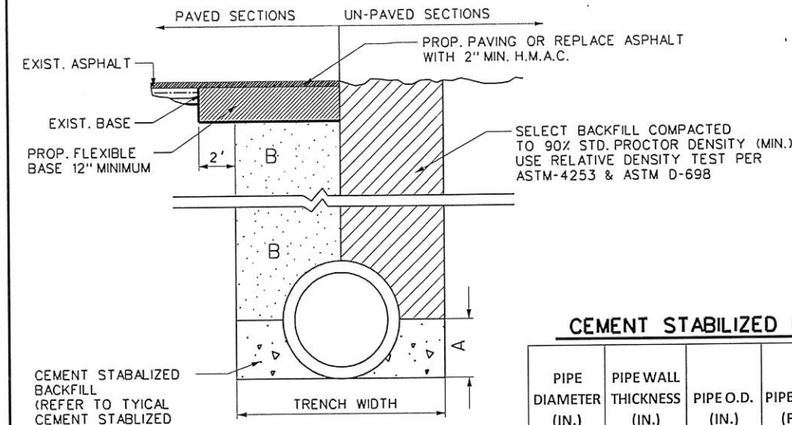
TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



TYPICAL CEMENT STABILIZED BACKFILL
(BOX CULVERT)
NTS

MIN. CLEAR DIST. BETWEEN PIPES

Equivalent Diameter	Min. Clear Dist.
18 in.	9 in.
24 in.	11 in.
30 in.	1 ft. 1 in.
36 in.	1 ft. 3 in.
42 in.	1 ft. 5 in.
48 in.	1 ft. 7 in.
54 in.	1 ft. 11 in.
60 to 84 in.	2 ft.



CEMENT STABILIZED BACKFILL

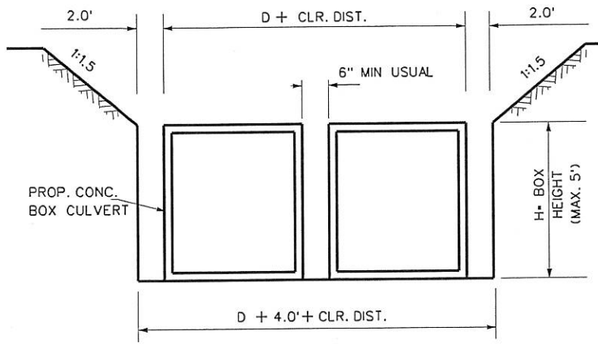
PIPE DIAMETER (IN.)	PIPE WALL THICKNESS (IN.)	PIPE O.D. (IN.)	PIPE O.D. (FT.)	VOLUME OF C.S.B. (PER FT. OF PIPE)
18	2.5	23.0	1.92	2.31
24	3.0	30.0	2.50	3.17
30	3.5	37.0	3.08	4.10
36	4.0	44.0	3.67	5.11
42	4.5	51.0	4.25	6.19
48	5.0	58.0	4.83	12.17
54	5.5	65.0	5.42	13.98
60	6.0	72.0	6.00	15.86
66	6.5	79.0	6.58	17.82
72	7.0	86.0	7.17	19.84

TYPICAL PIPE BEDDING AND
TRENCH BACKFILL DETAIL
NTS

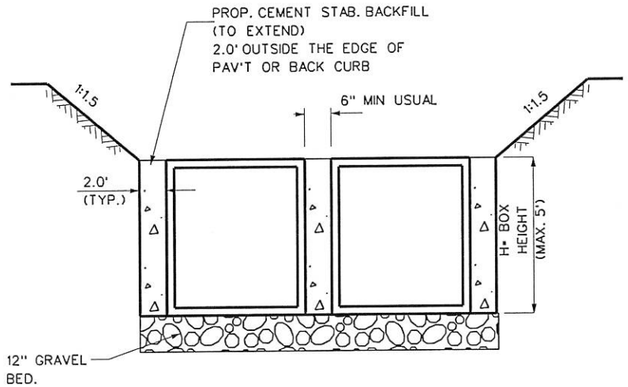
A CEMENT STABILIZED BACKFILL TO BE PLACED AFTER PIPE IS LAID, FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (REFER TO TYPICAL CEMENT STABILIZED BACKFILL DETAIL)

B (CITY STREETS, PARKING AREA, DRIVEWAYS) (STATE MAINTAINED ROADWAYS) COMPACTED SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT COMPACTED AS PER ASTM D-4253 AND ASTM D-698.

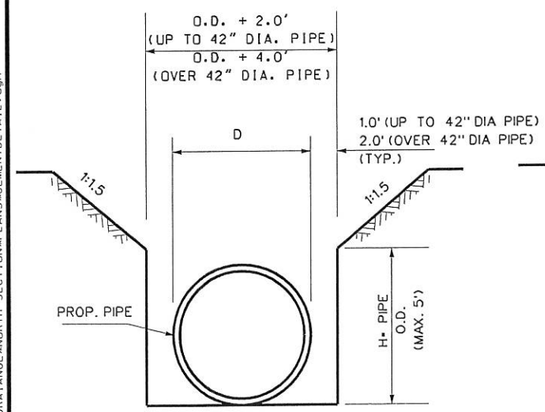
C EXCAVATED EARTH BACKFILL COMPACTED TO 90% STANDARD PROCTOR DENSITY (12" LIFT MECHANICAL COMPACTION). FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE. BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STANDARD PROCTOR DENSITY (USE RELATIVE DENSITY TEST PER ASTM D-4253 & ASTM D-698). THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURE BACKFILL MATERIAL SHALL BE SAND, APPROVED SITE SOIL, OR OTHER APPROVED SUBSTITUTE.



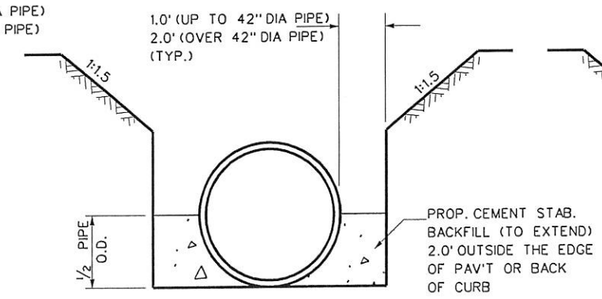
TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



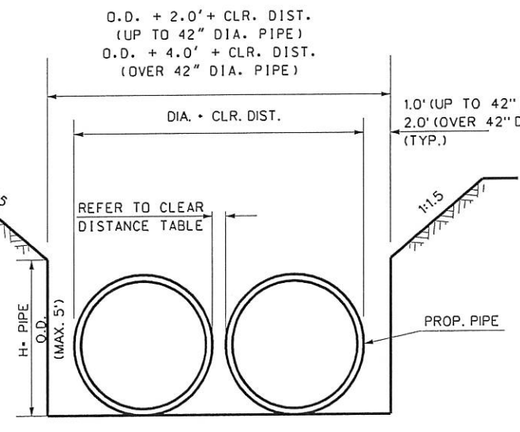
TYPICAL CEMENT STABILIZED BACKFILL
(BOX CULVERT)
NTS



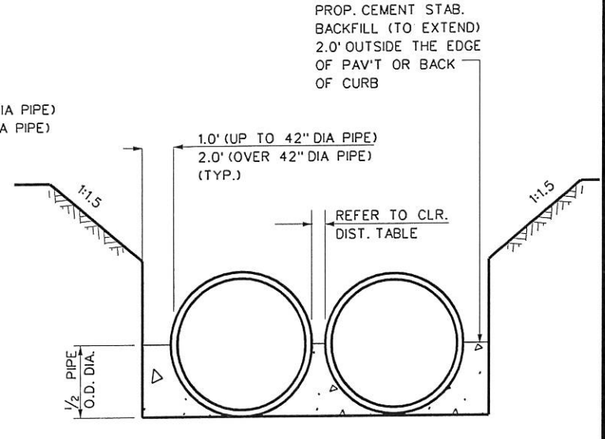
TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



TYPICAL CEMENT STABILIZED BACKFILL
(PIPE)
NTS



TYPICAL TRENCH
EXCAVATION PROTECTION
NTS



TYPICAL CEMENT STABILIZED BACKFILL
(PIPE)
NTS

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(TEL) 956 782-2557 ■ (FAX) 956 782-2558
FIRM No.: 486

STATE OF TEXAS
HERNAN A. LUGO
108728
LICENSED
PROFESSIONAL ENGINEER

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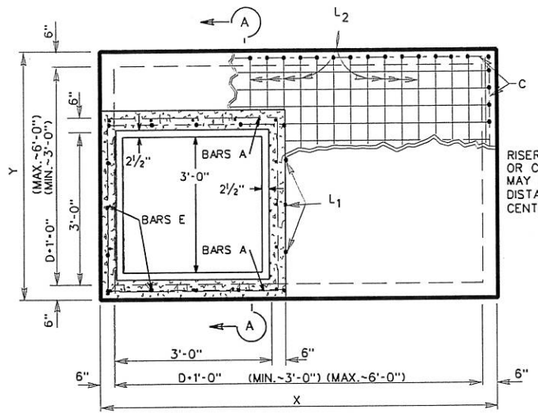
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
CEMENT STABLIZED BACKFILL DETAILS

REVISION	DATE	BY

SCALE:
DATE:
FB No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

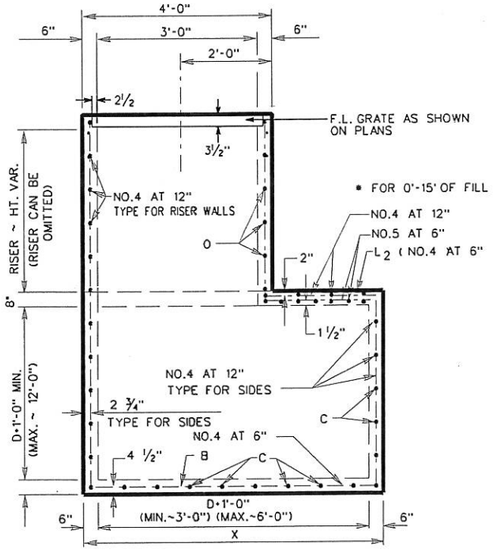
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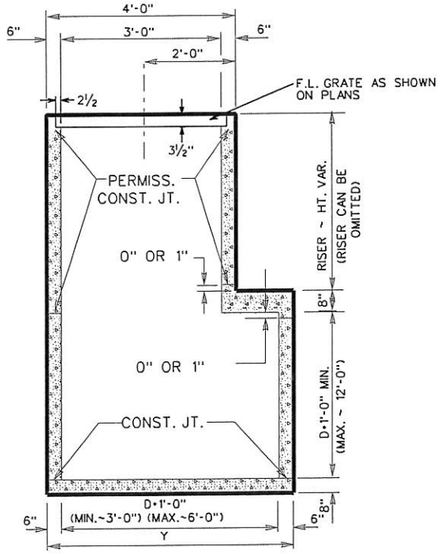


NOTE:
RISER, EITHER CAST-IN-PLACE OR CONCRETE PIPE, MAY BE LOCATED IN ANY CORNER. DISTANCE TO ROAD Q IS FROM CENTER OF STRUCTURE.

PLAN

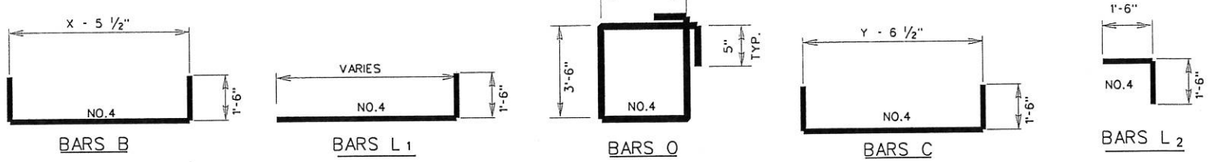


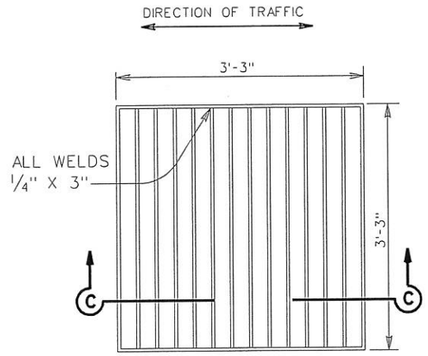
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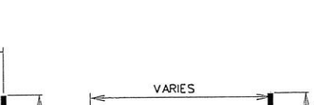


SECTION A-A

MANHOLE WITH CAST-IN-PLACE RISER

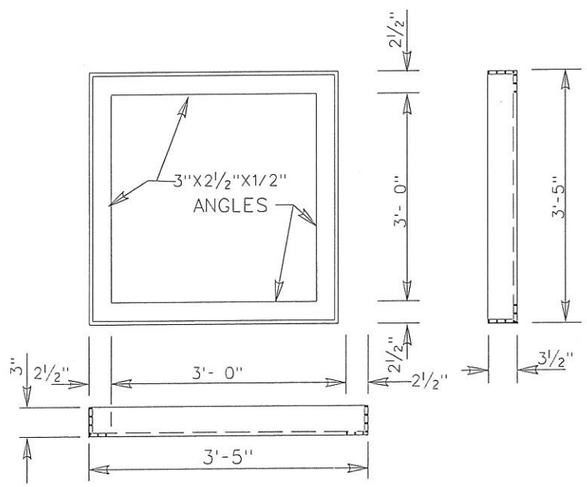






SECTION C-C

WELDED STEEL INLET GRATE



FRAME DETAIL

FRAME INLET GRATE TO BE SUBSIDIARY

GENERAL NOTES

UNLESS OTHERWISE SHOWN IN THE PLANS. PAYMENT WILL BE MADE FOR EACH MANHOLE OF THE TYPE M.
EXPOSED EDGES SHALL BE CHAMFERED 3/4".
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SHOP DRAWINGS WILL NOT BE REQUIRED.

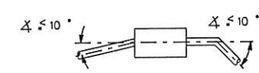
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THE CONTRACTOR MAY WITH THE APPROVAL OF THE ENGINEER FURNISH MANHOLES OF EQUIVALENT STRUCTURAL DESIGN.

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Professional Engineers & Land Surveyors
R. Gutierrez Engineering Corporation
130 E. PARK AVENUE • PHARR, TEXAS 78577
(TEL) 956 782-2557 • (FAX) 956 782-2558
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STATE OF TEXAS
HERNAN A. LUGO
108725
LICENSED
PROFESSIONAL ENGINEER

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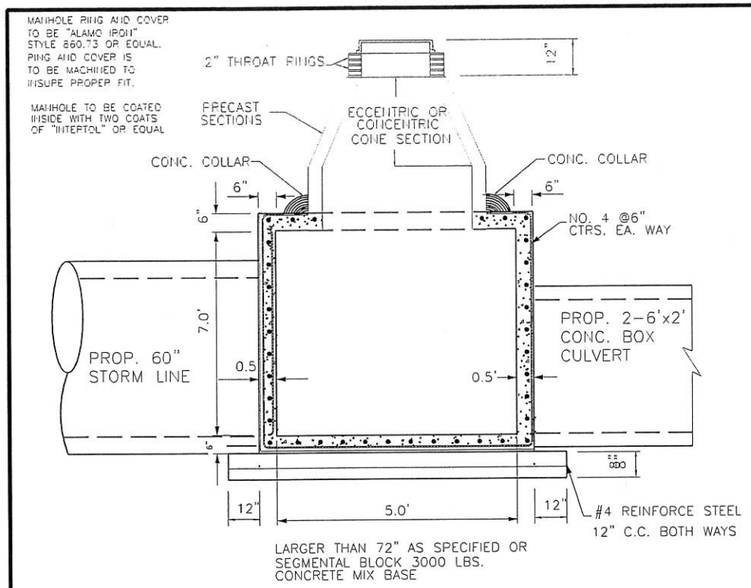
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
TY "M" MANHOLE W/GRATE

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

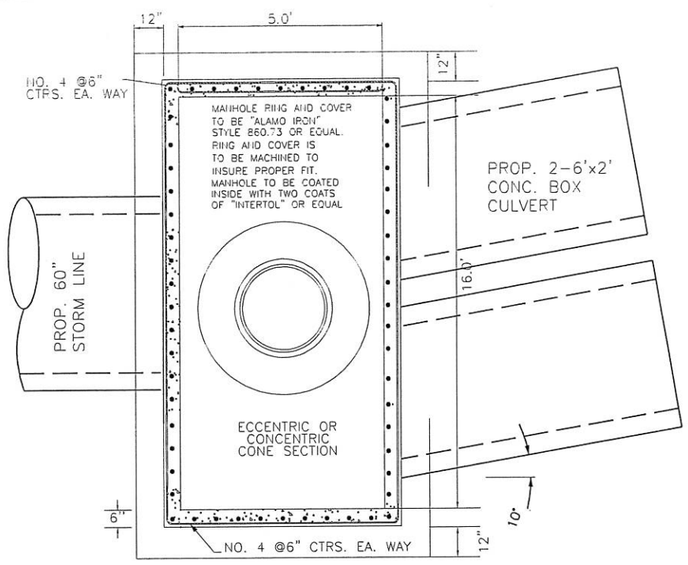
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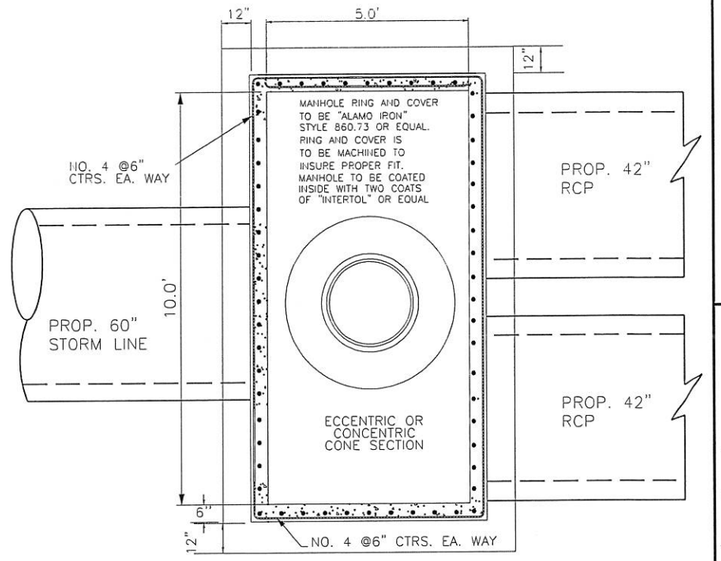
16'x5' JUNCTION BOX DETAIL SIDE VIEW

N.T.S.



16'x5' JUNTION BOX DETAIL TOP VIEW

N.T.S.



10'x5' JUNTION BOX DETAIL TOP VIEW

N.T.S.

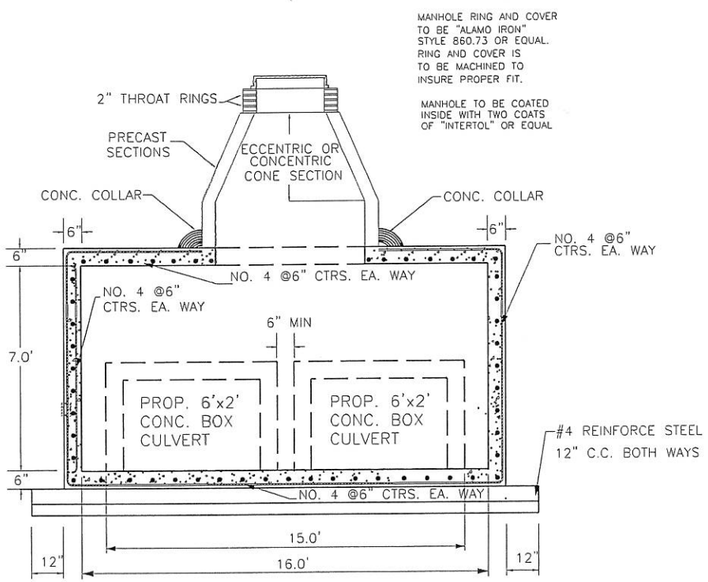
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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER

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MANHOLE RING AND COVER TO BE "ALAMO IRON" STYLE 860.73 OR EQUAL. RING AND COVER IS TO BE MACHINED TO INSURE PROPER FIT.

MANHOLE TO BE COATED INSIDE WITH TWO COATS OF "INTERTOL" OR EQUAL



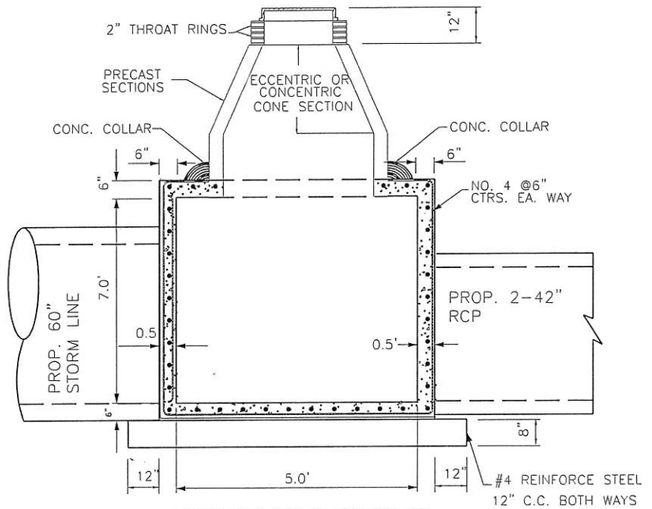
LARGER THAN 72" AS SPECIFIED OR SEGMENTAL BLOCK 3000 LBS. CONCRETE MIX BASE

16'x5' JUNCTION BOX DETAIL FRONT VIEW

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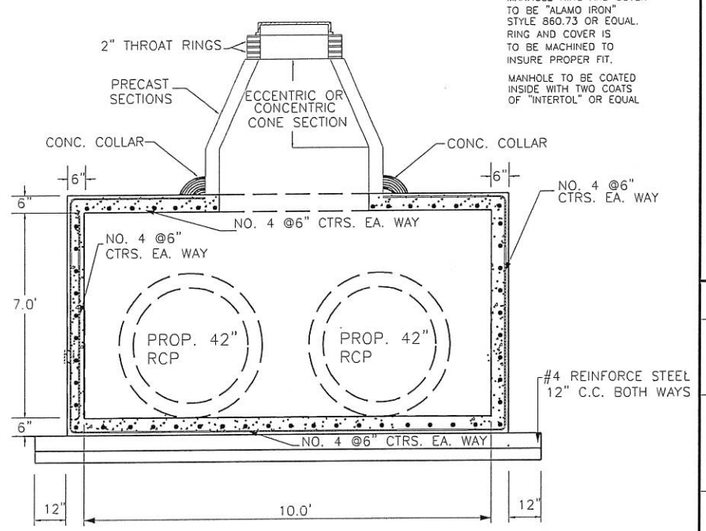
LARGER THAN 72" AS SPECIFIED OR SEGMENTAL BLOCK 3000 LBS. CONCRETE MIX BASE

10'x5' JUNCTION BOX DETAIL SIDE VIEW

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10'x5' JUNCTION BOX DETAIL FRONT VIEW

N.T.S.

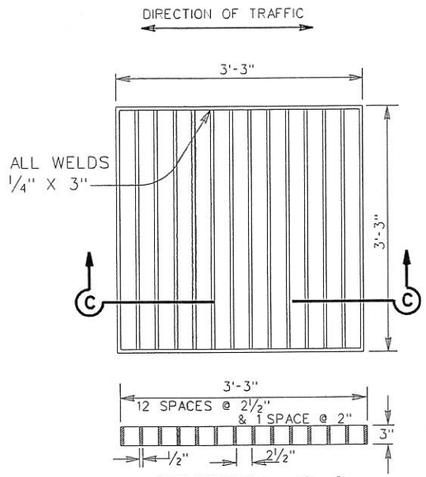
HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY SUBDIVISON AREA
JUNCTION BOX DETAILS

BY	DATE	REVISION

SCALE:
DATE:
F.B. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

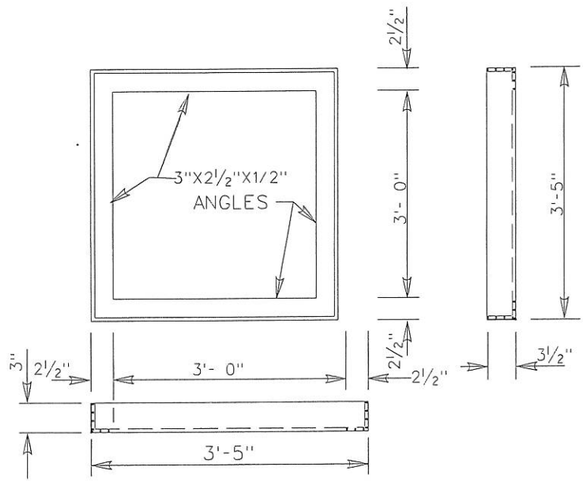
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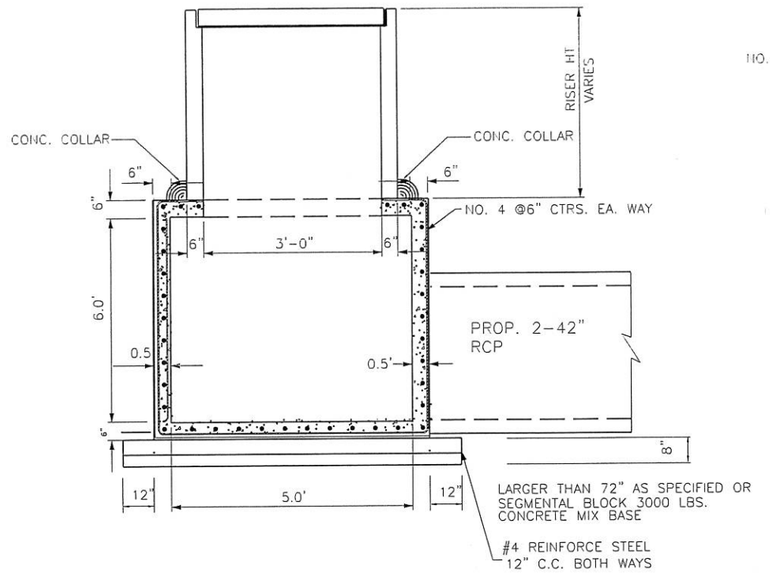
SECTION C-C

WELDED STEEL INLET GRATE



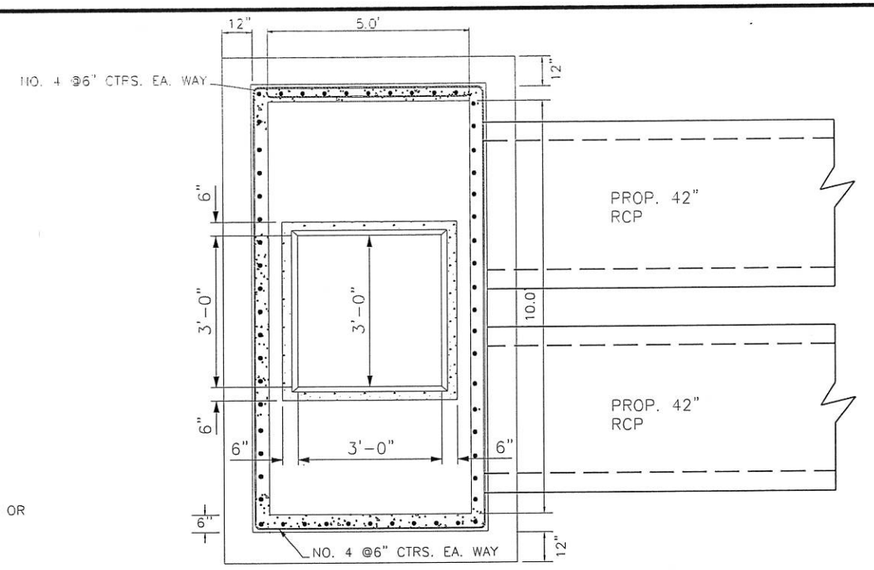
FRAME DETAIL

FRAME INLET GRATE TO BE SUBSIDIARY



JUNCTION BOX W/GRATE DETAIL – SIDE VIEW

N.T.S.



JUNTION BOX W/GRATE DETAIL – TOP VIEW

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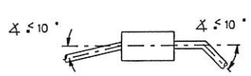
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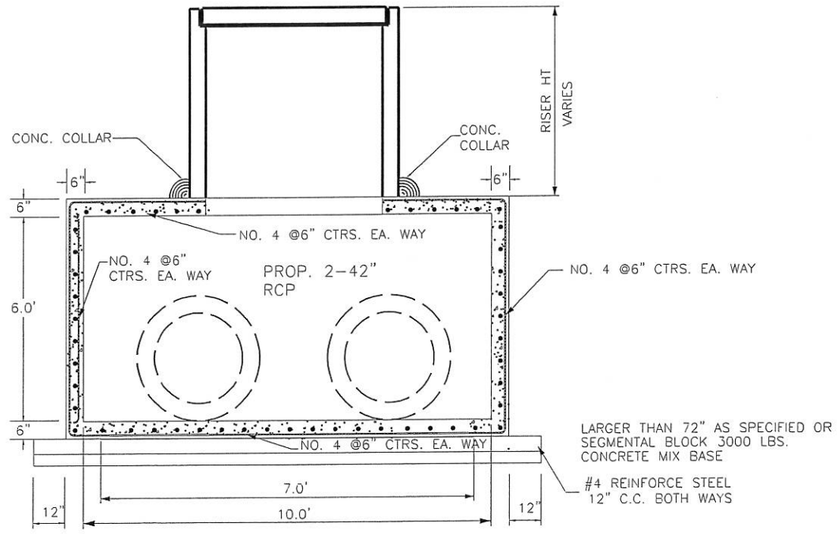
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JUNCTION BOX W/GRATE DETAIL – FRONT VIEW

N.T.S.

Professional Engineers & Land Surveyors
130 E. PARK AVENUE • PHARR, TEXAS 78577
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HIDALGO COUNTY DRAINAGE DIST. # 1
SEMINOLE VALLEY
SUBDIVISON AREA
JUNCTION BOX W/GRATE DETAIL

REVISION	DATE	BY

SCALE:
DATE:
FB. No.:
SURVEY BY:
DRAWN BY: JMJ/MH
PREPARED BY: JMJ/MH
CHECKED BY: R.G.

SHEET
13

F:\2013\ENG\001-LJ DRAINAGE\NORTH SECTION\PLANS\JUNCTION BOX DETAILS.DGN

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DATE:
FILE:

Barricade and Construction (BC) Standard Sheets General Notes:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets", the TxDOT "Roadway Design Manual" or engineering judgment.
6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
12. The Engineer has the final decision on the location of all traffic control devices.
13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

Worker Safety Apparel Notes:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes prequalified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation
Traffic Operations Division - TE
Phone (512) 416-3134

WEB ADDRESSES FOR REFERENCED DOCUMENTS

Compliant Work Zone Traffic Control Devices List (CWZTCD)
http://www.txdot.gov/publications/traffic.htm

Texas Manual on Uniform Traffic Control Devices (TMUTCD)
http://www.txdot.gov/publications/traffic.htm

Standard Highway Sign Designs for Texas (SHSD)
http://www.txdot.gov/publications/traffic.htm

Traffic Engineering Standard Sheets
http://www.txdot.gov/business/disclaim.htm

Material Producer List
http://www.txdot.gov/business/producer_list.htm

Departmental Material Specifications (DMS)
http://www.txdot.gov/services/construction/material_specifications/

Roadway Design Manual
http://www.txdot.gov/services/general_services/manuals.htm

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

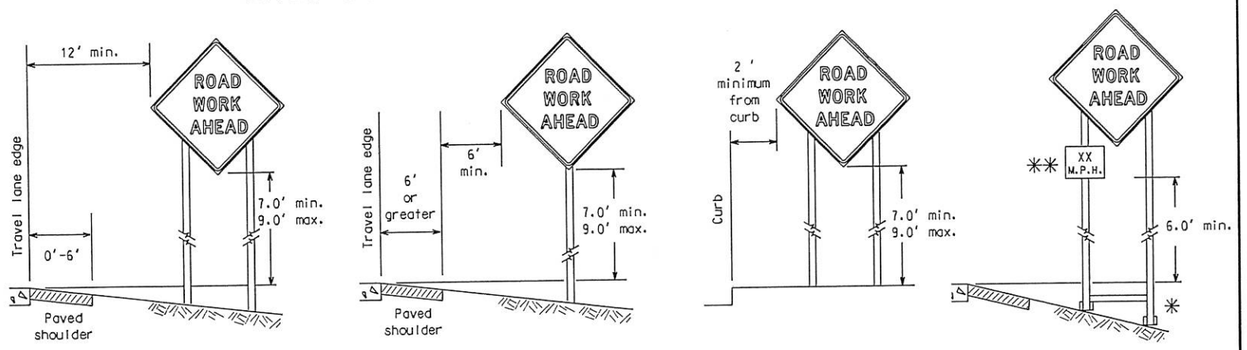
1 of 12 BC(1)-07

©TxDOT 11-4-02	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
REVISIONS	CONT	SECT	JOB	HIGHWAY
4-03				
9-07	DIST	COUNTY		SHEET NO.
	21	HIDALGO		14

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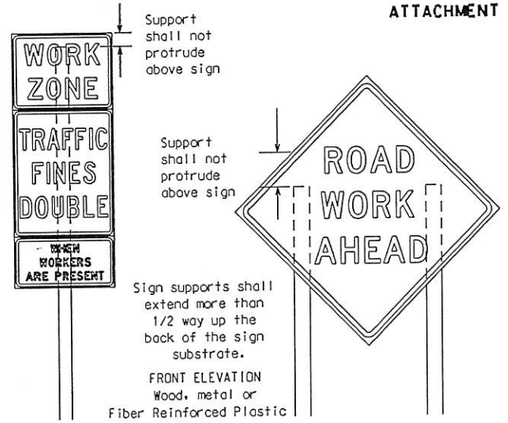
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

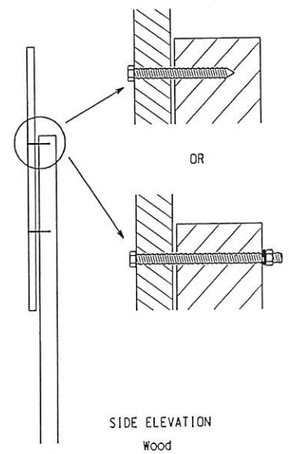


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

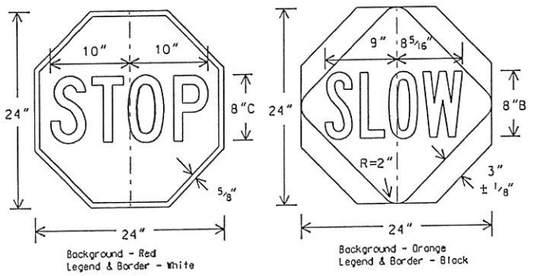
Nails will NOT be allowed.

Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same guage material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
2. When used at night, the STOP/SLOW paddle shall be retroreflectorized.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
6. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
7. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
8. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
10. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height,the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday, or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Engineer may allow the use of smaller size construction warning signs on secondary roads or city streets where speeds are low if the sign size is listed as an option on the "Typical Construction Warning Sign Size and Spacing" chart shown on BC(2).
2. The Contractor shall furnish the sign sizes shown in plans, the BC Sheets, the TCP sheets or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type C (High Specific Intensity), shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type E (Fluorescent Prismatic), shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This type of sign support meets the crashworthiness standards regardless of the direction of impact. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face. These materials can damage the retroreflectivity of sheeting.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact.
6. Rubber (such as tire inner tubes) shall NOT be used for sandbags.
7. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
8. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
9. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES STANDARD

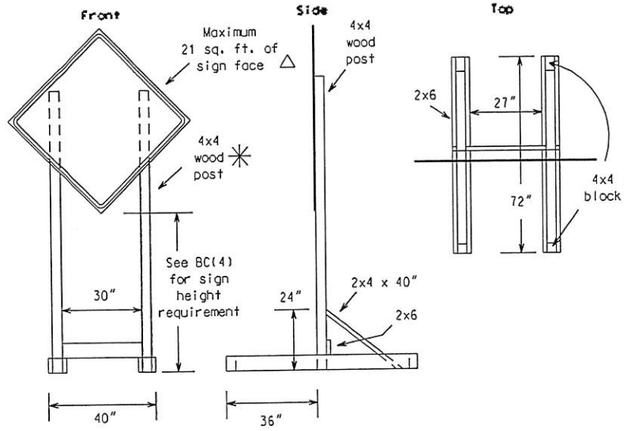
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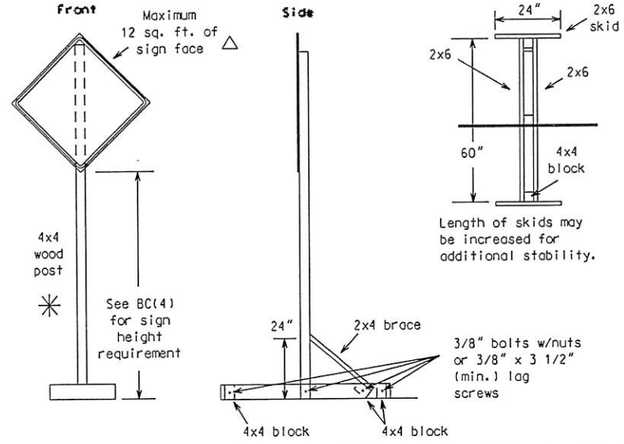
©TxDOT 11-4-02	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.
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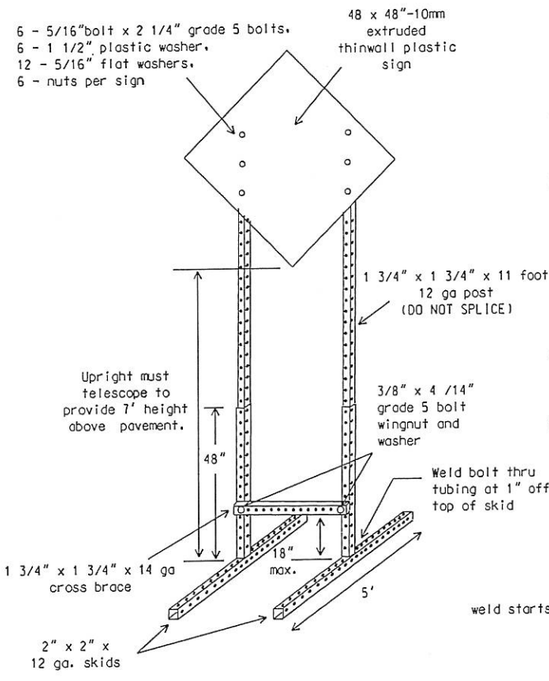
SKID MOUNTED WOOD SIGN SUPPORTS

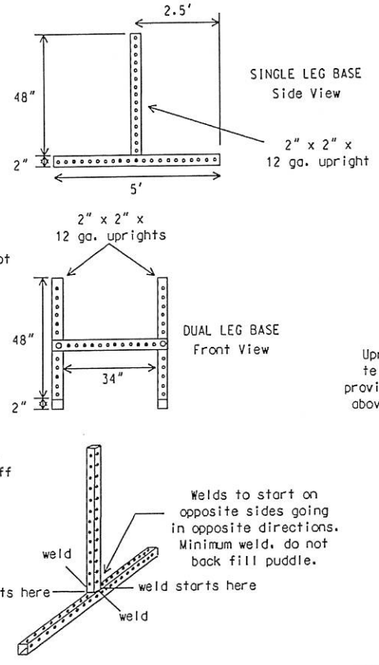
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □

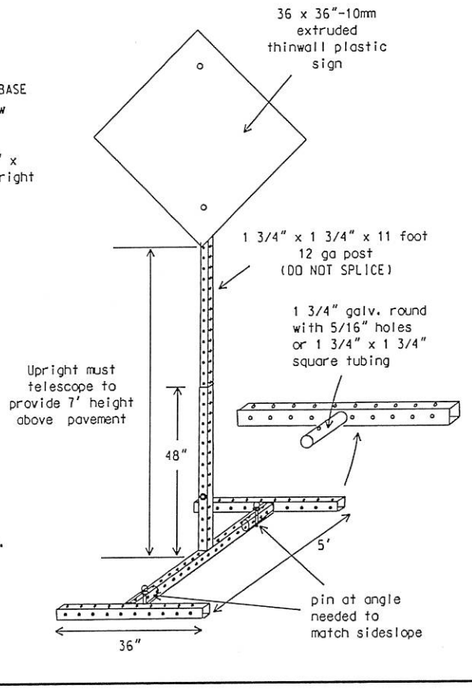




SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS



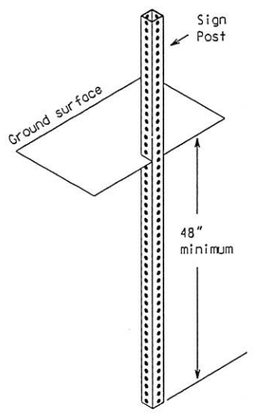




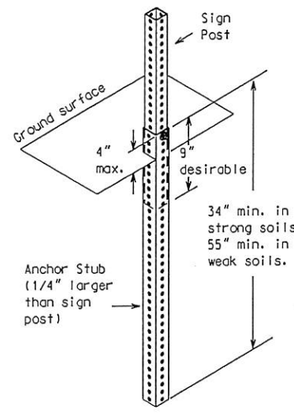
GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support. The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.

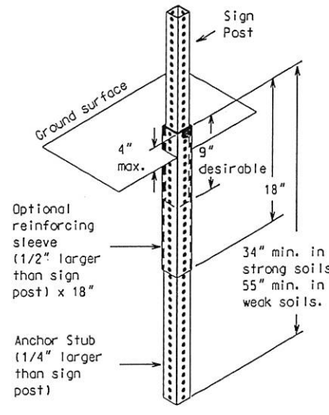
PERFORATED SQUARE METAL TUBING



OPTION 1
(Direct Embedment)



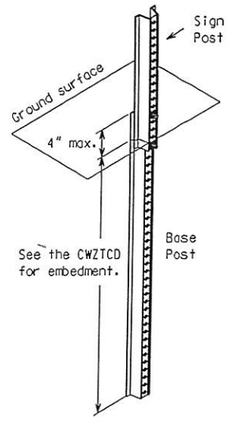
OPTION 2
(Anchor Stub)



OPTION 3
(Anchor Stub and Reinforcing Sleeve))

WING CHANNEL

Lap-splice/base bolted anchor



GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports. but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. More details of approved Long/Intermediate and Short Term supports can be found on the CWZTCD list. See BC(1) for website location.
3. No more than 2 sign posts shall be placed within a 7 ft. circle. except for specific materials noted on the CWZTCD List.
4. When project is completed. all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

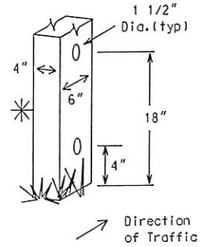
□ See BC(4) for definition of "Work Duration."

✳ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

△ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).



WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS

Nominal Post Size	No. of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	NO
4 x 4	2	21	36"	NO
4 x 6	1	21	36"	YES
4 x 6	2	36	36"	YES

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT STANDARD

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9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY
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	21	HIDALGO		16

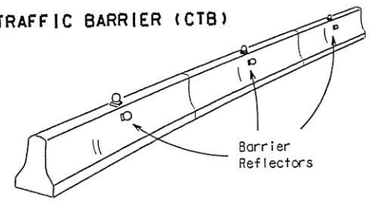
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BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

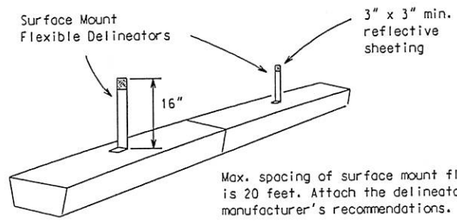
1. Barrier Reflectors shall be prequalified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors (Type C Delineators) can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 502.

CONCRETE TRAFFIC BARRIER (CTB)



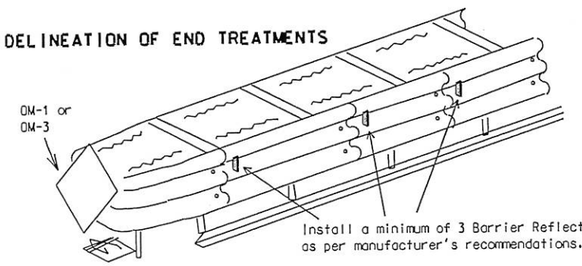
3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented. Yellow Barrier Reflectors shall be made with Type E Fluorescent Prismatic Yellow Retroreflective Sheeting. White reflectors shall be made with Type D White Prismatic sheeting.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

LOW PROFILE CONCRETE BARRIER (LPCB)



Max. spacing of surface mount flexible delineators is 20 feet. Attach the delineators as per manufacturer's recommendations.

DELINEATION OF END TREATMENTS



	APPROACHING TRAFFIC	
	BOTH SIDES	ONE SIDE
DELINEATION	OM-1	OM-3 or Vertical Panel

END TREATMENTS FOR CTB'S USED IN WORK ZONES

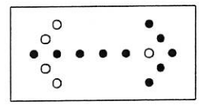
End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

TYPICAL FLASHING ARROW PANEL

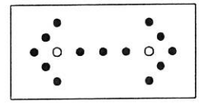
Arrow Panels may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Panel should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Panels should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Panel.
4. The Flashing Arrow Panel should be able to display the following symbols:

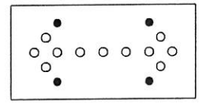
Flashing RIGHT (LEFT) ARROW



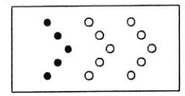
Flashing DOUBLE ARROW



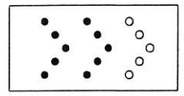
Flashing CAUTION

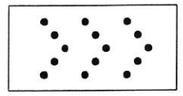


5. The "CAUTION" display consists of four corner lamps flashing simultaneously.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Panel shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.



Sequential Chevron





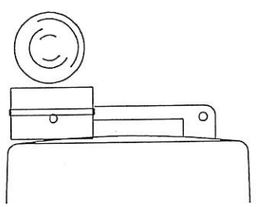
REQUIREMENTS

TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

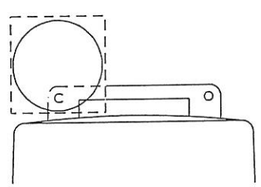
ATTENTION: Flashing Arrow Panels shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW PANEL FROM THE RIGHT-OF-WAY OR PLACE THE ARROW PANEL BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

11. The Flashing Arrow Panel shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Panel SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Panel provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted arrow panels should be 7 feet from roadway to bottom of panel.



Type C Warning Light or approved substitute mounted adjacent to the travel way.



Warning reflector may be round or square. Must have a reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type E Sheeting (Fluorescent Prismatic) meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type D (Non-fluorescent Prismatic).
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the dates shown in the CWZTCD to ensure that the TMA meets the age requirements and the crashworthiness criteria established by the Federal Highway Administration (FHWA) for TMAs.
4. Refer to the CWZTCD for a list of approved TMAs.
5. TMAs are required on freeways unless otherwise noted in the plans.
6. A TMA should be used anytime that it can be positioned approximately 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
7. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

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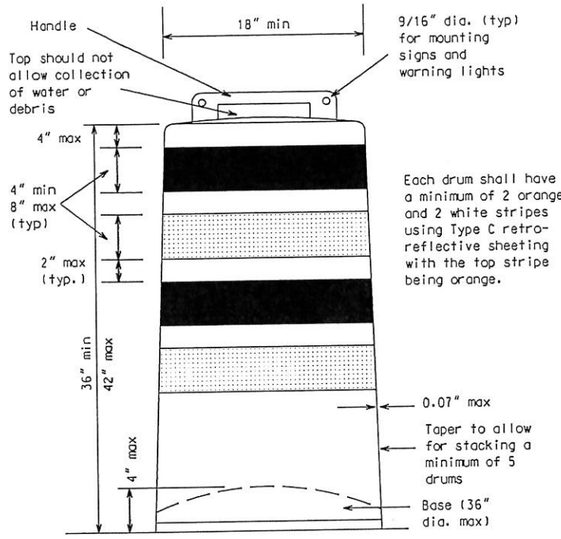
BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR STANDARD

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9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY
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	21	HIDALGO		17

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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Prequalified plastic drums shall meet the following requirements:

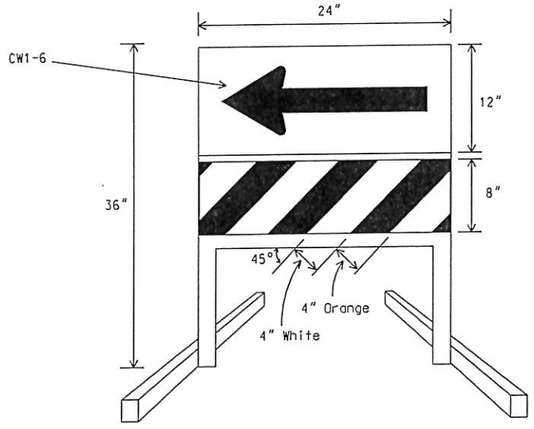
1. Plastic drums shall be a two-piece design: the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a minimum unballasted weight of 7.7 lbs. and maximum unballasted weight of 11 lbs. The wall of the drum body shall be a minimum of 0.07 inch in thickness. Weight of any drum supplied shall not vary more than 0.5 lb. from that of the prequalified sample.
10. Drum and base shall be marked with manufacturer's name and model number.

RETROREFLECTIVE SHEETING

1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Flat Surface Reflective Sheeting." High Specific Intensity (Type C) retroreflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

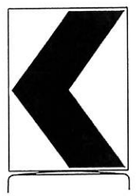
BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
4. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
5. Ballast shall not be placed on top of drums.
6. Adhesives may be used to secure base of drums to pavement.

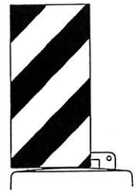


DIRECTION INDICATOR BARRICADE

1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CW1-6) sign in the size shown with a black arrow on a background of Type E Fluoprescent Prismatic Orange above a rail with Type C High Specific Intensity retroreflective sheeting in alternation 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass.
4. Double arrows on the Direction Indicator Barricade will not be allowed.
5. Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type E (Fluorescent Prismatic) sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type C (High Specific Intensity). Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

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BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

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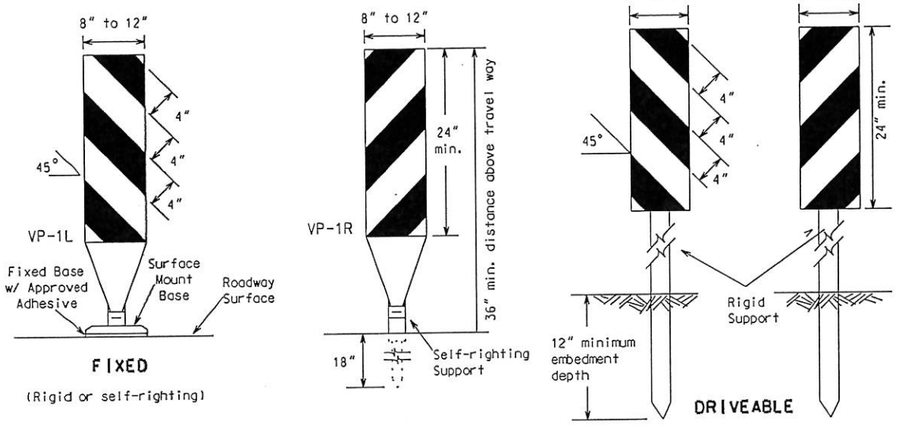
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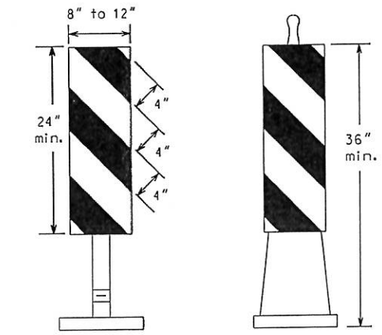
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CHANNELIZING DEVICES

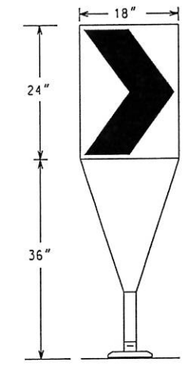
VERTICAL PANELS (VPs)



1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, shall have a minimum of 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is greater than 36 inches, a panel stripe of 6 inches shall be used.



CHEVRONS

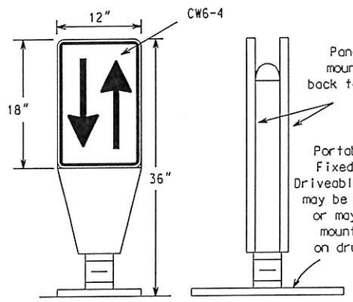


1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type E (Fluorescent Prismatic) conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall be black vinyl non-reflective decal sheeting meeting the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

GENERAL NOTES:

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh approximately 35 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.
8. Examples on this sheet are commonly used channelizing devices in work zones. For other devices, refer to the CWZTCD.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

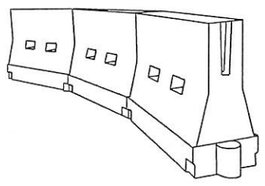


1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with simple tubular markers or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. Tubular markers or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black nonreflective legend. Sheeting for the OTLD shall be retroreflective Type E (Fluorescent Prismatic) conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall be black vinyl non-reflective decal sheeting meeting the requirements of DMS-8300.

Posted Speed	Formula	Minimum Desirable Taper Lengths ✳✳ 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'-75'
35		205'	225'	245'	35'	70'-90'
40		265'	295'	320'	40'	80'-100'
45	L=WS	450'	495'	540'	45'	90'-110'
50		500'	550'	600'	50'	100'-125'
55		550'	605'	660'	55'	110'-140'
60		600'	660'	720'	60'	120'-150'
65		650'	715'	780'	65'	130'-165'
70		700'	770'	840'	70'	140'-175'
75		750'	825'	900'	75'	150'-185'
80		800'	880'	960'	80'	160'-195'

✳✳Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS



LONGITUDINAL CHANNELIZING DEVICES

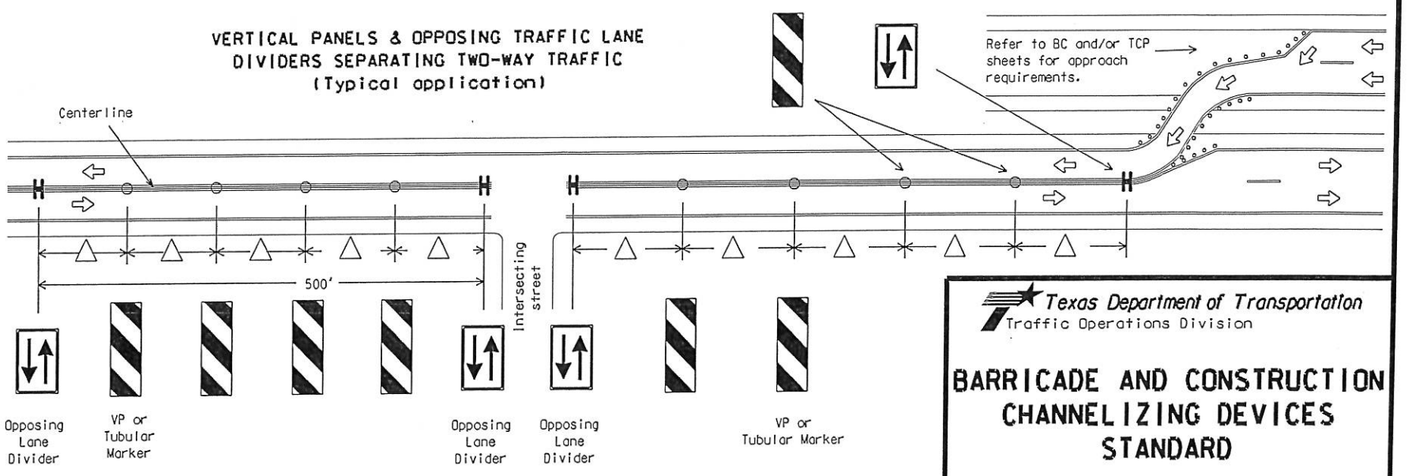
1. Longitudinal channelizing devices are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. **They are not designed to contain or redirect a vehicle on impact.**
2. Longitudinal channelizing devices may be used instead of a line of cones or drums.
3. Longitudinal channelizing devices shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Longitudinal channelizing devices should not be used to provide positive protection for obstacles, pedestrians or workers.
5. Longitudinal channelizing devices shall be retroreflective, or supplemented with retroreflective delineation as required for temporary barriers on BC(7)-07.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall be not less than 32 inches in height.

VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS SEPARATING TWO-WAY TRAFFIC (Typical application)



△ Spacing between the VP's or tubular markers shall not exceed 100 feet. On roadways with speeds less than 45 MPH, spacing between the tubular markers or VP's shall be as shown on the channelizing spacing table shown on this page. If the table shows spacing greater than 100 feet based on the roadway speed, then use a maximum of 100 feet spacing between the tubular markers or VP's. Every fifth channelizing device shall be an OTLD, except when the OLTD must be spaced closer to accomodate an intersection. Spacing between the OTLD shall not exceed 500 feet.

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Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

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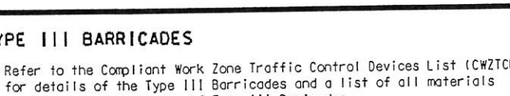
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TYPE III BARRICADES

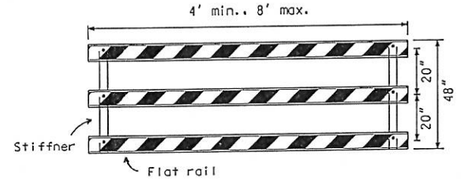
1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type III Barricades and a list of all materials used in the construction of Type III Baricades.
2. Type III Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specfication DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



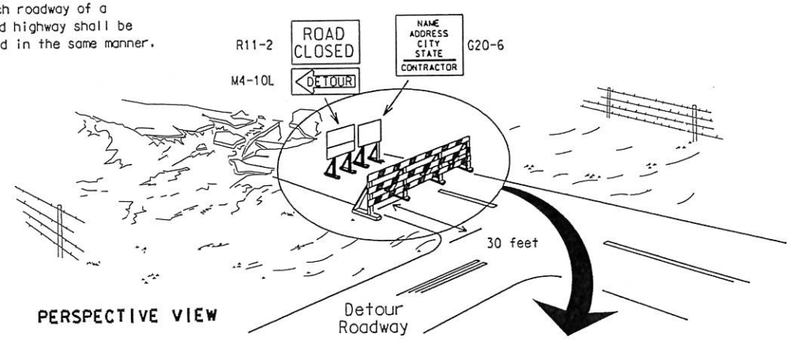
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



Stiffner may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

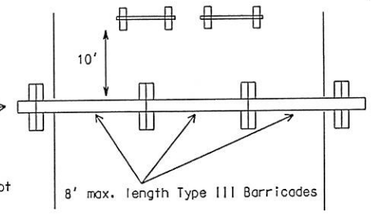
TYPE III BARRICADE (POST AND SKID) TYPICAL APPLICATION

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

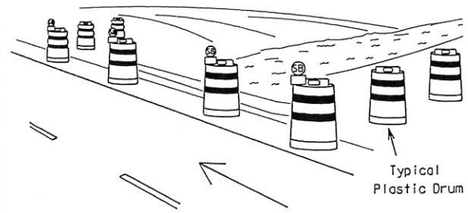
The three rails on Type III barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

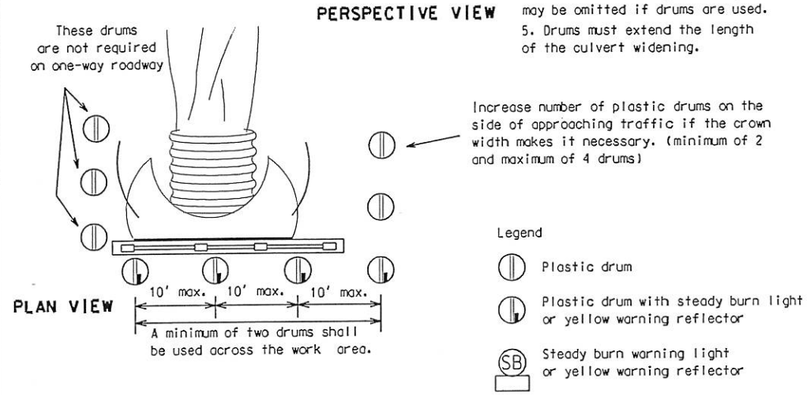
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type III Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



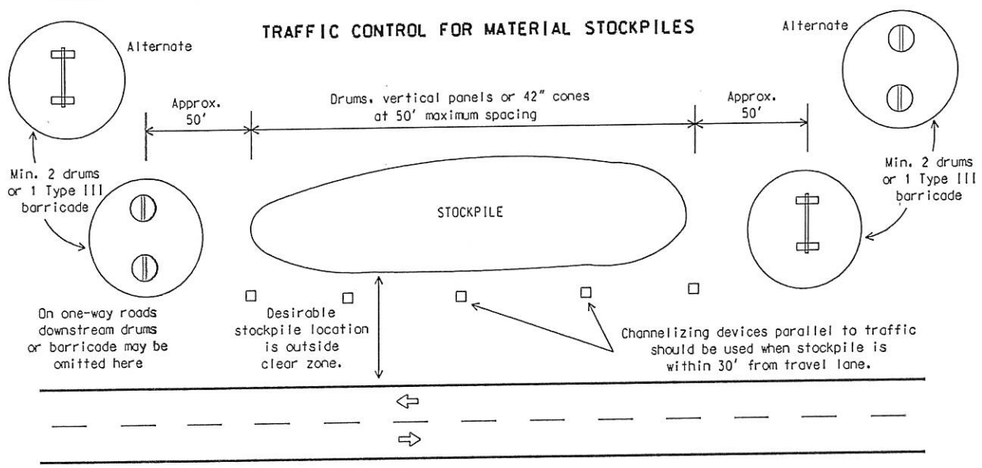
PERSPECTIVE VIEW

1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.

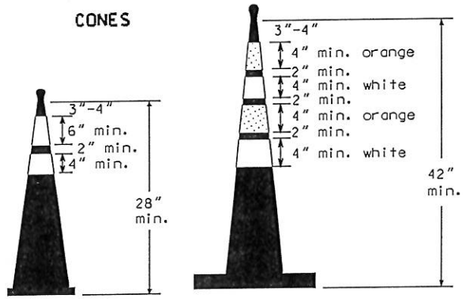


PLAN VIEW

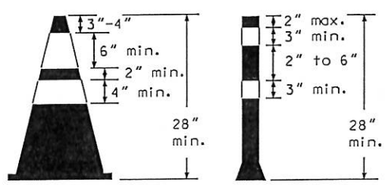
TRAFFIC CONTROL FOR MATERIAL STOCKPILES



CONES



Two-Piece cones

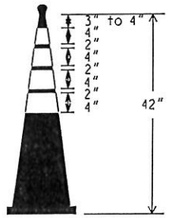


One-Piece cones Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be a minimum of 28 inches in height when used either on freeways or at nighttime.
2. Cones or tubular markers shall be predominantly orange, fluorescent red-orange, or fluorescent yellow-orange. They should be kept clean and bright for maximum visibility.
3. Cones used only for daytime operations do not require the reflectorized bands.
4. Cones and tubular markers used for nighttime operations shall be reflectorized. Reflectorized material shall have a smooth, sealed outer surface that displays the same approximate color during the day and night. The reflectorized bands shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
5. When used at night, appropriate personnel shall ensure that cones and tubular markers remain in their proper location and in an upright position.
6. Reflectorization of 28"cones shall consist of a minimum 6 inch band placed at least 3 inches but not more than 4 inches from the top, supplemented by a minimum 4 inch band spaced a minimum of 2 inches below the 6 inch band.
7. Reflectorization of 42" cones shall be provided by alternating 4 to 6" orange and white stripes with orange on top.
8. Reflectorization of tubular markers shall be a minimum of two 3 inch bands placed a maximum of 2 inches from the top with a maximum of 6 inches between bands.
9. One-piece cones or tubular markers are generally suitable for temporary usage (up to 8 hours) with other channelization devices such as vertical panels, drums or two-piece cones for long term usage. Care should be taken to ensure they remain in their proper location and in an upright position.
10. Cones or tubular markers used on each project shall be of the same size and shape.
11. The handle may be designed as a hook or other shape, fabricated from non-rigid materials similar to the cone material, and may extend up to a maximum of 8 inches above the top of cone. Length of the handle shall not be considered with regard to the overall height of the cone.



EDGELINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type C encapsulated bead (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

10 of 12 BC(10)-07

©TxDOT 11-4-02	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-07 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.
	21	HIDALGO		20

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LEVELS DISPLAYED

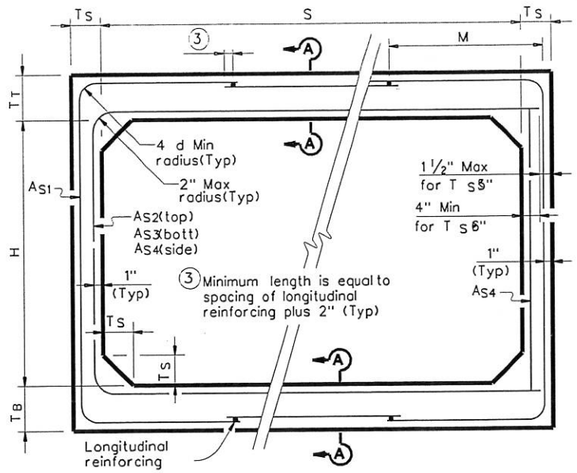
ACC:

BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (in²/ft) ②								Lift Weight (Tons) ①
S (ft)	H (ft)	T_T (in)	T_B (in)	T_S (in)	(ft)	(in)	A_{S1}	A_{S2}	A_{S3}	A_{S4}	A_{S5}	A_{S6}	A_{S7}	A_{S8}	
6	3	8	7	7	<2	-	0.20	0.31	0.22	0.17	0.19	0.19	0.19	0.17	7.9
6	3	7	7	7	2<3	43	0.21	0.24	0.19	0.17	-	-	-	-	7.5
6	3	7	7	7	3-5	39	0.17	0.18	0.17	0.17	-	-	-	-	7.5
6	3	7	7	7	10	39	0.17	0.18	0.19	0.17	-	-	-	-	7.5
6	3	7	7	7	15	38	0.22	0.24	0.24	0.17	-	-	-	-	7.5
6	3	7	7	7	20	38	0.28	0.31	0.31	0.17	-	-	-	-	7.5
6	3	7	7	7	25	38	0.35	0.38	0.39	0.17	-	-	-	-	7.5
6	3	7	7	7	30	38	0.42	0.46	0.46	0.17	-	-	-	-	7.5
6	4	8	7	7	<2	-	0.19	0.34	0.25	0.17	0.19	0.19	0.19	0.17	8.6
6	4	7	7	7	2<3	43	0.19	0.27	0.21	0.17	-	-	-	-	8.2
6	4	7	7	7	3-5	39	0.17	0.21	0.19	0.17	-	-	-	-	8.2
6	4	7	7	7	10	39	0.17	0.20	0.21	0.17	-	-	-	-	8.2
6	4	7	7	7	15	38	0.18	0.27	0.27	0.17	-	-	-	-	8.2
6	4	7	7	7	20	38	0.24	0.34	0.35	0.17	-	-	-	-	8.2
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6	6	7	7	7	15	39	0.17	0.29	0.31	0.17	-	-	-	-	9.6
6	6	7	7	7	20	39	0.18	0.38	0.39	0.17	-	-	-	-	9.6
6	6	7	7	7	25	38	0.23	0.46	0.48	0.17	-	-	-	-	9.6
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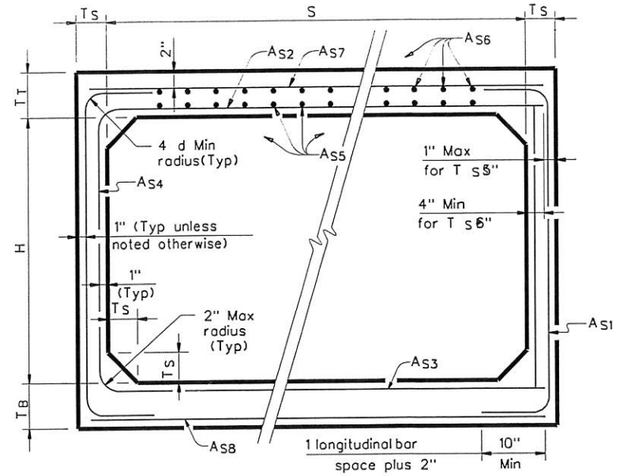
① For Box Length = 8'-0"

② A_{S1} thru A_{S4} and A_{S7} thru A_{S8} are minimum required areas of reinforcement per linear foot of box length. A_{S6} and A_{S5} are minimum required areas of reinforcement per linear foot of box width.



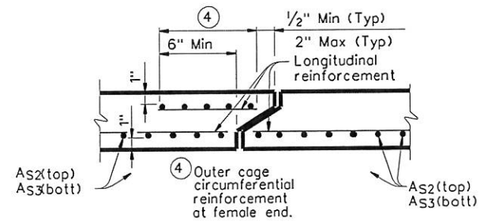
CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT



SECTION A-A

(TOP AND BOTTOM SLAB JOINT REINFORCEMENT)

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

All concrete shall be Class "H" Concrete with a minimum compressive strength of 5,000 psi.

See SCP-MD standard sheet for miscellaneous details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Shop plans for alternate designs shall be submitted in accordance with Item "Precast Concrete Structures".

HL93 LOADING

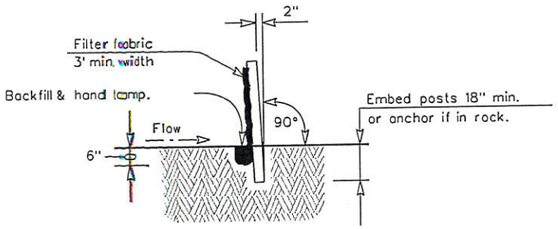
Texas Department of Transportation
Bridge Division

SINGLE BOX CULVERTS PRECAST
6'-0" SPAN

SCP-6

FILE: scp06ste.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT	CK: GAF
©TxDOT February 2010	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS				21
	COUNTY	CONTROL	SECT	JOB	HIGHWAY

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SECTION A-A

GENERAL NOTES

1. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

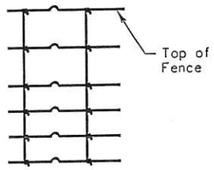
PLAN SHEET LEGEND

Sediment Control Fence —(SCF)—

SEDIMENT CONTROL FENCE USAGE GUIDELINES

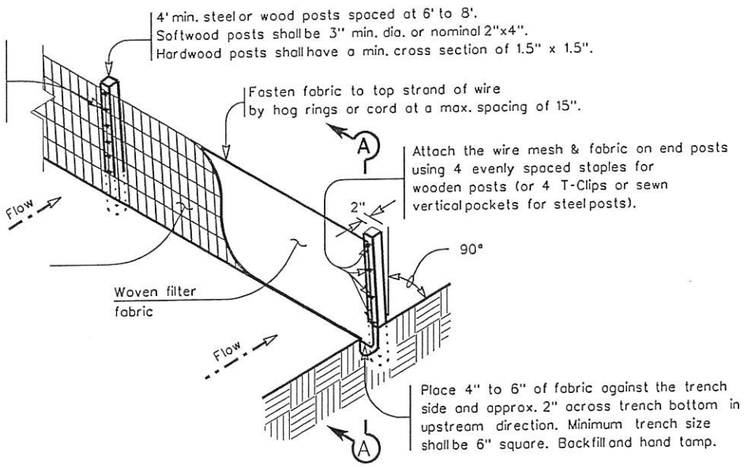
A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a max. flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.



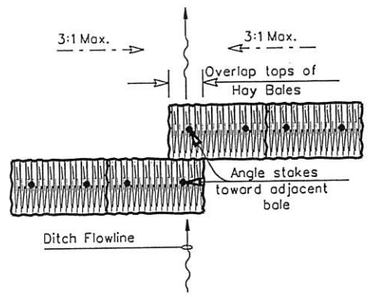
Galv. Hinge joint knot woven mesh (12.5 Ga. Min.) requires a minimum of five horizontal wires spaced at a max. 12 inches apart and all vertical wires spaced at a max. 12 inches apart.

Hinge Joint Knot Woven Mesh (Option)

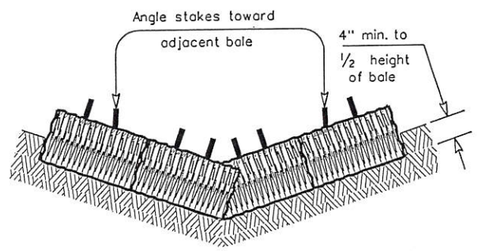


TEMPORARY SEDIMENT CONTROL FENCE

—(SCF)—



PLAN VIEW



PROFILE VIEW

PLANS SHEET LEGEND

Baled Hay —(BH)—

BALED HAY USAGE GUIDELINES

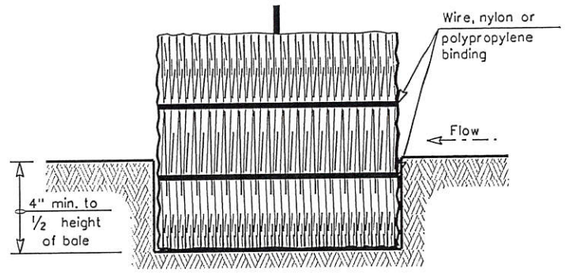
A Baled Hay installation may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A two year storm frequency may be used to calculate the flow rate to be filtered. The installation should be sized to filter a maximum flow thru rate of 5 GPM/FT^2 of cross sectional area. Baled hay may be used at the following locations:

1. Where the runoff approaching the baled hay flows over disturbed soil for less than 100'. If the slope of the disturbed soil exceeds 10%, the length of slope upstream the baled hay should be less than 50'.
2. Where the installation will be required for less than 3 months.
3. Where the contributing drainage area is less than ½ acre.

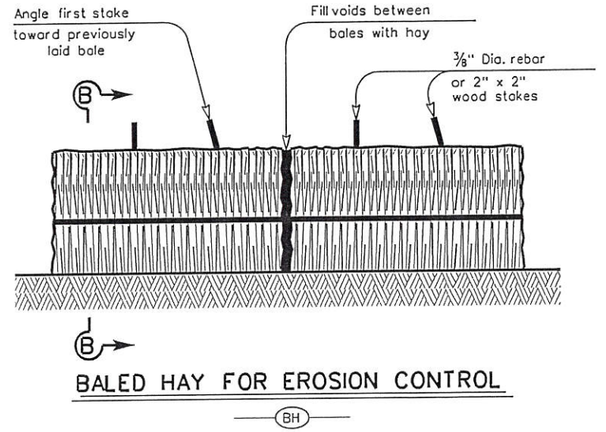
For Baled Hay installations in small ditches, the additional following considerations apply:

1. The ditch sideslopes should be graded as flat as possible to maximize the drainage flowrate thru the hay.
2. The ditch should be graded large enough to contain the overtopping drainage when sediment has filled to the top of the baled hay.

Bales should be replaced usually every 2 months or more often during wet weather when loss of structural integrity is accelerated.



SECTION B-B



BALED HAY FOR EROSION CONTROL

—(BH)—

GENERAL NOTES

1. Hay bales shall be a minimum of 30" in length and weigh a minimum of 50 Lbs.
2. Hay bales shall be bound by either wire or nylon or polypropylene string. The bales shall be composed entirely of vegetative matter.
3. Hay bales shall be embedded in the soil a minimum of 4" and where possible ½ the height of the bale.
4. Hay bales shall be placed in a row with ends tightly abutting the adjacent bales. The bales shall be placed with bindings parallel to the ground.
5. Hay bales shall be securely anchored in place with ⅜" Dia. rebar or 2" x 2" wood stakes, driven through the bales. The first stake shall be angled towards the previously laid bale to force the bales together.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

Texas Department of Transportation
Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

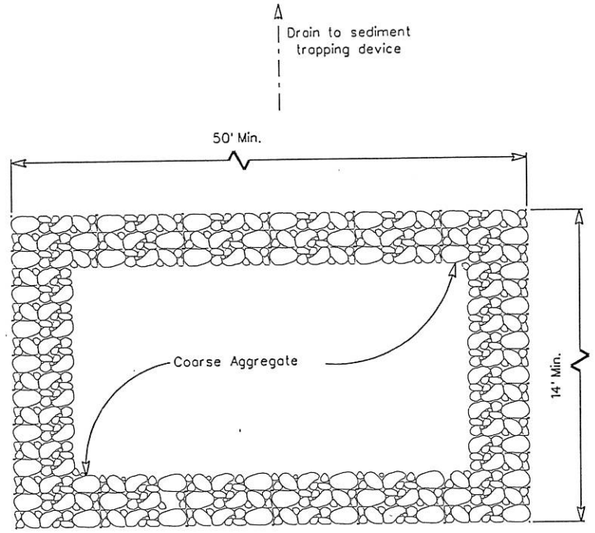
FENCE & BALED HAY

EC(1)-09

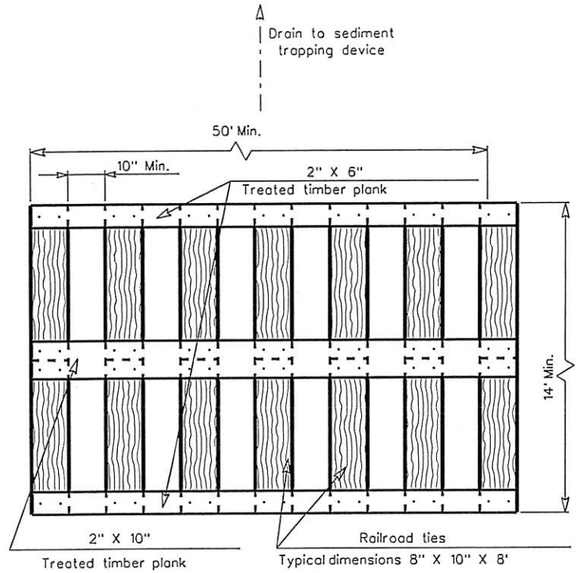
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©TxDOT June 1993	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.
	21	HIDALGO		22

DATE: $DATE$ $TIME$
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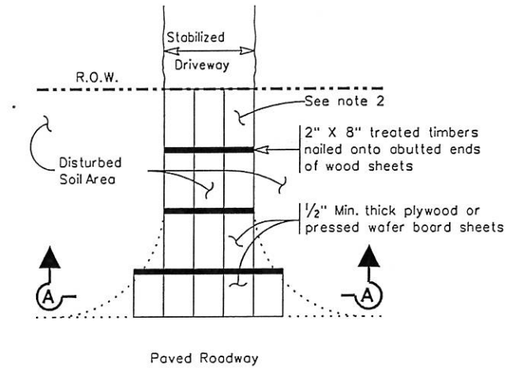
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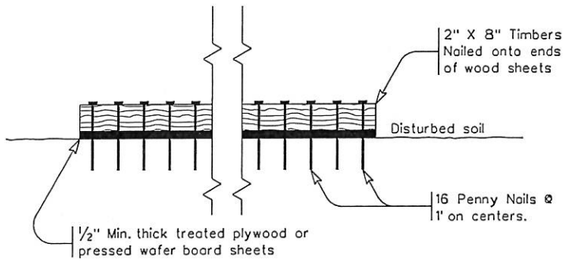
PLAN



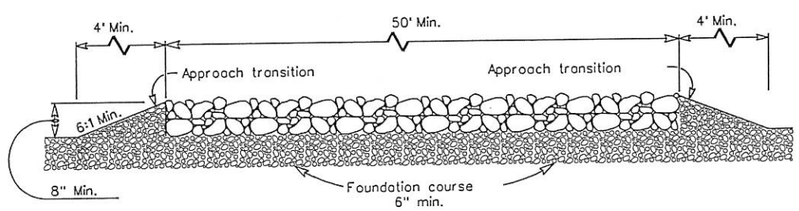
PLAN



PLAN



SECTION A-A

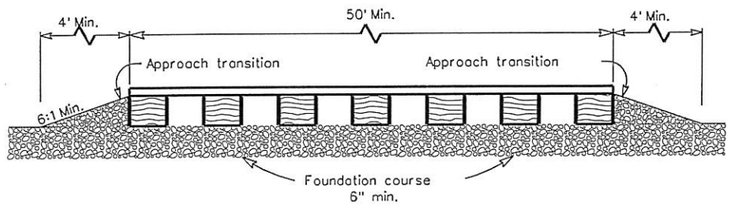


PROFILE

CONSTRUCTION EXIT (TYPE 1)

GENERAL NOTES

1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
2. The coarse aggregate should be open graded with a size of 4" to 8".
3. The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
5. The construction exit shall be graded to allow drainage to a sediment trapping device.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.



PROFILE

CONSTRUCTION EXIT (TYPE 2)

GENERAL NOTES

1. The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
2. The treated timber planks shall be attached to the railroad ties with ½"x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
5. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
6. The construction exit should be graded to allow drainage to a sediment trapping device.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

CONSTRUCTION EXIT (TYPE 3)

GENERAL NOTES

1. The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
2. The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

Texas Department of Transportation
Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

CONSTRUCTION EXITS

EC(3)-93

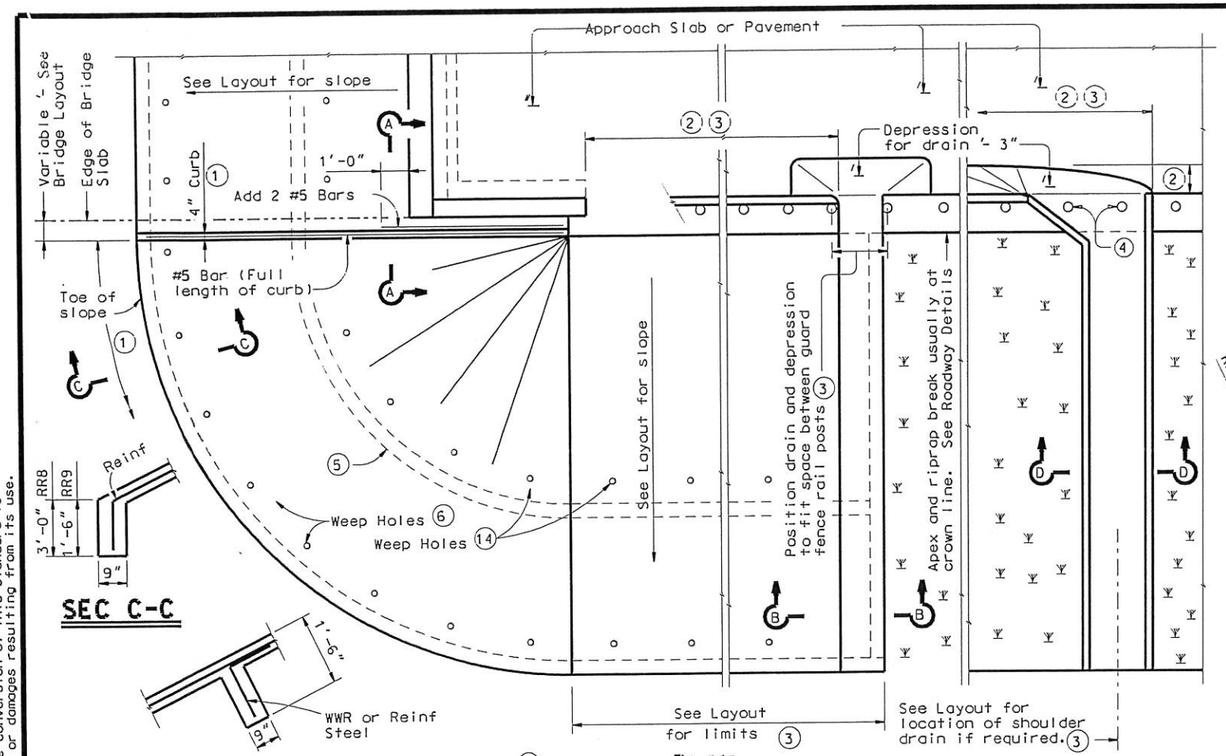
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©TxDOT June 1993 REVISIONS	CONT	SECT	JOB	HIGHWAY
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	21	HIDALGO		23

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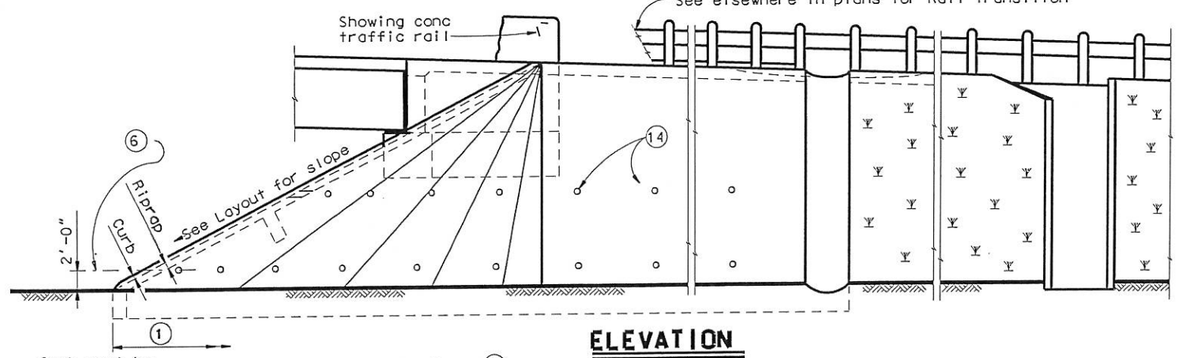
LEVELS DISPLAYED



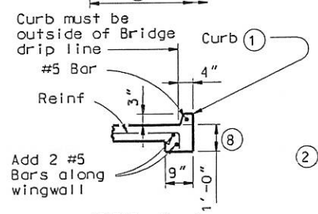
SEC C-C

PLAN

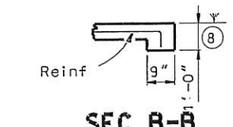
OPTIONAL INTERMEDIATE TOEWALL (5)



ELEVATION

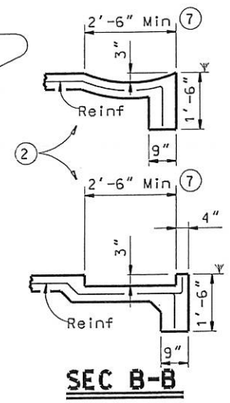


SEC A-A



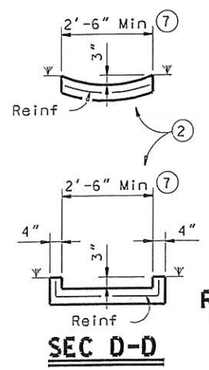
SEC B-B

(No Drain)



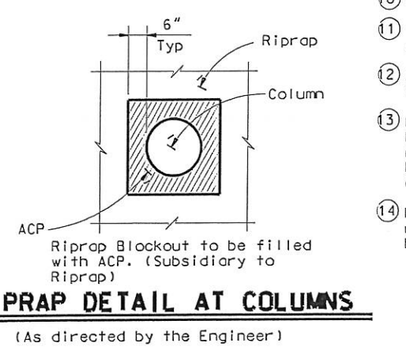
SEC B-B

(Shoulder Drain integral with riprap)



SEC D-D

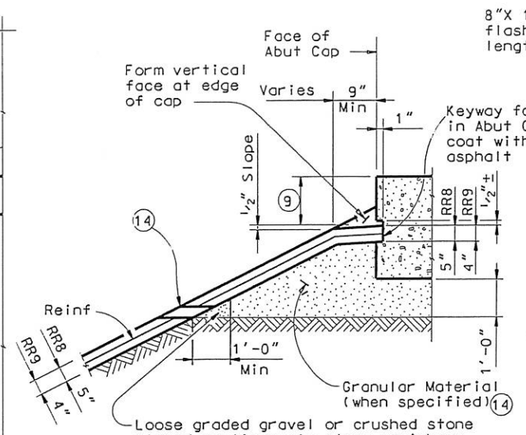
(Shoulder Drain)



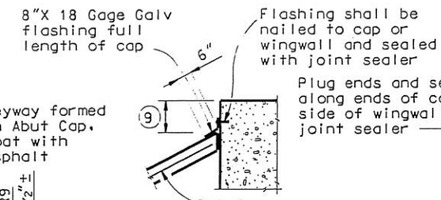
Riprap Blockout to be filled with ACP. (Subsidiary to Riprap)

RIPRAP DETAIL AT COLUMNS

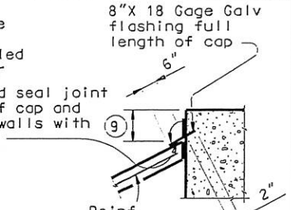
(As directed by the Engineer)



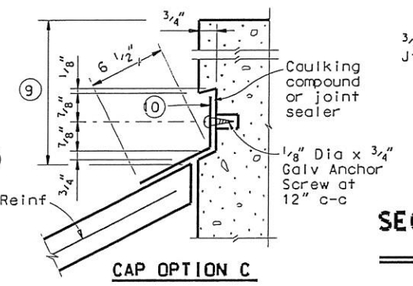
SHOWING KEYWAY OPTION



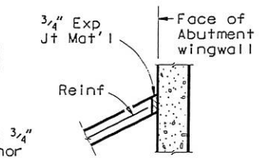
CAP OPTION A



CAP OPTION B

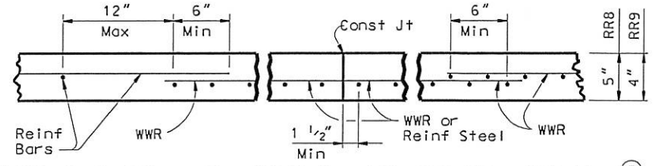


CAP OPTION C



SECT THRU RIPRAP AT WINGWALL (12)

SECTIONS THRU RIPRAP AT CAP (1)



DETAILS OF WWR, REINF AND CONST JOINT (3)

(1) When riprap is shown extended around header on layout, extend slab and toewall as shown and eliminate 4" curb.

(2) Limits and configuration of drains and depressions shall be as shown elsewhere in plans or as directed by the Engineer.

(3) Location of shoulder drain must consider limitations imposed by rail transition. Do not locate shoulder drains at expansion joints between approach slab and concrete pavement.

(4) See details elsewhere in plans for installation of guard fence posts through concrete riprap.

(5) The optional intermediate toewall shall be constructed when designated elsewhere in the plans or included in the specifications.

(6) Provide lower level of 2" Dia weep holes at 10' c-c backed by 1 CF packet of gravel and galvanized hardware cloth at all locations unless directed by the Engineer to eliminate.

(7) Wider or other drain configurations shall be used if shown elsewhere in plans or if directed by the Engineer.

(8) Wall extension may be reduced or modified if approved by the Engineer. Wall extension shall be increased to 1'-6" whenever the optional intermediate toewall is called for in the plans.

(9) Top of cap to top of riprap dimension varies as directed by the Engineer. Should be 9" Min for beam/slab type bridges and 1'-6" for slab span, box beam, or slab beam bridges.

(10) 8" x 18 Gage Galv Sheet Metal

(11) The sealing option of the joint between the face of cap and riprap shall be as designated by the Engineer or as shown elsewhere on plans.

(12) Flashing (shown in Cap Option A) may be used at wingwall in addition to Exp Jt Mat'l if shown on plans or directed by the Engineer.

(13) Reinforcing bars shall be #3 at 18" Spa c-c. Welded Wire Reinforcement (WWR) shall be 6X6-W2.9XW2.9. Combinations of WWR and reinforcing bars may be used if both are permitted. Lap splices shall be a minimum of 6 inches, measured from the transverse wire of WWR, and the ends of reinforcing bars.

(14) If granular material is specified, provide upper level of 2" Dia weep holes at 10' c-c backed by galvanized hardware cloth.

GENERAL NOTES:

Concrete shall be Class "B" with a minimum compressive strength of 2,000 psi unless noted elsewhere in plans.

All reinforcing steel shall be Grade 60.

Reinforcing other than that shown may be used by substituting reinforcement of equal or greater unit cross-sectional area. The maximum reinforcement spacing shall be 18 inches.

Construction joints or grooved joints extending the full slant slope height shall be at intervals of approximately 20 feet unless otherwise directed by the Engineer.

Hardware cloth, loose graded stone behind weep holes, flashing, or other sealing material shall not be paid for directly but shall be subsidiary to the bid item "Riprap".

Unless specified elsewhere in the plans to be only reinforcing bars, the riprap reinforcing may be composed of reinforcing bars, Welded Wire Reinforcement (WWR), or any suitable combination of both types.

See Layout for limits of riprap.

RR8 is to be used on stream crossings.

RR9 is to be used on other embankments.

FOR CONTRACTOR'S INFORMATION ONLY:
5" of RR8 = 0.015 CY/SF
4" of RR9 = 0.012 CY/SF
#3 Reinf at 18" c-c = 0.501 Lbs/SF
6X6-W2.9XW2.9 = 0.394 Lbs/SF

Texas Department of Transportation
Bridge Division

CONCRETE RIPRAP AND SHOULDER DRAINS EMBANKMENTS AT BRIDGE ENDS (TYPES RR8 & RR9)

CRR

FILE: crrsldet.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT April 2006	DISTRICT	FEDERAL AID PROJECT		SHEET
REVISIONS 08-2007: Revised Note 6, removed "H" reference, added Note 14 & changed weep hole size & spacing.	21			24
	COUNTY	CONTROL	SECT	JOB	HIGHWAY
	HIDALGO				

AI -49906 **5.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 11325140 in the amount of $25,738.60 from L&G Consulting Engineers Inc. related to Work Authorization No. 4- Mission Inlet Recertification Project. P.O. No. 624010.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 11325140

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	05/29/2015 03:55 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM

Form Started By: Lora Briones Started On: 05/28/2015 03:21 PM

Final Approval Date: 05/29/2015

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 5/1/2015

Engineer/Firm Name: L&G Consulting Engineers Inc.

Project Name/Number: Mission Inlet Recertification Project WA No. 4

Invoice No.: 11325140

Purchase Order No.: 624010

Received By: Rosa Arce

Forwarded to: Joey Garza

Total # of Pages Submitted: 8

Attachments: CD: Mission Inlet Rec. Project WA No. 4 Inv# 11325140

Additional Comments:

L &G Consulting Engineers Inc
2100 W. Expressway 83
Mercedes, TX 78570
(956)565-9813 Fax (956)565-9018

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 01 2015
12:00 AM / PM
BY: Rosa Cruz

INVOICE#: 11325140
INVOICE DATE: 4/30/2015

BILL TO: 87
Hidalgo County Drainage District#1
902 N. Doolittle
Edinburg, TX 78542

JOB:130204
Mission Inlet Recertification Project
WA#4
P.O.#624010

DESCRIPTION	CONTRACT	PREVIOUS APPLICATIONS	CURRENT COMPLETED	TOTAL COMPLETED	% COMPL	BALANCE TO FINISH
Engineering services for the month of April 2015.						
FC 13001 - Task 1 - Compilation & Review of Public Records	12,004.46	12,004.46		12,004.46	100.0	-
FC 16104 - Task 2 - Georeferencing of Parcels & Survery Plat	13,655.78	13,655.78		13,655.78	100.0	-
FC 11001 - Task 3 - Sketching of Parcels & Survey Plats for F	13,655.78	13,655.78		13,655.78	100.0	-
FC 10201 - Task 4 - Researching & Cross Referencing Latest HC	9,878.66	9,878.66		9,878.66	100.0	-
FC 16101 - Task 5 - Calculation of Areas of Existing Levee &	10,429.26	10,429.26		10,429.26	100.0	-
FC 10205 - Task 6 - Segmenting, Organizing & Databasing	8,753.46	8,753.46		8,753.46	100.0	-
FC 10204 - Task 7 - Support to HCDD#1 on Project Development	58,837.20	58,837.20		58,837.20	100.0	-
FC 16106 - Task 8 - Coordination and Support to Hydraulic Eng	39,691.72	39,691.72		39,691.72	100.0	-
FC 16170 - Task 9 - SUB/Phase II - Proposed Conditions H&H Mo	394,813.00	394,813.00		394,813.00	100.0	-
FC 10203 - Task 10 - Coordination with USIBWC/USACE for Certi	19,270.72	19,270.72		19,270.72	100.0	-
FC 16107 - Task 11 - Coordination with FEMA for Accreditation	11,267.32	11,267.32		11,267.32	100.0	-
FC 16109 - Task 12 - Development of Proposed Conditions Graph	12,830.52	8,084.73		8,084.73	63.0	4,745.79
FC 11004 - Task 13 - Development of Final Proposed Conditions	33,989.56	20,399.39		20,399.39	60.0	13,590.17
FC 16401 - Task 14 - Preliminary Engineering Report Summarizi	18,782.74	18,782.74		18,782.74	100.0	-
FC 16108 - Task 15 - Coordination and Support to Hydraulic En	21,321.50	13,324.42	2,826.20	16,150.62	75.7	5,170.88
FC 11040 - Task 16 - Sub/Phase III - Conditional Letter of Ma	212,227.00	129,493.55	22,912.40	152,405.95	71.8	59,821.05
FC 16301 - Task 17 - Development of Final Binder w/All Data.	15,768.92			0.00	0.0	15,768.92
	907,177.60	782,342.19	25,738.60	808,080.79		99,096.81
Direct Expenses	16,250.00	8,898.82	0.00	8,898.82	54.8	7,351.18
	16,250.00	8,898.82	0.00	8,898.82		7,351.18
TOTALS:	923,427.60	791,241.01	25,738.60	816,979.61	88.5	106,447.99

ORIGINAL CONTRACT SUM	$	923,427.60
CHANGE BY CHANGE ORDER	$	0.00
CONTRACT SUM TO DATE	$	923,427.60
TOTAL COMPLETED TO DATE	$	816,979.61
LESS PREVIOUS INVOICES	$	791,241.01
CURRENT PAYMENT DUE	$	25,738.60

PROJECT MANAGER'S SIGNATURE

L&G Consulting Engineers, Inc
2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-9813

Project Workhour Report
Mission Inlet Recert. Project WA#4
Reference: Inv# 11325140
Date: 04/30/2015
P.O.#624010

	Hrs		Rate	Total
Senior Project Manager	2.00	X	212.59	$425.18
Senior Engineer	6.00	X	175.07	$1,050.42
Design Engineer	12.00	X	112.55	$1,350.60
Senior Engineer Tech	0.00	X	78.16	$0.00
ROW Administrator	0.00	X	106.29	$0.00
Admin/Clerical	0.00	X	56.27	$0.00

Grand Total of Hours $ 2,826.20

(Difference due to rounding hours) $ -

Invoice Summary

Man Hours					$	2,826.20
Sub Contract					$	22,912.40
(See Attached Sub Invoice for Man Hour Breakdown)						
Direct Expenses	Current Units		Rate			
30 ft. Long by 3 ft. Tall Schematic Exhibit (90sq. Ft) @$5.00/sq. ft	0	X	1,350.00	$ -		
8.5 X 11 Copies (i.e. Section I, II, III Inventory Binders) - (4,000 units)	0	X	2,000.00	$ -		
Travel	0	X	2,500.00	$ -		
					$	-
			(Difference due to rounding)		$	-

Total Per Invoice Submitted **$ 25,738.60**

PAS

Civil Systems Engineering, Inc.

2299 Lone Star Drive, Ste 239
Sugar Land, Texas77479
(713) 782-3811

INVOICE

Engineering Services
Mission Inlet Recertification Project - Phase II & III

L&G Engineering
2100 W. Expressway 83
Mercedes, Texas 78570
Attention: Mr. David Saenz, P.E.

CSE Invoice Number: LG201506
CSE Project Number: LG2013013
Invoice Period: 3/26/2015 Through 4/25/2015
Invoice Date: April 25, 2015

Contract Amount	Contract Amount Remaining
$607,040.00	$59,821.05

Phase II - Alternative Analysis

Employee Classfication	Rate	Previous		This Period		To Date	
		Hr	Total	Hr	Total	Hr	Total
Project Manager	$178.36	263.0	$46,908.68			263.0	$46,908.68
Project Engineer	$164.64	1,804.8	$297,140.23			1,804.8	$297,140.23
GIS Specialist	$137.20	370.0	$50,764.00			370.0	$50,764.00
Subtotal			**$394,813.00**				**$394,813.00**

Phase III - CLOMR

Employee Classfication	Rate	Previous		This Period		To Date	
		Hr	Total	Hr	Total	Hr	Total
Project Manager	$178.36	80.0	$14,268.80	10.0	$1,783.60	90.0	$16,052.40
Project Engineer	$164.64	620.0	$102,076.80	120.0	$19,756.80	740.0	$121,833.60
GIS Specialist	$137.20	95.8	$13,147.95	10.0	$1,372.00	105.8	$14,519.95
Subtotal			**$129,493.55**		**$22,912.40**		**$152,405.95**

TOTAL FEE EARNED:	$547,218.95
LESS PREVIOUSLY INVOICED:	$524,306.55
TOTAL AMOUNT DUE THIS INVOICE:	**$22,912.40**

Deren Li, Ph.D., P.E., D.WRE
Project Manager

DAS

Mission Inlet Recertification Project – Phase II & III
Monthly Progress Report No. #11 – APRIL 2015

Period of Coverage:	April 2015
Date of Submittal:	April 25, 2015
Submitted To:	David Saenz, P.E.
Prepared By:	Civil Systems Engineering Inc.

Phase II for the Mission Inlet Recertification Project is to evaluate alternative components and improvement plans to Mission Inlet to reclaim portion of the lands within the effective floodplain and to provide a higher flood protection to the existing developments. This study covers the following activities:

PHASE II. ALTERNATIVE COMPONENT AND PLAN ANALYSIS

1. Coordination with HCDD1, L&G, FEMA, and IBWC
2. Proposed conditions HEC-HMS modeling analysis
3. Proposed conditions HEC-RAS modeling analysis
4. Perform 1D and 2-D SWMM dynamic modeling analysis
5. Perform constrain and opportunities analysis.
6. Formulate alternative plans for the project.
7. Perform detailed hydrologic and hydraulic modeling analysis to evaluate and optimize alternative plans and recommend a preferred proposed plan for the project.
8. Perform flood hazard mapping using the resulting water surface data and the LiDAR topographic data for the recommend plan.
9. Cost estimation.
10. Prepare a Technical Report to summarize the assumptions, methodology, and results for the project.

PHASE III. CONDITIONAL LETTER OF MAP REVISION (CLOMR)

1. Coordination with FEMA and other relevant agencies.
2. Prepare MT-2 application forms.
3. Prepare narrative on project and submittal.
4. Prepare hydrologic computations results along with digital files of computer models used.
5. Prepare hydraulic computations along with the digital files of computer models used.
6. Prepared certified topographic map with floodplain and floodway delineations.
7. Prepare annotated FEMA FIRM and/or FBFM to reflect changes due to the proposed to the Mission Inlet drainage system.
8. Address FEMA comments

PROGRESS TO REPORT FOR THIS PERIOD

II. ALTERNATIVE COMPONENT AND PLAN ANALYSIS

Activity 1 – Coordination and meetings

Activity 2 – Proposed conditions HEC-HMS modeling analysis

Activity 3 – Proposed conditions HEC-RAS modeling analysis

Activity 4 – 1D and 2D SWMM modeling analysis

Activity 5 – Perform constrains and opportunities analysis

Activity 6 – Alternative plan formulation

Activity 7 – Alternative evaluation and optimization

Activity 8 – Flood hazard mapping

Activity 9 – Cost estimation

Activity 10 – Technical report.

Finalized

III. CONDITIONAL LETTER OF MAP REVISION (CLOMR)

Activity 1 -Coordination with FEMA and other relevant agencies (25%)
Progress reporting and project issues coordination

Activity 2 - Prepare MT-2 application forms (0%)

Activity 3 -Prepare narrative on project and submittal (90%)

Activity 4 – Hydrologic routing updates based on 2D-RAS modeling analysis (100%)

Activity 5 – Updated GIS/HEC-GEoRAS data for FEMA submittal (95%)
Pre-project HEC-RAS 1D/2D unsteady flow modeling analysis for routing and HEC-RAS 1D steady modeling for water surface computations for FEMA submittal.

Activity 6 - Prepared certified topographic map with floodplain and floodway delineations (90%) Performed preliminary floodplain delineations and mapping for preproject conditions.

Activity 7 - Prepare annotated FEMA FIRM and/or FBFM to reflect changes due to the proposed to the Mission Inlet drainage system (95%)

Activity 8 - Address FEMA comments (0%)

L&G Consulting Engineers, Inc.

April 30, 2015

Mr. Raul Sesin, P.E. – Executive Director
Hidalgo County Drainage District #1
902 N. Doolittle
Edinburg, Texas 78542

RE: Work Authorization #4 on Mission Inlet Recertification Project – Progress Report
Job #130204
P.O. #624010

Dear Mr. Sesin,

Attached for your review and approval is our invoice for the services rendered during the month of April 2015 on the subject referenced project.

The following is attached:

- L&G's Invoice # 11325140
  - CD w/ Inv Back-Up (Elec File Submit)
    - CSE – Monthly Progress Report and Invoice (LG201506) – April 25, 2015
    - Task 15
    - Task 16

TASK		% COMPL
FC13001 – Task 1 ~ Compilation & Review of Public Records (Appraisal District, Hidalgo County Records, HCDD #1 Easement & Quit Claim Deeds)	L&G	100%
Task Complete – See progress report dated February 4, 2014		
FC16104 – Task 2 ~ Georeferencing of Parcels & Survey Plat Information for Overall Existing Floodway/Levee Easement Map	L&G	100%
Task Complete – See progress report dated February 4, 2014		
FC11001 – Task 3 ~ Sketching of Parcels & Survey Plats for Floodway/Levee Easements Identified w/ No Survey Info (Using Easement Claim Parameters)	L&G	100%
Task Complete – See progress report dated February 4, 2014		
FC10201 – Task 4 ~ Researching & Cross Referencing Latest HC Appraisal District Info w/ Documented Floodway/Levee Easement Data	L&G	100%
Task Complete – See progress report dated February 4, 2014		
FC16101 – Task 5 ~ Calculation of Areas of Existing Levee & Floodway Easements for Potential Release of Lien	L&G	100%
Task Complete – See progress report dated February 4, 2014		
FC10205 – Task 6 ~ Segmenting, Organizing & Databasing (Electronic & Hard Copies) Existing HCDD #1 Data (Section I, II and III Project Binders)	L&G	100%
Task Complete – See progress report dated February 4, 2014		
FC10204 – Task 7 ~ Support to HCDD #1 on Project Development (i.e. Meetings w/ Land Owners, Coord. w/ County, Coord. w/ Cities, etc.)	L&G	100%
Task Complete – See progress report dated February 4, 2014		

FC16106 – Task 8 ~ Coord. & Supp. to CSE - HEC-HMS, RAS, & SWMM Model	L&G	100%
Task Complete – L&G has actively managed and provided oversight of the work denoted in Task 9 for completion of this task.		
FC16170 – (SUB) Task 9 ~ Phase II – Proposed Condition H&H Modeling Analysis	CSE	100%
Task Complete – See progress report from CSE titled 'Period of Coverage October 2014' (see attached)		
FC10203 – Task 10 ~ Coord. w/ USIBWC/USACE for Cert. of Levee Sections	L&G	100%
Task Complete – See progress report dated February 2, 2015		
FC16107 – Task 11 ~ Coord. w/ FEMA for Accreditation of Levee	L&G	100%
Task Complete – See progress report dated February 2, 2015		
FC16109 – Task 12 ~ Development of Final Proposed Conditions Graphic Files (Location Specific Exhibits) In Concert w/ H&H Modeling (Incl. Structure Sizing)	L&G	63%
No Update – See progress report dated October 2, 2014		
FC11004 – Task 13 ~ Development of Final Proposed Conditions Schematic w/ Typical Sections (For Usage in PS&E Development)	L&G	60%
No Update – See progress report dated March 2, 2015		
FC16401 – Task 14 ~ Preliminary Engineering Report Summarizing Proposed Conditions Modeling, ROW Impacts & Guidelines for PS&E Development	L&G	100%
Task Complete – See progress report dated February 2, 2015		
FC16108 – Task 15 ~ Coordination and Support to Hydraulic Engineer for Conditional Letter of Map Revision	L&G	75.7%
Update – L&G has continued coordination with CSE in the development of the Conditional Letter Map revision		
FC11040 – (SUB) Task 16 ~ Phase III – Conditional Letter of Map Revision	CSE	71.8%
Update – See progress report from CSE dated April 25, 2015 (see attached)		
FC16301 – Task 17 – Development of Final Project Binder w/ All Data, Models, Reports and CLOMR Documents	L&G	0.0%
Task Not Started		
Direct Expenses	L&G	54.8%
No Update – See Progress Report Dated August 4, 2014		

Should you have any questions regarding this submittal or would like clarification on any aspect of the project, please do not hesitate to call me at (956) 585-1909.

Sincerely,



David Saenz, P.E., C.F.M.
Project Manager
L&G Engineering

AI -49907 **6.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 11325117 in the amount of $11,023.19 from L&G Consulting Engineers related to Work Authorization No. 2-La Joya Relief Route Analysis. P.O. No. 622697.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 11325117

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	05/29/2015 03:40 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/28/2015 03:26 PM
Final Approval Date: 05/29/2015		

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 5/4/2015

Engineer/Firm Name: L&G Consulting Engineers Inc.

Project Name/Number: La Joya Relief Route Analysis WA No. 2

Invoice No.: 11325117

Purchase Order No.: 622697

Received By: Rosa Arce

Forwarded to: Joey Garza

Total # of Pages Submitted: 7

Attachments: None.

Additional Comments:

L &G Consulting Engineers Inc
2100 W. Expressway 83
Mercedes, TX 78570
(956)565-9813 Fax (956)565-9018

INVOICE#: 11325117
INVOICE DATE: 4/30/2015

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 04 2015
10:48 AM PM
BY: Rosa

BILL TO:
Hidalgo County Drainage District#1
902 N. Doolittle
Edinburg, TX 78542

JOB:130102
La Joya Relief Route Analysis
WA#2
P.O.#622697

DESCRIPTION	CONTRACT	PREVIOUS APPLICATIONS	CURRENT COMPLETED	TOTAL COMPLETED	% COMPL	BALANCE TO FINISH
Engineering services for the month of April 2015.						
FC 110 - ROUTE AND DESIGN STUDIES						
TASK 1 - 11001 - Schem. for Outfall (Roll 1 Of 2 & Roll 2 of 2)St	62,619.67	62,619.67		62,619.67	100.0	-
TASK 7 - 11002 - Design Surveys Coord. & Review (Provided by TxDC	4,516.46	4,516.46		4,516.46	100.0	-
TASK 10 -11003 - PS&E Devel. For needed Outfalls & Struct. Crossi	292,071.63	284,405.38	7,666.25	292,071.63	100.0	-
TASK 10a-11050 - SUB-PS&E Devel. Needed Outfalls & Struct. Crossi	28,870.00	18,933.60		18,933.60	65.6	9,936.40
TASK 9 - 11040 - SUB - Geotech. Eng., Testing & Report	64,938.06	64,938.06		64,938.06	100.0	-
	453,015.82	435,413.17	7,666.25	443,079.42		9,936.40
FC 120 - PUBLIC INVOLVEMENT						
TASK 5 - 12001 - Supp. to HCDD & TxDOT on Proj. Devel.	14,374.52	14,374.52		14,374.52	100.0	-
TASK 6 - 12002 - Pub. Inv. On Vetting of location of Outfall	7,830.66	7,830.66		7,830.66	100.0	-
	22,205.18	22,205.18	0.00	22,205.18		-
FC 130 - RIGHT-OF-WAY DATA						
TASK 2 - 13001 - Off. Surv. For Schematic (Pre. Ownership I.D. &	10,210.31	10,210.31		10,210.31	100.0	-
TASK 8 - 13002 - ROW Map Coord. & Review(Provided by TxDOT)	10,629.20	10,629.20		10,629.20	100.0	-
	20,839.51	20,839.51	0.00	20,839.51		-
FC 161 - HYDROLOGY						
TASK 3 - 16101 - Hydrologic Map	22,885.56	22,885.56		22,885.56	100.0	-
TASK 4 - 16102 - Hydo. Analysis for prop. Outfall and Struct. Siz	12,286.64	12,286.64		12,286.64	100.0	-
TASK 4a -16120 - SUB-Drain. Analysis and Report for DA#4	23,440.00	11,387.60		11,387.60	48.6	12,052.40
	58,612.20	46,559.80	0.00	46,559.80		12,052.40
FC 163 - BID ASSISTANCE						
TASK 11 - 16301 - Devel. Plan Sheet to be insert. Into	22,976.56	19,619.62	3,356.94	22,976.56	100.0	-
TxDOT set of plans with Gen. notes & Specs to be bid	22,976.56	19,619.62	3,356.94	22,976.56		-
DIRECT EXPENSES	8,000.00	5,000.00		5,000.00	62.5	3,000.00
	8,000.00	5,000.00	0.00	5,000.00		3,000.00
TOTALS:	585,649.27	549,637.28	11,023.19	560,660.47	95.7	24,988.80

ORIGINAL CONTRACT SUM	$	585,649.27
CHANGE BY CHANGE ORDER	$	0.00
CONTRACT SUM TO DATE	$	585,649.27
TOTAL COMPLETED TO DATE	$	560,660.47
LESS PREVIOUS INVOICES	$	549,637.28
CURRENT PAYMENT DUE	$	11,023.19

PROJECT MANAGER'S SIGNATURE

L&G Consulting Engineers, Inc
2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-9813

Project Workhour Report
La Joya Watershed Improvements WA#2
Reference:Inv#11325117
Date: 04/30/15
P.O.#622697

	Hrs		Rate	Total
Senior Project Manager	6.00	X	206.39	$1,238.34
Senior Engineer	8.00	X	169.97	$1,359.76
Design Engineer	40.00	X	109.27	$4,370.80
Senior Engineer Tech	52.00	X	75.88	$3,945.76
ROW Administrator	0.00	X	103.20	$0.00
Admin/Clerical	2.00	X	54.63	$109.26

Grand Total of Hours		$ 11,023.92
	(Difference due to rounding hours)	$ 0.73

Invoice Summary

Man Hours						$	11,023.19
Sub Contract (See Attached Sub Invoice for Man Hour Breakdown)							
Direct Expenses	Current Units		Rate				
20 ft. Long by 3 ft. Tall Hydrologic Map &Schematic (60 Sq Ft) @ $5.00/sq. ft.	0	X	300.00	$	-		
10 Sets of Plans and Geo Repor t - As per contract requirements	0	X	500.00	$	-		
11 x 17 Copies (i.e. various Exhibits) - (500 units)	0	X	1.50	$	-		
						$	-
	(Difference due to rounding)					$	-
Total Per Invoice Submitted						**$**	**11,023.19**

Client: City of Mission

EXHIBIT "C"
WORK SCHEDULE
Taylor Road Project
From I-2 (US 83 Expressway) North to Mile 2 North
Length = 2.9 miles

TASK AND DESCRIPTION	FIRM	2013				2014												2015												2016							
		SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG
Taylor Road Project																																					
Phase I: EA, PUBLIC INVOLVEMENT, SCHEMATIC																																					
(from I-2 [US83 EXPWY] TO MILE 2 NORTH)																																					
Develop Alternatives & Matrix	L&G																																				
Advertise & Conduct Public Meeting	L&G												20-Aug		8-Oct																						
Select TPA	L&G																																				
Develop & Submit Schematic	L&G																																				
TxDOT Review & Revisions	TxDOT																																				
TxDOT Approval	TxDOT																																				
Process Technical Reports	TxDOT																																				
Agency Coordination	TxDOT																																				
Administratively Complete Document	TxDOT																																				
Environmental Decision	TxDOT																																				
Schematic (Siphon)	L&G																																				
Hydrological Map	L&G																																				
Bridge Layout	L&G																																				
Preliminary Compensable Utilities	L&G																																				
Update Schematic (FHWA/TxDOT Comments)	L&G																																				
Phase II: PS&E, CONSTRUCTION OVERSIGHT																																					
Section I: (from I-2 [US 83 Expwy] N to 400-ft S of Bus 83)																																					
Design Field Surveys	L&G																																				
PS&E Development	L&G																																				
Permitted Utility Coordination	L&G																																				
TxDOT Construction Inspection	TxDOT																																				
Construction Management	L&G																																				
Phase II: PS&E, CONSTRUCTION OVERSIGHT																																					
Section II: (from 400-ft S of Bus 83 to 1900-ft S of Mile2)																																					
Design Field Surveys	L&G																																				
PS&E Development	L&G																																				
PS&E Bridge Design	L&G																																				
Geotechnical Soil and Scour Reports	L&G																																				
PS&E Development for Siphon	L&G																																				
Permitted Utility Coordination	L&G																																				
TxDOT Construction Inspection	TxDOT																																				
Construction Management	L&G																																				
Phase III: ROW Acquisition																																					
(from I-2 [US 83 EXPWY] TO 1900-ft of MILE 2)																																					
ROW Map	L&G																																				
ROW Acquisition Services	TxDOT																																				
Compensable Utility Management	TxDOT																																				
Compensable Utilities	L&G																																				
Phase III: ROW Acquisition																																					
(from I-2 [US83 EXPWY] TO 1900-ft of MILE 2)																																					
ROW Map	L&G																																				
ROW Acquisition Services	TxDOT																																				
Compensable Utility Management	TxDOT																																				
Compensable Utilities	L&G																																				

L&G FUNCTION
TXDOT FUNCTION

2:25 PM4/22/2015

L&G Engineering
Transportation Consulting Engineers

2100 W. Expressway 83
Mercedes, TX 78570
Phone: (956) 565-9813
Fax: (956) 565-9018
Toll Free: (888) 565-9813

900 S. Stewart Rd., Ste. 10
Mission, TX 78572
Phone: (956) 585-1909
Fax: (956) 585-1927
Toll Free: (866) 585-1909

Firm No. F-4105

Letter of Transmittal

Mr. Raul E. Sesin, P.E. – Drainage District Manager
Hidalgo County Drainage District #1
902 N. Doolittle Rd.
Edinburg, Texas 78542

DATE: May 4, 2015

REF.: Work Authorization #2 on La Joya Watershed Improvement Project
P.O. #622697
Invoice (N/A)

L&G PROJECT NO.: 130102

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☐ As Noted Below

VIA:

☐ US Mail	☐ Courier	☒ Hand Carry
☐ E-Mail	☐ Lonestar Overnight	☐ Pick up

COPIES	DESCRIPTION
1	Progress Report

REMARKS:
Attached is our progress report for the work completed for the month of April. No invoice is being submitted at this time.
If you have any questions or comments, please feel free to contact me, Mr. Armando J. Sandoval, P.E. or Mr. Damien B. Tijerina, P.E. at 956-585-1909.

Thank you,

Armando J. Sandoval, P.E.
Project Manager

Received By

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 04 2015
10:45 AM / PM
BY:

If enclosures are not as stated, please notify us.

L&G Engineering
Transportation Consultants

May 1, 2015

Mr. Raul E. Sesin, P.E. – District Manager
Attn: Ms. Lora Briones – Chief Financial Officer
Hidalgo County Drainage District #1
902 N. Doolittle
Edinburg, Texas 78542

RE: Work Authorization #2 on La Joya Watershed Improvement Project
US 83 Relief Route – Drainage Outfalls
Job #130102
P.O. #622697

Dear Mr. Sesin,

Attached for your review and approval is the progress report and invoice for the month of April 2015 on the subject referenced project.

FC 110 – ROUTE AND DESIGN STUDIES		**% Complete**
Task 1 – 11001 - Schematic for Outfall (Roll 1 of 2 & Roll 2 of 2)	L&G	100%
Task Completed – See Progress Report Dated (7-1-13)		
Task 7 – 11002 - Design Surveys Coordination & Review (Provided by TxDOT)	L&G	100%
TxDOT coordinated with Javier Hinojosa Engineering's survey group and worked out the horizontal and vertical control points. Hinojosa Engineering had to redo benchmarks along their project and tie them into TxDOT's La Joya Relief Route's horizontal and vertical control. TxDOT provided L&G Engineering the vertical difference between Hinojosa's plans and TxDOT's vertical control. A difference of 0.57-ft was discovered. The 100% set of plans was updated with the new vertical difference applied to ditch profile. **Task Completed - See progress report dated (4-1-2015)**		
Task 10 – 11003 - PS&E Development for Needed Outfalls & Structural Crossings	L&G	100%
No Update – Hinojosa Engineering submitted PDF files of a few of their updated plan sheets. L&G updated our plan set based off of the PDF files that were provided to us. Based off of the updated benchmarks TxDOT provided L&G with the vertical change that needed to be applied to the ditch profile. L&G updated the P&Ps and the culverts layouts with the updated vertical difference. The 100% set of plans was updated with the new vertical difference and was submitted to TxDOT for inclusion into their set of plans. A few comments from TxDOT were delivered to L&G. We		

2100 W. Expressway 83 • Mercedes, TX 78570 • Office (956) 565-9813 • Fax (956) 565-9018
900 S. Stewart Rd., Ste. 9 • Mission, TX 78572 • Office (956) 585-1909 • Fax (956) 585-1927

have incorporated those comments into our plan set and are resubmitting to TxDOT. An additional culvert layout, requested by HCDD#1, was produced at station 454+57 off of the US 83 Relief Route baseline. That culvert has been submitted to TxDOT for review and inclusion into their plan set.		
Task 10a – 11050 - Sub PS&E Development for Needed Outfalls & Structural Crossings	CSE	65.6%
No Update – Civil Systems Engineering, Inc. (CSE) submitted a draft report to L&G Engineering entitled "US 83 Relief Route Runoff Impact Study". The report summarizes the diversion of the runoff volume associated with the construction of the US 83 Relief and its outfall channel. A HEC-HMS model was created which consists of a basin model and a meteorologic model. The draft report and the HEC-HMS model were submitted to HCDD#1 on a CD in February 2014. CSE has created a HEC-RAS model of the design of the US 83 Relief Route outfall channel and it has been submitted to TxDOT. We are waiting for Benchmark information from Hinojosa Engineering to finalize the HEC-RAS Model.		
Task 9 – 11040 - Geotechnical Engineering, Testing, & Report	L&G Lab	100%
Task Completed – See progress Report Date (9-3-13).		
FC 120 – PUBLIC INVOLVEMENT		
Task 5 – 12001 - Support to HCDD#1 & TxDOT on Project Development	L&G	100%
Task Completed – See Progress Report Dated (7-1-13)		
Task 6 – 12002 - Public Involvement for Vetting of Location of Outfall with Affected Land Owners	L&G	100%
Task Completed – See Progress Report Dated (7-1-13)		
FC 130 – RIGHT-OF-WAY DATA		
Task 2 – 13001 - Office Surveys for Schematic (Preliminary Ownership Identification and Property Rights)	L&G	100%
Task Completed – See Progress Report Dated (7-1-13)		
Task 8 – 13002 - ROW Map Coordination & Review (Provided by TxDOT)	L&G	100%
L&G has continued to meet and coordinate with TxDOT (Project Manager) to ensure that their surveyor is gathering the necessary information for the ROW Map on the proposed outfalls. L&G made field visits to the project site to gather contact information of the gas companies. L&G made contact with the gas companies. We asked for any easement information and estimates that they can provide to us. We received several estimates and have prepared a preliminary compensable utility estimate. L&G also made contact with the Irrigation District and have discovered that the irrigation line that is in conflict looks to be a private irrigation line. TxDOT submitted a ROW map to L&G Engineering. L&G told TxDOT that the ROW map		

needs to clearly identify the easement widths and locations. TxDOT is updating their ROW map. **Task Completed - See progress report dated (4-1-2015)**		
FC 161 – HYDROLOGY		
Task 3 – 16101 - Hydrologic Map	L&G	100%
Task Completed – See Progress Report Dated (7-1-13)		
Task 4 – 16102 - Hydraulic Analysis for Proposed Outfall and Structure Sizing	L&G	100%
Task Completed – See Progress Report Dated (7-1-13)		
Task 4a – 16120 - Sub-Drainage Analysis and Report for DA#4	CSE	48.6%
No Update – Civil Systems Engineering, Inc. (CSE) submitted a draft report to L&G Engineering. The report summarizes findings of the drainage study for DA4 drainage area for the La Joya Relief Route Project. A HEC-HMS model was developed based on watershed and hydrologic parameters. The draft report and the HEC-HMS model were submitted to HCDD#1 on a CD in February 2014.		
FC 163 – BID ASSISTANCE		
Task 11 – 16301 – Develop Plan Sheet Package to be inserted into TxDOT's set of Plans with Gen Notes and Specs to be bid in Austin	L&G	100%
No Update – L&G Engineering has prepared a set of General Notes and Specs to be submitted to TxDOT for their review. All items that are being proposed on the plan set have been updated to the TxDOT's 2014 specifications. L&G also prepared the General Notes in accordance with TxDOT 's 2014 specifications. An engineer's estimate and General notes package was submitted for inclusion into TxDOT's master General Notes.		
Direct Expenses	L&G	62.5%
No Updates – L&G previously provided prints for the Hydrologic Map and Schematics that were utilized at TxDOT's US 83 RR Public Meeting.		

Should you have any questions regarding this submittal or would like clarification on any aspect of the project, please do not hesitate to call me at (956) 585-1909.

Sincerely,

A J Sw PE

Armando J. Sandoval, P.E.
Project Manager L&G Engineering

AI -49908 **7.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 11325137 in the amount of $17,201.54 from L&G Consulting Engineers related to Work Authorization No. 1-Mission Inlet Recertification Project. P.O. No. 622510.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 11325137

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	05/29/2015 03:37 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM

Form Started By: Lora Briones Started On: 05/28/2015 03:29 PM

Final Approval Date: 05/29/2015

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: **5/1/2015**

Engineer/Firm Name: **L&G Consulting Engineers Inc.**

Project Name/Number: **Mission Inlet Recertification Project WA No. 1**

Invoice No.: **11325137**

Purchase Order No.: **622510**

Received By: **Rosa Arce**

Forwarded to: **Joey Garza**

Total # of Pages Submitted:

Attachments: **CD: Invoice NO. 11325137**
(3) Geo Investigation for Division 1 Channel Geometry

Additional Comments:

L &G Consulting Engineers Inc
2100 W. Expressway 83
Mercedes, TX 78570
(956)565-9813 Fax (956)565-9018

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 0 1 2015
12:00 AM / PM
BY: Rosa

INVOICE#: 11325137
INVOICE DATE: 4/30/2015

BILL TO:
Hidalgo County Drainage District#1
902 N. Doolittle
Edinburg, TX 78542

JOB:130201
Mission Inlet Recertification Project
WA#1
P.O.#622510

DESCRIPTION	CONTRACT	PREVIOUS APPLICATIONS	CURRENT COMPLETED	TOTAL COMPLETED	% COMPL	BALANCE TO FINISH
Engineering services for the month of April 2015.						
FC 11001 - Task 1 - Overall Project Schematic/Exhibit	10,683.92	10,683.92		10,683.92	100.0	-
FC 10207 - Task 2 - Kick-Off Mtg & Pres. To FEMA & IBWC	11,897.90	11,897.90		11,897.90	100.0	-
FC 13009 - Task 3 - Ident. of all affected property Owners	10,040.50	10,040.50		10,040.50	100.0	-
FC 10206 - Task 4 - FEMA Reasearch & Existing Zoning Id	11,879.78	11,879.78		11,879.78	100.0	-
FC 16109 - Task 5 - Research of Affect. FIRM Map	6,519.56	6,519.56		6,519.56	100.0	-
FC 10205 - Task 6 - Rev. of previous studies on proj. area	7,430.14	7,430.14		7,430.14	100.0	-
FC 10201 - Task 7 - Coord. w/Eng's of record for Retrv of Eng	9,955.34	9,955.34		9,955.34	100.0	-
FC 10202 - Task 8 - Coord. w/City of Mcallen and Airport	7,940.06	7,940.06		7,940.06	100.0	-
FC 10203 - Task 9 - Coord. w/ IBWC on Mission Inlet Closure	6,859.50	6,859.50		6,859.50	100.0	-
FC 10204 - Task 10 - Support to HCDD#1 on Proj. Development	43,731.14	43,731.14		43,731.14	100.0	-
FC 16108 - Task 11 - Coord. & Supp. To Hydraulic Engineer	46,474.84	46,474.84		46,474.84	100.0	-
FC 16170 - Task 11a - Ph. I - Ext. Conditions of H&H Modeling	357,269.00	357,269.00		357,269.00	100.0	-
FC 17007 - Task 12 - Field Recon. For I.D. and logging	14,617.68	14,617.68		14,617.68	100.0	-
FC 13008 - Task 13 - ROW on affected Parcels (35 Est Owners)	38,024.74	38,024.74		38,024.74	100.0	-
FC 17070 - Task 14 - Division 1 Boring for I.D of watertable	224,273.75	211,221.21	13,052.54	224,273.75	100.0	-
FC 16401 - Task 15 - Prelim. Eng Report Summarizing Findings	29,344.84	29,344.84		29,344.84	100.0	-
	836,942.69	823,890.15	13,052.54	836,942.69		-
Direct Expenses	20,625.00	16,476.00	4,149.00	20,625.00	100.0	-
	20,625.00	16,476.00	4,149.00	20,625.00		-
TOTALS:	857,567.69	840,366.15	17,201.54	857,567.69	100.0	-

ORIGINAL CONTRACT SUM	$	857,567.69
CHANGE BY CHANGE ORDER	$	0.00
CONTRACT SUM TO DATE	$	857,567.69
TOTAL COMPLETED TO DATE	$	857,567.69
LESS PREVIOUS INVOICES	$	840,366.15
CURRENT PAYMENT DUE	$	17,201.54

PROJECT MANAGER'S SIGNATURE

L&G Consulting Engineers, Inc
2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-9813

Project Workhour Report
Mission Inlet Recert. Project WA#1
Reference:Inv#11325137
Date: 04/30/2015
P.O.#622510

	Hrs		Rate	Total
Senior Project Manager	0.00	X	206.39	$0.00
Senior Engineer	0.00	X	169.97	$0.00
Design Engineer	0.00	X	109.27	$0.00
Senior Engineer Tech	0.00	X	75.88	$0.00
ROW Administrator	0.00	X	103.20	$0.00
Admin/Clerical	0.00	X	54.63	$0.00

Grand Total of Hours $ -

(Difference due to rounding hours) $ -

Invoice Summary

Man Hours					$	-
Sub Contract					$	13,052.54
(See Attached Sub Invoice for Man Hour Breakdown)						
Direct Expenses	Current Units		Rate			
20 ft. Long by 3 ft. Tall Hydro Map (60sq. Ft) @$5.00/sq. ft	3	X	300.00	$ 900.00		
8.5 X 11 Copies (i.e. Corr. w/Landowners) - (2,000 units)	350	X	1.00	$ 350.00		
11 x 17 Copies (i.e. various Exhibits) - (750 units)	266	X	1.50	$ 399.00		
Travel (Estimated at 2 Trips each to Denton/El Paso/Maryland)	1	X	2,500.00	$ 2,500.00		
					$	4,149.00
			(Difference due to rounding)		$	-

Total Per Invoice Submitted **$ 17,201.54**

DAS

L&G CONSULTING ENGINEERS INC
2100 W. Expressway 83
Mercedes, TX 78570
956-565-9813 fax 956-565-9018

FINAL WAIVER AND LIEN RELEASE

DATE: 04/30/2015
PROJECT: Mission Inlet Recertification Project WA#1 - PO#622510
OWNER: Hidalgo County Drainage District #1
FINAL PAYMENT: $ 17,201.54

UPON RECEIPT OF THIS PAYMENT, Owner does hereby certify and acknowledge that Engineer has been fully paid for all work and labor done by Owner and for all materials and services supplied by Engineer on the above project and that this payment, which includes all retainage released to the Engineer, represents the FINAL AND COMPLETE payment for work and/or labor done and all materials and services supplied on the above described project.

The undersigned hereby further certifies: There are no known mechanics, materialmen's, or laborer's liens or claims or any other liens or claims, legal or equitable, contractual, statutory, or constitutional, outstanding or known to exist as of the date referenced above and if any should arise in the future, the undersigned agrees to indemnify and hold the Owner and Contractor harmless from any and all such liens or claims, including attorney's fees and expenses; all due and payable bills with respect to the real property referenced above have been paid to date or are included in the amount requested in the current application and will be paid from this payment, and there is no known basis for the filing of any mechanics', materialman's, or laborer's lien or claim, or any other lien or claim, legal or equitable, contractual, statutory, or constitutional, on the real property referenced above. Engineer certifies that all waivers and releases from all Engineers, laborers, and material men for work done and materials furnished have been obtained in such form as to constitute an effective waiver and release of all such liens under the Laws of the State of Texas.

ENGINEER SWEARS THAT, WITH RECEIPT OF THE PAYMENT ASSOCIATED WITH THIS LIEN RELEASE, ALL OUTSTANDING BILLS ASSOCIATED WITH THIS LIEN RELEASE WILL BE PAID AT THIS TIME. FURTHER, ENGINEER ACKNOWLEDGES THAT ALL FUNDS RECEIVED, TO THE APPROPRIATE AMOUNT, ARE RECEIVED IN TRUST FOR ALL ENGINEERS/SUPPLIERS THAT ARE OWED FUNDS BY HIM ON THIS PROJECT. ENGINEER AGREES TO INDEMNIFY ANY PARTY RELYING UPON THIS AFFIDAVIT FOR ANY LOSS OR EXPENSE RESULTING FROM FALSE OR INCORRECT STATEMENTS IN THIS AFFIDAVIT.

UPON RECEIPT OF THIS PAYMENT, Engineer hereby releases in full all claims and liens Engineer has heretofore filed, if any, on such property for such work and/or material. Engineer hereby waives all rights, claims and liens on this project forever for such work done and all materials supplied by Engineer.

L&G CONSULTING ENGINEERS, INC

Marisela G- Marin
Signature

4/30/15
Date

Printed Name/Title MARISELA G - MARIN

STATE OF TEXAS

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF HIDLAGO

Before me, the undersigned authority, on this day personally appeared Marisela G. Marin, the See Mas (title) of L&G Engineers, known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes therein expressed and in the capacity therein stated.

Marie C. Bustamante

MARIE C. BUSTAMANTE
Notary Public, State of Texas
My Commission Expires
April 14, 2017

NOTARY PUBLIC in and for
THE STATE OF TEXAS

Printed Name: Marie C. Bustamante

My Commission Expires: April 14, 2017

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

April 30, 2015

Mr. Jacinto Garza, P.E.
President - L&G Engineering
2100 W. Expressway 83
Mercedes, Texas 78570

RE: Geotechnical Drilling, Testing, & Engineering for Mission Inlet Division I

Dear Mr. Garza,

Attached for your review and approval is our invoice for the services rendered during the month of April 2015 on the subject referenced project.

The following is attached:
- L & G Lab's Invoice #9102
- Final Geotechnical Report

TASK		% COMPL
FC10208 – FOUNDATION STUDIES	L&G Lab	100%
Update – L&G has completed the Geotechnical Report for the subject project. This task is complete.		
FC10209 – FOUNDATION MATERIAL TESTING	L&G Lab	100%
Task Complete – See Progress Letter & Invoice dated 10-31-2013.		

Should you have any questions regarding this submittal or would like clarification on any aspect of the project, please do not hesitate to call me at (956) 565-0760.

Sincerely,

Ricardo A. Gil
General Manager
L&G Engineering Laboratory, LLC

L & G Engineering Laboratory, LLC

2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-0760 • Fax (956) 565-6746

Invoice

Date	4/30/2015
Invoice #	9102

Bill To	Ship To
L&G Engineering 2100 W. Exp 83 Mercedes, Tx 78570	Misison Inlet Division I Geotechnical Engineering Services

Job #	Due Date
GL13019	5/10/2015

Description	% Complete	Neg. Amt	Prev. Invoiced	Inv. To Date	Amount Due
Foundation Studies	100.00%	132,429.20	119,376.66		13,052.54
Foundation Mtls. Testing	100.00%	91,844.55	91,844.55		0.00

Mission Inlet FEMA Re-Evaluation-Division I

Total	$13,052.54
Payments/Credits	$0.00
Balance Due	$13,052.54

Highway / Civil • Structural / Bridge • Environmental • Construction Material Testing

L&G Consulting Engineers, Inc.

April 30, 2015

Mr. Raul Sesin – Executive Director
Hidalgo County Drainage District #1
902 N. Doolittle
Edinburg, Texas 78542

RE: Work Authorization #1 on Mission Inlet Recertification Project – Progress Report
Job #130201
P.O. #622510

Dear Mr. Sesin,

Attached for your review and approval is our FINAL invoice for the services rendered during the month of April 2015 on the subject referenced project.

The following is attached:

- L&G's Invoice #11325137
- Final Waiver and Lien Release
- CD w/ Electronic Files of Data (Exhibits/Calcs./Models/Misc. Info) for:
  - L&G Lab – Monthly Progress Report and Invoice (#9102)
  - Direct Expenses

TASK		% COMPL
FC11001 – Task 1 ~ Overall Project Schematic/Exhibit	L&G	100%
Task Complete – See progress report dated June 3, 2013		
FC10207 – Task 2 ~ Kick Off Mtg. & Presentation to FEMA & IBWC	L&G	100%
Task Complete – See progress report dated July 1, 2013		
FC13009 – Task 3 ~ Identification of All Affected Prop. Owners (Appraisal Dist. Info.)	L&G	100%
Task Complete – See progress report dated July 1, 2013		
FC10206 – Task 4 ~ FEMA Research and Existing Zoning Id. (Overall Proj. Exhibit)	L&G	100%
Task Complete – See progress report dated June 3, 2013		
FC16109 – Task 5 ~ Research of Affected FIRM Maps by Community Panel No.	L&G	100%
Task Complete – See progress report dated June 3, 2013		
FC10205 – Task 6 ~ Review of Previous Studies Done On & Within Project Area	L&G	100%
Task Complete – See progress report dated June 3, 2013		
FC10201 – Task 7 ~ Coord. w/ EOR for Engineering & Certification Docs	L&G	100%

2100 W. Expressway 83 • Mercedes, TX 78570 • Office (956) 565-9813 • Fax (956) 565-9018
900 S. Stewart Rd., Ste. 9 • Mission, TX 78572 • Office (956) 585-1909 • Fax (956) 585-1927

Task Complete – See progress report dated July 1, 2013		
FC10202 – Task 8 ~ Coord. w/ McAllen & McAllen Airport on Expansion Proj.	L&G	100%
Task Complete – See progress report dated July 1, 2013		
FC10203 – Task 9 ~ Coordination w/ IBWC on Mission Inlet Closure	L&G	100%
Task Complete – See progress report dated September 2, 2013		
FC10204 – Task 10 ~ Support to HCDD#1 on Project Development	L&G	100%
Task Complete – See progress report dated January 3, 2014		
FC16108 – Task 11 ~ Coord. & Support to Hydraulic Engineer	L&G	100%
Task Complete – See progress report dated February 4, 2014		
FC16170 (SUB) – Task 11a ~ Ph. I – Existing Conditions of H&H Modeling	CSE	100%
Task Complete - See progress report from CSE dated February 25, 2014		
FC17007 – Task 12 ~ Field Recon. for Id. & Logging of Existing Conditions	L&G	100%
Task Complete – See progress report dated July 1, 2013		
FC13008 – Task 13 ~ Right of Entry on Affected Parcels (35 Estimated Land Owners)	L&G	100%
Task Complete – See progress report dated October 1, 2013		
FC17007 (SUB) – Task 14 ~ Division I Borings	L&G Lab	100%
Update – See progress report and invoice #9102 from L&G Lab for a detailed explanation of the work that has been completed during this billing period.		
FC16401 – Task 15 ~ Prelim. Eng Report Summarizing Findings	L&G	100%
Task Complete – See progress report dated February 2, 2015		
Direct Expenses	L&G	100%
Update – L&G has completed all remaining tasks for this work authorization this month. All remaining direct expenses are complete.		

Should you have any questions regarding this submittal or would like clarification on any aspect of the project, please do not hesitate to call me at (956) 585-1909.

Sincerely,

David Saenz, P.E., C.F.M.
Project Manager – L&G Engineering

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GEOTECHNICAL INVESTIGATION
FOR
MISSION INLET FEMA RE-EVALUATION PROJECT (DIVISION I)
CHANNEL GEOMETRY

HIDALGO COUNTY, TEXAS

Prepared For:
L&G Consulting Engineers, Inc.

Prepared By:
L&G Engineering Laboratory, L.L.C.
[Texas Registered Engineering Firm F-6633]

L&G Project No. GL13019
April 30, 2015



04/30/2015

David A. Saenz, P.E.
Project Engineer

2100 W. Expressway 83 • Mercedes, TX 78570 • Office: (956) 565-0760 • Fax: (956) 565-6746
900 S. Stewart Rd., Ste. 9 • Mission, TX 78572 • Office: (956) 583-7117 • Fax: (956) 583-7116

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INTRODUCTION

L&G Engineering Laboratory, L.L.C. (L&G Lab) has been contracted by **L&G Consulting Engineers, Inc. (L&G Eng),** to perform a subsurface geotechnical investigation and engineering analysis to assist in the FEMA Re-Evaluation of the Mission Inlet Project in Hidalgo County, Texas. This report is considered the Division I Report based on the following breakdown of geotechnical reports:

- Division I – Channel Geometry Investigation of Mission Inlet Pilot Channel
- Division II – Structure Investigation within Mission Inlet (for Foundation Design)
- Division III – Levee Investigation of Mission Inlet (10th Street to Main Floodway)

This report has been created specifically to provide geotechnical investigation of existing condition and proposed improvement channel geometry for the pilot channel of the Mission Inlet. This report addresses items/analyses including: evaluating slope stability of the pilot channel side slopes through global stability analysis, determination of existing water strikes at the time of drilling and determination of soil scour parameters. In addition, this report addresses several aspects regarding the hydrology, geology, and physical properties of the existing subsurface soils.

GENERAL PROJECT OVERVIEW

Project Description

L&G Lab is pleased to submit this document presenting our findings as the result of a subsurface geotechnical exploration performed at the request of **L&G Eng**. It is our understanding that the main project involves re-evaluating the Mission Inlet from approximately 1.5 miles west of SH 107 (Conway Ave.) to the USIBWC Main Floodway. According to the Client, this stretch of channel was at one time utilized as a floodway system taking water from the Rio Grande River, however based on the construction of the Mission Inlet Closure (just south of the beginning of this project) and the USIBWC Main Floodway south of the Mission Inlet the channel is no longer being utilized for that purpose (direct river diversion to the Main Floodway). The FEMA flood insurance rate maps (FIRM) were never updated based on the proposed conditions and therefore a large area of land has been designated as Zone A (impacted by the 100-year storm event - Special Flood Hazard Area (SFHA)) without update based on current conditions. The main point of the project, as per the Client, is to re-evaluate the Mission Inlet based on present hydrology and drainage impacting the facility with the intent to determine 1). if existing conditions warrant removal of sections of the Mission Inlet from the Zone A designation to a less developmentally restrictive flood insurance rate zone and, 2). what proposed conditions would allow for further removal of sections of the Mission Inlet from the Zone A designation to a less developmentally restrictive flood insurance rate zone. This Division I report is being completed with the intent of establishing geotechnical information for the pilot channel section of the Mission Inlet based on existing conditions and proposed improvements (see Global Stability section of this report for typical sections analyzed).

Scope and Limitations of Investigation

This report has been prepared in accordance with accepted Geotechnical Engineering practices for the subject project site and the anticipated construction. No specific warranty program or other standards, except acceptable industry standards, were followed in this investigation. This report is intended for use by **L&G Eng** and their representatives. This report may not contain sufficient information for purposes of other parties or other uses in determining construction means and methods.

The strata shown on the boring logs (included in Appendix B of this report) represent the in-situ conditions at the boring log locations during exploration. These stratifications represent approximate boundaries between subsurface materials; their actual transition may be gradual. Variations may occur between boring locations. It should be noted that the exploratory borings were performed within the limits of the proposed construction as requested and agreed upon by **L&G Eng** and **L&G Lab**.

The purposes of this study are to:

1. explore the general existing subsurface conditions at the site
2. evaluate the relevant engineering properties of the subsurface materials
3. develop grain size gradation curves and D50-D90 for future scour analysis
4. establish current water strike information (water table at time of drilling)
5. calculate strength parameters for the existing soil strata for structural evaluation
6. conduct slope / global stability analyses for ditch side slopes
7. provide general construction recommendations regarding all aspects of the project

The scope of this geotechnical engineering study does not include environmental assessment of the air, soil, rock or water conditions on or adjacent to the site. No environmental opinions are presented in this report.

EXISTING SURFACE & SUB-SURFACE CONDITIONS

Site Location / Description

The site of the proposed project is located in Hidalgo County, Texas (See Figure 1 in Appendix A). The project limits are along the Mission Inlet, bounded on the upstream end by River Bend Drive (0.25 miles downstream of Inspiration Road) and bounded on the downstream end by the USIBWC Main Floodway. The project consists of an approximate 10.5 mile long pilot channel. Several on-system roadways cross the channel alignment via bridges and culverts; two canals cross the alignment via aqueduct; and several drainage laterals feed into the channel along the length of the Mission Inlet. The Main Floodway North Levee that bounds the downstream end of the Mission Inlet has a control structure composed of ten (10) box culverts that control the water flowing through the Mission Inlet into the Main Floodway. At the time this report was written, the existing pilot channel had showed minimal vegetation and no distress in the slopes. The boring locations were drilled as close as possible to the locations specified by the Client as shown on Figure 2 in Appendix A. A surveyor was contracted to determine the exact coordinates for the borings and are noted on the boring logs in Appendix B.

Geology

The Geologic Atlas of Texas, McAllen-Brownsville Sheet, dated 1976, indicates that the subject site is located within the *Alluvium Formation* of the Quaternary epoch (Holocene period) and the *Beaumont Formation* of the Quaternary epoch (Pleistocene period). The description of the materials in the *Alluvium Formation* is as follows: "Clay, silt, sand, gravel, and organic matter; silt and sand, calcareous, dark gray to dark brown; sand mostly quartz; gravel along the Rio Grande includes sedimentary rocks from the Cretaceous and Tertiary and a wide variety of igneous and sedimentary rocks from Trans-Pecos Texas, Mexico, and New Mexico including agate; gravel in side streams of the Rio Grande mostly local Tertiary rocks and chert derived from Uvalde Gravel which caps divides." The *Alluvium Formation* at the subject site location consists of "Floodplain deposits, lower course of Rio Grande divided into areas dominantly mud and areas dominantly silt and sand." The description of the materials in the *Beaumont Formation* is as follows: "Mostly clay, silt, sand, and gravel; includes mainly stream channel, point bar, natural levee, and backswamp deposits; concretions and massive accumulations of calcium carbonate (caliche) and concretions of iron oxide and iron-manganese oxides in zone of weathering." The stippled overprint shows areas that are "Dominantly clay and mud of low permeability, high water-holding capacity, high compressibility, high to very high shrink-swell potential, poor drainage, level to depressed relief, low shear strength, and high plasticity; geologic units include interdistributary muds, abandoned channel-fill muds, and fluvial overbank muds." The lined overprint shows areas that are "Consisting of mud veneer over meanderbelt sand, little grain preserved, grass covered." (See Figure 5 in Appendix A for Geologic Atlas of Texas Map).

Soil Survey Description

According to the Soil Survey of Hidalgo County, Texas, published by the United States Department of Agriculture (issued June 1981, soil maps current), the project site consists of a several soil map units, the most prevalent being Benito Clay (Unit #2), Harlingen Clay (Unit #19), Harlingen Clay, Saline (Unit #20), and Runn Silty Clay (Unit #64). These soils are described by the Soil Survey as the following (in order from most to least prevalent):

Runn Silty Clay (Unit #64) – These soils are deep, nearly level formations on areas of ancient stream terraces. This unit is moderately well drained and has a high available water capacity (about 10.1 inches). It is very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm). The typical profile for this soil is 0 to 18 inches: dark grayish brown silty clay, 18 to 38 inches: light brownish gray silty clay, 38 to 55 inches: pale brown silty clay, 55 to 65 inches: pale brown silty clay loam. This soil classification is calcareous throughout.

Harlingen Clay (Unit #19) – These soils are deep, nearly level formations on broad areas of ancient stream terraces. This unit is moderately well drained and has a low available water capacity (about 5.7 inches). It is very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm). The typical profile for this soil is 0 to 18 inches: grayish brown clay, 18 to 72 inches: brown clay that has many intersecting slickensides. This soil classification is calcareous throughout.

Benito Clay (Unit #2) – These soils are deep, nearly level saline formations in depressional areas of ancient stream terraces. This unit is poorly drained and has a low available water capacity (about 4.9 inches). It is very slightly saline to moderately saline (4.0 to 16.0 mmhos/cm). The typical profile for this soil is 0 to 56 inches: gray clay, 56 to 65 inches: light gray clay.

Harlingen Clay, Saline (Unit #20) – These soils are deep, nearly level saline formations on broad areas of ancient stream terraces. This unit is moderately well drained with a very low available water capacity (about 2.8 inches). It is moderately saline to strongly saline (16.0 to 20.0 mmhos/cm). The typical profile for this soil is 0 to 16 inches: saline, grayish brown clay, 16 to 65 inches: saline, brown clay that has many intersecting slickensides. This soil classification is calcareous throughout.

Other Soil Survey Map Units were included along the proposed alignment: however, their relative size when compared to the total project was negligible. It should be noted; soil series descriptions range only up to a depth of about 60 to 80 inches and are not intended for any deep soils analysis or classification.

Rainfall

The mean annual precipitation for this area of Hidalgo County is approximately twenty (20) to twenty-four (24) inches, as reported by the U.S. Department of Agriculture Natural Resources Conservation Service. Our geotechnical investigation, performed in October 2013, was conducted during a severe drought condition (D2, as noted by the National Weather Service and U.S. Drought Monitor) with moisture and precipitation levels below the annual averages. The National Oceanic and Atmospheric Administration (NOAA) reports for the subject date, no significant rainfall observations (at least one inch) occurred that may have significantly affected groundwater levels and/or moisture content of surface soils after or during our exploration.

GEOTECHNICAL SITE INVESTIGATION

Soil Borings and Field / Laboratory Tests

Subsurface conditions at the site were evaluated through fifty-five (55) borings drilled along the pilot channel and designated as B-D1-# (where # = 1 though 55). The borings were spaced approximately 1000 feet apart and advanced to 25 feet below natural ground. It should be noted that due to the presence of fill near borings B-D1-16 through B-D1-20, these borings were advanced an additional 10 feet to ensure evaluation of the true subsurface conditions. The borings were drilled at the approximate locations shown on Figure 2 in Appendix A. All borings were drilled in general accordance with American Society of Testing Materials Procedures (ASTM) D420 and D1452 using a truck mounted drilling rig (Simco 2800 HS (HT)). General field testing and sampling was performed in accordance with ASTM D1586 and ASTM D1587.

Standard Penetration Testing (SPT)

As part of the drilling procedure, split barrel (spoon) and Standard Penetration Tests (SPT) were performed and recorded. Standard Penetration Test results are noted on the boring logs as blows per foot or twelve (12) inch increment. The sampler was advanced through three (3) consecutive six (6) inch increments; however, the first six inch increment is considered the seating drive, which eliminates the effect of cuttings or disturbances on the test result. The sum of the blows for the last two six (6) inch increments is considered the "standard penetration resistance value" or "field N-value". Where hard or very dense materials were encountered, the SPT was terminated and noted on the boring log when one of the following situations occurred:

1. *a total of 50 blows were applied on one six inch increment*
2. *a total of 100 blows were applied during the test*
3. *no observation of advancement of the sampler was detected during the application of 10 consecutive blows from the hammer*

As part of the sampling procedure, split barrel (spoon) samples were collected through SPT sampling during the drilling process. Representative portions of the samples were identified, packaged, sealed in containers (to reduce moisture loss), and transported to our laboratory for subsequent testing. In the laboratory, each sample was evaluated and visually classified by a member of our Geotechnical Engineering staff. The properties of the strata were evaluated by a series of laboratory index tests (Tex-142-E, Laboratory Classification of Soils for Engineering Purposes and ASTM D 2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)). A summary of the laboratory data and their corresponding depths are presented on the boring logs in Appendix B.

Samples will be retained in our laboratory for 30 days after submittal of this report. Other arrangements may be provided at the request of the Client.

Thin-Walled Tube Sampling

Representative portions of the split barrel samples were identified, packaged, sealed in containers to reduce moisture loss, and transported to our laboratory for subsequent testing. Thin walled Shelby tube samples were collected when soft to stiff cohesive clays were encountered during the drilling operations in general compliance with ASTM D1587. The Shelby tube samples were used for laboratory testing of unconfined compression strength. In the laboratory, each sample was evaluated and visually classified by a member of our geotechnical engineering staff. The properties of each stratum were evaluated by a series of laboratory index tests.

Subsurface Stratigraphy

On the basis of our soil borings, there are several generalized strata that possess similar physical and engineering characteristics at the boring locations. The lines designating the interfaces between strata on the boring logs represent approximate boundaries. Transitions between strata may be gradual and may vary from the reported logs. Tables 1A - 1J show a summary (generalized) of the respective soil strata in the profile for sections of the project limits. (See Appendix B for detailed boring logs).

Section A – Borings B-D1-01 to B-D1-02			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 15	Clay[1]	Stiff to Very Stiff
Stratum II	15 to 25	Clayey Sand, Silty Clayey Sand[2]	Very Loose to Medium Dense
1. This stratum contained dark brown to brown fat and lean clays (CH/CL) with moderate to high plasticity indices (16 to 40). Fines contents ranged from 86 to 98%. SPT N-values ranged from 10 to 19 blows per foot. Samples contained calcareous nodules within the top 10 feet of the stratum.			
2. This stratum contained brown to dark gray / black to grayish brown clayey sand (SC) and silty clayey sand (SC-SM) with a pocket of poorly graded sand w/ silt and gravel (SP-SM) noted at the bottom of this stratum at B-D1-02. The stratum showed low to moderately high plasticity indices (7 to 22). Fines contents ranged from 25 to 49%. SPT N-values ranged from 2 to 10 blows per foot with a pocket as high as 23 (noted at bottom of B-D1-02). Gravel, sized 1/8 inch to 1 inch, mostly noted throughout.			

Table 1A – Existing Soil Strata & Description (Section A)

**all depths are referenced from existing natural ground*

Section B – Borings B-D1-03 to B-D1-09			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 5	Clay[1]	Stiff
Stratum II	5 to 15	Clay[2]	Stiff to Very Stiff
Stratum III	15 to 25	Clay[3]	Stiff to Very Stiff
1. This stratum contained dark brown fat clay (CH) with moderately high to high plasticity indices (32 to 40). Fines contents ranged from 95 to 98%. SPT N-values ranged from 9 to 15 blows per foot. Samples contained calcareous nodules throughout.			
2. This stratum contained brown to dark brown fat and lean clays (CH/CL) with moderately high to high plasticity indices (25 to 42). Fines contents ranged from 94 to 100%. SPT N-values ranged from 11 to 31 blows per foot with a pocket as high as 53 (noted at B-D1-05). Some samples contained black mottles and calcareous nodules.			
3. This stratum contained brown to tannish brown fat clay (CH) with moderately high plasticity indices (25 to 36). Fines contents ranged from 88 to 100%. SPT N-values ranged from 11 to 17 blows per inch with a pocket as high as 29 (noted at B-D1-05 to B-D1-06). Gravel sized 1/8 inch to 1 inch in diameter was noted at Borings B-D1-05 and B-D1-06.			

Table 1B – Existing Soil Strata & Description (Section B)

**all depths are referenced from existing natural ground*

Section C – Borings B-D1-10 to B-D1-12			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 15	Clay[1]	Stiff to Very Stiff
Stratum II	15 to 25	Poorly Graded Sand w/ Silt, Poorly Graded Sand w/ Silt and Gravel[2]	Medium Dense

1. This stratum contained dark brown fat clay (CH) with a pocket of brown clayey sand (SC) noted towards the bottom of this stratum at B-D1-11. The stratum generally showed moderately high to high plasticity indices (26 to 43) with the clayey sand pocket exhibiting a moderate plasticity index (16). Fines contents generally ranged from 80 to 96% (with the exception of the clayey sand section exhibiting 24% fines). SPT N-values ranged from 10 to 18 blows per foot. Samples contained calcareous nodules throughout.
2. This stratum contained brown poorly graded sand with silt and poorly graded sand with silt and gravel (SP-SM) with a silty sand (SM) section (noted at B-D1-12). The stratum showed non-plastic behavior. Fines contents ranged from 5 to 25%. SPT N-values ranged from 8 to 19 blows per foot with a pocket as high as 40 (noted towards the bottom of B-D1-10). Gravel sized 1/8 inch to 1/4 inch was noted towards the bottom of this stratum.

Table 1C – Existing Soil Strata & Description (Section C)

**all depths are referenced from existing natural ground*

Section D – Borings B-D1-13 to B-D1-16			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 10	Clay, Clay w/ Sand[1]	Stiff
Stratum II	10 to 25	Clay[2]	Stiff to Very Stiff
Stratum III	25 to 35	Clay[3]	Very Stiff

1. This stratum contained dark brown fat and lean clays (CH/CL) and lean clay with sand (CL) with moderate to moderately high plasticity indices (20 to 29). Fines contents ranged from 84 to 97%. SPT N-values ranged from 7 to 20 blows per foot. Samples contained calcareous nodules throughout.
2. This stratum contained brown fat and lean clays (CH/CL) with a pocket of light brown to brown clayey sand (SC) noted at B-D1-16. The stratum showed moderately high to high plasticity indices (27 to 40) with the clayey sand pocket exhibiting a moderately low plasticity index (8). Fines contents ranged from 85 to 99% while the clayey sand pocket had a fines content of 39%. SPT N-values generally ranged from 14 to 22 blows per foot with a pocket as high as 47 (noted at the top of B-D1-15).
3. This stratum (only explored at B-D1-16) contained brown fat clay (CH) with a moderately high plasticity index (32). Fines content was 98%. SPT N-values ranged from 20 to 23 blows per foot.

Table 1D – Existing Soil Strata & Description (Section D)

**all depths are referenced from existing natural ground*

Section E – Borings B-D1-17 to B-D1-20			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 15	Clay[1]	Stiff to Very Stiff
Stratum II	15 to 25	Clay[2]	Medium Stiff to Stiff
Stratum III	25 to 35	Silt, Sandy Silt, Clay[3]	Very Stiff
1. This stratum contained dark brown to brown fat and lean clays (CH/CL) with moderate to moderately high plasticity indices (14 to 33). Fines contents ranged from 90 to 100%. SPT N-values ranged from 8 to 23 blows per foot. Samples contained calcareous nodules throughout.			
2. This stratum contained dark brown to tannish brown fat and lean clays (CH/CL) with a pocket of tannish brown lean clay with sand (CL) noted at B-D1-19. The stratum showed moderately high to high plasticity indices (19 to 33). Fines contents ranged from 78 to 100%. SPT N-values generally ranged from 10 to 17 blows per foot with a low pocket (noted at the top of the stratum at B-D1-19).			
3. This stratum contained light brown to brown silt and sandy silt (ML) at B-D1-17 to B-D1-18 (Stratum II extends into Stratum III at B-D1-19 and B-D1-20). The stratum showed non-plastic behavior. Fines content ranged from 24 to 86%. SPT N-values ranged from 13 to 32 blows per foot.			

Table 1E – Existing Soil Strata & Description (Section E)

**all depths are referenced from existing natural ground*

Section F – Borings B-D1-21 to B-D1-33			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 13	Clay[1]	Stiff to Very Stiff
Stratum II	13 to 25	Clay[2]	Medium Stiff to Very Stiff
1. This stratum contained dark brown fat and lean clays (CH/CL) with moderately high to high plasticity indices (22 to 49). Fines contents ranged from 92 to 100%. SPT N-values ranged from 9 to 24 blows per foot. Samples contained calcareous nodules throughout.			
2. This stratum contained brown to tannish brown fat and lean clays (CH/CL) with brown sandy silt (ML) noted at B-D1-24 and B-D1-32. The stratum generally showed moderate to high plasticity indices (18 to 41) with non-plastic behavior at B-D1-24 and B-D1-32. Fines contents ranged from 56 to 100%. SPT N-values generally ranged from 5 to 32 blows per foot.			

Table 1F – Existing Soil Strata & Description (Section F)

**all depths are referenced from existing natural ground*

Section G – Borings B-D1-34 to B-D1-42			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 15	Clay[1]	Stiff to Very Stiff
Stratum II	15 to 25	Clayey Sand, Silty Clayey Sand[2]	Very Loose to Medium Dense
1. This stratum contained dark brown fat and lean clays (CH/CL) with moderately high to high plasticity indices (27 to 37). Fines contents ranged from 75 to 99%. SPT N-values ranged from 8 to 26 blows per foot. Samples contained calcareous nodules throughout.			
2. This stratum contained light brown to tannish brown clayey sand (SC) and silty clayey sand (SC-SM). The stratum generally showed low to moderately low plasticity indices (5 to 11). Fines contents generally ranged from 19 to 48%. SPT N-values generally ranged from 5 to 16 blows per foot.			

Table 1G – Existing Soil Strata & Description (Section G)

**all depths are referenced from existing natural ground*

Section H – Borings B-D1-43 to B-D1-47			
Description	***Approximate Depth Range (ft.)**	**Material Type**	**Consistency / Density**
Stratum I	0 to 10	Clay[1]	Stiff to Very Stiff
Stratum II	10 to 18.5	Clayey Sand, Silty Clayey Sand[2]	Very Loose to Medium Dense
Stratum III	18.5 to 25	Sandy Clay, Silty Sand, Poorly Graded Sand w/ Silt[3]	Very Stiff to Hard / Medium Dense to Dense
1. This stratum contained dark brown fat and lean clays (CH/CL) and brown sandy lean clay (CL) with moderate to high plasticity indices (16 to 40). Fines contents ranged from 53 to 97%. SPT N-values ranged from 7 to 26 blows per foot. Samples contained calcareous nodules throughout.			
2. This stratum contained dark brown to tannish brown clayey sand (SC) and silty clayey sand (SC-SM) with a transect of dark brown lean clay (CL) at B-D1-44. The stratum generally showed low to moderately low plasticity indices (6 to 14). Fines contents generally ranged from 38 to 49%. SPT N-values generally ranged from 5 to 16 blows per foot.			
3. This stratum contained light brown to brown poorly graded sand with silt (SP-SM) and silty clayey sand (SC-SM) with a ribbon of sandy lean clay (CL) and lean clay with sand (CL) running through it. The stratum generally showed non-plastic behavior while the ribbon of clays showed moderate plasticity indices (17). Fines contents generally ranged from 9 to 15% while the ribbon of clay ranged from 53 to 79%. SPT N-values generally ranged from 8 to 24 blows per foot with a section as high as 43.			

Table 1H – Existing Soil Strata & Description (Section H)

**all depths are referenced from existing natural ground*

Section I – Borings B-D1-48 to B-D1-50			
Description	*Approximate Depth Range (ft.)	Material Type	Consistency / Density
Stratum I	0 to 25	Clay[1]	Stiff to Very Stiff
1. This stratum contained dark brown to brown fat and lean clays (CH/CL) and a small pocket of lean clay with sand (CL) noted at the top 6 feet of B-D1-48. The stratum showed moderate to high plasticity indices (17 to 40). Fines contents ranged from 70 to 100%. SPT N-values ranged from 12 to 24 blows per foot with a section as low as 6 (noted towards the bottom of B-D1-49). Samples generally contained calcareous nodules throughout.			

Table 1I – Existing Soil Strata & Description (Section I)

**all depths are referenced from existing natural ground*

Section J – Borings B-D1-51 to B-D1-55			
Description	*Approximate Depth Range (ft.)	Material Type	Consistency / Density
Stratum I	0 to 18	Clay[1]	Medium Stiff to Very Stiff
Stratum II	18 to 25	Silt, Silty Sand[2]	Medium Stiff / Loose to Medium Dense
1. This stratum contained dark brown to brown fat and lean clays (CH/CL) with a pocket of sandy fat clay (CH) noted towards the top of this stratum at B-D1-54. The stratum generally showed moderately high to high plasticity indices (24 to 43). Fines contents generally ranged from 85 to 100% (with the exception of the sandy clay section exhibiting 69% fines). SPT N-values ranged from 11 to 23 blows per foot. Samples generally contained calcareous nodules throughout.			
2. This stratum contained brown silt (ML) and silty sand (SM). The stratum showed non-plastic behavior. Fines contents ranged from 42 to 97%. SPT N-values ranged from 7 to 13 blows per foot with a pocket as high as 36.			

Table 1J – Existing Soil Strata & Description (Section J)

**all depths are referenced from existing natural ground*

Water Strikes

The solid auger and mud rotary drilling techniques were used to complete soil borings in accordance with ASTM procedure D1452. During the drilling operations, water strikes were encountered at most boring locations. 24-hour after-drill water level readings were obtained in borings that did not cave in to depths shallower than the water level. Table 2 shows a summary of the initial water strike depths, end of drilling water levels, and 24 hour water level readings for each boring.

Boring No.	*Initial Water Strike	*End of Drilling Reading	*24 Hr. Water Reading
B-D1-01	~	~	(Cave-In = 23.33 ft)
B-D1-02	17.00 ft	14.25 ft	10.50 ft (Cave-In = 13.50 ft)
B-D1-03	23.00 ft	22.00 ft	8.75 ft (Cave-In = 9.00 ft)
B-D1-04	~	~	8.50 ft (Cave-In = 13.00 ft)
B-D1-05	21.00 ft	14.00 ft	10.67 ft (Cave-In = 17.33 ft)
B-D1-06	21.00 ft	13.50 ft	7.50 ft (Cave-In = 19.50 ft)
B-D1-07	19.00 ft	17.50 ft	5.75 ft (Cave-In = 12.00 ft)

B-D1-08	23.00 ft	18.50 ft	6.25 ft (Cave-In = 10.75 ft)
B-D1-09	~	~	8.50 ft (Cave-In = 12.00 ft)
B-D1-10	12.50 ft	10.00 ft	9.50 ft (Cave-In = 9.67 ft)
B-D1-11	13.00 ft	10.33 ft	10.50 ft (Cave-In = 10.75 ft)
B-D1-12	18.00 ft	14.00 ft	9.50 ft (Cave-In = 9.50 ft)
B-D1-13	~	~	13.75 ft (Cave-In = 14.33 ft)
B-D1-14	21.00 ft	14.50 ft	13.50 ft (Cave-In = 14.25 ft)
B-D1-15	17.00 ft	~	9.00 ft (Cave-In = 10.50 ft)
B-D1-16	~	~	26.00 ft (Cave-In = 27.50 ft)
B-D1-17	23.00 ft	13.25 ft	13.00 ft (Cave-In = 18.00 ft)
B-D1-18	23.25 ft	18.25 ft	16.75 ft (Cave-In = 20.75 ft)
B-D1-19	17.50 ft	12.50 ft	13.25 ft (Cave-In = 16.33 ft)
B-D1-20	22.25 ft	14.67 ft	16.50 ft (Cave-In = 29.75 ft)
B-D1-21	18.50 ft	15.00 ft	14.00 ft (Cave-In = 15.50 ft)
B-D1-22	14.00 ft	11.33 ft	14.00 ft (15.25 ft)
B-D1-23	~	~	16.50 ft (Cave-In = 18.50 ft)
B-D1-24	14.50 ft	8.25 ft	(Cave-In = 7.75 ft)
B-D1-25	23.00 ft	~	11.50 ft (Cave-In = 11.67 ft)
B-D1-26	~	~	11.33 ft (Cave-In = 11.75 ft)
B-D1-27	~	~	21.25 ft (Cave-In = 21.50 ft)
B-D1-28	14.00 ft	10.50 ft	12.75 ft (Cave-In = 13.50 ft)
B-D1-29	17.50 ft	11.50 ft	11.00 ft (Cave-In = 12.00 ft)
B-D1-30	22.00 ft	10.00 ft	9.00 ft (Cave-In = 10.25 ft)
B-D1-31	9.00 ft	6.50 ft	6.50 ft (Cave-In = 6.75 ft)
B-D1-32	17.00 ft	13.33 ft	14.75 ft (Cave-In = 15.75 ft)
B-D3-33	~	~	14.75 ft (Cave-In = 16.75 ft)
B-D3-34	16.00 ft	10.75 ft	16.50 ft (Cave-In = 17.25 ft)
B-D3-35	16.00 ft	15.67 ft	14.25 ft (Cave-In = 15.50 ft)
B-D1-36	13.00 ft	9.50 ft	16.67 ft (Cave-In = 17.50 ft)
B-D1-37	12.00 ft	9.50 ft	8.50 ft (Cave-In = 9.00 ft)
B-D1-38	17.00 ft	12.50 ft	(Cave-In = 16.67 ft)
B-D1-39	17.00 ft	~	15.50 ft (Cave-In = 16.00 ft)
B-D1-40	16.00 ft	13.25 ft	15.25 ft (Cave-In = 17.00 ft)
B-D1-41	13.00 ft	10.50 ft	10.00 ft (Cave-In = 10.33 ft)
B-D1-42	13.00 ft	10.50 ft	11.50 ft (Cave-In = 14.67 ft)
B-D1-43	18.00 ft	12.67 ft	14.75 ft (Cave-In = 15.00 ft)
B-D1-44	22.00 ft	17.50 ft	12.50 ft (Cave-In = 12.25 ft)
B-D1-45	9.00 ft	5.50 ft	4.50 ft (Cave-In = 8.75 ft)
B-D1-46	13.00 ft	8.75 ft	10.25 ft (Cave-In = 10.50 ft)
B-D1-47	17.00 ft	12.33 ft	(Cave-In = 10.33 ft)
B-D1-48	23.00 ft	19.67 ft	16.33 ft (Cave-In = 17.25 ft)
B-D1-49	18.00 ft	13.50 ft	(Cave-In = 10.25 ft)
B-D1-50	24.00 ft	20.25 ft	17.67 ft (Cave-In = 18.25 ft)

B-D1-51	24.00 ft	20.25 ft	13.50 ft (Cave-In = 14.50 ft)
B-D1-52	18.00 ft	13.50 ft	15.50 ft (Cave-In = 17.50 ft)
B-D1-53	22.00 ft	17.25 ft	15.50 ft (Cave-In = 17.50 ft)
B-D1-54	19.00 ft	16.50 ft	(Cave-In = 19.00 ft)
B-D1-55	23.00 ft	18.33 ft	(Cave-In = 7.50 ft)

Table 2: Water Strike Depth Summary

**all depths are referenced from existing natural ground*

It should be noted that fluctuations in groundwater levels are influenced by variations in rainfall and surface water run-off from season to season. The construction process itself may also cause variations in the groundwater level. If the subsurface water elevation is critical to the construction process the Contractor should check the subsurface water conditions just prior to construction excavation using piezometer wells.

GEOTECHNICAL BORING ANALYSIS & TESTING

Moisture Content

The moisture content of a soil is defined as the ratio of the weight of the water in the sample to the dry weight of the soil sample. The moisture contents for the samples obtained as part of our geotechnical exploration were performed in compliance with ASTM procedure D2216. The results varied from x to y. Variance in percentages within the samples can be attributed to a multitude of issues including, range in depth, distance between samples, location of groundwater table and seasonal moisture zone. The variation could also be caused by differences in soil classifications, as some soils such as loose gravels and sands are made up of larger particles and thus exhibit more voids as a soil structure (higher capability to hold water than fine grained soils). Finer grained denser soils, though, due to high impermeability, may also exhibit high moisture contents in certain instances due to the slower movement of water though the soil structure. A comprehensive list of all the moisture contents by corresponding depth can be found on the boring logs.

Plasticity Index

The Plasticity Index (PI) is defined as the difference between the liquid limit and the plastic limit of a soil. These limits are commonly referred to as the Atterberg limits, which describe the consistency of soils with respect to their varying moisture contents. The liquid limit is defined as the moisture content at which soil begins to transition from a plastic to a liquid state and begins to behave as a liquid material by beginning to flow. The plastic limit refers to the water content of a soil at the point of transition from a semisolid to a plastic state where soil starts to exhibit plastic behavior. A soils behavior can be divided into four basic states: liquid, plastic, semisolid and solid. The plasticity index shows the range in which a soil acts in a plastic state. Experience has shown that the more plastic a soil is the more expansive and compressive it will act. The plasticity indices for the samples obtained as part of our geotechnical exploration were performed in compliance with ASTM procedure D4318. PI values for the borings performed for this report range from less than 4 (non-plastic silty sands and poorly graded sands with silt) to 49

(highly plastic fat clays). A comprehensive list of all the plasticity indices by corresponding depth can be found on the boring logs.

Particle Size Analysis (Determination of Fines Content)

The standard grain size analysis is used to determine the relative proportions of different grain sizes as they are distributed along a range of different sized sieves. The minus 200 sieve analysis is used commonly as a tool for soil classification and identification using the Unified Soils Classification System. Results for this test are reported as a percentage of soil passing the No. 200 sieve, which has openings 0.075mm wide. This test is also used to determine the suitability of soil for construction purposes and to estimate probable seepage through soils. Generally a % -200 greater than 50% indicates a non-granular cohesive soil with large amounts of fines in the soil composition. The particle size analyses for the samples obtained as part of our geotechnical exploration were performed in compliance with ASTM procedure D1140. The % -200 values for the samples collected range from 5% (sands – SP-SM) to 100% (clays – CL/CH). A comprehensive list of all the fines contents by corresponding depth can be found on the boring logs.

Particle Size Analysis (Gradation Curves - D50 & D90)

Full standard gradation analysis is necessary to establish soil gradation curves. Standard gradation analysis involves two parts, the sieve analysis and the hydrometer analysis. The sieve analysis consists of stacking progressively finer sieves and passing a soil mass through. The sieve sizes correspond to different particle sizes within a soil. Hydrometer analyses are used primarily in fine grained soils but are also very useful in establishing the 'tail-end' of a gradation curve for soils having a mixture of coarse grained and fine grained soil constituents. The diameter of soil particles corresponding to 50% (D50) and 90% (D90) finer in the soil sample were derived from sieve and hydrometer analyses (establishment of particle-size distribution curve) for use in Hydraulic Scour Analysis. The results are presented in Table 3:

Boring #	*Sample Depth (ft.)	D50 (mm)	D90 (mm)
B-D1-01	18.5 to 20	0.08	0.23
B-D1-02	18.5 to 20	0.17	0.28
B-D1-03	Not Sampled	~	~
B-D1-04	18.5 to 20	~	0.012
B-D1-05	6.5 to 8	0.001	0.01
B-D1-06	6.5 to 8	0.001	0.013
B-D1-07	13.5 to 15	~	0.009
B-D1-08	9.5 to 11	0.001	0.01
B-D1-09	18.5 to 20	0.002	0.03
B-D1-10	13.5 to 15	0.19	0.28
B-D1-11	6.5 to 8	~	0.08
B-D1-12	18.5 to 20	0.16	0.26
B-D1-13	6.5 to 8	0.002	0.05
B-D1-14	9.5 to 11	0.002	0.02

B-D1-15	18.5 to 20	0.003	0.23
B-D1-16	9.5 to 11	0.09	0.15
B-D1-17	13.5 to 15	0.003	0.02
B-D1-18	Not Sampled	~	~
B-D1-19	18.5 to 20	0.05	0.1
B-D1-20	18.5 to 20	0.002	0.02
B-D1-21	9.5 to 11	0.001	0.017
B-D1-22	13.5 to 15	0.005	0.05
B-D1-23	3.5 to 5	0.005	0.013
B-D1-24	13.5 to 15	0.053	0.13
B-D1-25	13.5 to 15	~	0.009
B-D1-26	Not Sampled	~	~
B-D1-27	3.5 to 5	0.003	0.04
B-D1-28	13.5 to 15	0.009	0.05
B-D1-29	13.5 to 15	0.003	0.014
B-D1-30	18.5 to 20	~	0.008
B-D1-31	9.5 to 11	~	0.008
B-D1-32	9 to 11	0.002	0.03
B-D3-33	3.5 to 5	~	0.012
B-D3-34	6.5 to 8	~	0.015
B-D3-35	13.5 to 15	0.09	0.27
B-D1-36	6.5 to 8	0.002	0.02
B-D1-37	9.5 to 11	0.004	0.03
B-D1-38	9 to 11	0.001	0.013
B-D1-39	9.5 to 11	0.001	0.012
B-D1-40	13.5 to 15	~	0.012
B-D1-41	18.5 to 20	0.045	0.25
B-D1-42	6.5 to 8	~	0.013
B-D1-43	9 to 11	0.12	0.25
B-D1-44	13.5 to 15	~	0.063
B-D1-45	9.5 to 11	0.13	0.30
B-D1-46	3.5 to 5	0.003	0.06
B-D1-47	18.5 to 20	0.19	0.27
B-D1-48	18.5 to 20	0.001	0.022
B-D1-49	13.5 to 15	0.007	0.05
B-D1-50	9 to 11	0.002	0.013
B-D1-51	3.5 to 5	~	0.032
B-D1-52	13.5 to 15	0.006	0.12
B-D1-53	13.5 to 15	~	0.012
B-D1-54	6.5 to 8	0.003	0.07
B-D1-55	13.5 to 15	0.001	0.02

Table 3 – D50 & D90 Values for Scour Analysis

**all depths are referenced from existing natural ground*

In accordance with the TxDOT Geotechnical Manual (2012), **L&G Lab** recommends D50 values be limited to 4 x 10^{-3} inches (0.10 millimeters) for this channel in cohesive material. In addition (and if required), it should be noted, the TxDOT Geotechnical Manual (2006) recommends Pier Scour utilize equations in HEC-18 with a reduction factor of 0.5 for soils with 11% or more clay.

Unconfined Compression

The unconfined compression test is a special type of unconsolidated undrained triaxial test that is commonly used for clay samples. In this test procedure, drainage of pore water from the soil sample is not permitted and the test sample is sheared to failure by the application of deviator (axial) stress. The axial load is applied rapidly to the sample and the resulting failure force (major principal total stress) is referred to as the unconfined compressive strength of the sample. This result is then divided by two to derive the undrained shear strength of fine grained cohesive soils (clays). Some unconfined compression tests could not be performed for this project due to the presence of cohesionless soils and the lack of undisturbed samples sufficient enough for the test (refer to Appendix D for Unconfined Compression Test Reports including sample depth/location and unconfined compressive strength recorded). The undrained cohesion values were verified utilizing these results and were used in the soil stratification.

GEOTECHNICAL ENGINEERING ANALYSES

L&G Lab was tasked to provide a geotechnical analysis that included location specific slope / global stability.

Slope / Global Stability Analysis

It is the understanding of **L&G Lab** that Mission Inlet pilot channel will include sections to remain in place (as established by Existing Conditions hydrologic and hydraulic analysis) and sections that will utilize a proposed channel cross section (as established by Proposed Improvements hydrologic and hydraulic analysis). The limits and general geometry are as noted in Figure 1 (Existing Conditions) and Figure 2 (Proposed Improvements).

This report includes complete Global Stability Analysis as the means to evaluate channel side slope geometry with regard to existing top strata (proposed slope sections), section geometry and underlying foundation soils. The Factor of Safety requirements utilized in this analysis are referenced from the 2012 TxDOT Geotechnical Manual. For this project, we will utilize the threshold value of FS = 1.3 for all analyses.

The limit equilibrium method of analysis is the most commonly used method of analyzing the overall stability of both natural and manmade slopes as well as retaining wall structures. The fundamental principles behind this method are that the soil mass above a potential failure surface acts as a rigid body, and the shear strength of the material is fully engaged at all points along the surface at the moment of initial movement. A failure criterion is adopted and the conditions for static equilibrium are applied to analyze the problem. This method of analysis assumes that no strain takes place until the failure condition is reached. The results of the analyses are expressed

in terms of a safety factor in the form of a ratio of the available shear strength along the potential failure surface to the shear stress required to maintain equilibrium of the failure mass under the applied loads. This method has traditionally been used in the analysis of man-made earth structures such as embankments, levees and retaining wall structures.

The Global Stability Analyses of the channel side slope sections (slopes) was performed using ***GSTABL with STEDwin*** Version 7 software program. Analyses were performed using the Modified Bishop Method of slices for circular surfaces (random surfaces were not investigated in this report). It should be noted that the possibility of undetected anomalies in the soil, such as remnants of previous sliding, tension cracks or water-bearing seams of sand, could potentially alter or negate the findings of the stability analysis. Through the utilization of the GSTABL software program, conservative modeling techniques, and engineering judgment we present what we believe are the most accurate factors of safety.

Input parameters such as shear strength (cohesion and angle of friction) were correlated from the results of the SPT testing and laboratory soil classification testing (unit weight was assumed based on material properties from laboratory tests). Both short-term (undrained) and long-term (drained) conditions were analyzed in accordance with the TxDOT Geotechnical Manual. Correlations for undrained parameters were based on correlation equations of Stroud (1974), Bowles (1988) and Teng (1962). Correlations for drained parameters were based on correlation equations of Holtz & Kovacks (1981), Bjerrum and Simons (1960) and Gibson (1953). It should be noted; only total shear strengths of soils were input into the GSTABL models for the short-term (undrained) condition, as opposed to individual cohesions and friction angles to maintain consistency with the strength correlations. In addition it should be noted, a minimum residual cohesion value of 50 pounds per square foot (psf) was incorporated into the long-term (drained) condition models.

The geometric model of the Channel Slopes utilized for analysis consisted of maximum channel heights per each section limits assumed at all boring locations at each location for a worst case analysis. Traffic surcharge loading was incorporated into the modeling considered equivalent to two (2) feet of soil (approximately 250 psf) placed atop the channel slopes (to model an access road atop the channel). Piezometric surfaces (groundwater surfaces) were modeled at depths noted in boring logs. The models were analyzed as follows (See Appendix E for Global Stability Runs):

1). Existing Typical Sections (No Drainage Based Channel Improvements Required)

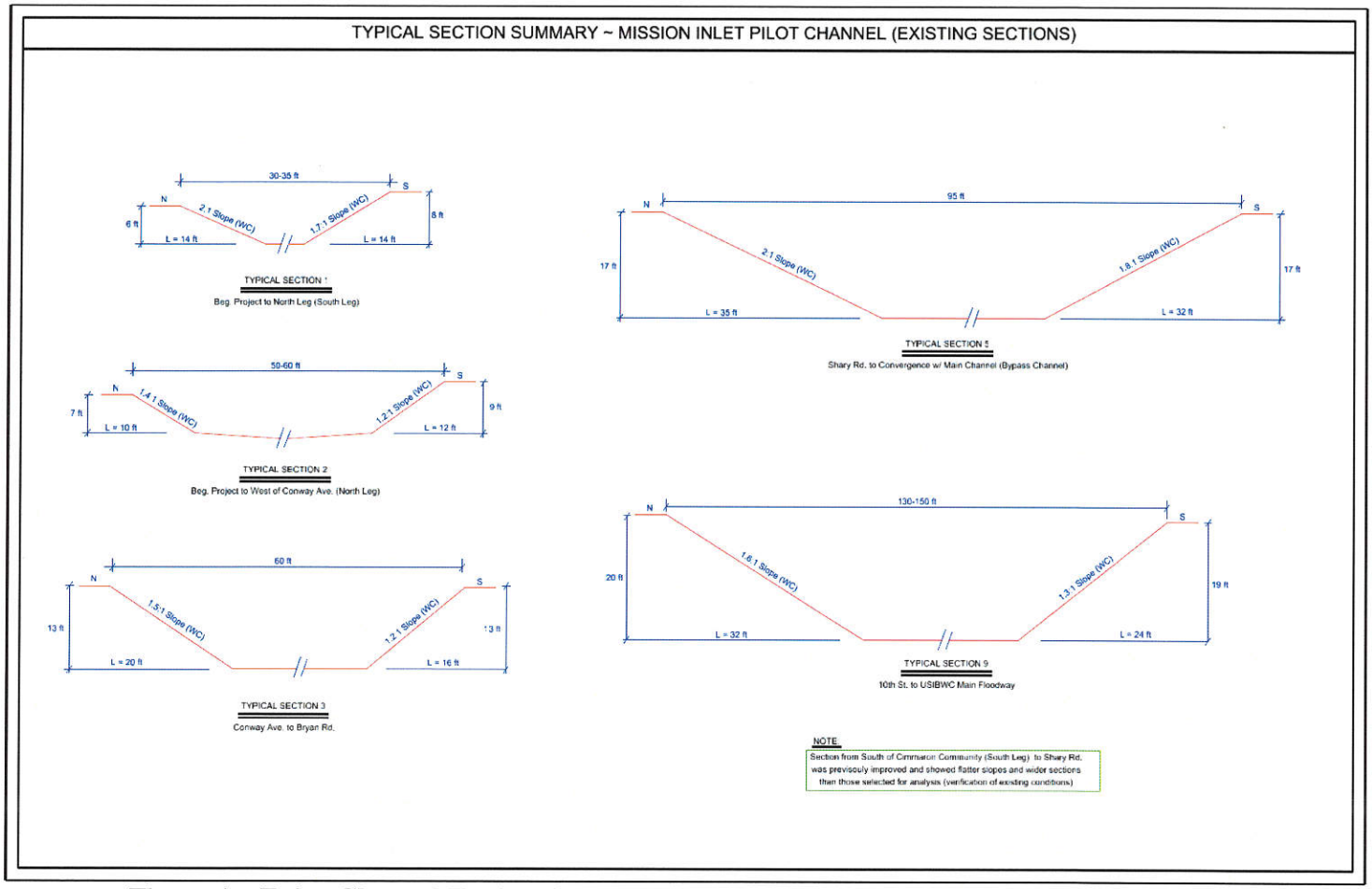


Figure 1 – Exist. Channel Typical Sections (No Drainage Based Channel Imp. Reqd.)

- Typical Section 1 (Beg. of Project – North Leg) (South Leg)
  - The global stability analysis was completed using boring B-D1-01(undrained) and boring B-D1-02 (drained). The resulting critical Factors of Safety were equal to **4.787** for the short-term condition (undrained) and **1.551** for the long-term condition (drained). It should be noted, the FOS values are above the project threshold minimum of 1.30.

- Typical Section 2 (Beg. of Project – Conway Ave) (North Leg)
  - The global stability analysis was completed using boring B-D1-01 (undrained) boring B-D1-02 (drained). The resulting critical Factors of Safety were equal to **4.054** for the short-term condition (undrained) and **1.237** for the long-term condition (drained). It should be noted, the FOS value for the long-term (drained) case is not above the project threshold minimum of 1.30.
  - Proposed Improvement Based on Stability Issue – Reworking channel geometry within this reach to incorporate proposed 2:1 side slopes results in critical Factors of Safety equal to **4.153** for the short-term condition (undrained) and **1.579** for the

long-term condition (drained). With these improvements, the FOS values are above the project threshold minimum of 1.30.

- Recommendation – **L&G Lab** recommends that sections within these limits be re-graded to incorporate a recommended minimum 2:1 channel side slope.

- Typical Section 3 (Conway Ave – Bryan Rd)
  - The global stability analysis was completed using boring B-D1-12 (undrained and drained). The resulting critical Factors of Safety were equal to **4.039** for the short-term condition (undrained) and **1.156** for the long-term condition (drained). It should be noted, the FOS value for the long-term (drained) case is not above the project threshold minimum of 1.30.
  - Proposed Improvement Based on Stability Issue – Reworking channel geometry within this reach to incorporate proposed 2:1 side slopes results in critical Factors of Safety equal to **4.227** for the short-term condition (undrained) and **1.549** for the long-term condition (drained). With these improvements, the FOS values are above the project threshold minimum of 1.30.
  - Recommendation – **L&G Lab** recommends that sections within these limits be re-graded to incorporate a recommended minimum 2:1 channel side slope.

- Typical Section 5 (Shary Rd – Convergence with Main Channel) (Bypass Channel)
  - The global stability analysis was completed using boring B-D1-29 (undrained) and boring B-D1-27 (drained). The resulting critical Factors of Safety were equal to **1.858** for the short-term condition (undrained) and **1.475** for the long-term condition (drained). It should be noted, the FOS values are above the project threshold minimum of 1.30.

- Typical Section 9 (10th St – USIBWC Main Floodway)
  - The global stability analysis was completed using boring B-D1-46 (undrained) and boring B-D1-49 (drained). The resulting critical Factors of Safety were equal to **2.109** for the short-term condition (undrained) and **1.008** for the long-term condition (drained). It should be noted, the FOS values for the long-term (drained) case is not above the project threshold minimum of 1.30.
  - Proposed Improvement Based on Stability Issue – Reworking channel geometry within this reach to incorporate proposed 2:1 side slopes results in critical Factors of Safety equal to **2.709** for the short-term condition (undrained) and **1.401** for the long-term condition (drained). With these improvements, the FOS values are above the project threshold minimum of 1.30.
  - Recommendation – **L&G Lab** recommends that sections within these limits be re-graded to incorporate a recommended minimum 2:1 channel side slope.

**The reaches at golf course locations (specific limits: Rio Grande Dr – Shary Rd (Cimarron Gold Course) and Ware Rd – Easternmost Edge of Course (Palm View Golf Course)) were omitted from existing slope analyses. The Cimarron bypass channel (specific limits: Channel Split West of Cimarron – Shary Rd) was omitted from existing slope analysis due to the presence of long flat slopes with no slope stability issues.*

2). Proposed Typical Sections (Locations of Drainage Based Channel Improvements)

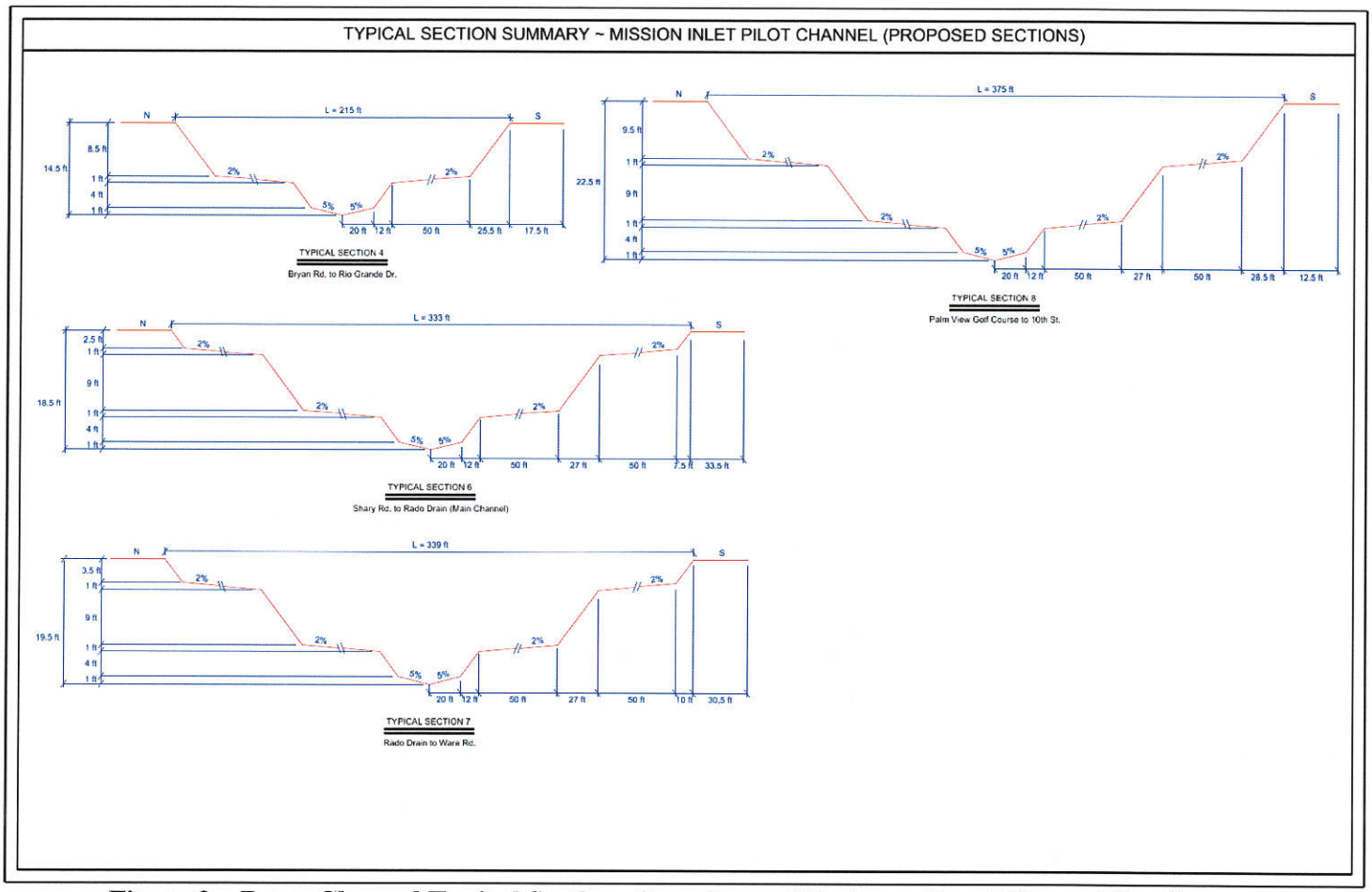


Figure 2 – Prop. Channel Typical Sections (Locations of Drainage Based Channel Imp.)

- Channel Improvements to Typical Section 4 (Bryan Rd – Rio Grande Dr)
  - The global stability analysis was completed using boring B-D1-16 (undrained) and boring B-D1-15 (drained). The resulting critical Factors of Safety were equal to **8.205** for the short-term condition (undrained) and **2.376** for the long-term condition (drained). It should be noted, the FOS values are above the project threshold minimum of 1.30.

- Channel Improvements to Typical Section 6 (Shary Rd – Rado Drain) (Main Channel)
  - The global stability analysis was completed using boring B-D1-29 (undrained) and boring B-D1-27 (drained). The resulting critical Factors of Safety were equal to **2.648** for the short-term condition (undrained) and **2.277** for the long-term condition (drained). It should be noted, the FOS values are above the project threshold minimum of 1.30.

- Channel Improvements to Typical Section 7 (Rado Drain – Ware Rd)
  - The global stability analysis was completed using boring B-D1-29 (undrained) and boring B-D1-27 (drained). The resulting critical Factors of Safety were equal to **2.456** for the short-term condition (undrained) and **2.206** for the long-term condition (drained). It should be noted, the FOS values are above the project threshold minimum of 1.30.

- Channel Improvements to Typical Section 8 (Palm View Golf Course – 10th St)
  - The global stability analysis was completed using boring B-D1-37 (undrained) and boring B-D1-33 (drained). The resulting critical Factors of Safety were equal to **4.471** for the short-term condition (undrained) and **2.268** for the long-term condition (drained). It should be noted, the FOS values are above the project threshold minimum of 1.30.

GENERAL CONSTRUCTION CONSIDERATIONS

L&G Lab recommends drain ditches be constructed in accordance with details shown on plans and approved working drawings, and to the pertinent requirements of the following TxDOT 2014 Standard Specification Items: Item 110 "Excavation", and Item 132 "Embankment." Excavate to the lines and grades shown on the plans or as directed. Provide slopes, benching, bracing, pumping, and bailing as necessary to maintain the stability and safety of excavations up to 5 feet deep. Excavations deeper than 5 feet shall conform to OSHA requirements for trench protection or temporary special shoring requirements. Any excavation activity should be observed by **L&G Lab** representatives to document existing conditions and proposed embankment preparation.

Drainage / Dewatering Recommendations

Drainage is one of the most important aspects to be addressed to ensure the successful performance of any structure. Positive surface drainage should be implemented prior to, during, and maintained after construction to prevent water ponding at or adjacent to the embankments under construction. If water is present at the construction area, **L&G Lab** recommends that dewatering techniques be used (bailing, point wells, pumping wells, cofferdam structures, or other approved methods) to ensure proper construction of the channel embankments.

Channel Side Slope Recommendations

While **L&G Lab** has shown minimum recommended side slopes for channels in this report to include utilizing 2(horizontal) to 1(vertical) slopes based on satisfactory factors of safety with regard to slope stability, we generally recommend utilizing 3(horizontal) to 1(vertical) slopes or flatter for the banks of the drainage channels, where possible. Slopes steeper than our typical recommended 3:1 may have the potential to cause problems with erosion, minor slope stability (in the form of surface sloughing), and general maintenance of the slopes. If steeper slopes become a requirement of this project, **L&G Lab** should be notified to provide updated Slope Stability modeling and calculations. The construction of the channel slopes should include the installation of vegetation to assist in reducing erosion, preventing slough failures, and increasing the general slope stability. In the areas of anticipated inlet/outlet structures, as well as any other

areas where turbulent or rapid flows may occur (at channel bends or turns), we recommend the use of additional erosion protection such as concrete riprap, rock riprap, geotextiles, or hydraulic energy dissipaters to minimize erosion.

Erosion Protection of Inlet & Outlet Structures

Erosion protection is essential in prolonging the life of the proposed drainage structures due to the higher velocities and water forces caused by these structures. Though no locations investigated noted very loose sands in the upper soils, we recommend general good practice measures to counteract any potential problems with future erosion. **L&G Lab** recommends utilizing multiple erosion protection measures at channel entrance and exit locations (culverts, pipes, etc.):

- **L&G Lab** recommends general good practice measures such as good embedment and compaction of supporting soils surrounding these structures to help ensure stability.
- **L&G Lab** recommends that if concrete box culverts or pipes are utilized they include concrete headwalls, wingwalls and riprap at inlet/outlet points with two (2) foot minimum toe walls along all structures for enhanced stability and protection of culvert/pipe bedding and subgrade.
- **L&G Lab** recommends that any circular pipe inlet points to the channel provide a concrete splash-pad (or outlet to concrete riprap or flexible erosion protection system) to avoid localized erosion points.
- **L&G Lab** recommends utilizing flexible erosion protection on the channel side slopes such as rock riprap (in accordance with Article 432.3 of the TxDOT Standard Specifications) at inlet/outlet locations (alternatively erosion protection measures such as articulated block or rigid erosion protection systems (concrete riprap) may be utilized). In areas where bank protection will not (or cannot) be used, vegetation of earthen slopes and topsoil should be utilized as a minimum to reduce erosion problems.

REFERENCES

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APPENDIX A – FIGURES

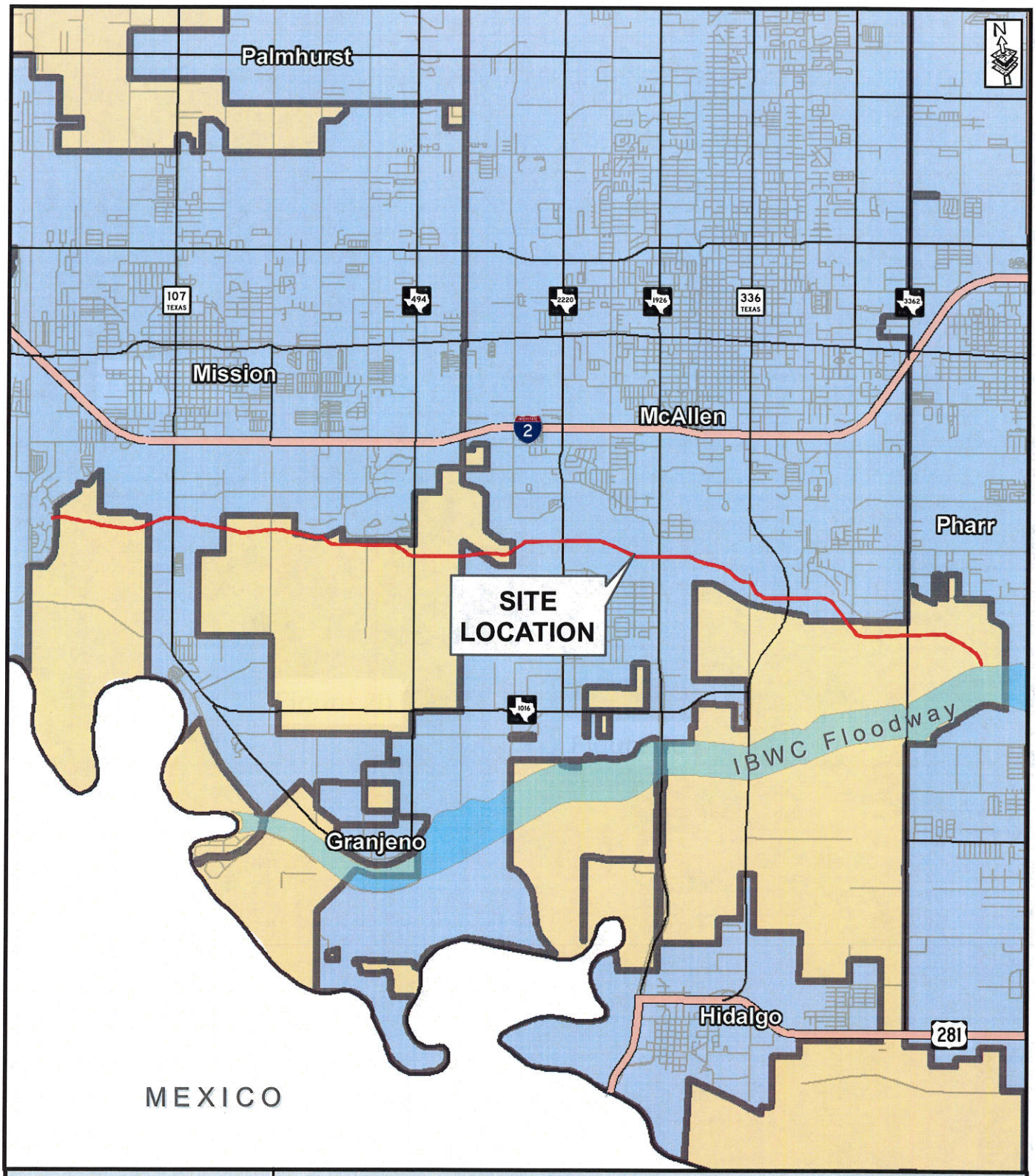


Figure 1
Mission Inlet
Division I
Location Map

Legend

- Site Location
- Cities
- Hidalgo County
- IBWC Floodway
- US Roads
- State Roads
- Roads

8,300 Feet

1 inch = 8,300 feet

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Figure 2a
Mission Inlet
Division I
Boring Map

Legend

- Borehole Locations
- Site Location
- US Roads
- State Roads

2,700 Feet

1 inch = 2,700 feet

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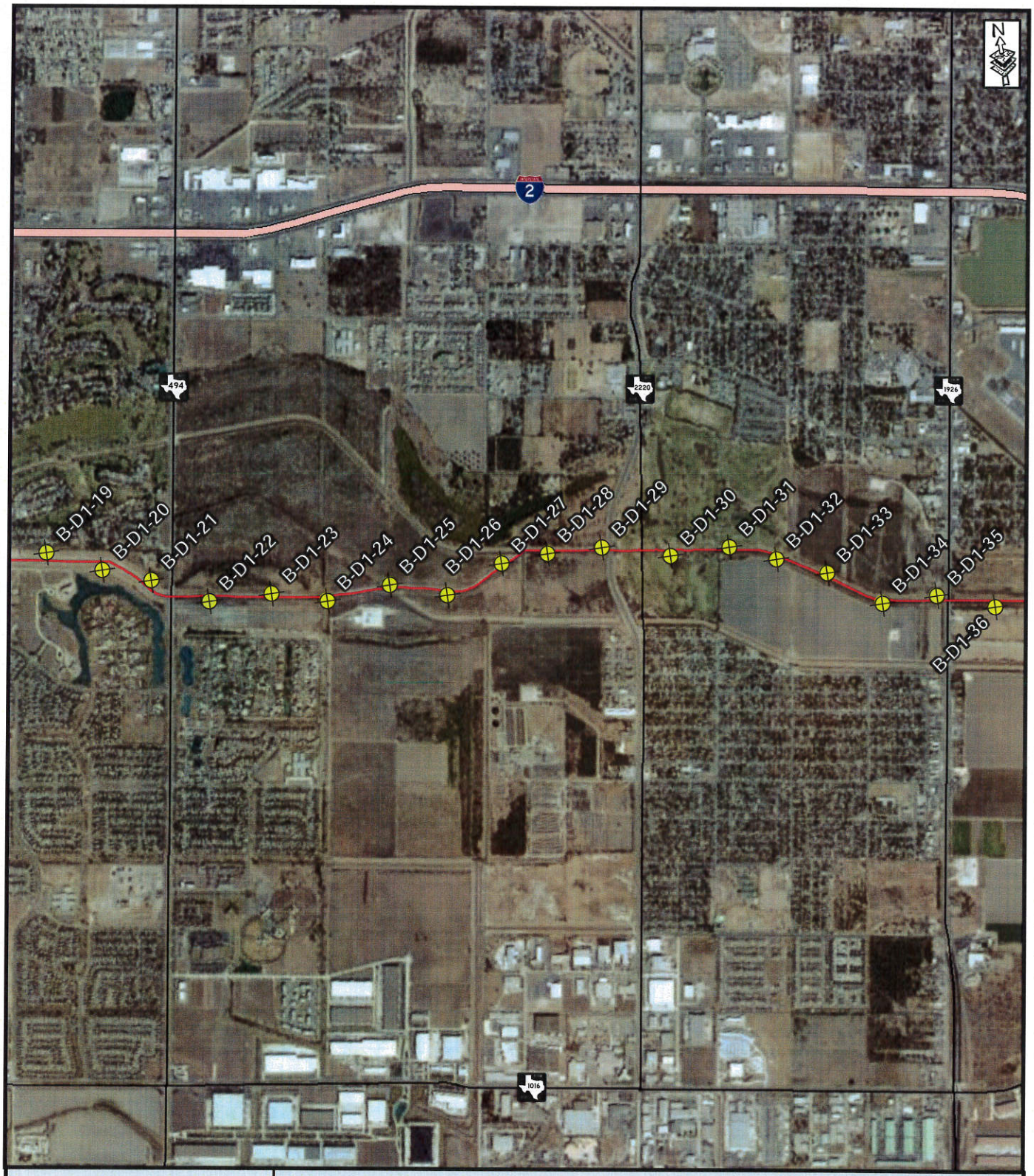


Figure 2b
Mission Inlet
Division I
Boring Map

Legend

- Borehole Locations
- Site Location
- US Roads
- State Roads

2,600 Feet

1 inch = 2,600 feet

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Figure 2c
Mission Inlet
Division I
Boring Map

Legend

- Borehole Locations
- Site Location
- IBWC Floodway
- US Roads
- State Roads

2,500 Feet

1 inch = 2,500 feet

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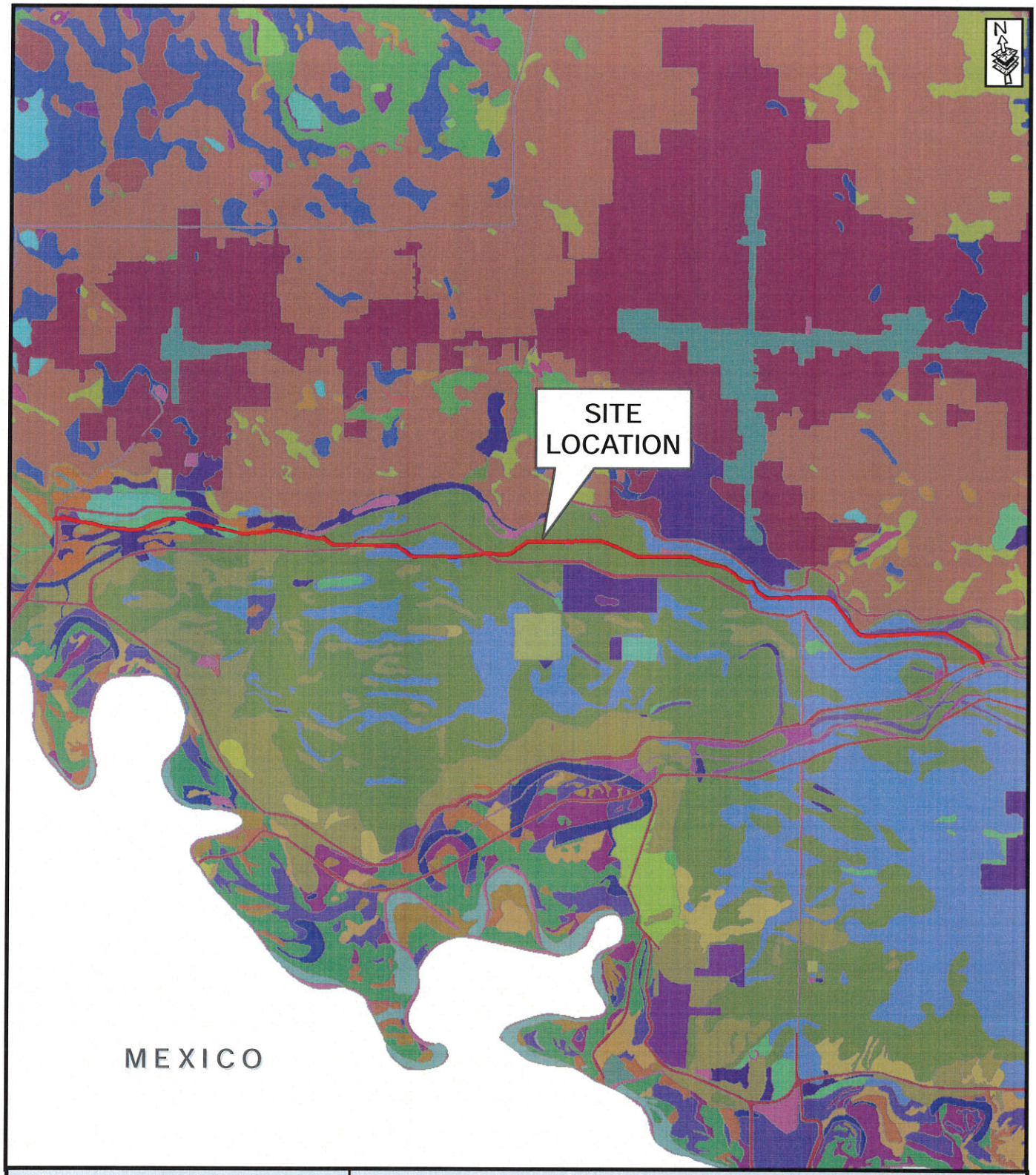


Figure 3
Mission Inlet
Division I
Soil Classification Map
USDA SOIL CONSERVATION SERVICE

Legend

- Site Location
- 2 - Benito Clay
- 19 - Harlingen Clay
- 20 - Harlingen Clay. Saline
- 64 - Runn Silty Clay

7,500 Feet

1 inch = 7,500 feet

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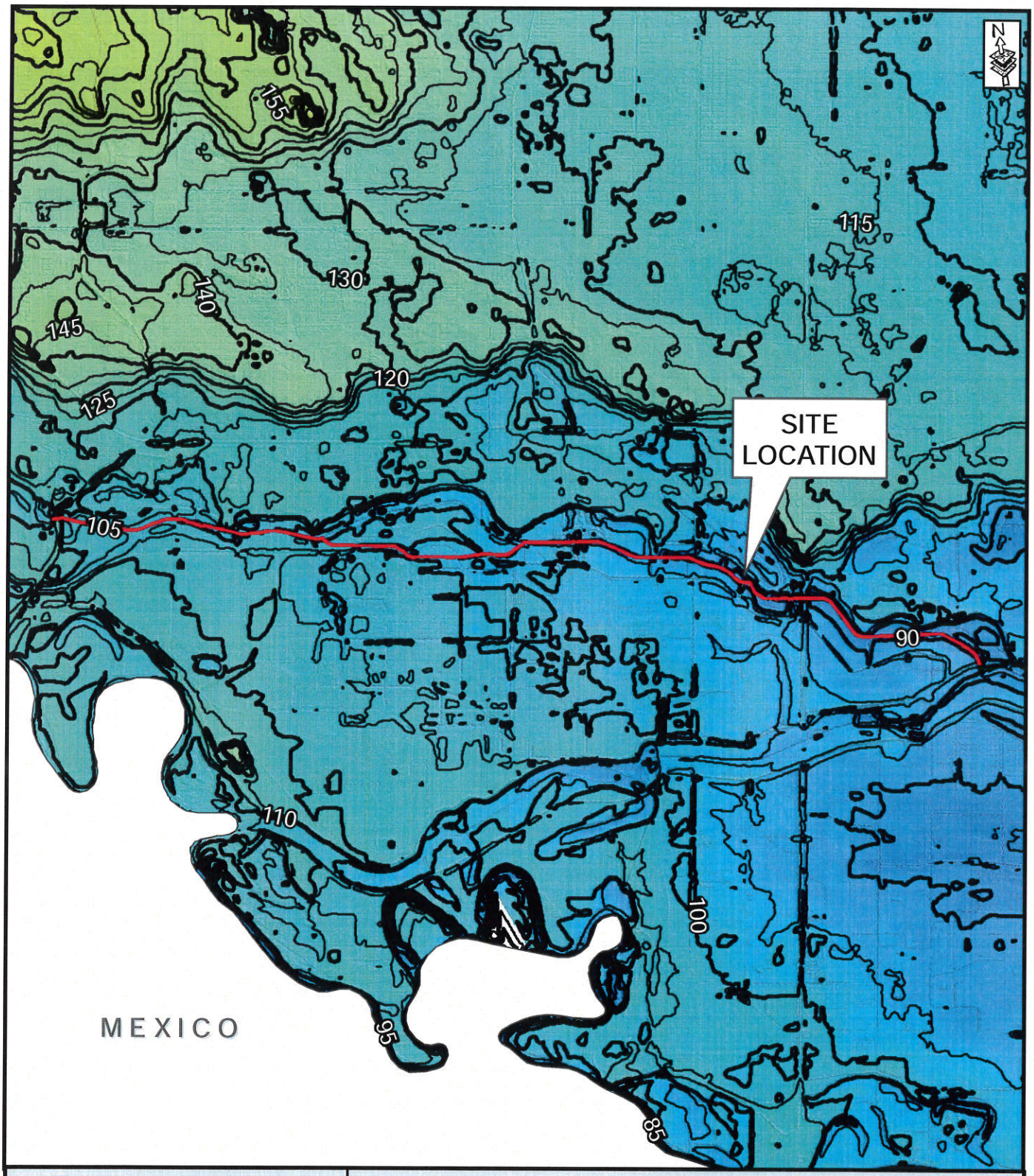


Figure 4
Mission Inlet
Division I
Digital Elevation Map

Legend

Site Location

5 ft Contours

10 ft Contours

Value

High

Low

7,500 Feet

1 inch = 7,500 feet

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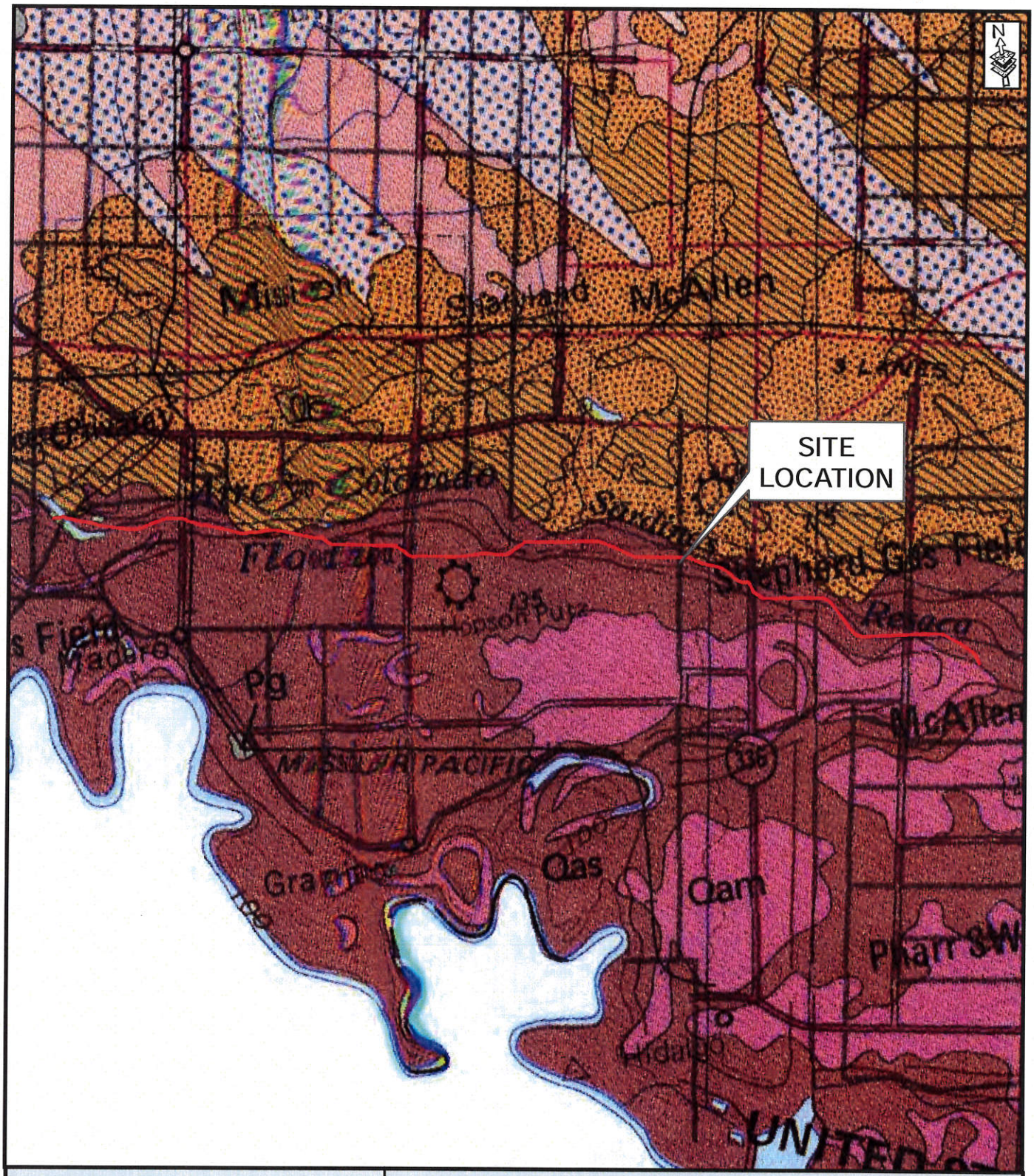


Figure 5
Mission Inlet
Division I
Geologic Atlas of Texas Map

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APPENDIX B – BORING LOGS

L&G Engineering Laboratory
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L&G Engineering Laboratory LLC
2100 W. Expressway 83
Mercedes TX 78570
Telephone: 956-565-0760

KEY TO SYMBOLS

CLIENT L&G Consulting Engineers, Inc. **PROJECT NAME** Mission Inlet Division I

PROJECT NUMBER GL13019 **PROJECT LOCATION** Hidalgo County

LITHOLOGIC SYMBOLS
(Unified Soil Classification System)

- CH: USCS High Plasticity Clay
- CL: USCS Low Plasticity Clay
- CL-ML: USCS Low Plasticity Silty Clay
- GC: USCS Clayey Gravel
- ML: USCS Silt
- SC: USCS Clayey Sand
- SC-SM: USCS Clayey Sand
- SM: USCS Silty Sand
- SP-SC: USCS Poorly-graded Sand with Clay
- SP-SM: USCS Poorly-graded Sand with Silt

SAMPLER SYMBOLS

- Shelby Tube
- Standard Penetration Test

WELL CONSTRUCTION SYMBOLS

ABBREVIATIONS

LL - LIQUID LIMIT (%)
PI - PLASTIC INDEX (%)
W - MOISTURE CONTENT (%)
DD - DRY DENSITY (PCF)
NP - NON PLASTIC
-200 - PERCENT PASSING NO. 200 SIEVE
PP - POCKET PENETROMETER (TSF)
TV - TORVANE
PID - PHOTOIONIZATION DETECTOR
UC - UNCONFINED COMPRESSION
ppm - PARTS PER MILLION

- Water Level at Time Drilling, or as Shown
- Water Level at End of Drilling, or as Shown
- Water Level After 24 Hours, or as Shown

KEY TO SYMBOLS - GINT STD US LAB.GDT - 4/30/15 12:06 - L:\GINT\PROJECTS\L&G ENG - MISSION INLET DIV I.GPJ

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BORING NUMBER B-D1-01

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/9/13 **COMPLETED** 10/9/13
GROUND ELEVATION 105 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY H. Salinas **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°11'31.92"N, 98°20'59.46"W (Approx. Elev.)
24hrs AFTER DRILLING --- Cave-In Depth = 23 ft 4 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Calcareous Nodules, w/ Traces of Small Roots, Stiff to Very Stiff, Dry	SPT 1		6-9-10 (19)			8	36	16	20	
			SPT 2		6-7-8 (15)			12				86
5			SPT 3		4-4-6 (10)			15	35	19	16	
		(CL) Lean Clay, Brown to Light Brown, Stiff, Dry	SH 4			2.0		27				98
10												
		(SC) Clayey Sand, Lean, Dark Gray/Black to Dark Brown, Loose, Dry	SPT 5		3-3-4 (7)			30	47	25	22	
15												
			SPT 6		4-4-5 (9)			12				49
20												
			SPT 7		4-5-5 (10)			13				36
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-02

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/10/13 **COMPLETED** 10/10/13
GROUND ELEVATION 104 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 17.00 ft / Elev 87.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 14.25 ft / Elev 89.75 ft
NOTES GPS 26°11'30.90"N, 98°20'48.54"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 10.50 ft / Elev 93.50 ft Cave-In Depth = 13 ft 7 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules (Noted From 0.5 ft to 11 ft), Stiff to Very Stiff, Dry	SPT 1		8-9-9 (18)			15				
			SPT 2		4-5-7 (12)			6				96
5			SPT 3		3-5-7 (12)			20				
10		▼	SPT 4		3-5-9 (14)			21	63	23	40	
15		▼ ▽	SH 5			2.5		22	58	19	39	91
20		(SC-SM) Silty Clayey Sand, Brown, w/ Traces of Gravel (Sized 1/8 in to 1/4 in - Sub-Angular), Very Loose, Wet	SPT 6		2-1-1 (2)			23	19	12	7	25
25		(SP-SM) Poorly Graded Sand w/ Silt and Gravel, Grayish Brown, Gravel Sized 1/8 in to 1 in (Sub-Rounded and Sub-Angular), Medium Dense, Wet	SPT 7		5-9-14 (23)			12	NP	NP	NP	9
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-03

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/9/13 **COMPLETED** 10/9/13
GROUND ELEVATION 104 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 23.00 ft / Elev 81.00 ft
LOGGED BY H. Salinas **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 22.00 ft / Elev 82.00 ft
NOTES GPS 26°11'26.82"N, 98°20'38.46"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 8.75 ft / Elev 95.25 ft Cave-In Depth = 17 ft 4 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules and Small Roots, Stiff to Very Stiff, Dry	SPT 1		5-6-7 (13)			16	55	22	33	
			SPT 2		4-7-10 (17)			18				98
5												
		(CL) Lean Clay, Dark Brown to Brown, w/ Gray Streaks (Noted From 6.5 ft to 8 ft), w/ Calcareous Nodules and Small Roots, Hard, Dry	SPT 3		7-12-19 (31)			14	47	18	29	
			SPT 4		10-13-15 (28)			21				100
10												
		(CH) Fat Clay, Brown to Light Brown, Medium Stiff to Very Stiff, Dry to Wet	SPT 5		6-7-10 (17)			21	52	16	36	
15												
			SH 6			1.5		24				100
20												
			SPT 7		6-6-7 (13)			24				
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-04

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/10/13 **COMPLETED** 10/10/13
GROUND ELEVATION 104 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°11'24.36"N, 98°20'28.56"W (Approx. Elev.)
24hrs AFTER DRILLING 8.50 ft / Elev 95.50 ft Cave-In Depth = 13 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay w/ Sand, Dark Brown, w/ Calcareous Nodules, Stiff, Dry	SPT 1		3-5-4 (9)			14	51	24	27	
			SPT 2		4-6-8 (14)			19				80
5		(CH) Fat Clay, Brown, w/ Shell Fragments (Noted From 13.5 ft to 15 ft), Medium Stiff to Stiff, Dry	SH 3			1.5		19	58	18	40	
			SPT 4		4-7-7 (14)			20				95
10												
			SPT 5		5-7-6 (13)			22	63	21	42	
15												
		(CH) Fat Clay, Dark Tannish Brown, Stiff to Very Stiff, Dry	SPT 6		4-7-7 (14)			22				98
20												
			SPT 7		5-8-9 (17)			22				
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-05

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/9/13 **COMPLETED** 10/9/13
GROUND ELEVATION 104 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 21.00 ft / Elev 83.00 ft
LOGGED BY H. Salinas **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 14.00 ft / Elev 90.00 ft
NOTES GPS 26°11'20.52"N, 98°20'17.34"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 10.75 ft / Elev 93.25 ft Cave-In Depth = 17 ft 4 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff, Dry	SPT 1		5-6-7 (13)			12				98
			SPT 2		4-7-8 (15)			18	58	26	32	
5		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, w/ Traces of Small Roots (Noted From 9.5 ft to 11 ft), Very Stiff to Hard, Dry	SPT 3		8-12-17 (29)			15				100
10		▼	SPT 4		12-23-30 (53)			14	50	22	28	
		▼ (CH) Fat Clay, Brown, w/ Black Mottles (Noted From 13.5 ft to 15 ft), Stiff to Very Stiff, Dry to Wet	SPT 5		7-8-11 (19)			19				99
15												
			SH 6			2.0		23	53	24	29	
20		▽										
		(CH) Fat Clay w/ Sand, Light Brown, w/ Traces of Gravel (Sized 1/8 in to 1 in - Sub-Angular), Very Stiff, Wet	SPT 7		11-12-14 (26)			17				
25		Bottom of borehole at 25.0 feet.										

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L&G Engineering Laboratory LLC
2100 W. Expressway 83
Mercedes TX 78570
Telephone: 956-565-0760

BORING NUMBER B-D1-06

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/10/13 **COMPLETED** 10/10/13
GROUND ELEVATION 104 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 21.00 ft / Elev 83.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 13.50 ft / Elev 90.50 ft
NOTES GPS 26°11'21.60"N, 98°20'07.00"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 7.50 ft / Elev 96.50 ft Cave-In Depth = 19 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules (Largely Noted at 3.5 ft to 5ft), Stiff to Very Stiff, Dry	SPT 1		8-8-8 (16)			12				96
5			SPT 2		4-4-7 (11)			20	55	23	32	
		▼	SPT 3		5-7-11 (18)			17				99
10			SPT 4		4-6-8 (14)			18	53	21	32	
		▼	SH 5			3		21				
15												
20		(CH) Fat Clay, Tannish Brown, w/ Calcareous Nodules, Stiff, Moist to Wet	SPT 6		4-7-8 (15)			23	50	18	32	
		▽										
25		(GC) Clayey Gravel, Sized 1/8 in to 1/2 in (Angular), Dense, Wet	SPT 7		7-14-15 (29)			10				15
		Bottom of borehole at 25.0 feet.										

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Mercedes TX 78570
Telephone: 956-565-0760

BORING NUMBER B-D1-07

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/10/13 **COMPLETED** 10/10/13
GROUND ELEVATION 104 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 19.00 ft / Elev 85.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 17.50 ft / Elev 86.50 ft
NOTES GPS 26°11'23.28"N, 98°19'55.44"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 5.75 ft / Elev 98.25 ft Cave-In Depth = 12 ft 1 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Dark Brown, w/ Calcareous Nodules and Streaks, Stiff, Dry	SPT 1		6-6-6 (12)			12				95
			SPT 2		4-5-6 (11)			20	61	21	40	
5												
		(CL) Lean Clay, Brown, Stiff, Dry	SPT 3		3-5-6 (11)			19				
			SH 4			2.5		21	45	17	28	
10												
		(CH) Fat Clay, Tannish Brown, Stiff to Very Stiff, Dry to Wet	SPT 5		4-6-9 (15)			22				100
15												
			SPT 6		4-7-7 (14)			26	54	18	36	
20												
			SPT 7		6-8-8 (16)			24				88
25		Bottom of borehole at 25.0 feet.										

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L&G Engineering Laboratory
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Geotechnical Engineering

L&G Engineering Laboratory LLC
2100 W. Expressway 83
Mercedes TX 78570
Telephone: 956-565-0760

BORING NUMBER B-D1-08

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/11/13 **COMPLETED** 10/11/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 23.00 ft / Elev 77.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 18.50 ft / Elev 81.50 ft
NOTES GPS 26°11'23.28"N, 98°19'46.56"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 6.25 ft / Elev 93.75 ft Cave-In Depth = 10 ft 10 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff, Dry	SPT 1		4-4-5 (9)			15	55	20	35	
			SPT 2		3-4-6 (10)			16				95
5		▼ (CL) Lean Clay, Brown to Reddish Brown, Stiff, Dry	SH 3			2		18				
10			SPT 4		4-5-8 (13)			17	48	23	25	100
15			SPT 5		5-5-8 (13)			19				
		▼ (CL) Lean Clay, Tannish Brown, Stiff, Moist to Wet	SPT 6		5-5-6 (11)			20				100
20		▽										
25			SPT 7		6-6-9 (15)			20	45	20	25	
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-09

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/11/13 **COMPLETED** 10/11/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°11'18.36"N, 98°19'36.00"W (Approx. Elev.)
24hrs AFTER DRILLING 8.50 ft / Elev 91.50 ft Cave-In Depth = 11 ft 11 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules, Stiff, Dry	SPT 1		5-6-5 (11)			8	55	22	33	
			SPT 2		4-4-6 (10)			12				98
5		(CH) Fat Clay, Brown to Light Brown, w/ Traces of Black Mottles (Noted From 9 ft to 11 ft), Stiff to Very Stiff, Dry to Moist	SPT 3		4-6-7 (13)			19	57	22	35	
			SH 4			2.5		18				
10												
			SPT 5		4-7-8 (15)			17				94
15												
			SPT 6		5-7-9 (16)			18				100
20												
			SPT 7		4-6-8 (14)			21	53	25	28	
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-10

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/11/13 **COMPLETED** 10/11/13
GROUND ELEVATION 101 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.50 ft / Elev 88.50 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 10.00 ft / Elev 91.00 ft
NOTES GPS 26°11'16.00"N, 98°19'25.80"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 9.50 ft / Elev 91.50 ft Cave-In Depth = 9 ft 8 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay w/ Sand, Dark Brown, w/ Calcareous Nodules, w/ Black Mottles, Medium Stiff to Very Stiff, Dry to Moist	SPT 1		10-8-8 (16)			7				
			SPT 2		3-5-7 (12)			16				80
5			SH 3			3		15	56	20	36	
10			SPT 4		2-3-5 (8)			18				
15		(SP-SM) Poorly Graded Sand w/ Silt, Brown, Loose to Medium Dense, Wet	SPT 5		3-3-5 (8)			22	NP	NP	NP	9
20			SPT 6		8-14-15 (29)			19				8
25		(SP-SM) Poorly Graded Sand w/ Silt and Gravel, Brown, Gravel Sized 1/8 in to 1-1/2 in (Sub-Rounded and Sub-Angular), Dense, Wet	SPT 7		19-19-21 (40)			16	NP	NP	NP	

Bottom of borehole at 25.0 feet.

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BORING NUMBER B-D1-11

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/11/13 **COMPLETED** 10/11/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 87.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 10.33 ft / Elev 89.67 ft
NOTES GPS 26°11'11.46"N, 98°19'15.54"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 10.50 ft / Elev 89.50 ft Cave-In Depth = 10 ft 10 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules and Streaks, (Largely Noted at 3.5 ft to 5 ft), Stiff, Dry	SPT 1		5-7-7 (14)			12				94
5			SPT 2		4-6-8 (14)			16	62	19	43	
		(CL) Lean Clay, Brown, Stiff, Dry	SPT 3		4-4-6 (10)			18	48	22	26	90
10		(SC) Clayey Sand, Lean, Brown, Very Soft to Loose, Moist to Wet	SPT 4		3-4-4 (8)			16	28	12	16	
15			SH 5			0		21				24
20		(SP-SM) Poorly Graded Sand w/ Silt, Brown, Medium Dense, Wet	SPT 6		7-7-9 (16)			25	NP	NP	NP	
25		(SP-SM) Poorly Graded Sand w/ Silt and Gravel, Brown, Gravel Sized 1/8 in to 1/4 in (Sub-Angular), Medium Dense, Wet	SPT 7		6-7-8 (15)			7				5
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-12

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/11/13 **COMPLETED** 10/11/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 18.00 ft / Elev 82.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 14.00 ft / Elev 86.00 ft
NOTES GPS 26°11'10.20"N, 98°19'05.00"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 9.33 ft / Elev 90.67 ft Cave-In Depth = 9 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules (Noted From 0.5 ft to 8 ft), Stiff to Very Stiff, Dry to Moist	SPT 1		8-6-6 (12)			12	50	19	31	
			SPT 2		5-8-10 (18)			13				96
5			SH 3			4		15				
10			SPT 4		5-7-8 (15)			17				98
15			SPT 5		4-5-7 (12)			20	53	25	28	
20		(SM) Silty Sand, Brown, w/ Traces of Gravel (Sized 1/4 in - Sub-Rounded), Medium Dense, Wet	SPT 6		2-5-8 (13)			19	NP	NP	NP	25
25			SPT 7		4-8-11 (19)			22				
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-13

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/11/13 **COMPLETED** 10/11/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°11'10.00"N, 98°18'53.90"W (Approx. Elev.)
24hrs AFTER DRILLING 13.75 ft / Elev 86.25 ft Cave-In Depth = 14 ft 4 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff, Dry	SPT 1		3-5-8 (13)			13				97
			SPT 2		5-6-5 (11)			13	51	22	29	
5			SPT 3		5-7-8 (15)			14				93
10		(CL) Lean Clay, Brown, w/ Black Mottles (Noted From 13.5 ft to15 ft), Stiff to Very Stiff, Dry to Moist	SH 4			2.5		15	46	19	27	
		▼	SPT 5		4-6-7 (13)			18				
15												
			SPT 6		6-7-10 (17)			14				99
20												
			SPT 7		4-4-5 (9)			22	37	15	22	
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-14

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/14/13 **COMPLETED** 10/14/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 21.00 ft / Elev 79.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 14.50 ft / Elev 85.50 ft
NOTES GPS 26°11'06.54"N, 98°18'43.62"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 13.50 ft / Elev 86.50 ft Cave-In Depth = 14 ft 2 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Calcareous Nodules, Medium Stiff to Very Stiff, Dry	SPT 1		6-10-10 (20)			6				94
			SPT 2		4-4-4 (8)			11	37	17	20	
5			SH 3			4.5		14				
10		(CL) Lean Clay, Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry to Wet	SPT 4		6-7-10 (17)			12	46	20	26	99
			SPT 5		4-6-8 (14)			14				
15												
20			SPT 6		5-8-10 (18)			17				
		(SM) Silty Sand, Brown, w/ Traces of Gravel (Sized 1/8 in to 1/2 in - Sub-Rounded), Medium Dense, Wet	SPT 7		6-7-7 (14)			19	NP	NP	NP	16
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-15

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/14/13 **COMPLETED** 10/14/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 17.00 ft / Elev 83.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°11'04.40"N, 98°18'32.90"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 9.00 ft / Elev 91.00 ft Cave-In Depth = 10 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		(CL) Lean Clay w/ Sand, Dark Brown, Stiff, Dry	SPT 1		7-5-7 (12)			7				84
5			SPT 2		4-4-8 (12)			16	38	16	22	
		(CH) Fat Clay, Brown to Dark Brown, w/ Traces of Small Roots (Noted From 9.5 ft to 11 ft), Hard, Dry	SH 3			4.5		11				92
10			SPT 4		11-19-28 (47)			12	57	17	40	
15		(CH) Fat Clay, Brown to Dark Brown, Stiff, Moist to Wet	SPT 5		4-7-8 (15)			16				
20		(CL) Lean Clay w/ Sand, Brown, Medium Stiff to Stiff, Wet	SPT 6		3-3-4 (7)			14				73
25			SPT 7		4-6-8 (14)			17	25	15	10	
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-16

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/14/13 **COMPLETED** 10/14/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°11'00.42"N, 98°18'23.04"W (Approx. Elev.)
24hrs AFTER DRILLING 26.00 ft / Elev 74.00 ft Cave-In Depth = 27 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		(CL) Lean Clay w/ Sand, Dark Brown to Brown, w/ Calcareous Nodules (Noted From 0.5 ft to 5 ft), Medium Stiff to Stiff, Dry	SPT 1		6-7-8 (15)			10	39	20	19	
5			SPT 2		4-3-4 (7)			9				84
			SPT 3		3-4-4 (8)			9				
10		(SC) Clayey Sand, Lean, Light Brown to Brown, Medium Dense, Dry	SPT 4		5-6-8 (14)			8				39
15			SPT 5		5-5-7 (12)			16	24	16	8	
20		(CH) Fat Clay, Brown, w/ Traces of Calcareous Nodules (Noted From 18 ft to 20 ft), Stiff to Very Stiff, Dry to Moist	SH 6			3		15				85
25			SPT 7		8-10-12 (22)			15	54	22	32	
30			SPT 8		8-9-11 (20)			15				98
35			SPT 9		10-11-12 (23)			16				
		Bottom of borehole at 35.0 feet.										

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BORING NUMBER B-D1-17

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 101 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 23.00 ft / Elev 78.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 13.25 ft / Elev 87.75 ft
NOTES GPS 26°10'57.30"N, 98°18'12.40"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 13.00 ft / Elev 88.00 ft Cave-In Depth = 18 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Light Tannish Brown, w/ Black Mottles, Stiff, Dry	SPT 1		3-4-6 (10)			10				96
5		(CL) Lean Clay, Dark Brown, Black Mottles, Medium Stiff to Very Stiff, Dry	SPT 2		5-5-5 (10)			16	48	22	26	
			SPT 3		3-3-5 (8)			20				90
10			SH 4			1.75		21	31	17	14	
		▼										
15			SPT 5		4-5-8 (13)			23				100
20			SPT 6		6-8-9 (17)			24	48	23	25	
		▽										
25		(ML) Silt, Light Brown, w/ Calcareous Nodules, Clayey, Stiff to Very Stiff, Wet	SPT 7		2-3-5 (8)			30				86
30			SPT 8		4-6-10 (16)			27	24	22	2	
35		(SC-SM) Silty Clayey Sand, Light Brown, Medium Dense, Wet	SPT 9		8-9-11 (20)			24				24
		Bottom of borehole at 35.0 feet.										

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L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

L&G Engineering Laboratory LLC
2100 W. Expressway 83
Mercedes TX 78570
Telephone: 956-565-0760

BORING NUMBER B-D1-18

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/14/13 **COMPLETED** 10/14/13
GROUND ELEVATION 101 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING 23.25 ft / Elev 77.75 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING 18.25 ft / Elev 82.75 ft
NOTES GPS 26°10'53.10"N, 98°18'02.22"W (Approx. Elev.)
24hrs AFTER DRILLING 16.75 ft / Elev 84.25 ft Cave-In Depth = 20 ft 8 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown to Brown, w/ Calcareous Nodules (Noted From 0.5 ft to 5 ft), Stiff, Dry	SPT 1		5-5-7 (12)			8				95
			SPT 2		4-4-8 (12)			10	45	19	26	
5			SPT 3		4-5-9 (14)			17				96
			SPT 4		6-6-7 (13)			17	40	21	19	
10			SH 5			2.5		18				
15		▼										
		▼	SPT 6		5-6-6 (12)			16				100
20		▽										
		(CH) Fat Clay, Brown, Very Stiff, Wet	SPT 7		6-8-10 (18)			19	53	20	33	
25												
		(ML) Sandy Silt, Brown, Very Stiff, Wet	SPT 8		6-8-10 (18)			24				54
30												
			SPT 9		9-11-13 (24)			27	NP	NP	NP	
35		Bottom of borehole at 35.0 feet.										

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BORING NUMBER B-D1-19

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING 17.50 ft / Elev 82.50 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING 12.50 ft / Elev 87.50 ft
NOTES GPS 26°10'54.30"N, 98°17'50.82"W (Approx. Elev.)
24hrs AFTER DRILLING 13.25 ft / Elev 86.75 ft Cave-In Depth = 16 ft 4 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Small Calcareous Nodules (Noted From 3.5 ft to 5 ft), w/ Traces of Small roots (Noted From 0.5 ft to 2 ft), Stiff to Very Stiff, Dry	SPT 1		7-7-9 (16)			9				98
5			SPT 2		5-6-8 (14)			13	44	22	22	
		(CL-ML) Silty Clay, Light Tannish Brown, Stiff, Dry	SPT 3		5-4-5 (9)			8	26	20	6	90
10		(CL) Lean Clay, Dark Brown to Brown, Very Stiff, Dry	SPT 4		6-9-14 (23)			14				96
		(CL) Lean Clay, Dark Brown to Brown, Soft, Dry to Moist	SH 5			0.5		21	45	24	21	
15												
20		(CL) Lean Clay w/ Sand, Brown to Tannish Brown, Medium Stiff to Stiff, Wet	SPT 6		3-3-3 (6)			24				78
			SPT 7		4-5-7 (12)			23	39	20	19	
25												
30		(CL) Lean Clay, Brown to Tannish Brown, Very Stiff to Hard, Wet	SPT 8		6-10-11 (21)			23				100
35			SPT 9		12-15-17 (32)			20				
		Bottom of borehole at 35.0 feet.										

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BORING NUMBER B-D1-20

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 22.25 ft / Elev 77.75 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 14.67 ft / Elev 85.33 ft
NOTES GPS 26°10'49.92"N, 98°17'40.62"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 16.50 ft / Elev 83.50 ft Cave-In Depth = 29 ft 9 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown to Brown, w/ Small Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 1		7-8-8 (16)			11	45	19	26	
5			SPT 2		5-5-5 (10)			11				97
		(CH) Fat Clay, Dark Gray/Black, w/ Small Calcareous Nodules, Stiff, Dry	SPT 3		4-6-8 (14)			13	56	23	33	
10		(CL) Lean Clay, Dark Brown to Brown, Very Stiff, Dry	SPT 4		5-7-10 (17)			17				98
15			SH 5			3.5		18	44	19	25	
20		(CH) Fat Clay, Brown to Tannish Brown, Stiff, Moist to Wet	SPT 6		4-4-6 (10)			22				100
25			SPT 7		5-6-7 (13)			25	55	25	30	
30			SPT 8		4-5-8 (13)			23				
35		(ML) Sandy Silt, Brown, Very Stiff, Wet	SPT 9		10-8-11 (19)			24	NP	NP	NP	53
		Bottom of borehole at 35.0 feet.										

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BORING NUMBER B-D1-21

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING 18.50 ft / Elev 81.50 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING 15.00 ft / Elev 85.00 ft
NOTES GPS 26°10'47.10"N, 98°17'31.74"W (Approx. Elev.)
24hrs AFTER DRILLING 14.00 ft / Elev 86.00 ft Cave-In Depth = 15 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Small Calcareous Nodules and Streaks (Noted From 3.5 ft to 11 ft), Stiff, Dry	SPT 1		6-6-8 (14)			11				98
			SPT 2		5-5-5 (10)			13	54	23	31	
5			SPT 3		4-6-7 (13)			17				
			SPT 4		5-6-9 (15)			20				99
10												
		(CL) Lean Clay, Brown, Medium Stiff, Dry to Moist	SH 5			1.5		20	47	23	24	
15												
		(CL) Lean Clay, Tannish Brown, Stiff, Wet	SPT 6		5-7-8 (15)			22				99
20												
			SPT 7		3-5-6 (11)			26	33	20	13	
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-22

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 100 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 14.00 ft / Elev 86.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 11.33 ft / Elev 88.67 ft
NOTES GPS 26°10'42.12"N, 98°17'21.42"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 14.00 ft / Elev 86.00 ft Cave-In Depth = 15 ft 2 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Small Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 1		6-7-8 (15)			9	50	21	29	
5			SPT 2		7-8-12 (20)			12				99
		(CL) Lean Clay, Brown, Medium Stiff to Very Stiff, Dry to Moist	SPT 3		5-8-10 (18)			16	48	23	25	
10			SH 4			1.5		16				
		▼										
		▼ (CL) Lean Clay, Tannish Brown, Stiff to Very Stiff, Wet	SPT 5		3-4-5 (9)			23				99
15												
			SPT 6		5-5-6 (11)			22	39	21	18	
20												
			SPT 7		6-8-9 (17)			20				99
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-23

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/14/13 **COMPLETED** 10/14/13
GROUND ELEVATION 99 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°10'41.90"N, 98°17'09.50"W (Approx. Elev.)
24hrs AFTER DRILLING 16.50 ft / Elev 82.50 ft Cave-In Depth = 18 ft 7 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 1		3-4-5 (9)			12	46	21	25	
			SPT 2		4-6-8 (14)			12				96
5			SH 3			4.5		11	45	17	28	
10			SPT 4		5-9-11 (20)			11				95
15		(CL) Lean Clay, Brown w/ Olive-Gray Streaks (Noted From 23.5 ft to 25 ft), Medium Stiff to Very Stiff, Dry to Moist	SPT 5		3-3-5 (8)			14	46	17	29	
		▼										
20			SPT 6		6-6-10 (16)			13				94
25			SPT 7		6-8-11 (19)			10				
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-24

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 99 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 14.50 ft / Elev 84.50 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 8.25 ft / Elev 90.75 ft
NOTES GPS 26°10'39.20"N, 98°16'59.20"W (Approx. Elev.)
24hrs AFTER DRILLING --- Cave-In Depth = 7 ft 10 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules, w/ Traces of Small Roots (Noted From 0.5 ft to 2 ft), Stiff to Very Stiff, Dry	SPT 1		7-6-7 (13)			11				99
5			SPT 2		5-7-8 (15)			16	50	21	29	
			SPT 3		5-8-10 (18)			16				98
10		(CL) Lean Clay, Brown, Soft, Dry	SH 4			.5		25	46	23	23	
15		(ML) Sandy Silt, Brown, Medium Dense to Dense, Wet	SPT 5		6-9-12 (21)			26				66
20			SPT 6		6-10-12 (22)			25	NP	NP	NP	
25			SPT 7		8-12-20 (32)			22				
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-25

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/14/13 **COMPLETED** 10/14/13
GROUND ELEVATION 98 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 23.00 ft / Elev 75.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°10'40.40"N, 98°16'47.00"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 11.50 ft / Elev 86.50 ft Cave-In Depth = 11 ft 8 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Small Calcareous Nodules, Very Stiff, Dry	SPT 1		6-9-15 (24)			11				100
			SPT 2		6-10-10 (20)			11	45	20	25	
5		(CL) Lean Clay, Light Brown, Stiff, Dry	SPT 3		5-5-5 (10)			10				97
		(CL) Lean Clay, Light Brown, Stiff to Very Stiff, Dry ▼	SH 4			4.5		16	49	15	34	
10												
15			SPT 5		4-5-8 (13)			21				100
		(CH) Fat Clay, Brown, Very Stiff, Moist to Wet ▽	SPT 6		6-8-11 (19)			20	54	19	35	
20												
			SPT 7		6-7-9 (16)			24				99
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-26

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 97 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 22.00 ft / Elev 75.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 18.25 ft / Elev 78.75 ft
NOTES GPS 26°10'37.30"N, 98°16'36.30"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 11.33 ft / Elev 85.67 ft Cave-In Depth = 11 ft 10 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 1		5-5-7 (12)			17				
5			SPT 2		4-6-8 (14)			19	60	22	38	
			SH 3			4		18				
10		(CL) Lean Clay, Brown to Reddish Brown, w/ Calcareous Nodules, Stiff, Dry	SPT 4		4-7-8 (15)			22	43	19	24	100
15		(CH) Fat Clay, Dark Brown, Stiff to Very Stiff, Dry	SPT 5		3-6-8 (14)			25				100
20			SPT 6		5-7-10 (17)			23	57	25	32	
25		(CH) Fat Clay, Grayish Brown, w/ Calcareous Nodules, Black Mottles, Very Stiff, Moist	SPT 7		7-9-12 (21)			27				100
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-27

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/15/13 **COMPLETED** 10/15/13
GROUND ELEVATION 96 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°10'41.30"N, 98°16'25.20"W (Approx. Elev.)
24hrs AFTER DRILLING 21.25 ft / Elev 74.75 ft Cave-In Depth = 21 ft 5 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		(CL) Lean Clay, Dark Brown, w/ Traces of Small Roots (Noted From 0.5 ft to 2 ft), Stiff, Dry	SPT 1		5-6-5 (11)			12	49	21	28	
5			SPT 2		3-4-7 (11)			11				96
		(CH) Fat Clay, Brown, Stiff to Very Stiff, Dry to Moist	SH 3			4.5		17	71	22	49	
10			SPT 4		4-6-8 (14)			18				96
15			SPT 5		4-7-8 (15)			22				
20			SPT 6		6-8-10 (18)			21				100
25			SPT 7		5-7-9 (16)			22	69	28	41	
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-28

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 14.00 ft / Elev 81.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 10.50 ft / Elev 84.50 ft
NOTES GPS 26°10'41.76"N, 98°16'16.20"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 12.75 ft / Elev 82.25 ft Cave-In Depth = 13 ft 7 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown to Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry to Moist	SPT 1		8-10-10 (20)			10				92
			SPT 2		5-7-8 (15)			15	43	21	22	
5			SPT 3		6-8-12 (20)			17				
			SH 4			3		18				98
10		▼										
		▼										
		▽ (CL) Lean Clay, Brown, w/ Traces of Calcareous Nodules (Noted From 13.5 ft to 15 ft), Medium Stiff to Very Stiff, Wet	SPT 5		2-2-3 (5)			26				99
15												
			SPT 6		7-9-9 (18)			30	30	20	10	
20												
		(CH) Fat Clay, Brown, Stiff, Wet	SPT 7		6-8-9 (17)			21	54	21	33	99
25		Bottom of borehole at 25.0 feet.										

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L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

L&G Engineering Laboratory LLC
2100 W. Expressway 83
Mercedes TX 78570
Telephone: 956-565-0760

BORING NUMBER B-D1-29

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 96 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 17.50 ft / Elev 78.50 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 11.50 ft / Elev 84.50 ft
NOTES GPS 26°10'41.50"N, 98°16'05.80"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 11.00 ft / Elev 85.00 ft Cave-In Depth = 12 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, w/ Traces of Small Roots (Noted From 0.5 ft to 5 ft), Stiff to Very Stiff, Dry	SPT 1		5-5-4 (9)			15	50	24	26	
5			SPT 2		6-7-10 (17)			18				99
			SH 3			4.5		18				
10			SPT 4		4-6-8 (14)			20	54	21	33	
15		(CH) Fat Clay, Dark Brown, Medium Stiff to Stiff, Dry to Wet	SPT 5		3-3-2 (5)			27				99
20			SPT 6		3-4-6 (10)			30	62	29	33	
25		(SC) Clayey Sand, Dark Brown, Loose, Moist	SPT 7		3-3-3 (6)			25				27
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-30

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/28/13 **COMPLETED** 10/28/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 22.00 ft / Elev 73.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 10.00 ft / Elev 85.00 ft
NOTES GPS 26°10'38.40"N, 98°15'53.10"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 9.00 ft / Elev 86.00 ft Cave-In Depth = 10 ft 2 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules and Streaks, w/ Small Roots, w/ Black Mottles (Noted From 0.5 ft to 2 ft), Stiff, Dry	SPT 1		5-5-6 (11)			22				98
5			SPT 2		4-5-9 (14)			21	65	23	42	
		(CH) Fat Clay, Brown to Reddish Brown, w/ Traces of Small Calcareous Nodules (Noted From 6.5 ft to 8 ft), Stiff to Very Stiff, Dry	SPT 3		4-6-8 (14)			20				97
10			SPT 4		5-7-9 (16)			23	56	20	36	
		(CL) Lean Clay, Brown, Stiff to Very Stiff, Dry to Wet	SH 5			1.5		26				
15												
20			SPT 6		6-10-12 (22)			24				100
			SPT 7		3-6-9 (15)			27	34	19	15	
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-31

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/28/13 **COMPLETED** 10/28/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING 9.00 ft / Elev 86.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING 6.50 ft / Elev 88.50 ft
NOTES GPS 26°10'38.40"N, 98°15'41.70"W (Approx. Elev.)
24hrs AFTER DRILLING 6.50 ft / Elev 88.50 ft Cave-In Depth = 6 ft 10 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Brown, w/ Traces of Small Calcareous Nodules (Noted From 0.5 ft to 5 ft), Medium Stiff to Stiff, Dry to Wet	SPT 1		5-6-7 (13)			20	56	18	38	
			SPT 2		3-4-7 (11)			19				98
5			SH 3			2		26	54	21	33	
10			SPT 4		4-5-5 (10)			25				100
15			SPT 5		4-5-6 (11)			26				
20			SPT 6		2-2-5 (7)			27				
25		(SM) Silty Sand, Brown, w/ Traces of Gravel (Sized 1/4 in to 1 in - Sub-Angular), Medium Dense, Wet	SPT 7		5-5-7 (12)			28	NP	NP	NP	13
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-32

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 91 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 17.00 ft / Elev 74.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 13.33 ft / Elev 77.67 ft
NOTES GPS 26°10'35.22"N, 98°15'33.18"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 14.75 ft / Elev 76.25 ft Cave-In Depth = 15 ft 10 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules, w/ Traces of Small Roots (Noted From 0.5 ft to 2 ft), Stiff to Very Stiff, Dry	SPT 1		5-7-8 (15)			10				93
			SPT 2		7-9-10 (19)			16	56	31	25	
5			SPT 3		6-7-10 (17)			17				
			SH 4			2		19				98
10												
15		(CH) Fat Clay, Brown to Reddish Brown, Stiff, Dry to Wet	SPT 5		4-5-7 (12)			23	53	22	31	
20		(ML) Sandy Silt, Brown, Medium Stiff to Stiff, Wet	SPT 6		2-3-5 (8)			25				56
25			SPT 7		5-6-9 (15)			25	NP	NP	NP	
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-33

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/17/13 **COMPLETED** 10/17/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING --- No Water Strike Encountered
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°10'31.70"N, 98°15'24.00"W (Approx. Elev.)
24hrs AFTER DRILLING 15.50 ft / Elev 79.50 ft Cave-In Depth =16 ft 10 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Traces of Small Calcareous Nodules, Medium Stiff to Very Stiff, Dry	SPT 1		10-7-5 (12)			17	64	26	38	
			SPT 2		2-2-4 (6)			16				99
5			SH 3			4		20	63	21	42	
10		(CH) Fat Clay, Brown, w/ Traces of Small Calcareous Nodules, Stiff to Very Stiff, Dry to Moist	SPT 4		4-6-10 (16)			20				99
			SPT 5		4-6-9 (15)			21	56	20	36	
15		▼										
			SPT 6		6-9-10 (19)			23				
20												
			SPT 7		4-7-10 (17)			24				99
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-34

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 16.00 ft / Elev 74.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 10.75 ft / Elev 79.25 ft
NOTES GPS 26°10'25.20"N, 98°15'14.22"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 16.50 ft / Elev 73.50 ft Cave-In Depth = 17 ft 2 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Very Stiff, Dry	SPT 1		8-8-8 (16)			11				
			SPT 2		7-10-14 (24)			11	59	25	34	
5			SPT 3		5-7-9 (16)			20				99
			SH 4			3		20	52	18	34	
10		▼										
			SPT 5		4-7-9 (16)			22				96
15		▽ ▼										
		(CL-ML) Silty Clay w/ Sand, Brown, Very Soft, Wet	SPT 6		1-1-1 (2)			32	27	22	5	84
20												
		(SC-SM) Silty Clayey Sand, Brown, Medium Loose, Wet	SPT 7		5-6-10 (16)			26				23
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-35

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 16.00 ft / Elev 74.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 15.67 ft / Elev 74.33 ft
NOTES GPS 26°10'25.20"N, 98°15'03.70"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 14.25 ft / Elev 75.75 ft Cave-In Depth = 15 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Very Stiff to Stiff, Dry	SPT 1		7-7-11 (18)			16				96
			SPT 2		4-6-9 (15)			21	58	25	33	
5			SH 3			3		20				
10		(CL) Lean Clay, Brown, w/ Calcareous Nodules, Very Stiff, Dry	SPT 4		5-7-11 (18)				42	18	24	
15		(SC) Clayey Sand, Lean, Brown, Loose, Moist	SPT 5		3-3-3 (6)			18				47
20		(SC-SM) Silty, Clayey Sand, Brown, w/ Traces of Gravel up to 1/4 in (Noted From 23.5 ft to 25 ft), Loose, Wet	SPT 6		3-3-3 (6)			19	19	14	5	
25			SPT 7		3-3-6 (9)			22				24
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-36

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 77.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 9.50 ft / Elev 80.50 ft
NOTES GPS 26°10'21.84"N, 98°14'52.98"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 16.67 ft / Elev 73.33 ft Cave-In Depth = 17 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 1		5-5-5 (10)			14				89
			SPT 2		7-8-7 (15)			11	58	25	33	
5			SPT 3		7-9-12 (21)			16				98
		▼ (CL) Lean Clay, Dark Brown, w/ Calcareous Nodules, Stiff, Wet	SH 4			2.5		19	31	22	9	
10		▽										
			SPT 5		2-2-4 (6)			31				91
15		▼										
		(SC) Clayey Sand, Lean, Tannish Brown, Medium Stiff to Stiff, Wet	SPT 6		3-3-4 (7)			20	21	13	8	
20												
			SPT 7		5-6-7 (13)			22				
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-37

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 78.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 9.50 ft / Elev 80.50 ft
NOTES GPS 26°10'21.40"N, 98°14'41.80"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 8.50 ft / Elev 81.50 ft Cave-In Depth = 9 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, w/ Traces of Roots (Noted From 0.5 ft to 2 ft), Traces of Light Brown Streaks (Noted From 3.5 ft to 5 ft), Stiff, Dry	SPT 1		5-7-7 (14)			14				
			SPT 2		4-5-6 (11)			24	53	21	32	
5			SH 3			2		23				
10		(CL) Lean Clay, Brown, w/ Calcareous Nodules, Traces of Black Mottles, Soft, Moist	SPT 4		2-2-2 (4)			28	33	17	16	99
		(SC-SM) Silty Clayey Sand, Light Tannish Brown, Very Loose, Moist	SPT 5		2-1-2 (3)			19				30
15												
20		(SC-SM) Silty Clayey Sand, Tannish Brown, Traces of Gravel 1/8 in 1/2 in (Sub-Angular), Medium Dense, Wet	SPT 6		4-6-6 (12)			16	20	13	7	
25		(CL-ML) Sandy Silty Clay, Light Tannish Brown, w/ Calcareous Nodules, Traces of Light Gray, Reddish Tan and Olive Streaks, Hard, Wet	SPT 7		6-13-22 (35)			23				67
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-38

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/17/13 **COMPLETED** 10/17/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 17.00 ft / Elev 78.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 12.50 ft / Elev 82.50 ft
NOTES GPS 26°10'15.30"N, 98°14'32.28"W (Approx. Elev.)
24hrs AFTER DRILLING --- Cave-In Depth = 16 ft 8 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay w/ Sand, Dark Brown, w/ Calcareous Nodules, Very Stiff, Dry	SPT 1		10-11-11 (22)			10				75
5		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 2		6-6-8 (14)			12	60	26	34	
			SPT 3		6-7-11 (18)			20				
10			SH 4			3.5		21				99
		▼										
15		(CL) Lean Clay, Brown, Medium Stiff, Dry to Wet	SPT 5		4-3-4 (7)			25	42	19	23	98
		▽										
20		(SC) Clayey Sand, Lean, Light Brown, Loose, Wet	SPT 6		3-4-4 (8)			20				48
25			SPT 7		4-5-5 (10)			19	21	13	8	
		Bottom of borehole at 25.0 feet.										

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L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

L&G Engineering Laboratory LLC
2100 W. Expressway 83
Mercedes TX 78570
Telephone: 956-565-0760

BORING NUMBER B-D1-39

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/16/13 **COMPLETED** 10/16/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 17.00 ft / Elev 78.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING ---
NOTES GPS 26°10'11.50"N, 98°14'21.00"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 15.50 ft / Elev 79.50 ft Cave-In Depth = 16 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Traces of Small Roots and Grass (Noted From 0.5 ft to 2 ft), Stiff to Very Stiff, Dry	SPT 1		7-7-6 (13)			18				
			SPT 2		7-10-16 (26)			14	59	22	37	
5			SH 3			4.5		17				
10			SPT 4		4-7-8 (15)			19	50	16	34	98
15		(CL) Lean Clay, Brown, w/ Black Compost , Medium Stiff, Dry to Wet ▼ ▽	SPT 5		4-4-4 (8)			18				83
20		(SC-SM) Silty Clayey Sand, Light Brown, Loose, Wet	SPT 6		2-3-3 (6)			18	21	14	7	38
25		(SM) Silty Sand, Brown, w/ Traces of Gravel (Sized 1/8 in - Sub-Rounded), Medium Dense, Wet	SPT 7		5-9-15 (24)			17				19
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-40

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/17/13 **COMPLETED** 10/17/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 16.00 ft / Elev 79.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 13.25 ft / Elev 81.75 ft
NOTES GPS 26°10'03.66"N, 98°14'14.04"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 15.25 ft / Elev 79.75 ft Cave-In Depth = 16 ft 11 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown to Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry to Wet	SPT 1		5-6-6 (12)			12	48	21	27	
			SPT 2		6-5-8 (13)			12				98
5			SPT 3		5-7-10 (17)			17				
			SH 4			4		17	44	20	24	
10												
			SPT 5		5-6-7 (13)			20				96
15												
		(SC-SM) Silty Clayey Sand, Light Brown, Loose to Medium Dense, Wet	SPT 6		2-2-3 (5)			19				28
20												
			SPT 7		6-6-7 (13)			16	24	17	7	
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-41

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/17/13 **COMPLETED** 10/17/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 82.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 10.50 ft / Elev 84.50 ft
NOTES GPS 26°09'58.00"N, 98°14'06.40"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 10.00 ft / Elev 85.00 ft Cave-In Depth = 10 ft 4 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules (Noted From 0.5 ft to 5 ft), Stiff to Very Stiff, Dry to Moist	SPT 1		4-4-4 (8)			14				98
			SPT 2		5-9-10 (19)			20	58	26	32	
5			SH 3			3.5		23				
10			SPT 4		4-6-6 (12)			24				
15		(SC-SM) Silty Clayey Sand, Brown, Very Loose, Wet	SPT 5		2-1-2 (3)			20	22	15	7	36
20		(CL) Sandy Lean Clay, Brown to Reddish Brown, w/ Calcareous Nodules, Hard, Wet	SPT 6		8-20-27 (47)			18	31	22	9	58
25		(CH) Sandy Fat Clay, Brown to Reddish Brown, w/ Tan and Gray Streaks, w/ Calcareous Nodules, Very Stiff, Wet	SPT 7		7-11-13 (24)			19	53	25	28	

Bottom of borehole at 25.0 feet.

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BORING NUMBER B-D1-42

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/17/13 **COMPLETED** 10/17/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 82.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 10.50 ft / Elev 84.50 ft
NOTES GPS 26°09'52.56"N, 98°13'57.54"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 11.50 ft / Elev 83.50 ft Cave-In Depth = 14 ft 8 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Calcareous Nodules, w/ Traces of Small Roots, Stiff to Very Stiff, Dry	SPT 1		10-7-9 (16)			12	49	21	28	
5			SPT 2		5-6-9 (15)			11				93
			SPT 3		5-6-7 (13)			20				97
10		(CH) Fat Clay, Dark Brown, w/ Gray and Olive Streaks, w/ Calcareous Nodules, Medium Stiff, Dry to Moist	SH 4			1.5		31	65	28	37	
15		(SC) Clayey Sand, Lean, Light Brown, w/ Traces of Gravel (Sized 1/8 in to 1 in - Sub-Rounded) (Noted From 18.5 ft to 20 ft), Loose to Medium Dense, Wet	SPT 5		4-4-4 (8)			21				39
20			SPT 6		7-7-8 (15)			19	27	16	11	
25		(CH) Sandy Fat Clay, Light Brown to Reddish Brown, w/ Calcareous Nodules, Very Stiff, Wet	SPT 7		7-8-9 (17)			18				55
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-43

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/22/13 **COMPLETED** 10/22/13
GROUND ELEVATION 95 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 18.00 ft / Elev 77.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 12.67 ft / Elev 82.33 ft
NOTES GPS 26°09'52.44"N, 98°13'46.32"W (Approx. Elev.)
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules (Largely Noted From 3.5 ft to 5 ft), w/ Traces of Small Roots (Noted From 0.5 ft to 2 ft), Stiff to Very Stiff, Dry	SPT 1		3-3-4 (7)			14				85
			SPT 2		3-5-6 (11)			20	62	21	41	
5			SPT 3		5-7-10 (17)			19				
10		(SC) Clayey Sand, Fat, Dark Brown, w/ Calcareous Nodules, Medium Soft, Dry	SH 4			1		16				43
		(SC) Clayey Sand, Lean, Light Tannish Brown, Loose, Dry to Wet	SPT 5		2-3-4 (7)			22				42
15												
20			SPT 6		3-4-4 (8)			19	26	15	11	
25		(CL) Sandy Lean Clay, Brown, Very Stiff, Wet	SPT 7		6-6-10 (16)			24	26	17	9	53
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-44

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/17/13 **COMPLETED** 10/17/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 22.00 ft / Elev 68.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 17.50 ft / Elev 72.50 ft
NOTES GPS 26°09'49.86"N, 98°13'35.70"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 12.50 ft / Elev 77.50 ft Cave-In Depth = 12 ft 2 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, w/ Traces of Small Roots, Very Stiff, Dry	SPT 1		10-12-14 (26)			10	62	25	37	
5			SPT 2		7-8-15 (23)			14				95
		(CL) Lean Clay, Dark Brown, w/ Calcareous Nodules, w/ Traces of Small Roots, Stiff to Very Stiff, Dry	SPT 3		5-6-6 (12)			6	28	15	13	
10			SH 4			4.5		13				
15			SPT 5		6-7-10 (17)			23				91
20		(CL) Sandy Lean Clay, Grayish Brown w/ Reddish Brown, Light Gray, and Black Streaks, w/ Calcareous Nodules, w/ Black Mottles, Very Stiff, Dry to Wet	SPT 6		5-7-16 (23)			17	41	24	17	63
25		(SP-SC) Poorly Graded Sand w/ Clay, Brown, w/ Traces of Gravel (Sized 1/4 in to 1/2 in - Sub-Rounded), Medium Dense, Wet	SPT 7		4-5-7 (12)			21				10
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-45

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/22/13 **COMPLETED** 10/22/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 9.00 ft / Elev 81.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 5.50 ft / Elev 84.50 ft
NOTES GPS 26°09'49.50"N, 98°13'25.56"W (Approx. Elev.)
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Calcareous Nodules, Medium Stiff, Dry	SPT 1		2-3-4 (7)			17	33	17	16	
5		(CL) Sandy Lean Clay, Brown, Stiff, Dry	SH 2			2.5		19				53
10		(SC) Clayey Sand, Lean, Brown, Loose, Dry to Wet	SPT 3		2-2-3 (5)			20	29	15	14	
			SPT 4		3-3-6 (9)			17				40
15		(SC-SM) Silty Clayey Sand, Light Brown, Medium Dense, Wet	SPT 5		5-9-13 (22)			21	21	15	6	
20		(CL) Lean Clay w/ Sand, Light Brown, Hard, Wet	SPT 6		10-17-26 (43)			24				79
25		(CL) Lean Clay, Brown w/ Reddish Brown and Gray Streaks, Very Stiff, Wet	SPT 7		7-10-14 (24)			22				95
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-46

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/18/13 **COMPLETED** 10/18/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 77.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 8.75 ft / Elev 81.25 ft
NOTES GPS 26°09'39.66"N, 98°13'18.96"W (Approx. Elev.)
▼ **AFTER DRILLING** 10.25 ft / Elev 79.75 ft Cave-In Depth = 10 ft 6 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 1		8-7-9 (16)			14	67	27	40	
			SPT 2		5-5-7 (12)			23				97
5			SH 3			2		24				
10		(SC) Clayey Sand, Lean, Dark Brown w/ Tan Streaks, Loose, Dry to Moist	SPT 4		2-3-3 (6)			20	26	15	11	41
		(SC) Clayey Sand, Lean, Tan, Traces of Gravel (Sized 1/8 in to 1/4 in - Sub-Rounded), Loose, Wet	SPT 5		3-3-3 (6)			19	25	13	12	38
15												
20		(SM) Silty Sand, Light Tannish Brown, Medium Dense, Wet	SPT 6		4-5-8 (13)			20				15
			SPT 7		5-5-8 (13)			21	16	14	2	
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-47

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/22/13 **COMPLETED** 10/22/13
GROUND ELEVATION 91 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 17.00 ft / Elev 74.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 12.33 ft / Elev 78.67 ft
NOTES GPS 26°09'33.48"N, 98°13'13.26"W (Approx. Elev.)
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules, w/ Black Compost (Noted From 3.5 ft to 5 ft), Stiff, Dry	SPT 1		7-7-7 (14)			10				82
			SPT 2		4-4-6 (10)			23	59	25	34	
5			SH 3			3.5		22				
10		(SC) Clayey Sand, Brown, Loose, Dry ▼	SPT 4		3-3-4 (7)			21				49
15		(SC-SM) Silty Clayey Sand, Light Brown, Very Loose, Dry to Wet ▽	SPT 5		2-1-2 (3)			21	22	15	7	39
20		(SP-SM) Poorly Graded Sand w/ Silt, Brown, Medium Dense to Dense, Wet	SPT 6		4-6-8 (14)			26				9
25			SPT 7		10-14-21 (35)			18	NP	NP	NP	
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-48

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/18/13 **COMPLETED** 10/18/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 23.00 ft / Elev 67.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 19.67 ft / Elev 70.33 ft
NOTES GPS 26°09'24.66"N, 98°13'06.72"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 16.33 ft / Elev 73.67 ft Cave-In Depth = 17 ft 2 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay w/ Sand, Dark Brown to Brown, Stiff, Dry	SPT 1		7-7-7 (14)			14				70
			SPT 2		6-8-7 (15)			10	33	15	18	
5												
		(CH) Fat Clay, Dark Brown to Brown, Stiff to Very Stiff, Dry to Moist	SPT 3		5-7-9 (16)			18				95
			SH 4			3		23				
10												
			SPT 5		5-6-8 (14)			22	58	21	37	
15		▼										
			SPT 6		7-7-10 (17)			21				100
20		▼										
		▽										
		(CL) Lean Clay, Brown to Tannish Brown, Stiff, Wet	SPT 7		4-6-6 (12)			27	49	24	25	
25												
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-49

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/22/13 **COMPLETED** 10/22/13
GROUND ELEVATION 89 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 18.00 ft / Elev 71.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 13.50 ft / Elev 75.50 ft
NOTES GPS 26°09'25.08"N, 98°12'55.02"W (Approx. Elev.)
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Calcareous Nodules (Noted From 0.5 ft to 8 ft), Stiff to Very Stiff, Dry to Moist	SPT 1		4-7-11 (18)			6				
			SPT 2		7-8-11 (19)			20	64	24	40	
5			SPT 3		5-7-10 (17)			20				98
			SH 4			4		21	54	25	29	
10												
		▼	SPT 5		6-7-8 (15)			24				99
15												
		▽										
		(CL) Lean Clay, Brown, Medium Stiff, Wet	SPT 6		3-3-3 (6)			31	37	20	17	90
20												
		(SP-SC) Poorly Graded Sand w/ Clay, Dark Brown, Medium Dense, Wet	SPT 7		6-8-10 (18)			27				11
25												
		Bottom of borehole at 25.0 feet.										

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L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

L&G Engineering Laboratory LLC
2100 W. Expressway 83
Mercedes TX 78570
Telephone: 956-565-0760

BORING NUMBER B-D1-50

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/18/13 **COMPLETED** 10/18/13
GROUND ELEVATION 90 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 24.00 ft / Elev 66.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 20.25 ft / Elev 69.75 ft
NOTES GPS 26°09'22.30"N, 98°12'44.50"W (Approx. Elev.)
▽ **24hrs AFTER DRILLING** 17.67 ft / Elev 72.33 ft Cave-In Depth = 18 ft 2 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CL) Lean Clay, Dark Brown, w/ Traces of Small Calcareous Nodules, w/ Shell Fragments (Noted From 0.5 ft to 2 ft), Very Stiff, Dry	SPT 1		9-8-8 (16)			14				97
			SPT 2		9-10-14 (24)			15	33	15	18	
5			SPT 3		7-8-13 (21)			20				
			SH 4			3.5		20				98
10												
		(CH) Fat Clay, Brown, w/ Calcareous Nodules (Noted From 23.5 ft to 25 ft), Stiff to Very Stiff, Dry to Wet	SPT 5		5-7-8 (15)			24	58	28	30	
15												
		▼	SPT 6		7-10-11 (21)			24				99
20		▼										
		▽	SPT 7		5-6-10 (16)			28	59	29	30	
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-51

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/21/13 **COMPLETED** 10/21/13
GROUND ELEVATION 86 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 18.00 ft / Elev 68.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 13.75 ft / Elev 72.25 ft
NOTES GPS 26°09'22.80"N, 98°12'32.88"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 13.50 ft / Elev 72.50 ft Cave-In Depth = 14 ft 5 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		(CH) Fat Clay, Dark Brown, Stiff to Very Stiff, Dry	SPT 1		7-8-9 (17)			12	64	24	40	
5			SPT 2		6-8-10 (18)			18				98
			SPT 3		4-5-7 (12)			16				
10			SPT 4		5-6-9 (15)			21				98
15		▼ (CL) Lean Clay, Brown, w/ Traces of Small Calcareous Nodules, Stiff, Dry to Moist	SH 5			2		24	46	22	24	
		▽										
20		(SM) Silty Sand, Brown, Loose to Medium Dense, Wet	SPT 6		3-3-4 (7)			30				42
25			SPT 7		3-5-8 (13)			28	NP	NP	NP	
		Bottom of borehole at 25.0 feet.										

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Telephone: 956-565-0760

BORING NUMBER B-D1-52

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/18/13 **COMPLETED** 10/18/13
GROUND ELEVATION 85 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING 18.00 ft / Elev 67.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
AT END OF DRILLING 13.50 ft / Elev 71.50 ft
NOTES GPS 26°09'20.10"N, 98°12'22.50"W (Approx. Elev.)
24hrs AFTER DRILLING 15.50 ft / Elev 69.50 ft Cave-In Depth = 17 ft 7 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown, w/ Calcareous Nodules, Very Stiff, Dry	SPT 1		7-7-9 (16)			12				
			SPT 2		6-10-12 (22)			13				97
5			SPT 3		7-9-14 (23)			20	67	24	43	
			SH 4			3		21				
10												
		(CL) Lean Clay, Brown, Medium Stiff to Stiff, Dry to Wet	SPT 5		4-4-4 (8)			28				84
15												
			SPT 6		4-5-8 (13)			24	49	23	26	
20												
		(CL) Lean Clay, Brown, Silty, Hard, Wet	SPT 7		11-15-21 (36)			31	35	20	15	96
25		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-53

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/21/13 **COMPLETED** 10/21/13
GROUND ELEVATION 85 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 22.00 ft / Elev 63.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 17.25 ft / Elev 67.75 ft
NOTES GPS 26°09'17.22"N, 98°12'11.46"W (Approx. Elev.)
▼ **24hrs AFTER DRILLING** 17.00 ft / Elev 68.00 ft Cave-In Depth = 17 ft 8 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Fat Clay, Dark Brown to Brown, w/ Traces of Small Calcareous Nodules (Noted From 0.5 ft to 5 ft), Stiff to Very Stiff, Dry	SPT 1		7-7-7 (14)			11	60	22	38	
			SPT 2		7-7-8 (15)			17				98
5			SPT 3		6-8-11 (19)			18				
10			SH 4			3.5		21	53	23	30	
			SPT 5		5-7-9 (16)			23				100
15												
20		(ML) Silt, Brown w/ Tannish Brown Sections, Clayey, Medium Stiff, Dry to Wet	SPT 6		3-3-4 (7)			26				97
25		(SC) Clayey Sand, Lean, Brown, Loose, Wet	SPT 7		3-4-3 (7)			31	35	21	14	
		Bottom of borehole at 25.0 feet.										

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BORING NUMBER B-D1-54

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/21/13 **COMPLETED** 10/21/13
GROUND ELEVATION 86 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 19.00 ft / Elev 67.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 16.50 ft / Elev 69.50 ft
NOTES GPS 26°09'09.60"N, 98°12'03.96"W (Approx. Elev.)
24hrs AFTER DRILLING --- Cave-In Depth = 19 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		(CH) Sandy Fat Clay, Dark Brown, w/ Calcareous Nodules, Stiff to Very Stiff, Dry	SPT 1		8-8-9 (17)			9				69
			SPT 2		4-5-6 (11)			14	56	20	36	
5												
		(CH) Fat Clay, Dark Brown to Brown, Very Stiff, Dry	SPT 3		5-7-9 (16)			18				92
			SH 4			3.5		21	62	21	41	
10												
			SPT 5		7-8-10 (18)			21				
15		▼										
		▽ (ML) Silt, Brown, Clayey, Medium Stiff, Wet	SPT 6		3-3-3 (6)			28	21	18	3	92
20												
		(CL) Lean Clay, Brown, w/ Traces of Small Calcareous Nodules, Very Stiff, Wet	SPT 7		6-9-11 (20)			23				
25												
		Bottom of borehole at 25.0 feet.										

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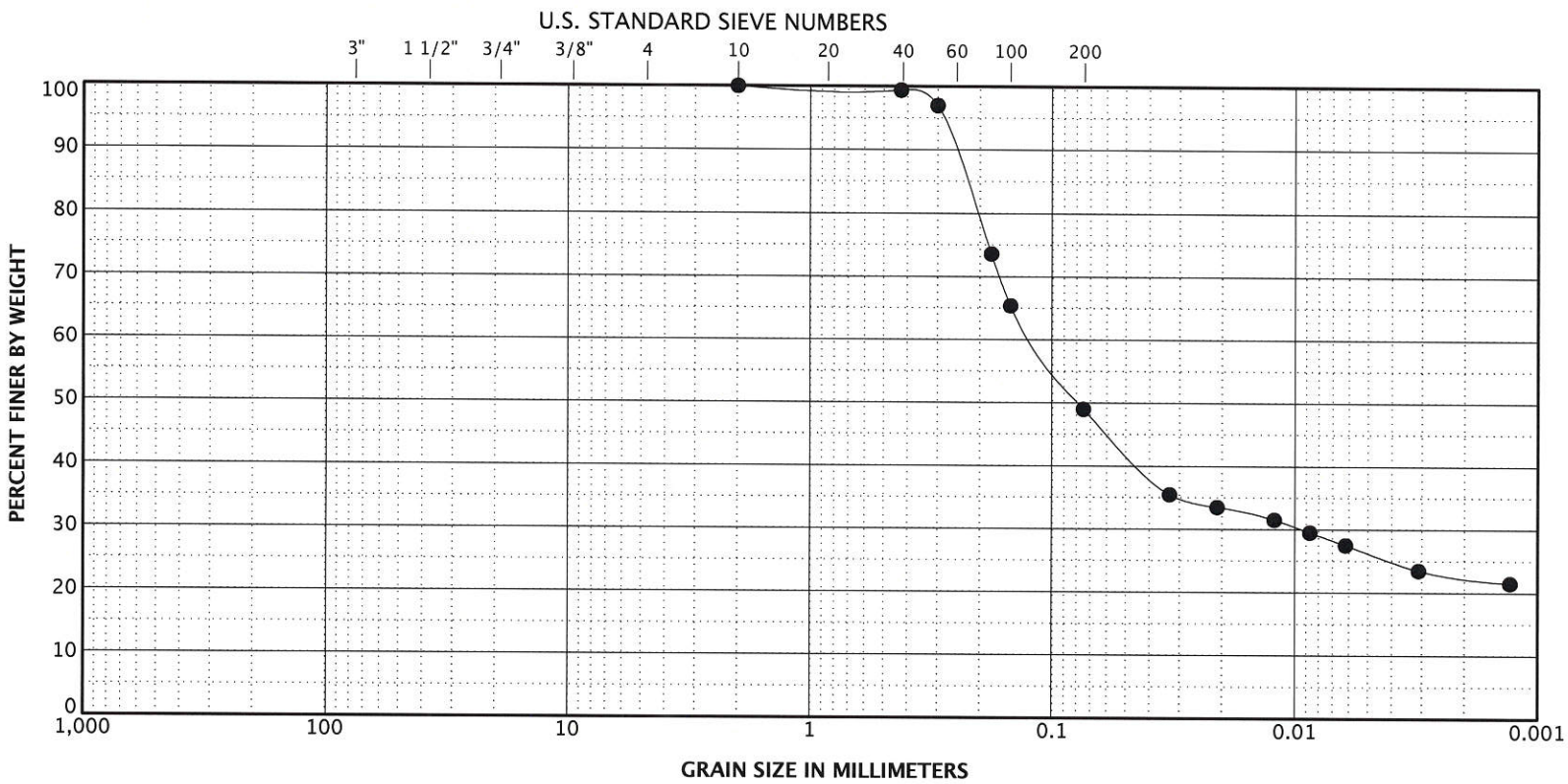
BORING NUMBER B-D1-55

CLIENT L&G Consulting Engineers, Inc.
PROJECT NAME Mission Inlet Division I
PROJECT NUMBER GL13019
PROJECT LOCATION Hidalgo County
DATE STARTED 10/21/13 **COMPLETED** 10/21/13
GROUND ELEVATION 87 ft **HOLE SIZE** 4 inches
DRILLING CONTRACTOR L&G Engineering Laboratory
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 23.00 ft / Elev 64.00 ft
LOGGED BY J. Sinclair **CHECKED BY** D. Saenz, P.E.
▼ **AT END OF DRILLING** 18.33 ft / Elev 68.67 ft
NOTES GPS 26°09'04.44"N, 98°11'58.26"W (Approx. Elev.)
24hrs AFTER DRILLING --- Cave-In Depth = 7 ft 7 in

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		(CL) Lean Clay, Dark Brown, Very Stiff, Dry	SPT 1		8-10-12 (22)			12	40	16	24	
5			SPT 2		7-7-11 (18)			13				85
		(CH) Fat Clay, Dark Brown, Very Stiff, Dry	SPT 3		7-10-13 (23)			18	61	26	35	
10			SH 4			4.5		18				
15			SPT 5		6-7-11 (18)			19				99
20		(CH) Fat Clay, Brown, Medium Stiff, Dry to Moist ▽	SPT 6		4-3-4 (7)			24	56	28	28	
25		(ML) Silt, Brown, Clayey, Stiff, Wet	SPT 7		4-5-4 (9)			30				93
		Bottom of borehole at 25.0 feet.										

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APPENDIX C – GRADATION CURVES



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

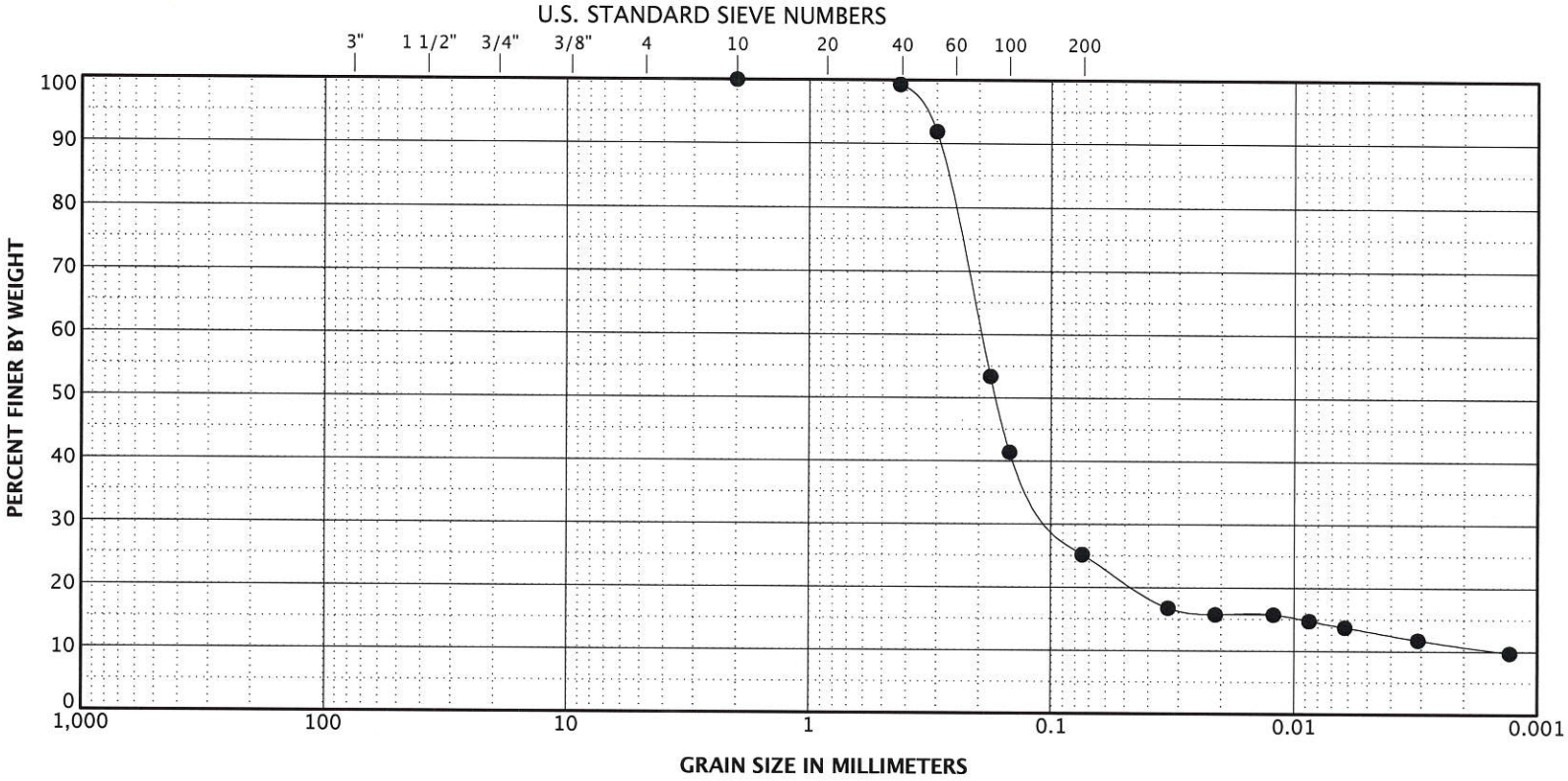
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-1	18.5		0.12	0.08	0.01			0	51	23	26

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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

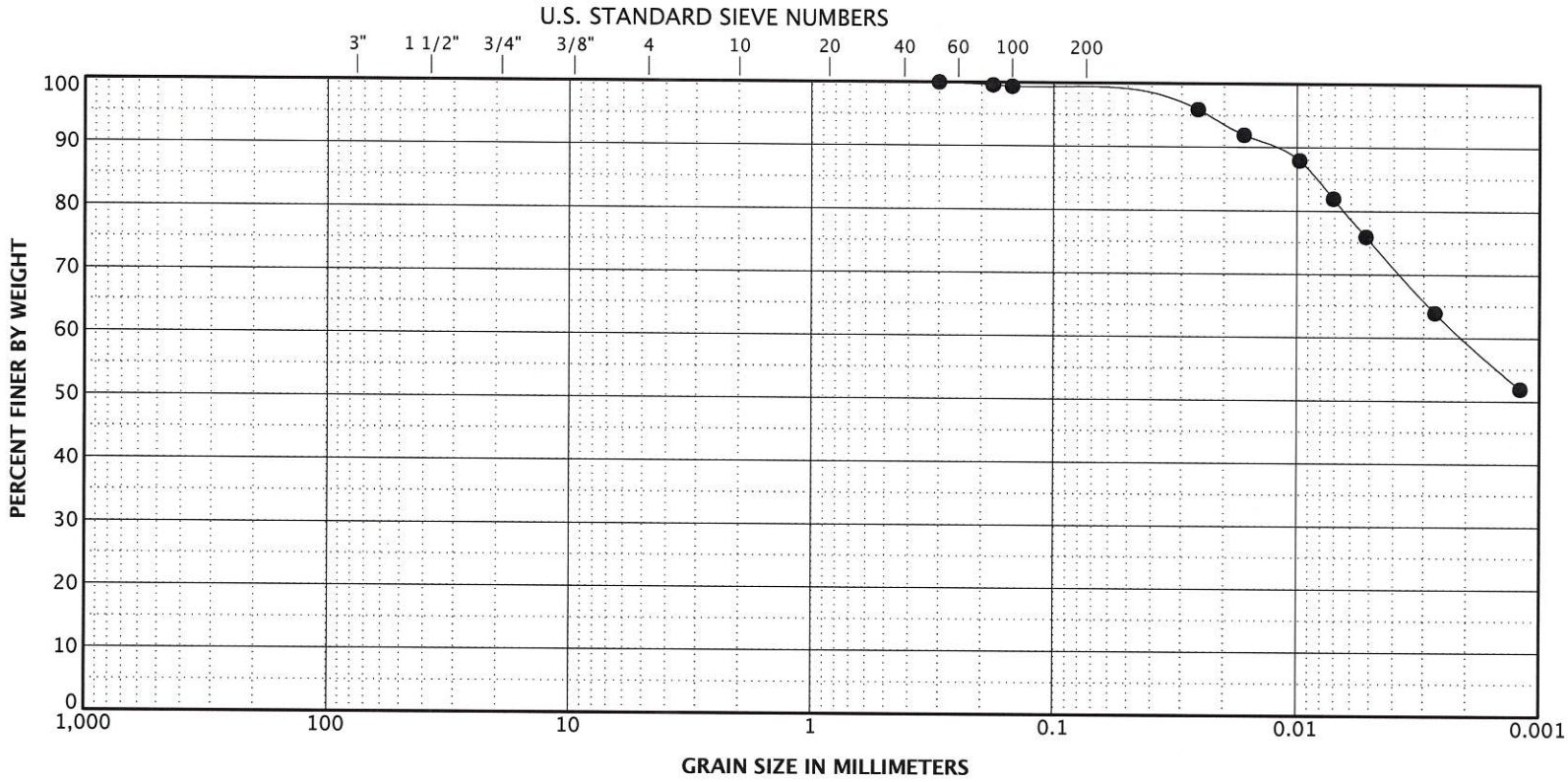
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-2	18.5		0.20	0.17	0.09	0.00		0	75	12	13

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FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

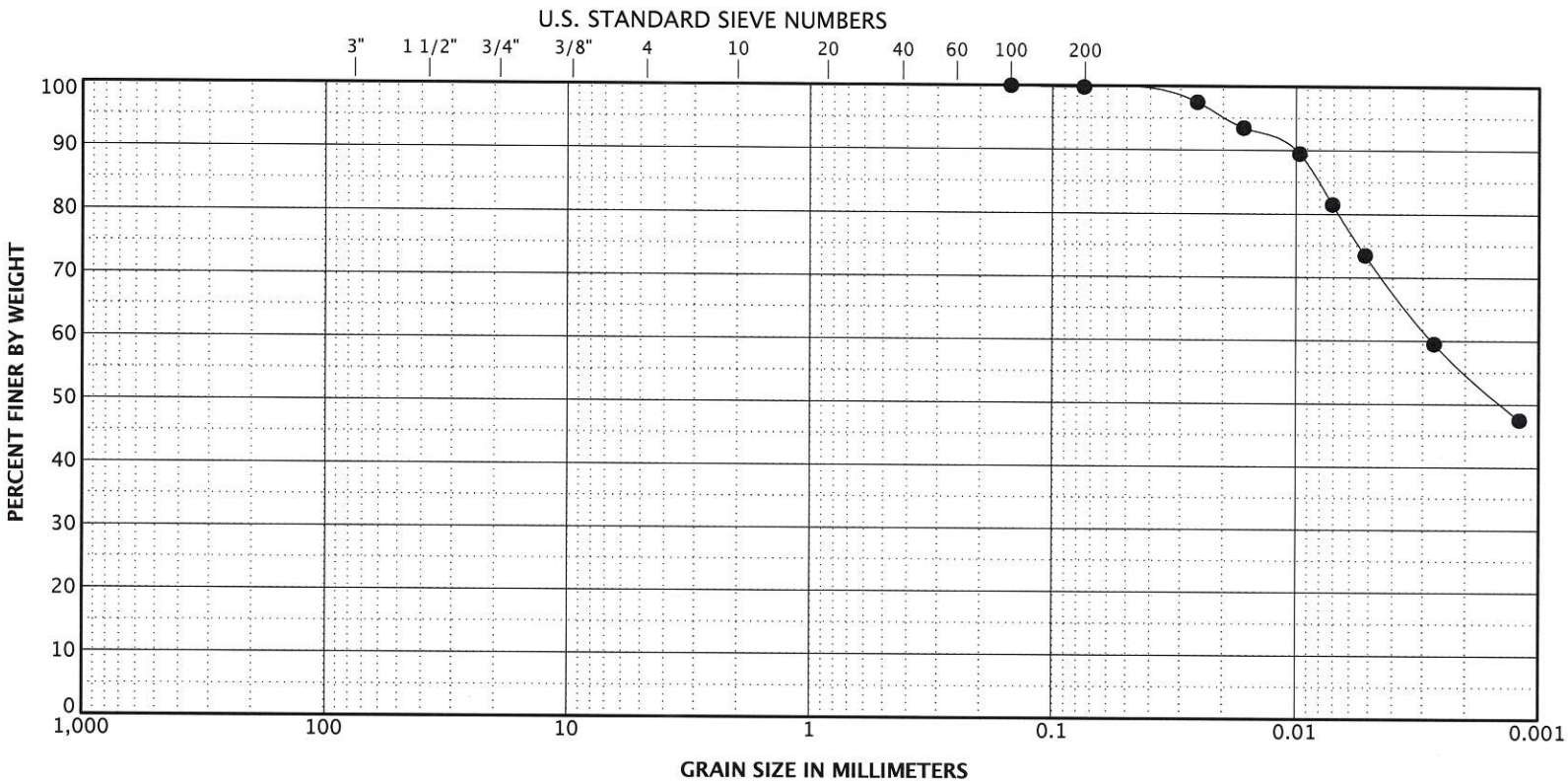
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-4	18.5		0.00					0			75

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GRAIN- SIZE TEST RESULTS

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FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

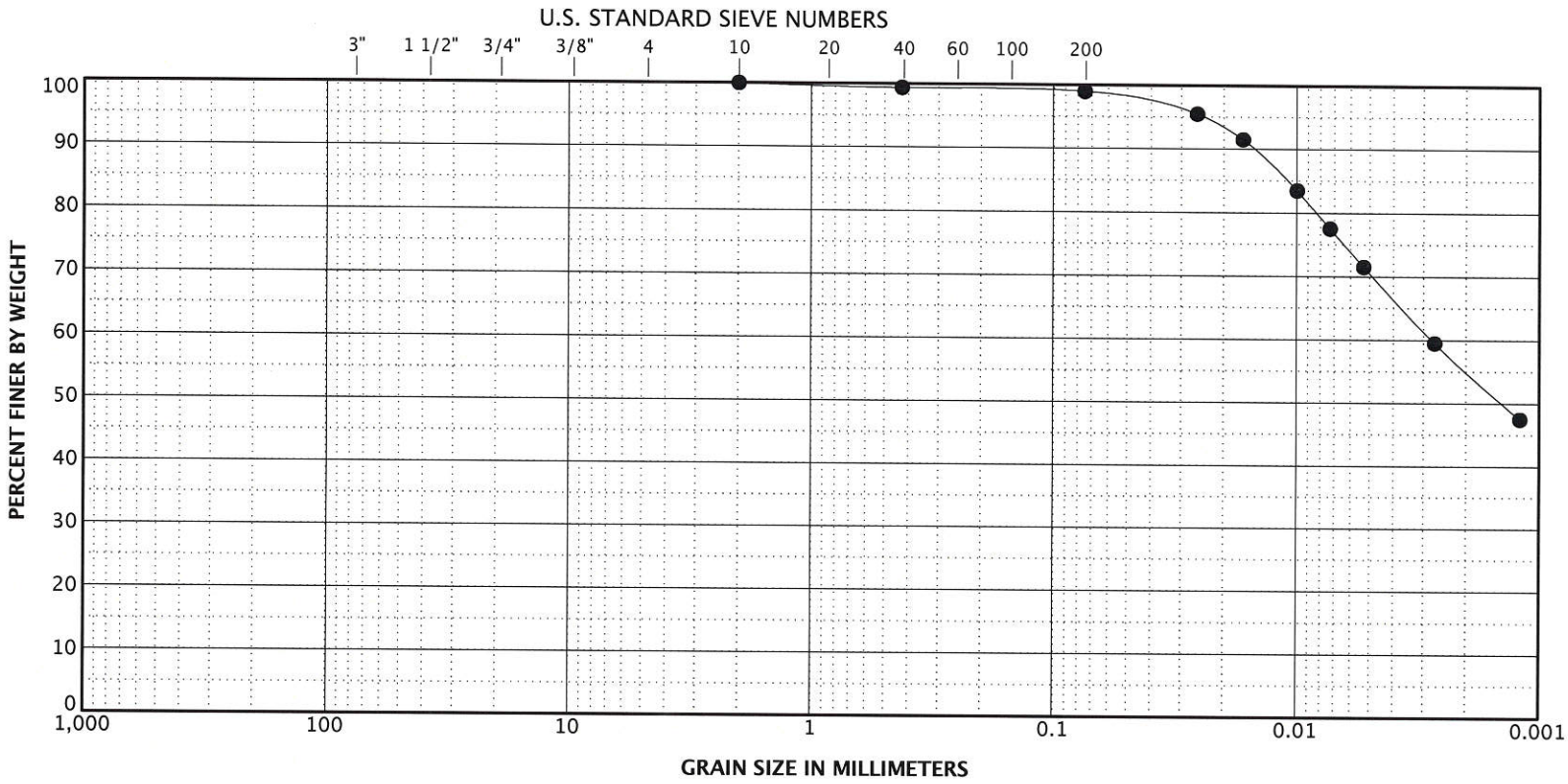
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-5	6.5		0.00	0.00				0	0	27	73

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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

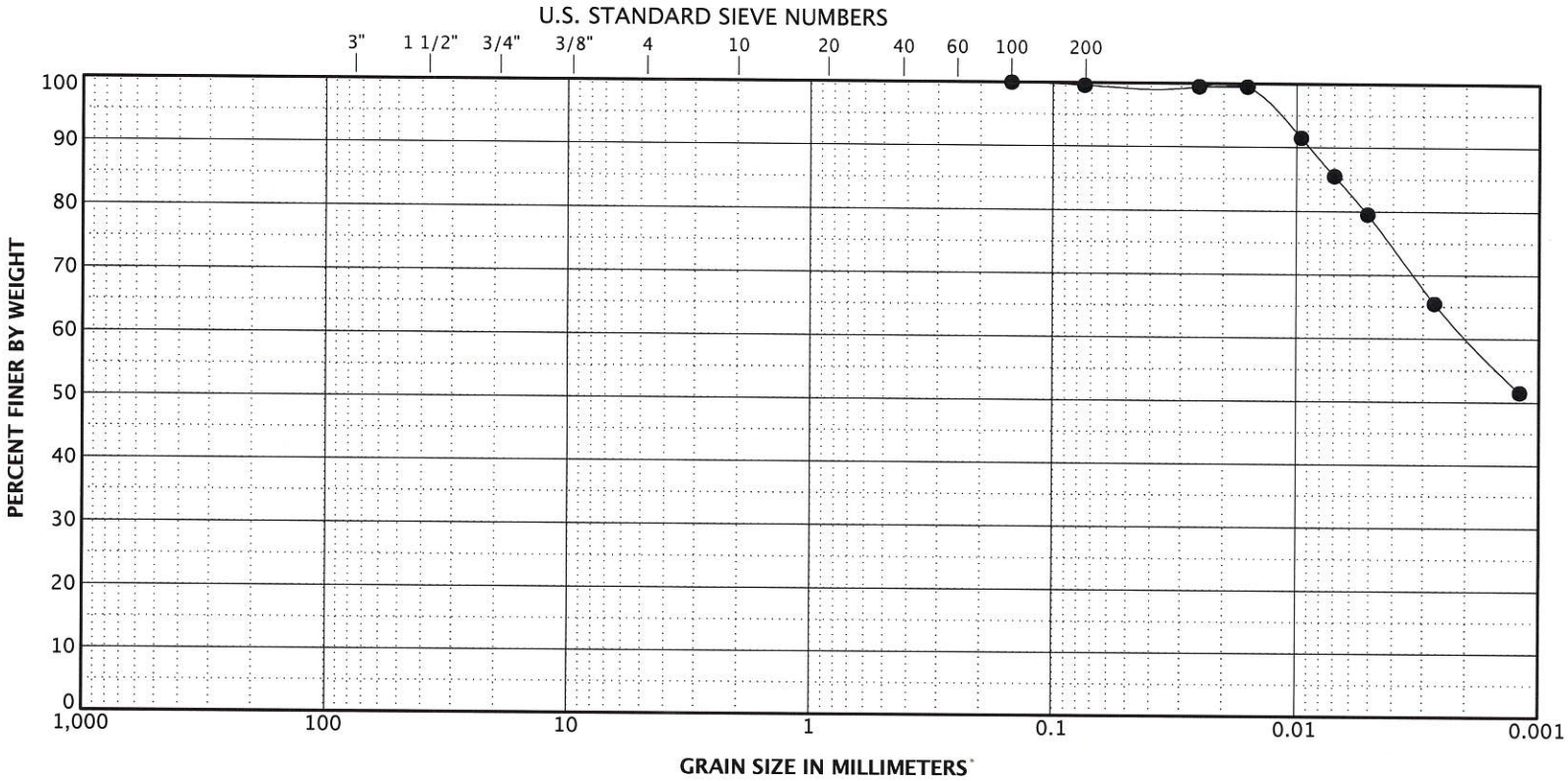
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-6	6.5		0.00	0.00				0	1	29	70

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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

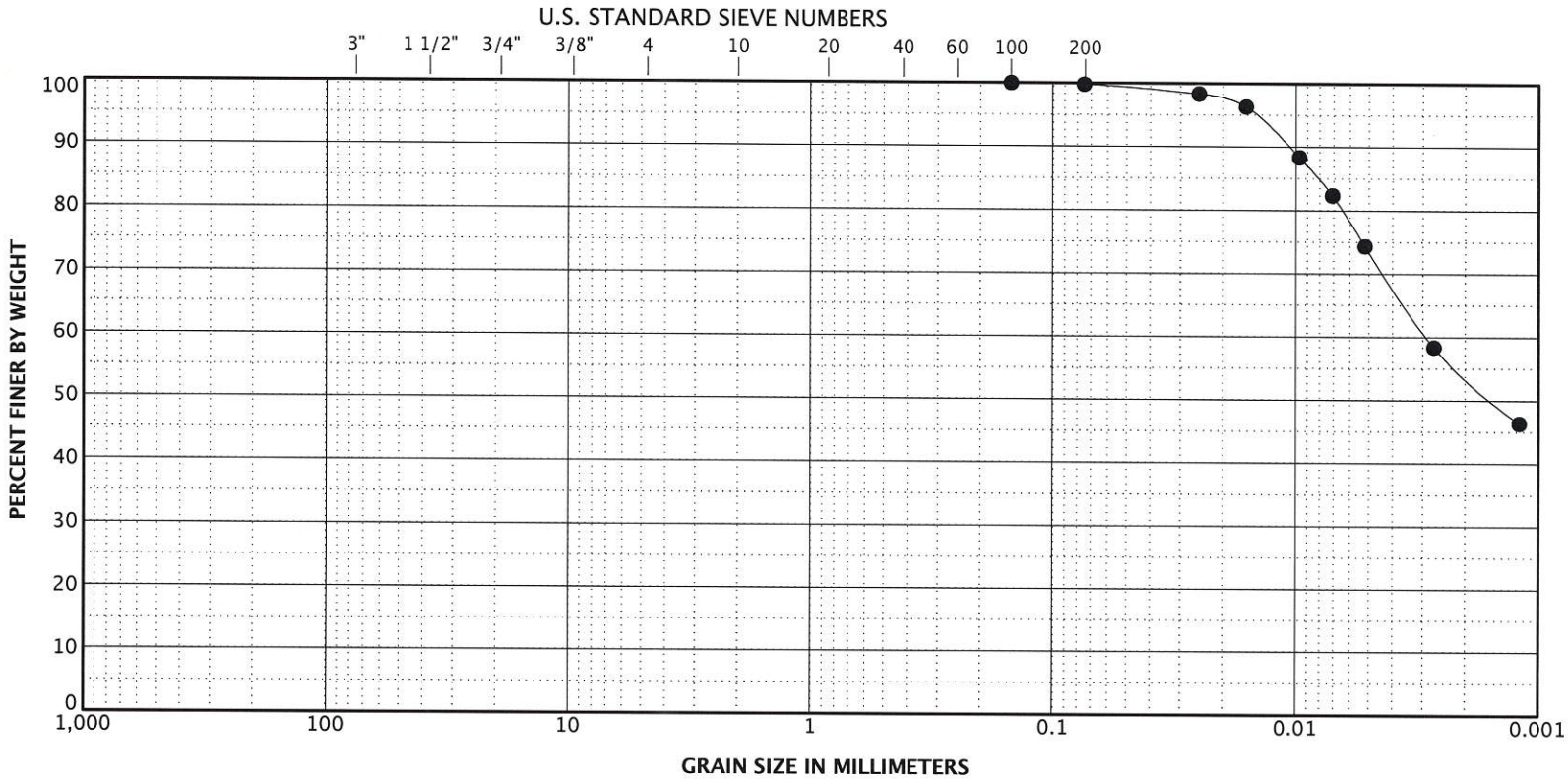
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-7	13.5		0.00					0	0	21	79

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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

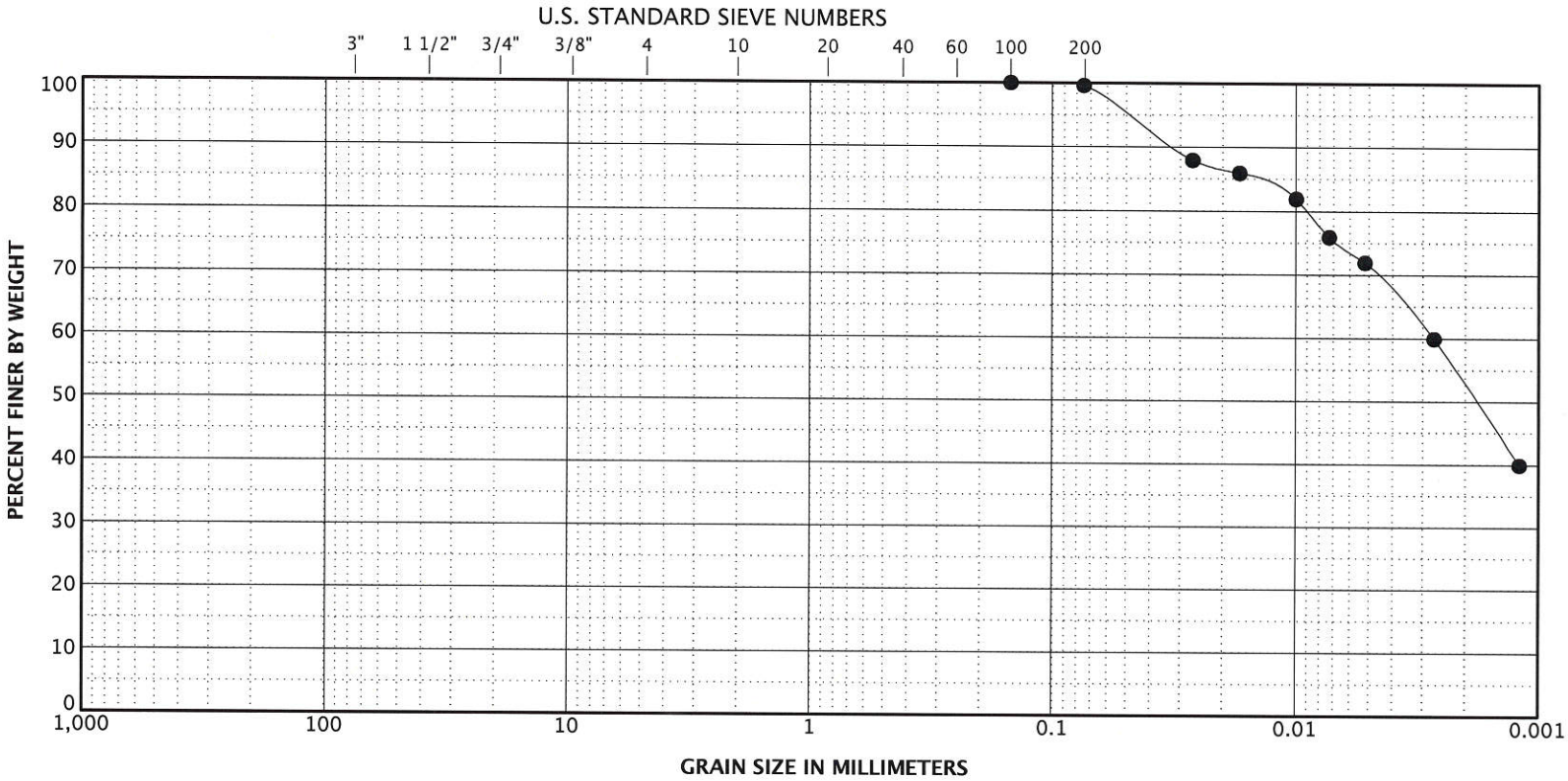
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-8	9.5		0.00	0.00				0	0	26	73

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GRAIN- SIZE TEST RESULTS

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HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

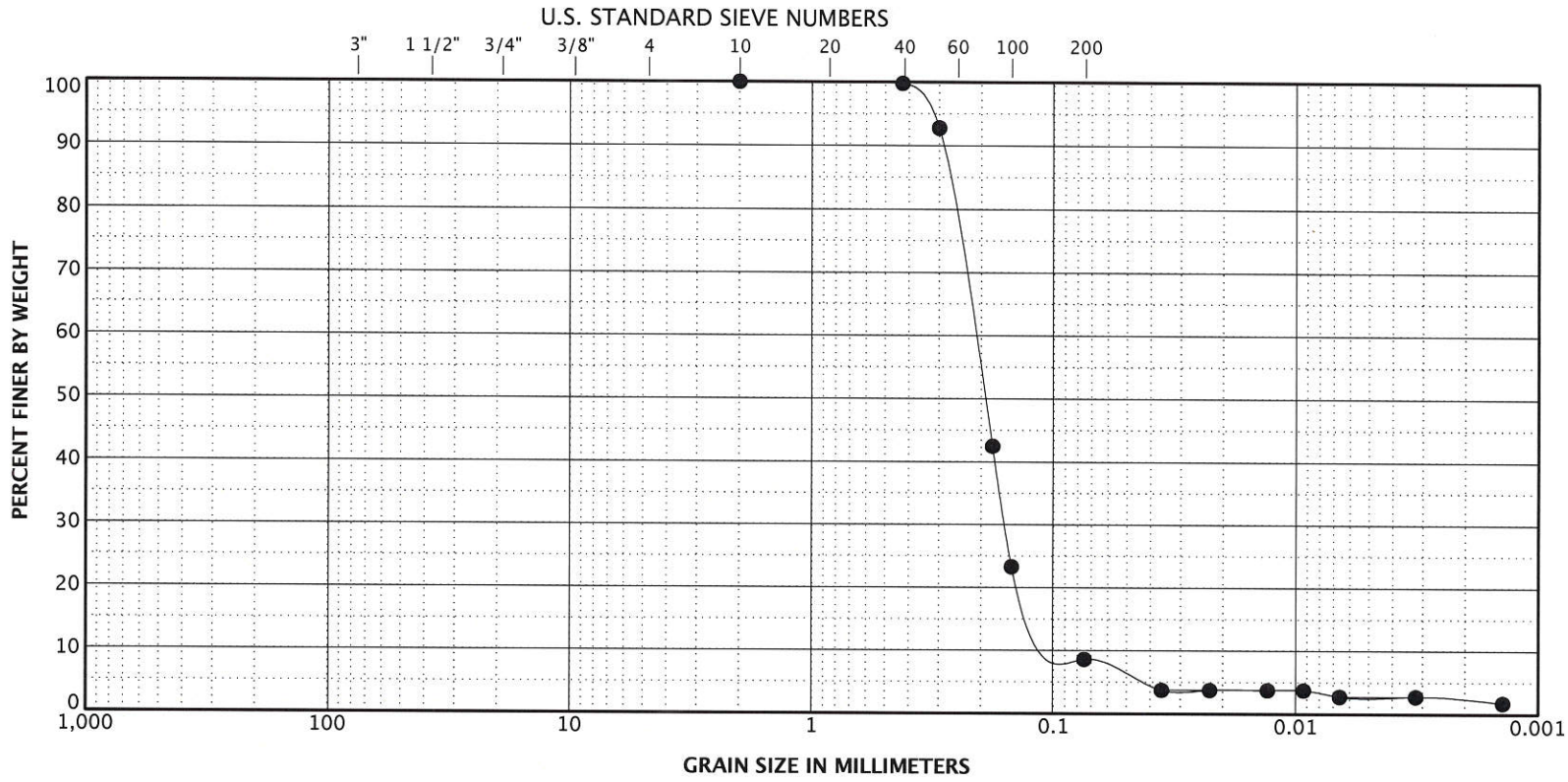
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-9	18.5		0.00	0.00				0	0	28	71

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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

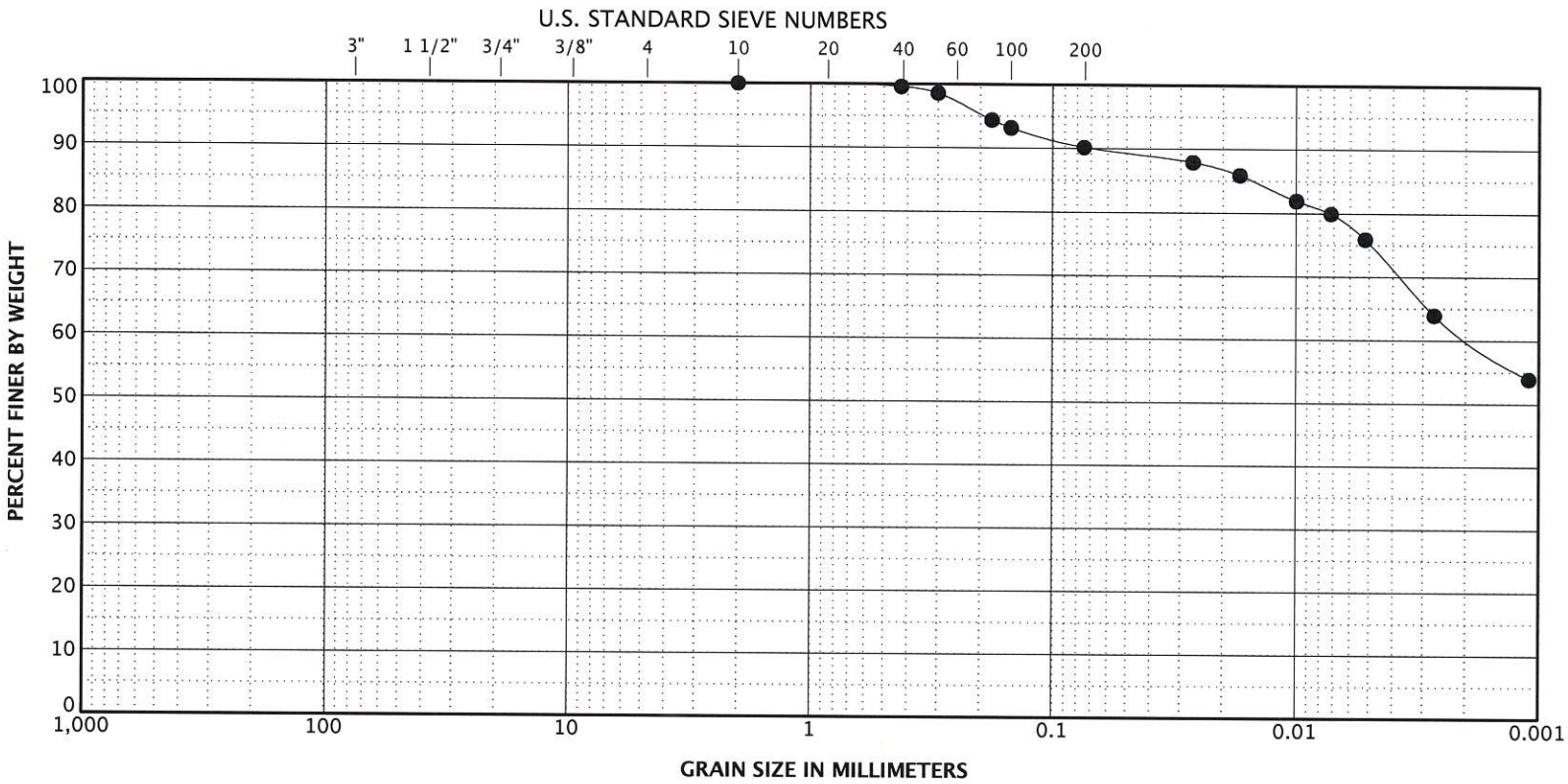
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-10	13.5		0.22	0.19	0.16	0.08	0.04	0	91	6	3

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

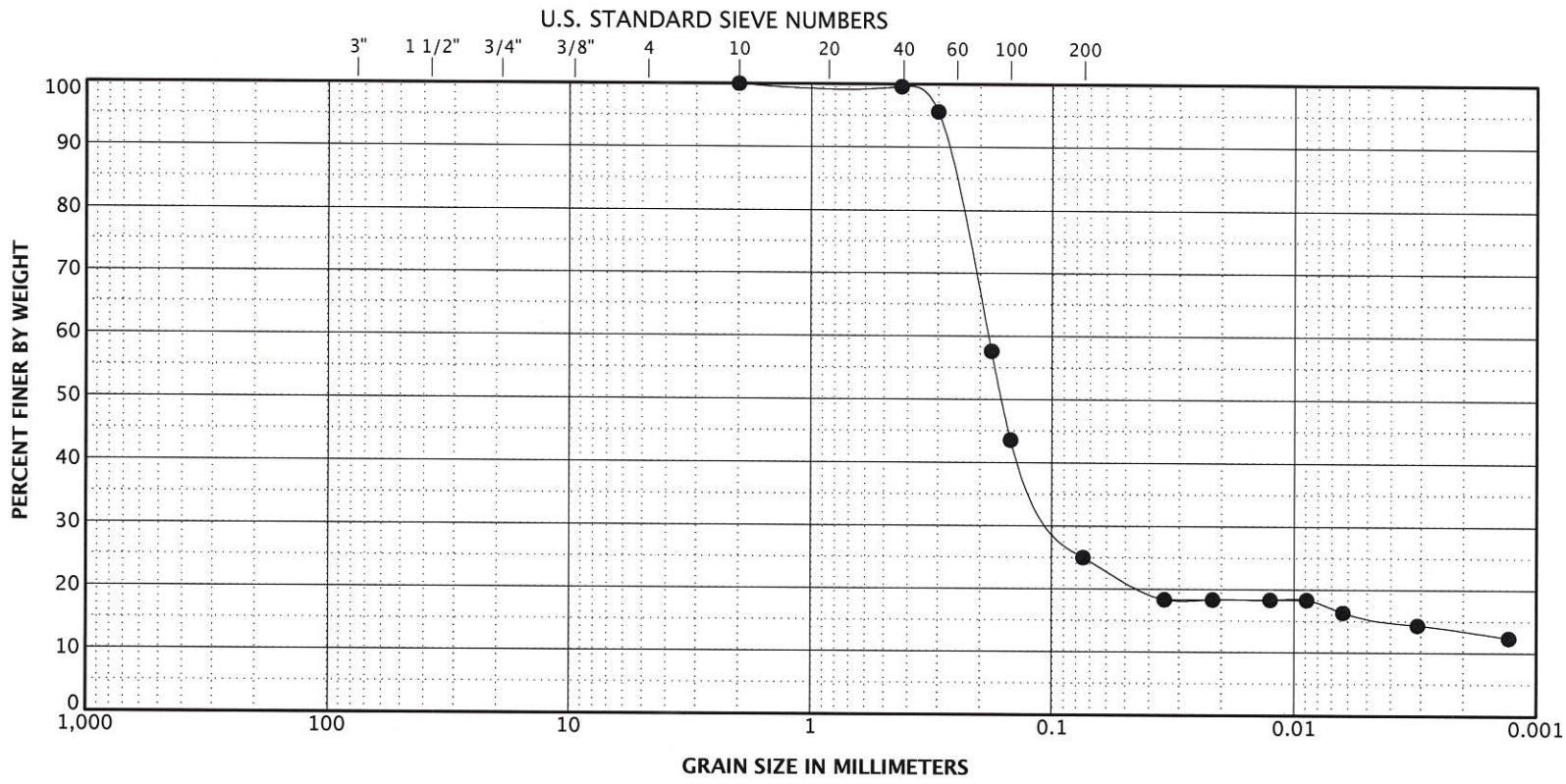
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-11	6.5		0.00					0	10	15	75

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

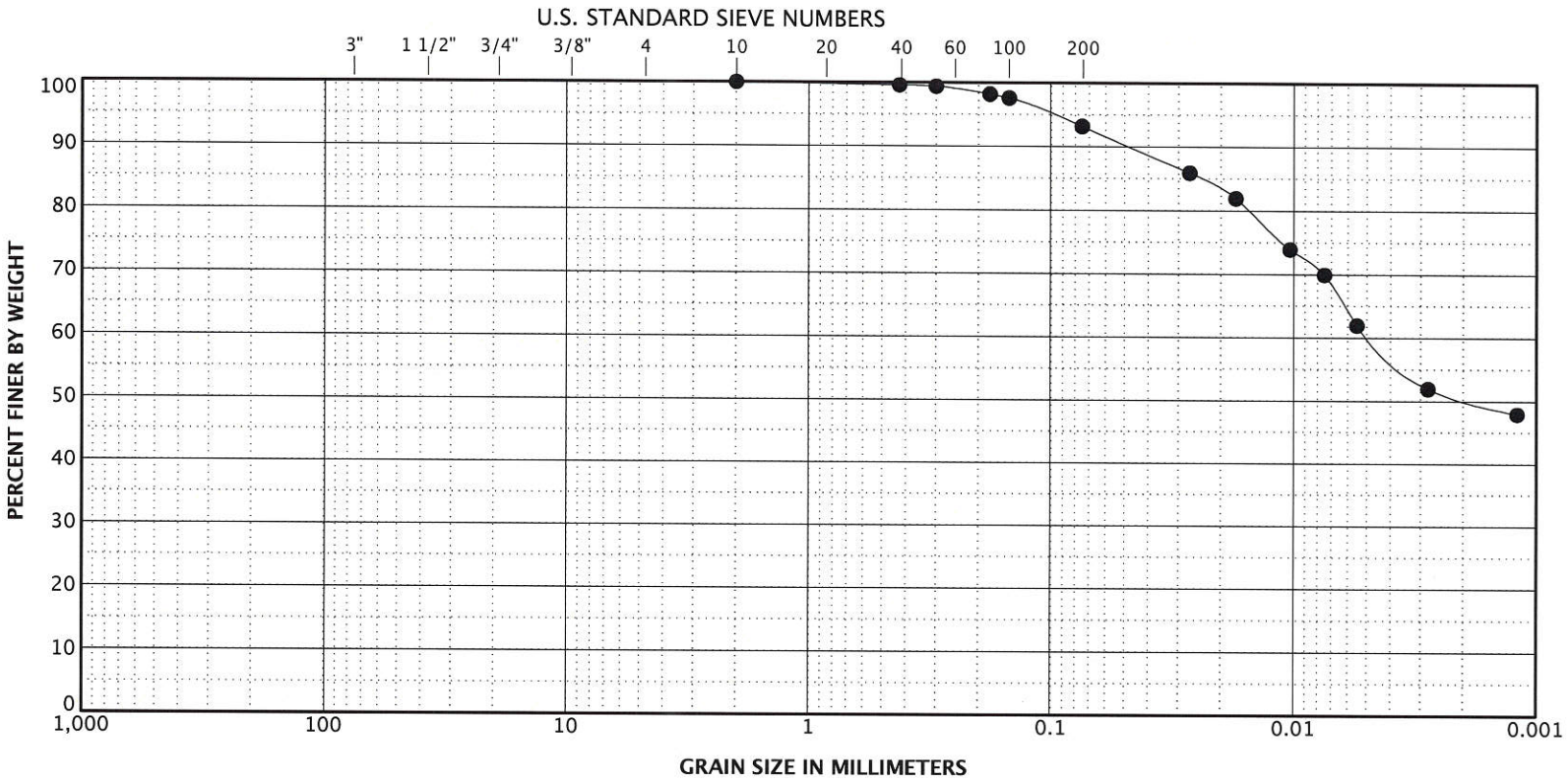
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-12	18.5		0.19	0.16	0.09			0	75	9	16

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

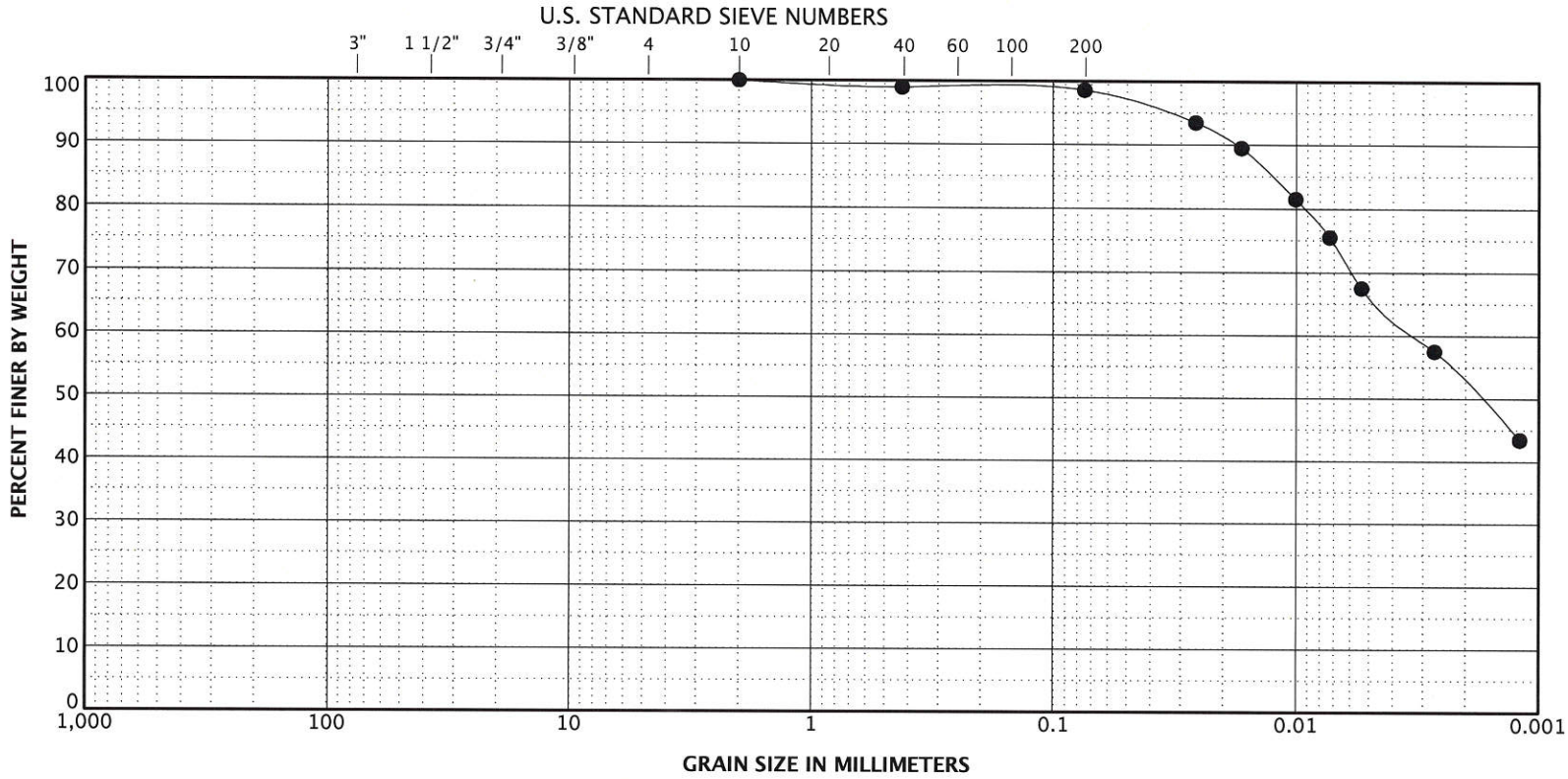
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-13	6.5		0.00	0.00				0	7	33	61

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

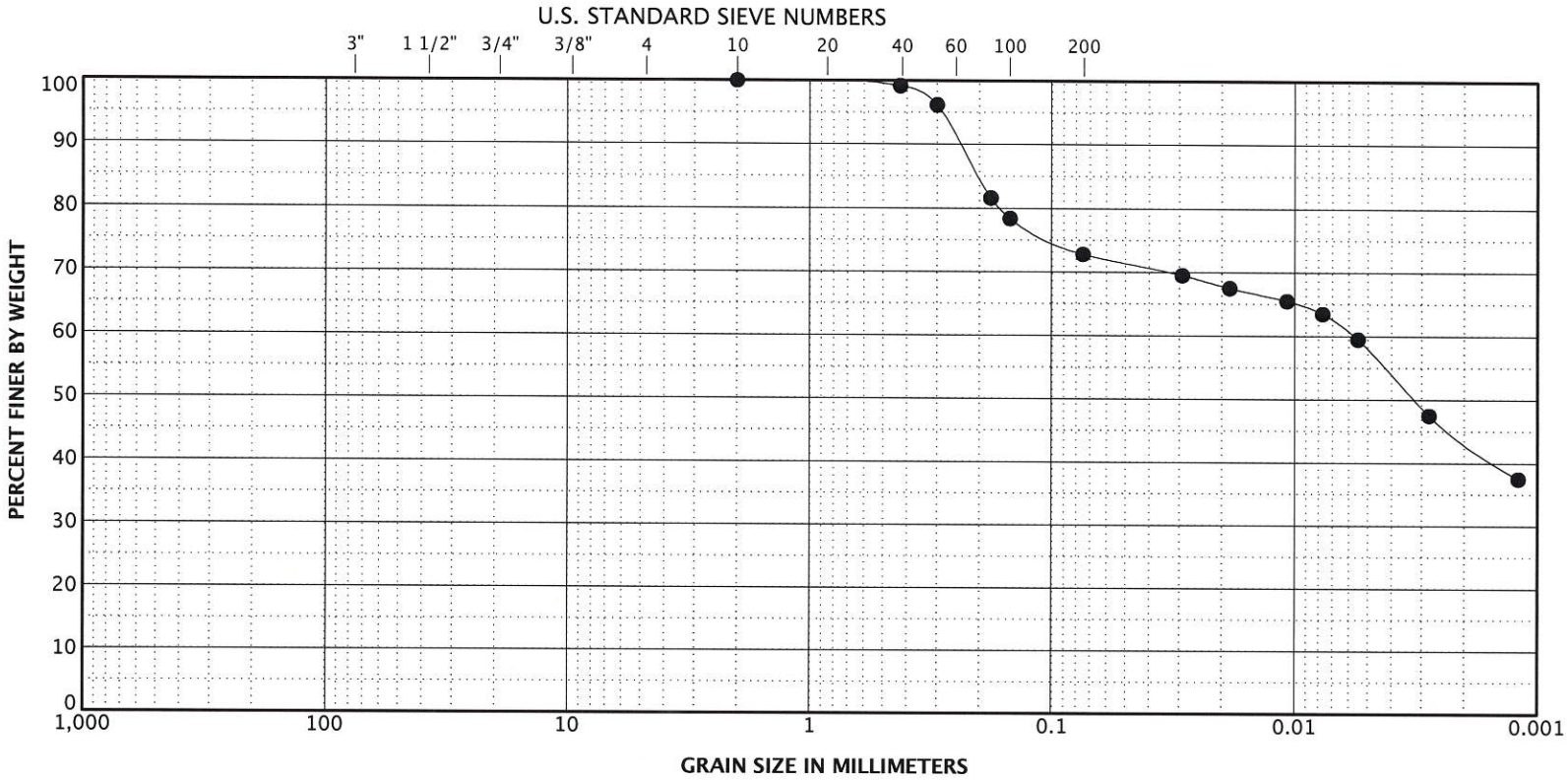
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-14	9.5		0.00	0.00				0	1	32	66

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

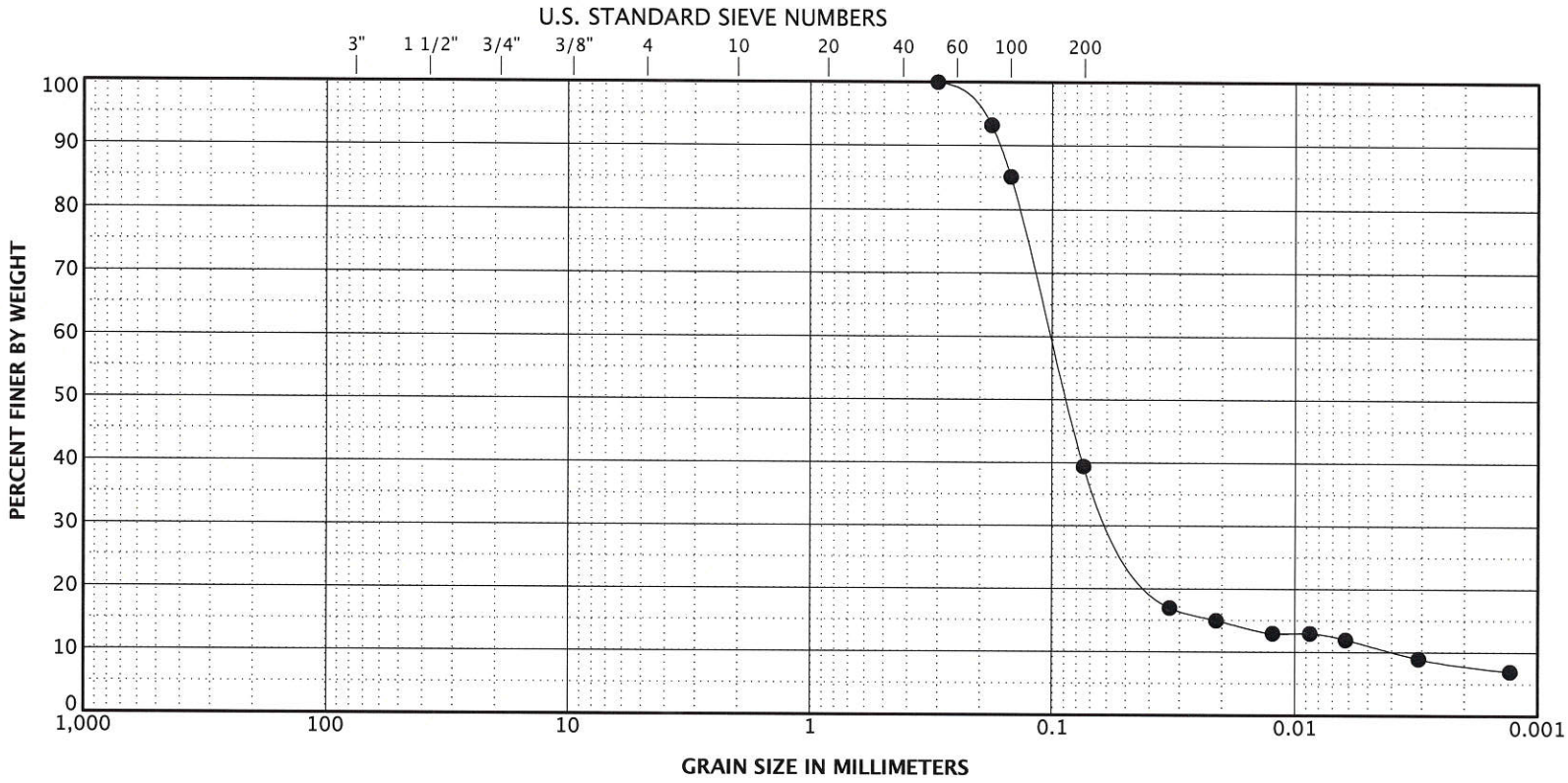
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-15	18.5		0.01	0.00				0	27	15	58

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

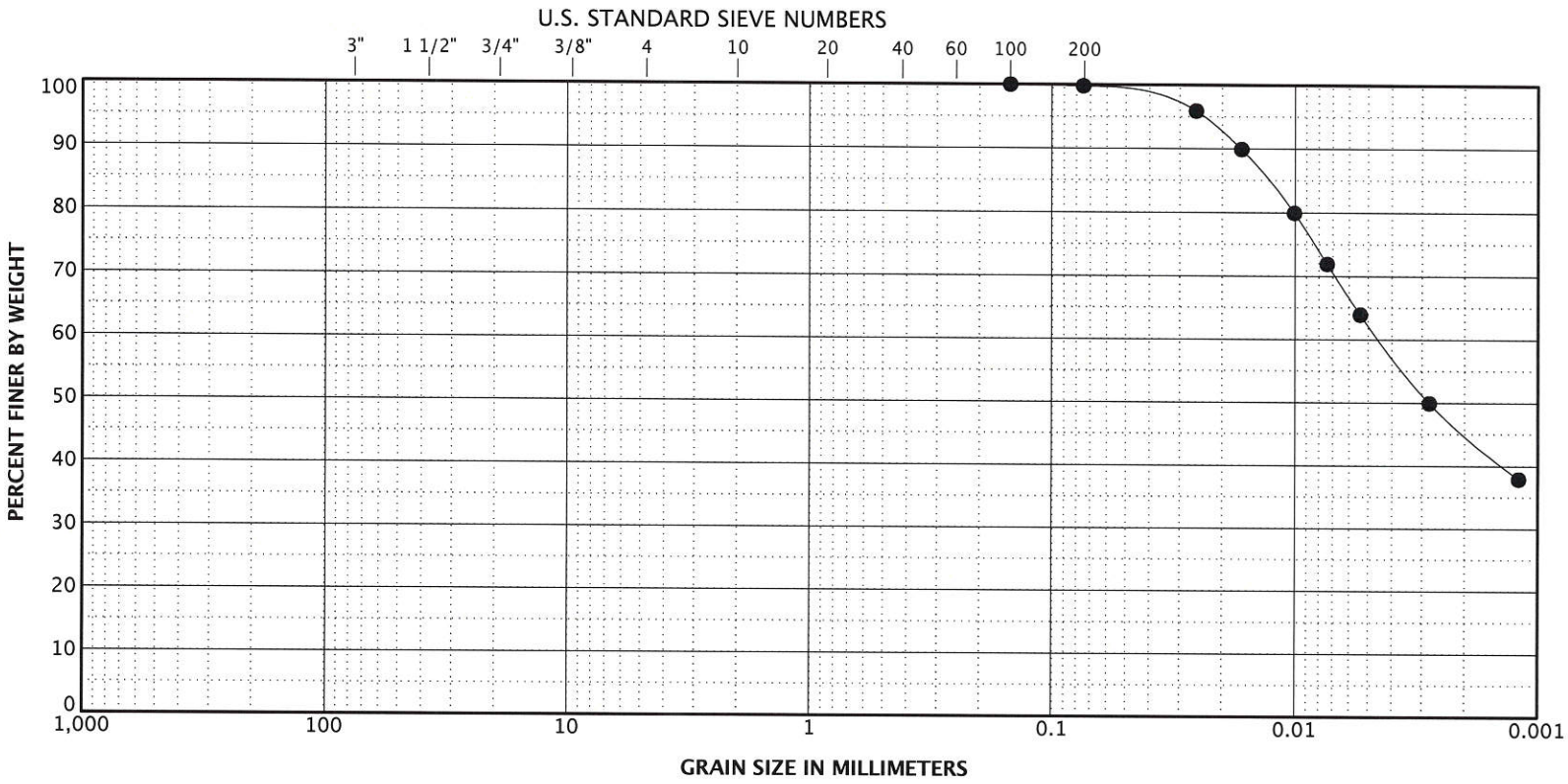
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-16	9.5		0.10	0.09	0.05	0.00		0	61	28	11

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

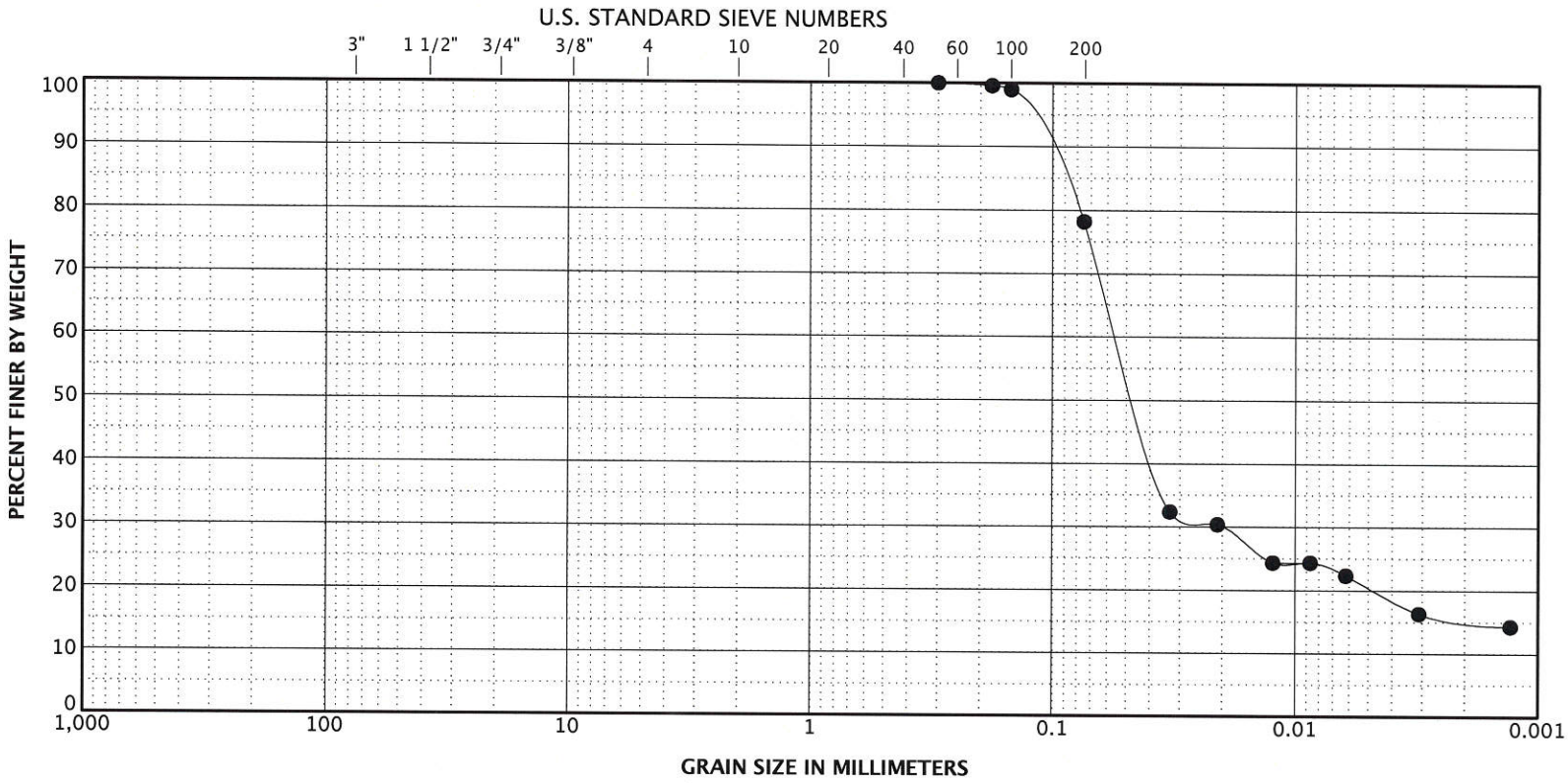
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-17	13.5		0.00	0.00				0	0	38	62

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

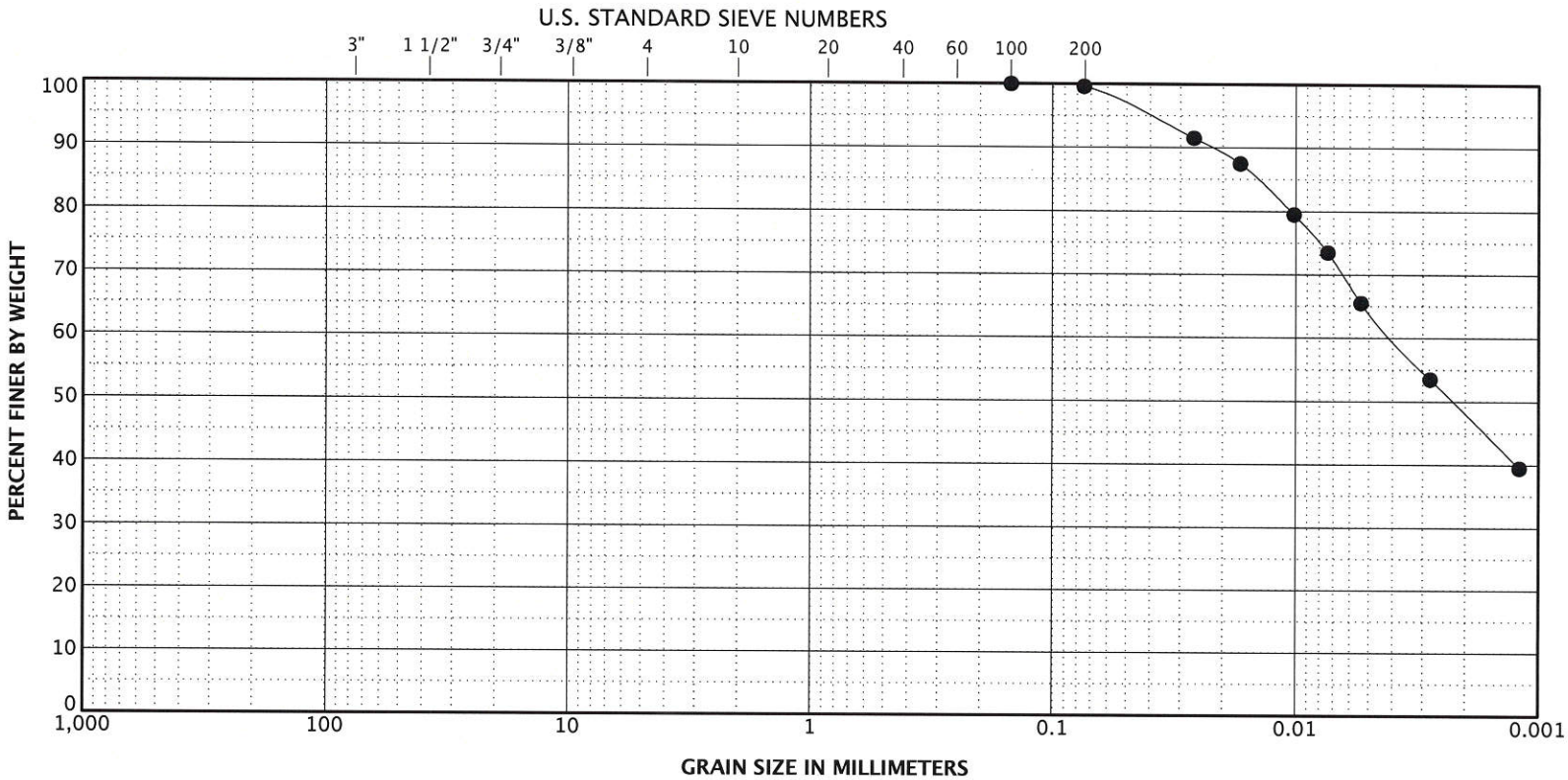
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-19	18.5		0.05	0.05	0.02			0	22	58	20

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

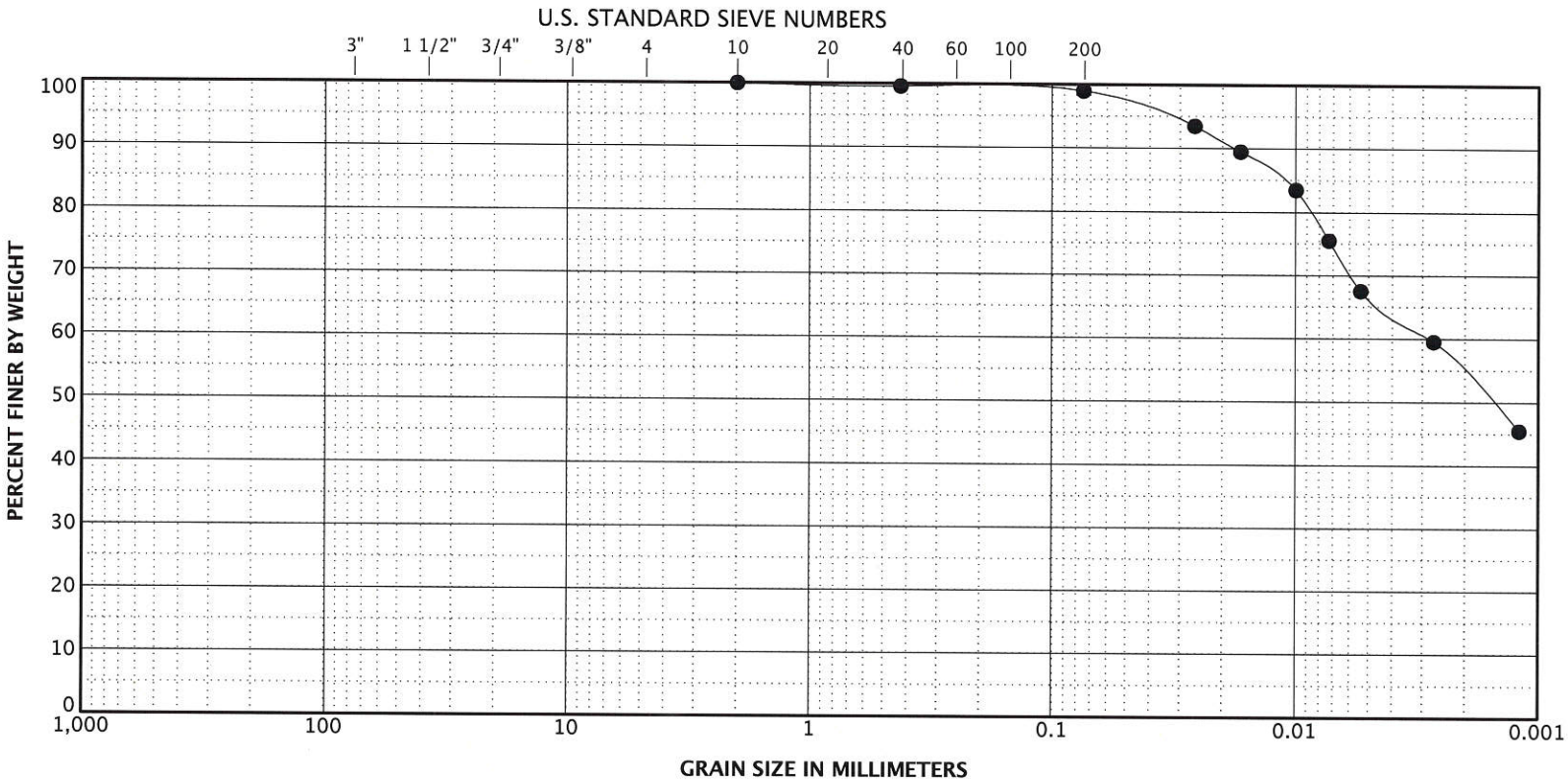
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-20	18.5		0.00	0.00				0	0	36	64

L&G Engineering Laboratory
Construction Material Testing
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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

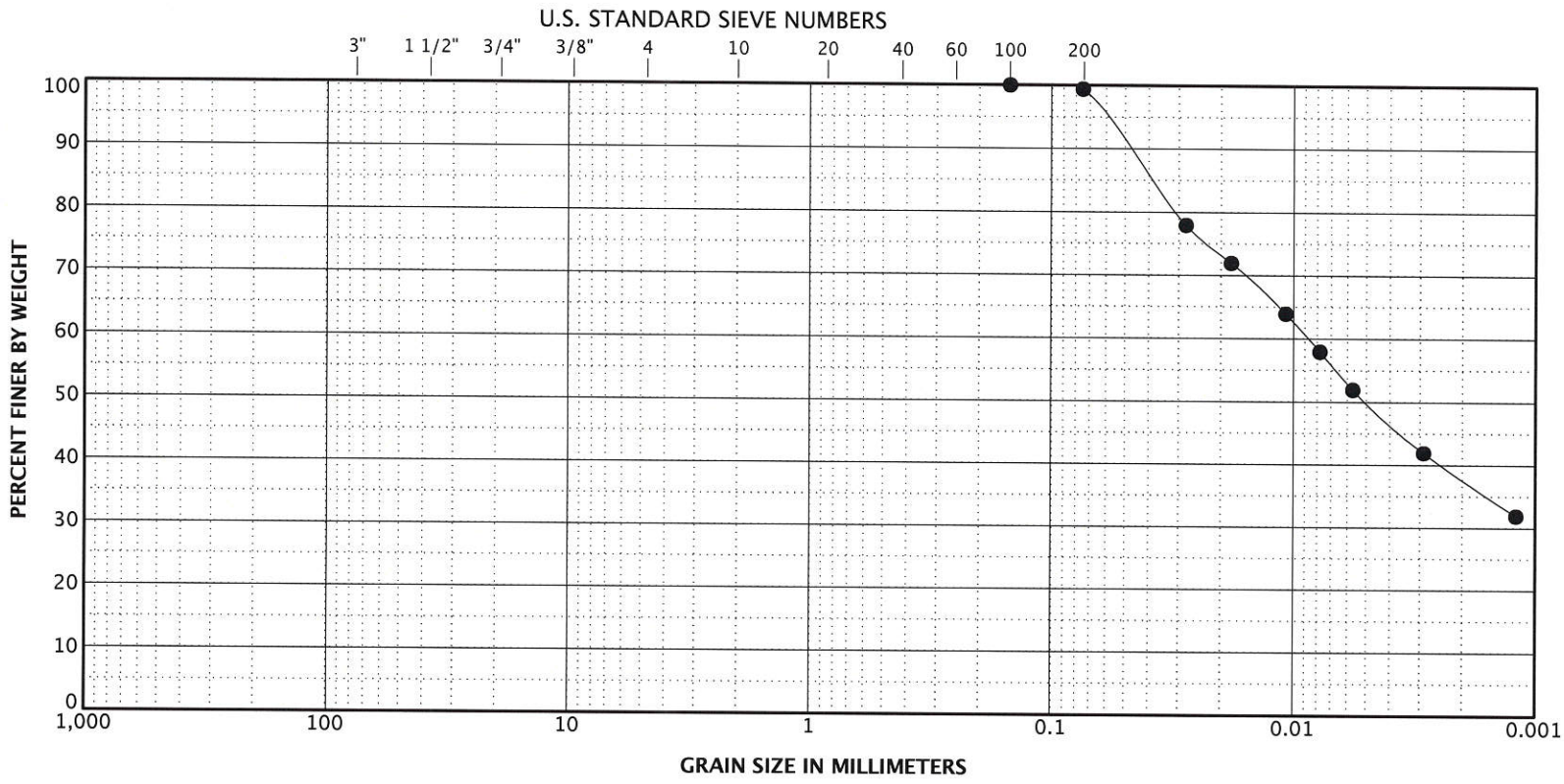
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-21	9.5		0.00	0.00				0	1	32	67

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

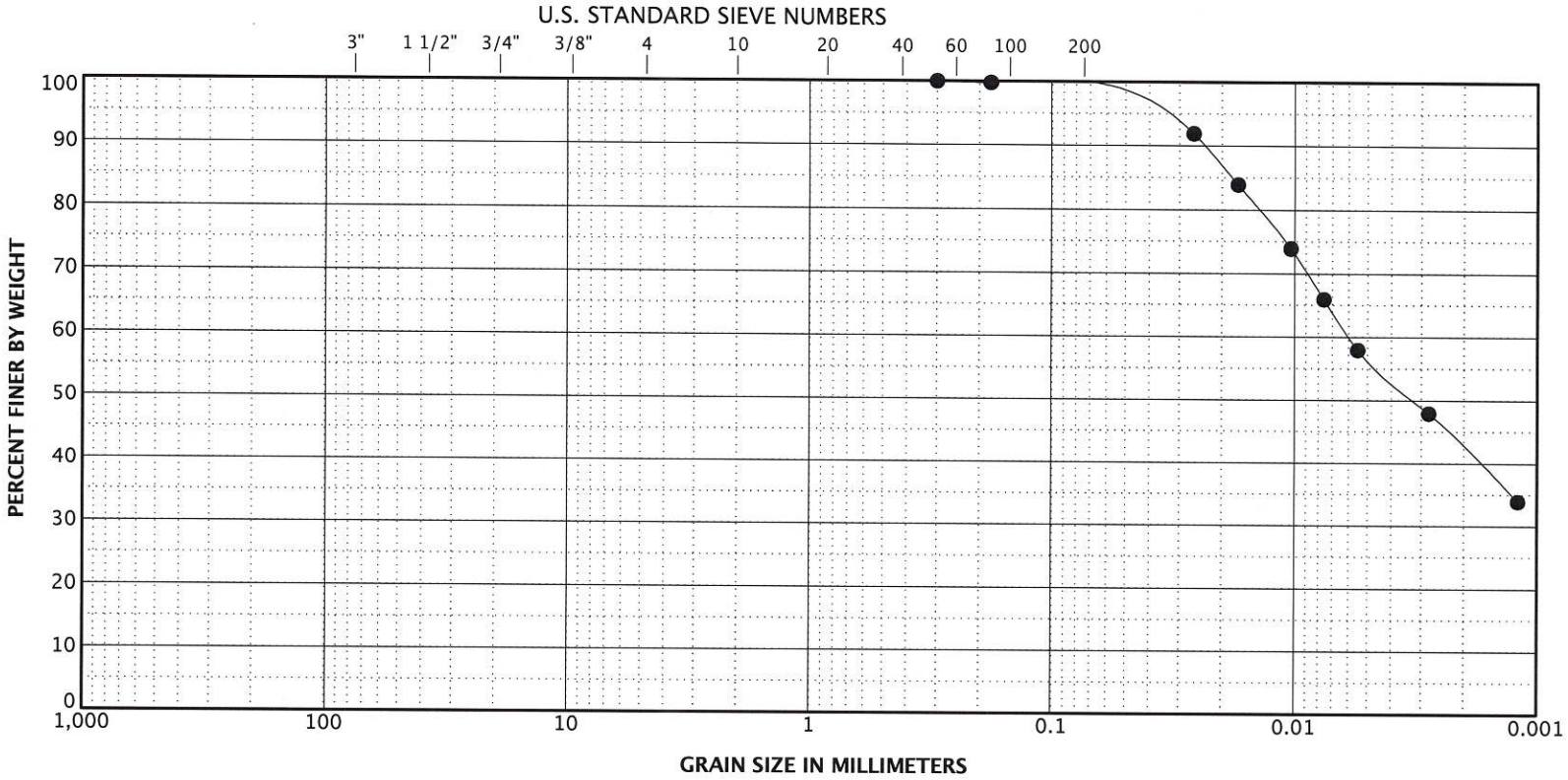
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-22	13.5		0.01	0.01				0	1	49	50

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

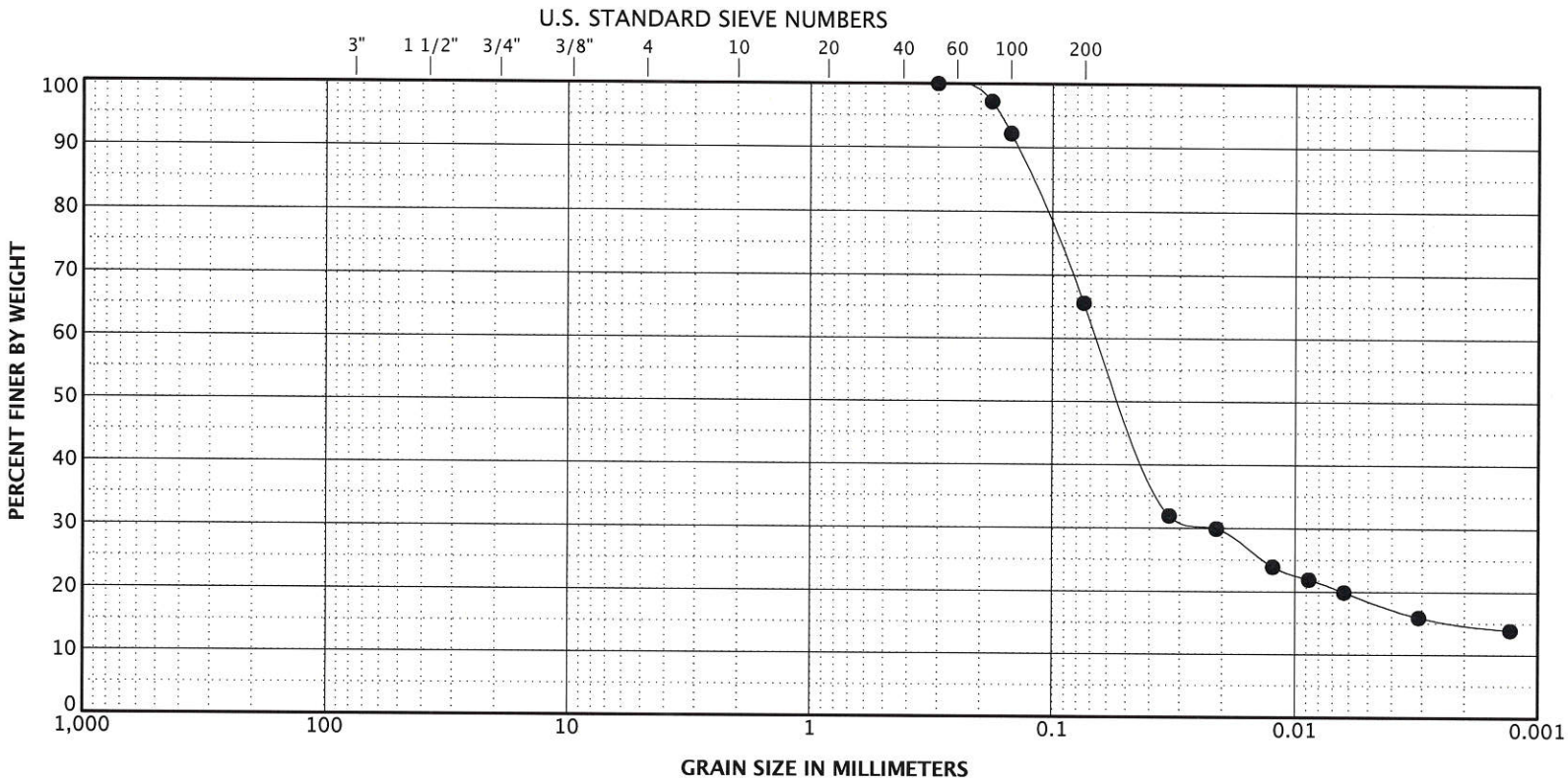
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-23	3.5		0.01	0.00				0			57

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

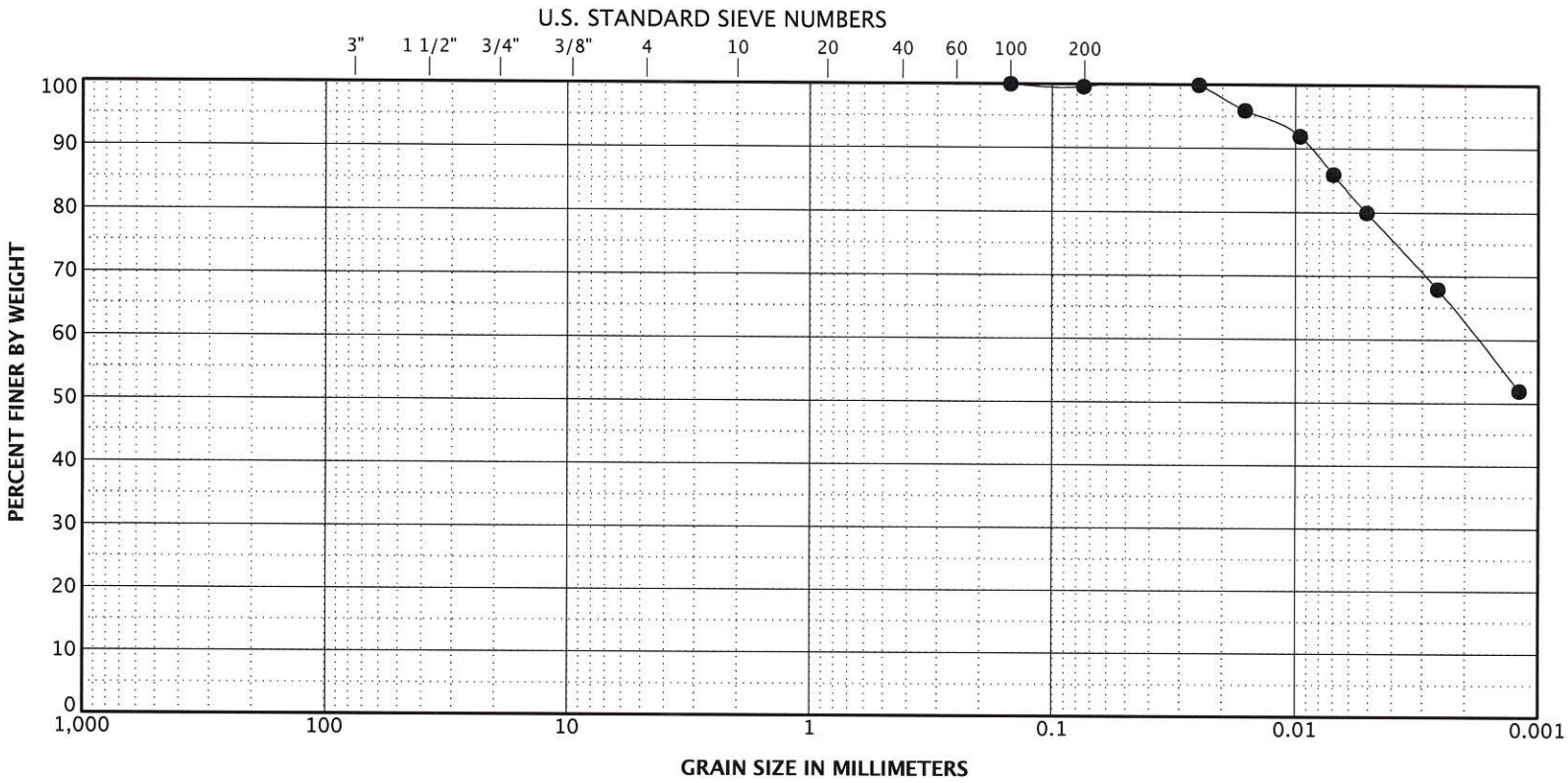
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-24	13.5		0.07	0.05	0.02			0	34	47	19

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

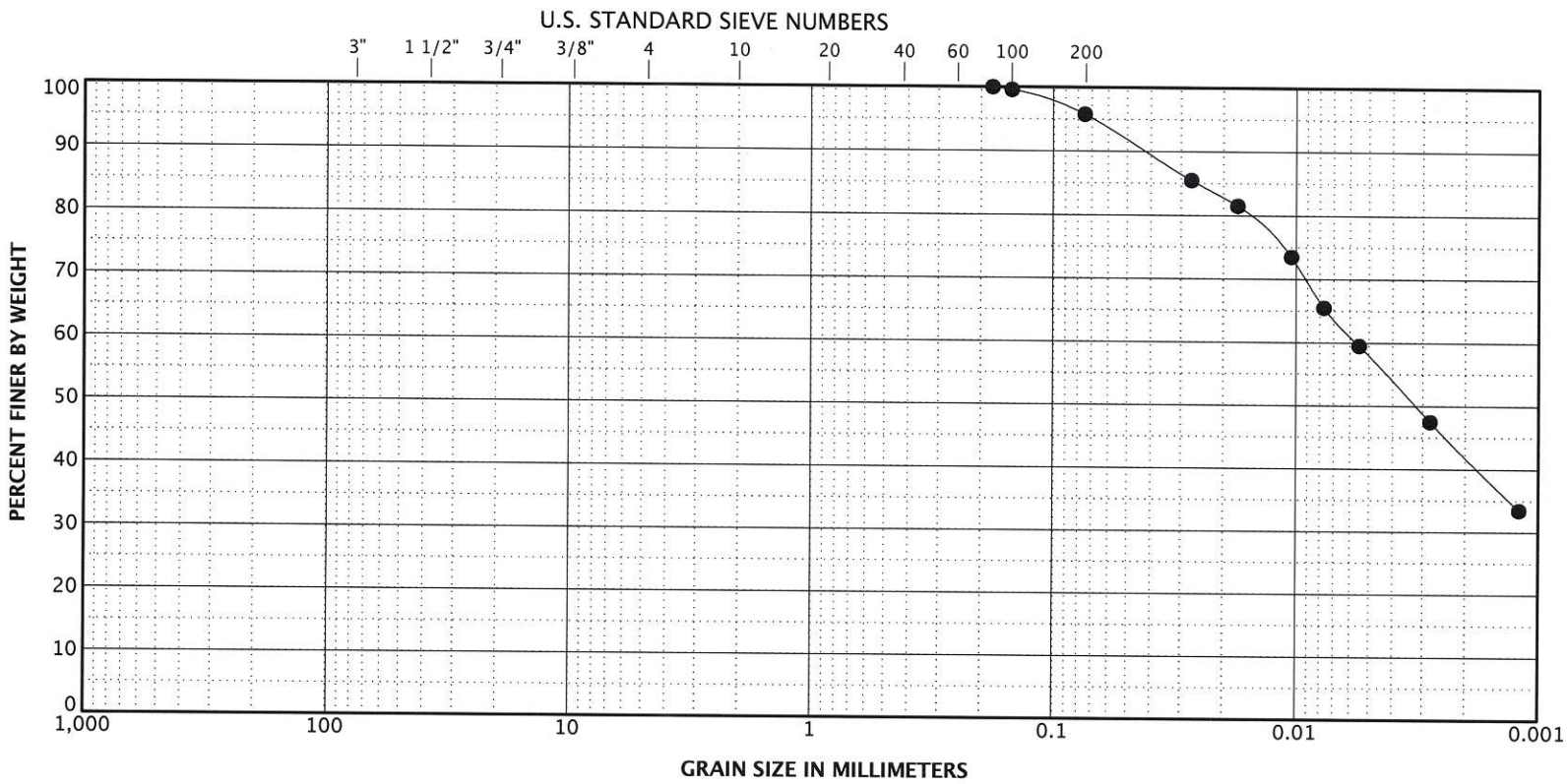
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-25	13.5		0.00					0	0	20	80

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

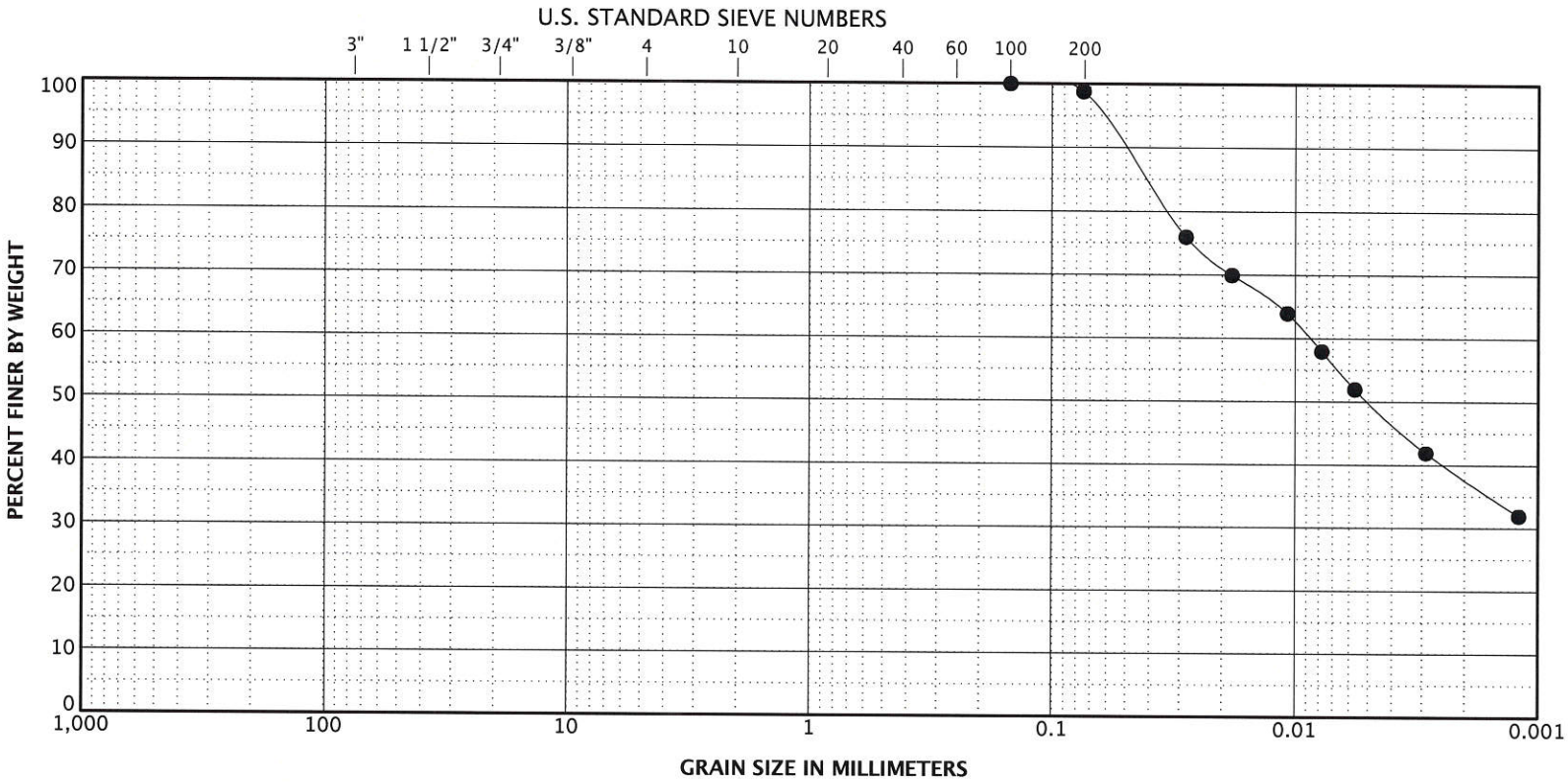
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-27	3.5		0.01	0.00				0	4	38	58

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

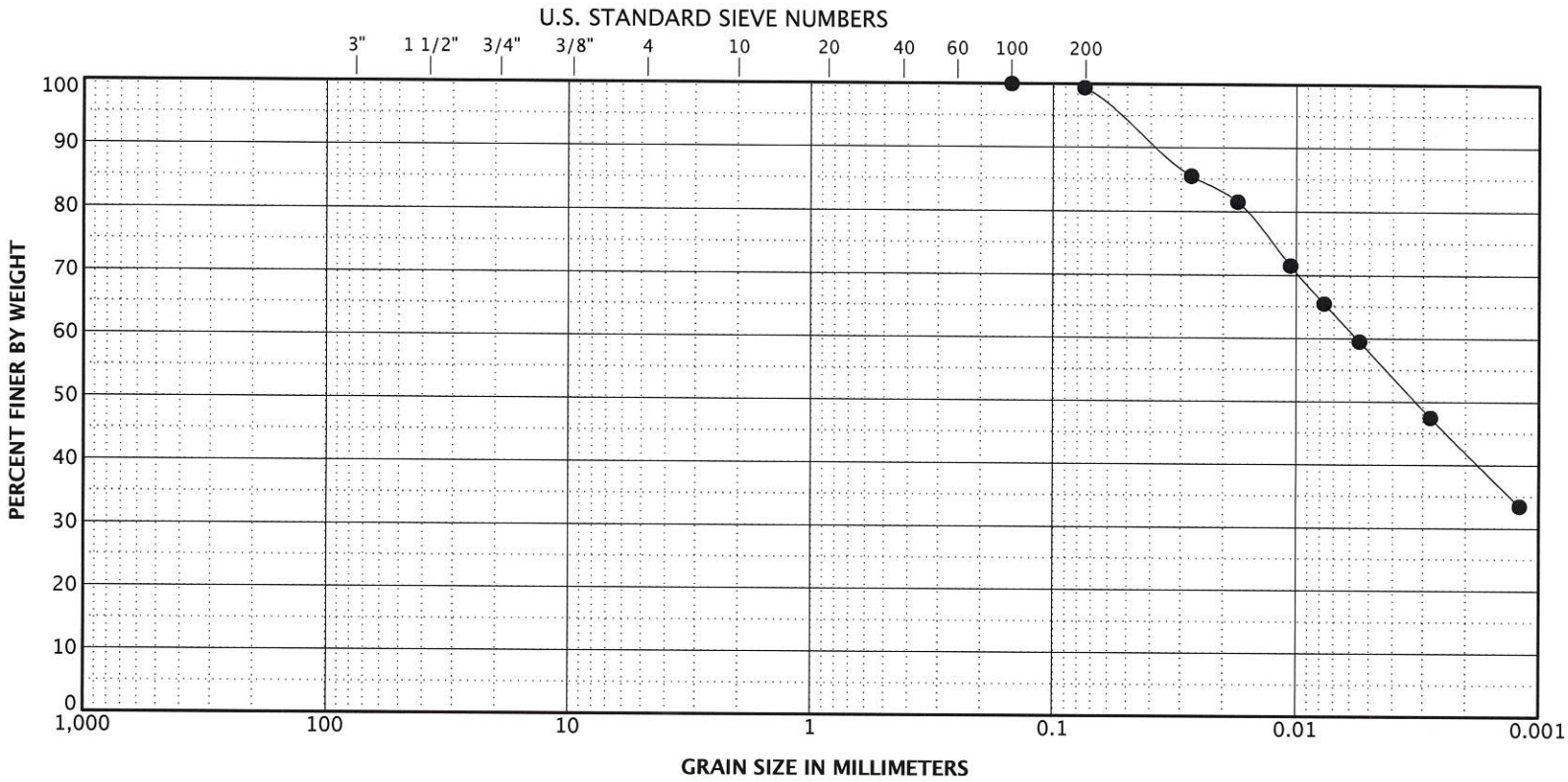
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-28	13.5		0.01	0.01				0	1	49	50

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

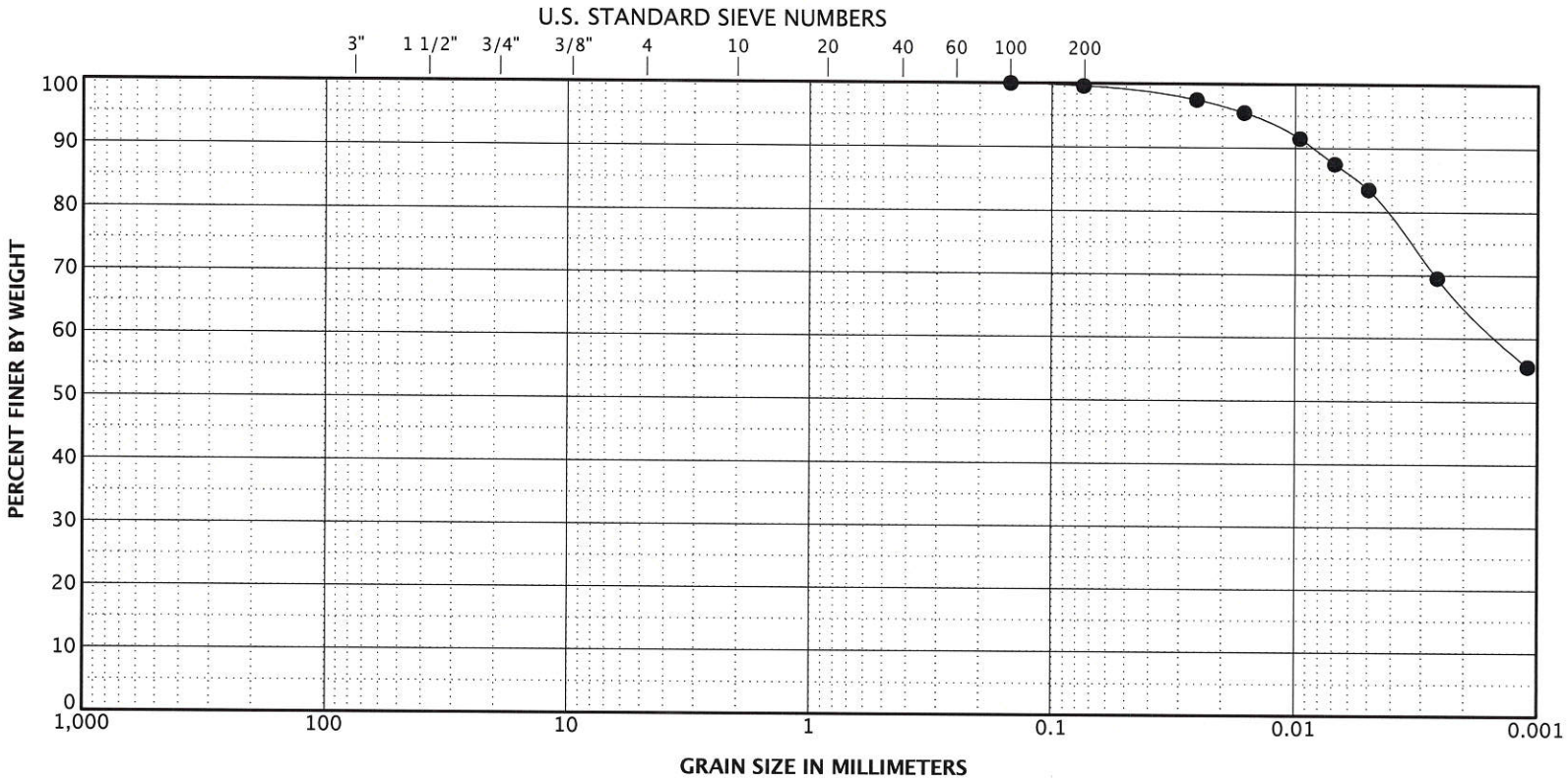
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-29	13.5		0.01	0.00				0	1	42	58

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

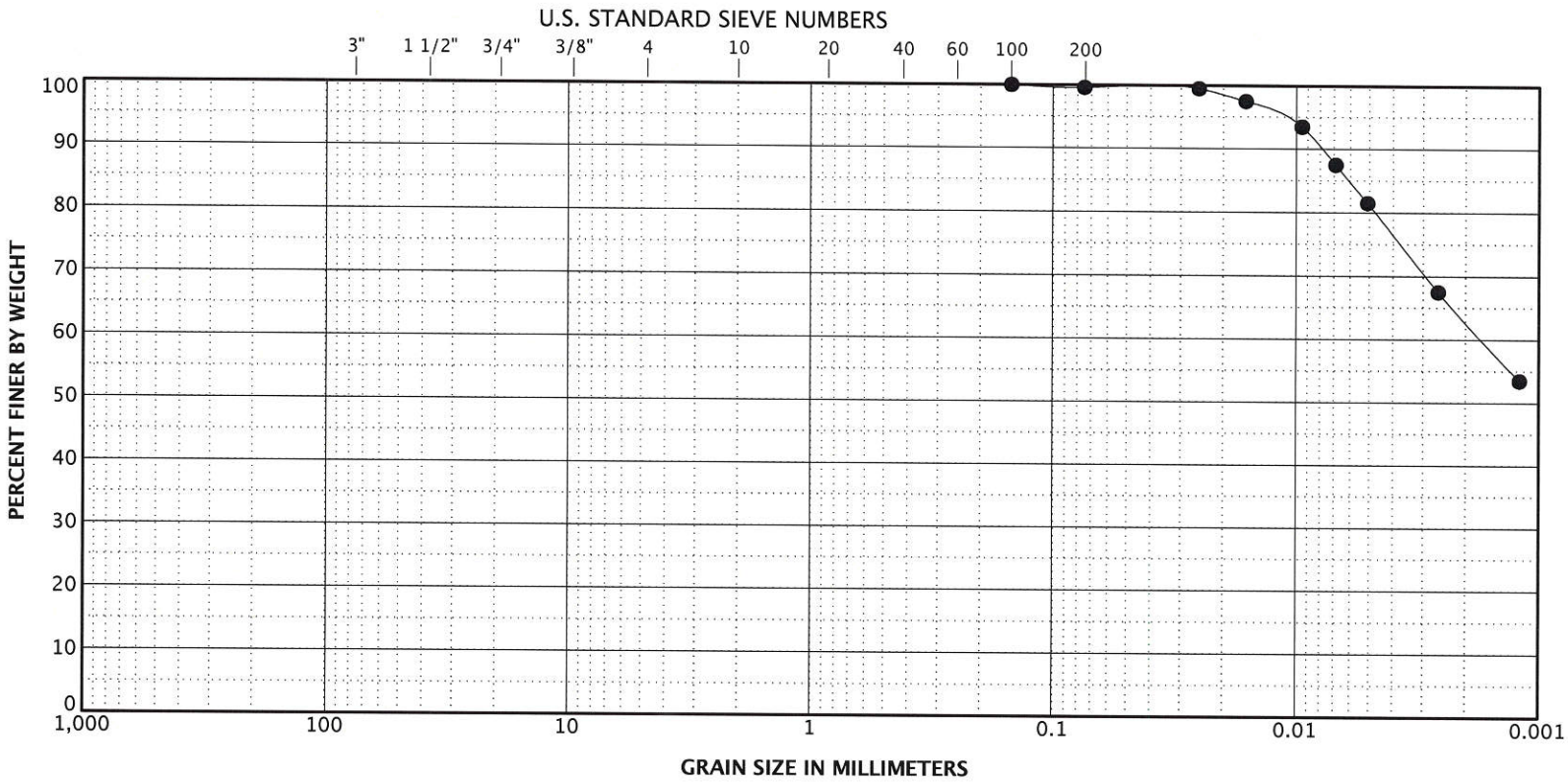
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-30	18.5		0.00					0	0	16	84

L&G Engineering Laboratory
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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

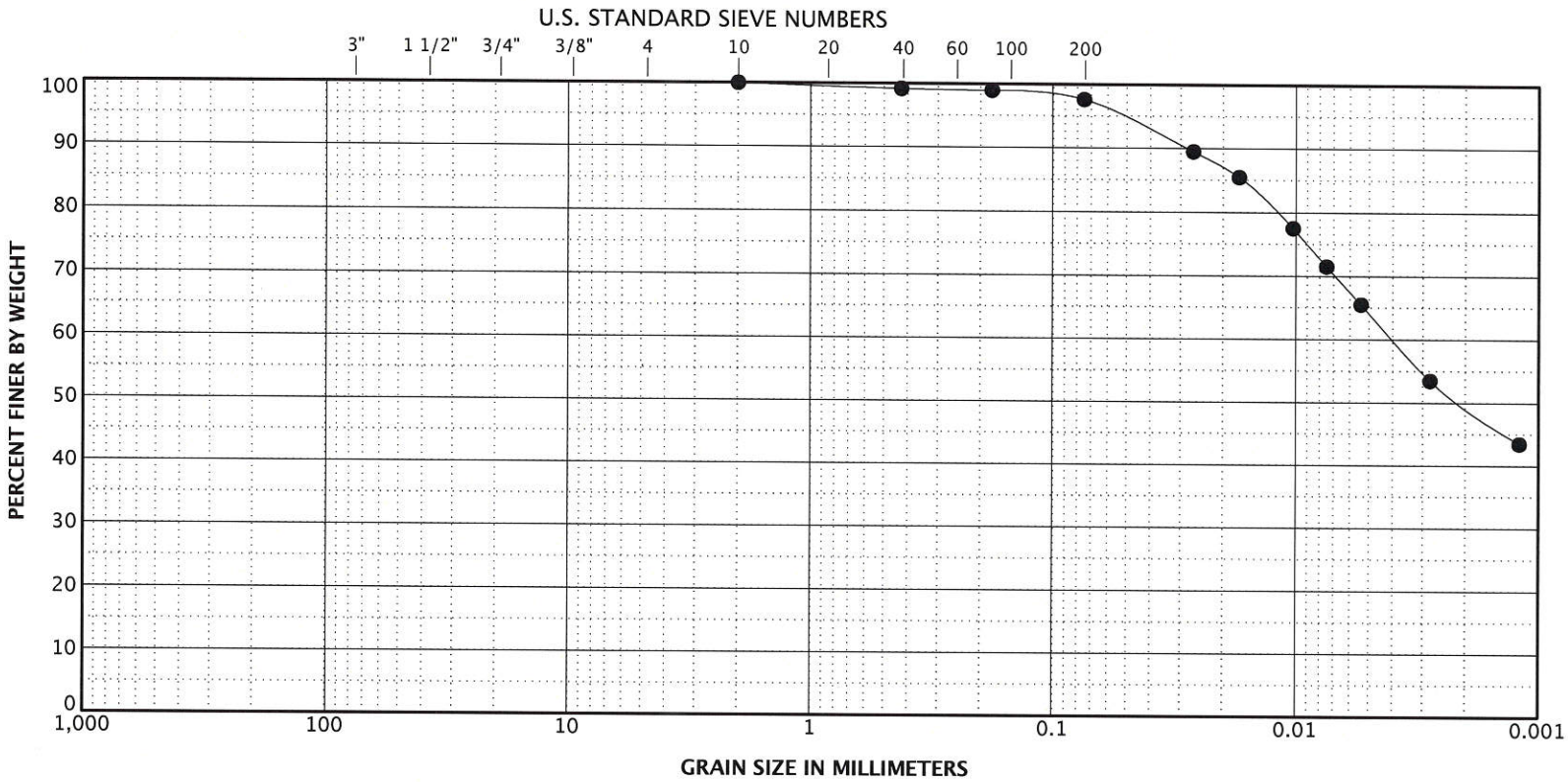
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-31	9.5		0.00					0	0	19	81

L&G Engineering Laboratory
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GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

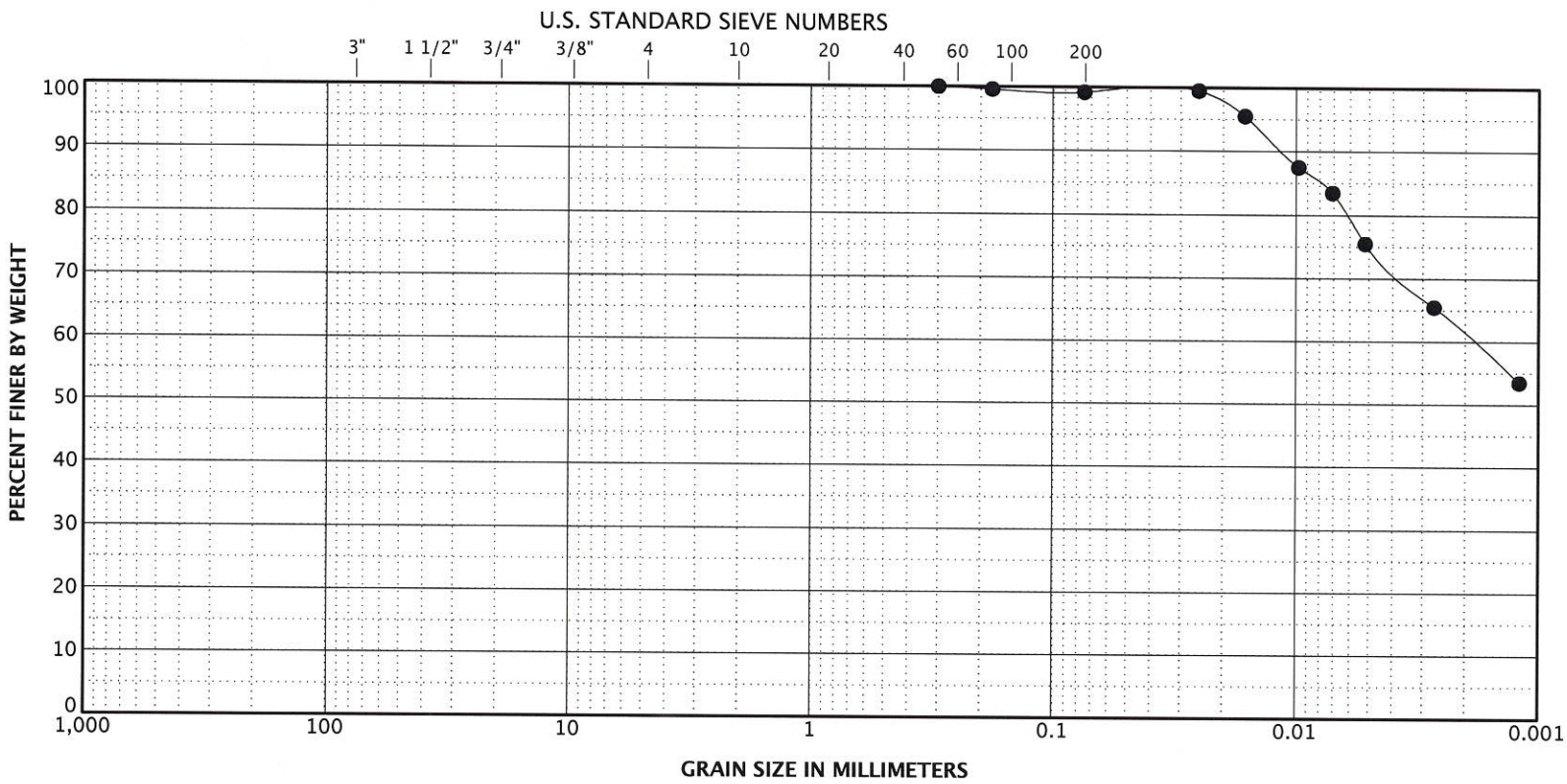
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-32	9.0		0.00	0.00				0	2	34	64

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

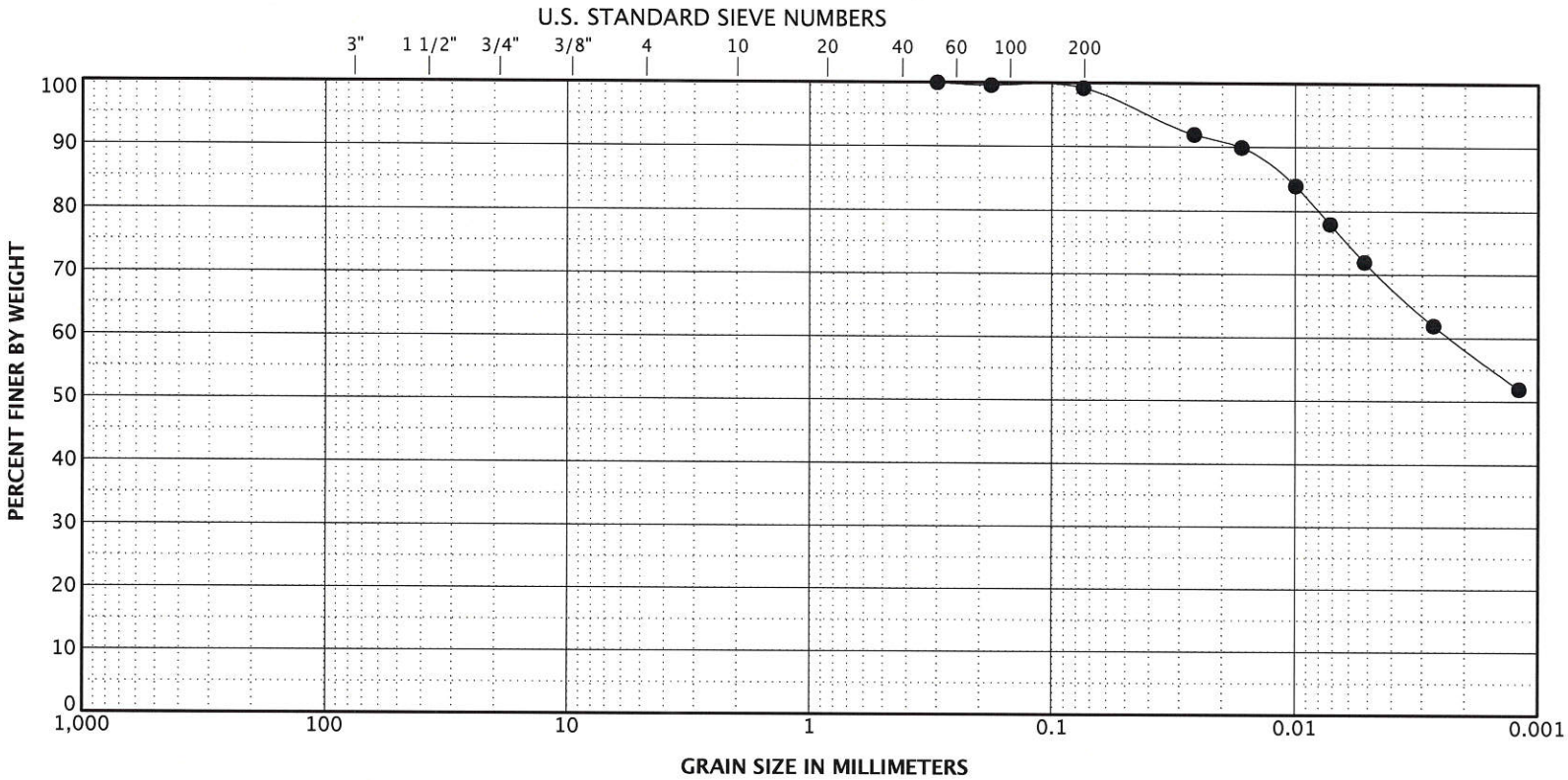
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-33	3.5		0.00					0	1	24	75

L&G Engineering Laboratory
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Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

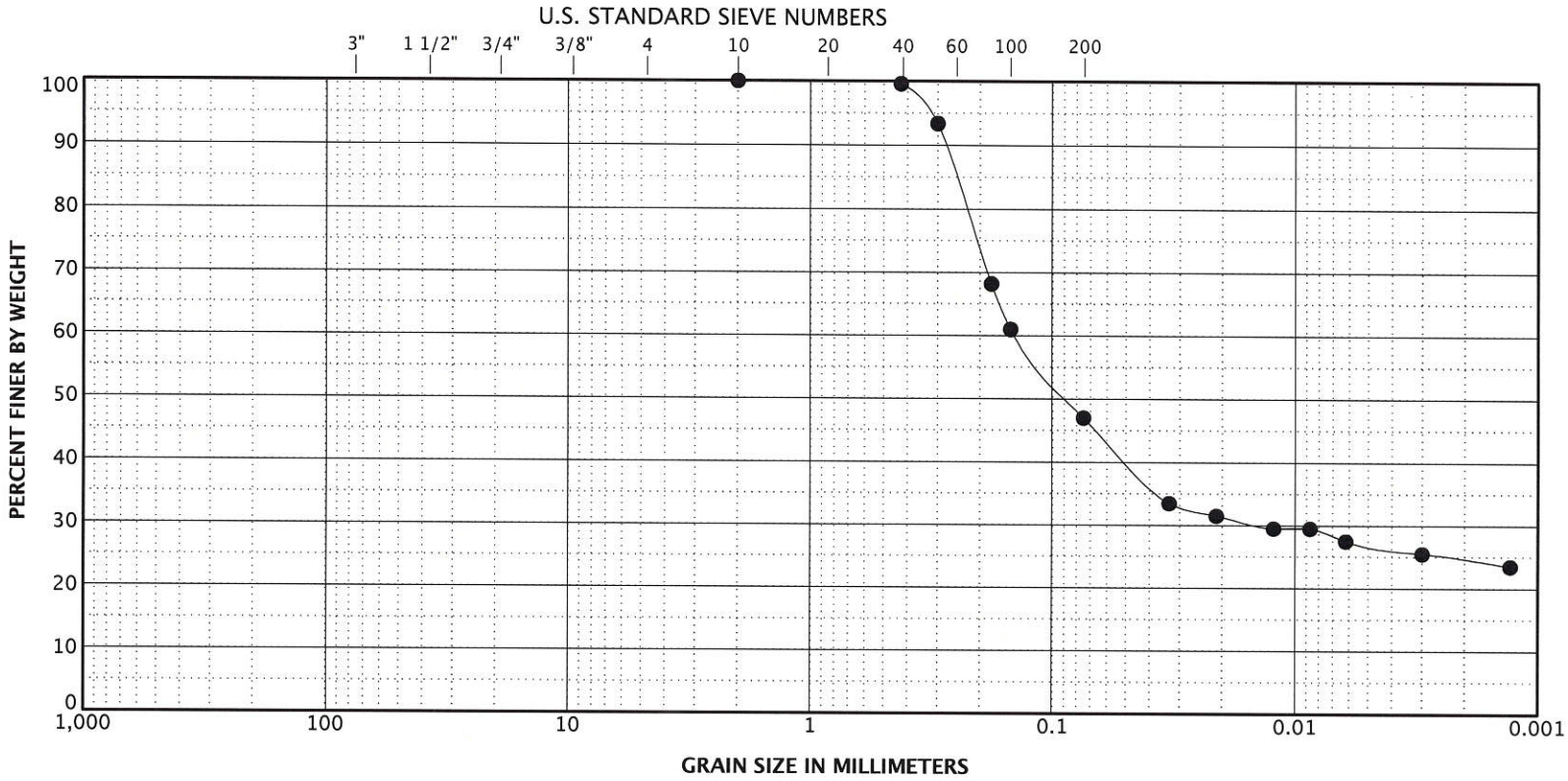
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-34	6.5		0.00					0	1	28	71

L&G Engineering Laboratory
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Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

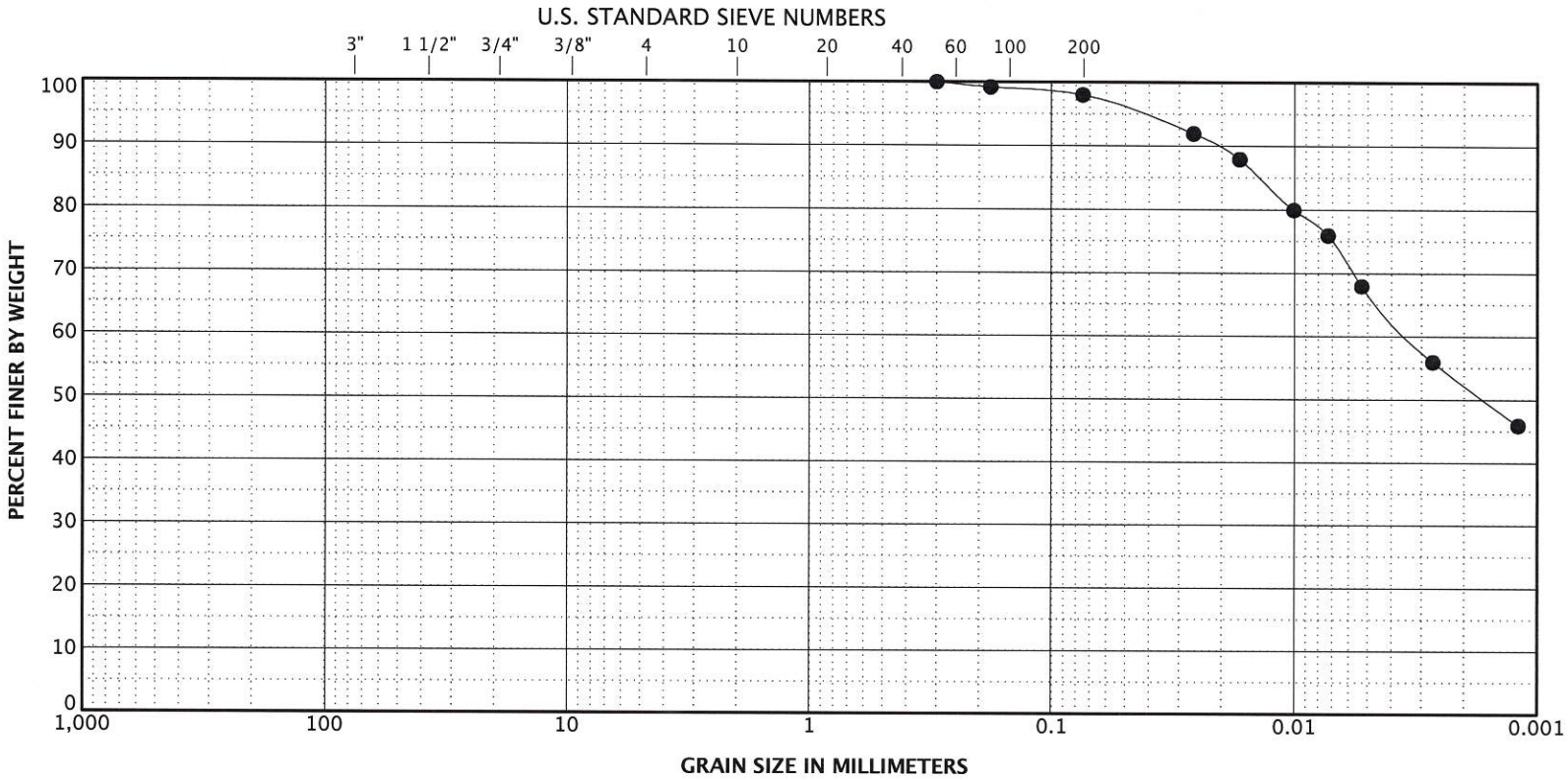
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-35	13.5		0.14	0.09	0.01			0	53	20	27

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

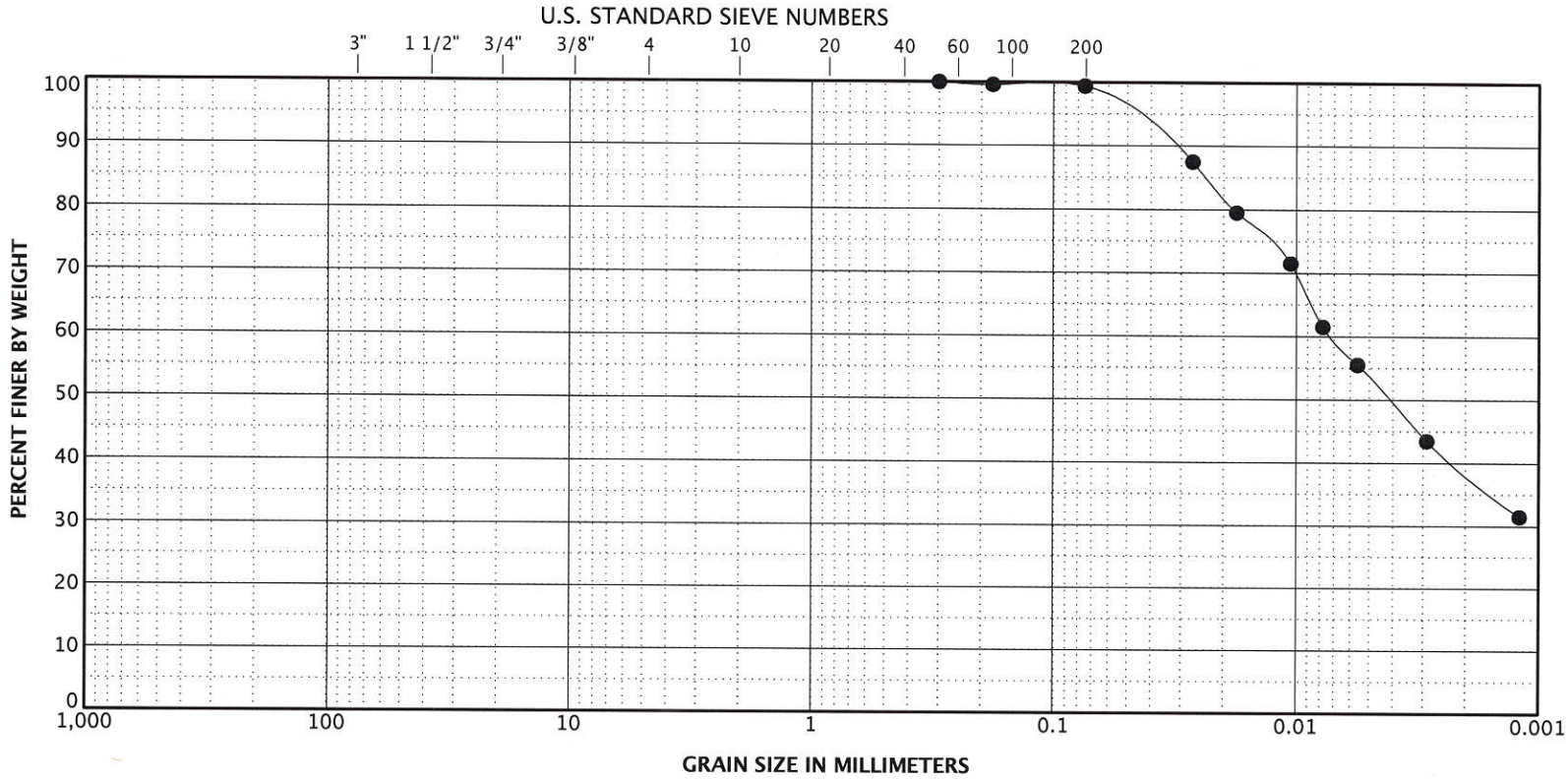
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-36	6.5		0.00	0.00				0	2	31	67

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Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

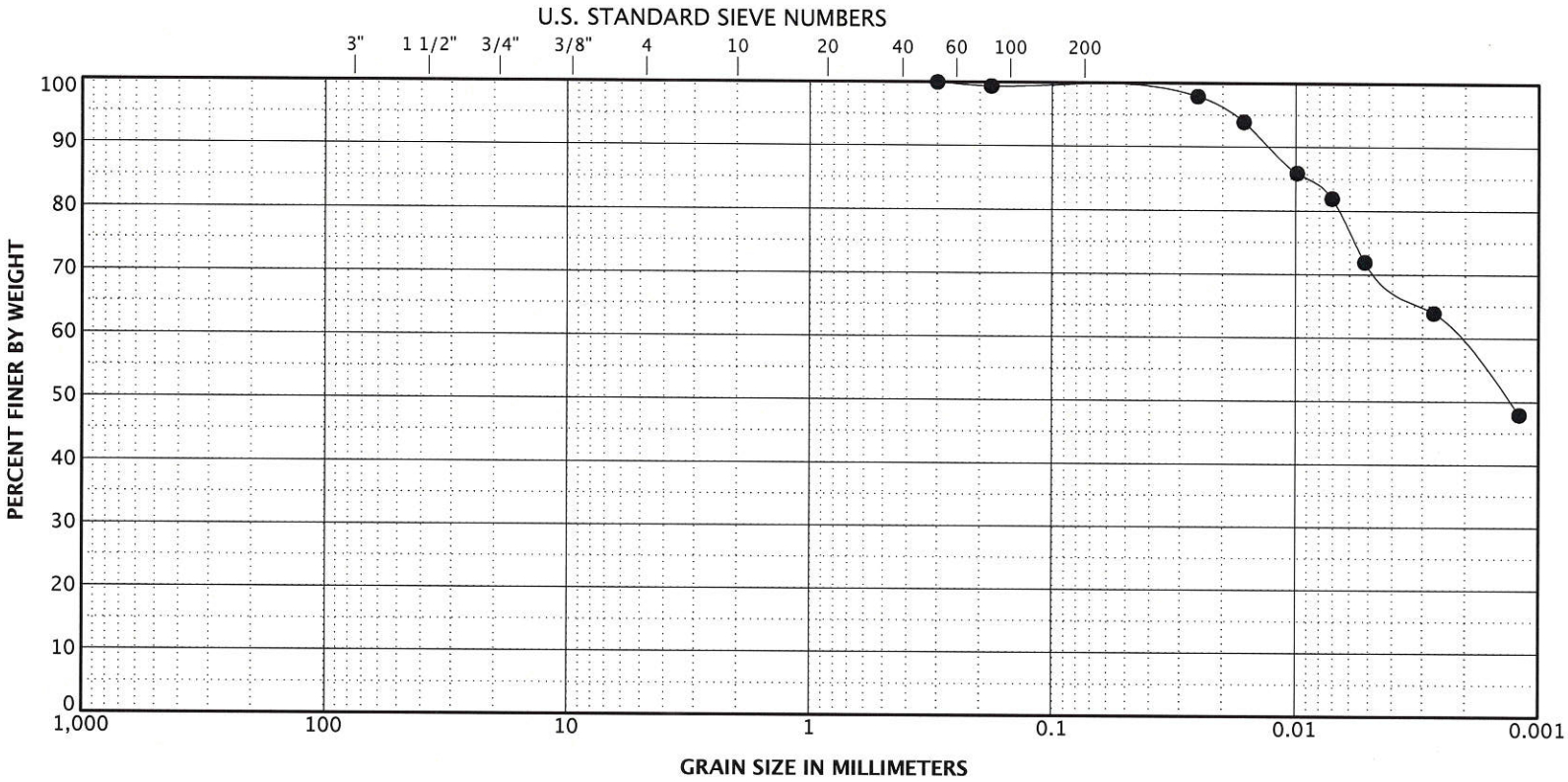
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-37	9.5		0.01	0.00				0	1	46	53

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

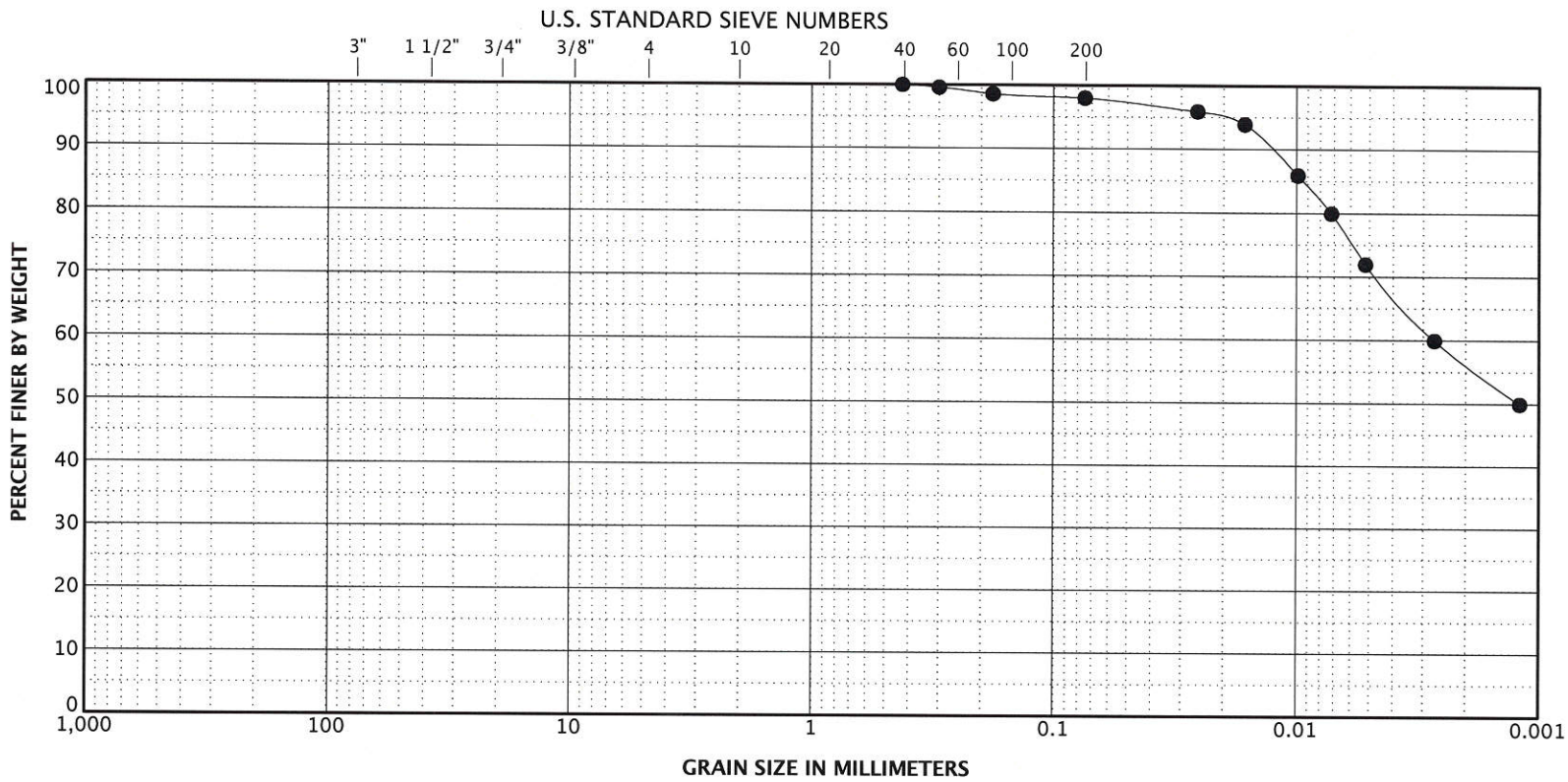
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-38	9.0		0.00	0.00				0			71

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Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

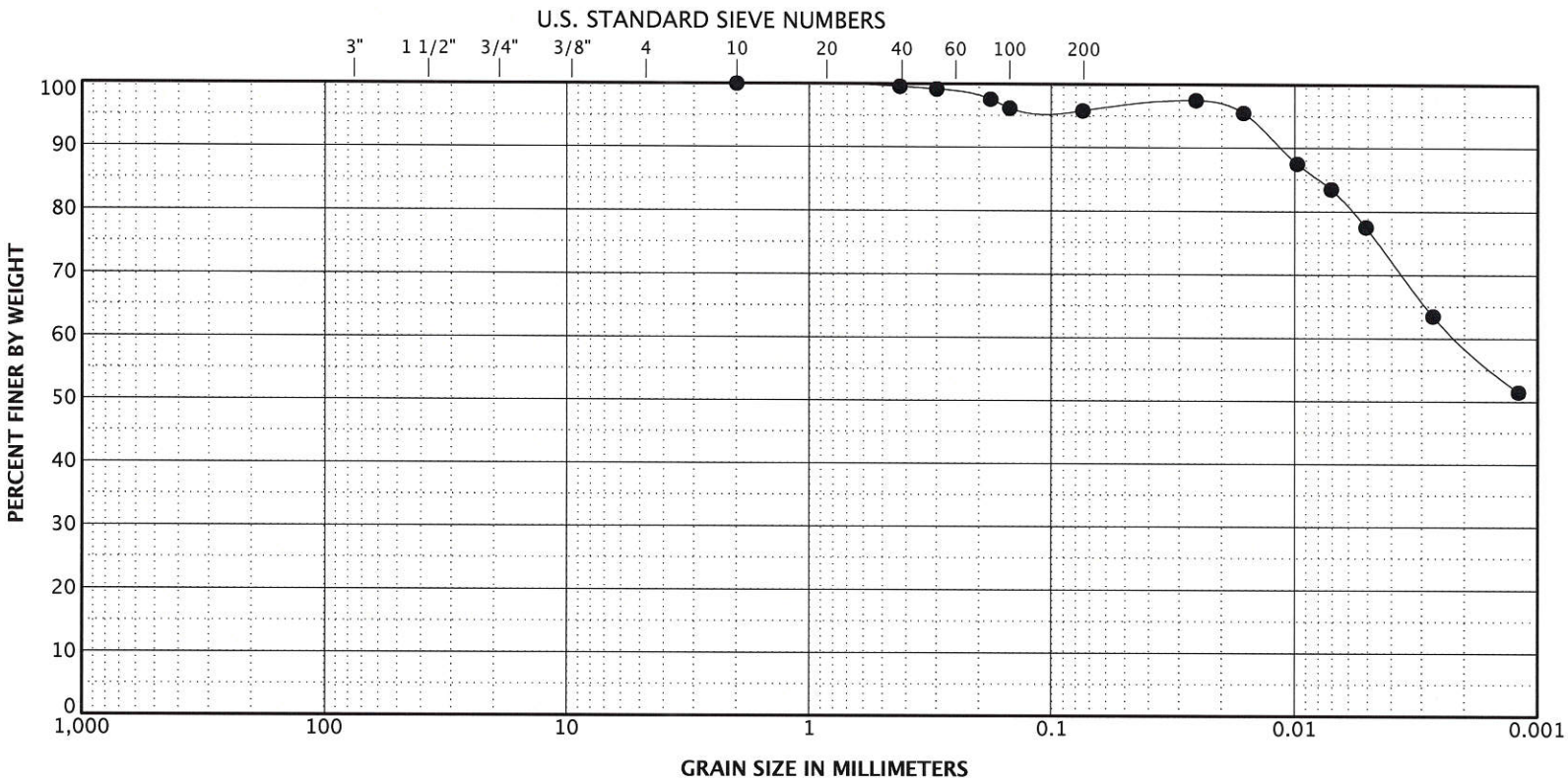
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-39	9.5		0.00	0.00				0	2	27	71

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

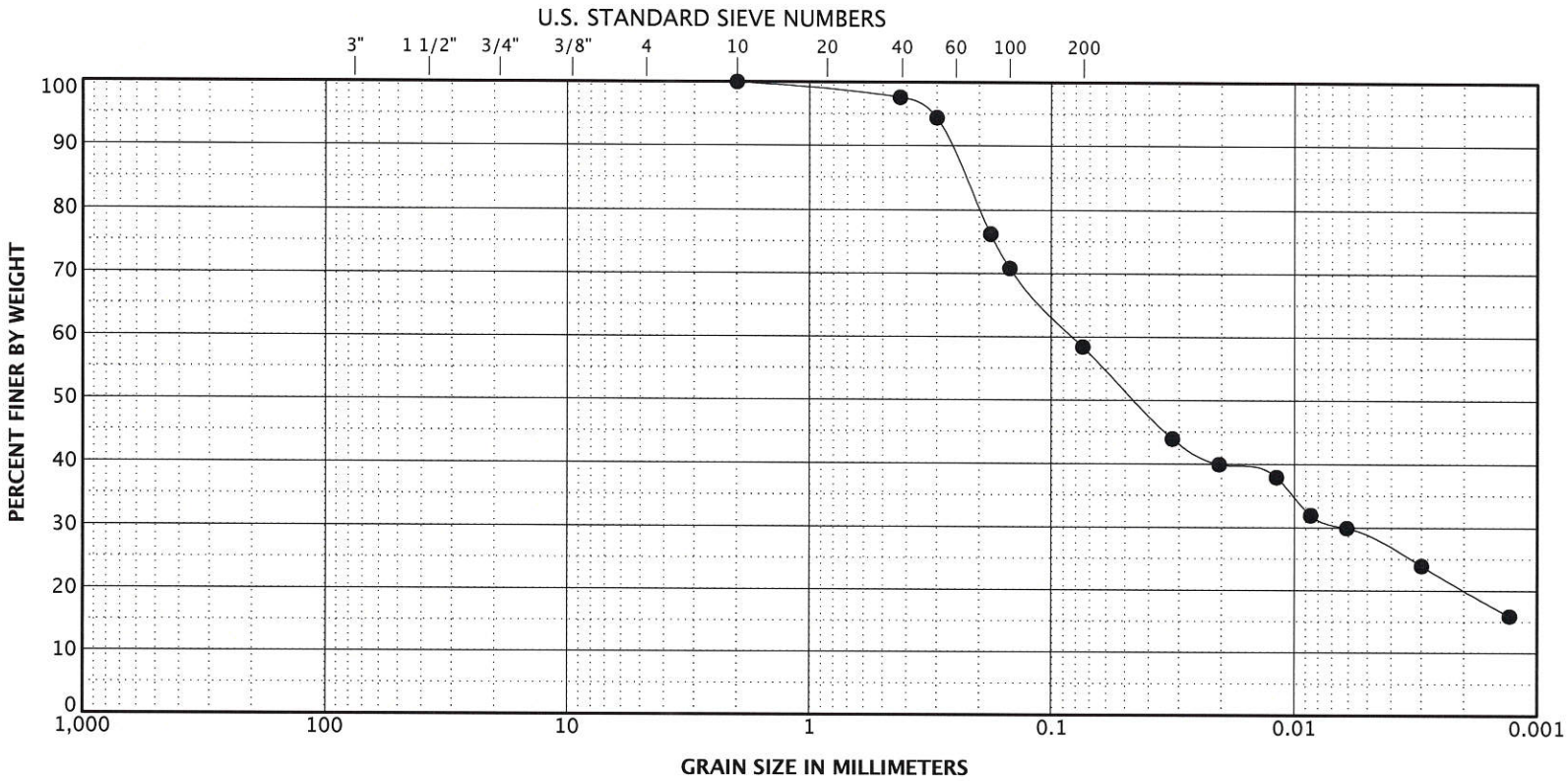
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-40	13.5		0.00					0	4	19	77

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

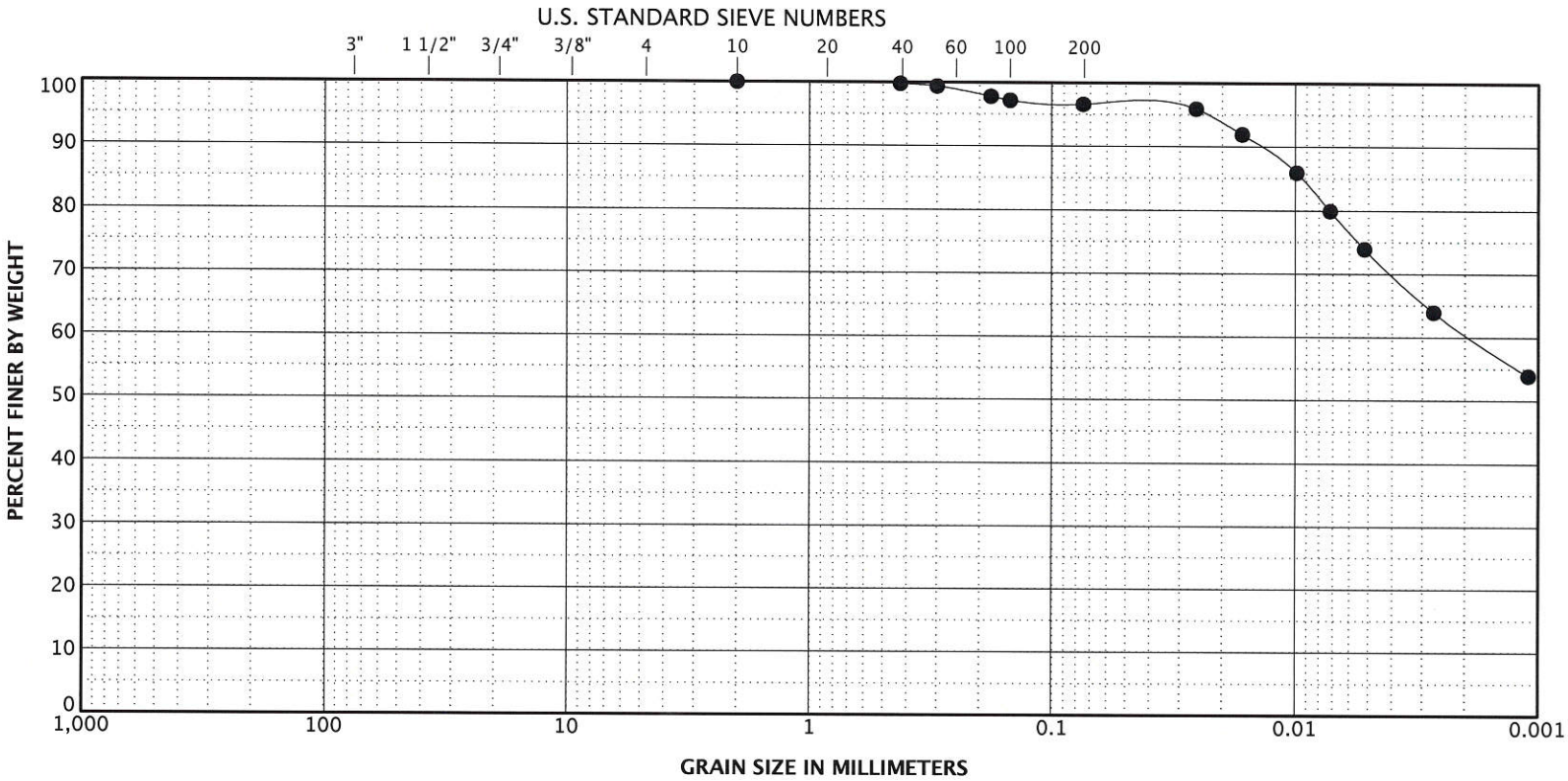
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-41	18.5		0.08	0.05	0.01			0	42	30	28

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

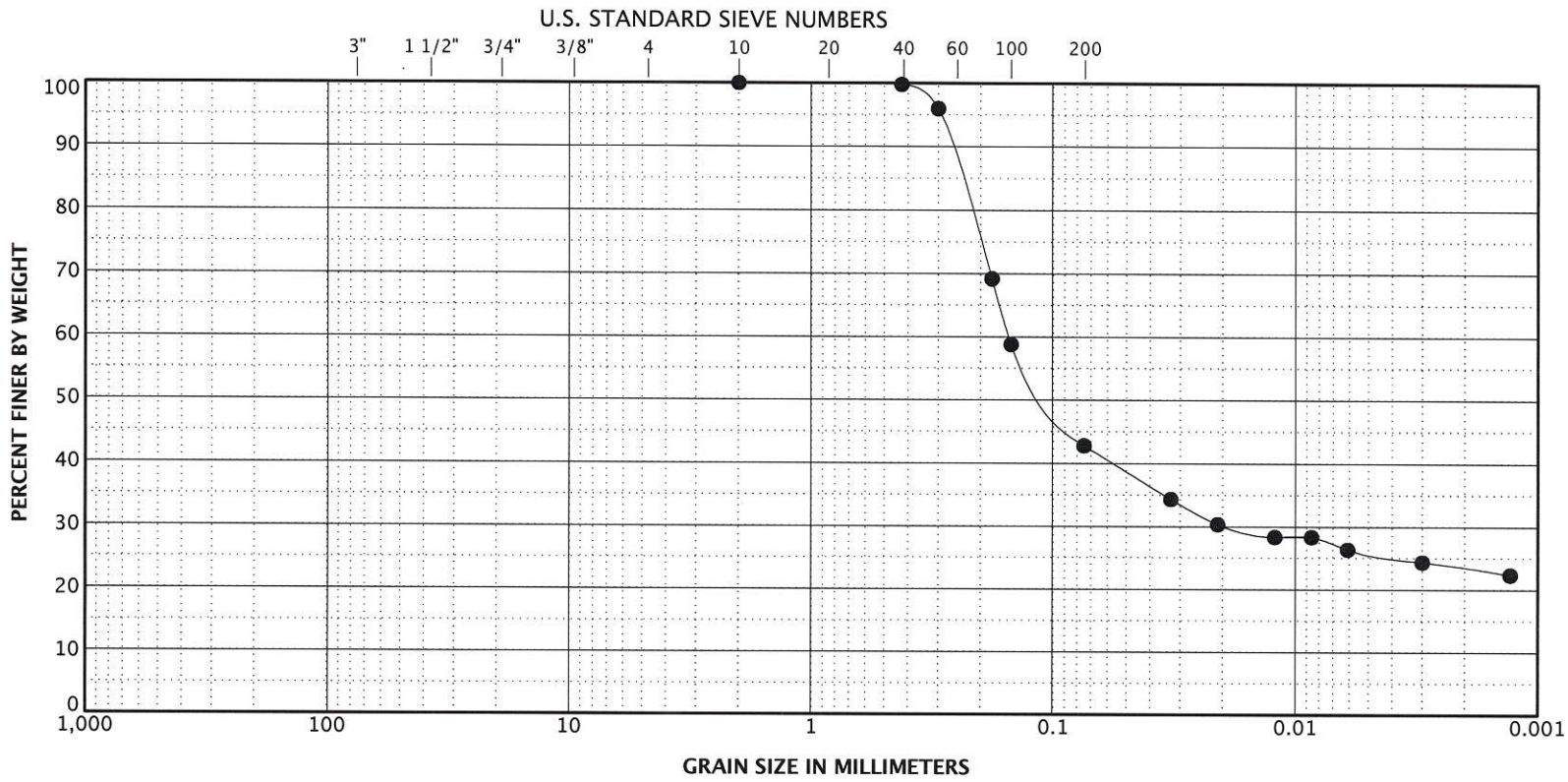
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-42	6.5		0.00					0	3	23	73

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

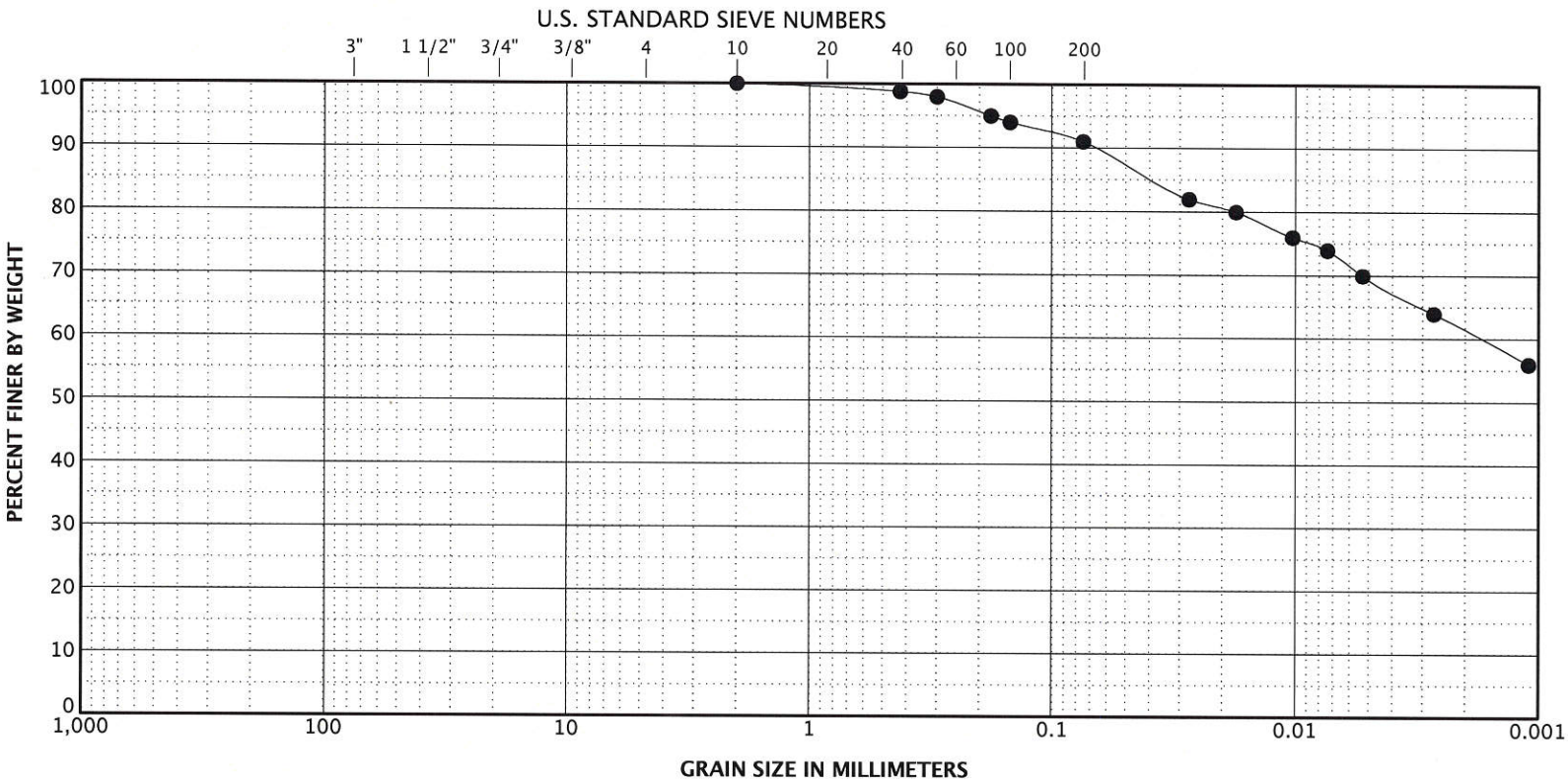
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-43	9.0		0.15	0.10	0.02			0	57	17	26

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

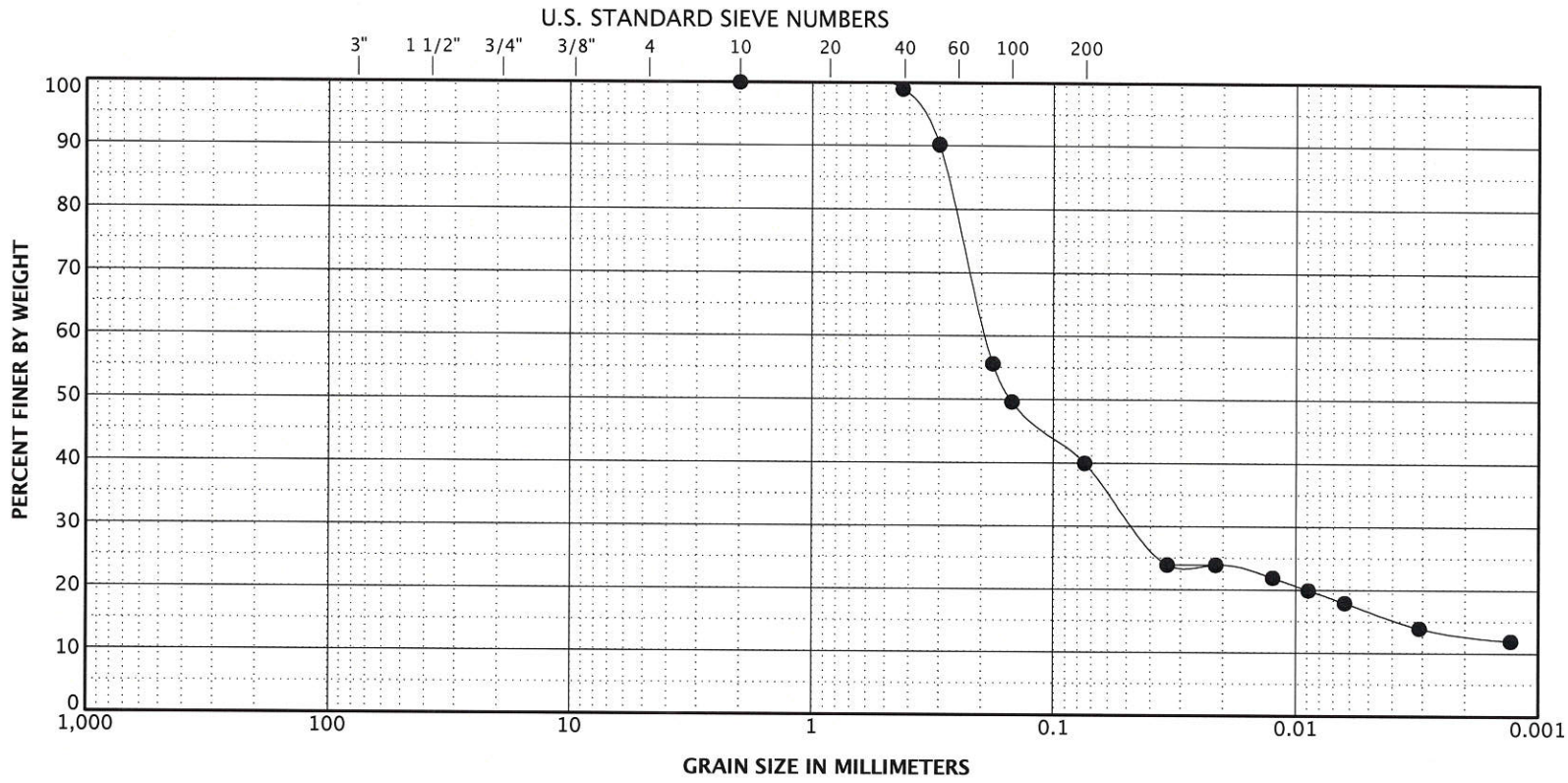
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-44	13.5		0.00					0	9	22	69

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

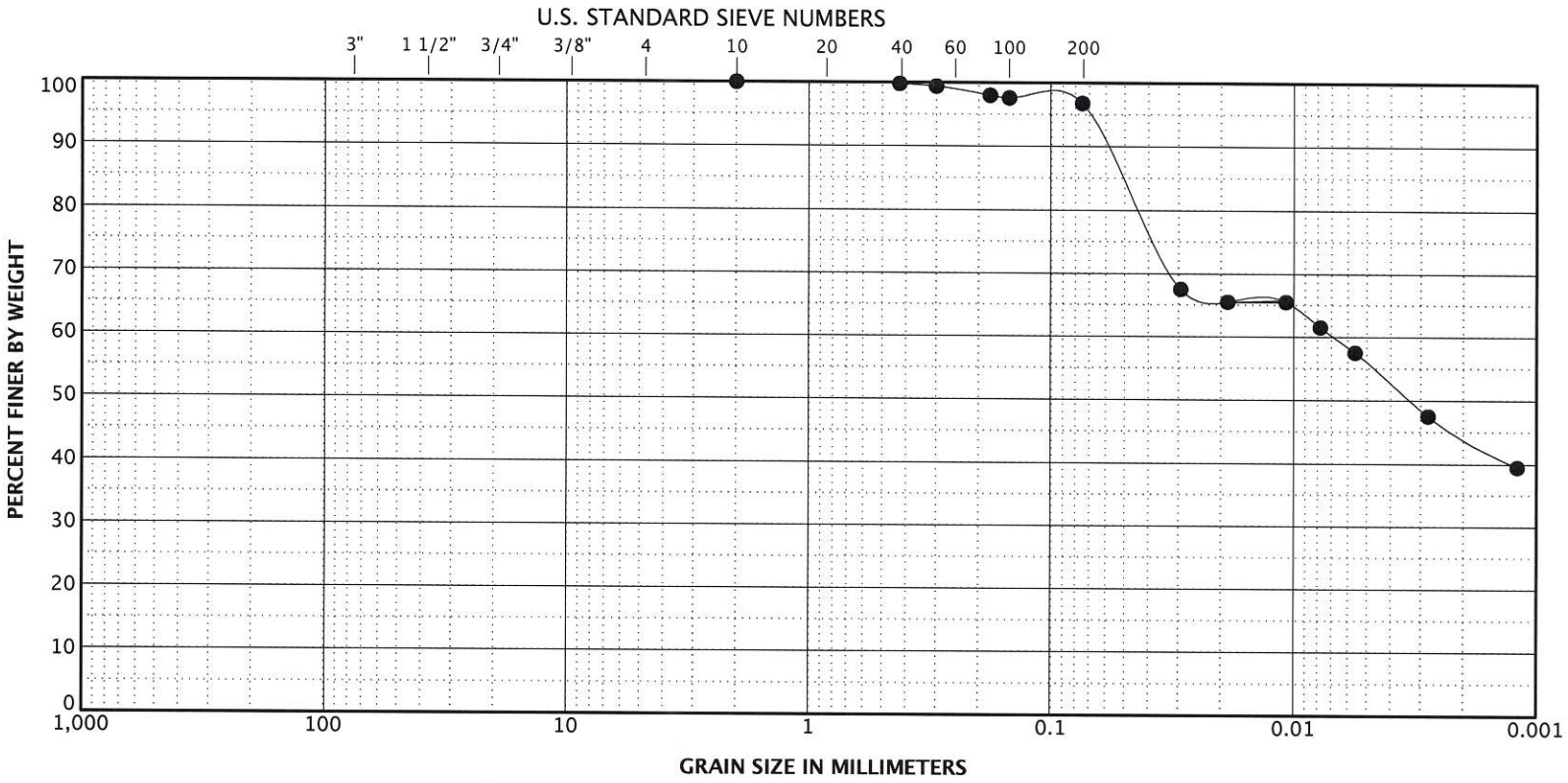
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-45	9.5		0.19	0.15	0.05			0	60	23	17

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

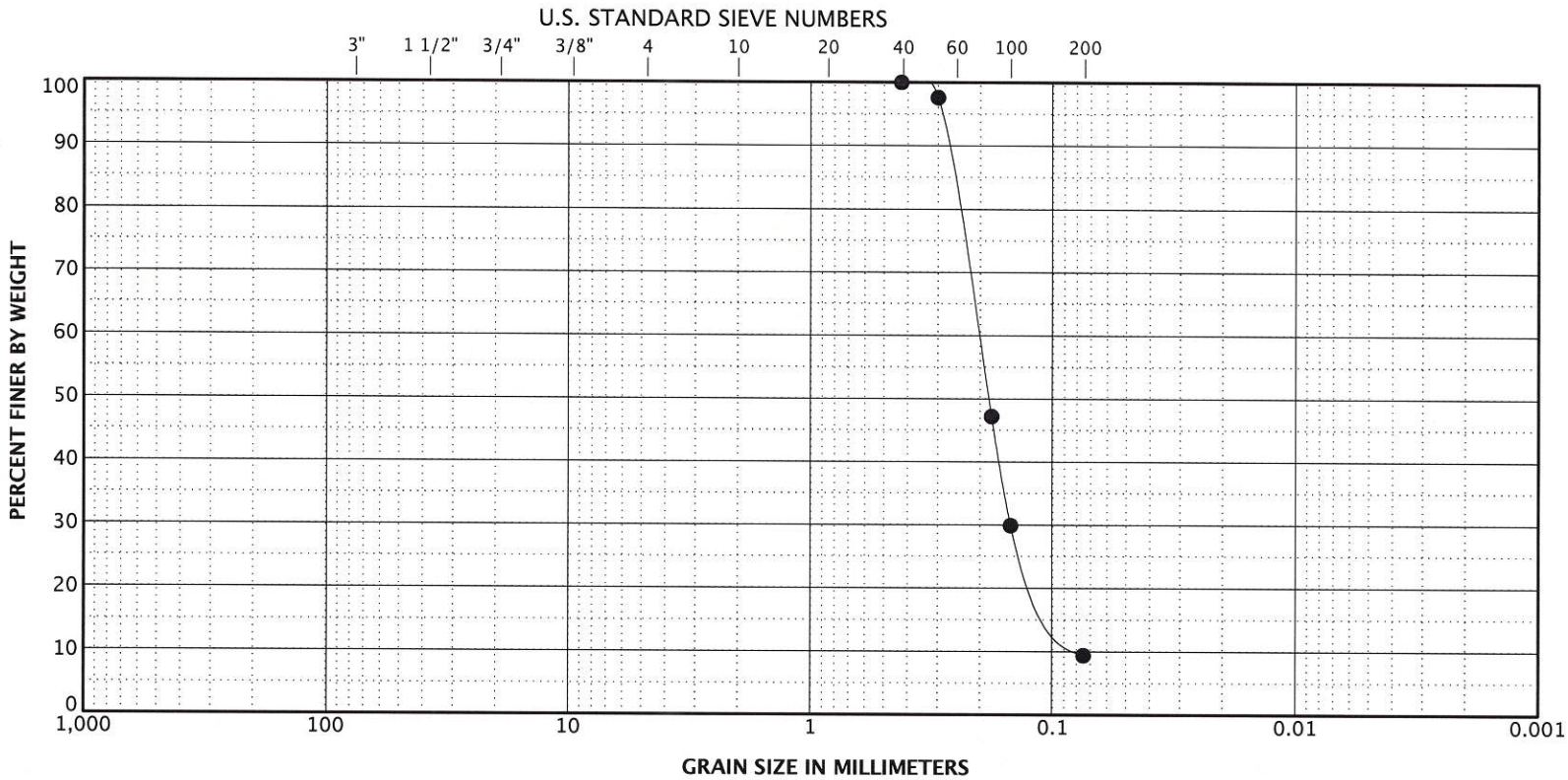
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-46	3.5		0.01	0.00				0	3	41	56

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

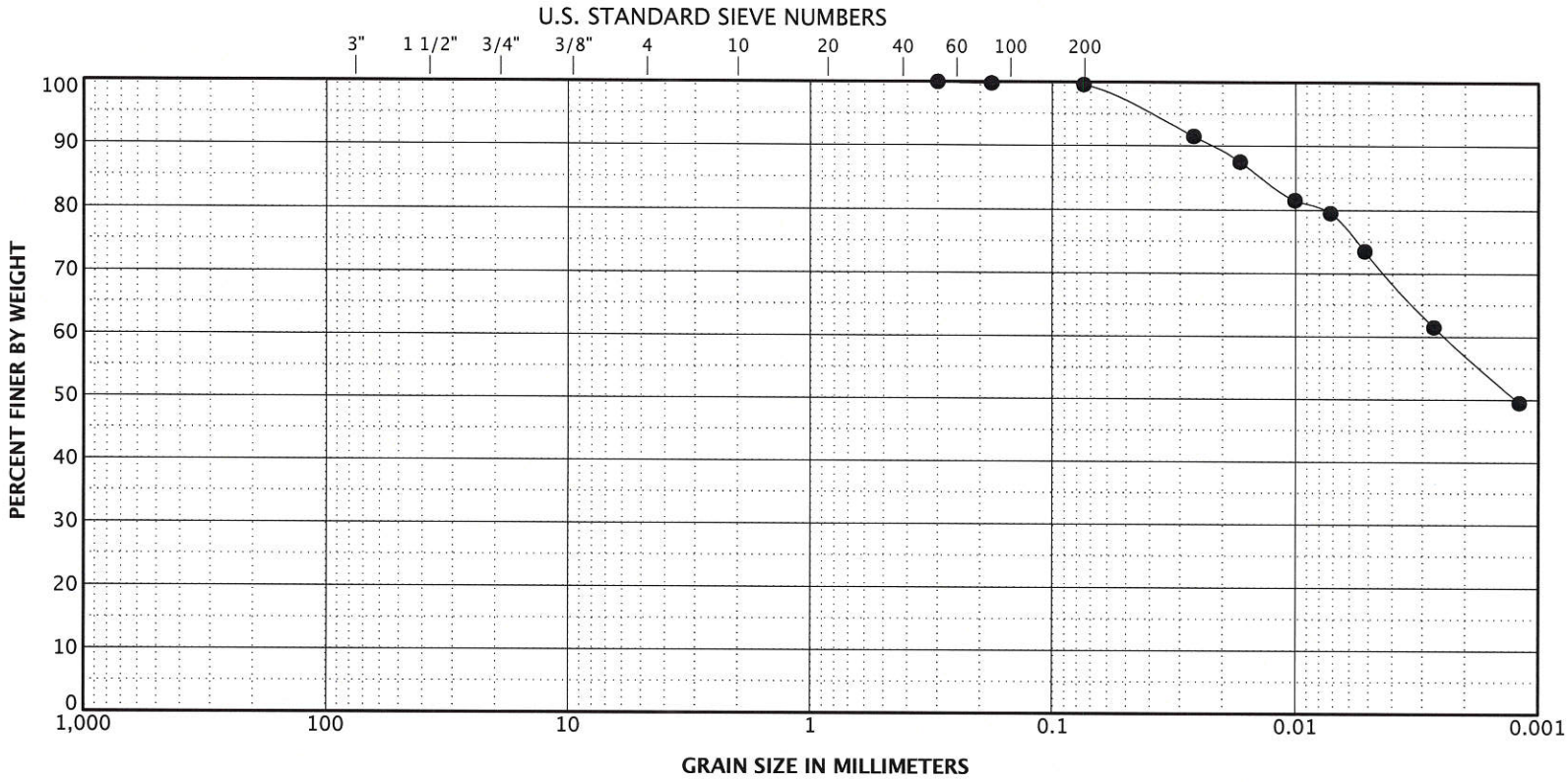
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-47	18.5		0.20	0.19	0.15	0.08		0	91	9	

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

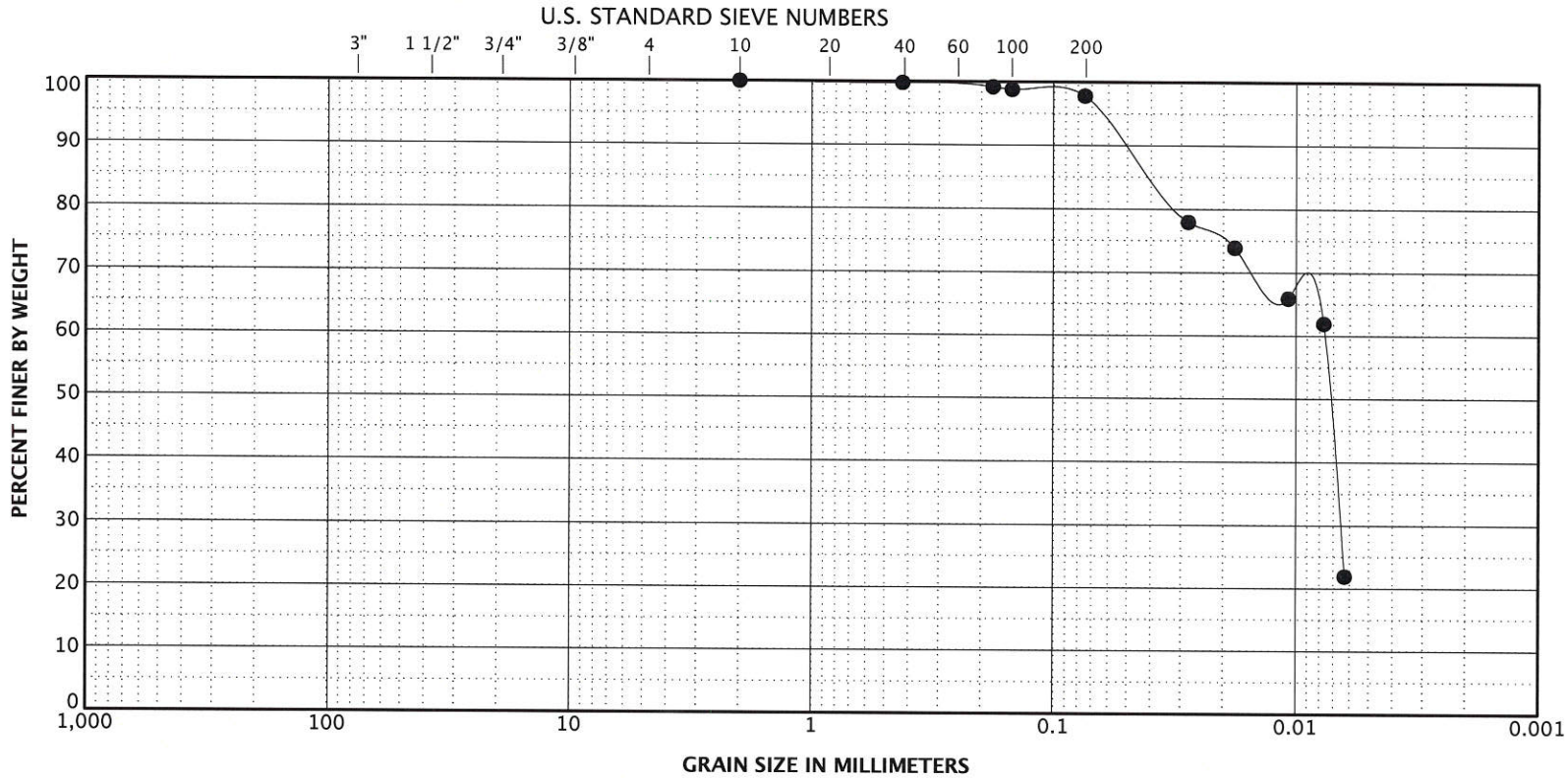
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-48	18.5		0.00	0.00				0	0	27	73

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

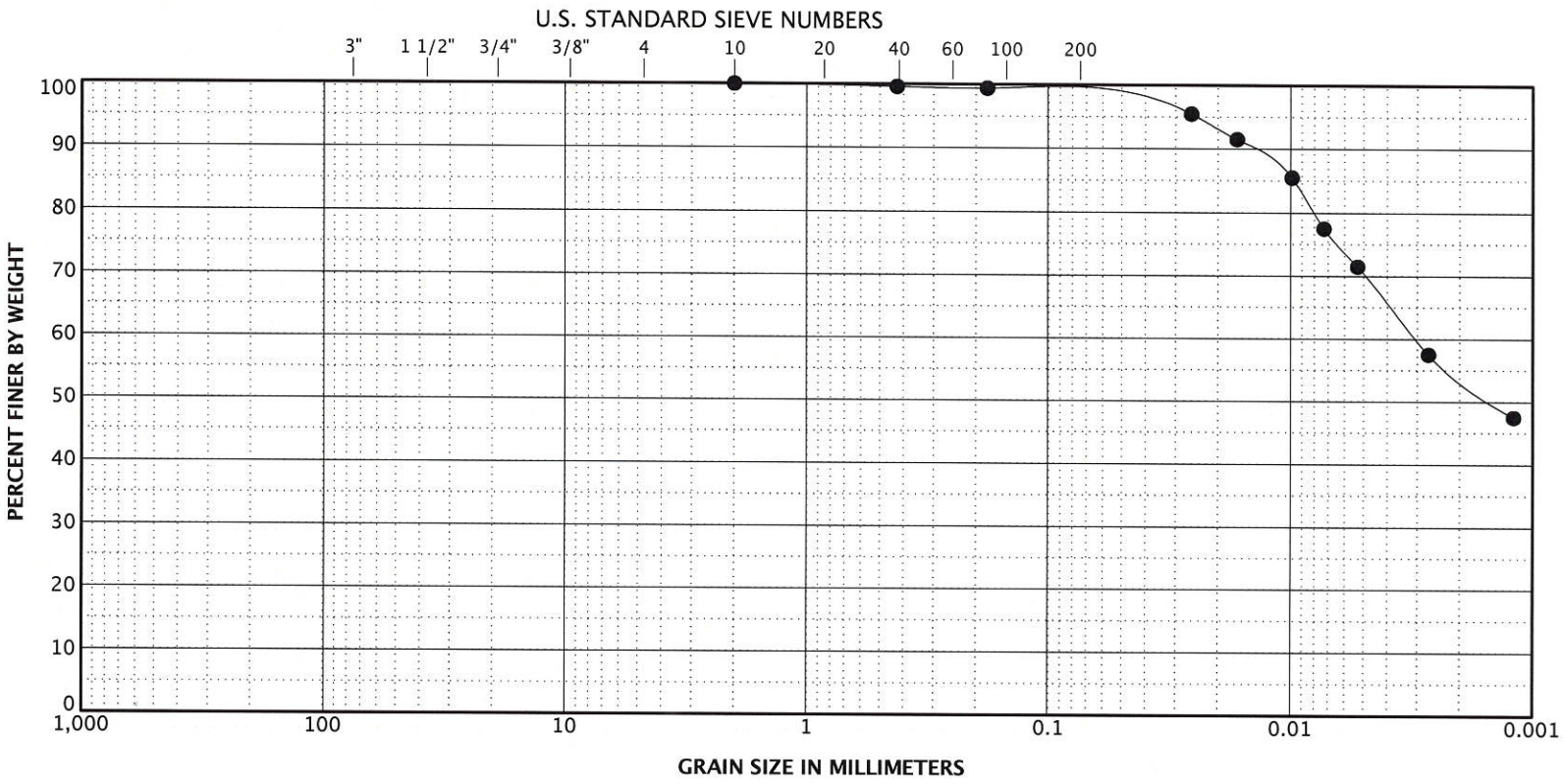
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-49	13.5		0.01	0.01	0.01			0	2	98	

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

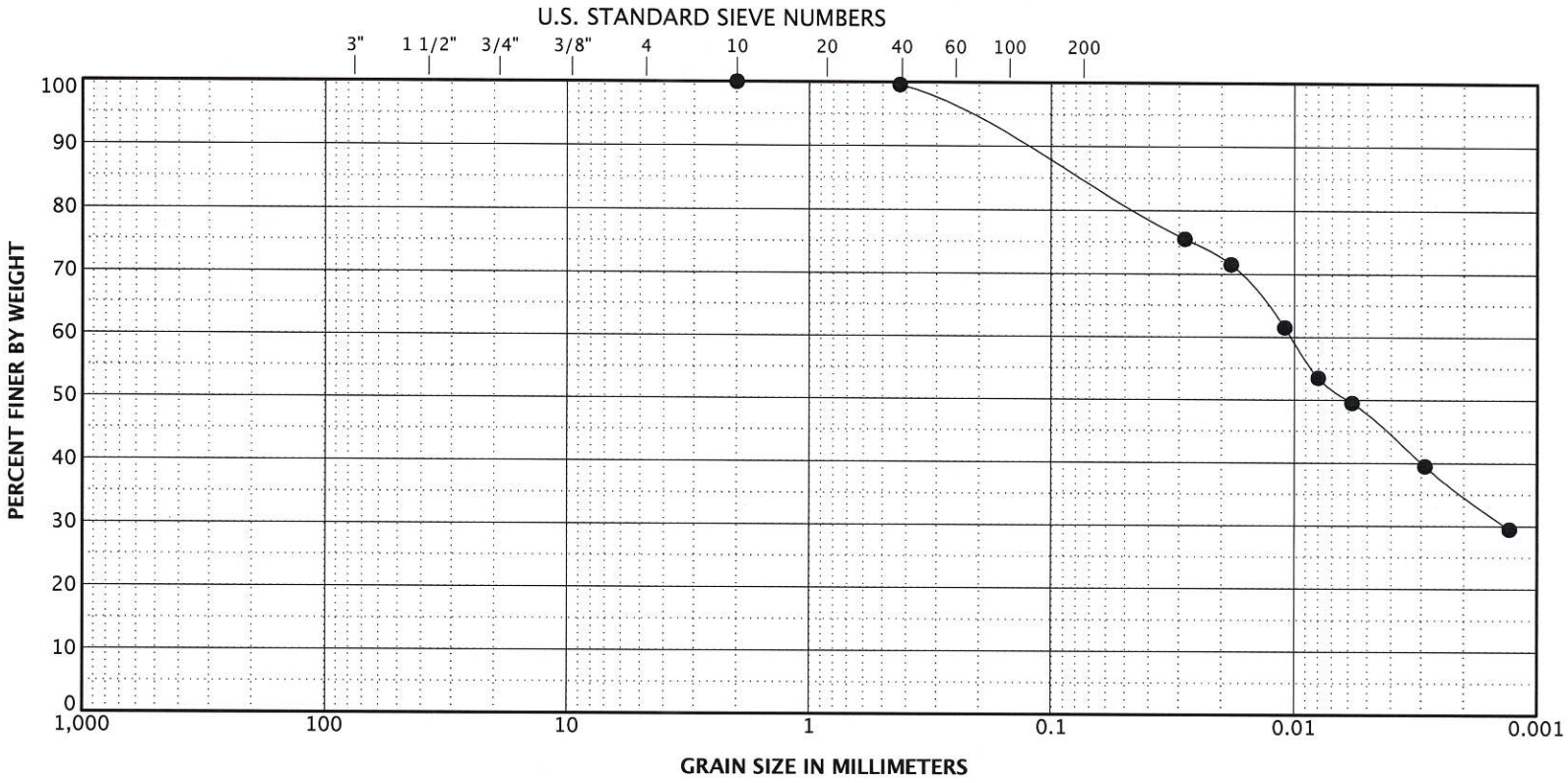
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-50	9.0		0.00	0.00				0			70

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

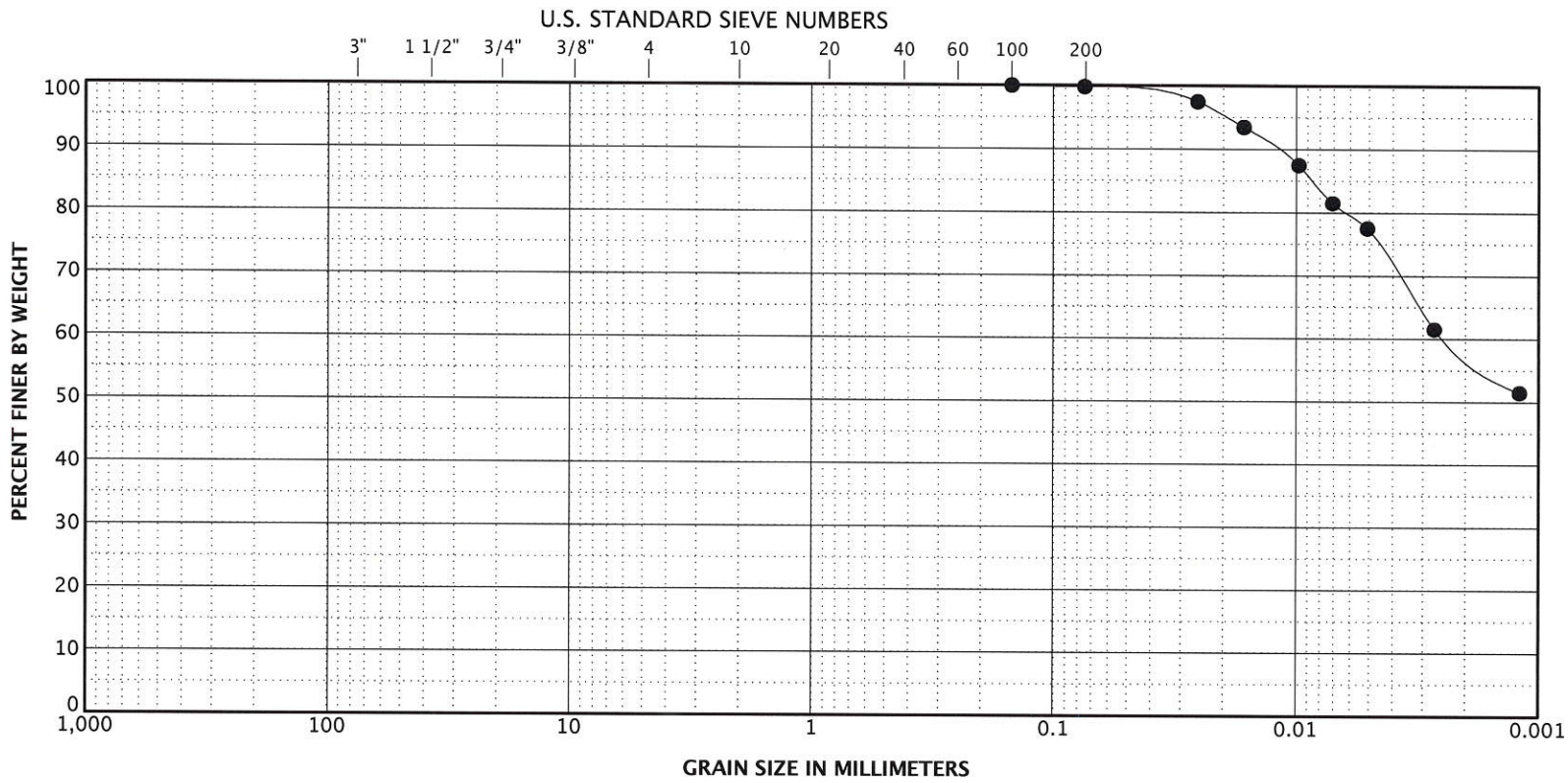
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-52	13.5		0.01	0.01	0.00			0			47

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

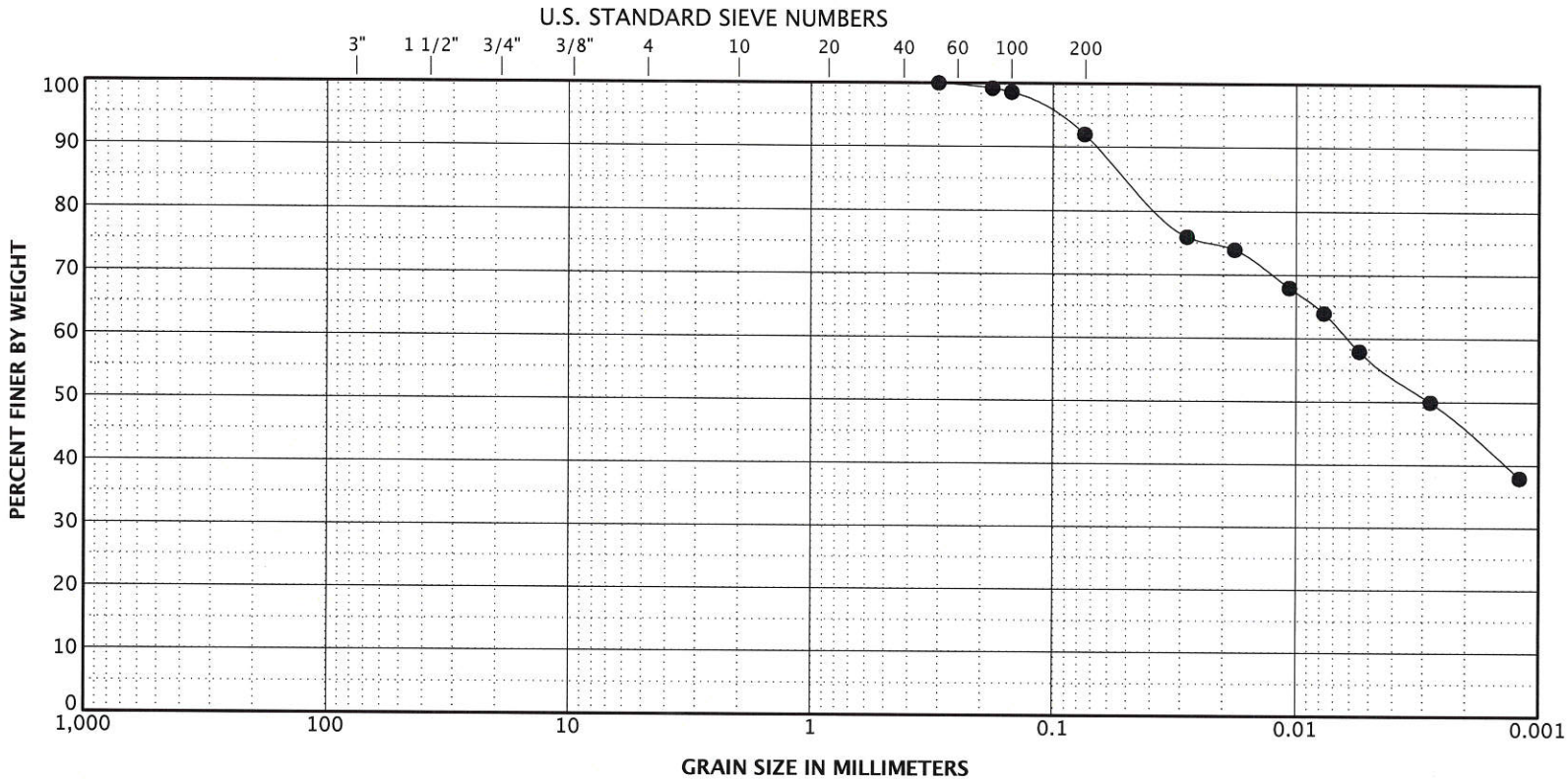
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-53	13.5		0.00					0	0	23	77

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

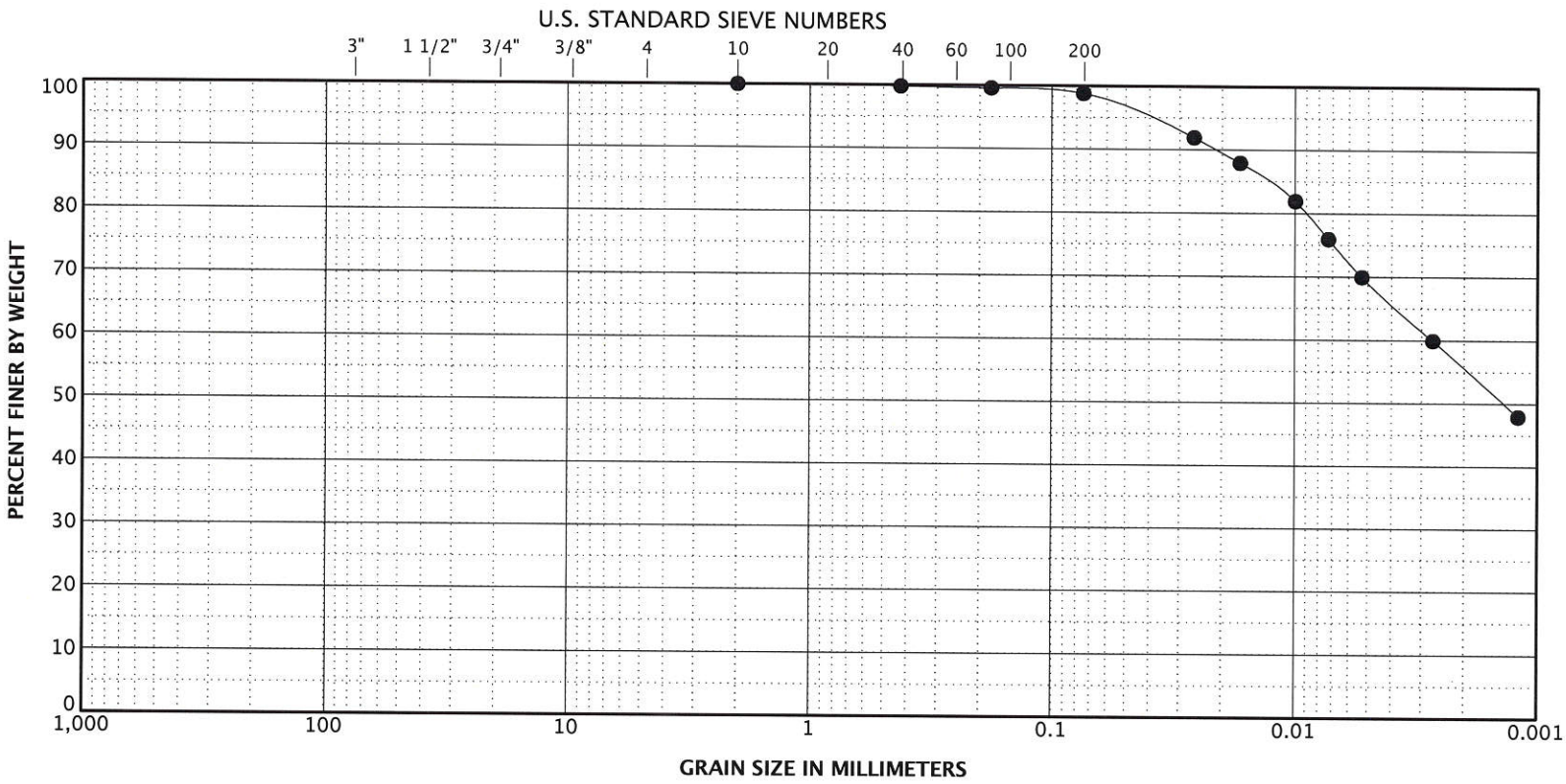
KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-54	6.5		0.01	0.00				0	8	35	57

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-D1-55	13.5		0.00	0.00				0	1	30	69

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

GRAIN- SIZE TEST RESULTS

MISSION INLET DIVISION I
HIDALGO COUNTY

FIGURE

APPENDIX D – UNCONFINED COMPRESSION TEST RESULTS

Unconfined Compression Test on Cohesive Soils

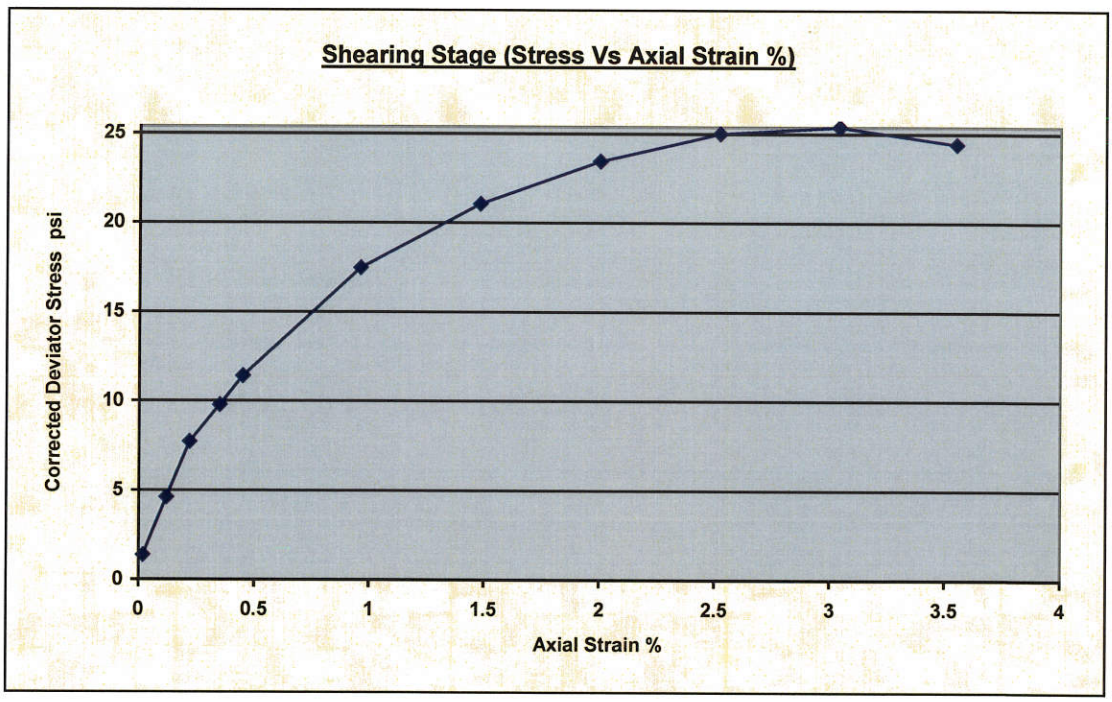
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-02	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.9090 in	**Description**	Brown Clay
Initial Diameter	2.8420 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	105.03 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	21.6%	**Preparation**	As per Standard
Void Ratio	0.58	**Degree of Saturation**	99.46%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-02	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	25.37 psi **(3,653 psf)**	**Major Principal Stress**	25.37 psi
Axial Strain	3.04%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	21.5%
Final Unit Weight	127.61 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

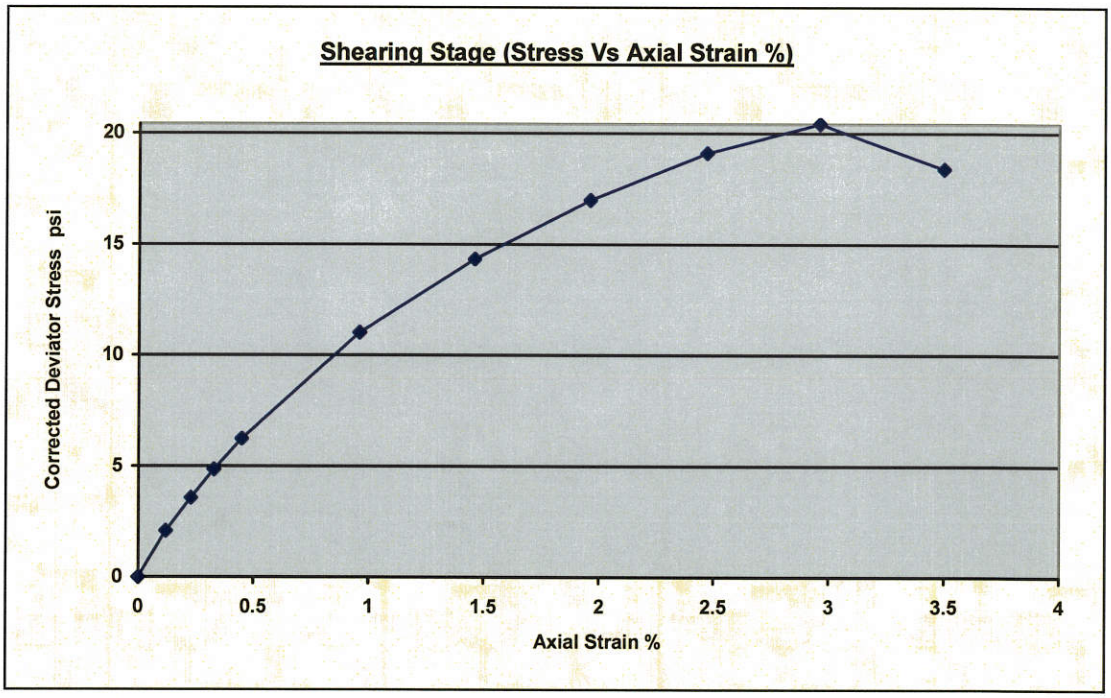
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-03	**Sample**	18-20 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	18-20 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7560 in	**Description**	Brown Clay
Initial Diameter	2.8413 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	98.87 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	24.3%	**Preparation**	As per Standard
Void Ratio	0.67	**Degree of Saturation**	95.46%
Comments			

* Calculated from initial and dry weights of whole specimen



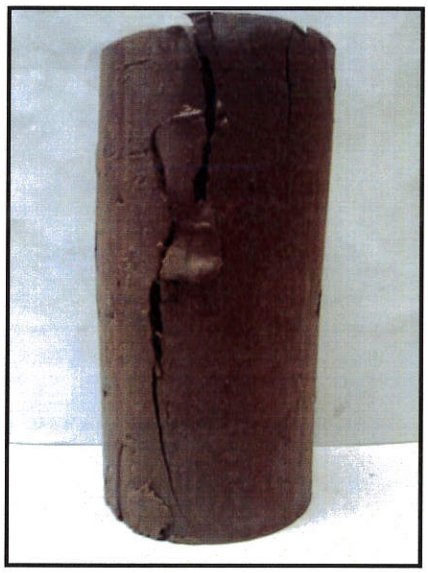
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-03	**Sample**	18-20 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	20.41 psi **(2,939 psf)**	**Major Principal Stress**	20.41 psi
Axial Strain	2.96%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	24.2%
Final Unit Weight	122.79 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

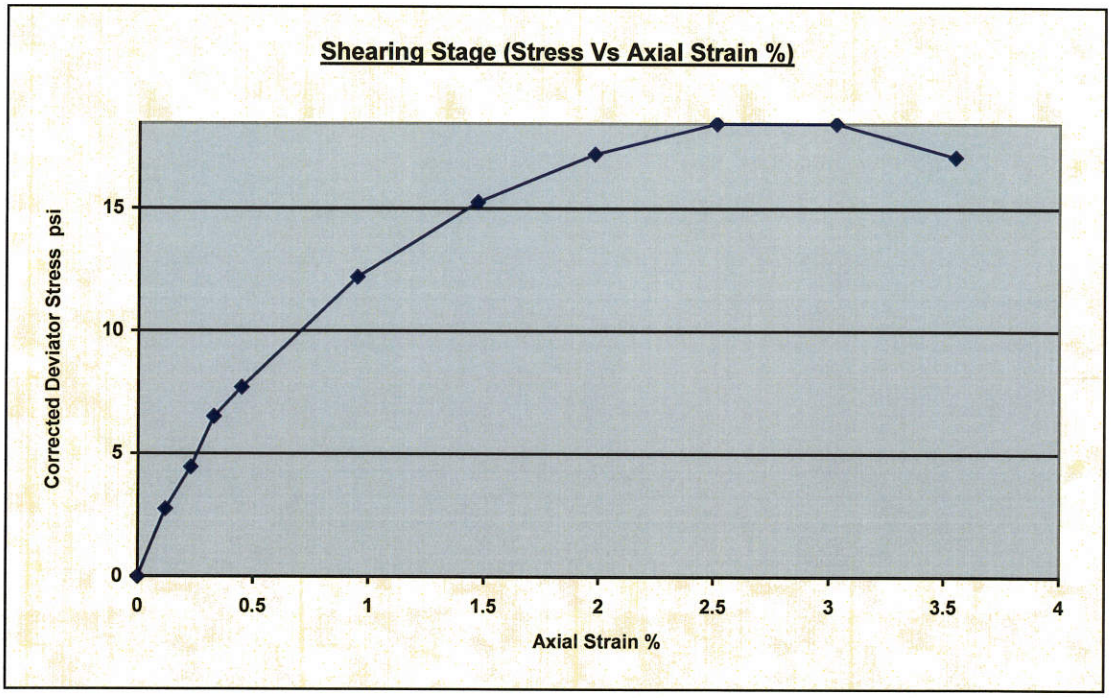
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-04	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7570 in	**Description**	Brown Clay
Initial Diameter	2.8560 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	101.86 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	19.5%	**Preparation**	As per Standard
Void Ratio	0.62	**Degree of Saturation**	82.82%
Comments			

* Calculated from initial and dry weights of whole specimen



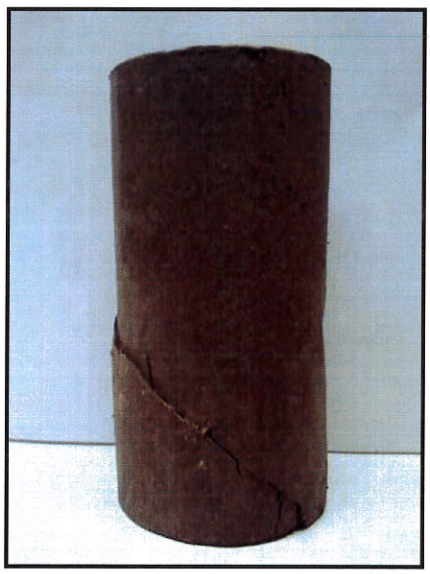
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-04	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	18.45 psi **(2,657 psf)**	**Major Principal Stress**	18.45 psi
Axial Strain	3.03%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	19.4%
Final Unit Weight	121.62 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

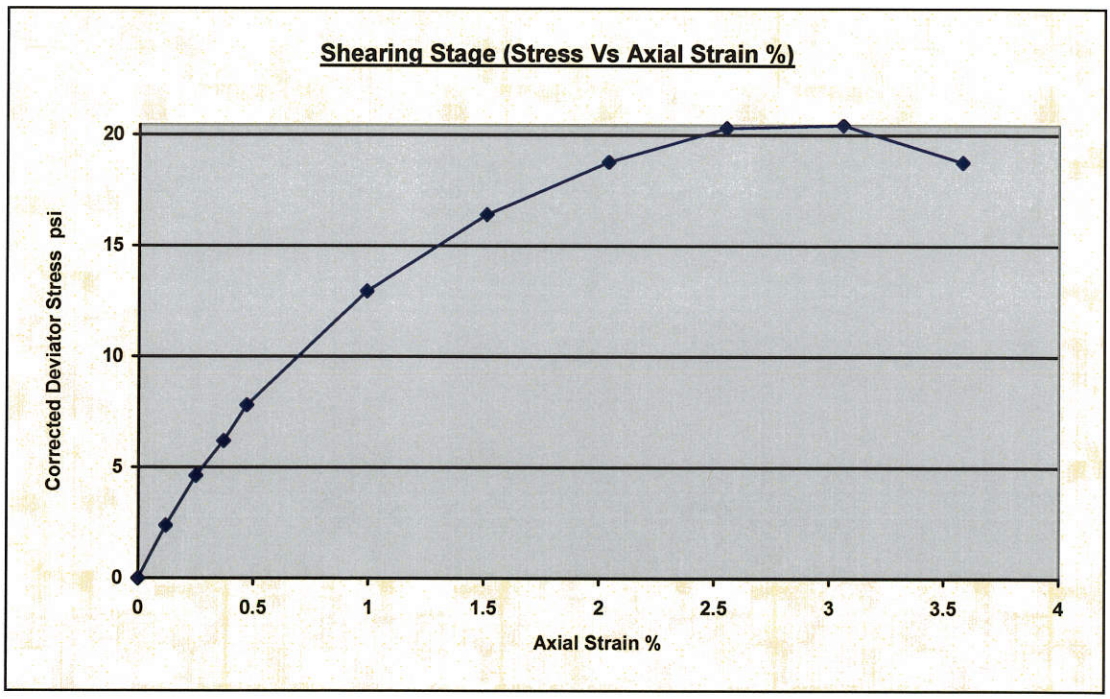
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-05	**Sample**	18-20 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	18-20 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.8900 in	**Description**	Brown Clay
Initial Diameter	2.8380 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	101.42 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	23.4%	**Preparation**	As per Standard
Void Ratio	0.63	**Degree of Saturation**	98.26%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-05	**Sample**	18-20 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	20.43 psi **(2,942 psf)**	**Major Principal Stress**	20.43 psi
Axial Strain	3.06%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	23.3%
Final Unit Weight	125.05 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

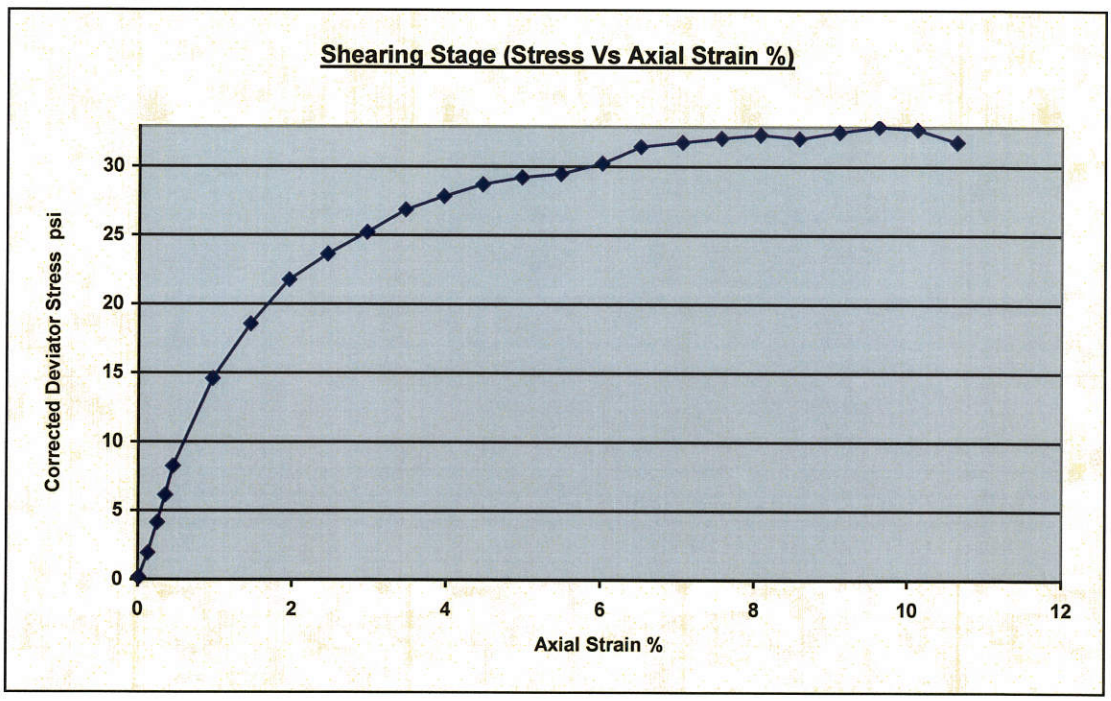
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-06	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.8750 in	**Description**	Brown Clay
Initial Diameter	2.8230 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	104.33 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	21.1%	**Preparation**	As per Standard
Void Ratio	0.59	**Degree of Saturation**	95.16%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-06	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	32.88 psi **(4,735 psf)**	**Major Principal Stress**	32.88 psi
Axial Strain	9.62%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	21.0%
Final Unit Weight	126.24 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

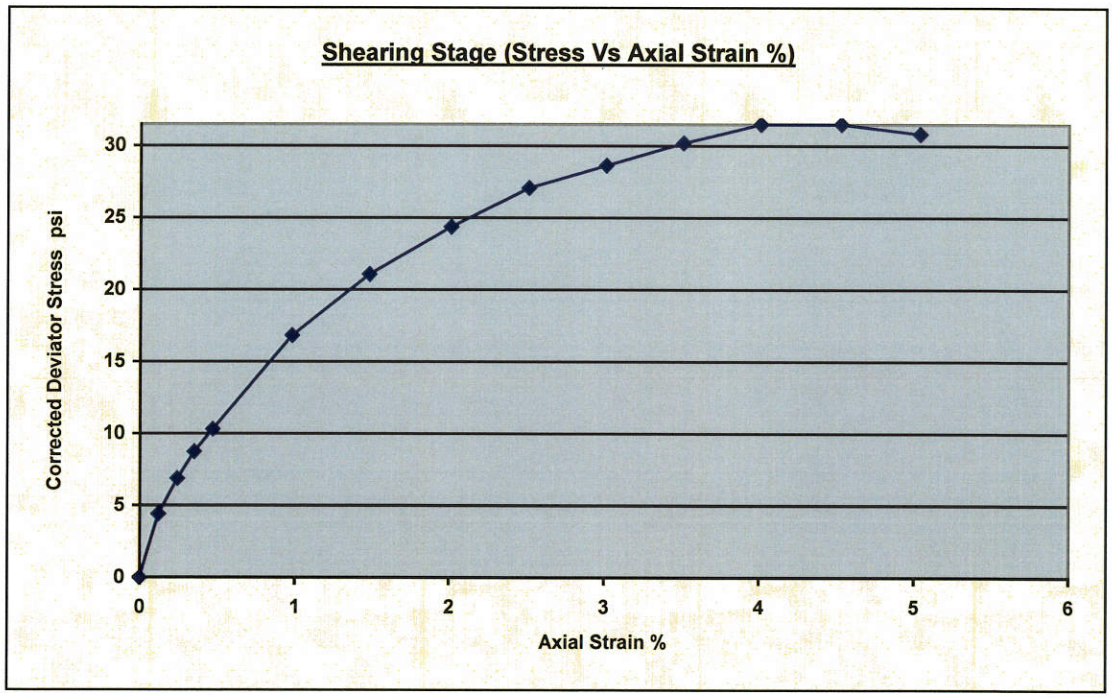
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-07	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7810 in	**Description**	Brown Clay
Initial Diameter	2.8180 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	105.53 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	20.9%	**Preparation**	As per Standard
Void Ratio	0.57	**Degree of Saturation**	97.36%
Comments			

* Calculated from initial and dry weights of whole specimen



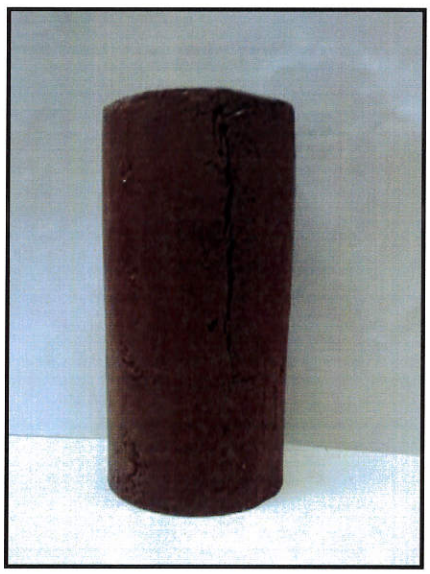
Unconfined Compression Test on Cohesive Soils

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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-07	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	31.48 psi **(4,533 psf)**	**Major Principal Stress**	31.48 psi
Axial Strain	4.53%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	20.8%
Final Unit Weight	127.48 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

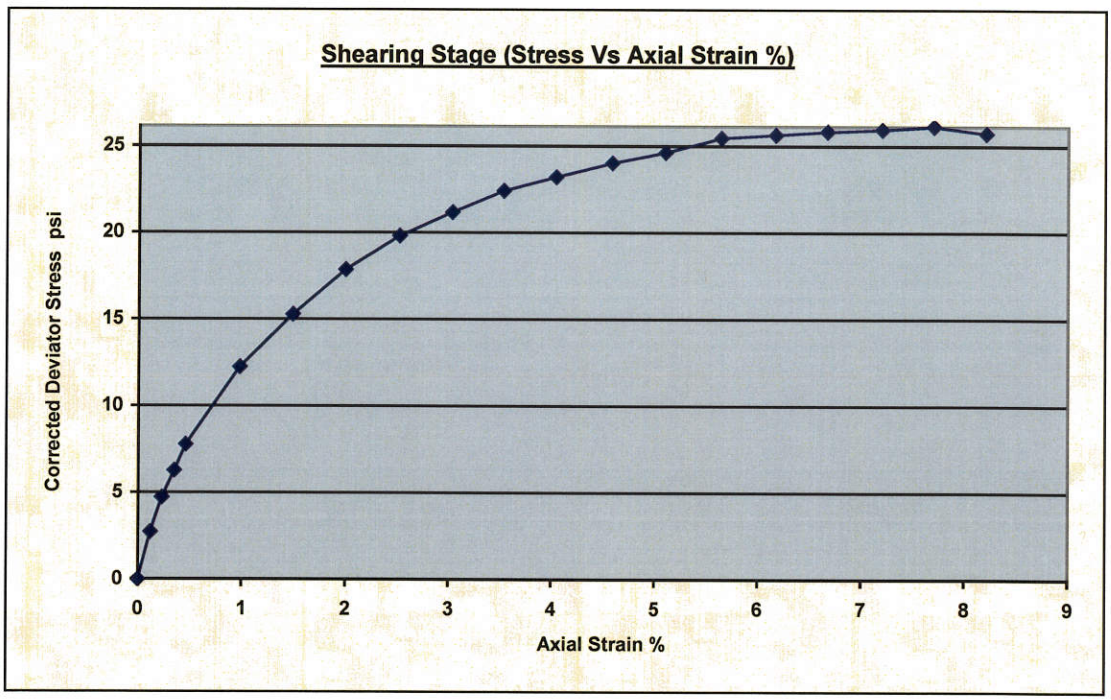
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-08	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.8000 in	**Description**	Brown Clay
Initial Diameter	2.8300 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	107.78 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	18.1%	**Preparation**	As per Standard
Void Ratio	0.54	**Degree of Saturation**	89.65%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-08	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	26.13 psi **(3,331 psf)**	**Major Principal Stress**	26.13 psi
Axial Strain	7.70%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	18.0%
Final Unit Weight	127.18 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

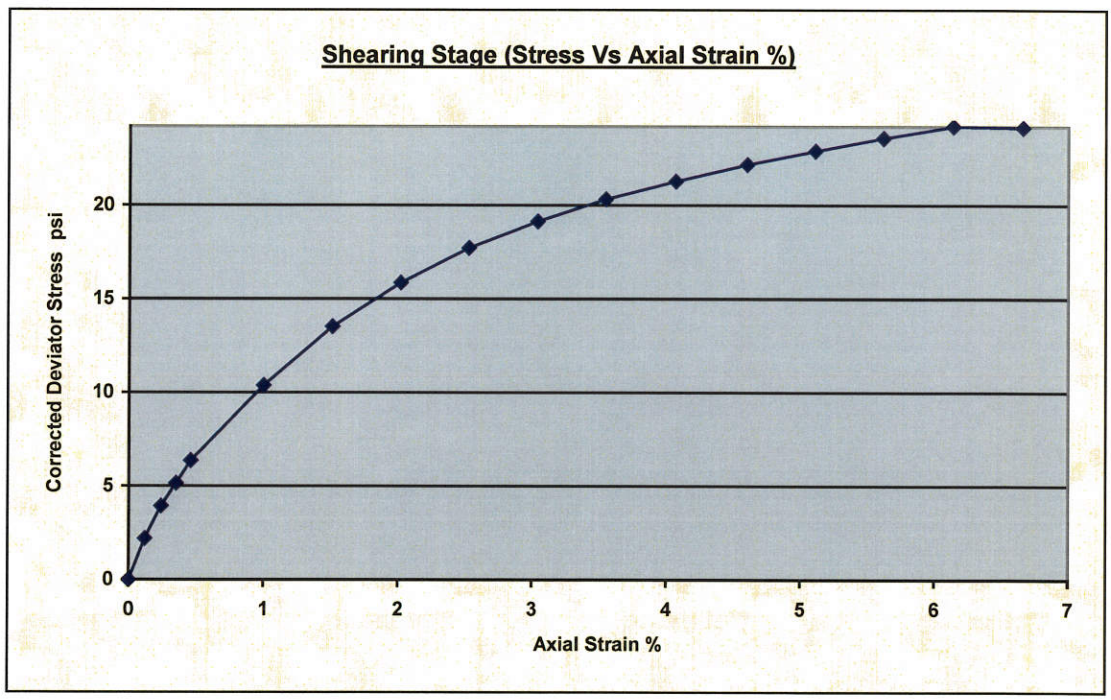
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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-10	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.8980 in	**Description**	Brown Clay
Initial Diameter	2.8340 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	107.20 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	15.0%	**Preparation**	As per Standard
Void Ratio	0.54	**Degree of Saturation**	72.95%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-10	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	24.20 psi **(3,485 psf)**	**Major Principal Stress**	24.20 psi
Axial Strain	6.14%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	14.8%
Final Unit Weight	123.07 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

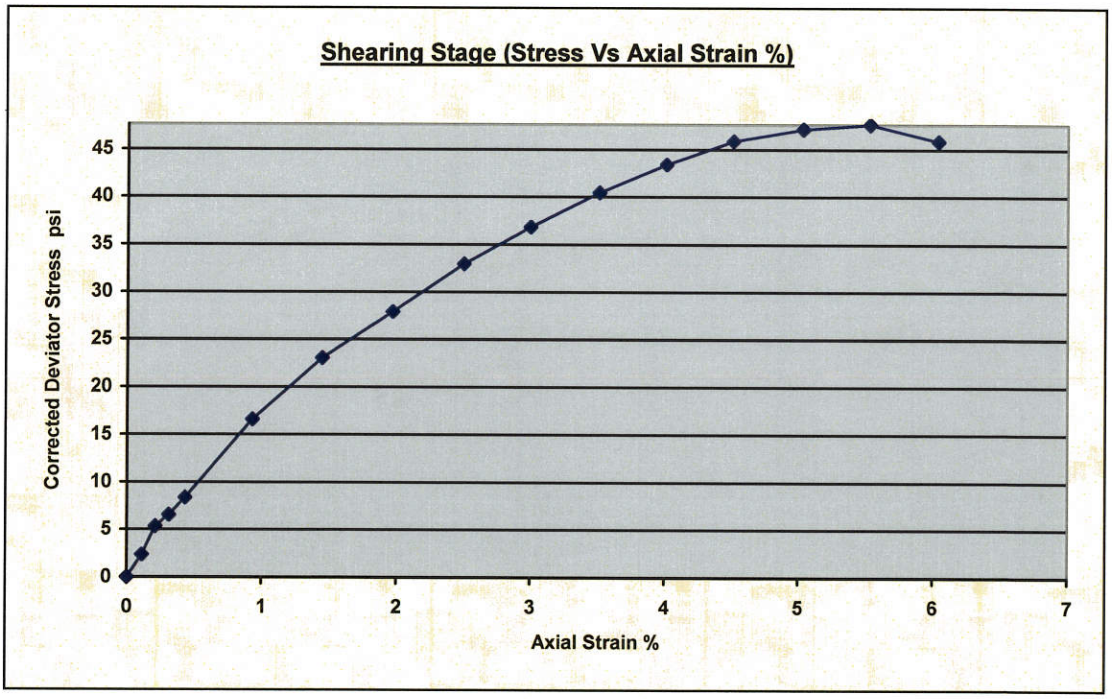
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-12	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.8810 in	**Description**	Brown Clay
Initial Diameter	2.8310 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	110.94 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	15.3%	**Preparation**	As per Standard
Void Ratio	0.49	**Degree of Saturation**	82.70%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-12	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	47.60 psi **(6,854 psf)**	**Major Principal Stress**	47.60 psi
Axial Strain	5.53%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	15.3%
Final Unit Weight	127.91 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

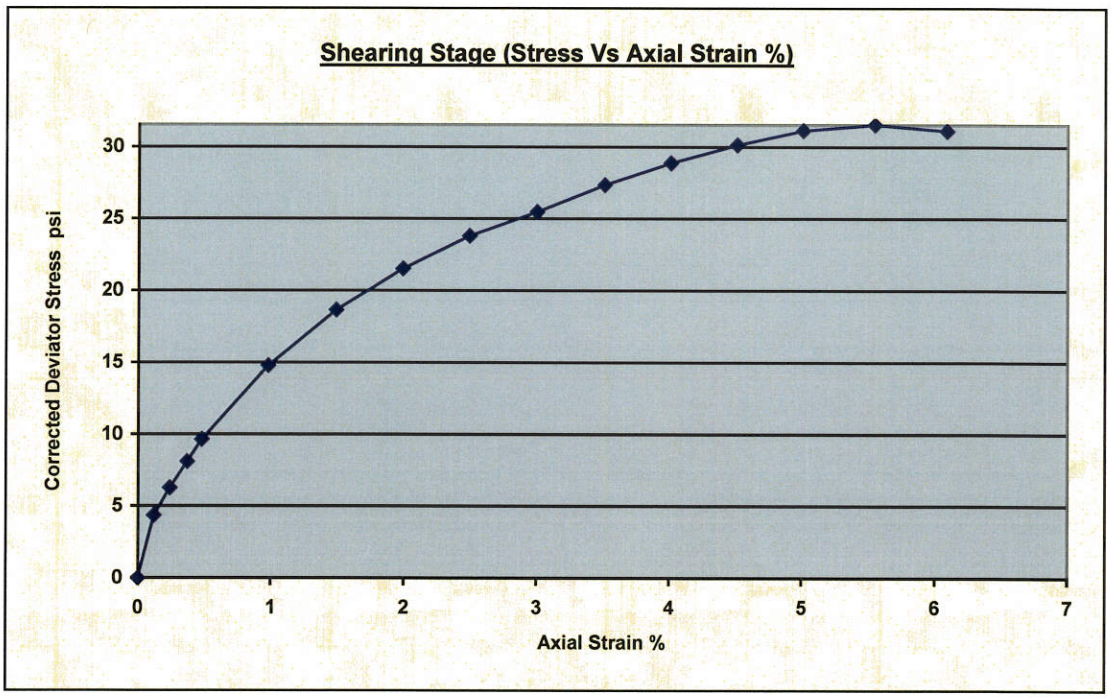
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-13	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.8450 in	**Description**	Brown Clay
Initial Diameter	2.8380 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	110.20 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	15.4%	**Preparation**	As per Standard
Void Ratio	0.50	**Degree of Saturation**	81.16%
Comments			

* Calculated from initial and dry weights of whole specimen



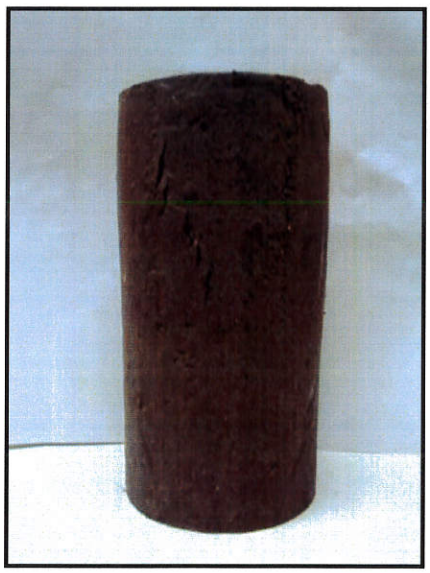
Unconfined Compression Test on Cohesive Soils

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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-13	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	31.52 psi **(4,539 psf)**	**Major Principal Stress**	31.52 psi
Axial Strain	5.55%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	15.3%
Final Unit Weight	127.06 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

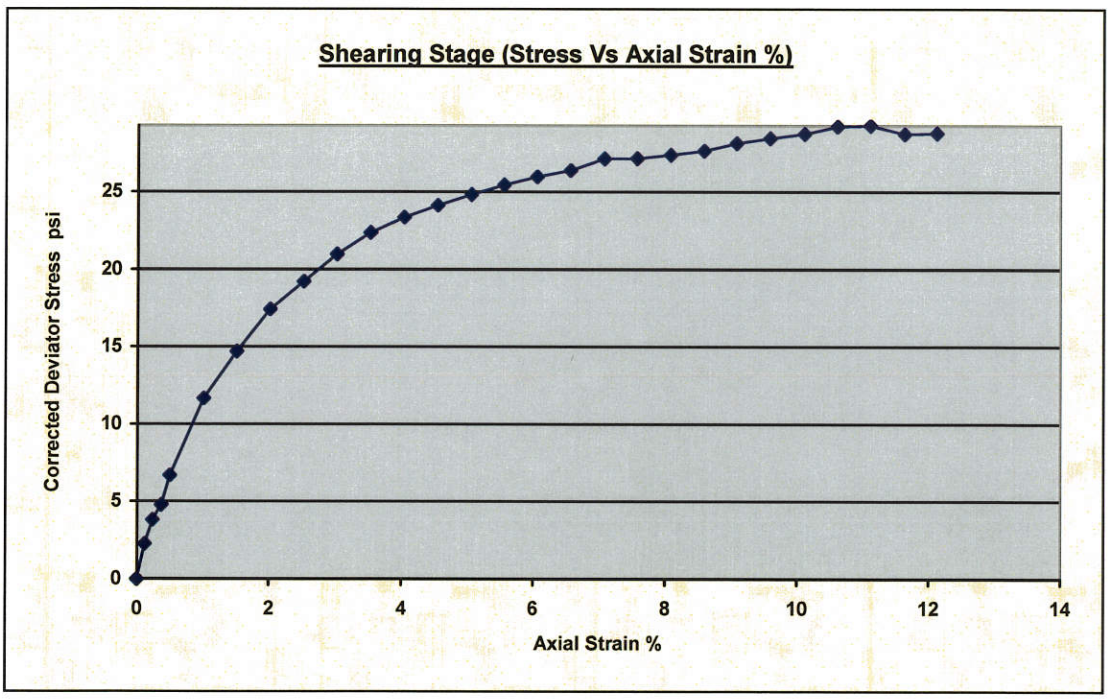
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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-18	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7450 in	**Description**	Brown Clay
Initial Diameter	2.8380 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	108.41 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	17.6%	**Preparation**	As per Standard
Void Ratio	0.53	**Degree of Saturation**	88.68%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-18	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	29.27 psi **(4,215 psf)**	**Major Principal Stress**	29.27 psi
Axial Strain	11.11%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	17.5%
Final Unit Weight	127.38 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

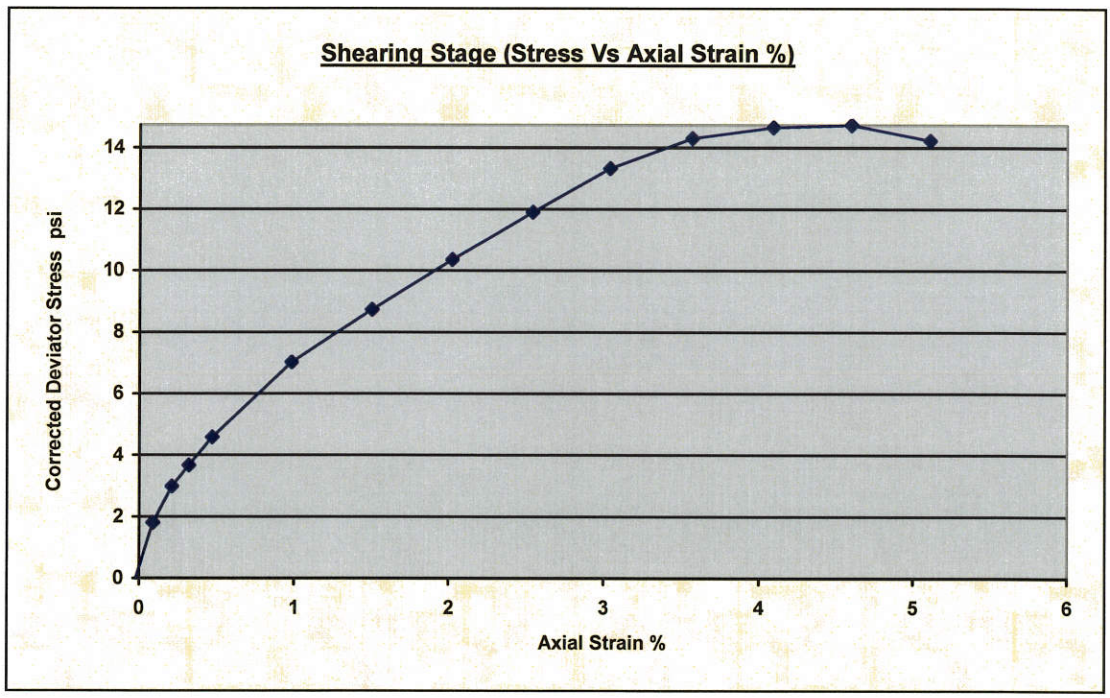
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-19	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7500 in	**Description**	Brown Clay
Initial Diameter	2.8690 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	100.41 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	20.7%	**Preparation**	As per Standard
Void Ratio	0.65	**Degree of Saturation**	84.64%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-19	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	14.73 psi **(2,121 psf)**	**Major Principal Stress**	14.73 psi
Axial Strain	4.60%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	20.6%
Final Unit Weight	121.09 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

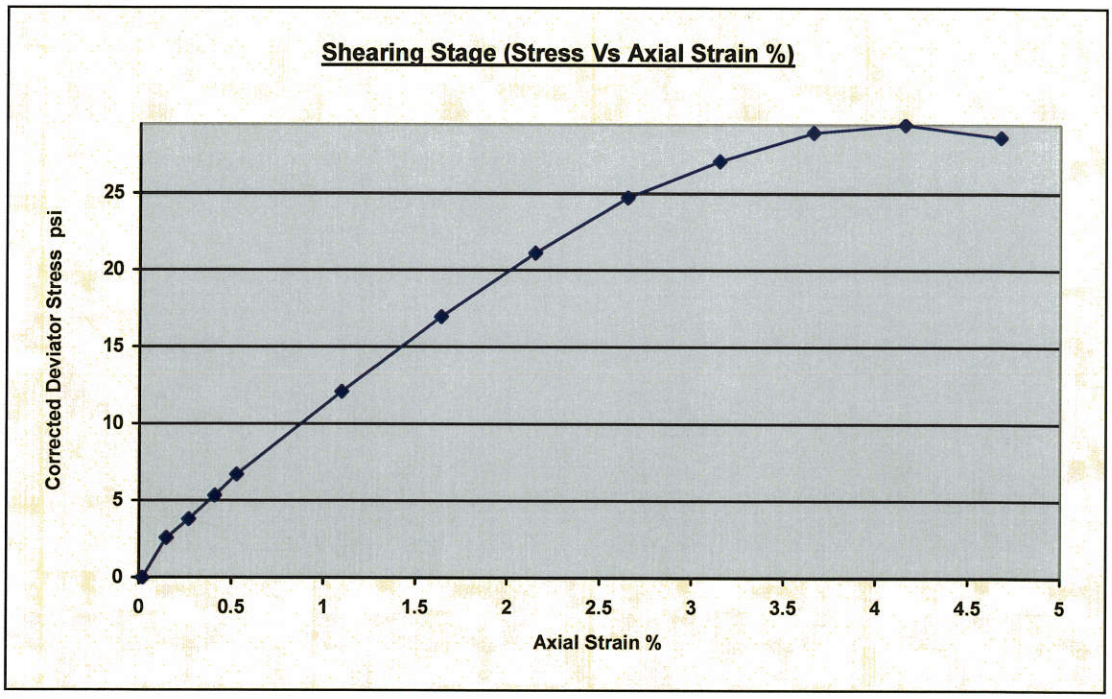
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-20	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	4.5110 in	**Description**	Brown Clay
Initial Diameter	2.8470 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	108.96 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	18.0%	**Preparation**	As per Standard
Void Ratio	0.52	**Degree of Saturation**	91.82%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-20	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	29.50 psi **(4,248 psf)**	**Major Principal Stress**	29.50 psi
Axial Strain	4.16%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	17.9%
Final Unit Weight	128.46 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

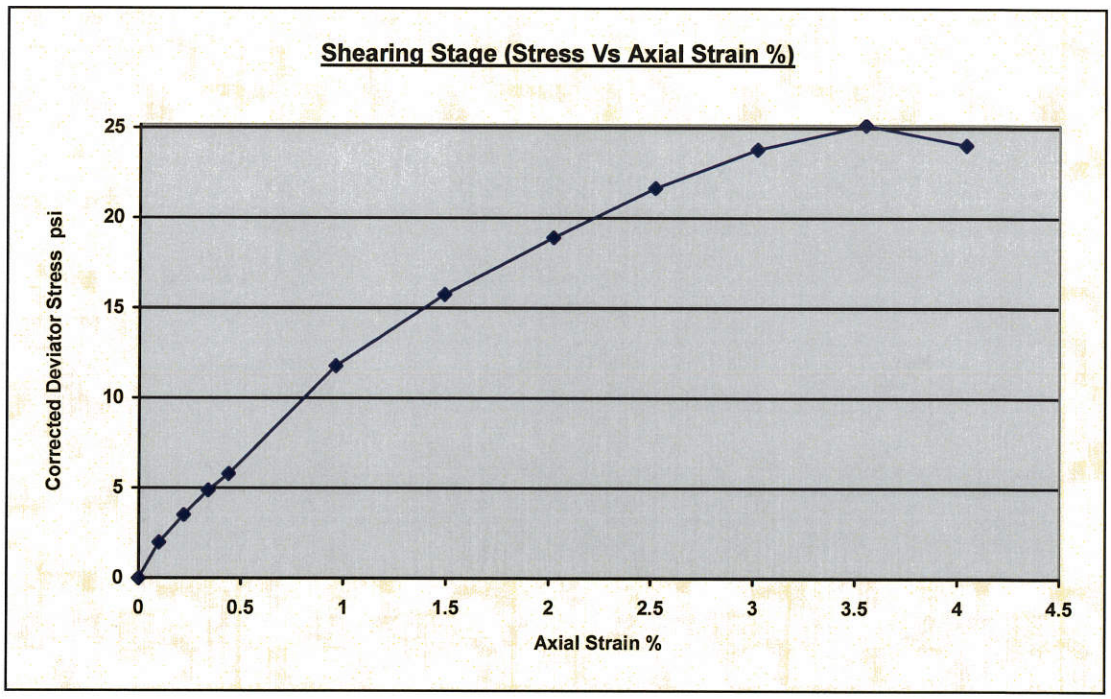
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-21	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.5390 in	**Description**	Brown Clay
Initial Diameter	2.8660 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	106.28 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	19.6%	**Preparation**	As per Standard
Void Ratio	0.56	**Degree of Saturation**	93.17%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-21	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	25.14 psi **(3,620 psf)**	**Major Principal Stress**	25.14 psi
Axial Strain	3.55%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	19.5%
Final Unit Weight	127.00 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

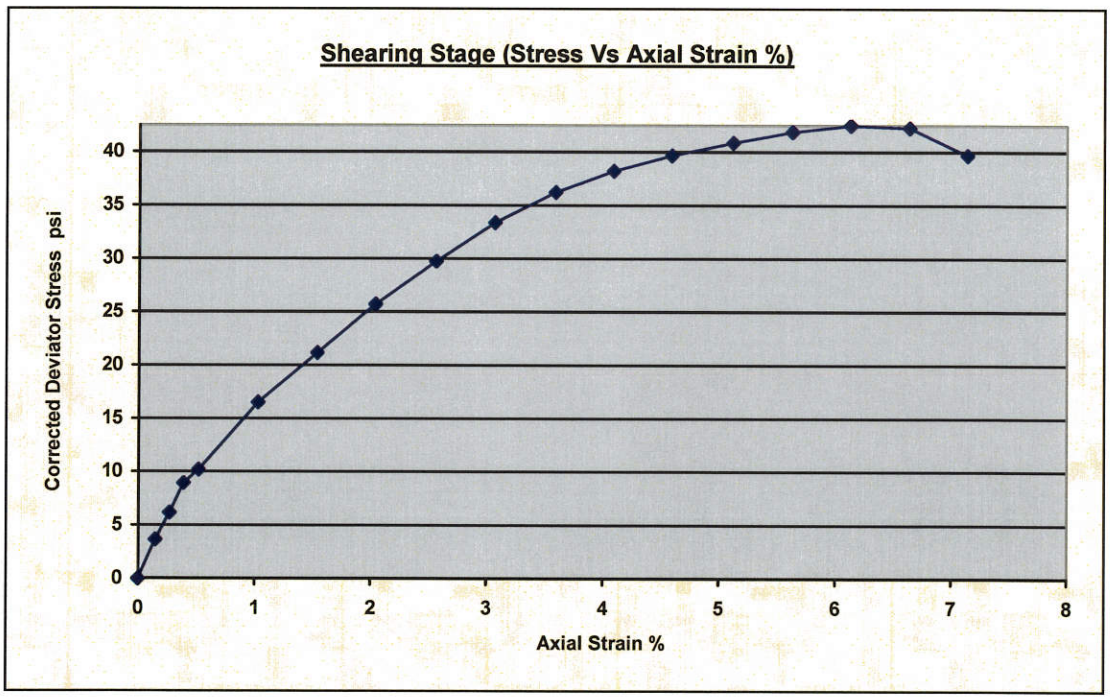
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Construction Material Testing
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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-22	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7620 in	**Description**	Brown Clay
Initial Diameter	2.8420 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	109.66 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	16.0%	**Preparation**	As per Standard
Void Ratio	0.51	**Degree of Saturation**	83.10%
Comments			

* Calculated from initial and dry weights of whole specimen



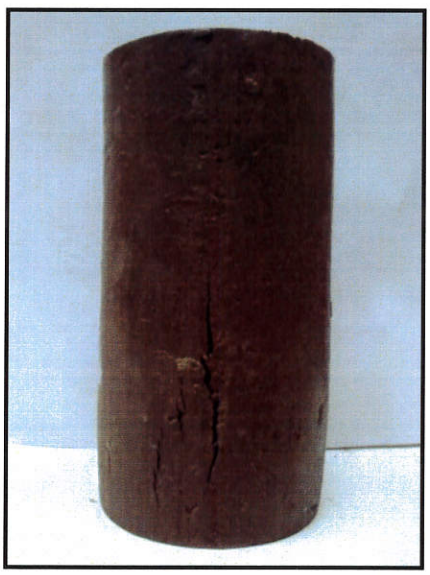
Unconfined Compression Test on Cohesive Soils

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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-22	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	42.48 psi **(6,117 psf)**	**Major Principal Stress**	42.48 psi
Axial Strain	6.13%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	15.9%
Final Unit Weight	127.10 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

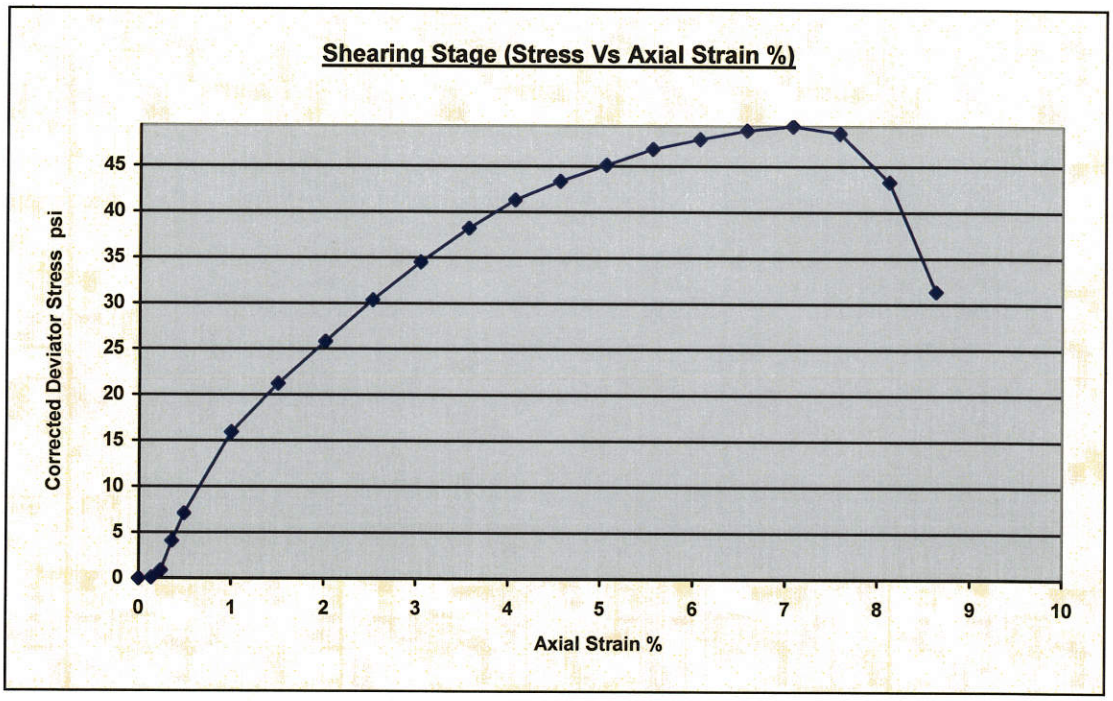
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-26	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7580 in	**Description**	Brown Clay
Initial Diameter	2.8410 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	107.71 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	17.9%	**Preparation**	As per Standard
Void Ratio	0.54	**Degree of Saturation**	88.23%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-26	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	49.36 psi **(7,108 psf)**	**Major Principal Stress**	49.36psi
Axial Strain	7.07%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	17.8%
Final Unit Weight	126.89 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

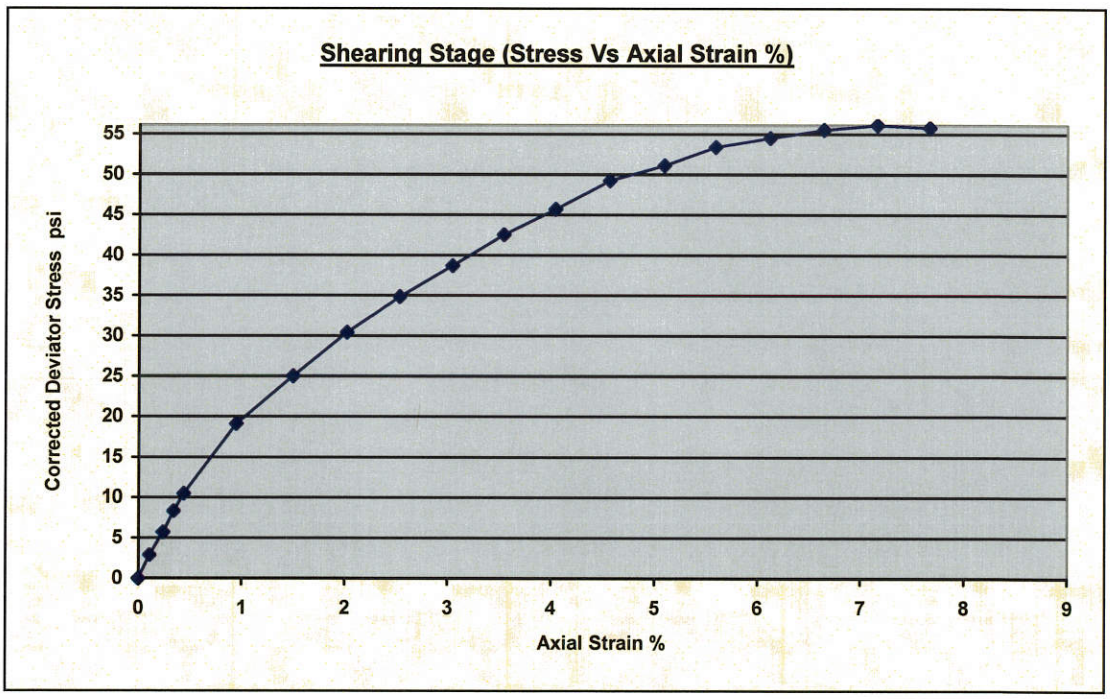
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-27	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7710 in	**Description**	Brown Clay
Initial Diameter	2.8410 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	108.81 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	17.4%	**Preparation**	As per Standard
Void Ratio	0.52	**Degree of Saturation**	88.72%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-27	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	56.07 psi **(8,074 psf)**	**Major Principal Stress**	56.07 psi
Axial Strain	7.16%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	17.3%
Final Unit Weight	127.64 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

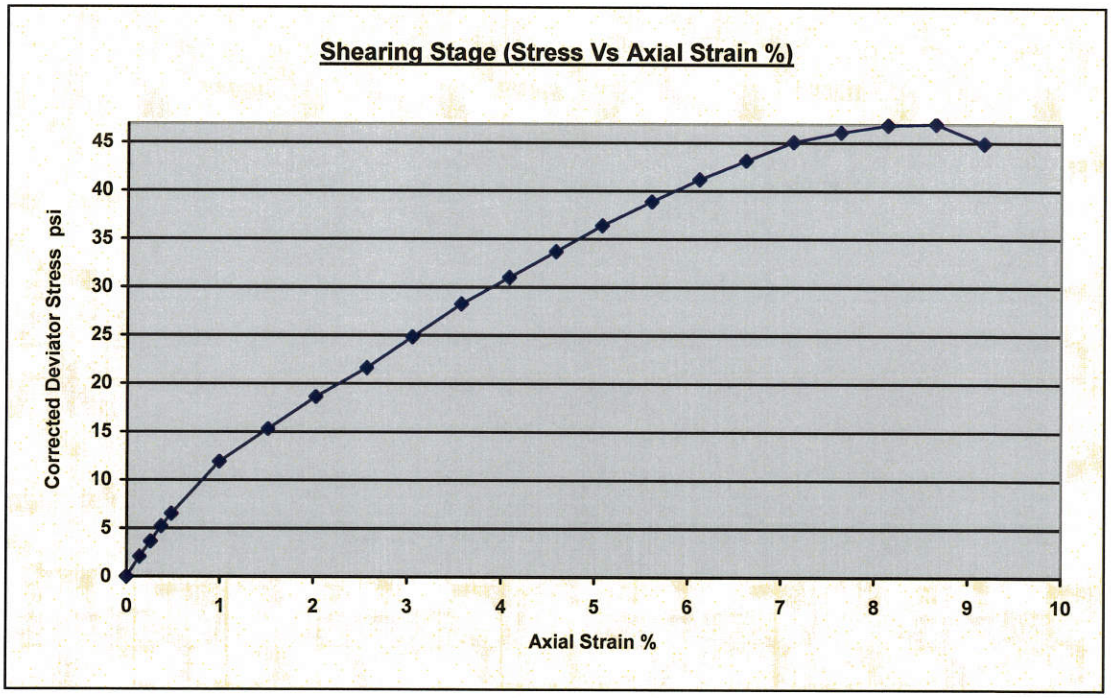
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-29	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7490 in	**Description**	Brown Clay
Initial Diameter	2.8190 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	106.78 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	18.0%	**Preparation**	As per Standard
Void Ratio	0.55	**Degree of Saturation**	86.65%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-29	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	46.90 psi **(6,754 psf)**	**Major Principal Stress**	46.90 psi
Axial Strain	8.65%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	17.9%
Final Unit Weight	125.89 lbf/ft^3		



Mode of Failure

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Unconfined Compression Test on Cohesive Soils

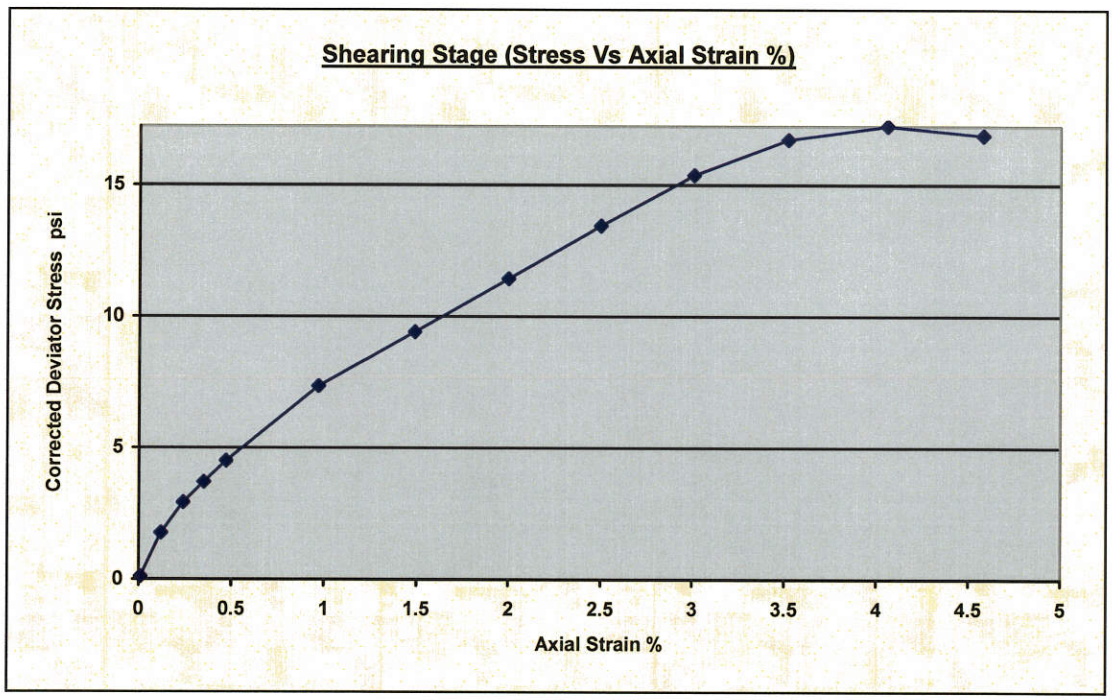
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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-30	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7470 in	**Description**	Brown Clay
Initial Diameter	2.8170 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	98.76 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	26.5%	**Preparation**	As per Standard
Void Ratio	0.71	**Degree of Saturation**	98.79%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-30	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	17.23 psi **(2,481 psf)**	**Major Principal Stress**	17.23 psi
Axial Strain	4.06%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	26.4%
Final Unit Weight	122.31 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
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Unconfined Compression Test on Cohesive Soils

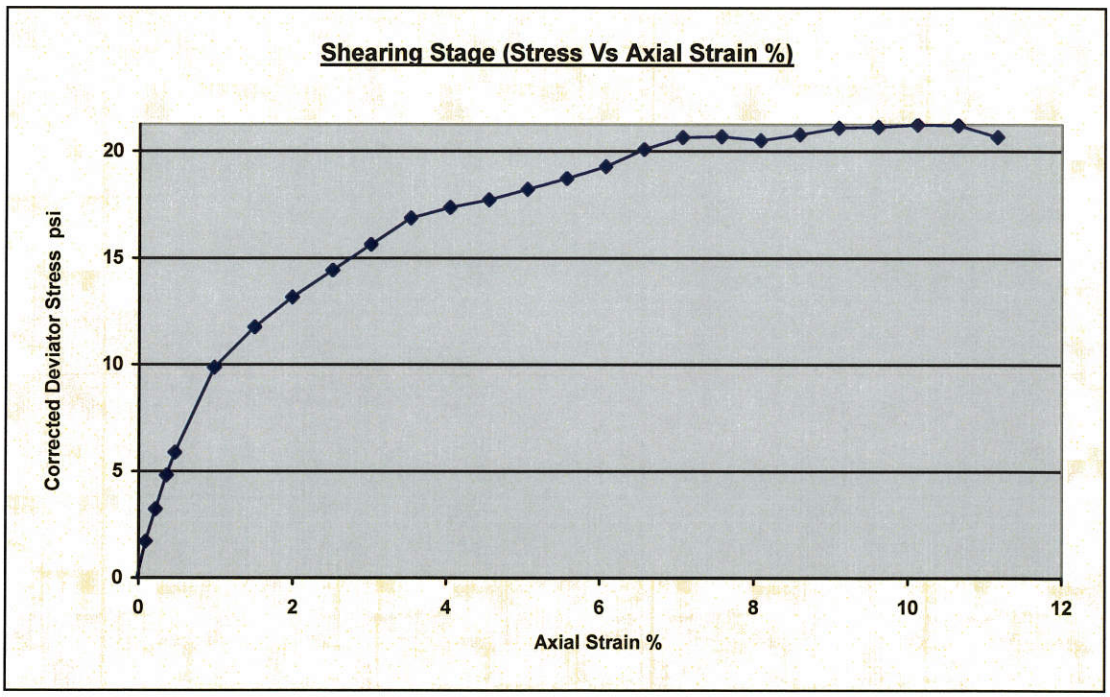
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-31	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7470 in	**Description**	Brown Clay
Initial Diameter	2.7990 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	95.02 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	26.6%	**Preparation**	As per Standard
Void Ratio	0.74	**Degree of Saturation**	74.87%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-31	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	21.25 psi **(3,060 psf)**	**Major Principal Stress**	21.25 psi
Axial Strain	10.12%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	26.4%
Final Unit Weight	120.11 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
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Unconfined Compression Test on Cohesive Soils

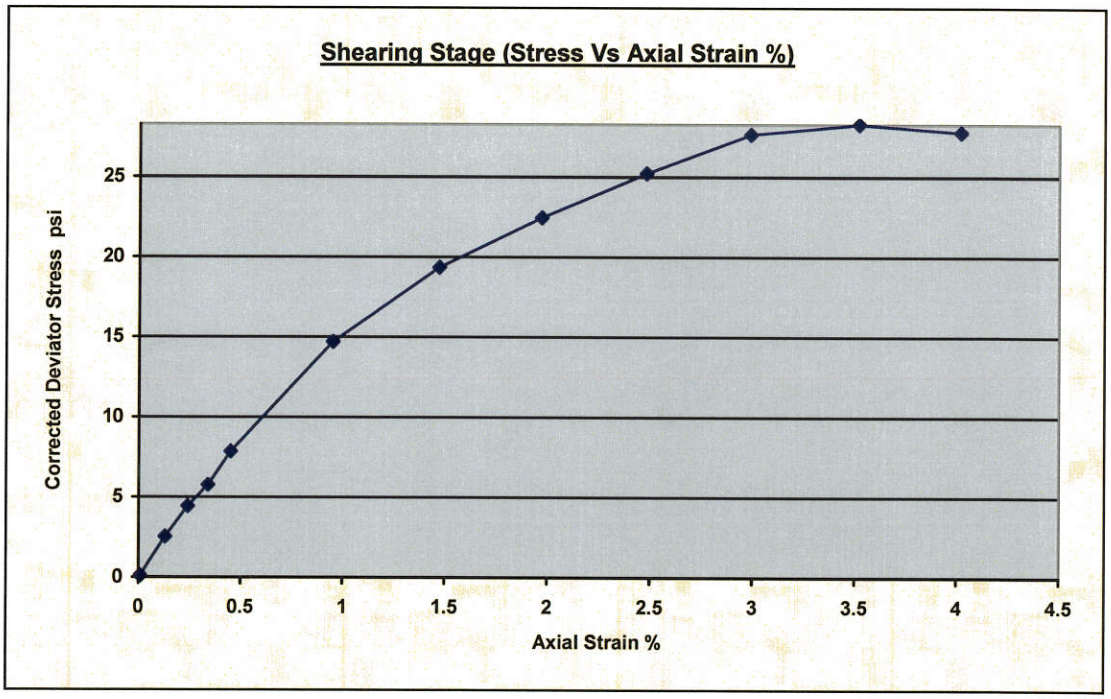
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-33	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7630 in	**Description**	Brown Clay
Initial Diameter	2.7860 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	101.73 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	20.0%	**Preparation**	As per Standard
Void Ratio	0.63	**Degree of Saturation**	84.46%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-33	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	28.26 psi **(4,118 psf)**	**Major Principal Stress**	28.26 psi
Axial Strain	3.52%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	19.9%
Final Unit Weight	121.98 lbf/ft^3		



Mode of Failure

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Unconfined Compression Test on Cohesive Soils

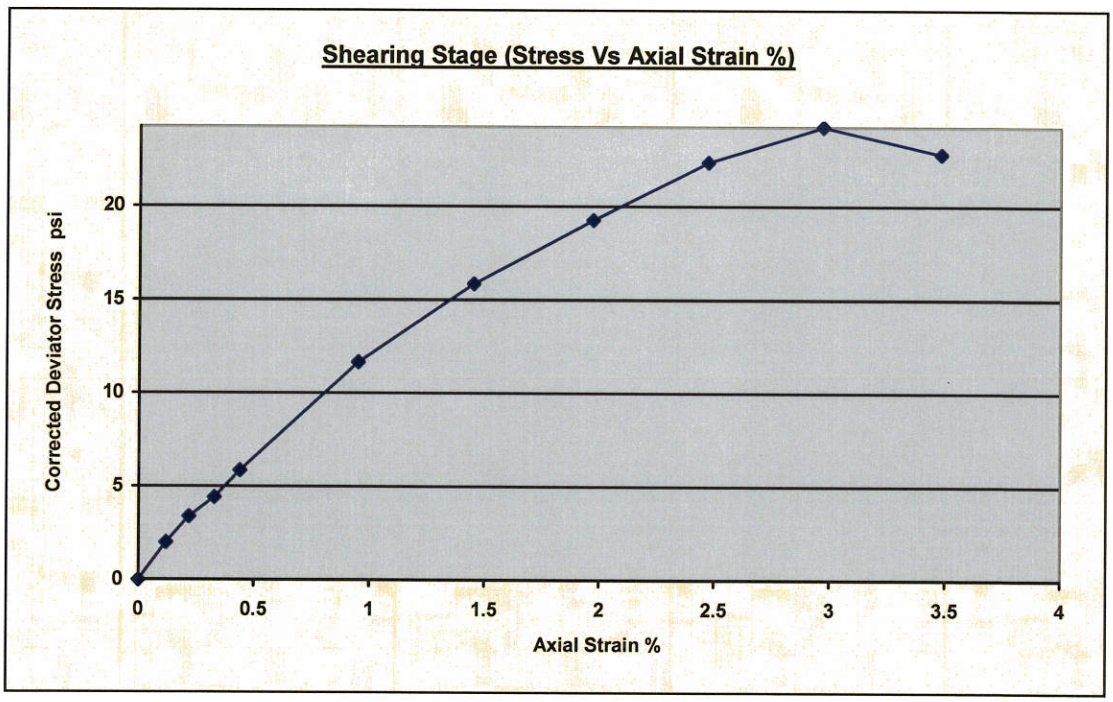
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-34	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7590 in	**Description**	Brown Clay
Initial Diameter	2.8490 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	103.67 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	19.7%	**Preparation**	As per Standard
Void Ratio	0.60	**Degree of Saturation**	87.40%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-34	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	24.25 psi **(3,492 psf)**	**Major Principal Stress**	24.25 psi
Axial Strain	2.97%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	19.6%
Final Unit Weight	123.98 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

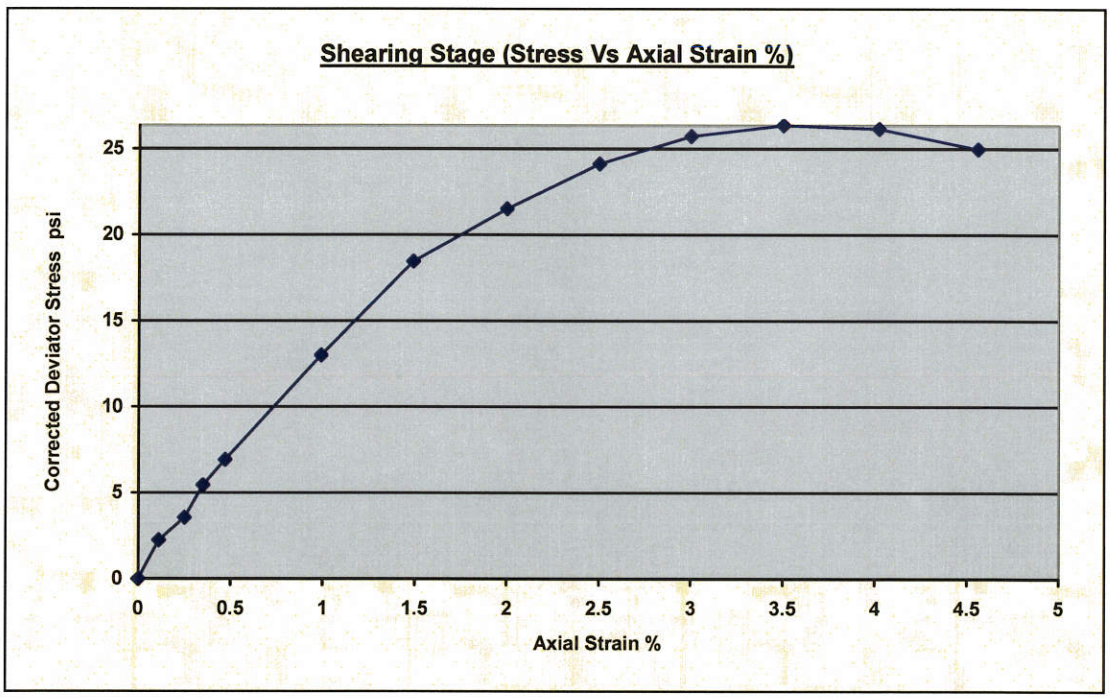
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-35	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7650 in	**Description**	Brown Clay
Initial Diameter	2.8040 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	98.44 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	19.8%	**Preparation**	As per Standard
Void Ratio	0.68	**Degree of Saturation**	76.93%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-35	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	26.35 psi **(3,794 psf)**	**Major Principal Stress**	26.35 psi
Axial Strain	3.50%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	19.7%
Final Unit Weight	117.83 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

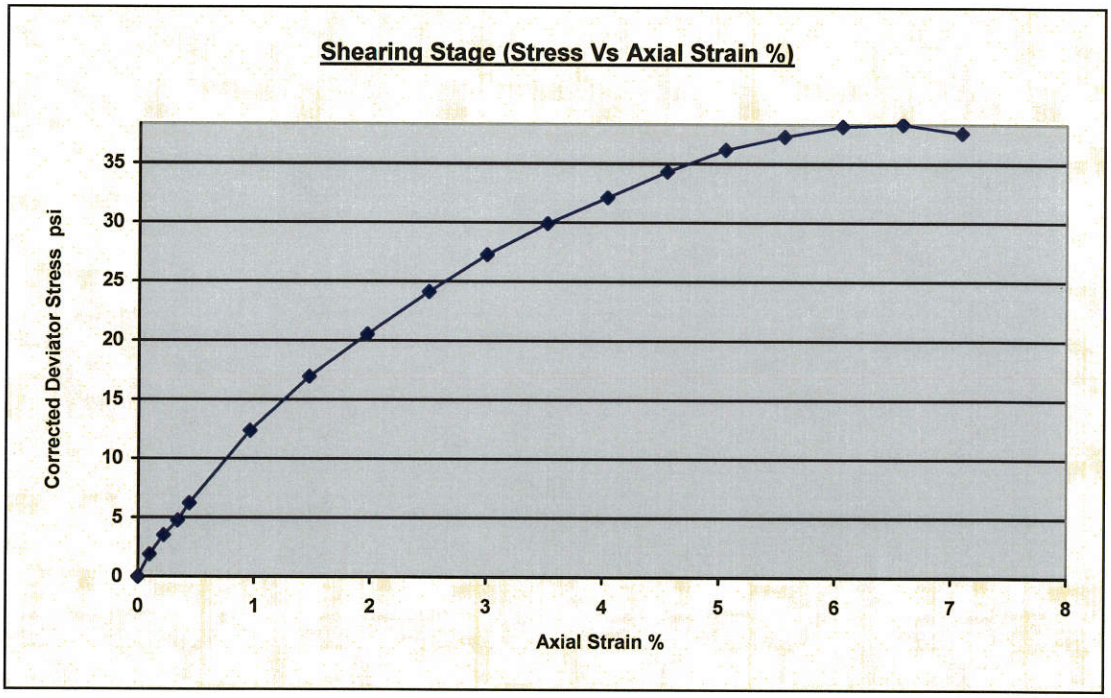
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-36	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7370 in	**Description**	Brown Clay
Initial Diameter	2.8670 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	105.67 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	18.9%	**Preparation**	As per Standard
Void Ratio	0.57	**Degree of Saturation**	88.62%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-36	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	38.42 psi **(5,518 psf)**	**Major Principal Stress**	38.32 psi
Axial Strain	6.58%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	18.8%
Final Unit Weight	125.54 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

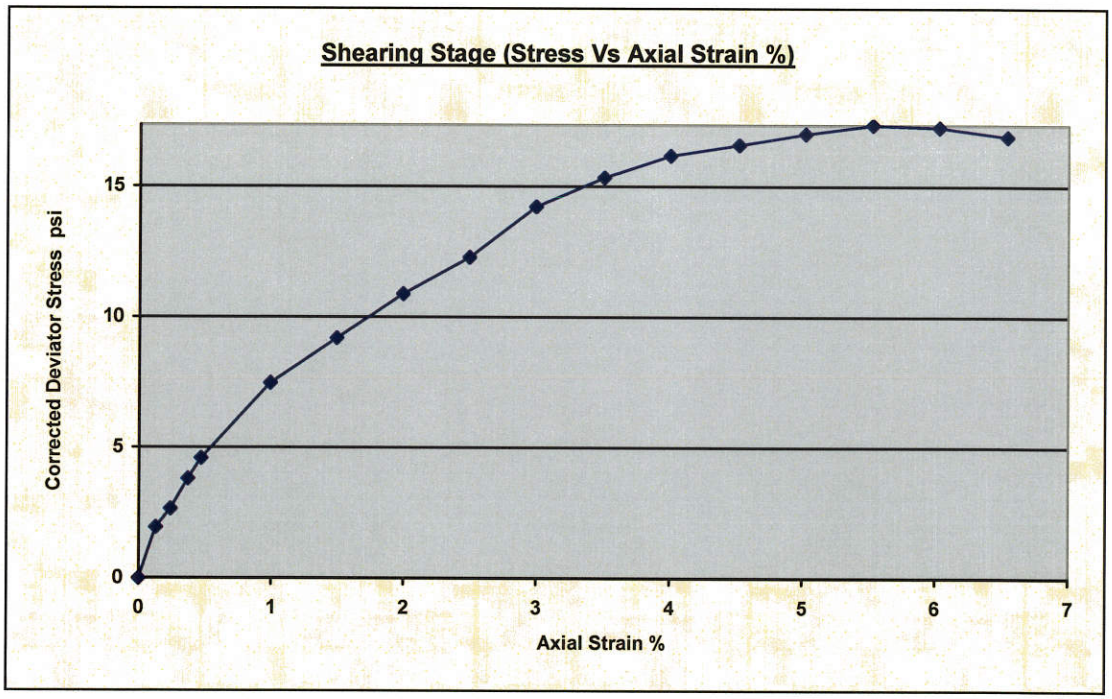
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-37	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7400 in	**Description**	Brown Clay
Initial Diameter	2.8140 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	100.50 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	22.9%	**Preparation**	As per Standard
Void Ratio	0.65	**Degree of Saturation**	93.88%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-37	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	17.34 psi **(2,497 psf)**	**Major Principal Stress**	17.34 psi
Axial Strain	5.53%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	22.8%
Final Unit Weight	123.41 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

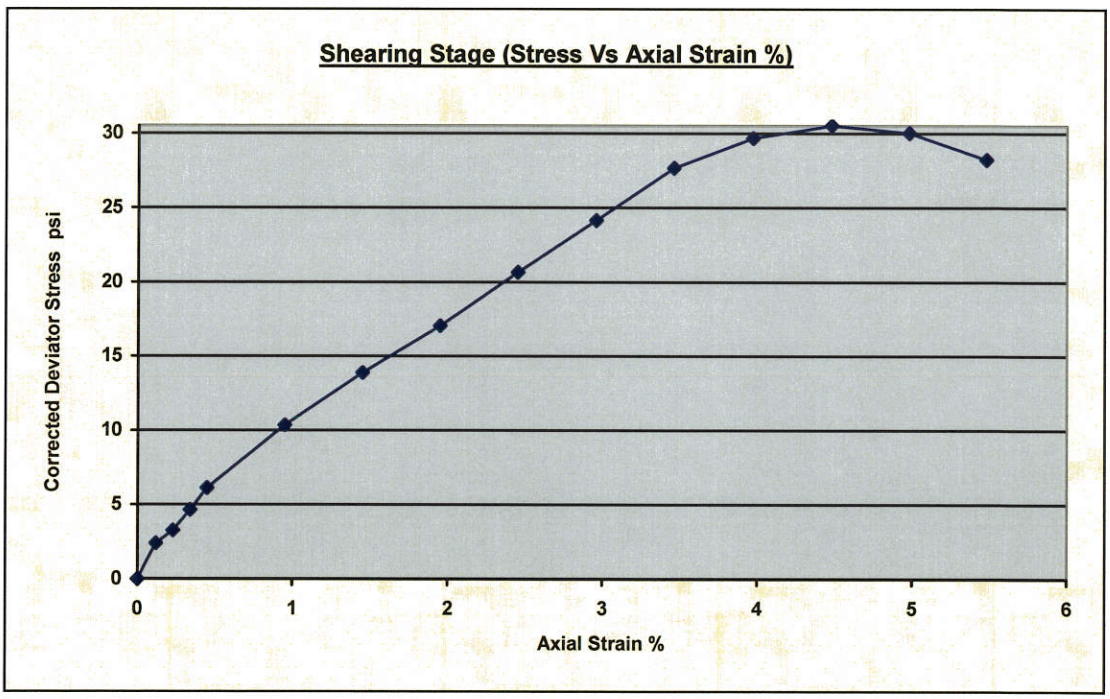
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-38	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7590 in	**Description**	Brown Clay
Initial Diameter	2.8510 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	102.54 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	20.8%	**Preparation**	As per Standard
Void Ratio	0.61	**Degree of Saturation**	89.72%
Comments			

* Calculated from initial and dry weights of whole specimen



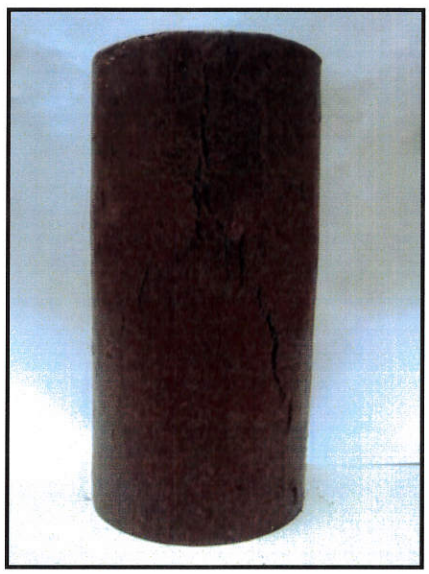
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-38	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	30.51 psi **(4,393 psf)**	**Major Principal Stress**	30.51 psi
Axial Strain	4.48%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	20.7%
Final Unit Weight	123.76 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
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Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

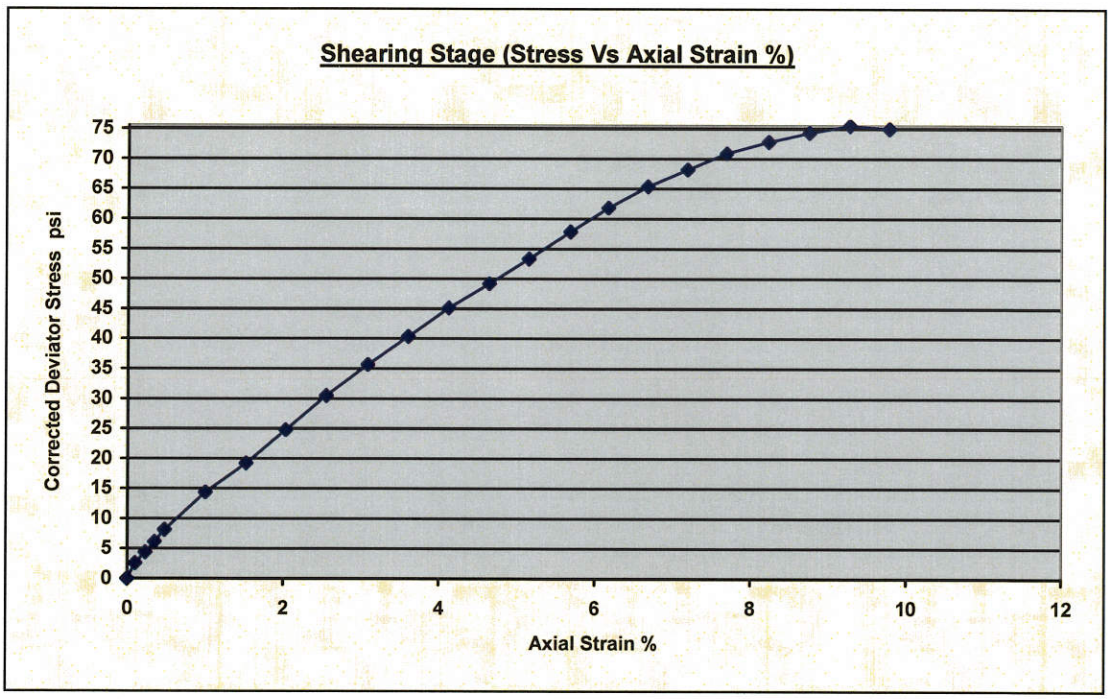
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-39	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7540 in	**Description**	Brown Clay
Initial Diameter	2.8080 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	107.02 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	16.9%	**Preparation**	As per Standard
Void Ratio	0.55	**Degree of Saturation**	81.79%
Comments			

* Calculated from initial and dry weights of whole specimen



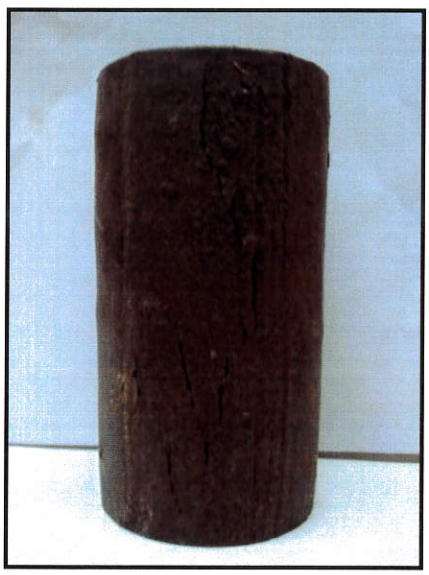
Unconfined Compression Test on Cohesive Soils

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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-39	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	75.50 psi **(10,872psf)**	**Major Principal Stress**	75.50 psi
Axial Strain	9.27%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	16.8%
Final Unit Weight	125.00 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

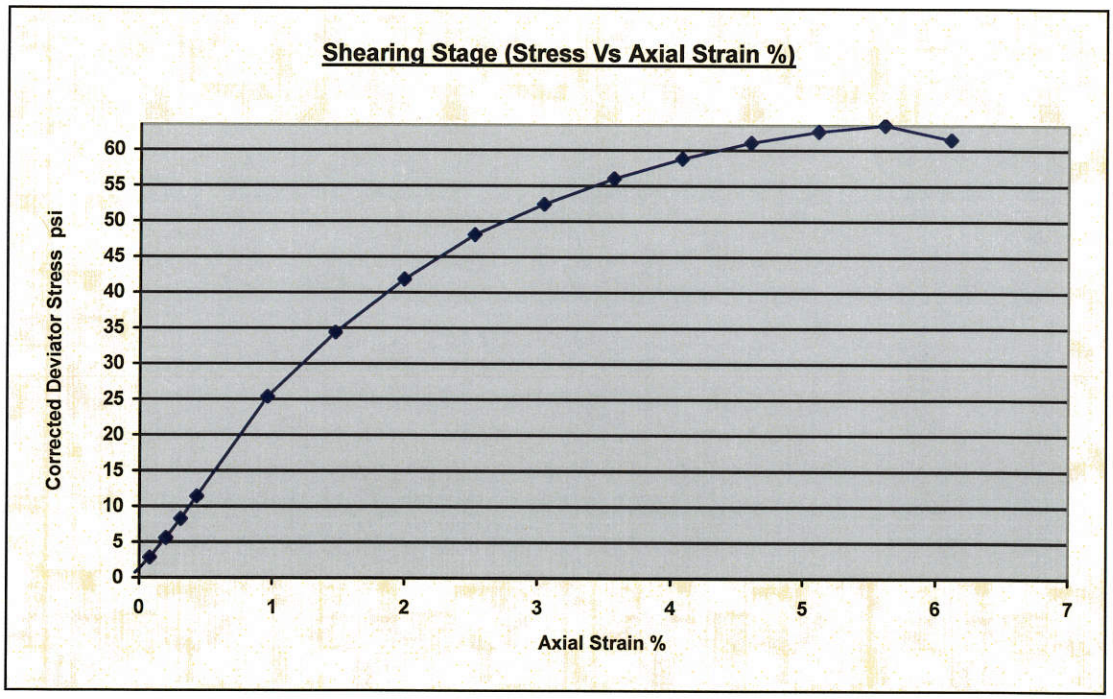
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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-40	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.8740 in	**Description**	Brown Clay
Initial Diameter	2.8150 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	110.62 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	16.9%	**Preparation**	As per Standard
Void Ratio	0.50	**Degree of Saturation**	90.33%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

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Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-40	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	63.47 psi **(9,140 psf)**	**Major Principal Stress**	63.47 psi
Axial Strain	5.61%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	16.6%
Final Unit Weight	128.98 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

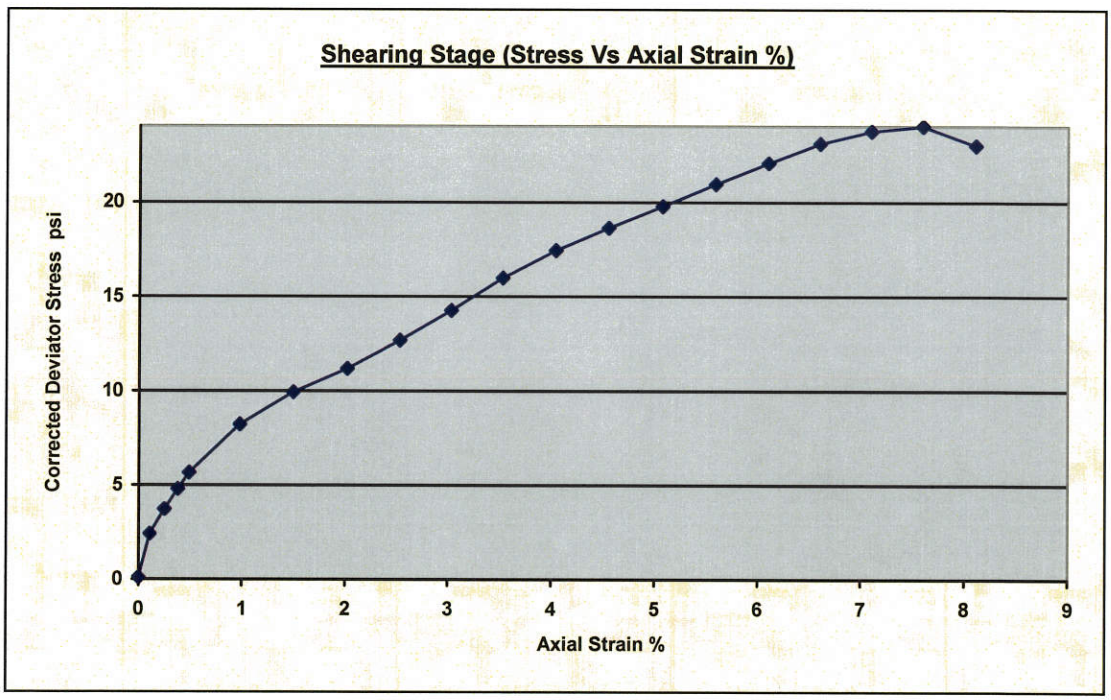
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-41	**Sample**	6-8 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	6-8 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7560 in	**Description**	Brown Clay
Initial Diameter	2.8060 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	99.07 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	23.8%	**Preparation**	As per Standard
Void Ratio	0.67	**Degree of Saturation**	93.87%
Comments			

* Calculated from initial and dry weights of whole specimen



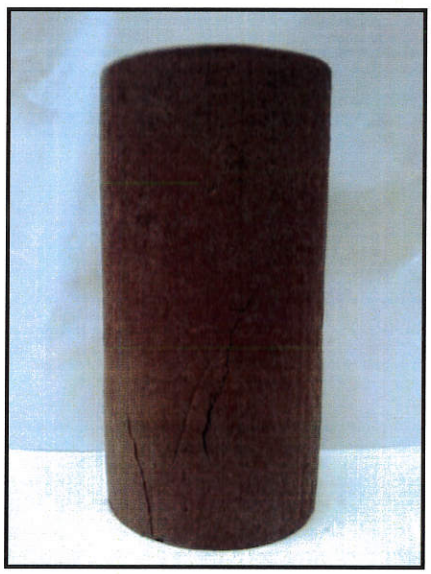
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-41	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	24.04 psi **(3,462 psf)**	**Major Principal Stress**	24.04 psi
Axial Strain	7.60%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	23.2%
Final Unit Weight	122.05 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

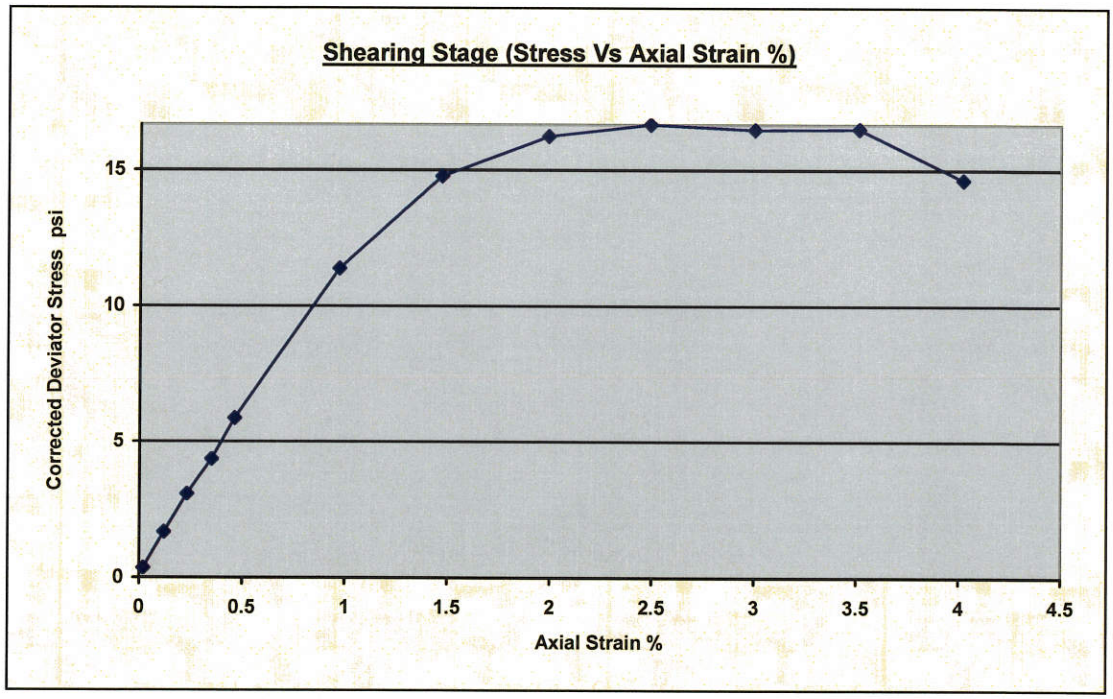
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-42	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7400 in	**Description**	Brown Clay
Initial Diameter	2.8300 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	89.40 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	31.3%	**Preparation**	As per Standard
Void Ratio	0.85	**Degree of Saturation**	97.46%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-42	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	16.67 psi **(2,400 psf)**	**Major Principal Stress**	16.67 psi
Axial Strain	2.49%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	31.1%
Final Unit Weight	117.20 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

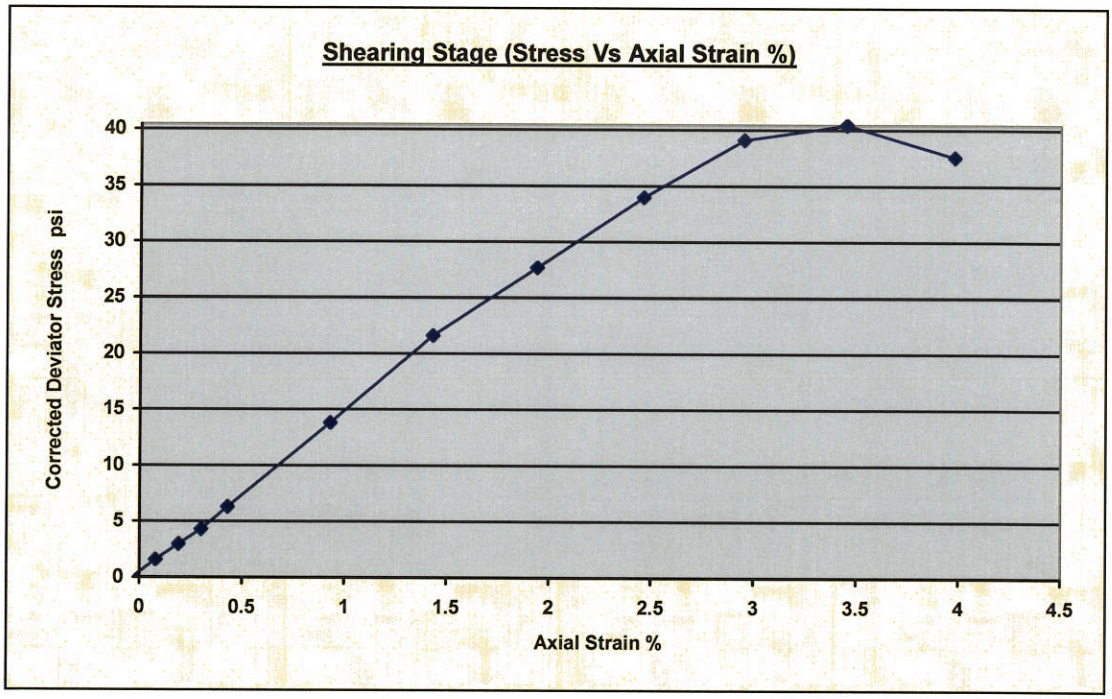
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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-44	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7570 in	**Description**	Brown Clay
Initial Diameter	2.8300 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	107.06 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	12.8%	**Preparation**	As per Standard
Void Ratio	0.55	**Degree of Saturation**	62.37%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-44	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	40.42 psi **(5,820 psf)**	**Major Principal Stress**	40.42 psi
Axial Strain	3.45%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	12.7%
Final Unit Weight	120.62 lbf/ft^3		



Mode of Failure

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Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

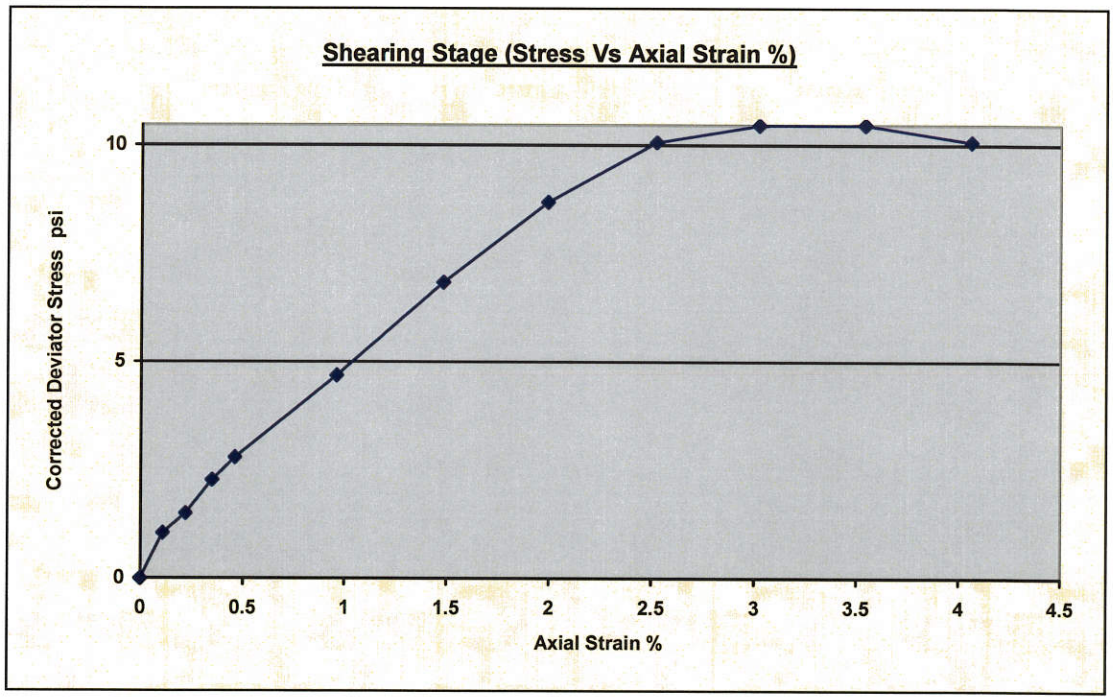
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Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-45	**Sample**	3-5 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	3-5 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7400 in	**Description**	Brown Clay
Initial Diameter	2.8320 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	107.16 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	19.3%	**Preparation**	As per Standard
Void Ratio	0.54	**Degree of Saturation**	94.04%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-45	**Sample**	3-5 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	10.46 psi **(1,506 psf)**	**Major Principal Stress**	10.46 psi
Axial Strain	3.54%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	19.2%
Final Unit Weight	127.74 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

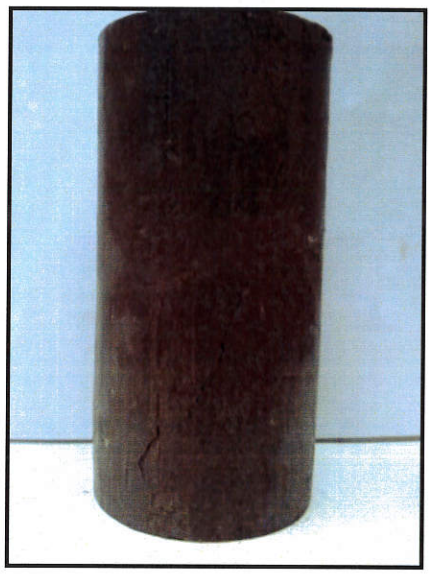
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-47	**Sample**	6-8 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	32.24 psi **(4,643 psf)**	**Major Principal Stress**	32.24 psi
Axial Strain	4.61%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	22.2%
Final Unit Weight	123.06 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

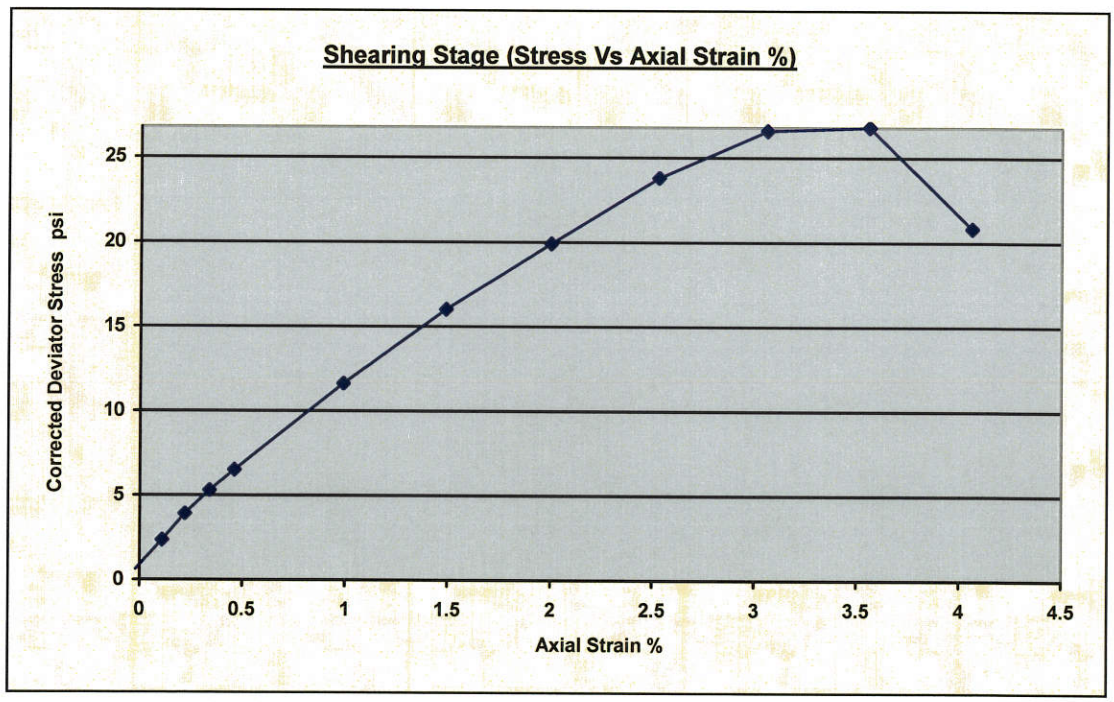
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Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-49	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7500 in	**Description**	Brown Clay
Initial Diameter	2.8430 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	101.67 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	20.9%	**Preparation**	As per Standard
Void Ratio	0.63	**Degree of Saturation**	88.37%
Comments			

* Calculated from initial and dry weights of whole specimen



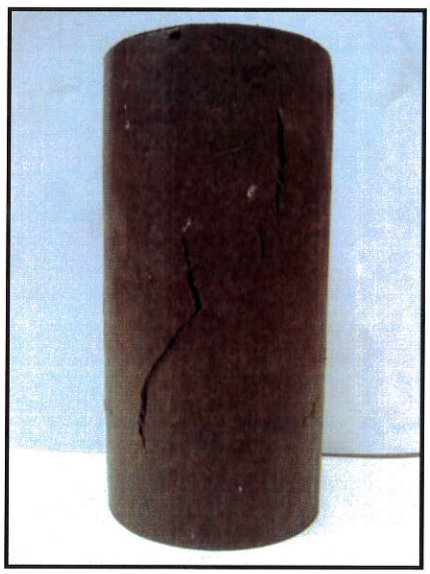
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-49	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	26.79psi **(3,858 psf)**	**Major Principal Stress**	26.79 psi
Axial Strain	3.56%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	20.7%
Final Unit Weight	122.72 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

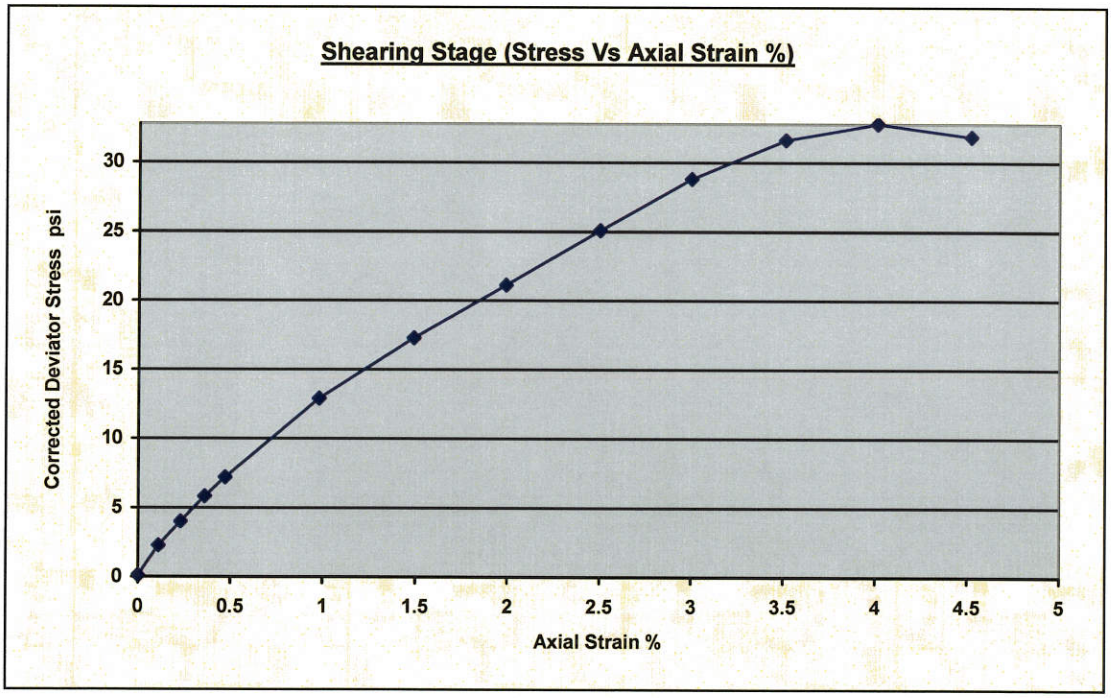
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-50	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7640 in	**Description**	Brown Clay
Initial Diameter	2.8420 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	103.53 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	19.9%	**Preparation**	As per Standard
Void Ratio	0.60	**Degree of Saturation**	88.34%
Comments			

* Calculated from initial and dry weights of whole specimen



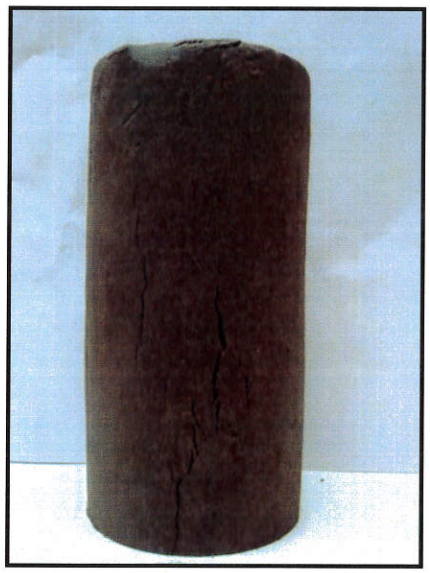
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-50	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	32.78 psi **(4,720 psf)**	**Major Principal Stress**	32.78 psi
Axial Strain	4.01%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	19.9%
Final Unit Weight	124.14 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

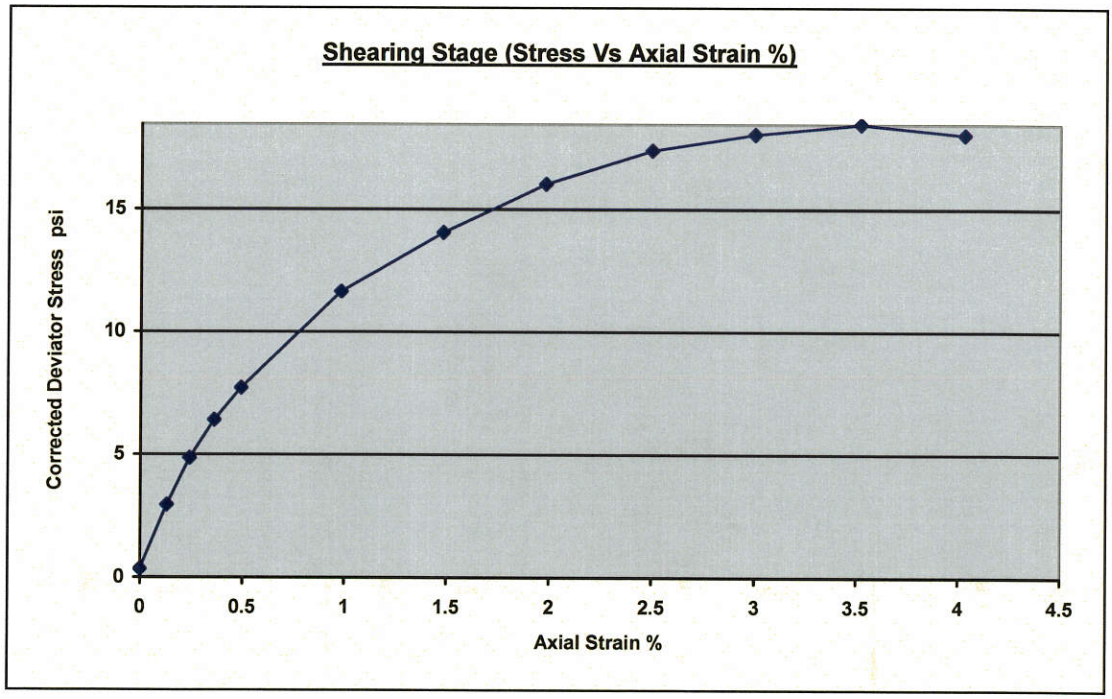
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-51	**Sample**	13-15 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	13-15 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7520 in	**Description**	Brown Clay
Initial Diameter	2.8410 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	101.28 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	23.6%	**Preparation**	As per Standard
Void Ratio	0.63	**Degree of Saturation**	98.56%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-51	**Sample**	13-15 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	18.45 psi **(2,657 psf)**	**Major Principal Stress**	18.45 psi
Axial Strain	3.52%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	23.5%
Final Unit Weight	125.08 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

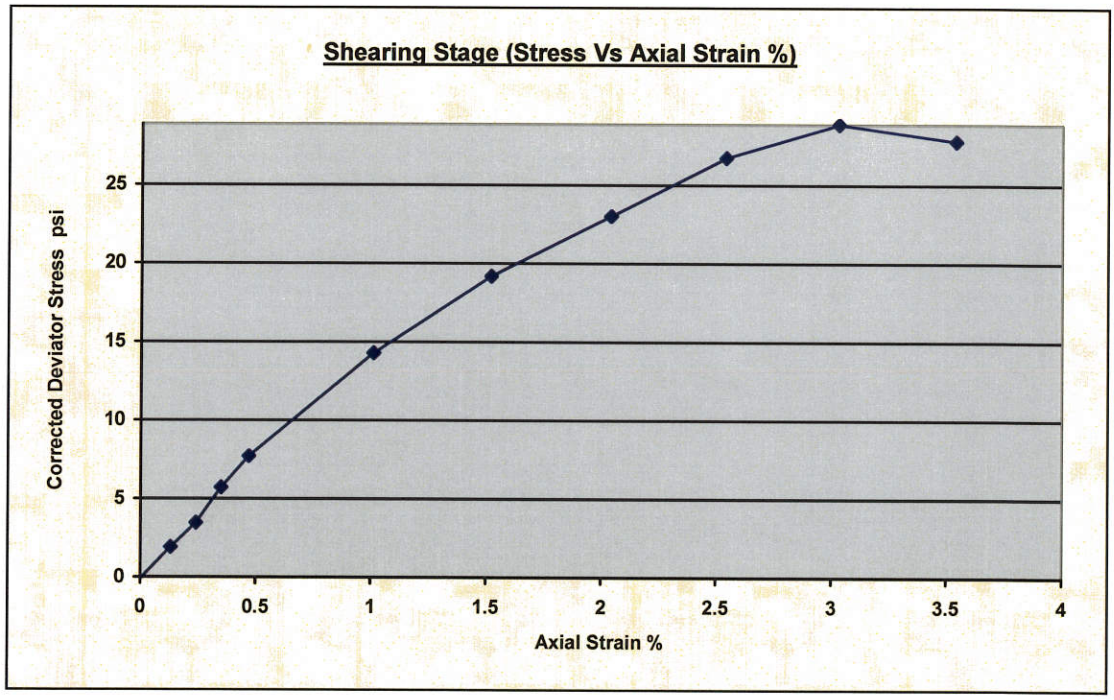
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-53	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7820 in	**Description**	Brown Clay
Initial Diameter	2.8400 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	100.04 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	20.7%	**Preparation**	As per Standard
Void Ratio	0.65	**Degree of Saturation**	83.86%
Comments			

* Calculated from initial and dry weights of whole specimen



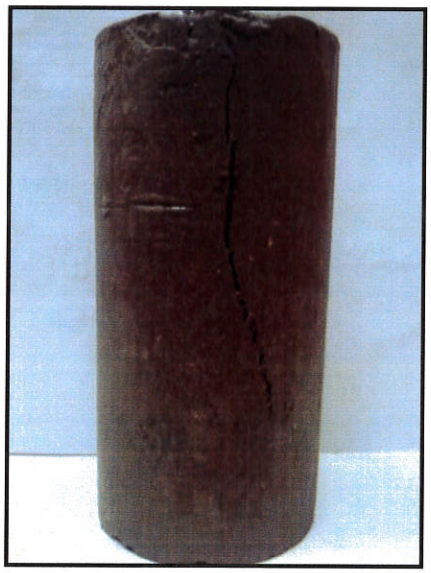
Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-53	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	28.85 psi **(4,154 psf)**	**Major Principal Stress**	28.85 psi
Axial Strain	3.03%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	20.6%
Final Unit Weight	120.65 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

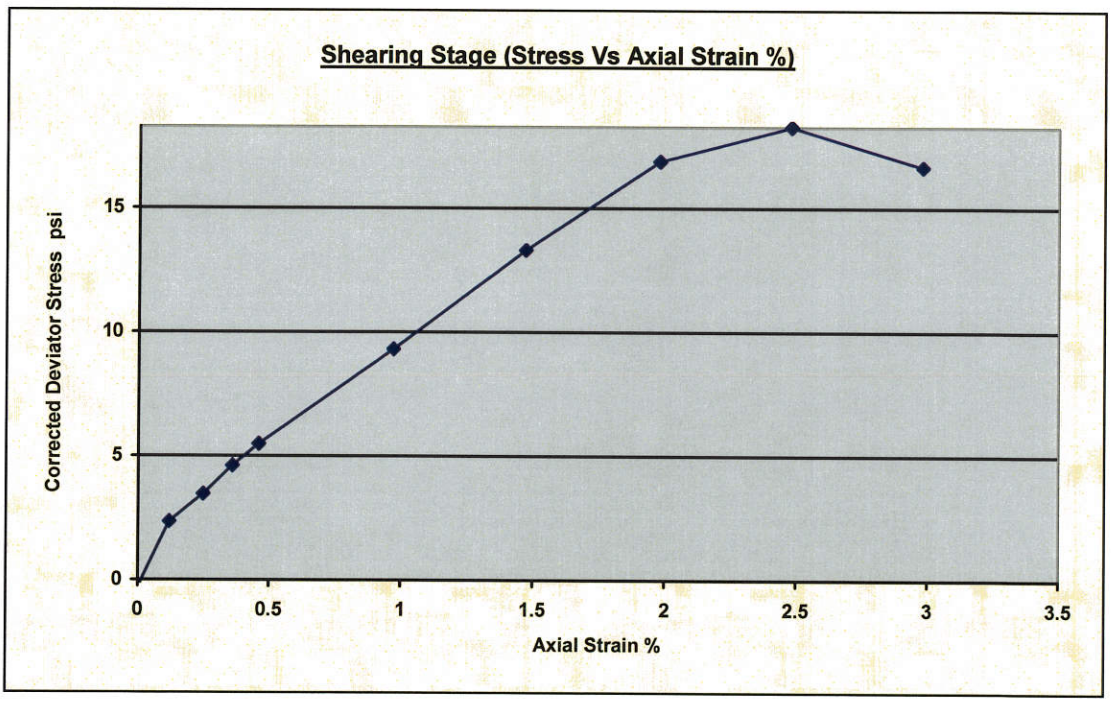
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-54	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7500 in	**Description**	Brown Clay
Initial Diameter	2.8390 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	100.68 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	20.8%	**Preparation**	As per Standard
Void Ratio	0.64	**Degree of Saturation**	85.68%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-54	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	18.27 psi **(2,631 psf)**	**Major Principal Stress**	18.27 psi
Axial Strain	2.48%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	20.6%
Final Unit Weight	121.42 lbf/ft^3		



Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

Unconfined Compression Test on Cohesive Soils

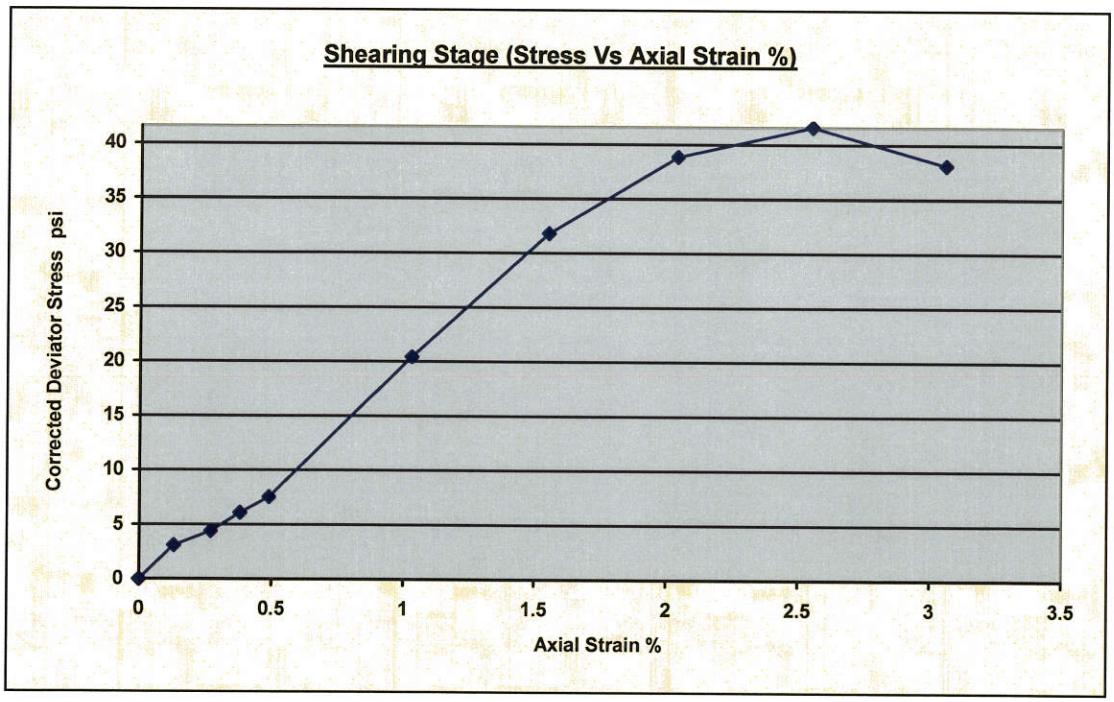
L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-55	**Sample**	9-11 ft.

Test & Sample Details			
Standard	ASTM D2166	**Sample Depth**	9-11 ft
Sample Type	Thin Walled Push in Sample	**Sp. Gravity of Solids**	2.65
Sample Description	Brown Clay	**Lab. Temperature**	74.0 ° F
Variations from Procedure	None		

Specimen Details			
Specimen Reference	A	**Stage Reference**	1
Initial Height	5.7650 in	**Description**	Brown Clay
Initial Diameter	2.8210 in	**Depth within Sample**	0.0000 in
Initial Dry Unit Weight	100.98 lbf/ft^3	**Orientation within Sample**	Vertical
Initial Moisture Content*	17.8%	**Preparation**	As per Standard
Void Ratio	0.64	**Degree of Saturation**	73.86%
Comments			

* Calculated from initial and dry weights of whole specimen



Unconfined Compression Test on Cohesive Soils

L&G Engineering Laboratory
Construction Material Testing
Geotechnical Engineering

Client	L&G Engineering	**Lab Ref**	
Project	Mission Inlet Division I	**Job**	GL13019
Borehole	B-D1-55	**Sample**	9-11 ft.

Shear Conditions			
Rate of Axial Strain	1.00%/min	**Cell Pressure**	0.00psi

Conditions at Failure			
Failure Criterion	Maximum Deviator Stress		
Compressive Strength	41.58 psi **(5,988 psf)**	**Major Principal Stress**	41.58 psi
Axial Strain	3.03%	**Minor Principal Stress**	0.00 psi
Deviator Stress Correction Applied	0.000psi	**Final Moisture Content**	17.7%
Final Unit Weight	118.86 lbf/ft^3		

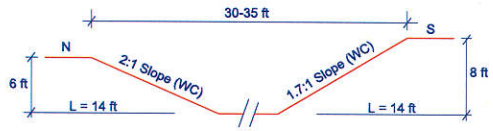


Mode of Failure

Tested By and Date:	**B.O.**
Checked By and Date:	**J.B.S.**
Approved By and Date:	**D.A.S.**

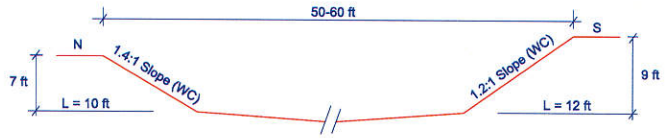
APPENDIX E – SLOPE / GLOBAL STABILITY ANALYSIS

TYPICAL SECTION SUMMARY ~ MISSION INLET PILOT CHANNEL (EXISTING SECTIONS)



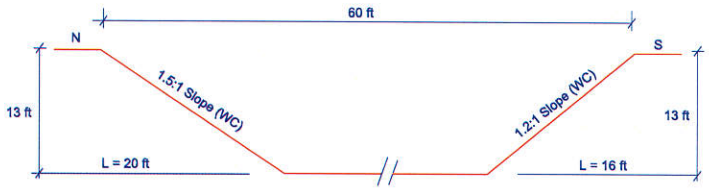
TYPICAL SECTION 1

Beg. Project to North Leg (South Leg)



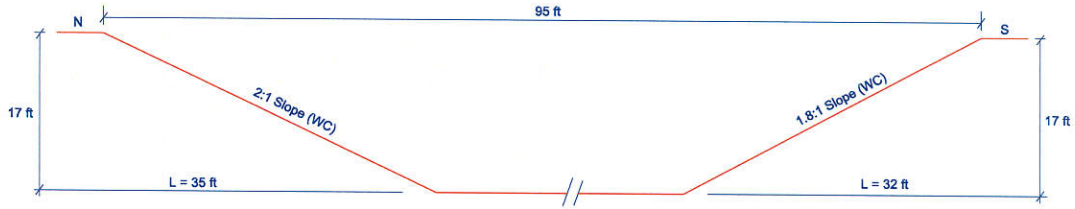
TYPICAL SECTION 2

Beg. Project to West of Conway Ave. (North Leg)



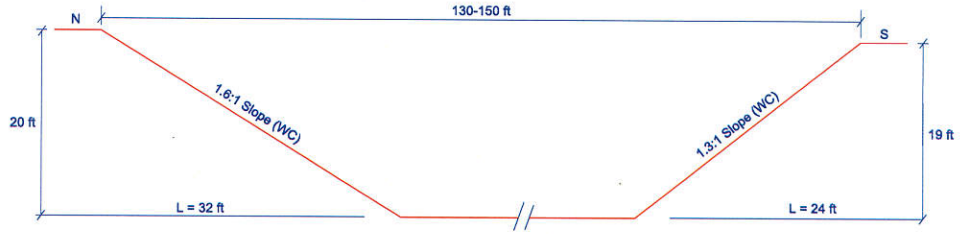
TYPICAL SECTION 3

Conway Ave. to Bryan Rd.



TYPICAL SECTION 5

Shary Rd. to Convergence w/ Main Channel (Bypass Channel)



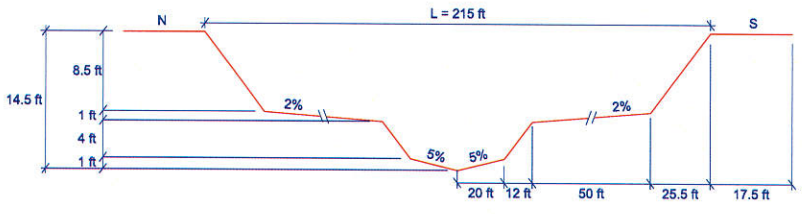
TYPICAL SECTION 9

10th St. to USIBWC Main Floodway

NOTE:

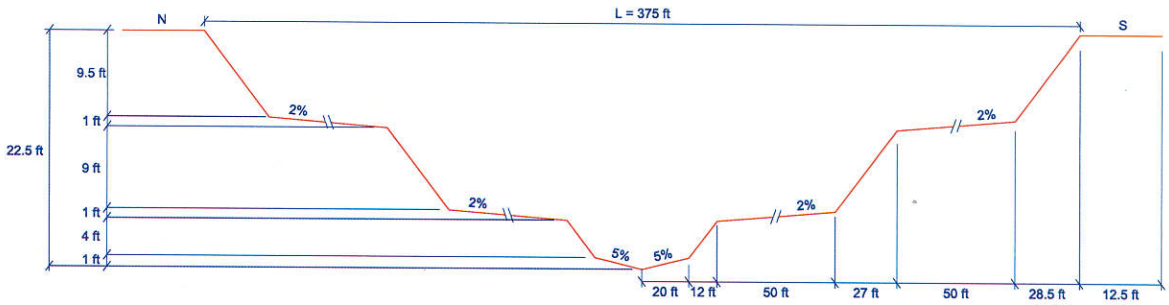
Section from South of Cimmaron Community (South Leg) to Shary Rd. was previsouly improved and showed flatter slopes and wider sections than those selected for analysis (verification of existing conditions)

TYPICAL SECTION SUMMARY ~ MISSION INLET PILOT CHANNEL (PROPOSED SECTIONS)



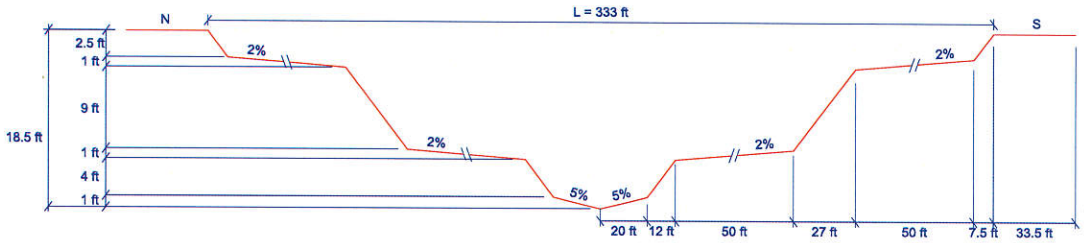
TYPICAL SECTION 4

Bryan Rd. to Rio Grande Dr.



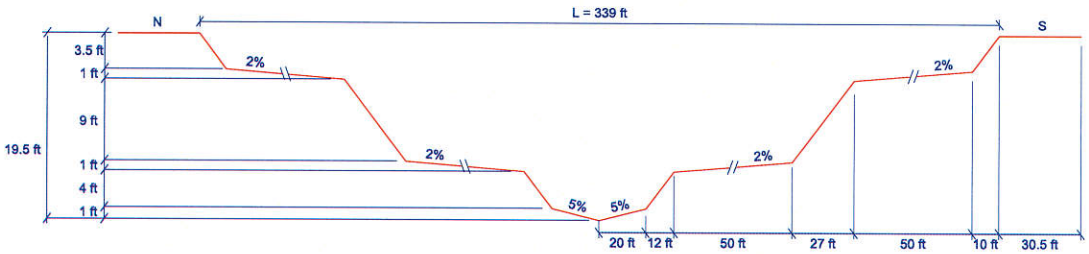
TYPICAL SECTION 8

Palm View Golf Course to 10th St.



TYPICAL SECTION 6

Shary Rd. to Rado Drain (Main Channel)

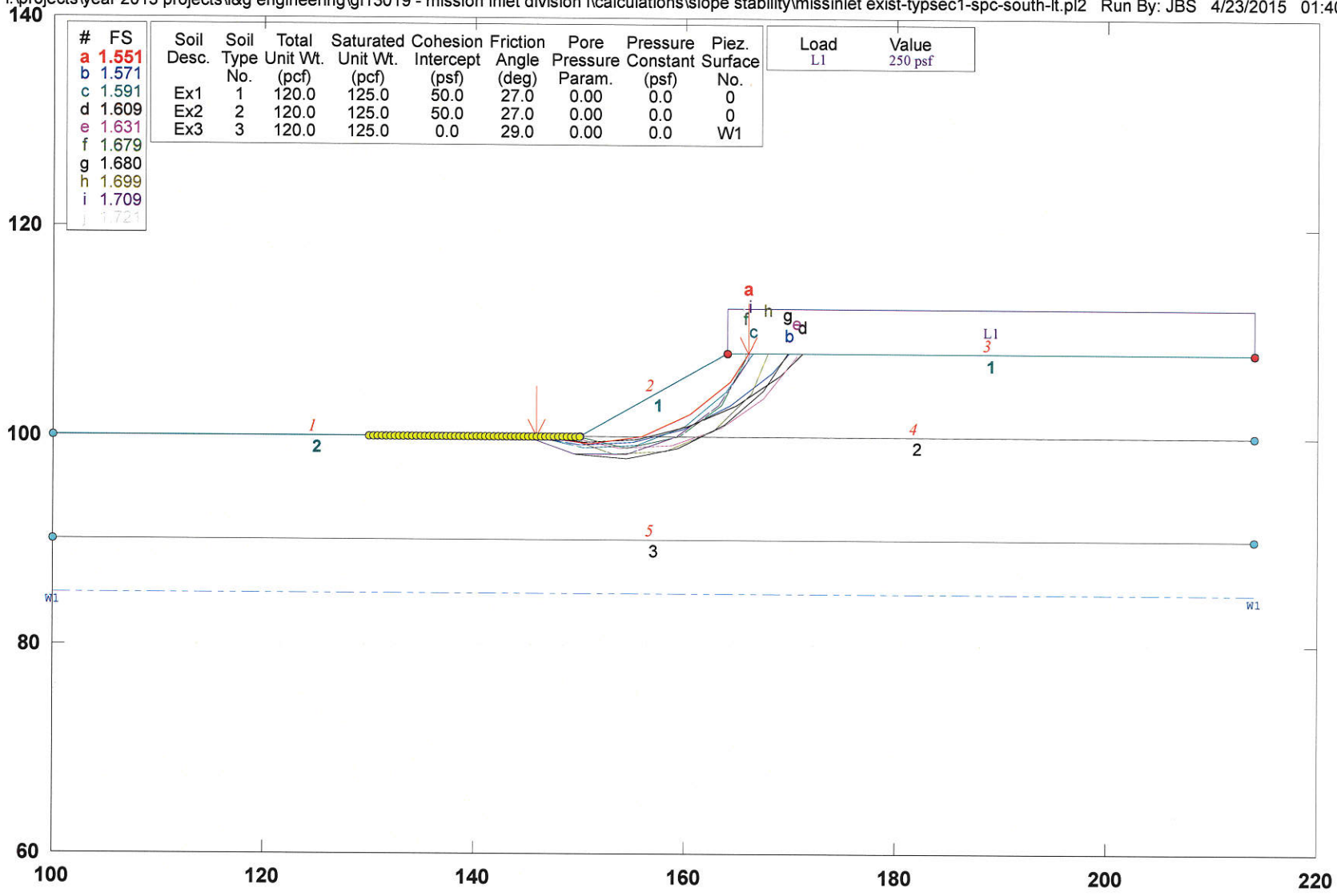


TYPICAL SECTION 7

Rado Drain to Ware Rd.

Mission Inlet (Existing Cond.) Typ Sec 1 - WC Boring - South (LT)

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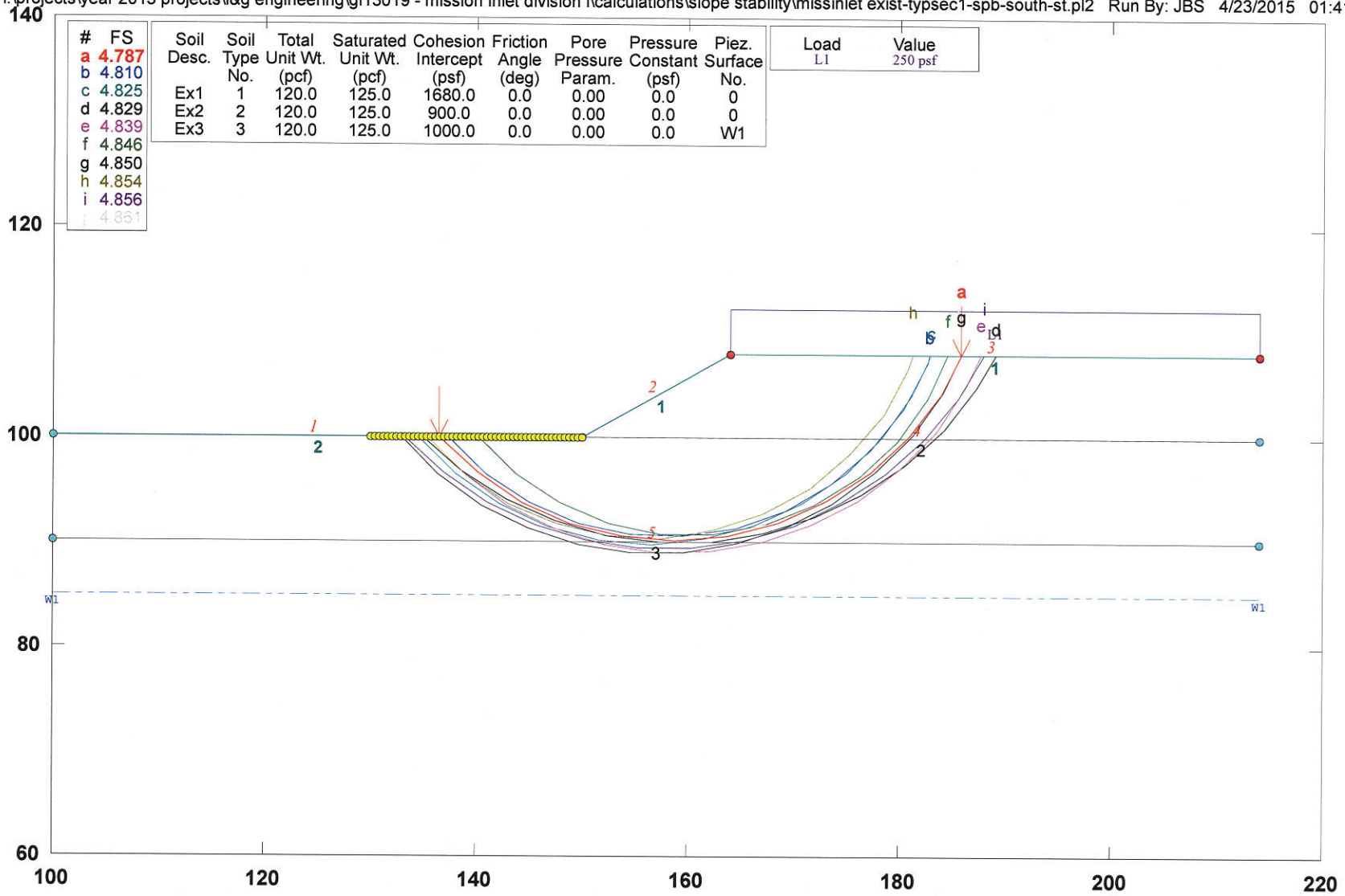


GSTABL7 v.2 FSmin=1.551

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 1 - WC Boring - South (ST)

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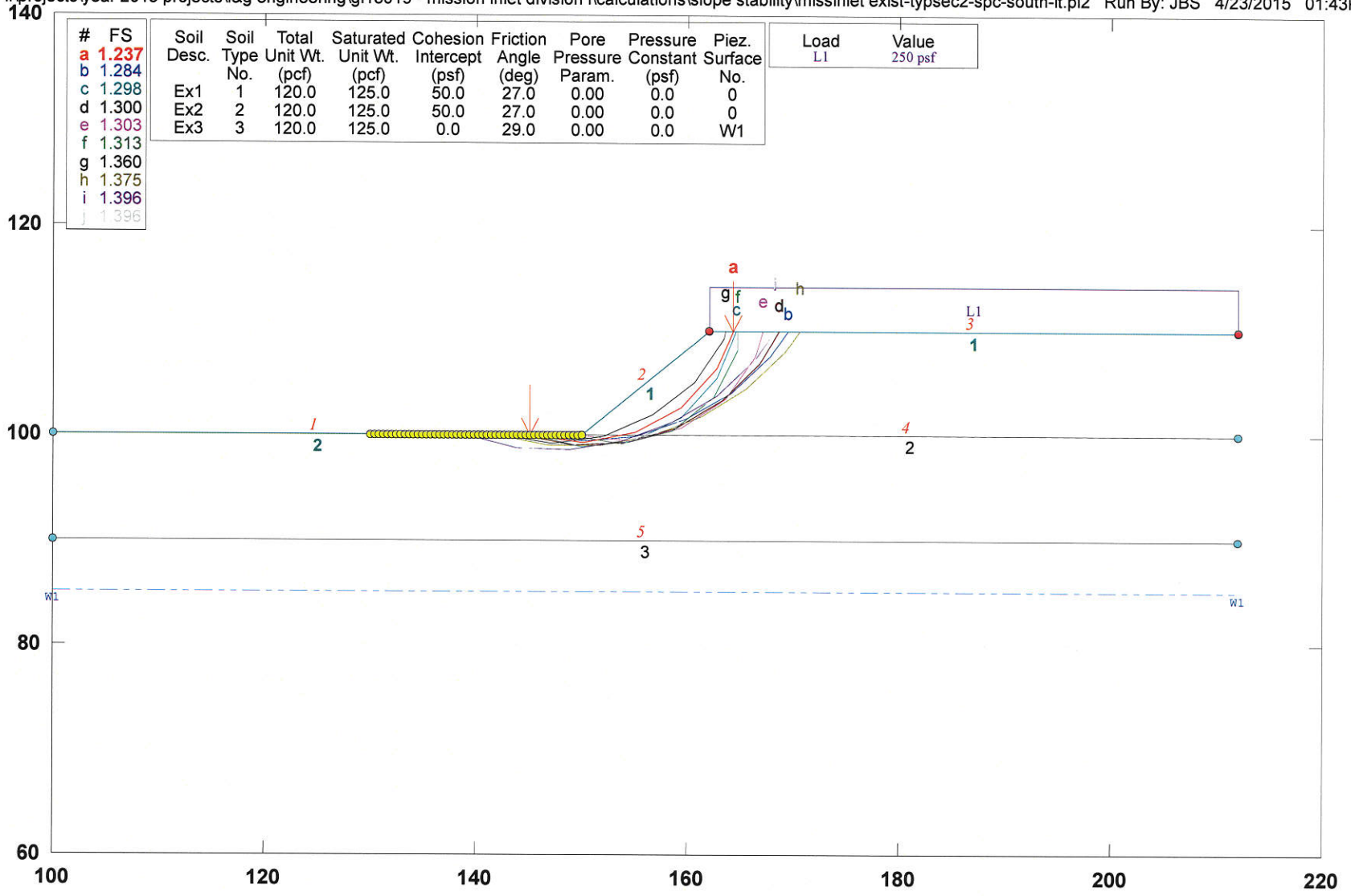


GSTABL7 v.2 FSmin=4.787

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 2 - WC Boring - South (LT)

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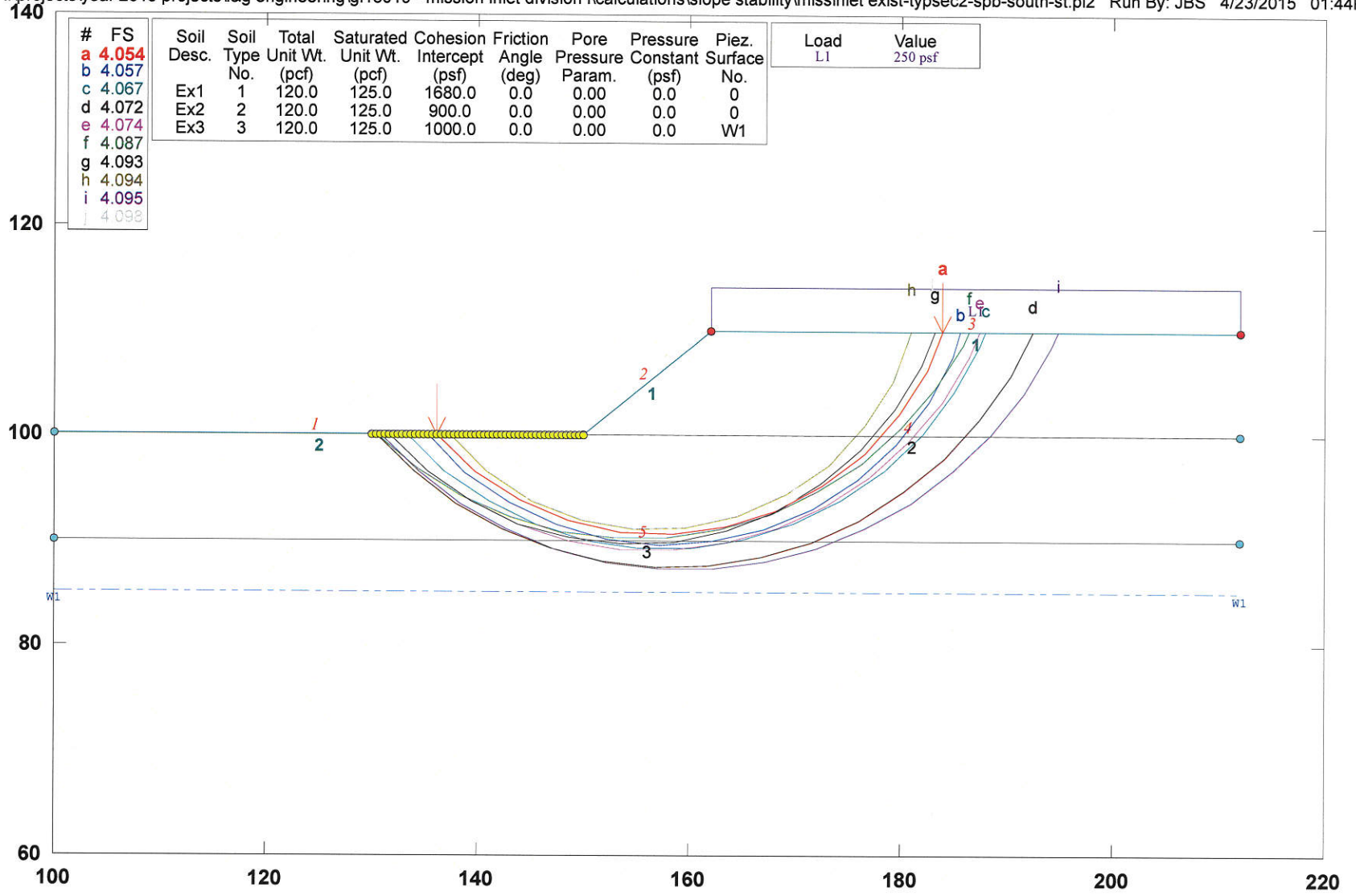


GSTABL7 v.2 FSmin=1.237

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 2 - WC Boring - South (ST)

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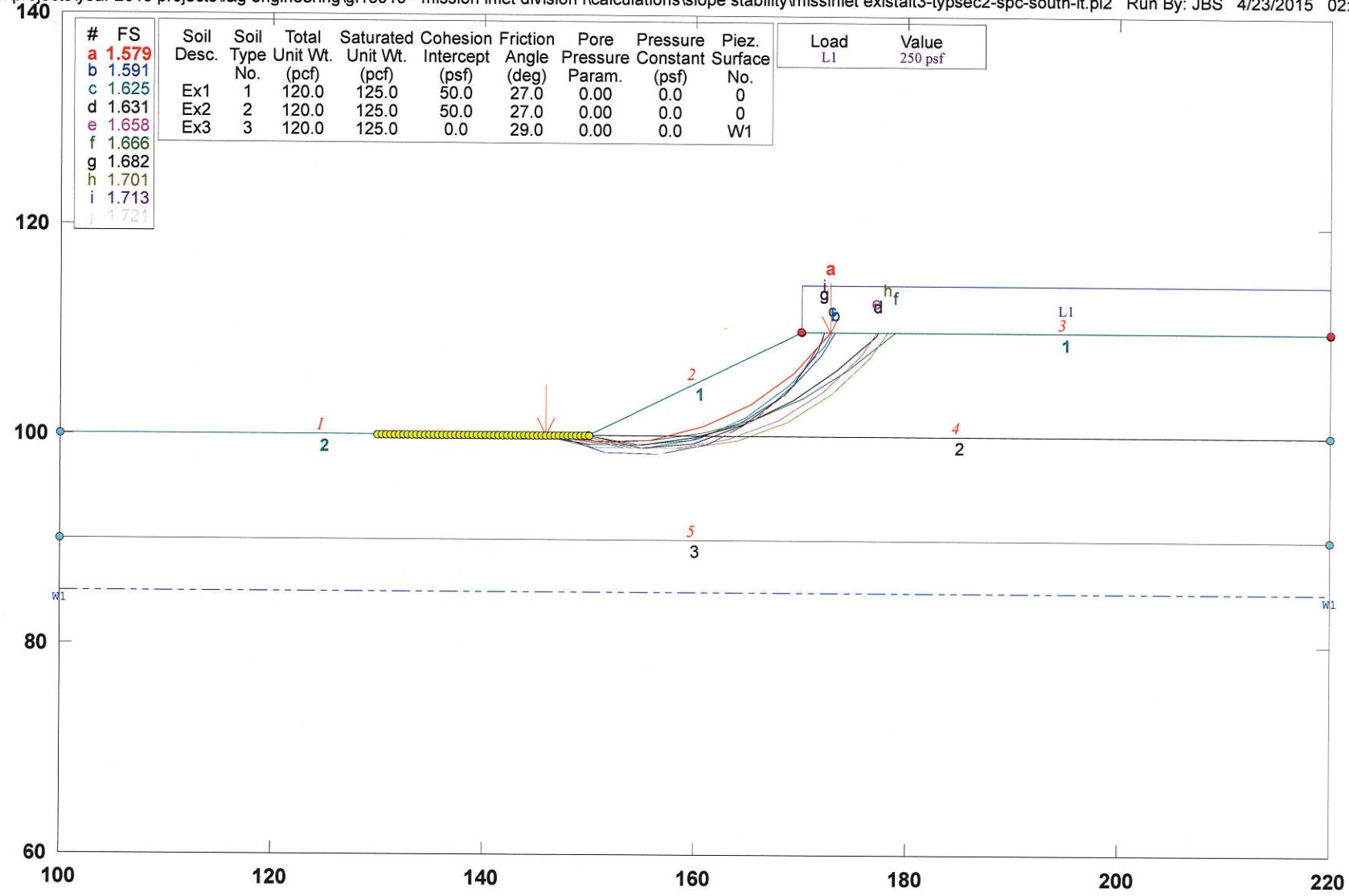


GSTABL7 v.2 FSmin=4.054

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 2 - WC Boring (LT)

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GSTABL7 v.2 FSmin=1.579

Safety Factors Are Calculated By The Modified Bishop Method

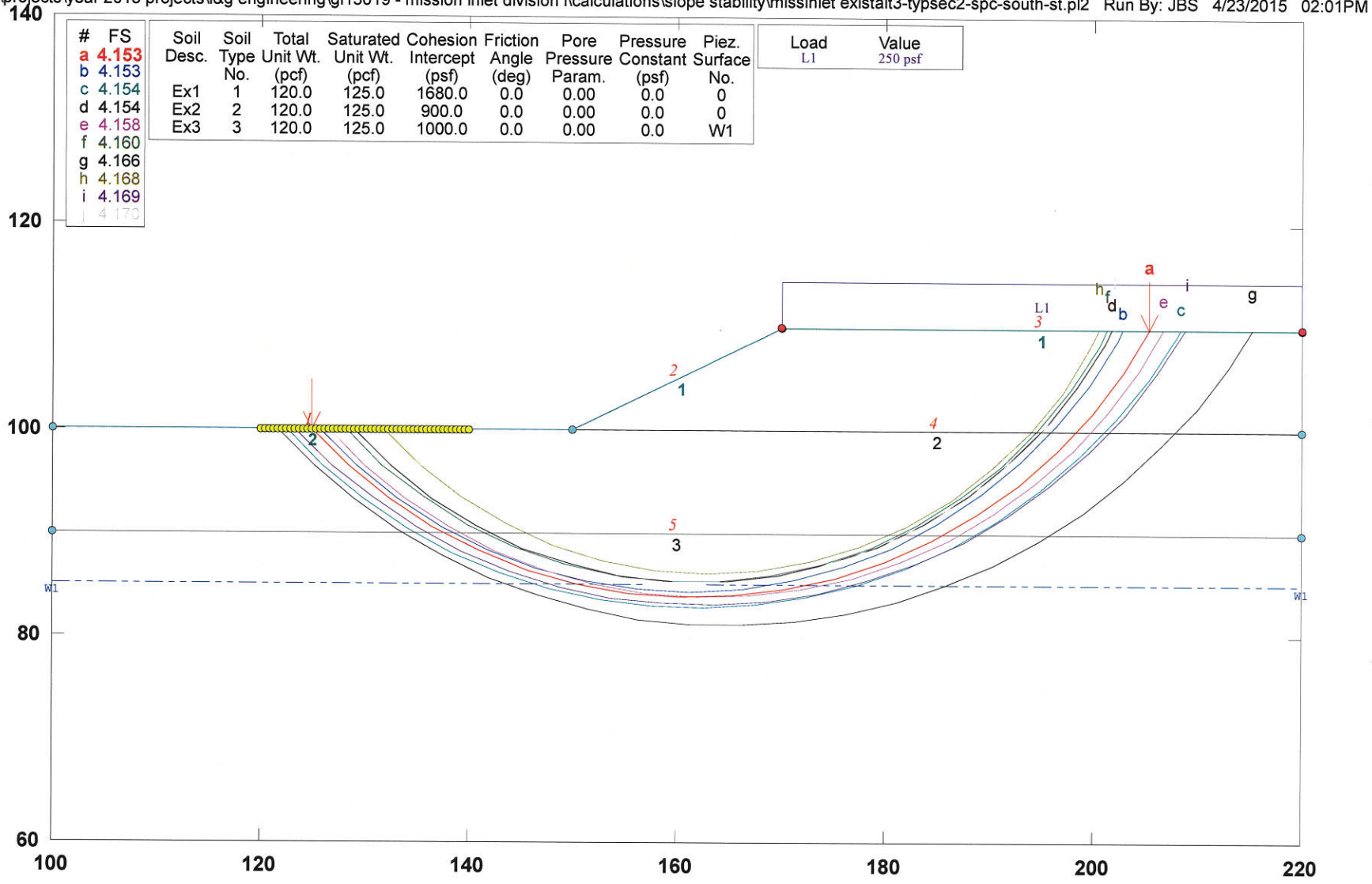
Mission Inlet (Proposed Cond.) Typ Sec 2 - WC Boring (ST)

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a	4.153
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c	4.154
d	4.154
e	4.158
f	4.160
g	4.166
h	4.168
i	4.169
j	4.170

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Ex1	1	120.0	125.0	1680.0	0.0	0.00	0.0	0
Ex2	2	120.0	125.0	900.0	0.0	0.00	0.0	0
Ex3	3	120.0	125.0	1000.0	0.0	0.00	0.0	W1

Load	Value
L1	250 psf

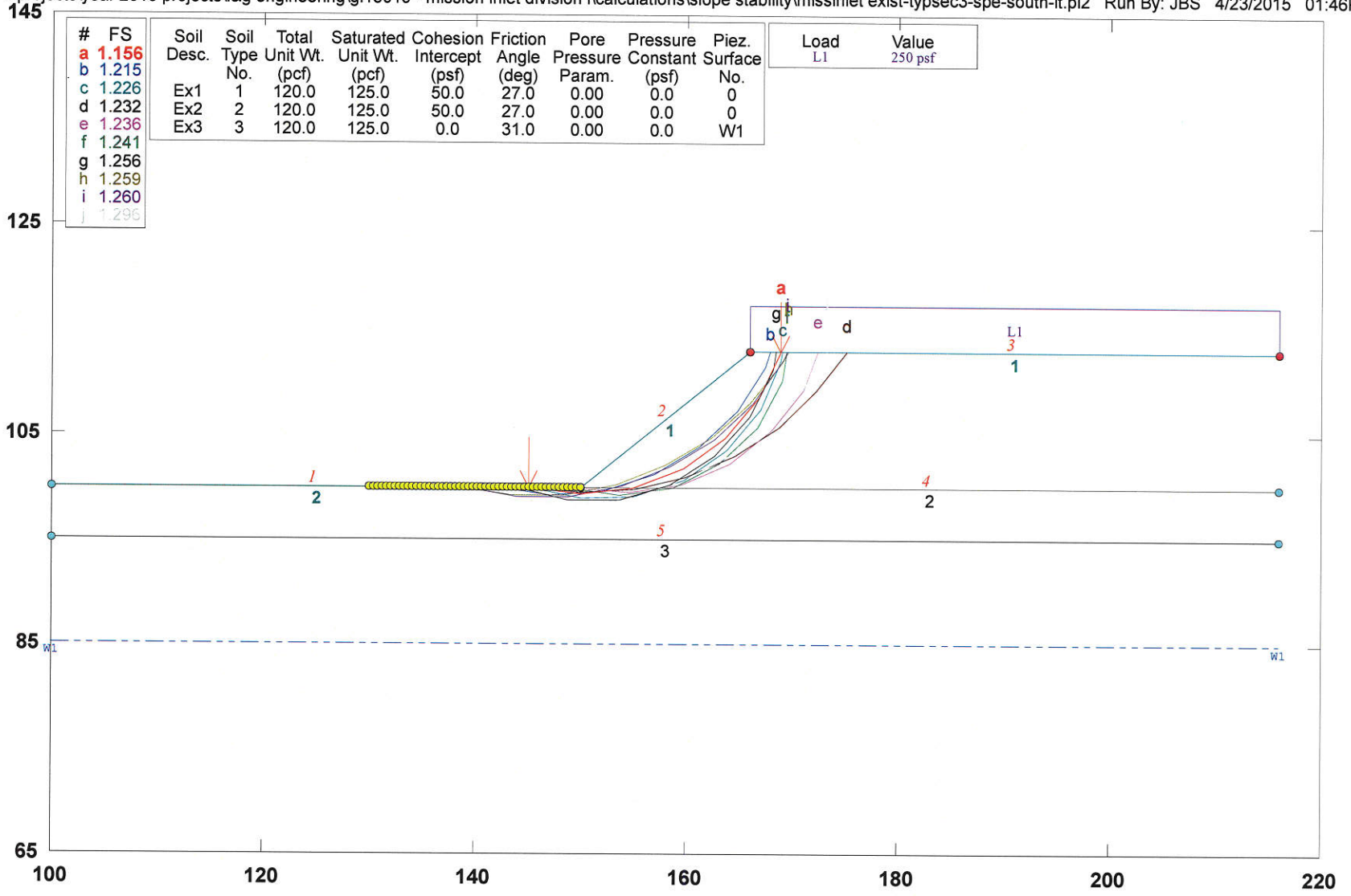


GSTABL7 v.2 FSmin=4.153

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 3 - WC Boring - South (LT)

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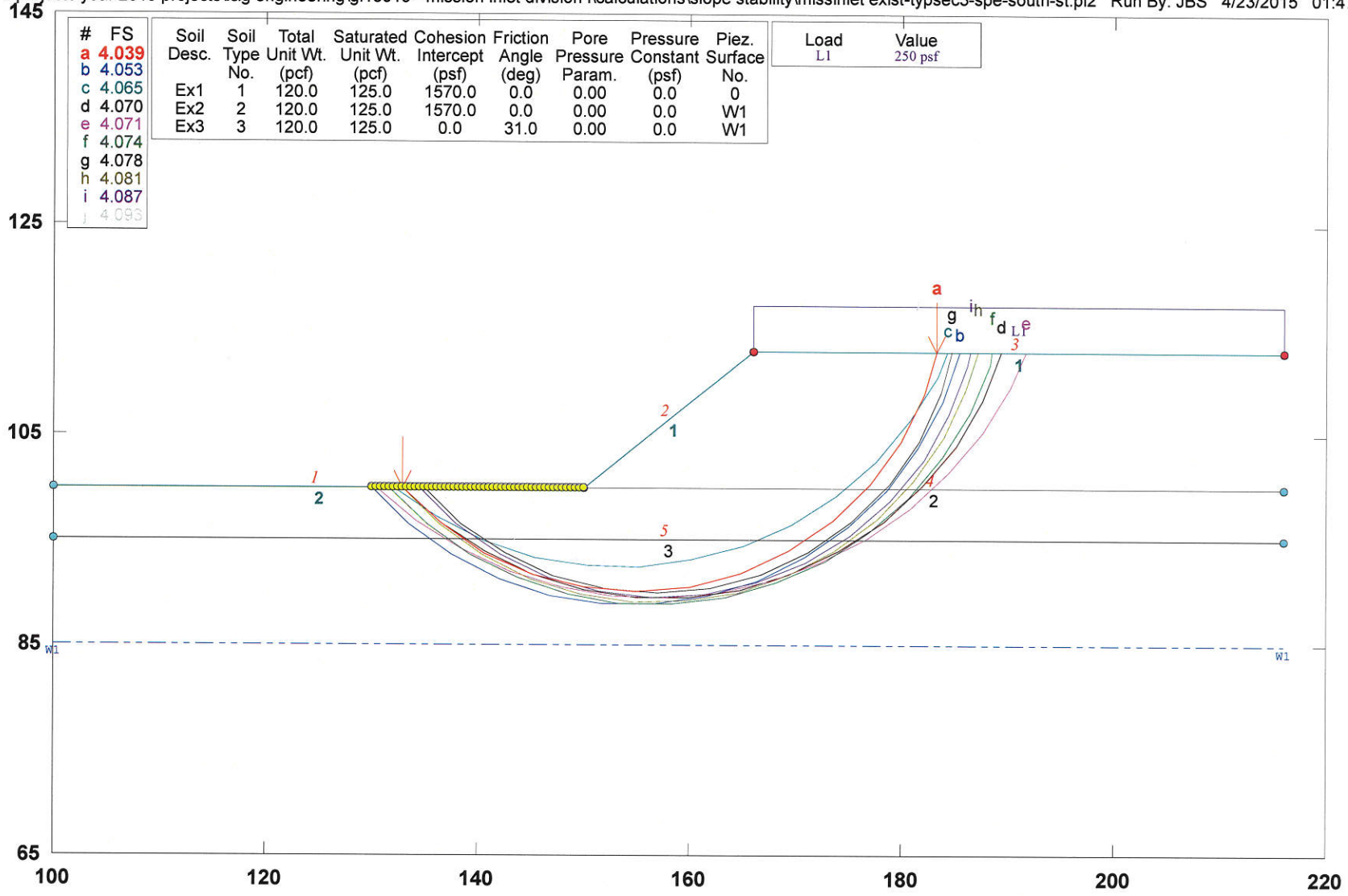


GSTABL7 v.2 FSmin=1.156

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 3 - WC Boring - South (ST)

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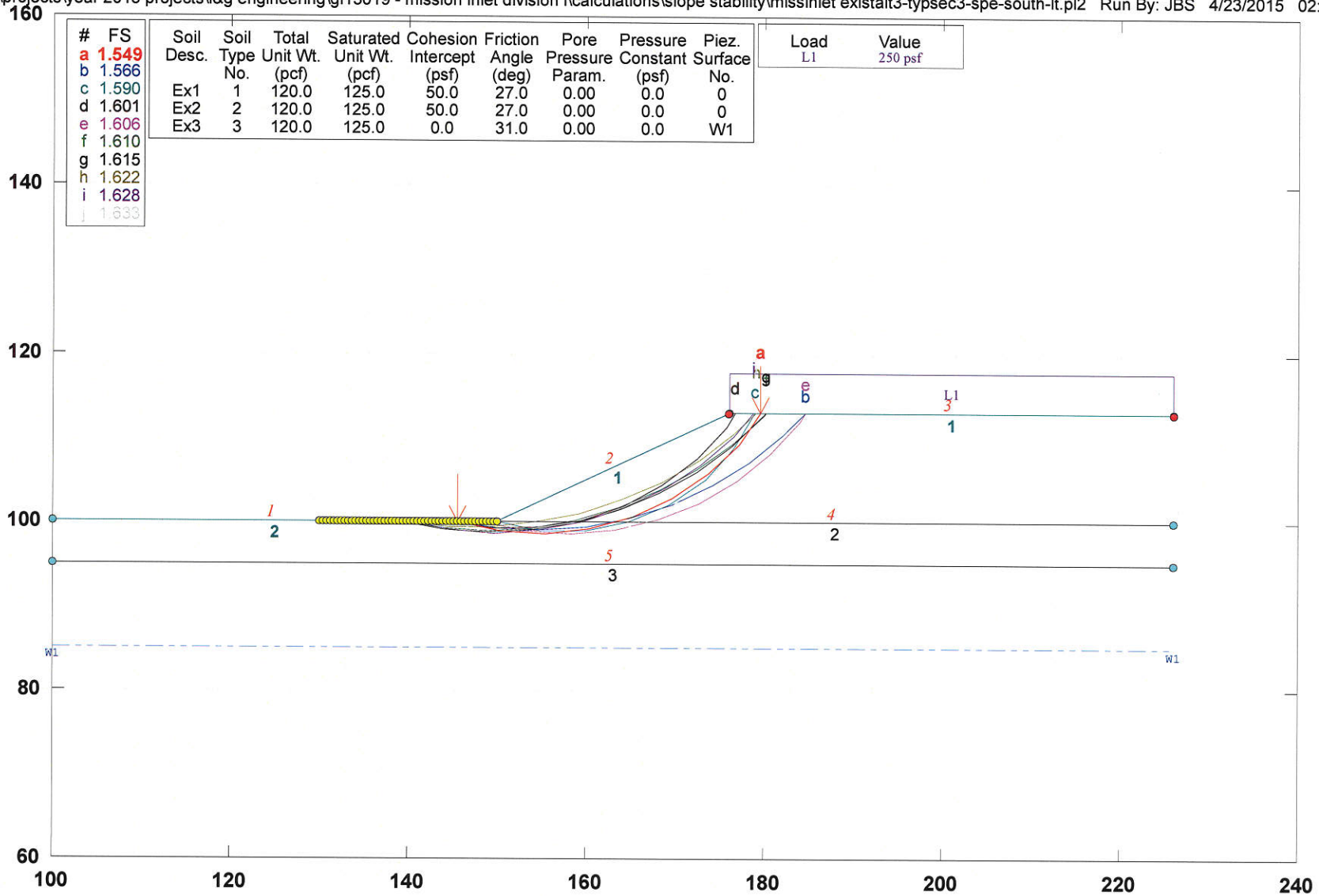


GSTABL7 v.2 FSmin=4.039

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 3 - WC Boring (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet existalt3-typsec3-spe-south-lt.pl2 Run By: JBS 4/23/2015 02:02PM

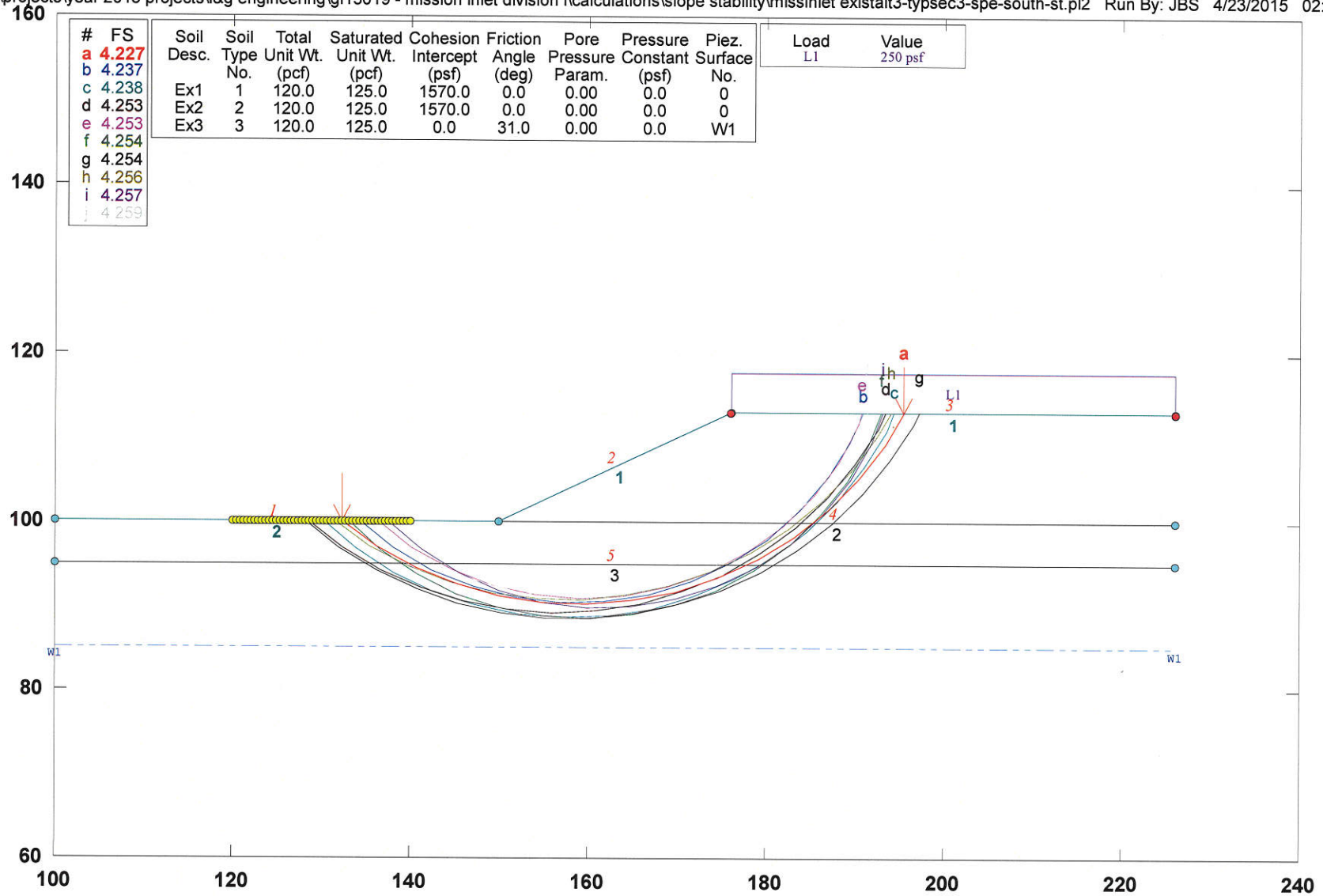


GSTABL7 v.2 FSmin=1.549

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 3 - WC Boring (ST)

l:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet existalt3-typsec3-spe-south-st.pl2 Run By: JBS 4/23/2015 02:03PM

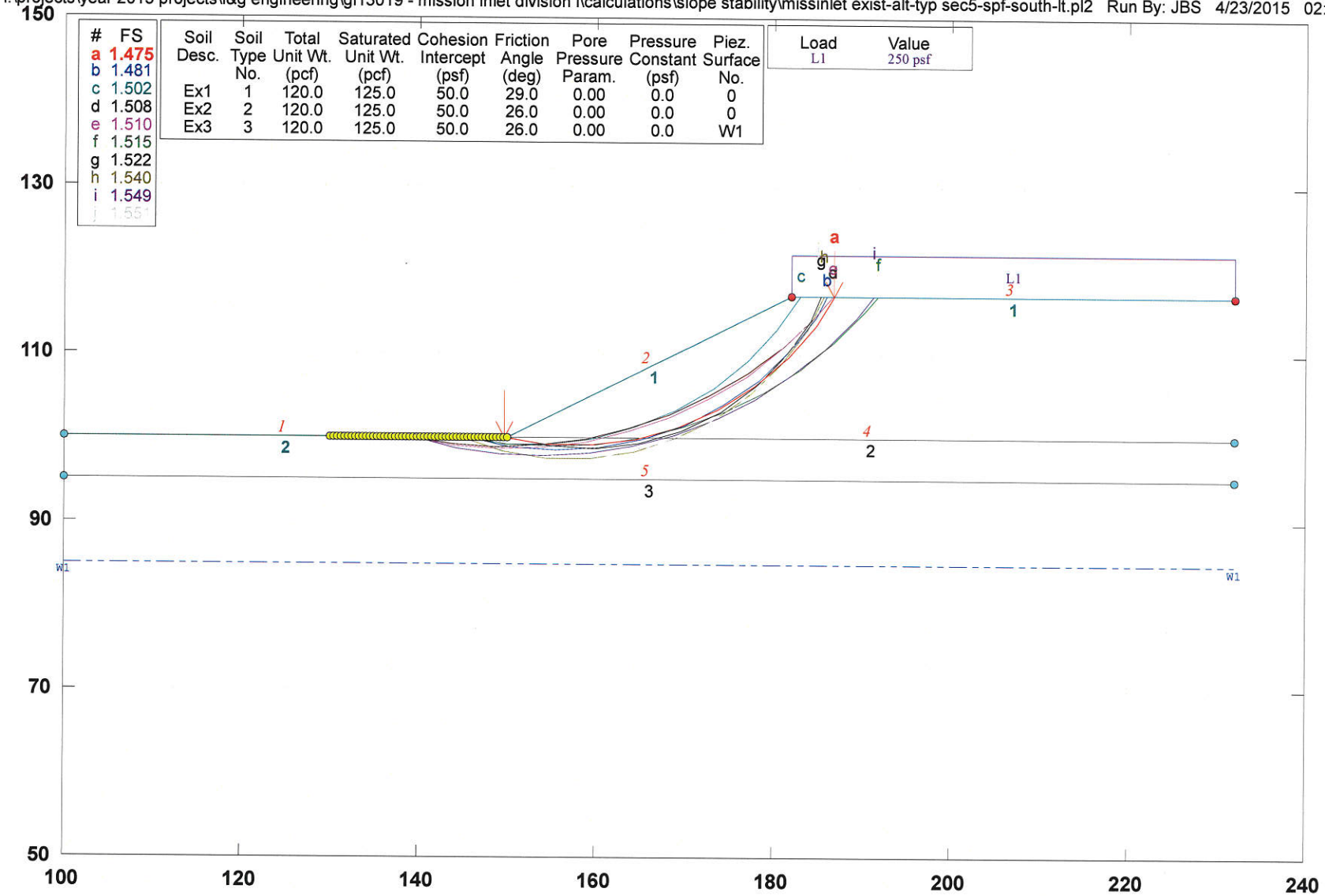


GSTABL7 v.2 FSmin=4.227

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 5 - WC Boring - South (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet exist-alt-typ sec5-spf-south-lt.pl2 Run By: JBS 4/23/2015 02:16PM

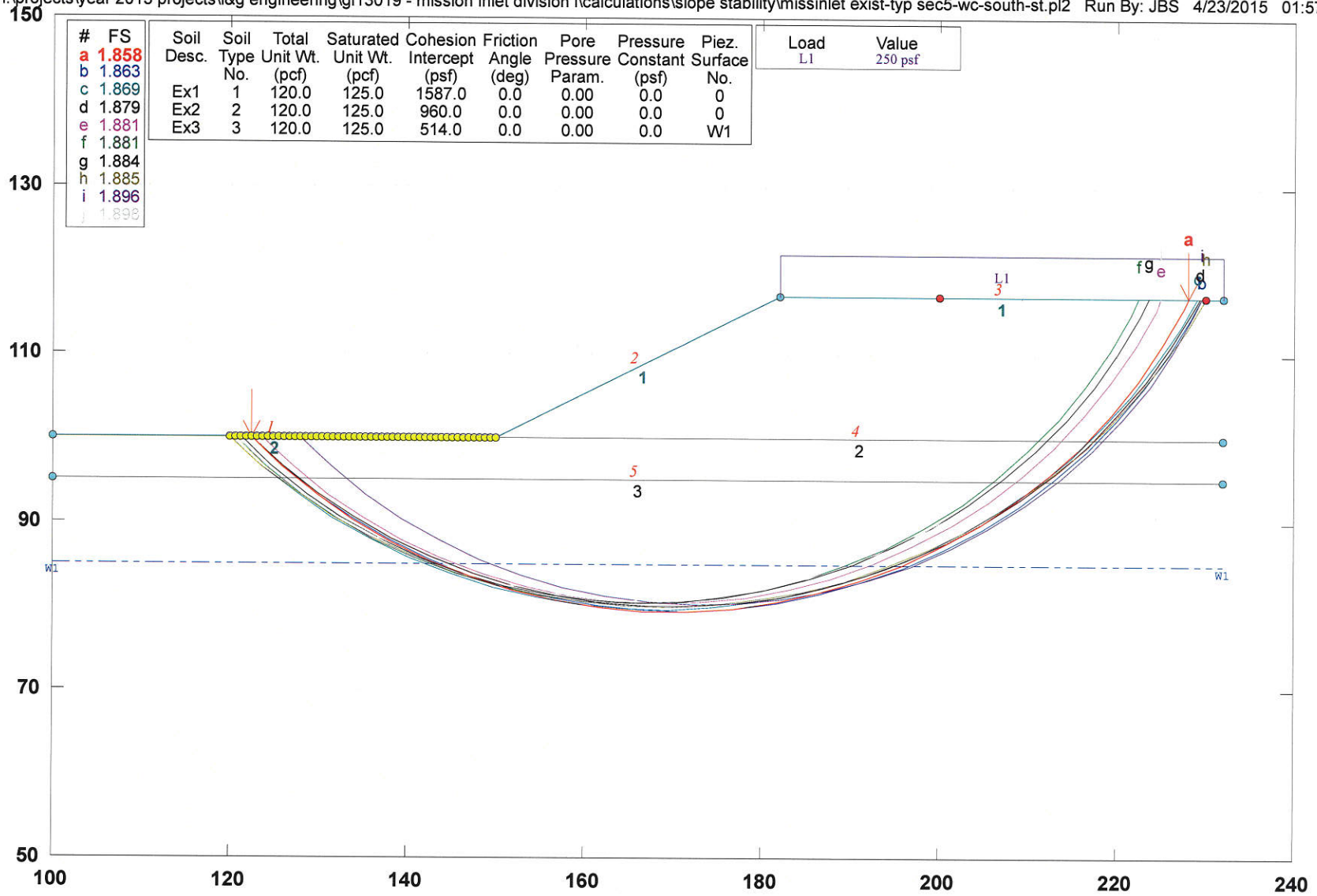


GSTABL7 v.2 FSmin=1.475

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 5 - WC Boring - South (ST)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet exist-typ sec5-wc-south-st.pl2 Run By: JBS 4/23/2015 01:57PM

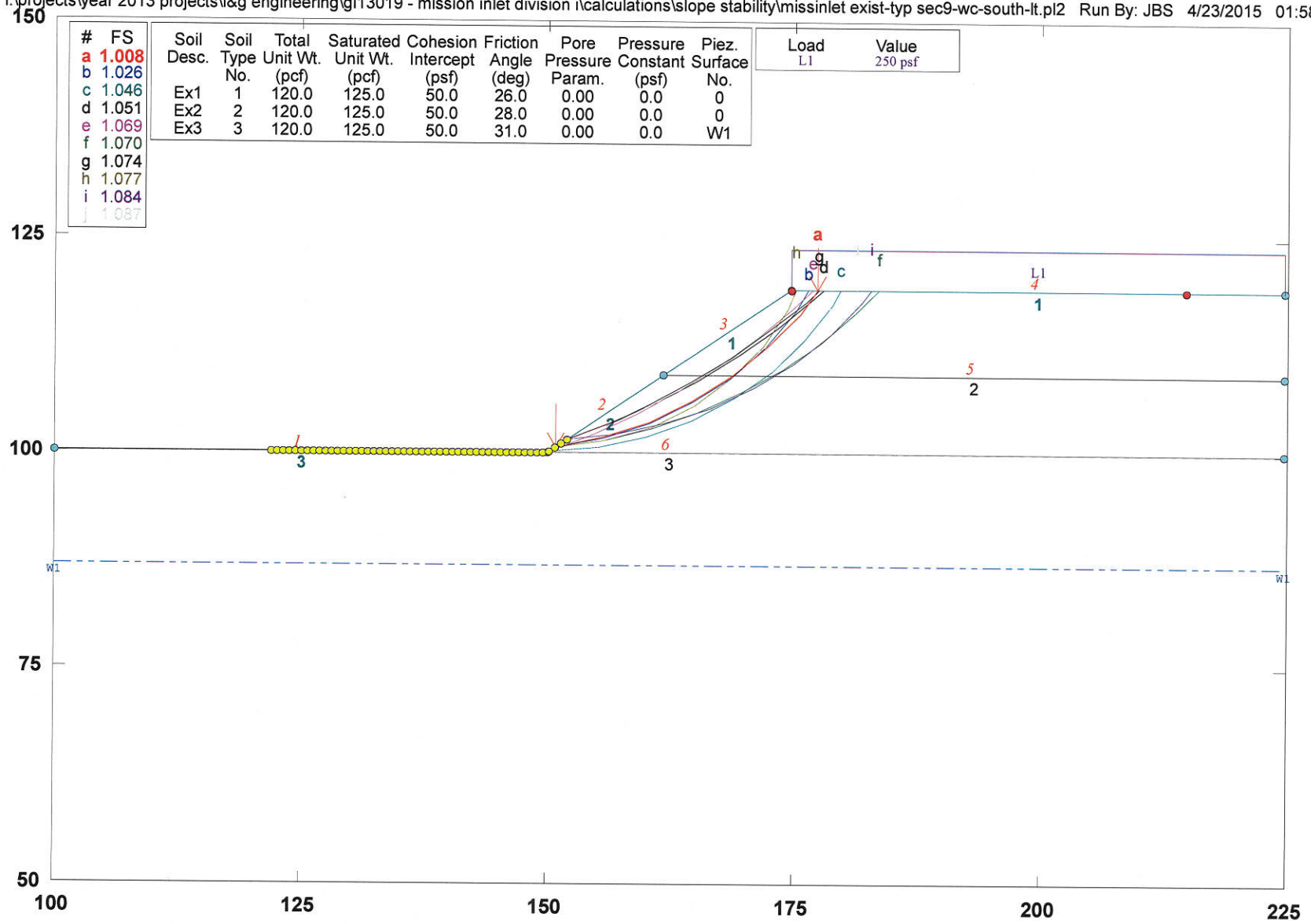


GSTABL7 v.2 FSmin=1.858

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 9 - WC Boring - South (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet exist-typ sec9-wc-south-lt.pl2 Run By: JBS 4/23/2015 01:58PM

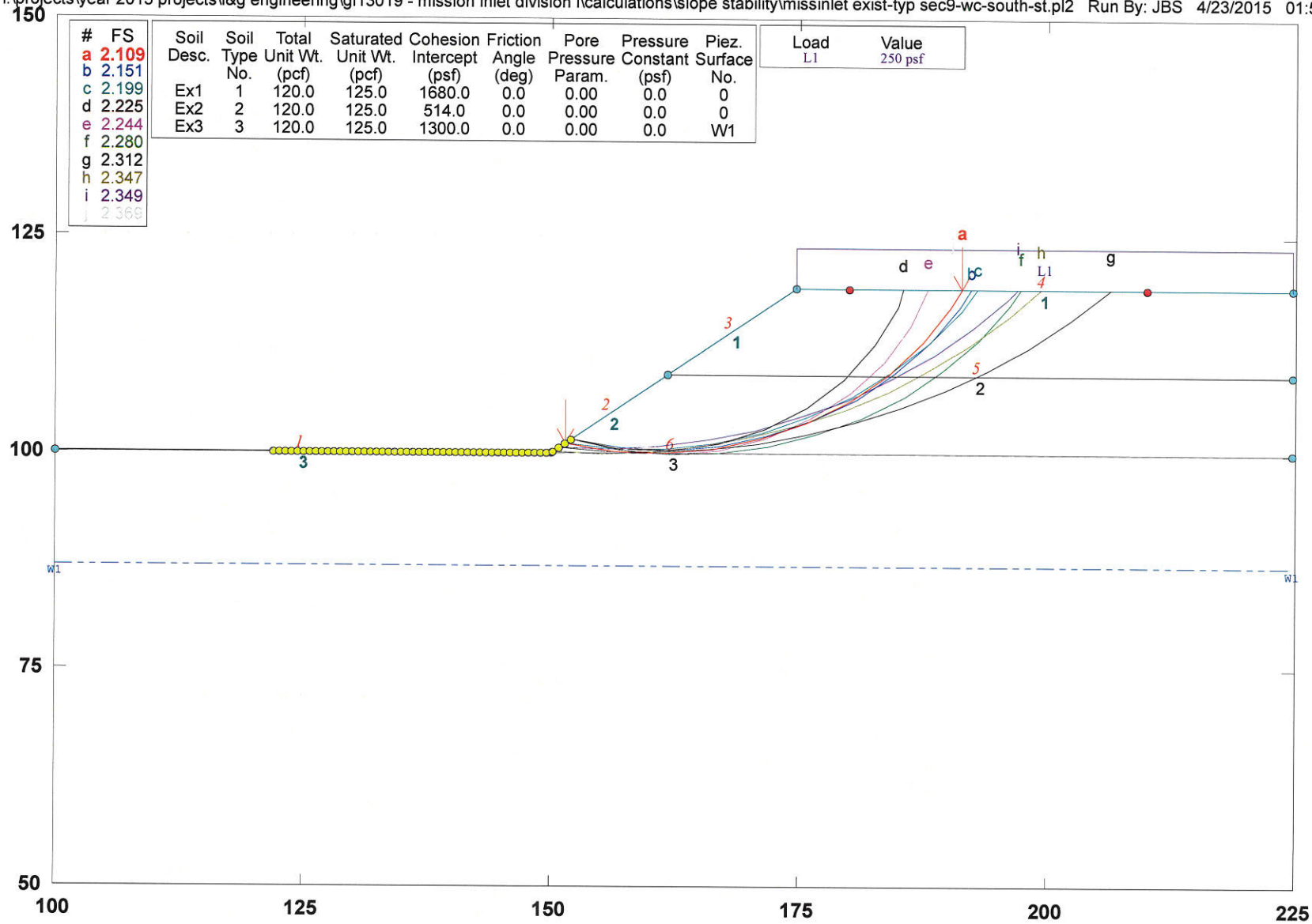


GSTABL7 v.2 FSmin=1.008

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Existing Cond.) Typ Sec 9 - WC Boring - South (ST)

l:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet exist-typ sec9-wc-south-st.pl2 Run By: JBS 4/23/2015 01:59PM

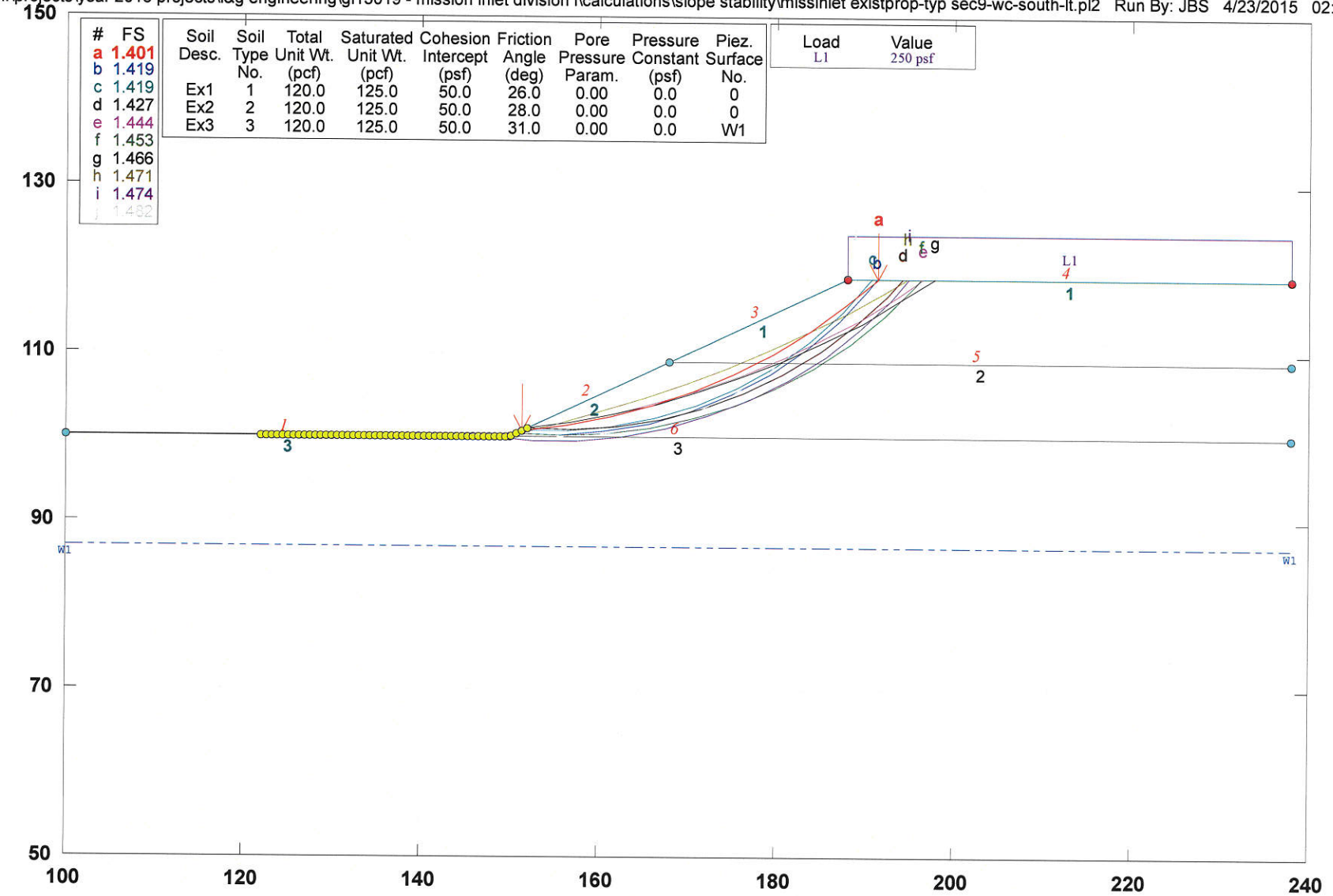


GSTABL7 v.2 FSmin=2.109

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 9 - WC Boring - South (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet existprop-typ sec9-wc-south-lt.pl2 Run By: JBS 4/23/2015 02:05PM



#	FS
a	1.401
b	1.419
c	1.419
d	1.427
e	1.444
f	1.453
g	1.466
h	1.471
i	1.474
j	1.482

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Ex1	1	120.0	125.0	50.0	26.0	0.00	0.0	0
Ex2	2	120.0	125.0	50.0	28.0	0.00	0.0	0
Ex3	3	120.0	125.0	50.0	31.0	0.00	0.0	W1

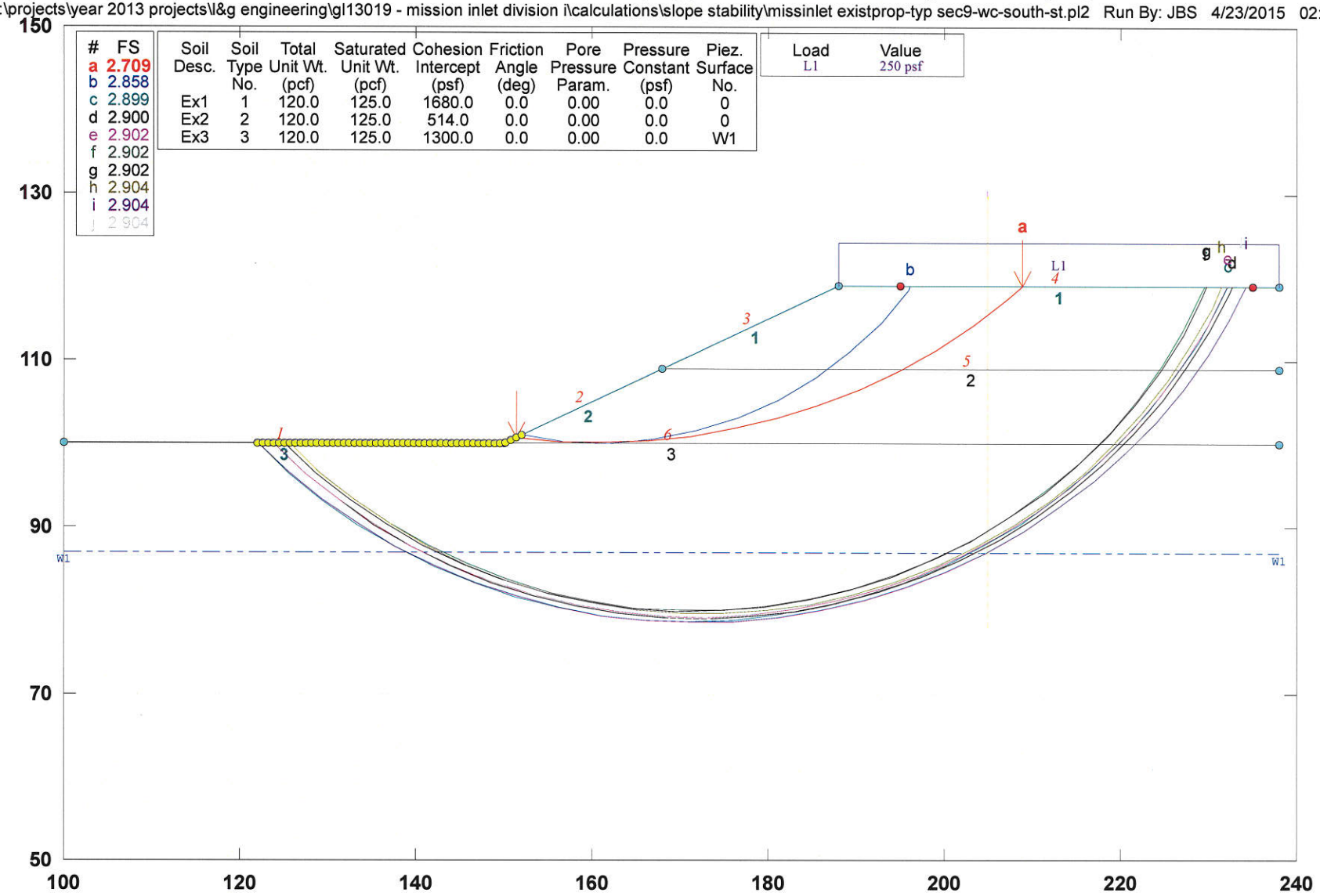
Load	Value
L1	250 psf

GSTABL7 v.2 FSmin=1.401

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 9 - WC Boring - South (ST)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\missinlet existprop-typ sec9-wc-south-st.pl2 Run By: JBS 4/23/2015 02:06PM

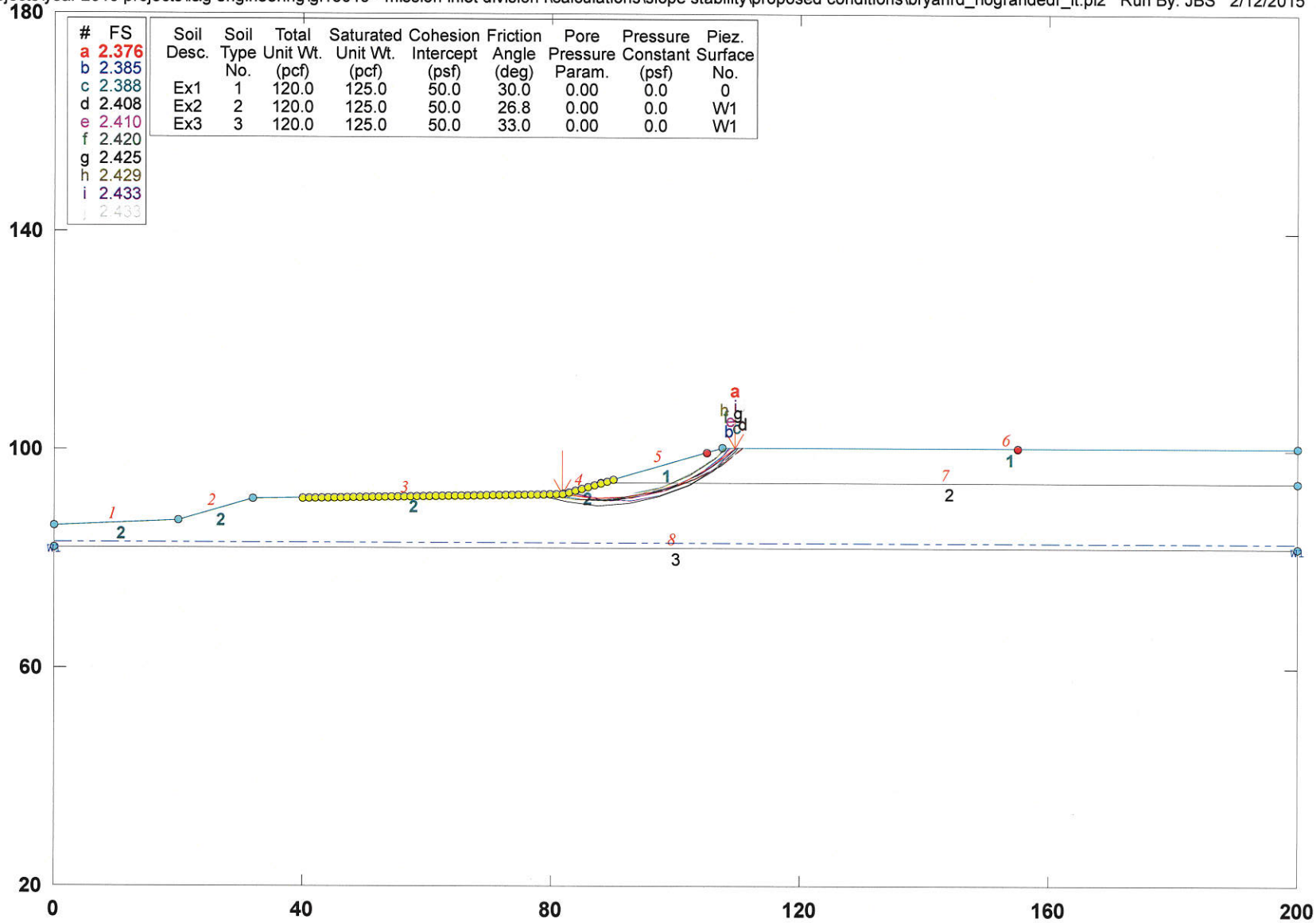


GSTABL7 v.2 FSmin=2.709

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 4 - WC Boring (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\bryanrd_riograndedr_lt.pl2 Run By: JBS 2/12/2015 04:06PM



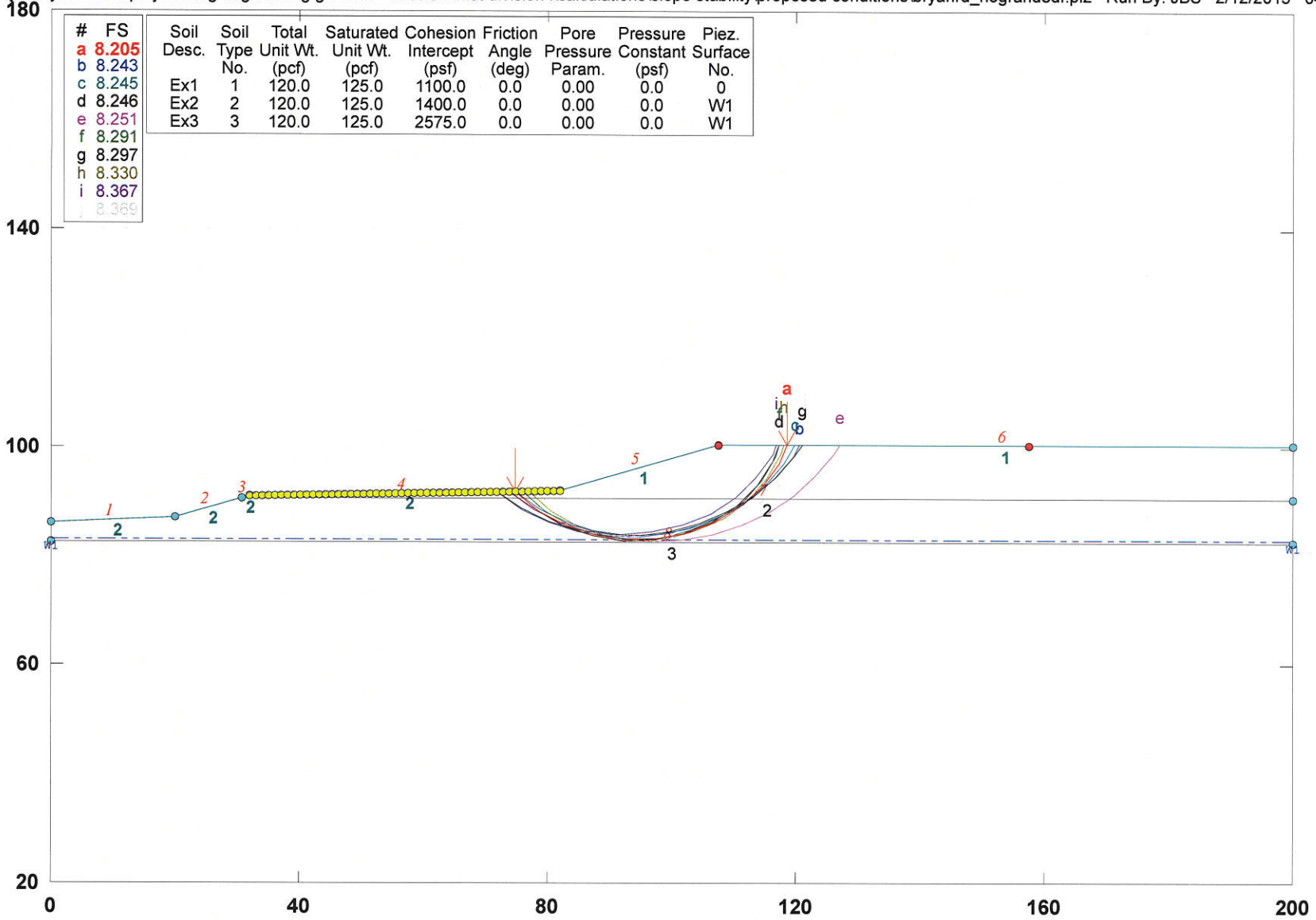
Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Ex1	1	120.0	125.0	50.0	30.0	0.00	0.0	0
Ex2	2	120.0	125.0	50.0	26.8	0.00	0.0	W1
Ex3	3	120.0	125.0	50.0	33.0	0.00	0.0	W1

GSTABL7 v.2 FSmin=2.376

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 4 - WC Boring (ST)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\bryanrd_riograndedr.pl2 Run By: JBS 2/12/2015 04:15PM

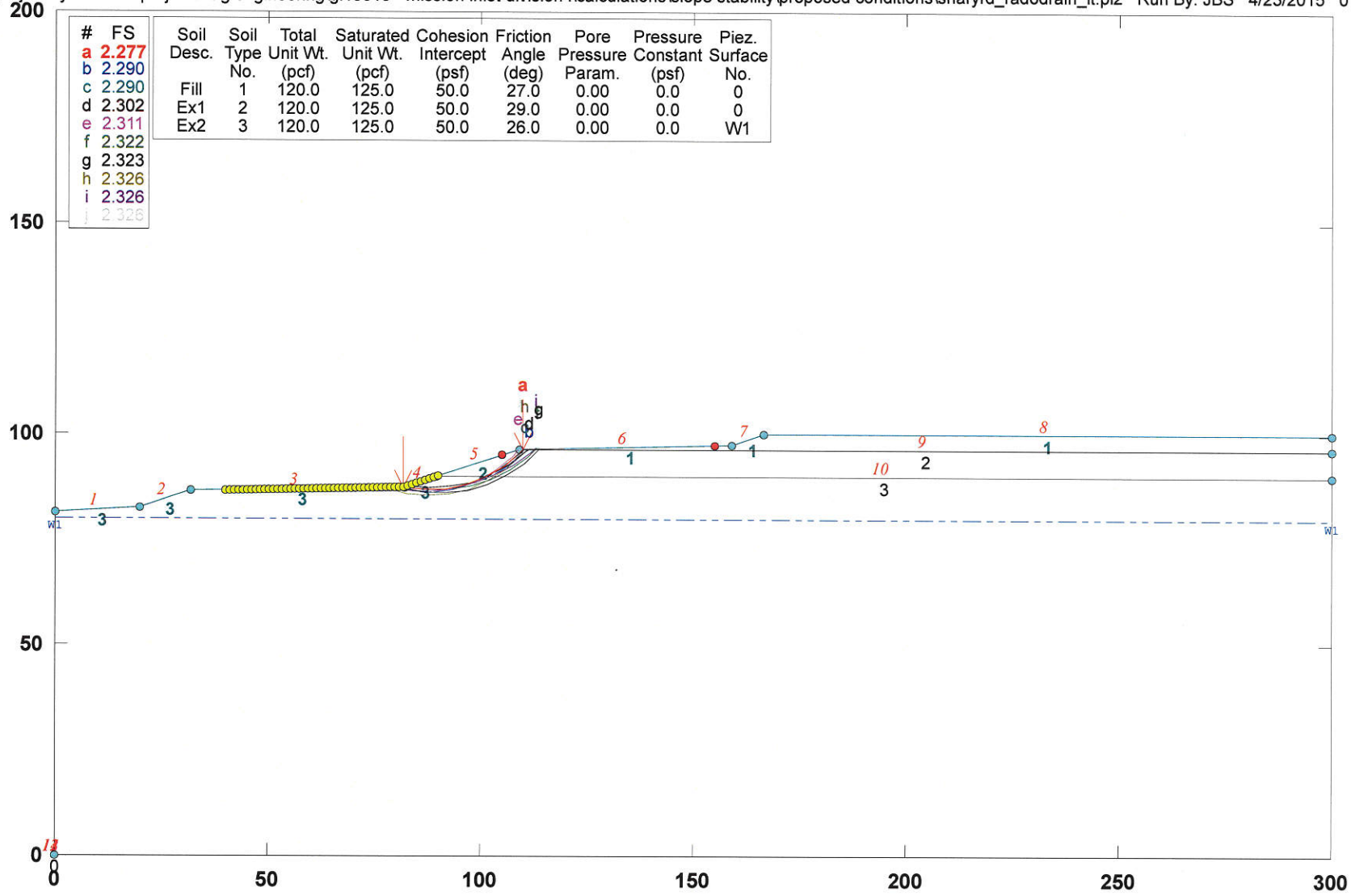


GSTABL7 v.2 FSmin=8.205

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 6 - WC Boring (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\sharyrd_radodrain_lt.pl2 Run By: JBS 4/23/2015 01:38PM



GSTABL7 v.2 FSmin=2.277

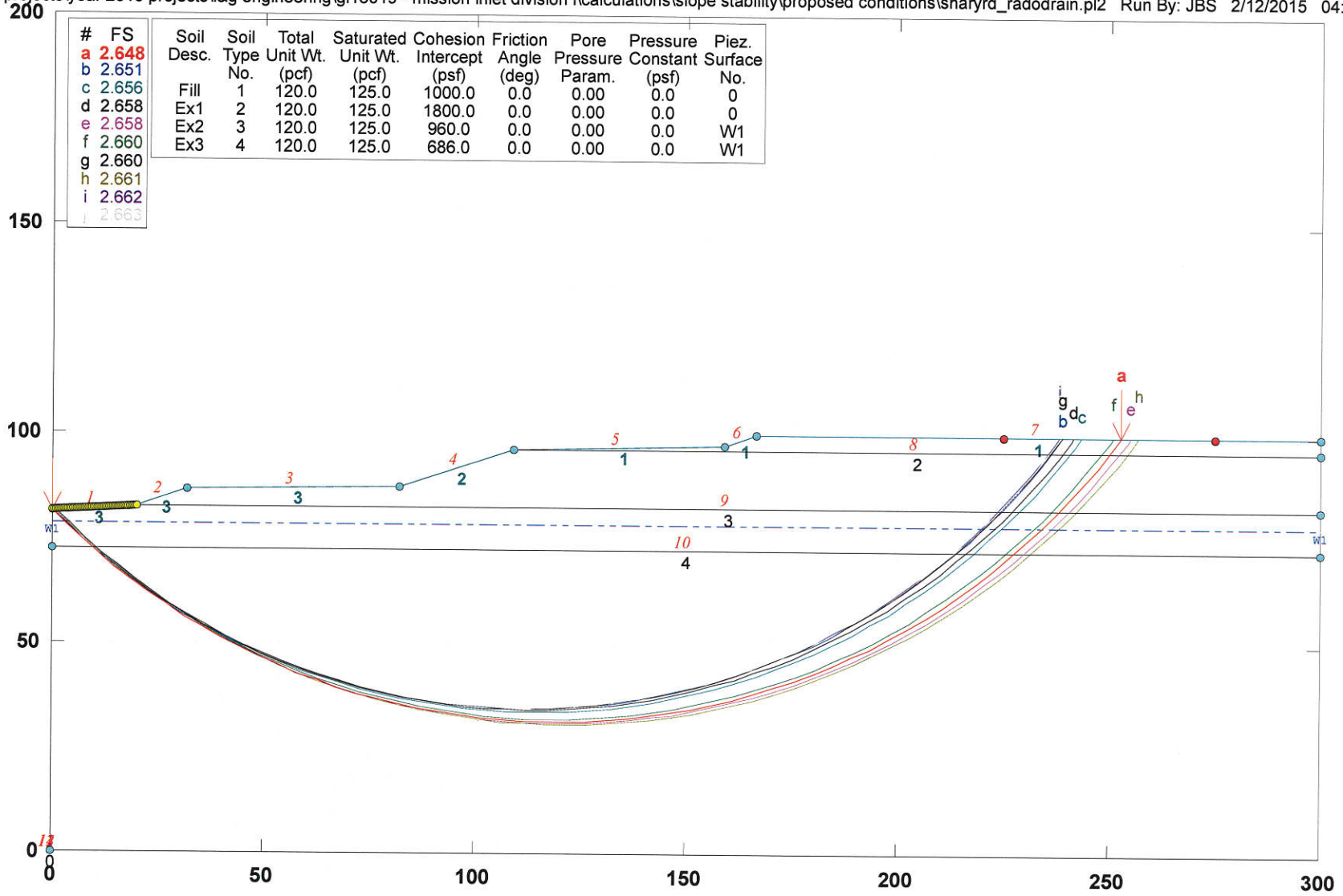
Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 6 - WC Boring (ST)

l:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\sharyrd_radodrain.pl2 Run By: JBS 2/12/2015 04:55PM

#	FS
a	2.648
b	2.651
c	2.656
d	2.658
e	2.658
f	2.660
g	2.660
h	2.661
i	2.662
j	2.663

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Fill	1	120.0	125.0	1000.0	0.0	0.00	0.0	0
Ex1	2	120.0	125.0	1800.0	0.0	0.00	0.0	0
Ex2	3	120.0	125.0	960.0	0.0	0.00	0.0	W1
Ex3	4	120.0	125.0	686.0	0.0	0.00	0.0	W1

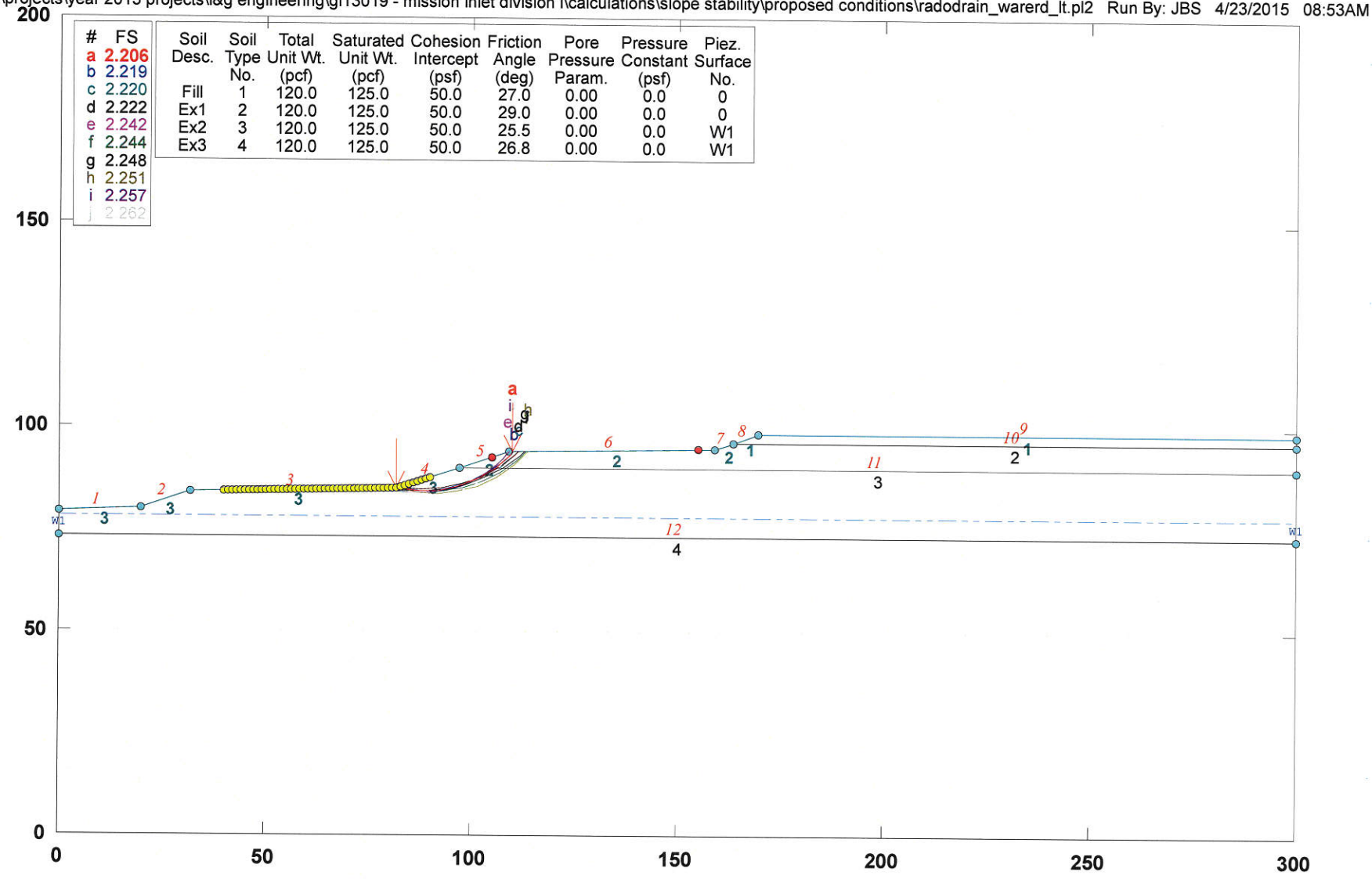


GSTABL7 v.2 FSmin=2.648

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 7 - WC Boring (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\radodrain_warerd_lt.pl2 Run By: JBS 4/23/2015 08:53AM



#	FS
a	2.206
b	2.219
c	2.220
d	2.222
e	2.242
f	2.244
g	2.248
h	2.251
i	2.257
j	2.262

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Fill	1	120.0	125.0	50.0	27.0	0.00	0.0	0
Ex1	2	120.0	125.0	50.0	29.0	0.00	0.0	0
Ex2	3	120.0	125.0	50.0	25.5	0.00	0.0	W1
Ex3	4	120.0	125.0	50.0	26.8	0.00	0.0	W1

GSTABL7 v.2 FSmin=2.206

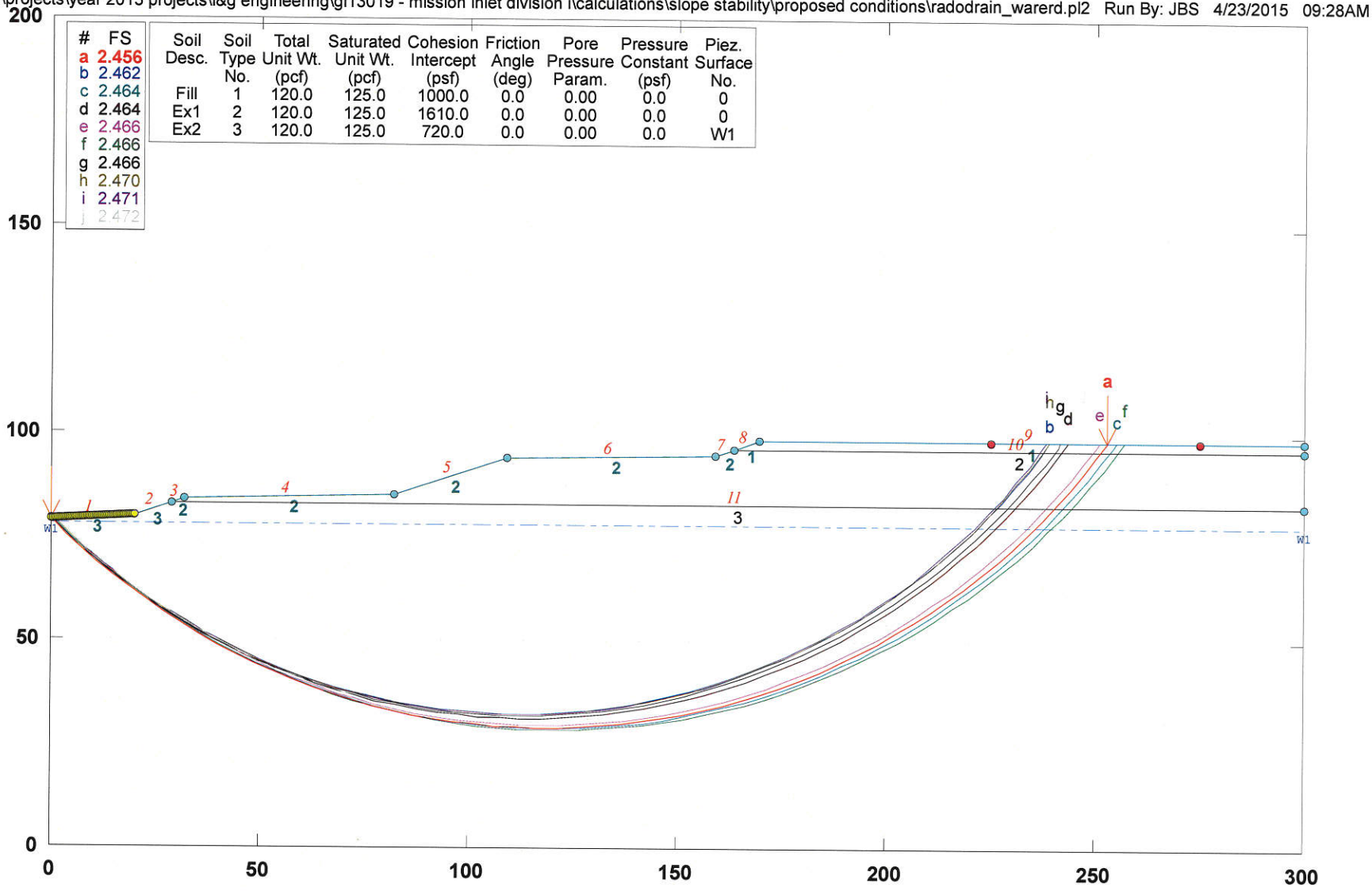
Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond,) Typ Sec 7 - WC Boring (ST)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\radodrain_warerd.pl2 Run By: JBS 4/23/2015 09:28AM

#	FS
a	2.456
b	2.462
c	2.464
d	2.464
e	2.466
f	2.466
g	2.466
h	2.470
i	2.471
j	2.472

Soil Desc.	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
Fill	1	120.0	125.0	1000.0	0.0	0.00	0.0	0
Ex1	2	120.0	125.0	1610.0	0.0	0.00	0.0	0
Ex2	3	120.0	125.0	720.0	0.0	0.00	0.0	W1

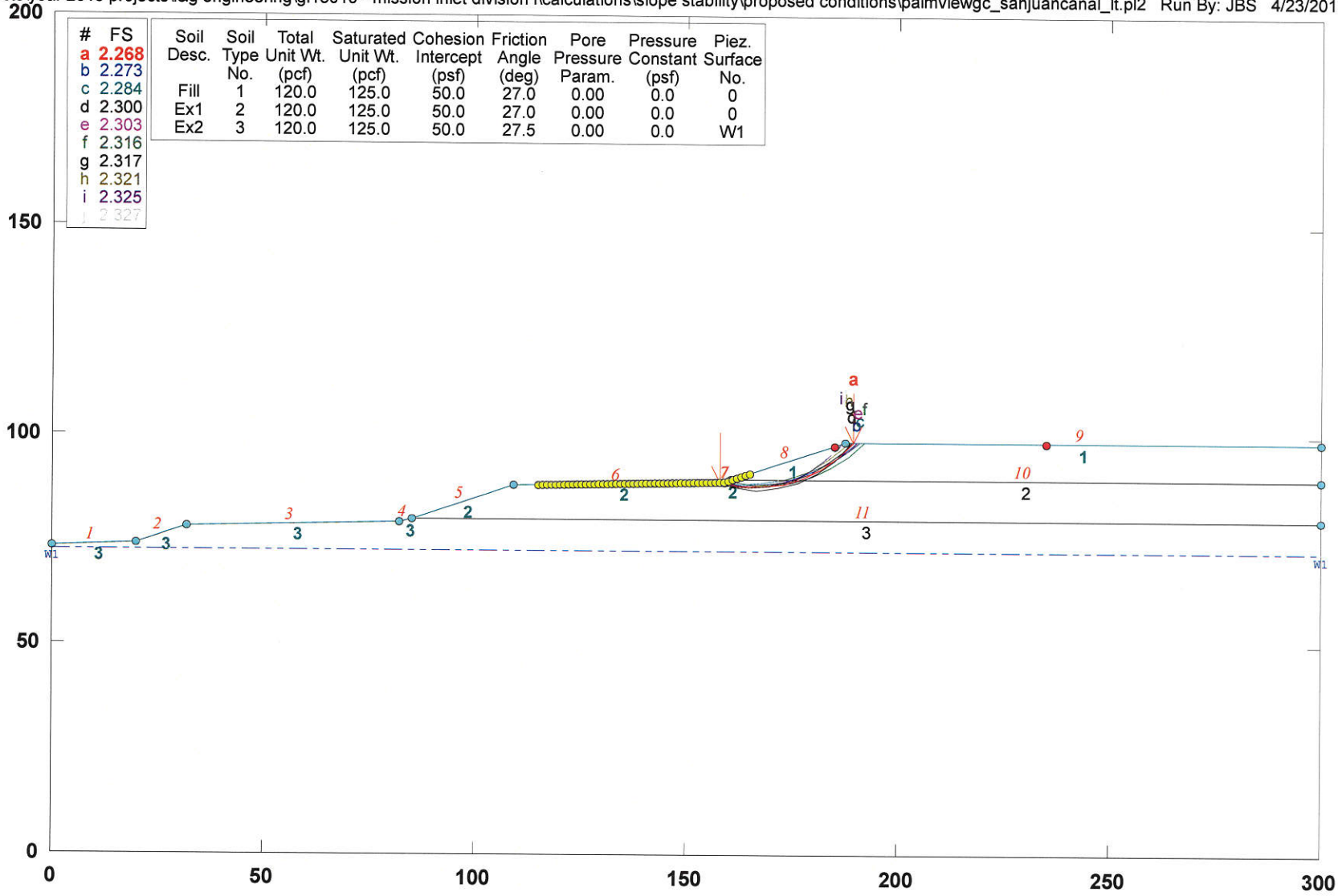


GSTABL7 v.2 FSmin=2.456

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 8 - WC Boring (LT)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\palmviewgc_sanjuancanal_lt.pl2 Run By: JBS 4/23/2015 11:37AM

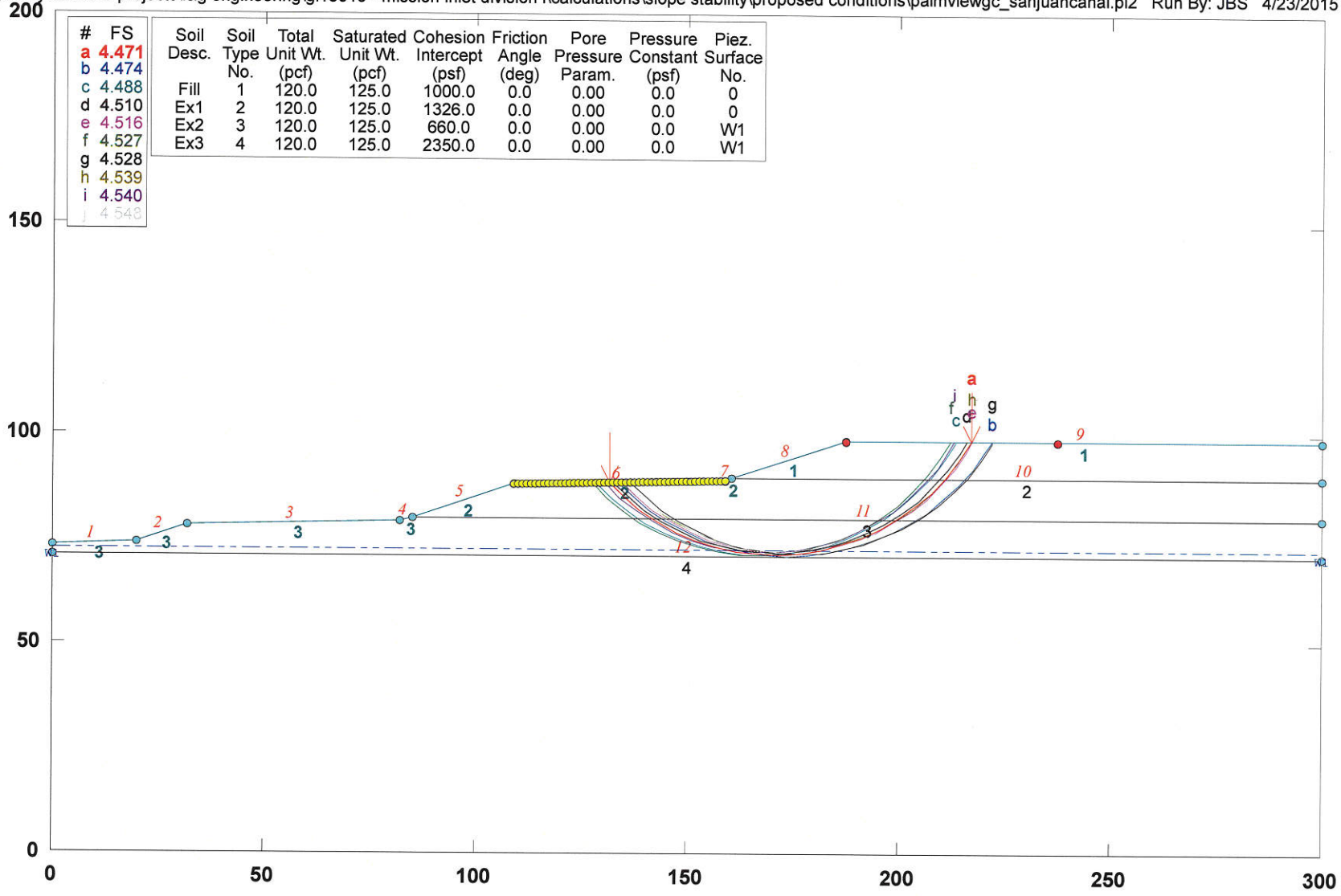


GSTABL7 v.2 FSmin=2.268

Safety Factors Are Calculated By The Modified Bishop Method

Mission Inlet (Proposed Cond.) Typ Sec 8 - WC Boring (ST)

I:\projects\year 2013 projects\l&g engineering\gl13019 - mission inlet division i\calculations\slope stability\proposed conditions\palmviewgc_sanjuancanal.pl2 Run By: JBS 4/23/2015 01:32PM



GSTABL7 v.2 FSmin=4.471

Safety Factors Are Calculated By The Modified Bishop Method

APPENDIX F – PLANS / SPECIFICATIONS (FROM CLIENT)



HIDALGO COUNTY DRAINAGE DISTRICT No.1

MISSION INLET

OVERALL MAP

(Identifying Proposed Channel Improvment Reaches)

L&G Consulting Engineers, Inc.

2100 W. Expressway 83
Mercedes, TX 78570
Phone: (956) 565-9013
Fax: (956) 565-9018
Toll Free (866) 565-9013

900 S. Stewart Rd., Ste. 6
Mission, TX 78572
Phone: (956) 565-1989
Fax: (956) 585-1927
Toll Free: (866) 565-1989

Item No. F-4105



L&G Engineering
Highway / Civil
Structural / Bridge
Environmental
Firm No. : F-4105
Exp. 08/31/2012

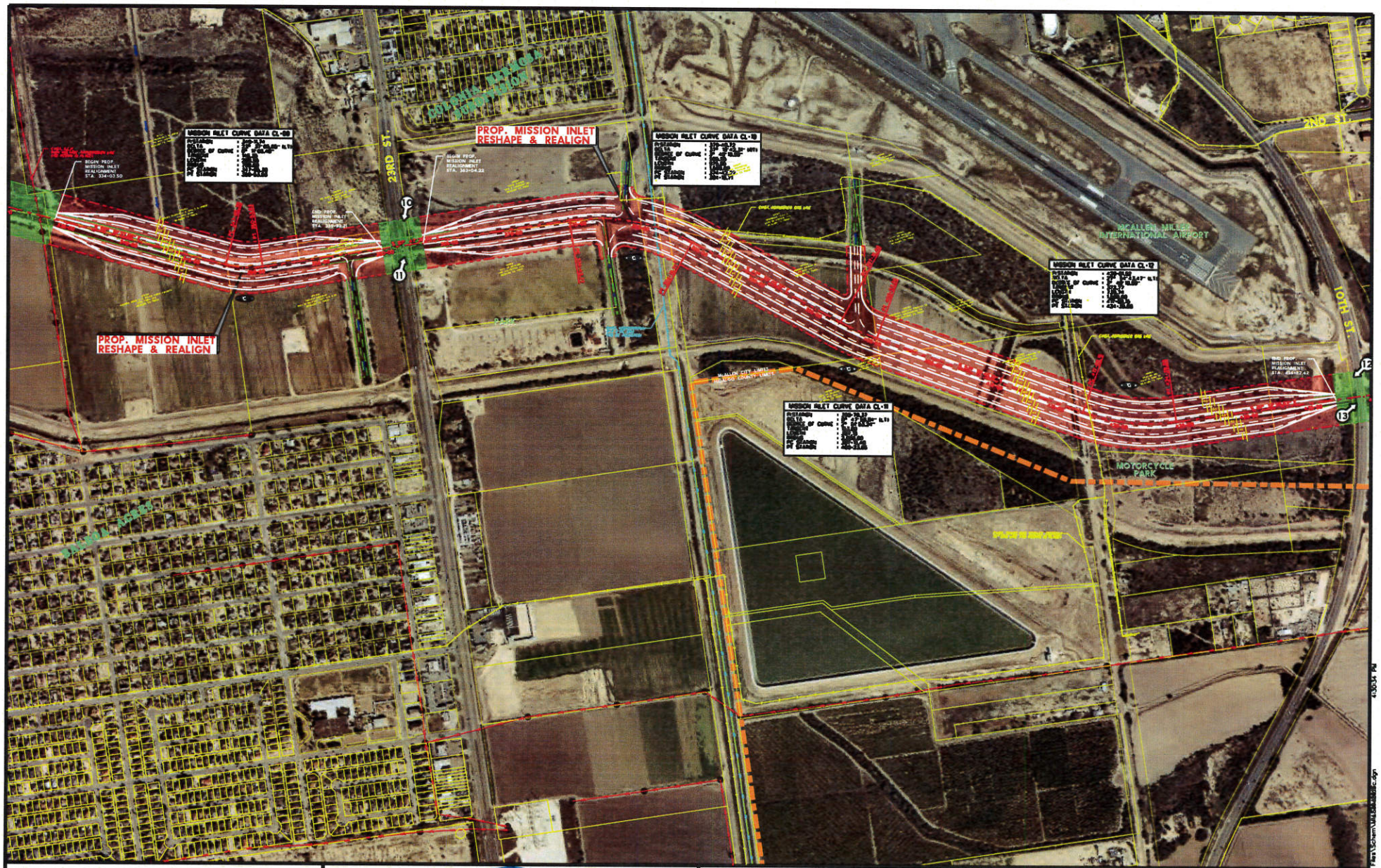
2100 W. Expressway 83
Mercedes, TX. 78570
Phone : (956) 565-9813
Fax : (956) 565-9018

900 S. Stewart Rd., Ste. 10
Mission, TX. 78572
Phone : (956) 585-1909
Fax : (956) 585-1927

HIDALGO COUNTY DRAINAGE DISTRICT No. 1

Mission Inlet Schematic

EXHIBIT "C"



L&G Engineering
Highway / Civil
Structural / Bridge
Environmental
Firm No. : F-4105
Exp. 08/31/2012

2100 W. Expressway 83
Mercedes, TX. 78570
Phone : (956) 565-9813
Fax : (956) 565-9018

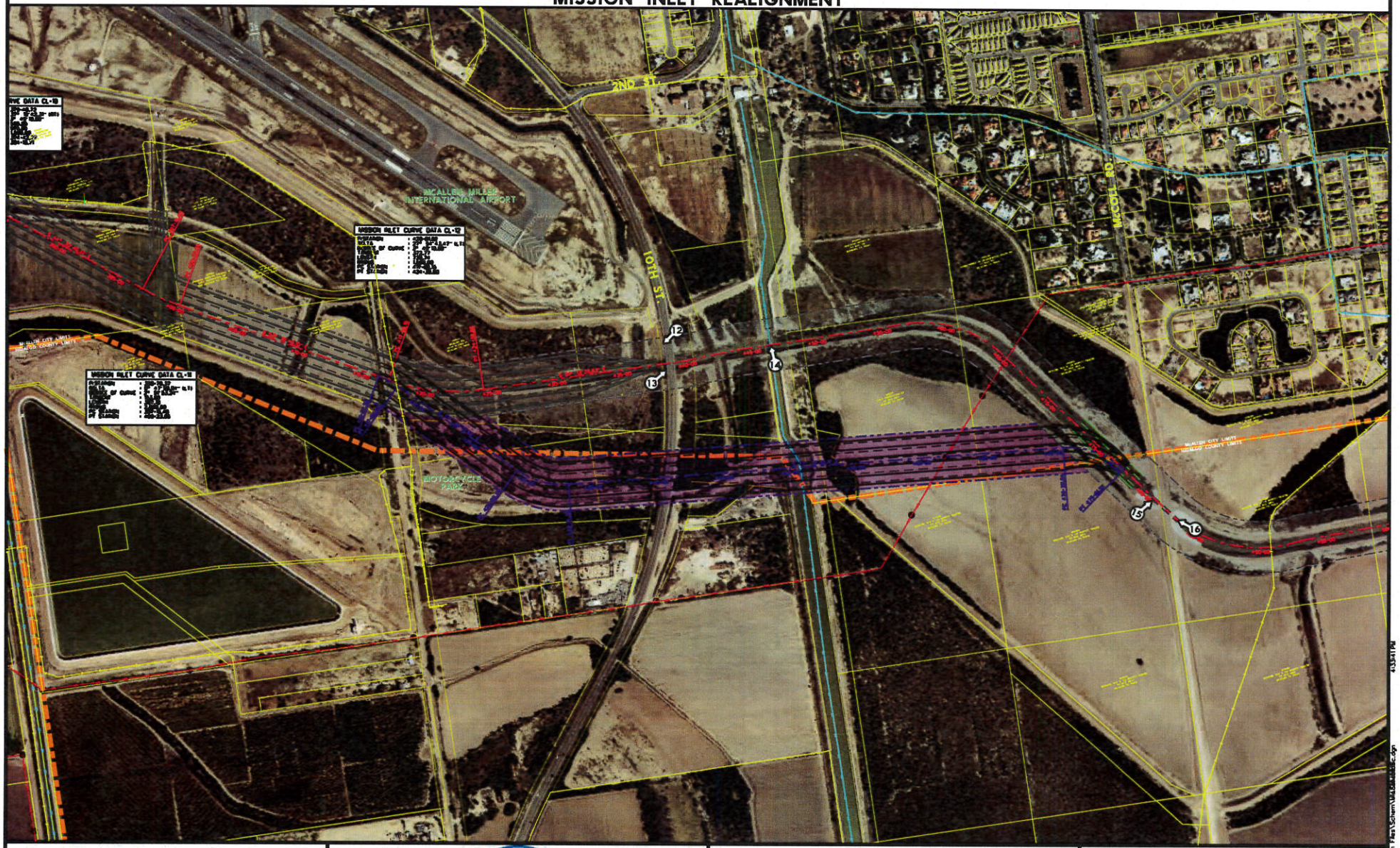
900 S. Stewart Rd., Ste. 10
Mission, TX. 78572
Phone : (956) 585-1909
Fax : (956) 585-1927

HIDALGO COUNTY DRAINAGE DISTRICT No. 1

Mission Inlet Schematic

EXHIBIT "D"

MISSION INLET REALIGNMENT



L&G Engineering

Highway / Civil
Structural / Bridge
Environmental
Firm No. : F-4105
Exp. 08/31/2012

2100 W. Expressway 83
Mercedes, TX. 78570
Phone : (956) 565-9813
Fax : (956) 565-9018

900 S. Stewart Rd., Ste. 10
Mission, TX. 78572
Phone : (956) 585-1909
Fax : (956) 585-1927

HIDALGO COUNTY DRAINAGE DISTRICT No. 1

Mission Inlet
Schematic

EXHIBIT "E"



L&G Engineering
Highway / Civil
Structural / Bridge
Environmental
Firm No. : F-4105
Exp. 08/31/2012

2100 W. Expressway 83
Mercedes, TX. 78570
Phone : (956) 565-9813
Fax : (956) 565-9018

900 S. Stewart Rd., Ste. 10
Mission, TX. 78572
Phone : (956) 585-1909
Fax : (956) 585-1927

HIDALGO COUNTY DRAINAGE DISTRICT No. 1

Mission Inlet Schematic

EXHIBIT "F"

AI -49909 **8.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 20152308 in the amount of $2,699.00 for TEDSI Infrastructure Group related to Work Authorization No. 14-Pct. 1 2012 Bond Referendum Field Surveying, Water Quality and Architectural Services for the Lower Rio Grande Valley Regional Water Management Program-Preliminary Planning & Development Professional Services from March 01, 2015 to March 31, 2015. P.O. No. 623576.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20152308

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:42 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/28/2015 03:33 PM
Final Approval Date: 05/29/2015		

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received:	5/5/2015
Engineer/Firm Name:	TEDSI Infrastructure
Project Name/Number:	2012 Bond Re. Field, Water, & Architectural Services WA NO. 14
Invoice No.:	20152308
Purchase Order No.:	623576
Received By:	Rosa Arce
Forwarded to:	Joey Garza
Total # of Pages Submitted:	3
Attachments:	CD: Invoice NO. 20152308

Additional Comments: $2,699.00

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

April 29, 2015
Project No: 2013-1128-14
Invoice No: 20152308

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 05 2015
5:00 AM / PM
BY: Rosa Dee

Project 2013-1128-14 LRGVRWMP - Preliminary Planning & Development

Precinct No. 1 2012 Bond Referendum
Field Surveying, Water Quality and Architectural Services
Account No. 13-133-433-360-010-000-43340
P. O. No. 623576
Work Authorization No. 14

Professional Services from March 01, 2015 to March 31, 2015
Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Field Surveying-TEDSI	81,571.20	38.9139	31,742.54	31,742.54	0.00	
Water Quality Samples & Analysis *	140,280.76	55.3703	77,673.88	74,974.88	2,699.00	
Architectural Services	70,128.10	0.00	0.00	0.00	0.00	
Total Fee	291,980.06		109,416.42	106,717.42	2,699.00	
		Total Fee				**2,699.00**

Billing Summary	**Current**	**Prior**	**To-Date**
Total Billings	2,699.00	106,717.42	109,416.42
Total Fee			291,980.06
Remaining Fee			182,563.64

Total this Invoice **$2,699.00**

Outstanding Invoices

Number	Date	Balance
20152271	3/30/2015	500.00
Total		**500.00**

Total Now Due **$3,199.00**

*Supplemental Agreement No. 1 to Work Authorization No. 14 - $75,987.00

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 4-28-15
Mark W. Lupher, P.E., RPLS
Executive Vice President

PROJECT: Lower Rio Grande Valley Regional Water Management Program
CLIENT: Hidalgo County Drainage District No. 1

TEDSI JOB NUMBER: 2013-1128-14

PROGRESS REPORT NO. 013

Progress Period March 01, 2015 Through March 31, 2015

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
II. GCM FOR PRELIMINARY PROJECT PLANNING AND DEVELOPMENT					
(5) Architect Services	$70,128.10	0.00%	$0.00	$0.00	**$0.00**
SUB TOTAL II	$70,128.10	0.00%	$0.00	$0.00	**$0.00**
III. PRELIMINARY ENGINEERING, DESIGN AND CONSTRUCTION					
(A) PRELIMINARY ENGINEERING					
(1) Preliminary Field Surveying	$81,571.20	38.91%	$31,742.54	$31,742.54	**$0.00**
(7) Raw Water Sampling and Analysis	$64,293.76	65.79%	$42,300.01	$39,601.01	**$2,699.00**
Water Analysis Sub	$75,987.00	46.55%	$35,373.87	$35,373.87	**$0.00**
SUB TOTAL III.A	$221,851.96	49.32%	$109,416.42	$106,717.42	**$2,699.00**

TOTAL LABOR EXPENSES	$291,980.06	37.47%	$109,416.42	$106,717.42	**$2,699.00**

TOTAL INVOICE AMOUNT DUE: $2,699.00

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 N. Doolittle Road
Edinburg, Texas 78542

DATE: April 29, 2015

REF.: Delta Watershed PPD March Invoice

TEDSI PROJECT NO.: 2013-1128-14

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☐ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Invoice No. 20152308 for Project No. 2013-1128-14
1	Progress Report No. 013
1	CD
	.

REMARKS:

Thank you,

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

MAY 05 2015

5:00 AM / PM

BY: Rosa Lee

Signed: for. Clay
Mark W. Lupher, P.E., RPLS

If enclosures are not as stated, please notify us.

AI -49910 **9.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 20142145 in the amount of $28,762.12 from TEDSI Infrastructure Group related to Work Authorization No. 15-SH 68 Segment D for Professional Services from January 01, 2014 to October 31, 2014. P.O. No. 623261-14.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20142145

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:55 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/28/2015 03:46 PM
Final Approval Date: 05/29/2015		

HIDALGO COUNTY DRAINAGE DISTRICT NUMBER ONE

902 NORTH DOOLITTLE EDINBURG, TEXAS 78542 (956) 292-7080 FAX (956) 292-7089

HCDD#1

GODFREY GARZA, JR.
MANAGER

INVOICE PROCESSING CHECKLIST

Date Received: 12.4.14

Engineer/Firm Name: TEDSI

Project Name/Number: SH-68 Seg. D.

Invoice No: # 2014 2145

Logged in and Scanned: 1046 AM By: R. Cerda Forwarded to: Joey Garza

Engineer	Name	Date	Comment
Scope of work reviewed			

Accounting	Name	Date	Comment
Encumberance			
Purchase Order Attached			
Audit			
Final Approval for Agenda			

	Name	Date	Comment
Placed on Agenda			

Additional Comments: _____

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

DEC 04 2014
10:41 AM/PM
BY: Rosa Lee

TEDSI INFRASTRUCTURE GROUP
TEDSI
TBPE F-1640
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022

December 01, 2014
Project No: 24773-15
Invoice No: 20142145

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 24773-15 SH 68 Segment D - Work Authorization No. 15

P. O. No. 623261
Acct # 13-133-433-365-010-001-43340
Precinct No. 1

Professional Services from January 01, 2014 to October 31, 2014
Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Hydrologic & Hydraulic Analysis	279,243.92	60.30	168,384.08	139,621.96	28,762.12	
Total Fee	279,243.92		168,384.08	139,621.96	28,762.12	
		Total Fee				**28,762.12**

Billing Summary	Current	Prior	To-Date	
Total Billings	28,762.12	139,621.96	168,384.08	
Total Fee			279,243.92	
Remaining Fee			110,859.84	
			Total this Invoice	**$28,762.12**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 12.1.14
Mark W. Lupher, P.E.
Executive Vice President

SH68 H&H Study
Monthly Progress Report No. #5
January 2014 thru October 2014

Period of Coverage: January thru October 2014
Date of Submittal: December 01, 2014
Submitted To: Claudette Guerrero, HCDD No. 1
PREPARED BY: Mark Lupher, P.E., TEDSI Infrastructure, Inc.

This study covers the following activities:

1. Project coordination and meetings
2. Data collection
3. Site visits
4. LiDAR data and field survey data processing
5. Drainage basin delineations
6. Estimation of hydrologic and drainage parameters
7. Gamma function based unit hydrographs development
8. Existing conditions HEC-HMS modeling analysis
9. Proposed conditions HEC-HMS modeling analysis
10. Determination of runoff impacts and preliminary mitigation volumes.
11. Existing and proposed HEC-RAS modeling analysis for stream crossing
12. Evaluation of proposed crossing structure configurations
13. Determination of water surface profiles
14. Outfall determination
15. Detention modeling analysis
16. Documentation and report

PROGRESS TO REPORT FOR TIDS PERIOD

Activity 1-Coordination and Meetings

Coordination with HCDD No. 1

Activity 2-Data Collection

Activity 3-Site Visits

Activity 4 -LiDAR Data and field survey data Processing

Activity 5 -Drainage Basin Delineations

Finalized crossing locations and contributing drainage area delineations.

Activity 6 -Estimation of hydrologic and drainage parameters

Estimated hydrologic and drainage parameters including flow paths lengths, slopes, darea lag time, landuse, imperviousness, and runoff CN values.

Activity 7 -Gamma Function HEC-HMS modeling analysis

Developed UH hydrographs for each subarea

Activity 8 -Exist Conditions HEC-HMS Modeling Analysis

Updated existing conditions HEC-HMS models

Activity 9 -Proposed Conditions HEC-HMS Modeling Analysis

Activity 10 -Impacts and Mitigation Volumes

Activity 11 -Existing and Proposed HEC-RAS modeling analysis

Established a revised-existing condition HEC-RAS model for the

proposed SH 68 analysis.

Activity 12 -Evaluation of proposed crossing structure configurations

Estimated physical parameters of each crossing structure included length, invert elevations, slope, and tailwater conditions. Determined a preliminary culvert size to convey the design frequency flow.

Activity 13 – Water surface profiles

Activity 14 – Outfalls

Activity 15 -Detention modeling

analysis Activity

16-Report

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, Texas 78542

DATE: December 1, 2014

REF.: SH-68 Segment D TEDSI January, 01 2014 thru October 31, 2014 Invoice

TEDSI PROJECT NO.: 24773-15

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☒ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Original TEDSI Invoice No. 20142145
1	CD Billing Back-Up for Invoices TEDSI Invoice No. 20142145
	Lonestar Overnight Airbill No. : ZR899515

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
DEC 04 2014
10:41 AM / PM
BY: Rosalva

REMARKS:

If you require additional information, please do not hesitate to call.

Signed: for. Clay
Mark W. Lupher, P.E., RPLS, CFM

If enclosures are not as stated, please notify us.

AI -49914 **10.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 20152312 in the amount of $46,633.74 for TEDSI Infrastructure Group related to Work Authorization No. 15-SH 68 Segment D for Professional Services from November 01, 2014 to March 31, 2015. P.O. No. 623261.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20152312

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:37 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/28/2015 04:03 PM
Final Approval Date: 05/29/2015		

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received:	5/5/2015
Engineer/Firm Name:	TEDSI Infrastructure
Project Name/Number:	SH 68 Seg. D- WA No. 15
Invoice No.:	20152312
Purchase Order No.:	623261
Received By:	Rosa Arce
Forwarded to:	Joey Garza
Total # of Pages Submitted:	2
Attachments:	CD: Invoice NO. 201523 12

Additional Comments: $46,633.74

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

April 28, 2015
Project No: 24773-15
Invoice No: 20152312

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 05 2015
5:00 AM/PM
BY: Rosa Lee

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 24773-15 SH 68 Segment D - Work Authorization No. 15

P. O. No. 623261
Acct # 13-133-433-365-010-001-43340
Precinct No. 1

Professional Services from November 01, 2014 to March 31, 2015
Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Hydrologic & Hydraulic Analysis	279,243.92	77.00	215,017.82	168,384.08	46,633.74	
Total Fee	279,243.92		215,017.82	168,384.08	46,633.74	
		Total Fee				**46,633.74**

Billing Summary	Current	Prior	To-Date	
Total Billings	46,633.74	168,384.08	215,017.82	
Total Fee			279,243.92	
Remaining Fee			64,226.10	
			Total this Invoice	**$46,633.74**

Outstanding Invoices

Number	Date	Balance
20142145	12/1/2014	28,762.12
Total		**28,762.12**

Total Now Due **$75,395.86**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 4.28.15
Mark W. Lupher, P.E., RPLS
Executive Vice President

TEDSI INFRASTRUCTURE GROUP
TEDSI
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, Texas 78542

DATE: May 4, 2015

REF.: SH-68 Segment D TEDSI November 01, 2015 to March 31, 2015

TEDSI PROJECT NO.: 24773-15

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☒ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Original TEDSI Invoice No. 20152312
1	CD Billing Back-Up for Invoices TEDSI Invoice No. 20152312
	Lonestar Overnight Airbill No. : ZS453059

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
MAY 05 2015
5:00 AM PM
BY: Rosa Lee

REMARKS:

If you require additional information, please do not hesitate to call.

Signed: for: Clay
Mark W. Lupher, P.E., RPLS, CFM

If enclosures are not as stated, please notify us.

AI -49931 **11.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 20152305 in the amount of $4,032.31 from TEDSI Infrastructure Group related to Professional Services from January 24, 2015 to April 17, 2015 for the Lower Rio Grande Valley Regional Water Management Program- Environmental. P.O. No. 623577.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20152305

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:36 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/29/2015 01:49 PM
Final Approval Date: 05/29/2015		

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 4.24.15

Engineer/Firm Name: TEDSI

Project Name/Number: LRGVRWMP - Environmental

Invoice No.: 20153305

Purchase Order No.: 623577

Received By: Rosalw

Forwarded to: Joey Garza

Total # of Pages Submitted: 11 pg.

Attachments: CD: ✓ Jan-April Backup USB: _____ Other: _____ N/A: _____

Additional Comments: _____

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

APR 2 4 2015

12:00 AM/PM

BY: Rosa Ortiz

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 • Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

April 22, 2015
Project No: 2013-1128-11
Invoice No: 20152305

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 2013-1128-11 Lower Rio Grande Valley Regional Water Management Program – Environmental

Account No. 13-133-433-360-010-000-43340
P. O. No. 623577
Precinct One 2012 Bond Referendum

Professional Services from January 24, 2015 to April 17, 2015

Phase 200 Environmental – HNTB

Consultants

Reimbursable Consultants Expense				
3/31/2015	HNTB Corporation	Invoice No. 10-60879-PL-001	4,032.31	
	Total Consultants		**4,032.31**	**4,032.31**

Billing Summary	**Current**	**Prior**	**To-Date**	
Total Billings	4,032.31	109,770.60	113,802.91	
Total Fee			918,748.00	
Remaining Fee			804,945.09	
			Total this Phase	**$4,032.31**
			Total this Invoice	**$4,032.31**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 4.22.15
Mark W. Lupher, P.E., RPLS
Executive Vice President

POSTED

April 21, 2015

HNTB

TEDSI Infrastructure Group
1201 E. Expressway 83
Mission, Texas 78572

In Account With

HNTB CORPORATION
Engineers Architects Planners
Austin, Texas

Remittance Address: HNTB Corporation, P.O. Box 802741, Kansas City, MO 64180-2741

Invoice # 10-60879-PL-001
Delta Area Watershed Project

Contract Maximum: $ 918,748.00

Invoice Period of January 24, 2015 through April 17, 2015

Employee:	Position:	Hours:	Billing Rate:	Amount:
Nancy Beward	Project Advisor	0.50	$ 251.18	$ 125.59
Michael Montesano	Project Manager	4.25	$ 163.30	$ 694.03
Charl Everson	Senior Environmental Planner	10.00	$ 153.20	$ 1,532.00
Bob Daniel	Business Manager	0.25	$ 129.78	$ 32.45
Delfino T Leal	Project Analyst	7.00	$ 97.12	$ 679.84
Mark Bedgood	GIS Analyst	12.00	$ 80.58	$ 966.96
	Total Hours/Labor	34.00		$ 4,030.87
Direct Expenses				$ 1.44
Subconsultant Expenses				$ -
	Total Amount Earned this Invoice			$ 4,032.31
	Plus Amount Previously Earned			$ 109,770.60
	Total Earned to Date			$ 113,802.91
	Less Amount Previously Invoiced			$ 109,770.60
	Amount Due This Invoice			**$ 4,032.31**

TEDSI INFRASTRUCTURE GROUP
Project No. 2013-1128-11 Phase No. 200
☒ Lump Sum ☒ Approved ☐ Hold
☐ Hourly ☐ Rejected ☐ Process
Sign MWL Date 4/22/15

BILLING REPORT

Bill 44R Labor by SubSegment (Date Range)

HNTB
Project & Company Confidential

Direct Payroll

Dates: 1/24/2015 through 4/17/2015

Job	60879	Delta Area Watershed Project	**E/O**	Lopez, CA (14632)	Ofc 134
Ph Seg	PL-001	Delta Area Watershed	**P/M**	Montesano, MM (04708)	Ofc 134
SubSeg	001	Project Management	**B/O**	San Antonio	Ofc 134
			B/F	HNTB Infrastructure	

Ofc	EmpNo	Employee	Classification	Trans Type	Rate	Hours	Amount	Remarks
134	02545	Daniel, Marion P	Business Manager		129.78	0.25	32.45	Regular
134	03484	Leal, Delfino T	Project Analyst		97.12	7.00	679.84	Regular
134	04708	Montesano, Michael M	Project Manager		163.30	2.75	449.08	Regular
					163.30	1.50	244.95	Reg-Ovt
134	08177	Beward, Nancy A	Project Advisor		251.18	0.50	125.59	Regular
Total Labor Distribution								
Billing Item: 60879-PL-001						10.50	1,286.96	Regular
						1.50	244.95	Reg-Ovt
						12.00	**1,531.91**	**Total**

BILLING REPORT

Bill 44R Labor by SubSegment (Date

HNTB
Project & Company Confidential

Direct Payroll

Dates: 1/24/2015 through 4/17/2015

Job	60879	Delta Area Watershed Project	**E/O**	Lopez, CA (14632)	Ofc 134
Ph Seg	PL-001	Delta Area Watershed	**P/M**	Montesano, MM (04708)	Ofc 134
SubSeg	002	Development of Alternatives	**B/O**	San Antonio	Ofc 134
			B/F	HNTB Infrastructure	

Ofc	EmpNo	Employee	Classification	Trans Type	Rate	Hours	Amount	Remarks
134	01828	Everson, Charl E	Sr Environmental Planner		153.20	10.00	1,532.00	Regular
Total Labor Distribution								
Billing Item: 60879-PL-001						**10.00**	**1,532.00**	**Regular**

BILLING REPORT

Bill 44R Labor by SubSegment (Date Range)

HNTB
Project & Company Confidential

Direct Payroll

Dates: 1/24/2015 through 4/17/2015

Job	60879	Delta Area Watershed Project	**E/O**	Lopez, CA (14632)	Ofc 134
Ph Seg	PL-001	Delta Area Watershed	**P/M**	Montesano, MM (04708)	Ofc 134
SubSeg	003	Env Impact Statement	**B/O**	San Antonio	Ofc 134
			B/F	HNTB Infrastructure	

Ofc	EmpNo	Employee	Classification	Trans Type	Rate	Hours	Amount	Remarks
134	02884	Bedgood, Mark	GIS Analyst		80.58	12.00	966.96	Regular
Total Labor Distribution								
Billing Item: 60879-PL-001						**12.00**	**966.96**	**Regular**

Executed by: HNTB\\JTindle on 4/21/2015 2:28:00 PM
Date Span: 1/24/2015 through 4/17/2015, Job: 60879

BILLING REPORT

44E Expense by SubSegment

HNTB
Project & Company Confidential

Expense Task Distribution

Dates: 1/24/2015 through 4/17/2015

Job	60879	Delta Area Watershed Project	**E/O** 14632 Carlos Alonzo Lopez	Ofc 134
Ph Seg	PL-001	Delta Area Watershed	**P/M** 04708 Michael M Montesano	Ofc 134
SubSeg	001	Project Management	**B/O** San Antonio	Ofc 134
			P/M HNTB Infrastructure	

Task/Description

Firm	Ofc	Eff Date	Journal Name	Description	Amount
E021	**PRINT, REPRO, AND RE**				
HI	134	02/20/15	Payables Journal for FEB-2015	ABC IMAGING INC.~7276288~Reproduction Charges	0.14
HI	134	02/20/15	Payables Journal for FEB-2015	ABC IMAGING INC.~7285468~Reproduction Charges	1.30
Total - Task E021 PRINT, REPRO, AND RE					**1.44**

Total - Expense Charges **1.44**

Reprographics Billing Detail

IMAGING

Job	Ph	Seg	Sub Seg	Chrg Ofc	Project Name	Invoice #	Invoice Date	Item Description	Ordered By	Transaction Date	Qty.	Unit Cost	Charge Amount
60879	PL	001	001	134	Delta Area Watershed Project	7276288	2/20/2015	Laser Print (Per Side) 11x17 Premium White Paper	Montesano, Michael M	1/19/2015	1	$0.0900	$0.09
							2/20/2015	Laser Print (Per Side) 8.5x11 Premium White Paper	Montesano, Michael M	1/29/2015	1	$0.0400	$0.04
												Invoice Subtotal	$0.13
												Invoice Tax	$0.01
												Invoice #7276288 Total	$0.14
						7285468	2/20/2015	Laser Print (Per Side) 8.5x11 Premium White Paper	Beward, Nancy Ann	2/6/2015	30	$0.0400	$1.20
												Invoice Subtotal	$1.20
												Invoice Tax	$0.10
												Invoice #7285468 Total	$1.30
												SUBSEGMENT 60879-PL-001-001 Total:	$1.44
												PHASE-SEGMENT 60879-PL-001 Total:	$1.44
												JOB 60879 Total:	$1.44

PROJECT: Delta Watershed
CLIENT: HCDD#1

TEDSI JOB NUMBER: 2013-1128-11

PROGRESS REPORT NO. 009

Progress Period January 24, 2015 Through April 17, 2015

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
II. GCM FOR PRELIMINARY PROJECT PLANNING AND DEVELOPMENT					
(1) Environmental Document Preparation & Public Involvement Scope	$164,428.76	32.46%	$53,372.66	$53,372.66	**$0.00**
(2) Environmental Sub Consultant - HNTB	$800,720.00	14.21%	$113,802.91	$109,770.60	**$4,032.31**
SUB TOTAL II	$965,148.76	17.32%	$167,175.57	$163,143.26	**$4,032.31**

TOTAL LABOR EXPENSES	$965,148.76	17.32%	$167,175.57	$163,143.26	**$4,032.31**

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
HNTB DIRECT EXPENSES					
Admin Travel					
Airfare (2 meetings/month)	$14,000.00	0.00%	$0.00	$0.00	
Automobile Mileage	$2,825.00	51.02%	$1,441.31	$1,441.31	**$0.00**
Lodging	$5,100.00	9.48%	$483.41	$483.41	**$0.00**
Rental Vehicle	$3,000.00	0.00%	$0.00	$0.00	**$0.00**
Airport Parking	$780.00	0.00%	$0.00	$0.00	**$0.00**
Per Diem	$2,160.00	3.96%	$85.53	$85.53	
Printing/Reproductions - DEIS and FEIS					
B&W Copies 8.5" x 11"	$1,750.00	1.98%	$34.58	$34.58	**$0.00**
Color Copies 8.5" x 11"	$1,170.00	1.75%	$20.42	$20.42	**$0.00**
Color Copies 11" x 17"	$6,200.00	0.00%	$0.00	$0.00	**$0.00**
Color Plots	$600.00	1.42%	$8.50	$8.50	**$0.00**
CD Copying	$22.50	0.00%	$0.00	$0.00	**$0.00**
Global Positioning System	$1,000.00	0.00%	$0.00	$0.00	**$0.00**
Hazardous Materials Regulatory Database Report	$7,000.00	0.00%	$0.00	$0.00	**$0.00**

PROJECT: Delta Watershed
CLIENT: HCDD#1

TEDSI JOB NUMBER: 2013-1128-11

PROGRESS REPORT NO. 009

Progress Period January 24, 2015 Through April 17, 2015

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
Delivery					
Courier, Overnight, Deliveries, Postage	$100.00	6.33%	$6.33	$6.33	**$0.00**
Public Involvement					
Newsletter Design	$5,100.00	0.00%	$0.00	$0.00	**$0.00**
Newsletter Printing	$1,500.00	0.00%	$0.00	$0.00	**$0.00**
Newsletter Postage	$660.00	0.00%	$0.00	$0.00	**$0.00**
Presentation Boards 30" x 40" Color	$3,400.00	0.00%	$0.00	$0.00	**$0.00**
Presentation Boards Mounting	$1,500.00	0.00%	$0.00	$0.00	**$0.00**
Outside Printing- Newsletter	$7,200.00	0.00%	$0.00	$0.00	**$0.00**
Outside Printing- 4x6 Postcard	$1,500.00	0.00%	$0.00	$0.00	**$0.00**
Public Meeting Supplies (notepads, pens, etc)	$3,500.00	0.00%	$0.00	$0.00	**$0.00**
Newspaper Advertisement	$30,800.00	0.00%	$0.00	$0.00	**$0.00**
Court Reporter	$1,400.00	0.00%	$0.00	$0.00	**$0.00**
Law Enforcement/Uniform Officer	$2,800.00	0.00%	$0.00	$0.00	**$0.00**
Spanish Translator verbal	$1,400.00	0.00%	$0.00	$0.00	**$0.00**
Custodian for Public Involvement	$1,400.00	0.00%	$0.00	$0.00	**$0.00**
Public Meetings Facility Rental	$1,400.00	0.00%	$0.00	$0.00	**$0.00**
Audio - Visual Equipment Rental	$7,000.00	0.00%	$0.00	$0.00	**$0.00**
Letter Postage	$1,760.00	0.00%	$0.00	$0.00	**$0.00**

TOTAL DIRECT EXPENSES	$118,027.50	1.76%	$2,080.08	$2,080.08	**$0.00**

TOTAL LABOR AND DIRECT EXPENSES	$1,083,176.26	15.63%	$169,255.65	$165,223.34	**$4,032.31**

TOTAL INVOICE AMOUNT DUE: $4,032.31

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

130 E. Travis
Suite 200
San Antonio, Texas 78205

Telephone (210) 349-2277
Facsimile (210) 349-2101
www.hntb.com

April 17, 2015

TEDSI Infrastructure Group
Attention: Mark W. Lupher
1201 E. Expressway 83
Mission, Texas 78572

Re: Delta Area Watershed Project
HNTB Job No. 60879 – WA #1
Progress Report #10

Dear Mr. Lupher:

The following is a summary of our progress on the subject project for the period of January 24, 2015 – April 17, 2015.

Project Management

- Coordination with TEDSI on design updates, scope of project.

Technical Tasks

- Preparation for first public meeting
  - Continued preparation of draft project fact sheet
  - Continued preparing conceptual exhibits for first public meeting
- Continued preparing first draft of TWDB environmental document
  - Began preparing site maps for environmental resources
  - Continued preparation of draft Section 1.1, Purpose and Need
  - Continued preparation of draft Section 3.0, Alternatives to the Proposed Action

If you have any questions or would like to discuss the above summary, please contact Mike Montesano at (210) 541-1942.

Respectfully Submitted,

Mike Montesano
Project Manager

TEDSI INFRASTRUCTURE GROUP
TEDSI
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 N. Doolittle Road
Edinburg, Texas 78539

DATE: April 23, 2015

REF.: Deltal Watershed Environmental January 24 thru April 17, 2015 Invoice

TEDSI PROJECT NO.: 2013-1128-11

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☐ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Invoice No. 20152305 for Project No. 2013-1128-11 w/timesheets and sub invoice w/timesheets
1	Progress Report No. 009
1	Sub Progress Report
1	CD-digital copies of invoice, sub invoice, and progress report

REMARKS:

Thank you,

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
APR 24 2015
12:00 AM PM
BY: Rosa

Signed: for: Clay
Mark W. Lupher, P.E., RPLS

If enclosures are not as stated, please notify us.

AI -49932 **12.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 20152222 in the amount of $1,670.08 for TEDSI Infrastructure Group related to Work Authorization No. 8- Lower Rio Grande Valley Regional Water Management Program- General Management Consultant for Professional Services done for the month of January 2015. P.O. No. 623578.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20152222

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:36 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/29/2015 01:54 PM
Final Approval Date: 05/29/2015		

HIDALGO COUNTY DRAINAGE DISTRICT NUMBER ONE

902 NORTH DOOLITTLE EDINBURG, TEXAS 78542 (956) 292-7080 FAX (956) 292-7089

HCDD#1

GODFREY GARZA, JR.
MANAGER

INVOICE PROCESSING CHECKLIST

Date Received: 2.24.15

Engineer/Firm Name: TEDSI

Project Name/Number: LRGVRWMP-General Mang. Consult.

Invoice No: 20152222

Logged in and Scanned: _____ By: R. Arce Forwarded to: J. Garza

Engineer	Name	Date	Comment
Scope of work reviewed			

Accounting	Name	Date	Comment
Encumberance			
Purchase Order Attached			
Audit			
Final Approval for Agenda			

	Name	Date	Comment
Placed on Agenda			

Additional Comments: _____

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

FEB 24 2015
9:30 AM PM
BY: Rosa Ane

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

February 18, 2015
Project No: 2013-1128-08
Invoice No: 20152222

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 2013-1128-08 Lower Rio Grande Valley Regional Water Management Program - General Management Consultant

Precinct No. 1 2012 Bond Referendum
General Engineering Management Services
Account No. 13-133-433-360-010-000-43340
P. O. No. 623578
Work Authorization No. 8

Professional Services from January 01, 2015 to January 31, 2015
Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Preliminary Planning & Development	856,165.48	53.03	454,024.55	453,767.70	256.85	
Preliminary Engineering	261,709.66	15.20	39,779.87	38,366.64	1,413.23	
Expenses	524,590.34	37.7059	197,801.51	197,801.51	0.00	
Total Fee	1,642,465.48		691,605.93	689,935.85	1,670.08	
		Total Fee				**1,670.08**

Billing Summary	Current	Prior	To-Date
Total Billings	1,670.08	689,935.63	691,605.71
Total Fee			1,642,465.48
Remaining Fee			950,859.77

Total this Invoice **$1,670.08**

Outstanding Invoices

Number	Date	Balance
20142175	12/22/2014	645.55
20142201	1/22/2015	3,635.27
Total		**4,280.82**

Total Now Due **$5,950.90**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 2.18.15
Mark W. Lupher, P.E., RPLS
Executive Vice President

WORK AUTHORIZATION #8
LABOR DETAIL
DELTA AREA WATERSHED

Jan. 2015	Principal Engineer	Project Manager (VIII)	Sr. Engineer (V)	Sr. Engineer (V)	Project Engineer (III)	Project Engineer (II)	Engr. In Training (E.I.T.)	Sr. Engr. Designer	Engr. Designer	CADD Operator	Sr. GIS Designer	GIS Designer	GIS System Manager	IT System Manager	Project Admin	Assistant Admin
	J. Salinas	M. Lupher	M. Corbitt	J. Sanchez	E. Dietrich		S. DeLeon		R. Cavazos	J. Adams	J. Perez		M. Manzano	A. Bray	D. Castillo	C. Garza
	$266.62	$232.61	$187.37	$187.37	$159.15	$144.56	$122.87	$117.57	$109.24	$104.61	$135.00	$90.00	$175.00	$180.00	$178.37	$73.13
Dates:																
1/6/2015		5														
1/26/2015										5						
Total	$0.00	$1,163.05	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$523.05	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	0	5	0	0	0	0	0	0	0	5	0	0	0	0	0	0

Total This Month	**$1,686.10**

PROJECT: Delta Watershed Project - GCM
CLIENT: Hidalgo County Drainage District No. 1

TEDSI JOB NUMBER: 2013-1128-08

PROGRESS REPORT NO. 014

Progress Period January 01, 2015 Through January 31, 2015

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
I. GCM FOR ENGINEERING MANAGEMENT					
(A) PRELIMINARY PROJECT PLANNING AND DEVELOPMENT					
(1) Administrative Policy & Procedures	$105,432.80	93.16%	$98,224.32	$98,224.32	**$0.00**
(2) Project Development Schedule	$53,143.60	84.68%	$45,000.00	$45,000.00	**$0.00**
(3) Construction Estimate	$50,894.20	5.89%	$3,000.00	$3,000.00	**$0.00**
(4) QC/QA Program Development	$51,885.22	90.00%	$46,695.19	$46,695.19	**$0.00**
(5) Subcontract Administration	$49,684.28	90.00%	$44,715.85	$44,715.85	**$0.00**
(6) Funding Source	$119,911.08	40.00%	$47,969.00	$47,969.00	**$0.00**
(7) Capital Improvement Program	$129,253.80	0.20%	$256.85	$0.00	**$256.85**
(8) Management/ Coordination of Engineering Activities	$133,975.80	44.05%	$59,020.73	$59,020.73	**$0.00**
(9) Implementation of QC/QA Program	$46,927.50	25.54%	$11,985.17	$11,985.17	**$0.00**
(10) Computer Database Development Platform	$115,057.20	84.44%	$97,157.44	$97,157.44	**$0.00**
SUB TOTAL I.A	$856,165.48	53.03%	$454,024.55	$453,767.70	**$256.85**
(B) PRELIMINARY ENGINEERING					
(1) Preliminary Concept Conference	$57,250.80	40.64%	$23,265.98	$23,265.98	**$0.00**
(2) Management/Coordination of Engineering	$42,799.96	34.00%	$14,551.07	$14,551.07	**$0.00**
(3) Implementation of QA/QC Program	$36,624.10	5.36%	$1,962.82	$549.59	**$1,413.23**
(4) Preparation of "***Preliminary Engineering***	$84,677.60	0.00%	$0.00	$0.00	**$0.00**
(5) Coordination with all Reviewing Agencies	$40,357.20	0.00%	$0.00	$0.00	**$0.00**
SUB TOTAL I.B	$261,709.66	15.20%	$39,779.87	$38,366.64	$1,413.23
TOTAL LABOR COSTS	$1,117,875.14	$0.68	$493,804.42	$492,134.34	$1,670.08

PROGRESS REPORT NO. 014

Progress Period January 01, 2015 Through January 31, 2015

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
DIRECT EXPENSES					
TRAVEL					
Lodging/Hotel (Austin)	$648.00	0.00%	$0.00	$0.00	**$0.00**
Lodging/Hotel Taxes/fees (Austin @ 9%)	$58.32	0.00%	$0.00	$0.00	**$0.00**
Per Diem (Austin)	$426.00	0.00%	$0.00	$0.00	**$0.00**
Lodging/Hotel (Washington DC)	$1,356.00	0.00%	$0.00	$0.00	**$0.00**
Lodging/Hotel Taxes/fees (Washington DC @	$196.62	0.00%	$0.00	$0.00	**$0.00**
Per Diem (Washington DC)	$426.00	0.00%	$0.00	$0.00	**$0.00**
Mileage	$5,650.00	0.00%	$0.00	$0.00	**$0.00**
Rental Car (Taxes/Fees not included; Insurance	$450.00	0.00%	$0.00	$0.00	**$0.00**
Rental Car Fuel	$299.40	0.00%	$0.00	$0.00	**$0.00**
Air Travel -In State- Short Notice (Coach)	$6,000.00	0.00%	$0.00	$0.00	**$0.00**
Air Travel - Out of State - Short Notice (Coach)	$9,000.00	0.00%	$0.00	$0.00	**$0.00**
Luggage (with air travel)	$1,200.00	0.00%	$0.00	$0.00	**$0.00**
Parking	$420.00	0.00%	$0.00	$0.00	**$0.00**
Taxi/Cab fare	$480.00	0.00%	$0.00	$0.00	**$0.00**
Internet	$270.00	0.00%	$0.00	$0.00	**$0.00**
Telephone	$2,700.00	0.00%	$0.00	$0.00	**$0.00**
Conference Calls	$12,000.00	0.00%	$0.00	$0.00	**$0.00**
Postage & Shipping	$9,600.00	0.00%	$0.00	$0.00	**$0.00**
Overnight Mail - letter size	$1,800.00	0.00%	$0.00	$0.00	**$0.00**
Overnight Mail - oversized box	$3,000.00	0.00%	$0.00	$0.00	**$0.00**
Courier Services	$1,200.00	0.00%	$0.00	$0.00	**$0.00**
COMPUTER SYSTEM					
GIS Server, Web Hosting, Work Stations, Software, Licensing, Plotter, Printers, etc.	$382,990.00	51.65%	$197,801.51	$197,801.51	**$0.00**

PROJECT: Delta Watershed Project - GCM
CLIENT: Hidalgo County Drainage District No. 1

TEDSI JOB NUMBER: 2013-1128-08

PROGRESS REPORT NO. 014

Progress Period January 01, 2015 Through January 31, 2015

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
PRINTING					
Photocopies B/W (8 1/2" X 11")	$1,050.00	0.00%	$0.00	$0.00	**$0.00**
Photocopies B/W (11" X 17")	$1,650.00	0.00%	$0.00	$0.00	**$0.00**
Photocopies Color (8 1/2" X 11")	$1,800.00	0.00%	$0.00	$0.00	**$0.00**
Photocopies Color (11" X 17")	$6,750.00	0.00%	$0.00	$0.00	**$0.00**
Digital Ortho Plotting (on bond)	$10,000.00	0.00%	$0.00	$0.00	**$0.00**
Bond Paper Plot (Blueline/Blackline)	$4,500.00	0.00%	$0.00	$0.00	**$0.00**
Plots (B/W on Bond)	$12,000.00	0.00%	$0.00	$0.00	**$0.00**
Plots (Color on Bond)	$8,000.00	0.00%	$0.00	$0.00	**$0.00**
Plots (Color on Photographic Paper)	$5,000.00	0.00%	$0.00	$0.00	**$0.00**
Mounting Color Graphics on Foam Board	$10,000.00	0.00%	$0.00	$0.00	**$0.00**
Presentation Boards 30" X 40" Color Mounted	$4,200.00	0.00%	$0.00	$0.00	**$0.00**
Report Binding	$1,200.00	0.00%	$0.00	$0.00	**$0.00**
Notebooks	$720.00	0.00%	$0.00	$0.00	**$0.00**
Reproduction of CD/DVD	$15,500.00	0.00%	$0.00	$0.00	**$0.00**
CDs	$1,550.00	0.00%	$0.00	$0.00	**$0.00**
4" X 6" Digital Color Print	$500.00	0.00%	$0.00	$0.00	**$0.00**

TOTAL DIRECT EXPENSES	$524,590.34	37.71%	$197,801.51	$197,801.51	**$0.00**

TOTAL (LABOR AND DIRECT EXPENSES)	$1,642,465.48	42.11%	$691,605.93	$689,935.85	$1,670.08

TOTAL INVOICE AMOUNT DUE: $1,670.08

TEDSI INFRASTRUCTURE GROUP *Consulting Engineers* TEDSI TBPE F-1640	Project Progress Report
TO: Hidalgo County Drainage District No. 1	**DATE:** February 19, 2015
FROM: Mr. Mark Lupher, P.E., Project Manager	**TEDSI PROJECT NO.:** 2013-1128-08
REFERENCE: Hourly Progress Report	
Progress Report for Invoice No. 20152222, January 01 thru January 31, 2015	

- Week Report by Week for Mark Lupher
  - Week of: 01-10-2015
    - Attend Austin Legislature Coordination
- Week Report by Week for Jason Adams
  - Week of: 01-31-2015
    - Preparation of project location map

AI -49934 **13.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 20152306 in the amount of $6,705.44 for TEDSI Infrastructure Group related to Work Authorization No. 12- Lower Rio Grande Valley Regional Water Management Program- Legal for Professional Services done for the month of March 2015. P.O. No. 623665.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20152306

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:36 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/29/2015 02:00 PM
Final Approval Date: 05/29/2015		

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: **4/24/2015**

Engineer/Firm Name: **TEDSI**

Project Name/Number: **LRGVRWMP- Legal**

Invoice No.: **20152306**

Purchase Order No.: **623665**

Received By: **Rosa Arce**

Forwarded to: **Joey Garza**

Total # of Pages Submitted: **11**

Attachments: **CD March Invoice Backup 20152306**

Additional Comments:

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

APR 24 2015
12:00 AM PM
BY:

TEDSI INFRASTRUCTURE GROUP
TEDSI
TBPE F-1640
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022

April 22, 2015
Project No: 2013-1128-12
Invoice No: 20152306

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 2013-1128-12 Lower Rio Grande Valley Regional Water Management Program - Legal

Precinct No. 1 - 2012 Bond Referendum
Account No. 13-133-433-360-43340-010-000
P.O. No. 623665

Professional Services from March 01, 2015 to March 31, 2015

Phase 100 Legal Services Support

Professional Personnel

		Hours	Rate	Amount	
Project Manager (VIII)					
Lupher, Mark		4.00	232.61	930.44	
	Totals	4.00		930.44	
	Total Labor				**930.44**

Billing Summary	**Current**	**Prior**	**To-Date**	
Total Billings	930.44	38,130.51	39,060.95	
Total Fee			39,063.14	
Remaining Fee			2.19	
			Total this Phase	**$930.44**

Phase 200 Water Rights - BBS, PC

Consultants

Reimbursable Consultants Expense

3/31/2015	Beatty Bangle Starma, PC	Invoice No. 17579	2,925.00	
	Total Consultants		**2,925.00**	**2,925.00**

Billing Summary	**Current**	**Prior**	**To-Date**	
Consultants	2,925.00	53,400.00	56,325.00	
Total Fee			80,000.00	
Remaining Fee			23,675.00	
			Total this Phase	**$2,925.00**

Phase 300 Water Rights - BHDA, LLP

Consultants

Reimbursable Consultants Expense

3/31/2015	Bickerstaff Heath Delgado Acosta LLP	Invoice No. 97190	2,850.00	
	Total Consultants		**2,850.00**	**2,850.00**

Project	2013-1128-12	LRGVRWMP - Legal	Invoice	20152306

Billing Summary	Current	Prior	To-Date	
Consultants	2,850.00	50,407.40	53,257.40	
Total Fee			65,400.00	
Remaining Fee			12,142.60	
		Total this Phase		**$2,850.00**
		Total this Invoice		**$6,705.44**

Outstanding Invoices

Number	Date	Balance
20152270	3/30/2015	1,590.00
Total		**1,590.00**

Total Now Due **$8,295.44**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

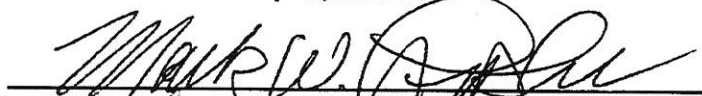
Authorized By: _____ Date: 4.22.15
Mark W. Lupher, P.E., RPLS
Executive Vice President

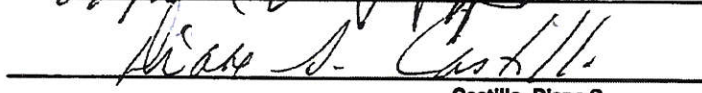
Detailed Timesheet for the Period Ending 3/7/2015

TEDSI Infrastructure Group

Monday, March 09, 2015
4:21:44 PM

Employee MWL **Lupher, Mark W.**

Signed 

Approved 

Castillo, Diane S.

Posted

Office HOU

			Total Hr	Sun 3/1	Mon 3/2	Tue 3/3	Wed 3/4	Thu 3/5	Fri 3/6	Sat 3/7
2013-1128-08	LRGVRWMP - GMC									
200	Preliminary Engineering									
		Reg	15.0			2.0	4.0	9.0		
2013-1128-12	LRGVRWMP - Legal									
100	Legal Services Support									
		Reg	4.0			4.0				
2013-1128-14	LRGVRWMP - PPD									
200	Water Quality Samples									
		Reg	5.0		5.0					
84000-1	Office Administration									
		Reg	3.0				3.0			
84000-2	Project Development									
		Reg	7.0		4.0	3.0				
84000-4	Paid Time Off									
		Reg	6.0				2.0		4.0	

		Total Hr	Sun 3/1	Mon 3/2	Tue 3/3	Wed 3/4	Thu 3/5	Fri 3/6	Sat 3/7
DAILY TOTALS	Reg	40.0		9.0	9.0	9.0	9.0	4.0	

BEATTY BANGLE STRAMA PC

March 31, 2015

Jesse Salinas
TEDSI Infrastructure Group
1201 East Expressway 83
Mission, TX 78572

Invoice No.17579

In Reference To: *Hidalgo County Delta Watershed Project and Hidalgo County Drainage District No. 1*

Professional Services

			Hours	Rate	Amount
03/03/15	ELIII	Correspondence with TWDB regarding status of amendment	0.50	300.00/hr	150.00
03/04/15	ELIII	Work on the amendment, conference call, work on funding strategies	3.00	300.00/hr	900.00
03/05/15	ELIII	Correspondence with TWDB and Region M	1.50	300.00/hr	450.00
03/07/15	ELIII	Water Brief	3.00	300.00/hr	900.00
03/10/15	ELIII	Correspondence with Region M administrator	0.50	300.00/hr	150.00
03/11/15	ELIII	Call with TEDSI team	0.25	300.00/hr	75.00
03/17/15	ELIII	Update call with TEDSI	0.25	300.00/hr	75.00
03/25/15	ELIII	Review correspondence from team, submit inquiry to board	0.50	300.00/hr	150.00
03/30/15	ELIII	Review correspondence from Bickerstaff regarding proposed changes to amendment application	0.25	300.00/hr	75.00
		For professional services rendered	9.75		$2,925.00

TEDSI INFRASTRUCTURE GROUP
Project No. 2013-1128-12 Phase No. 200
☐ Lump Sum ☒ Approved ☐ Hold
☒ Hourly ☐ Rejected ☐ Process
Sign MWL Date 4/22/15

400 West 15th Street | Suite 1450 | Austin, Texas 78701
T (512) 879-5050 | F (512) 879-5040 | bbsfirm.com

	Amount
Previous balance	$1,650.00
Accounts receivable transactions	
3/17/2015 Payment - Thank You(No. 49699)	($150.00)
Balance due	$4,425.00

Current	30 Days	60 Days	90 Days	120+ Days
$2,925.00	$1,500.00	$0.00	$0.00	$0.00

Bickerstaff Heath Delgado Acosta LLP
3711 S. Mo-Pac Expy. Building One, Suite 300 Austin, Texas 78746 (512) 472-8021 Fax (512) 320-5638 Tax ID No 74-2153894

Hidalgo County Drainage District No. 1
c/o TEDSI Infrastructure Group, Inc.
1201 E. Expressway 83
Mission, TX 78572

April 08, 2015
Client: 003978
Matter: 000001
Invoice #: 97190
Bill Atty: DM

Page: 1

RE: Drainage Improvements

For Professional Services Rendered Through March 31, 2015

SERVICES

Date	Person	Description of Services	Hours	
3/4/2015	EWR	Attend conference call regarding water rights application.	0.5	
3/9/2015	EWR	Work on revisions to the water rights application; e-mail D. Li regarding the same.	1.4	
3/11/2015	EWR	Continue to work on the water rights application.	2.0	
3/12/2015	EWR	Continue to prepare water rights application and e-mail same to the team.	2.7	
3/25/2015	EWR	Begin reviewing application.	0.5	
3/26/2015	EWR	Conference call with team; continue to work on the water rights application.	2.3	
3/31/2015	EWR	Telephone call with M. Corbitt.	0.1	
		Total Professional Services	9.5	$2,850.00

BILLING RECAP

		Level	Hours	Rate	Amount
EWR	Emily Rogers	Partner	9.5	$300.00	$2,850.00

Total Services	$2,850.00	
Total Current Charges		$2,850.00
PAY THIS AMOUNT		**$2,850.00**

Please Remit Payment to:
Bickerstaff Heath Delgado Acosta LLP
3711 S. Mo-Pac Expy
Building One, Suite 300
Austin, Texas 78746-8023

TEDSI INFRASTRUCTURE GROUP
Project No. 2013-128-12 Phase No. 300
☐ Lump Sum ☒ Approved ☐ Hold
☒ Hourly ☐ Rejected ☐ Process
Sign MWL Date 4/22/15

Billing Backup

TEDSI Infrastructure Group — Invoice 20152306 Dated 4/22/2015

Project	2013-1128-12	Lower Rio Grande Valley Regional Water Management Program - Legal				
Phase	100	Legal Services Support				
Professional Personnel						
			Hours	**Rate**	**Amount**	
Project Manager (VIII)						
204 - Lupher, Mark		3/3/2015	4.00	232.61	930.44	
	Totals		4.00		930.44	
	Total Labor					**930.44**
					Total this Phase	**$930.44**
Phase	200	Water Rights - BBS, PC				
Consultants						
Reimbursable Consultants Expense						
AP 34597	3/31/2015	Beatty Bangle Starma, PC / Invoice No. 17579 /			2,925.00	
	Total Consultants				**2,925.00**	**2,925.00**
					Total this Phase	**$2,925.00**
Phase	300	Water Rights - BHDA, LLP				
Consultants						
Reimbursable Consultants Expense						
AP 34598	3/31/2015	Bickerstaff Heath Delgado Acosta LLP / Invoice No. 97190			2,850.00	
	Total Consultants				**2,850.00**	**2,850.00**
					Total this Phase	**$2,850.00**
					Total this Project	**$6,705.44**
					Total this Report	**$6,705.44**

PROJECT: Lower Rio Grande Valley Regional Water Supply Program - Legal
CLIENT: HCDD#1

TEDSI JOB NUMBER: 2013-1128-12

PROGRESS REPORT NO. 017

Progress Period March 01, 2015 Through March 31, 2015

DESCRIPTION	ESTIMATED COST	PERCENT COMPLETE	INVOICE TO DATE	PREVIOUS INVOICE	AMOUNT DUE
II. GCM FOR PRELIMINARY PROJECT PLANNING AND DEVELOPMENT					
(5) Water Rights, TEDSI	$39,063.14	99.99%	$39,060.95	$38,130.51	**$930.44**
(6) Water Rights Sub Consultant BBS, PC	$80,000.00	70.41%	$56,325.00	$53,400.00	**$2,925.00**
(7) Water Rights Sub Consultant BHDA, LLP	$65,400.00	81.43%	$53,257.40	$50,407.40	**$2,850.00**
Additional Expenses	$22,000.00	3.12%	$686.73	$686.73	**$0.00**
SUB TOTAL II	$206,463.14	72.33%	$149,330.08	$142,624.64	**$6,705.44**

TOTAL LABOR EXPENSES	$206,463.14	72.33%	$149,330.08	$142,624.64	**$6,705.44**

TOTAL INVOICE AMOUNT DUE: $6,705.44

TEDSI INFRASTRUCTURE GROUP *Consulting Engineers* TEDSI TBPE F-1640	Project Progress Report
TO: Hidalgo County Drainage District No. 1	DATE: April 22, 2015
FROM: Mr. Mark Lupher, P.E., Project Manager	TEDSI PROJECT NO.: 2013-1128-12
REFERENCE: Hourly Progress Report	
Progress Report for Invoice No. 20152306, March, 01 thru March 31, 2015	

- Week Report by Week for Mark Lupher
  - Week of: 03-07-2015
    - Meeting in Weslaco with Rio Grande Regional Planning Group

TEDSI INFRASTRUCTURE GROUP
TEDSI
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 N. Doolittle Road
Edinburg, Texas 78539

DATE: April 23, 2015

REF.: Delta Watershed Legal Water Rights Project March Invoice

TEDSI PROJECT NO.: 2013-1128-12

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☐ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Invoice No. 20152306 for Project No. 2013-1128-12 along with Sub Invoices
1	Progress Report No. 017
1	Project Progress Report
1	CD-Digital copies of Invoice and Progress Reports

REMARKS:

Thank you,

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

APR 24 2015

12:00 AM / PM

BY: Rosalee

Signed: _____
for: Clay
Mark W. Lupher, P.E., RPLS

If enclosures are not as stated, please notify us.

AI -49935 **14.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for Invoice No. 20142174 in the amount of $3,847.01 for TEDSI Infrastructure Group related to Work Authorization No. 7-Spanish Palms for Professional Services from May 01, 2014 to November 30, 2014. P.O. No. 623664.

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20142174

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:36 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/29/2015 02:06 PM
Final Approval Date: 05/29/2015		

HIDALGO COUNTY DRAINAGE DISTRICT NUMBER ONE

902 NORTH DOOLITTLE EDINBURG, TEXAS 78542 (956) 292-7080 FAX (956) 292-7089

HCDD#1

GODFREY GARZA, JR.
MANAGER

INVOICE PROCESSING CHECKLIST

Date Received: 12.24.2014

Engineer/Firm Name: TEDS1

Project Name/Number: Spanish Palms

Invoice No: 20142174

Logged in and Scanned: 10 AM 12/24 By: RosaArce Forwarded to: Joey Garza

Engineer	Name	Date	Comment
Scope of work reviewed			

Accounting	Name	Date	Comment
Encumberance			
Purchase Order Attached			
Audit			
Final Approval for Agenda			

	Name	Date	Comment
Placed on Agenda			

Additional Comments: _____

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
DEC 24 2014
8:30 AM PM
BY: RosaArce

December 22, 2014
Project No: 2013-1128-07
Invoice No: 20142174

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 2013-1128-07 Spanish Palms

Precinct No.1 - 2012 Bond Referendum
Spanish Palms Subdivision Outfall Improvements
Account No. 13-133-433-365-43340-010-003
Purchase Order No. 623664
Work Authorization No. 7

Professional Services from May 01, 2014 to November 30, 2014
Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Basic Services	38,470.08	100.00	38,470.08	34,623.07	3,847.01	
Topographic Survey	9,617.52	100.00	9,617.52	9,617.52	0.00	
Geotechnical (TEDSI)	642.51	100.00	642.51	642.51	0.00	
Geotechnical (Raba)	4,357.49	100.00	4,357.49	4,357.49	0.00	
Total Fee	53,087.60		53,087.60	49,240.59	3,847.01	
		Total Fee				**3,847.01**

Billing Summary	Current	Prior	To-Date	
Total Billings	3,847.01	49,240.59	53,087.60	
Total Fee			53,087.60	
			Total this Invoice	**$3,847.01**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 12/22/14
Mark W. Lupher, P.E., RPLS
Executive Vice President

TEDSI INFRASTRUCTURE GROUP
TEDSI
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Project Progress Report

TO: Hidalgo County Drainage District No. 1

DATE: December 22, 2014

FROM: TEDSI Infrastructure Group

TEDSI PROJECT NO.: 2013-1128-07

REFERENCE: Spanish Palms

Progress Report for Invoice No. 20142174 May 01 thru November 30, 2014

BILLING PHASE	PERCENT COMPLETE	CONSULTANT	REPORT
Basic Services	100%	TEDSI	TEDSI has completed the PS&E to 100%. We have attached a 100% set of plans on the attached CD.
Topographical Survey	100%	TEDSI	The topographical survey for this project is complete
Geotechnical	100%	TEDSI	The geotechnical for this project has been completed.
Geotechnical	100%	RABA	The geotechnical for this project has been completed.

TEDSI INFRASTRUCTURE GROUP
TEDSI
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 N. Doolittle Road
Edinburg, Texas 78542

DATE: December 22, 2014

REF.: Spanish Palms May thru Nov. 2014 Invoice

TEDSI PROJECT NO.: 2013-1128-07

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☐ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Invoice No. 20142174 for Project No. 2013-1128-07
1	Progress Report
1	CD PDF Files

REMARKS:

Thank you,

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

DEC 24 2014
8:30 AM / PM
BY: RosaAvce

Signed: for. Clay
Mark W. Lupher, P.E., RPLS

If enclosures are not as stated, please notify us.

AI -49936 **15.**

DRAINAGE - CONSENT

Meeting Date: 06/02/2015

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

A. Request approval to issue payment for TEDSI Infrastructure Group related to Work Authorization No. 17- Spanish Palms Outfall Improvements of Material Testing & Construction Management. 1. Invoice No. 20152275 $1,600.00 Professional Services from Notice to Proceed to February 28, 2015 2. Invoice No. 20152309 $1,860.72 March 2015

BACKGROUND

Fiscal Impact

Attachments

1. Invoice No. 20152275
2. Invoice No. 20152309

Form Review

Inbox	**Reviewed By**	**Date**
Budget & Management	Veronica Ortiz	05/29/2015 03:36 PM
Final Approval	Monica Badillo	05/29/2015 04:47 PM
Form Started By: Lora Briones		Started On: 05/29/2015 02:10 PM
Final Approval Date: 05/29/2015		

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 4-1-15

Engineer/Firm Name: Tedsi Infrastructure Grp.

Project Name/Number: Spanish Palms Outfall

Invoice No.: 20152275

Purchase Order No.:

Received By: Esther

Forwarded to: Joey

Additional Comments:

TEDSI INFRASTRUCTURE GROUP
TEDSI
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 N. Doolittle Road
Edinburg, Texas 78542

DATE: March 31, 2015

REF.: Spanish Palms Outfall Improvements Materail Testing & CM NTO to Feb. Invoice

TEDSI PROJECT NO.: 2013-1128-17

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☐ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Invoice No. 20152275 for Project No. 2013-1128-17
1	Project Status Report

REMARKS:

Thank you,

Signed: for: _____
Roberto Fina Carral, P.E.

If enclosures are not as stated, please notify us.

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

APR 01 2015
1:25 AM PM
BY: Esther Layton

TEDSI INFRASTRUCTURE GROUP
TEDSI
TBPE F-1640
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022

March 30, 2015
Project No: 2013-1128-17
Invoice No: 20152275

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 2013-1128-17 Spanish Palms Outfall Improvements of Material Testing & Construction Management

Spanish Palms Outfall Improvements of Material Testing and Construction Management
Hidalgo County Precinct One
Work Authorization No. 17

Professional Services from Notice to Proceed to February 28, 2015

Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Construction Management	16,000.00	10.00	1,600.00	0.00	1,600.00	
Material Testing	8,507.85	0.00	0.00	0.00	0.00	
Total Fee	24,507.85		1,600.00	0.00	1,600.00	
		Total Fee				**1,600.00**
				Total this Phase		**$1,600.00**

Billing Summary	Current	Prior	To-Date	
Total Billings	1,600.00	0.00	1,600.00	
Total Fee			24,507.85	
Remaining Fee			22,907.85	
			Total this Invoice	**$1,600.00**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 3.30.15
Mark W. Lupher, P.E., RPLS
Executive Vice President

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

Project Status Report

TO: Claudette Guerrero | **DATE: March 30, 2015**

FROM: Roberto Fina Carral, P.E. | **TEDSI PROJECT NO.: 2013-1128-17**

REFERENCE:

Spanish Palms Outfall Improvements of Material Testing & Construction Management

TEDSI INVOICE NO: 20152275 **PROFESSIONAL SERVICES FROM: Notice to Proceed to February 28, 2015**

PHASE	CONTRACTOR	TASK COMPLETED
Construction Management	TEDSI 10%	The Pre-Construction meeting was held at the HCDD No 1 meeting room on 01/16/2015. Shop Drawings provided by Contractor has been revised and approved on 01/29/2015. Preliminary Inspection has been conducted to verify the placement of Advance Warnings Signs. TEDSI has been supporting the HCDD No 1 with the required process to get the TxDOT ROW Permit thru the UIR TxDOT system.
Material Testing	**TEDSI** 0%	No action at this time

Hidalgo County Drainage District No. 1

902 North Doolittle Road Edinburg, Texas 78542 Office: (956) 292-7080 Fax: (956) 292-7089

Invoice Processing Checklist

Date Received: 4/24/2015

Engineer/Firm Name: TEDSI

Project Name/Number: Spanish Palms Outfall Impr. Of Material Testing & Const. Mang.

Invoice No.: 20152309

Purchase Order No.:

Received By: Rosa Arce

Forwarded to: Joey Garza

Total # of Pages Submitted: 3

Attachments: NA

Additional Comments:

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

APR 24 2015
12:00 AM / PM
BY: Rosa

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

April 22, 2015
Project No: 2013-1128-17
Invoice No: 20152309

Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, TX 78542

Project 2013-1128-17 Spanish Palms Outfall Improvements of Material Testing & Construction Management

Hidalgo County Precinct One
Work Authorization No. 17

Professional Services from March 01, 2015 to March 31, 2015

Phase 100 Construction Management
Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Constuction Management	16,000.00	21.6295	3,460.72	1,600.00	1,860.72	
Material Testing	8,507.85	0.00	0.00	0.00	0.00	
Total Fee	24,507.85		3,460.72	1,600.00	1,860.72	
		Total Fee				**1,860.72**
				Total this Phase		**$1,860.72**

Billing Summary	Current	Prior	To-Date
Total Billings	1,860.72	1,600.00	3,460.72
Total Fee			24,507.85
Remaining Fee			21,047.13

Total this Invoice **$1,860.72**

Outstanding Invoices

Number	Date	Balance
20152275	3/30/2015	1,600.00
Total		**1,600.00**

Total Now Due **$3,460.72**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 4.22.15
Mark W. Lupher, P.E., RPLS
Executive Vice President

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022
TBPE F-1640

Project Status Report

TO: Claudette Guerrero | **DATE: April 23, 2015**

FROM: Roberto Fina Carral, P.E. | **TEDSI PROJECT NO.: 2013-1128-17**

REFERENCE:

Spanish Palms Outfall Improvements of Material Testing & Construction Management

TEDSI INVOICE NO: 20152309 **PROFESSIONAL SERVICES FROM: March 01, 2015 to March 31, 2015**

PHASE	CONTRACTOR	TASK COMPLETED
Construction Management	TEDSI 21.6295%	Meeting with TxDOT has been done to get approval on the alternative alignment due to conflict with NAWSC water line on 03/31/2015. Approval got on 04/08/2015 to move forward with the alternative changing alignment to the east side of FM 1015 from STA 10+00 to 23+40. Construction Management Inspection done on March 02, 19, 31 and April 17. Utility Coordination has been done with NAWSC to get their water line exposed. The Contractor has 5 days work missed due to conflict with NAWSC and 6 days missed due to weather conditions. Total of missed days 11.
Material Testing	**TEDSI** 0%	No action at this time

TEDSI INFRASTRUCTURE GROUP
TEDSI
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Ms. Claudette Guerrero
Hidalgo County Drainage District No. 1
902 N. Doolittle Road
Edinburg, Texas 78542

DATE: April 23, 2015

REF.: Spanish Palms Outfall Improvements Materail Testing & CM March Invoice

TEDSI PROJECT NO.: 2013-1128-17

TRANSMITTED:

☒ For Your Use	☐ Please comment	☐ Approved as Noted
☐ As Requested	☐ Reply ASAP	☐ As Noted Below

VIA:

☐ US Mail	☐ Courier	☐ Hand Carry
☐ E-Mail	☒ LoneStar Overnight	☐ FedEx

COPIES	DESCRIPTION
1	Invoice No. 20152309 for Project No. 2013-1128-17
1	Project Status Report

REMARKS:

Thank you,

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
APR 24 2015
12:00 AM / PM
BY: Rosalie

Signed: _____
for: Roberto Fina Carral, P.E.

If enclosures are not as stated, please notify us.