CONSENT AGENDA
DRAINAGE DISTRICT
BOARD OF DIRECTORS
November 15, 2016
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 in the Commissioners' Courtroom of the Administration Building, 100 E. Cano, 1st floor, 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being discussed separately unless requested by a Board Member, in which event the item or items will immediately be withdrawn for individual consideration in its normal sequence after the items not requiring separate discussion have been acted upon.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 -57254** Discharge Permit
Quintanilla, Headley & Associates, Inc.- Palazzo Vegas Ranches Subdivision (Discharge 1)

3. **AI -57255** Discharge Permit
Quintanilla, Headley & Associates, Inc.- Palazzo Vegas Ranches Subdivision (Discharge 2)

4. **AI -57340** Request approval for a Budget line Item Transfer for the Drainage General Fund,
A. Administration
B. Maintenance and Operation Budget

5. **AI -57320** 2013 Bond Series
Pct. 1 Rural Draiange Development
A. Invoice No. R026521 in the amount of $3,392.13 from Raba Kistner related to Mile 6 West & Mile 14 North for Professional Services rendered from July 21 to September 3, 2016. PO#629828

B. Invoice No. R026522 in the amount of $3,392.13 from Raba Kistner related to Los Olivares Street Improvements for Professional Services rendered from July 22 to September 3, 2016. PO#629825

6. AI -57322 2013 Bond Series
Delta Watershed Project
Invoice No. 20162877 in the amount of $405.00 from TEDSI Infrastructure Group related to Lower Rio Grande Valley Regional Water Management Program (formerly the Delta Watershed Project) for Legal Rights Services. PO#623665

7. AI -57324 2013 Bond Series
Pct. 3 Rural Drainage Development
A. Invoice No. 11325989 in the amount of $1,985.00 from L&G Consulting Engineers related to La Joya Watershed Improvement Project Work Authorization No. 4 for Engineering Services for the month of October 2016. PO#625396

B. Invoice No. 11325990 in the amount of $1,215.00 from L&G Consulting Engineers related to La Joya Watershed Improvement Project Work Authorization No. 10 for Engineering Services for the month of October 2016. PO#629641

2012 Bond Series
Mission Inlet Project
C. Invoice No. 11325991 in the amount of $125,292.42 from L&G Consulting Engineers related to Mission Inlet Recertification Project Work Authorization No. 5 for Engineering Services for the month of October 2016. PO#628488

D. Invoice No. 11325992 in the amount of $5,992.24 from L&G Consulting Engineers related to Mission Inlet Recertification Project Work Authorization No. 6 for Engineering Services for the month of October 2016. PO#629786

8. AI -57325 2013 Bond Series
Pct. 1 Rural Drainage Development
Invoice No. 1016112804 in the amount of $7,456.00 from Urban Infrastructure Group related to Pct. 1- Mile 13 1/2 and 1015 Area Drainage Improvements Project Work Authorization No. 4 for Special Services to modify the proposed drainage route for the month of September to October 2016. PO#630389

9. AI -57352 2013 Bonds

Budget: 305-PSJA Lateral

Engineering Firm: Javier Hinojosa Engineering
Invoice No. 16087 in the amount of $33,750.00 pertaining to Work Authorization No. 1-Engineering Services for the PSJA Lateral Drain.
PO#627762

AI -57254 **2.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Esther Layton

Submitted By: Esther Layton, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Discharge Permit
Quintanilla, Headley & Associates, Inc.- Palazzo Vegas Ranches Subdivision (Discharge 1)

BACKGROUND

Fiscal Impact

Attachments

Discharge Permit

Form Review

Inbox	**Reviewed By**	**Date**
Final Approval	Monica Badillo	11/10/2016 02:15 PM

Form Started By: Esther Layton Started On: 11/08/2016 10:07 AM

Final Approval Date: 11/10/2016

APPLICATION FOR DISCHARGING STORM WATER INTO H.C.D.D. NO. 1 SYSTEM**

Applicant: City of Alamo **Permit No:** _____

Address: 420 N. Tower Road, Alamo, Texas 78516

Subdivision Name: Palazzo Vegas Ranches (Discharge 1)

Name of Receiving Ditch: HCDD No.1 Cesar Chavez Drain Ditch

Location or Drainage Area (Furnish Location Map): see attached layout

X(coordinate): 98°07'10" W **Y(coordinate):** 26°12'58" N
(NAD 1983 Texas South FIPS 4205 feet)

New or existing entrance: New **Calculated Run-off:** 27.65 c.f.s.

Number of Acres Developed: 40.00 ac. **Size of Pipe:** 30" RCP (west side)

Size of Box Culvert: N/A **Ditch Lateral (size of entrance) sq. ft.:** N/A

Discharge Flow line of Pipe, Box Culvert, Ditch Lateral: 88.50

Flow line Receiving Ditch: 86.85 **Top of Water Receiving Ditch:** 87.85

Top of Ditch Elevation: 102.38 **Top of water of Connecting Ditch Lateral:** N/A

Head Loss Calculated: 1.20 **Formula Used:** TxDOT Nomograph

Project Engineer: Alfonso Quintanilla, P.E. (Engineer's Name) Quintanilla, Headley & Associates, Inc (Firm's Name)

124 E. Stubbs St. Edinburg, Texas 78539 (Address) (956) 381-6480 (Phone #) (956) 381-0527 (Fax #)

***Owner shall be considered a City with the appropriate review boards considering/granting approval to subdivision; otherwise owner/developer signature will be required.**

_____ (Owner's Signature)

_____ (Mayor's Signature) (City of Alamo)

_____ (Mayor-Print Name) (Date)

APPROVAL OF IRRIGATION DISTRICT

This is to certify that we have reviewed the above application and we hereby approve the plan and application as shown.

_____ (Irrigation District)

By: _____

Title: _____

Date: _____

If not an Irrigation District facility, please sign on line below as acknowledgement:

HCID #2 Sonny Lonigan 10/24/16
(Irrigation District)

APPROVAL OF DRAINAGE DISTRICT

APPROVED this _____ **day of** _____, 20 ___.

By: _____
(Hidalgo County Drainage District Number One)

**** This application requires Board of Director's approval. Please submit application, to the District, on Tuesday's before 5:00 p.m. to be placed on Board of Director's meeting the following Tuesday.**

AI -57255 **3.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Esther Layton

Submitted By: Esther Layton, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Discharge Permit
Quintanilla, Headley & Associates, Inc.- Palazzo Vegas Ranches Subdivision (Discharge 2)

BACKGROUND

Fiscal Impact

Attachments

Discharge Permit

Form Review

Inbox	**Reviewed By**	**Date**
Final Approval	Monica Badillo	11/10/2016 02:15 PM

Form Started By: Esther Layton Started On: 11/08/2016 10:30 AM

Final Approval Date: 11/10/2016

APPLICATION FOR DISCHARGING STORM WATER
INTO H.C.D.D. NO. 1 SYSTEM**

Applicant: City of Alamo **Permit No:** _____

Address: 420 N. Tower Road, Alamo, Texas 78516

Subdivision Name: Palazzo Vegas Ranches (Discharge 2)

Name of Receiving Ditch: HCDD No.1 Cesar Chavez Drain Ditch

Location or Drainage Area (Furnish Location Map): see attached layout

X(coordinate): 98°07'10" W **Y(coordinate):** 26°12'58" N
(NAD 1983 Texas South FIPS 4205 feet)

New or existing entrance: New **Calculated Run-off:** 27.65 c.f.s.

Number of Acres Developed: 40.00 ac. **Size of Pipe:** 30" RCP (east side)

Size of Box Culvert: N/A **Ditch Lateral (size of entrance) sq. ft.:** N/A

Discharge Flow line of Pipe, Box Culvert, Ditch Lateral: 88.50

Flow line Receiving Ditch: 86.48 **Top of Water Receiving Ditch:** 87.48

Top of Ditch Elevation: 101.61 **Top of water of Connecting Ditch Lateral:** N/A

Head Loss Calculated: 1.20 **Formula Used:** TxDOT Nomograph

Project Engineer: Alfonso Quintanilla, P.E. Quintanilla, Headley & Associates, Inc
(Engineer's Name) (Firm's Name)

124 E. Stubbs St. Edinburg, Texas 78539 (956) 381-6480 (956) 381-0527
(Address) (Phone #) Fax #)

***Owner shall be considered a City with the appropriate review boards considering/granting approval to subdivision; otherwise owner/developer signature will be required.**

_____ _____
(Owner's Signature) (Mayor's Signature) (City of Alamo)

_____
(Mayor-Print Name) (Date)

APPROVAL OF IRRIGATION DISTRICT

This is to certify that we have reviewed the above application and we hereby approve the plan and application as shown.

_____
(Irrigation District)

By: _____

Title: _____

Date: _____

If not an Irrigation District facility, please sign on line below as acknowledgement:

HIDALGO COUNTY IRRIGATION DISTRICT NO.2. Sonny Thigpen 10/24/16
(Irrigation District)

APPROVAL OF DRAINAGE DISTRICT

APPROVED this _____ **day of** _____, 20 ___.

By: _____
(Hidalgo County Drainage District Number One)

**** This application requires Board of Director's approval. Please submit application, to the District, on Tuesday's before 5:00 p.m. to be placed on Board of Director's meeting the following Tuesday.**

AI -57340 **4.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Request approval for a Budget line Item Transfer for the Drainage General Fund,
A. Administration
B. Maintenance and Operation Budget

BACKGROUND

Fiscal Impact

Attachments

TRANSFERS

Form Review

Inbox	Reviewed By	Date
Final Approval	Monica Badillo	11/10/2016 02:15 PM

Form Started By: Lora Briones Started On: 11/10/2016 11:14 AM

Final Approval Date: 11/10/2016

Hidalgo County Drainage District No. 1

902 N. Doolittle Road, Edinburg, Texas 78542
Phone: (956) 292-7080 Fax: (956) 292-7089

BOARD OF DIRECTORS
2016 Budget Line Item Transfer (s)

Date: _____

Department Head: Raúl Sesin, P.E.

Department Name: Hidalgo County Drainage District No. 1

Account Number: 16-110-415-003 Administration

I submit to you for your consideration the following line-item transfers in accordance with water code, Chapter 49.

From		To		
Account (Object) Name	Account No.	Account (Object) Name	Account No.	Amount
Salaries Full Time Employees	41130	Salaries of Department Heads	41120	$195,000.00
Salaries Full Time Employees	41130	Longevity Pay	41150	$7,800.00
Contractual Services	43500	Legal Fees	43330	$40,150.00
Appraising Fees	48540	Building Repairs & Maintanance	44310	$2,000.00
Travel out of County	45830	Mobile Phones	45320	$2,000.00
Travel out of County	45830	Internet	45340	$2,000.00
Travel out of County	45830	Printing & Binding	45500	$1,500.00
Electricity	46220	Office Supplies	46010	$5,000.00
Electricity	46220	Minor Computer Equipment	46650	$2,000.00
Minor Equipment	46640	Minor Computer Equipment	46650	$1,800.00
Minor Software	46670	Minor Computer Equipment	46650	$4,500.00
Building Repairs & Maint. Supplies	46710	Minor Computer Equipment	46650	$1,000.00
Computer Equipment	47450	Equipment & Vehicle Rentals	44420	$4,066.50
Computer Equipment	47450	Minor Computer Equipment	46650	$284.32
			Total	$269,100.82

Reason: _____

LBM for Raul Sesin.

Department Head

Date

Board Of Directors

Date

AI -57320 **5.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 Bond Series
Pct. 1 Rural Draiange Development
A. Invoice No. R026521 in the amount of $3,392.13 from Raba Kistner related to Mile 6 West & Mile 14 North for Professional Services rendered from July 21 to September 3, 2016. PO#629828

B. Invoice No. R026522 in the amount of $3,392.13 from Raba Kistner related to Los Olivares Street Improvements for Professional Services rendered from July 22 to September 3, 2016. PO#629825

BACKGROUND

Fiscal Impact

Attachments

Raba Kistner Invoice No. R026521
Raba Kistner Invoice No. R026522

Form Review

Inbox	**Reviewed By**	**Date**
Final Approval	Monica Badillo	11/10/2016 02:15 PM

Form Started By: Lora Briones Started On: 11/10/2016 08:22 AM

Final Approval Date: 11/10/2016

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 10/13/2016

Engineer/Firm Name: Raba Kistner

Project Name/Number: Mile 14 N. Rd and Mile 6 West (El Obispado Subdivision St.)

Invoice No.: R026521

Invoice Date: 9/23/2016

Due Date: 11/12/2016

Purchase Order No.: 629828

Amount: $3,392.13

Total # of Pages Submitted: 4

Attachments: ☐ CD ☐ USB ☐ Plans Other: _____

Engineering: ☑ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

Revised 07/2016

VISIT OUR WEBSITE AT:
www.rkci.com

INVOICE

INVOICE # :R026521

CONSULTANTS * ENVIRONMENTAL * FACILITIES * INFRASTRUCTURE

BILLING DATE :
9/23/2016

PROJECT :
AMD1605500
El Obispado Subdivision Street

CLIENT :
A11371 Hidalgo County Drainage District #1

RABA KISTNER

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
OCT 13 2016
8:26 AM / PM
BY: MAP

Jorge Gonzalez
Hidalgo County Drainage District #1
902 North Doolittle Road
Edinburg, TX 78542

REMITTANCE ADDRESS:
RABA KISTNER, INC.
P.O. BOX 971037
DALLAS, TX 75397-1037

PHONE (210) 699-9090

CONSULTING SERVICES

INVOICE SUMMARY INFORMATION

Improvements - Weslaco, Hidalgo County, Texas
Project Administration 10% - RKCI Proposal No. PMD16-079-00
Purchase Order No. 629828
RETMC

FOR PROFESSIONAL SERVICES RENDERED THROUGH: 9/3/2016

SERVICE DATE	07/21/2016	3,083.75
SERVICE DATE	09/03/2016	308.38
AMOUNT DUE THIS INVOICE **		3,392.13

THIS IS AN INTERIM INVOICE UNLESS OTHERWISE NOTED

RK PROJECT MANAGER: JORGE L PEREZ
CLIENT PHONE: 956-292-7080

PROJECT ACCOUNTS RECEIVABLE SUMMARY

Amount Due This Invoice	$ 3,392.13
Total of Previous Invoices - Currently Unpaid	0.00
Total Due And Payable	$ 3,392.13

* Invoices are submitted monthly and are due on receipt. * Carrying charges may be assessed on invoices unpaid beyond 30 days from billing date.

AP Sep-16

PLEASE PAY FROM THIS INVOICE.

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
OCT 13 2016
8:26 AM PM
BY:

RABA KISTNER

BILLING DATE :
9/23/2016

PROJECT :
AMD1605500 A11371
El Obispado Subdivision Street
Hidalgo County Drainage District #1

INVOICE # :R026521

SALARY / EXPENSE DETAILED BACKUP

DESCRIPTION	REMARKS	QUANTITY	RATE	AMOUNT
07/21/2016				
CMT FIELD & LABORATORY TESTING ASPHALTIC CONCRETE CORING SUBCONTRACTOR	M16-012861	1.00	759.000	759.00
CMT FIELD & LABORATORY TESTING SIEVE ANALYSIS 200 ONLY	M16-012761	3.00	56.750	170.25
CMT FIELD & LABORATORY TESTING VEHICLE TRAVEL CHARGE	M16-012761	1.00	46.750	46.75
CMT FIELD & LABORATORY TESTING ATTERBERG LIMIT	M16-012761	7.00	84.000	588.00
CMT FIELD & LABORATORY TESTING SAMPLING TIME	M16-012761	10.00	49.250	492.50
CMT FIELD & LABORATORY TESTING SIEVE ANALYSIS BASE GRADATION	M16-012761	1.00	56.750	56.75
CMT FIELD & LABORATORY TESTING LIME SERIES CURVE	M16-012761	1.00	412.500	412.50
CMT FIELD & LABORATORY TESTING SULFATE CONTENT (COLORIMETRIC METHOD)	M16-012761	3.00	89.000	267.00
CMT FIELD & LABORATORY TESTING COMPR STRENGTH/CORE	M16-012761	12.00	24.250	291.00
			SUBTOTAL	**3,083.75**
09/03/2016				
CMT FIELD & LABORATORY TESTING TECHNICAL REVIEW & ADMIN	10%	308.38	1.000	308.38
			SUBTOTAL	**308.38**
			**** TOTAL PROJECT AMD1605500**	**3,392.13**

Atterberg Limits & Sieve Analysis Report

RABA KISTNER CONSULTANTS

Raba Kistner Consultants, Inc.
800 E. Hackberry
McAllen, TX 78501
www.rkci.com

P 956.682.5332
F 956.682.5487
TBPE Firm F-3257
TBPLS Firm 10193784

TO: Hidalgo County Drainage District No. 1
ATTN: Mr. Jorge Gonzalez, P.E., SIT, CFM Eng. III

Project No.: AMD16-055-00
Technician: M. Rodriguez/P. Garza
Date: 07-22-16

PROJECT: **EL OBISPADO SUBDIVISION STREET IMPROVEMENTS WESLACO, HIDALGO COUNTY, TEXAS**

ITEMS TESTED: Soil for Atterberg Limits & Sieve Analysis

Samples of the following materials were obtained for laboratory Atterberg Limits & Sieve Analysis determination. The Atterberg Limits & the Percent Passing a No. 200 Sieve of these materials were determined in general accordance with ASTM D4318 and ASTM D1140 test procedures, respectively. The test results are shown below.

SOIL SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE LOCATION (EL Obispado Subdivision)	HOT-MIX ASPHALTIC CONCRETE THICHNESS (IN.)	FBM THICKNESS (IN.)	MAXIMUM DEPTH OF SUBGRADE SAMPLING (IN.)	SUBGRADE LIQUID LIMIT (%)	SUBGRADE PLASTIC LIMIT (%)	SUBGRADE PLASTICITY INDEX (%)	SIEVE NO. 200 (%)
1	Dark Brown Sandy Lean Clay	Along San Vicente Norte Street, About 475'E of Mile 6 Road & 3'N of Centerline	1/4	6	12	33	17	16	ND
2	Dark Brown Sandy Lean Clay	Along San Pedro Road, About 345'S of Mile 14 & 5'W of Centerline	1-1/2	4	12	32	17	15	51
3	Dark Brown Sandy Lean Clay	Along San Vicente Norte Street, About 575'W of San Felipe Road & 5'N of Centerline	3/4	6	12	40	19	21	66
4	Dark Brown Sandy Lean Clay	Along San Vicente Sur Street, About 400'W of San Pedro Road & 5'N of Centerline	1/4	6	13	40	19	21	59
5	Dark Brown Sandy Lean Clay	Along San Vicente Sur Street, About 325'W of San Felipe Road & 5'N of Centerline	3/4	8	12	34	17	17	ND
6	Dark Brown Sandy Lean Clay	Along San Pedro Road, About 300'S of San Vicente Sur & 5' E of Centerline	1	7	13	36	17	19	ND

ND – Not Determined; FBM = Flexible Base Material

Copies To: jorge.gonzalez@hcdd1.org (1), areanna.yzaguirre@co.hidalgo.tx.us (1), jose.alvarez@co.hidalgo.tx.us (1), nora.cavazos@hcdd1.org (1)

RABA KISTNER CONSULTANTS, INC.

BY: _____
Isidoro Arjona, P.E., CFM
Vice President

STATE OF TEXAS
ISIDORO ARJONA
87195
LICENSED
PROFESSIONAL ENGINEER
08/09/16

Assignment No.: M16-012761
w:\active projects\McAllen\2016\AMD16\AMD16-055-00\Atterberg Limits & Sieve Analysis\M16-012761

LABORATORY TESTING REPORT

Atterberg Limits, and Sieve Analysis

RABA KISTNER CONSULTANTS
Raba Kistner Consultants Inc.
800 East Hackberry
McAllen, Texas 78501
(956) 682-5332 • FAX(956) 682-5487
www.rkci.com
TBPE Firm F-3257

ATTN.: MR. JORGE GONZALEZ, P.E., SIT, CFM ENG. III
TO: **HIDALGO COUNTY DRAINAGE DISTRICT NO. 1**
902 N. DOOLITTLE
EDINBURG, TEXAS 78542

PROJECT:El Obispado Subdivision Street Improvements, Weslaco, Hidalgo County, Texas

PROJECT NO.: AMD16-055-00
SAMPLE DATE: 07/21/2016
ASSIGNMENT NO.: M16-012861
REPORT VERSION: A
TECHNICIAN: MARCO A RODRIGUEZ, PIERRE L GARZA

A sample of the following material was obtained by RKCI for laboratory testing : Light Brown Caliche w/Gravel. This material was obtained from the following location : Composite sample from Core locations C-1 through C-6 in El Obispado Subdivision Streets.

Atterberg Limits, ASTM D 4318	
Liquid Limit at Blows 25 (LL):	33
Plastic Limit (PL):	21
Plasticity Index (PI):	12

Tested By: PIERRE L GARZA

Sieve Analysis, AASHTO T 27		Item 247, TxDOT Grade 3
Sieve No.	Cumulative % Retained	Specification Limits
2-1/2"	0	0 - 0
1-3/4"	0	0 - 10
No. 4	52	45 - 75
No. 40	68	50 - 85

NOTICE: Raba Kistner Consultants, Inc. considers the data and information contained in this report to be proprietary. This information is intended only for the use of the recipient(s) named herein. Test results presented herein relate only to those items tested. This document and any information contained herein shall not be disclosed and shall not be duplicated or used in whole or in part for any purpose other than to validate test results without written approval from Raba Kistner Consultants, Inc.

COPIES TO: Above (1)
Hidalgo County Drainage District No. 1 (4)

RABA KISTNER CONSULTANTS, INC.

BY: _____
08/05/2016

STATE OF TEXAS
ISIDORO ARJONA
87195
LICENSED
PROFESSIONAL ENGINEER

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 10/13/2016

Engineer/Firm Name: Raba Kistner

Project Name/Number: Los Olivares Street Improvements

Invoice No.: R026522

Invoice Date: 9/23/2016

Due Date: 11/12/2016

Purchase Order No.: 629825

Amount: $3,392.13

Total # of Pages Submitted: 7

Attachments: ☐ CD ☐ USB ☐ Plans Other: _____

Engineering: ☑ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

Revised 07/2016

VISIT OUR WEBSITE AT:
www.rkci.com

INVOICE

INVOICE # :R026522

CONSULTANTS * ENVIRONMENTAL * FACILITIES * INFRASTRUCTURE

BILLING DATE :
9/23/2016

PROJECT :
AMD1605600
Los Olivares Street Improvements

CLIENT :
A11371 Hidalgo County Drainage District #1

RABA KISTNER

Jorge Gonzalez
Hidalgo County Drainage District #1
902 North Doolittle Road
Edinburg, TX 78542

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
OCT 13 2016
8:26 AM / PM
BY:

REMITTANCE ADDRESS:
RABA KISTNER, INC.
P.O. BOX 971037
DALLAS, TX 75397-1037

PHONE (210) 699-9090

CONSULTING SERVICES

INVOICE SUMMARY INFORMATION

Weslaco, Hidalgo County, Texas
Project Administration 10% - RKCI Proposal No. PMD16-079-00
Purchase Order No. 629825
RETMC

FOR PROFESSIONAL SERVICES RENDERED THROUGH: 9/3/2016

SERVICE DATE	07/22/2016	3,083.75
SERVICE DATE	09/03/2016	308.38
AMOUNT DUE THIS INVOICE **		3,392.13

THIS IS AN INTERIM INVOICE UNLESS OTHERWISE NOTED

RK PROJECT MANAGER: JORGE L PEREZ
CLIENT PHONE: 956-292-7080

PROJECT ACCOUNTS RECEIVABLE SUMMARY

Amount Due This Invoice	$ 3,392.13
Total of Previous Invoices - Currently Unpaid	0.00
Total Due And Payable	$ 3,392.13

* Invoices are submitted monthly and are due on receipt. * Carrying charges may be assessed on invoices unpaid beyond 30 days from billing date.

AP Sep-16

PLEASE PAY FROM THIS INVOICE.

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
OCT 13 2016
8:26 AM PM
BY:

RABA KISTNER

BILLING DATE :
9/23/2016

PROJECT :
AMD1605600 A11371
Los Olivares Street Improvements
Hidalgo County Drainage District #1

INVOICE # :R026522

SALARY / EXPENSE DETAILED BACKUP

DESCRIPTION	REMARKS	QUANTITY	RATE	AMOUNT
07/22/2016				
CMT FIELD & LABORATORY TESTING ASPHALTIC CONCRETE CORING SUBCONTRACTOR	M16-012862	1.00	759.000	759.00
CMT FIELD & LABORATORY TESTING ATTERBERG LIMIT	M16-012862	6.00	84.000	504.00
CMT FIELD & LABORATORY TESTING SIEVE ANALYSIS 200 ONLY	M16-012862	3.00	56.750	170.25
CMT FIELD & LABORATORY TESTING SIEVE ANALYSIS BASE GRADATION	M16-012862	1.00	56.750	56.75
CMT FIELD & LABORATORY TESTING LIME SERIES CURVE	M16-012862	1.00	412.500	412.50
CMT FIELD & LABORATORY TESTING SULFATE CONTENT (COLORIMETRIC METHOD)	M16-012862	3.00	89.000	267.00
CMT FIELD & LABORATORY TESTING SAMPLING TIME	M16-012862	10.00	49.250	492.50
CMT FIELD & LABORATORY TESTING COMPR STRENGTH/CORE	M16-012862	12.00	24.250	291.00
CMT FIELD & LABORATORY TESTING VEHICLE TRAVEL CHARGE	M16-012862	1.00	46.750	46.75
CMT FIELD & LABORATORY TESTING ATTERBERG LIMIT	M16-012773	1.00	84.000	84.00
			SUBTOTAL	**3,083.75**
09/03/2016				
CMT FIELD & LABORATORY TESTING TECHNICAL REVIEW & ADMIN	10%	308.38	1.000	308.38
			SUBTOTAL	**308.38**
			**** TOTAL PROJECT AMD1605600**	**3,392.13**

RABA KISTNER CONSULTANTS

Project No. AMD16-056-00
August 30, 2016

Raba Kistner
Consultants, Inc.
800 E. Hackberry
McAllen, TX 78501
www.rkci.com

P 956.682.5332
F 956.682.5487
TBPE Firm F-3257
TBPLS Firm 10193784

Mr. Jorge Gonzalez, P.E., SIT, CFM Engineer III
Hidalgo County Drainage District No. 1
902 N. Doolittle
Edinburg, Texas 78542

Re: Los Olivares Street Improvements Project
Near the North West Corner of the Intersection of
Mile 13-1/2 North Road and Farm-to-Market (F.M.) Road 1015
North if Weslaco, Hidalgo County, Texas

Dear Mr. Gonzalez:

The purpose of this letter is to provide you with a summary the results of the laboratory testing performed on the flexible base and subgrade samples obtained from the areas cored on July 21, 2016, at the above-referenced project site.

- The measured Hot-Mix Asphaltic Concrete (HMAC) pavement thickness ranged from about 1 in. to 1-1/4 in.
- The measured flexible base material thickness ranged from about 5-1/2 in. to 8 in.
- The sampling depth performed into the subgrade material ranged from about 10 in. to 12 in.
- The laboratory Atterberg Limits test results determined on a composite sample of the flexible base material is 10 percent.
- The laboratory Atterberg Limits test results determined on the samples of the subgrade soils collected from the coring locations ranged from about 15 to 22 percent.
- The laboratory -200 sieve analysis test results determined on the samples of the subgrade soils collected from the coring locations ranged from about 52.7 to 58.5 percent.
- The laboratory sulfate content test results determined on the samples of the subgrade collected from the coring locations that exhibited measured plasticity indices of 22 percent ranged from about 120 ppm to 160 ppm.

The subgrade soil samples collected along Zapata Street, were found to have plasticity indices of about 22 percent. For this area we recommend the application of hydrated lime to reduce the plasticity characteristics and increase the strength properties of the plastic subgrade soils.

We conducted a laboratory lime series determination on a composite sample of the subgrade soils that exhibited plasticity indices of 22 percent to determine the amount of lime needed to increase the pH to 12.4 and to reduce the plasticity index below 20 percent. The Atterberg limits of the composite soil sample were determined in general accordance with American Society for Testing and Materials (ASTM) D4318 laboratory procedures. The pH of the composite sample was also determined in general accordance with the Texas Department of Transportation (TxDOT) TEX-128E procedures. This material was then mixed with 1%, 2%, and 3% hydrated lime by weight and pH determinations were conducted. The lime series curve is presented on Figure 1 (enclosed). Based on these laboratory test results, it appears that the addition of 2 percent hydrated lime by weight decreases the plasticity index of these subgrade soils to 6 percent and increases the pH to about 12.5.

In case of any comments or questions regarding the information presented on this letter, or if we may be of further assistance, please feel free to contact us at (956) 682-5332.

Very truly yours,

RABA KISTNER CONSULTANTS, INC.

STATE OF TEXAS
CARLOS CEBALLOS JR.
100224
LICENSED
PROFESSIONAL ENGINEER

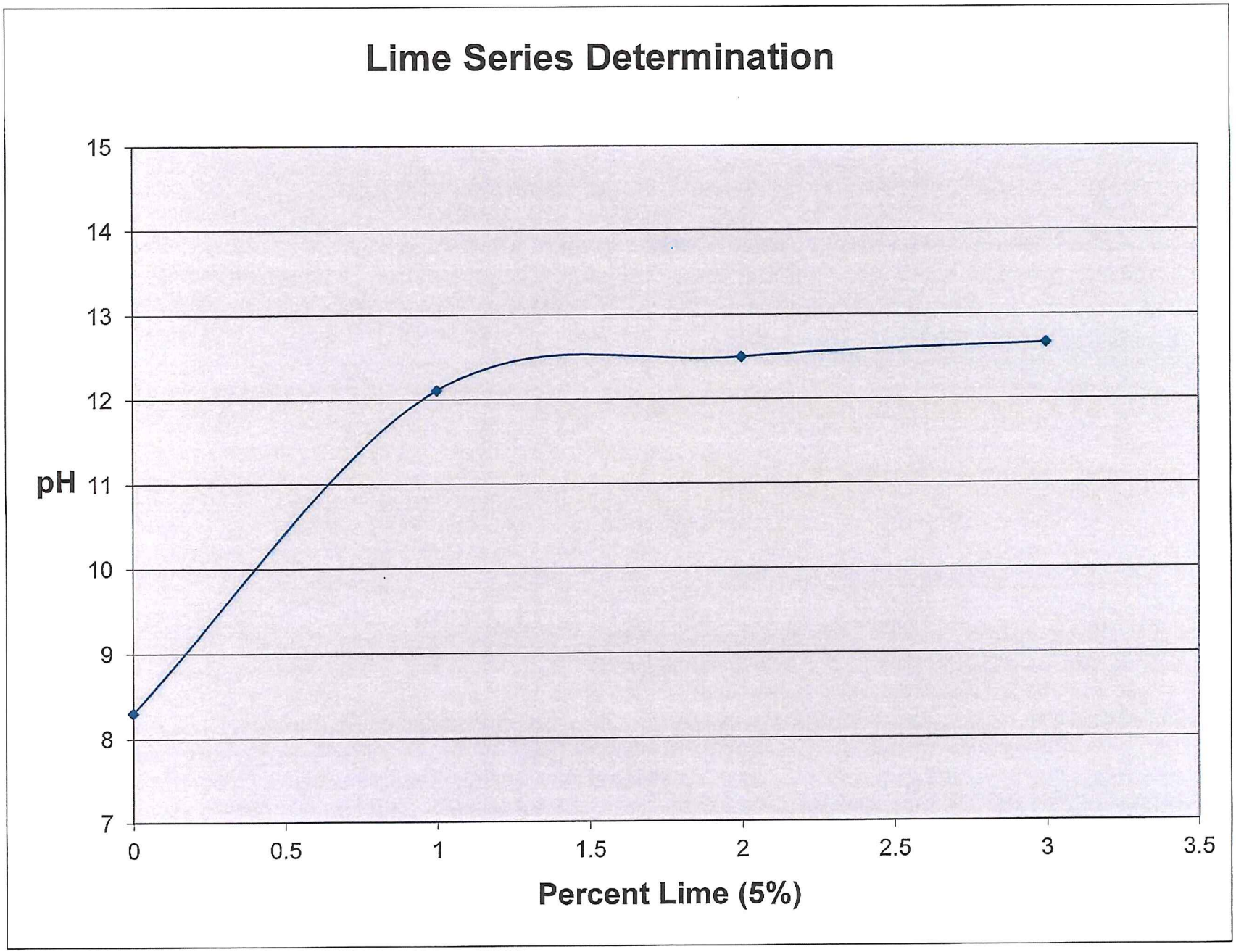
09-01-2016

Jorge L. Perez
CME Supervisor, Graduate Engineer

Isidoro Arjona., P.E., PMP
Vice President

For:

Copies Submitted: jorge.gonzalez@hcdd1.org (1), areanna.yzaguirre@co.hidalgo.tx.us (1), jose.alvarez@co.hidalgo.tx.us (1), nora.cavazos@hcdd1.org (1)



PROJECT No. AMD16-056-00

FIGURE 1

Atterberg Limits & Sieve Analysis Report

RABA KISTNER CONSULTANTS

Raba Kistner
Consultants, Inc.
800 E. Hackberry
McAllen, TX 78501
www.rkci.com

P 956.682.5332
F 956.682.5487
TBPE Firm F-3257
TBPLS Firm 10193784

TO: Hidalgo County Drainage District No. 1
ATTN: Mr. Jorge Gonzalez, P.E., SIT, CFM Eng. III

Project No.: AMD16-056-00
Technician: M. Rodriguez/P. Garza
Date: 07-22-16

PROJECT: **LOS OLIVARES STREET IMPROVEMENTS WESLACO, HIDALGO COUNTY, TEXAS**

ITEMS TESTED: Soil for Atterberg Limits & Sieve Analysis

Samples of the following materials were obtained for laboratory Atterberg Limits & Sieve Analysis determination. The Atterberg Limits & the Percent Passing a No. 200 Sieve of these materials were determined in general accordance with ASTM D4318 and ASTM D1140 test procedures, respectively. The test results are shown below.

SOIL SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE LOCATION (EL Obispado Subdivision)	HOT-MIX ASPHALTIC CONCRETE THICHNESS (IN.)	FBM THICKNESS (IN.)	MAXIMUM DEPTH OF SUBGRADE SAMPLING (IN.)	SUBGRADE LIQUID LIMIT (%)	SUBGRADE PLASTIC LIMIT (%)	SUBGRADE PLASTICITY INDEX (%)	SIEVE NO. 200 (%)
1	Dark Brown Sandy Lean Clay	Along Villa Drive , About 240'N of Mile 13-1/2 & 5'E of Centerline	1-1/4	8	10	33	17	16	53
2	Dark Brown Sandy Lean Clay	Along Villa Drive , About 875'N of Mile 13-1/2 & 5'E of Centerline	1-1/4	8	12	31	16	15	NA
3	Dark Brown Sandy Lean Clay	Along Juarez Street, About 110'W of Villa Drive & 5'N of Centerline	1-1/4	6	12	32	16	16	52.7
4	Dark Brown Sandy Lean Clay	Along Juarez Street, About 400'W of Villa Drive & 5'N of Centerline	1	8	10	34	16	18	ND
5	Dark Brown Sandy Lean Clay	Along Zapata Street , About 100'W of Villa Drive & 5'N of Centerline	1-1/4	6-1/2	10	41	19	22	58.5
6	Dark Brown Sandy Lean Clay	Along Zapata Street , About 530'W of Villa Drive & 5'N of Centerline	1	5-1/2	10	33	17	16	ND

Copies To: jorge.gonzalez@hcdd1.org (1), areanna.yzaguirre@co.hidalgo.tx.us (1), jose.alvarez@co.hidalgo.tx.us (1), nora.cavazos@hcdd1.org (1)

RABA KISTNER CONSULTANTS, INC.

BY: 08-29-2016

Carlos Ceballos Jr., P.E.
Area Project Manager

STATE OF TEXAS
CARLOS CEBALLOS JR.
100224
LICENSED PROFESSIONAL ENGINEER

Assignment No.: M16-012773

w:\active projects\McAllen\2016\AMD16\AMD16-056-00\Atterberg Limits & Sieve Analysis\M16-012773

Note: Raba-Kistner Consultants, Inc. considers the data and information in this report to be proprietary. This information is intended only for the use of the recipient(s) named herein. Tests results presented herein relate only to those items tested. This document and any information contained herein shall not be disclosed and shall not be duplicated or used in whole or in part for any purpose other than to evaluate test results without written approval from Raba-Kistner Consultants, Inc.

LABORATORY TESTING REPORT

Atterberg Limits

RABA KISTNER CONSULTANTS
Raba Kistner Consultants Inc.
800 East Hackberry
McAllen, Texas 78501
(956) 682-5332 • FAX(956) 682-5487
www.rkci.com
TBPE Firm F-3257

ATTN.: MR. JORGE GONZALEZ, P.E., SIT, CFM ENG. III
TO: **HIDALGO COUNTY DRAINAGE DISTRICT NO. 1**
902 N. DOOLITTLE
EDINBURG, TEXAS 78542

PROJECT:Los Olivares Street Improvements Weslaco, Hidalgo County, Texas

PROJECT NO.: AMD16-056-00
SAMPLE DATE: 07/22/2016
ASSIGNMENT NO.: M16-012862
REPORT VERSION: A
TECHNICIAN: MARCO A RODRIGUEZ, PIERRE L GARZA

A sample of the following material was obtained by RKCI for laboratory testing : Light Brown Caliche w/Gravel. This material was obtained from the following location : Composite sample from Core locations C-1 through C-6 at Los Olivares Subdivision Streets.

This material was obtained from The Project Site and is intended for use as In Place Flexible Base Material.

Atterberg Limits, ASTM D 4318		Specification Limits
Liquid Limit at Blows 25 (LL):	29	Max.: 40
Plastic Limit (PL):	19	
Plasticity Index (PI):	10	Max.: 12

Tested By: PIERRE L GARZA

NOTICE: Raba Kistner Consultants, Inc. considers the data and information contained in this report to be proprietary. This information is intended only for the use of the recipient(s) named herein. Test results presented herein relate only to those items tested. This document and any information contained herein shall not be disclosed and shall not be duplicated or used in whole or in part for any purpose other than to validate test results without written approval from Raba Kistner Consultants, Inc.

COPIES TO: Above (1)
Hidalgo County Drainage District No. 1 (4)

RABA KISTNER CONSULTANTS, INC.

Carlos Ceballos Jr.

STATE OF TEXAS
CARLOS CEBALLOS JR.
100224
LICENSED
PROFESSIONAL ENGINEER

BY: _____
09/07/2016

AI -57322 **6.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 Bond Series
Delta Watershed Project

Invoice No. 20162877 in the amount of $405.00 from TEDSI Infrastructure Group related to Lower Rio Grande Valley Regional Water Management Program (formerly the Delta Watershed Project) for Legal Rights Services. PO#623665

BACKGROUND

Fiscal Impact

Attachments

TEDSI Infrastructure Group Invoice No. 20162877

Form Review

Inbox	**Reviewed By**	**Date**
Final Approval	Monica Badillo	11/10/2016 02:15 PM

Form Started By: Lora Briones Started On: 11/10/2016 08:34 AM

Final Approval Date: 11/10/2016

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 10/24/2016

Engineer/Firm Name: TEDSI Infrastructure Group

Project Name/Number: Delta Watershed Legal Water Rights Project/LRGVRWMP-Legal

Invoice No.: 20162877

Invoice Date: 10/20/2016

Due Date: 11/23/2016

Purchase Order No.: 623665

Amount: $405.00

Total # of Pages Submitted: 33

Attachments: ☐ CD ☐ USB ☐ Plans Other: _____

Engineering: ☑ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

OCT 24 2016

2:06 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

October 20, 2016
Project No: 2013-1128-12
Invoice No: 20162877

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 September 01, 2016 to September 30, 2016

Phase	200	Water Rights - BBS, PC			
Consultants					
Reimbursable Consultants Expense					
9/30/2016	Beatty Bangle Strama, PC	Invoice No. 19589		225.00	
	Total Consultants			**225.00**	**225.00**
			Total this Phase		**$225.00**
Phase	300	Water Rights - BHDA, LLP			
Consultants					
Reimbursable Consultants Expense					
9/30/2016	Bickerstaff Heath Delgado Acosta LLP	Invoice No. 101811		180.00	
	Total Consultants			**180.00**	**180.00**
			Total this Phase		**$180.00**

Billing Summary	**Current**	**Prior**	**To-Date**
Total Billings	405.00	191,126.05	191,531.05
Total Fee			206,463.14
Remaining Fee			14,932.09

Total this Invoice **$405.00**

Outstanding Invoices

Number	**Date**	**Balance**
20162851	9/19/2016	1,020.00
Total		**1,020.00**

Total Now Due **$1,425.00**

PLEASE REMIT PAYMENT TO:
TEDSI Infrastructure Group, Inc.
738 Highway 6 South, Suite 430
Houston, Texas 77079

Authorized By: _____ Date: 10.20.16
Mark W. Lupher, P.E., RPLS
Executive Vice President

POSTED

BBS BEATTY BANGLE STRAMA PC

September 30, 2016

Jesse Salinas
TEDSI Infrastructure Group
1201 East Expressway 83
Mission, TX 78572

Invoice No. 19589

In Reference To: *Hidalgo County Delta Watershed Project and Hidalgo County Drainage District No. 1*

Professional Services

			Hours	Rate	Amount
09/14/16	ELIII	Review correspondence from TCEQ regarding draft permit.	0.75	300.00/hr	225.00
		For professional services rendered	0.75		$225.00

	Previous balance	$2,025.00
	Accounts receivable transactions	
7/6/2016	Payment - Thank You(No. 50940)	($1,125.00)
8/1/2016	Payment - Thank You(No. 51011)	($900.00)
	Balance due	$225.00

TEDSI INFRASTRUCTURE GROUP
Project No. 2012-1128-12 Phase No. 200
☐ Lump Sum ☒ Approved ☐ Hold
☒ Hourly ☐ Rejected ☐ Process
Sign MWV Date 10/20/16

400 West 15th Street | Suite 1450 | Austin, Texas 78701

T (512) 879-5050 | F (512) 879-5040 | bbsfirm.com

POSTED

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

October 18, 2016
Client: 003978
Matter: 000001
Invoice #: 101811
Bill Atty: DM

Page: 1

RE: Drainage Improvements

For Professional Services Rendered Through September 30, 2016

SERVICES

Date	Person	Description of Services	Hours	
9/15/2016	EWR	Evaluate newspaper notice requirements; determine proper newspapers; e-mail to team regarding the same.	0.6	
		Total Professional Services	0.6	$180.00

BILLING RECAP

		Level	Hours	Rate	Amount
EWR	Emily Rogers	Partner	0.6	$300.00	$180.00
		Total Services		$180.00	
		Total Current Charges			$180.00

TEDSI INFRASTRUCTURE GROUP
Project No. 2013-1128-12 Phase No. 300
☐ Lump Sum ☒ Approved ☐ Hold
☒ Hourly ☐ Rejected ☐ Process
Sign Date 11/20/16

PAY THIS AMOUNT **$180.00**

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 25, 2016

Raul Sesin, P.E., CFM
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, Texas 78542

RE: Hidalgo County Drainage District No. 1
WRPERM 13195, CN600701510, RN108795527
Application No. 13195 for a Water Use Permit
Texas Water Code §§ 11.121, 11.042, 11.046, Full Basin Mailed and Published Notice Required
Main Floodwater Channel, North Main Drain, South Main Drain, Nueces-Rio Grande Coastal Basin
Hidalgo and Willacy Counties

Dear Mr. Sesin:

Staff has made the suggested changes and other revisions. The revised drafts of the public notice, and the proposed Water Use Permit No. 13195 are enclosed.

Staff is recommending that the referenced application be granted in accordance with the enclosed redline drafts. Please review the drafts and contact me no later than September 8, 2016 with any comments or questions as the notice will be forwarded to the Office of the Chief Clerk for mailing after that date.

Please note this application requires a 30-day comment period and once the comment period has closed, the proposed Water Use Permit No. 13195 may be issued as drafted given no hearing requests are received.

If you have any questions concerning this matter, please contact me via email at humberto.galvan@tceq.texas.gov or by telephone at (512) 239-4013.

Sincerely,

Bert Galvan, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

Enclosures

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

WATER USE PERMIT

PERMIT NO.	13195		TYPE §§ 11.121, 11.042, 11.046
Permittee:	Hidalgo County Drainage District No. 1	Address:	902 North Doolittle Road Edinburg, Texas 78542
Filed:	November 20, 2015	Granted:	
Purpose:	Domestic, Municipal, Mining Agricultural, Industrial, Hydroelectric Power Generation, Recreational, Flood Control and Water Quality	Counties:	Hidalgo and Willacy
Watercourse:	Main Floodwater Channel, North Main Drain and South Main Drain	Watershed:	Nueces-Rio Grande Coastal Basin

WHEREAS, Hidalgo County Drainage District No. 1, Applicant, seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert and use not to exceed 62,712 acre-feet of water per year from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 - 3), Nueces-Rio Grande Coastal Basin, at a maximum combined diversion rate of 659.89 cfs (296,158 gpm) for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties; and

WHEREAS, Panchita Resevoir will be located at located N 51° W, 16,830 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.324179° N and Longitude 97.903773° W in Hidalgo County; and

WHEREAS, The final design capacity of Panchita Reservoir is unknown at this time; and

WHEREAS, Santa Cruz Irrigation Reservoir has a capacity of 4,250 acre-feet and is located N 55°W, 37,165 feet from the SE corner of the J. Balli Original Survey, Abstract No.

290, 6 miles in a northwestern direction from the City of Edinburg, at Latitude 26.388328° N and Longitude 98.169683° W in Hidalgo County; and

WHEREAS, Engleman Irrigation Reservoir has a capacity of 720 acre-feet and is located N 85°E, 19,900 feet from the SW corner of the V. Ynojosa Original Survey, Abstract No. 75, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.321398° N and Longitude 98.019317° W in Hidalgo County; and

WHEREAS, Applicant seeks authorization to divert a maximum amount of water from each diversion location, as follows: 12,288 acre-feet per year from Diversion Point 1; 44,940, 29,148, and 62,712 acre-feet per year from Diversion Segments 1 - 3, respectively, with a maximum combined diversion amount of not to exceed 62,712 acre-feet of water per year from all diversion locations; and

WHEREAS, Applicant indicates that the amount of water that would be available for diversion from each location will depend on the amount of water that is diverted upstream; and

WHEREAS, Applicant indicates that the water requested for appropriation includes irrigation and municipal return flows that are discharged into the South Main Drain, North Main Drain and Main Floodwater Channel; and

WHEREAS, Applicant also seeks to use the bed and banks of the South Main Drain, North Main Drain, and Main Floodwater Channel to convey the return flows; and

WHEREAS, Applicant further seeks to divert water ~~during flood events~~ from Diversion Segment 2 on the North Main Drain, ~~at a maximum diversion rate of 396 cfs (177,725 gpm),~~ and discharge the water into the Raymondville Drain, Nueces-Rio Grande Coastal Basin ~~for flood control and water quality purposes~~ and in La Sal Vieja in Hidalgo and Willacy Counties; and

WHEREAS, this application is subject to the Texas Coastal Management Program (CMP) and must be consistent with the CMP goals and policies; and

WHEREAS, the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, this permit, if granted, is subject to the requirements and orders of the Rio Grande Watermaster; and

WHEREAS, the Executive Director recommends that special conditions be included; and

WHEREAS, no requests for a contested case hearing were received for this application; and

WHEREAS, the Texas Commission on Environmental Quality finds that the issuance of the permit is consistent with the goals and policies of the Texas CMP; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this permit; and

NOW, THEREFORE, this permit, designated Water Use Permit No. 13195, is issued to Hidalgo County Drainage District No. 1, subject to the following terms and conditions:

1. IMPOUNDMENT

Permittee is authorized to construct and maintain an off-channel reservoir (Panchita Reservoir) located N 51° W, 16,830 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.324179° N and Longitude 97.903773° W in Hidalgo County.

2. USE

A. Permittee is authorized to divert and use not to exceed the following amounts of water from the South Main Drain, North Main Drain and Main Floodwater Channel for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreation, flood control and water quality purposes in Hidalgo and Willacy Counties within the Nueces-Rio Grande Coastal Basin:

1. From Diversion Point 1 - 12,288 acre-feet per year

2. From Diversion Segment 1 - 44,940 acre-feet per year

3. From Diversion Segment 2 - 29,148 acre-feet per year

4. From Diversion Segment 3 - 62,712 acre-feet per year

5. The maximum combined diversion amount for all locations shall not exceed 62,712 acre-feet per year

B. In addition to unappropriated water, Permittee is authorized to divert any return flows discharged into the Main Floodwater Channel, North Main Drain and South Main Drain and to use the bed and banks of these watercourses to convey the return flows subject to Paragraph 6.A.

3. DIVERSION

A. Permittee is authorized to divert from:

1. Diversion Point 1 is located on the South Main Drain, S 89° E, 7,465 feet from the NW corner of the J. Balli Original Survey, Abstract No. 54, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.313891° N and Longitude 98.023139° W in Hidalgo County.

2. The upstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 57° W, 24,250 feet from the SE corner of the V. Ynojosa Original

Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.330833° N and Longitude 97.926389° W in Hidalgo County.

3. The downstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 49° W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611° N and Longitude 97.906389° W in Hidalgo County.

4. The upstream limit of Diversion Segment 2 is located on the North Main Drain, N 53° W, 34,352 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.384122° N and Longitude 98.162650° W in Hidalgo County.

5. The downstream limit of Diversion Segment 2 is located on the North Main Drain, N 52°W, 32,322 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.382197°N and Longitude 98.156549°W in Hidalgo County.

6. The upstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, N 49°W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611°N and Longitude 97.906389°W in Hidalgo County.

7. The downstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, S 12°W, 55,290 feet from the NE corner of the Jose Narciso Cabazos Original Survey, Abstract No. 8, 7.4 miles in a southwestern direction from Port Mansfield, at Latitude 26.455278°N and Longitude 97.473611°W in Willacy County.

B. Diversion Rate

1. Diversion Point 1 - 54.7 cfs (24,536 gpm)

2. Diversion Segment 1 - 198.8 cfs (89,226 gpm)

3. Diversion Segment 2 - 129 cfs (57,925 gpm) for water supply purposes authorized in this permit and at a maximum rate, during normal conditions, of 396 cfs (177,725 gpm) for ~~flood control~~ water quality purposes, and to other rates subject to the terms of Special Condition H.

4. Diversion Segment 3 - 277.3 cfs (124,471 gpm)

5. The maximum combined diversion rate for all diversion locations shall not exceed 659.9 cfs (296,158 gpm).

4. TIME PRIORITY

The time priority of this right is November 20, 2015.

5. CONSERVATION

Permittee shall implement water conservation plans that provide for the utilization of those practices, techniques, and technologies that reduce or maintain the consumption of water, prevent or reduce the loss or waste of water, maintain or improve the efficiency in the use of water, increase the recycling and reuse of water, or prevent the pollution of water, so that a water supply is made available for future or alternative uses. Such plans shall include a requirement that in every water supply contract entered into, on or after the effective date of this permit, including any contract extension or renewal, that each successive wholesale customer develop and implement conservation measures. If the customer intends to resell the water, then the contract for resale of the water shall have water conservation requirements so that each successive customer in the resale of water will be required to implement water conservation measures.

6. SPECIAL CONDITIONS

A. Diversions authorized by this permit are dependent upon potentially interruptible return flows or discharges and are conditioned on the availability of those discharges. The right to divert discharged return flows is subject to revocation if discharges become permanently unavailable for diversion and may be subject to reduction if the return flows are not available in quantities and qualities sufficient to fully satisfy the permit. Should the discharges become permanently unavailable for diversion, Permittee shall notify the Executive Director and either apply to amend the permit, or voluntarily forfeit the portion of the authorization based on return flows. If Permittee does not amend or forfeit the permit, the Commission may begin proceedings to cancel this permit.

B. Prior to commencement of construction and prior to impoundment of water diverted hereunder in Panchita Reservoir, Permittee shall submit a detailed statement and design drawings for Panchita Reservoir for approval by the Executive Director under Texas Water Code § 11.144.

C. Within ten years of issuance of this permit, and prior to the impoundment of water diverted hereunder in Panchita Reservoir, Permittee shall either: (a) notify the Executive Director that the authorized off-channel reservoir as proposed in the plans filed with the application will be used for storage of water diverted under this permit and provide the final design capacity of the reservoir; or (b) submit a detailed statement and plans under Texas Water Code § 11.144 for alterations and changes to the plans submitted with the application,for review and approval; or (c) file an application to extend the time for submitting a detailed statement and plans modifying the plans submitted with the application under Texas Water Code § 11.144 as described under item (b) of this Special Condition.

D. Permittee's authorization to store water diverted under this permit in Santa Cruz Irrigation Reservoir and Engelman Irrigation District Reservoir is contingent upon the execution of agreements between Permittee and the Irrigation Districts authorizing Permittee to store diverted water in the reservoirs.

E. Permittee shall install and maintain a measuring device which accounts for, within 5% accuracy, the quantity of water diverted from the points authorized above in Paragraph 3. DIVERSION and maintain measurement records.

F. Permittee shall allow representatives of the Rio Grande Watermaster reasonable access to the property to inspect the measuring device and records.

G. Permittee shall contact the Rio Grande Watermaster prior to diversion of water authorized by this permit.

~~G.~~H. Water may also be diverted into the Raymondville Drain at Diversion Point 2 by gravity flow through a control structure consisting of gated box culverts for flood control purposes in order to safeguard human health and safety.

This permit is issued subject to all superior and senior water rights in the Nueces-Rio Grande Coastal Basin.

Permittee agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This permit is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State resources exercised by the Commission.

_____

For the Commission

Date Issued:

DRAFT

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF AN APPLICATION FOR A WATER USE PERMIT

APPLICATION NO. 13195

Hidalgo County Drainage District No. 1 seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert water from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 - 3), Nueces-Rio Grande Coastal Basin, for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties. More information on the application and how to participate in the permitting process is given below.

APPLICATION. Hidalgo County Drainage District No. 1, 902 North Doolittle Road Edinburg, Texas 78542, Applicant, has applied to the Texas Commission on Environmental Quality (TCEQ) for Water Use Permit pursuant to Texas Water Code §§ 11.121, 11.042, 11.046 and TCEQ Rules Title 30 Texas Administrative Code (TAC) §§ 295.1, *et seq.* Notice is being published and mailed to the water right holders of record in the Nueces-Rio Grande Coastal Basin pursuant to Title 30 TAC § 295.151.

Applicant seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert and use not to exceed 62,712 acre-feet of water per year from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 - 3), Nueces-Rio Grande Coastal Basin, at a maximum combined diversion rate of 659.89 cfs (296,158 gpm) for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties.

Panchita Resevoir will be located at located N 51° W, 16,830 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.324179° N and Longitude 97.903773° W in Hidalgo County, in ZIP code 78562. The final design capacity of Panchita Reservoir is unknown at this time.

Santa Cruz Irrigation Reservoir has a capacity of 4,250 acre-feet and is located N 55°W, 37,165 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northwestern direction from the City of Edinburg, at Latitude 26.388328° N and Longitude 98.169683° W in Hidalgo County, in ZIP code 78539.

Engleman Irrigation Reservoir has a capacity of 720 acre-feet and is located N 85°E, 19,900 feet from the SW corner of the V. Ynojosa Original Survey, Abstract No. 75, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.321398° N and Longitude 98.019317° W in Hidalgo County, in ZIP code 78543.

The proposed diversion point and diversion segments are described as follows:

Diversion Point 1 is located on the South Main Drain, S 89° E, 7,465 feet from the NW corner of the J. Balli Original Survey, Abstract No. 54, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.313891° N and Longitude 98.023139° W in Hidalgo County, in ZIP code 78543.

The upstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 57° W, 24,250 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.330833° N and Longitude 97.926389° W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 49° W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611° N and Longitude 97.906389° W in Hidalgo County, in ZIP code 78562.

The upstream limit of Diversion Segment 2 is located on the North Main Drain, N 53° W, 34,352 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.384122° N and Longitude 98.162650° W in Hidalgo County, in ZIP code 78539.

The downstream limit of Diversion Segment 2 is located on the North Main Drain, N 52°W, 32,322 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.382197°N and Longitude 98.156549°W in Hidalgo County, in ZIP code 78539.

The upstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, N 49°W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611°N and Longitude 97.906389°W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, S 12°W, 55,290 feet from the NE corner of the Jose Narciso Cabazos

Original Survey, Abstract No. 8, 7.4 miles in a southwestern direction from Port Mansfield, at Latitude 26.455278°N and Longitude 97.473611°W in Willacy County, in ZIP code 78598.

Applicant seeks authorization to divert a maximum amount of water from each diversion location, as follows: 12,288 acre-feet per year from Diversion Point 1; 44,940, 29,148, and 62,712 acre-feet per year from Diversion Segments 1 - 3, respectively, with a maximum combined diversion amount of not to exceed 62,712 acre-feet of water per year from all diversion locations.

Applicant indicates that the amount of water that would be available for diversion from each location will depend on the amount of water that is diverted upstream.

Applicant indicates that the water requested for appropriation includes irrigation and municipal return flows that are discharged into the South Main Drain, North Main Drain and Main Floodwater Channel.

Applicant also seeks to use the bed and banks of the South Main Drain, North Main Drain, and Main Floodwater Channel to convey the return flows.

Applicant further seeks to divert water ~~during flood events~~ from Diversion Segment 2 on the North Main Drain, ~~at a maximum diversion rate of 396 cfs (177,725 gpm),~~ and discharge the water into the Raymondville Drain, Nueces-Rio Grande Coastal Basin ~~for flood control and water quality purposes~~ and in La Sal Vieja in Hidalgo and Willacy Counties.

The application and partial fees were received on May 11, 2015. Additional information and fees were received July 13, September 25, and November 3, 2015. The application was declared administratively complete and filed with the Office of the Chief Clerk on November 20, 2015. Additional information was received on December 4, 2015.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if granted, would contain special conditions including, but not limited to, a requirement to measure the quantity diverted and maintain measurement records. The application and Executive Director's draft permit are available for viewing and copying at the Office of the Chief Clerk, 12100 Park 35 Circle, Building F., Austin, TX 78753.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be submitted to the Office of Chief Clerk, at the address provided in the information section below, within 30 days of the date of newspaper publication of the notice. A public meeting is intended for the taking of public comment, and is not a contested case hearing. A public meeting will be held if the Executive Director determines that there is a significant degree of public interest in the application.

CONTESTED CASE HEARING. The TCEQ may grant a contested case hearing on this application if a written hearing request is filed within 30 days from the date of newspaper publication of this notice. The Executive Director may approve the application

unless a written request for a contested case hearing is filed within 30 days after newspaper publication of this notice.

To request a contested case hearing, you must submit the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number, and fax number, if any; (2) applicant's name and permit number; (3) the statement "[*I/we*] request a contested case hearing;" (4) a brief and specific description of how you would be affected by the application in a way not common to the general public; and (5) the location and distance of your property relative to the proposed activity. You may also submit proposed conditions for the requested permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing to the Office of the Chief Clerk at the address provided in the information section below.

If a hearing request is filed, the Executive Director will not issue the permit and will forward the application and hearing request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

INFORMATION. Written hearing requests, public comments or requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at http://www.tceq.texas.gov/about/comments.html by entering WRPERM 13195 in the search field. For information concerning the hearing process, please contact the Public Interest Counsel, MC 103, the same address. For additional information, individual members of the general public may contact the Public Education Program at 1-800-687-4040. General information regarding the TCEQ can be found at our web site at www.tceq.texas.gov Si desea información en Español, puede llamar al 1-800-687-4040 o por el internet al http://www.tceq.texas.gov.

Issued:

DRAFT

Claudia Garza

From: Mark Lupher
Sent: Thursday, October 20, 2016 9:31 AM
To: Claudia Garza
Subject: FW: Hidalgo County DD No. 1 13195 redline draft sent
Attachments: Hidalgo County DD No. 1 13195 - Redline Drafts sent 8-25-16.pdf

From: Emily Rogers [mailto:ERogers@bickerstaff.com]
Sent: Monday, August 29, 2016 2:07 PM
To: Raul Sesin; slteague@sbinfra.com; Mark Lupher
Subject: FW: Hidalgo County DD No. 1 13195 redline draft sent

All, it looks like Mr. Galvan sent this email to the wrong email address for Raul. I don't have any comments on the draft. It looks like they included what we had asked for.

Emily Willms Rogers | Attorney | Bickerstaff Heath Delgado Acosta LLP
3711 S. Mo-Pac | Building One | Suite 300 | Austin, TX | 78746
Phone 512.472.8021 | Fax 512.320.5638

erogers@bickerstaff.com | www.bickerstaff.com

Bickerstaff
Heath Delgado Acosta LLP

Austin | El Paso | Houston

From: Humberto Galvan [mailto:Humberto.Galvan@tceq.texas.gov]
Sent: Thursday, August 25, 2016 11:06 AM
To: raul.sesin@hcddi.org
Cc: slteague@sbinfra.com; mlupher@tedsi.com; Emily Rogers
Subject: Hidalgo County DD No. 1 13195 redline draft sent

Mr. Sesin,

The attached letter and drafts were sent to you today for Hidalgo County Drainage District No. 1 (Application No. 13195). Please review and let me know if you have any comments.

Best regards,
Bert Galvan, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section
(512) 239-4013

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From: Mark Lupher
Sent: Thursday, October 20, 2016 9:31 AM
To: Claudia Garza
Subject: FW: Hidalgo County DD No. 1 13195 redline draft sent

From: Emily Rogers [mailto:ERogers@bickerstaff.com]
Sent: Thursday, September 01, 2016 4:54 PM
To: Raul Sesin
Cc: slteague@sbinfra.com; Mark Lupher
Subject: RE: Hidalgo County DD No. 1 13195 redline draft sent

Have we let Bert at the TCEQ know that we are fine with the draft? Do you need me to let him know?

Emily Willms Rogers | Attorney | Bickerstaff Heath Delgado Acosta LLP
3711 S. Mo-Pac | Building One | Suite 300 | Austin, TX | 78746
Phone 512.472.8021 | Fax 512.320.5638

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Best regards,
Bert Galvan, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section
(512) 239-4013

Claudia Garza

From: Mark Lupher
Sent: Thursday, October 20, 2016 9:30 AM
To: Claudia Garza
Subject: FW: TCEQ Notice of Publication Req. for App. 13195 Re: Panchita Reservoir

From: Emily Rogers [mailto:ERogers@bickerstaff.com]
Sent: Thursday, September 15, 2016 9:00 AM
To: Mark Lupher; Jaime Salazar
Subject: RE: TCEQ Notice of Publication Req. for App. 13195 Re: Panchita Reservoir

The newspaper needs to be a newspaper of general circulation in the county. You would need to ask the Monitor if it is a newspaper of general circulation in Willacy County. But, it might be worthwhile to inquire with the Brownsville and Harlingen papers as well to see if they are generally circulated in Willacy County.

Emily Willms Rogers | Attorney | Bickerstaff Heath Delgado Acosta LLP
3711 S. Mo-Pac | Building One | Suite 300 | Austin, TX | 78746
Phone 512.472.8021 | Fax 512.320.5638

erogers@bickerstaff.com | www.bickerstaff.com

Bickerstaff
Heath Delgado Acosta LLP

Austin | El Paso | Houston

From: Mark Lupher [mailto:MLupher@tedsi.com]
Sent: Wednesday, September 14, 2016 1:43 PM
To: Jaime Salazar
Cc: Emily Rogers
Subject: RE: TCEQ Notice of Publication Req. for App. 13195 Re: Panchita Reservoir

Jaime looks good to me . The publication needs to cover Hidalgo County (The Monitor) and Willacy County (Does the Monitor cover Willacy County or do we need to put in Brownsville and or Harlingen Papers also)

Jaime it is imperative that the directions TCEQ has indicated are strictly followed. Emily, Can you make certain that this is processed as TCEQ has instructed.

From: Jaime Salazar [mailto:jaime.salazar@hcdd1.org]
Sent: Wednesday, September 14, 2016 1:16 PM
To: Mark Lupher; ERogers@bickerstaff.com; Sharlotte Teague; Raul Sesin; Lora Briones
Subject: Fwd: TCEQ Notice of Publication Req. for App. 13195 Re: Panchita Reservoir

Mark, please review the attached publication and let me know if all is in order. I will place on the agenda for approval to advertise next week.

Thank you,

Jaime

Sent from my iPhone

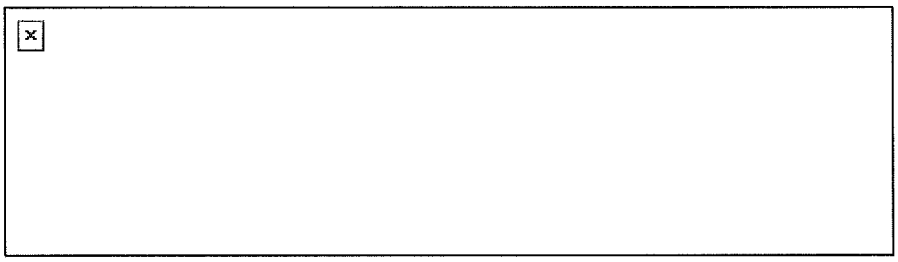
Begin forwarded message:

From: "Maria A. Perez" <maria.perez@hcdd1.org>
Date: September 14, 2016 at 12:09:14 PM CDT
To: Raul Sesin <raul.sesin@hcdd1.org>
Cc: Jaime Salazar <jaime.salazar@hcdd1.org>, Lora Briones <lora.briones@hcdd1.org>
Subject: TCEQ Notice of Publication Req. for App. 13195 Re: Panchita Reservoir

Good Afternoon,

Attached please find the aforementioned notice for your reference.

Respectfully,



This e-mail and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom they are addressed. If you are NOT the intended recipient and receive this communication, please delete this message and any attachments. Thank you.

Claudia Garza

From: Mark Lupher
Sent: Thursday, October 20, 2016 9:30 AM
To: Claudia Garza
Subject: FW: TCEQ Application Advertisement

From: Emily Rogers [mailto:ERogers@bickerstaff.com]
Sent: Thursday, September 29, 2016 12:09 PM
To: Jaime Salazar; Mark Lupher; Claudia Garza; Sharlotte Teague
Cc: Raul Sesin; Lora Briones; Maria A. Perez
Subject: RE: TCEQ Application Advertisement

Excellent! Now let's just hope no one protests!

Emily Willms Rogers | Attorney | Bickerstaff Heath Delgado Acosta LLP
3711 S. Mo-Pac | Building One | Suite 300 | Austin, TX | 78746
Phone 512.472.8021 | Fax 512.320.5638

erogers@bickerstaff.com | www.bickerstaff.com

Bickerstaff
Heath Delgado Acosta LLP

Austin | El Paso | Houston

From: Jaime Salazar [mailto:jaime.salazar@hcdd1.org]
Sent: Thursday, September 29, 2016 11:49 AM
To: Mark Lupher; Claudia Garza; Sharlotte Teague
Cc: Raul Sesin; Emily Rogers; Lora Briones; Maria A. Perez
Subject: TCEQ Application Advertisement

Good morning all! Please see attached for your records. Original affidavits and newspaper clippings will be mailed this afternoon via Lone Star overnight to TCEQ.

Please let me know if you have any questions.

Thank you,

Jaime J. Salazar
Operations Manager
Hidalgo County Drainage District No. 1
902 N. Doolittle
Edinburg, TX 78542
Off: (956)292-7080 ext. 5811
Fax:(956)292-7089
jaime.salazar@hcdd1.org

Print Form

TCEQ - Office of the Chief Clerk
MC-105 Attn: Notice Team
PO Box 13087
Austin TX 78711-3087

Applicant Name: HIDALGO COUNTY DRAINAGE DISTRICT NO 1
Application Number: 13195 CID Item No. 100765
NOTICE OF WATER RIGHT APPLICATION

AFFIDAVIT OF PUBLICATION

STATE OF TEXAS
COUNTY OF: Hidalgo

Before me, the undersigned authority, on this day personally appeared

Mercedes Contreras
(name of newspaper representative), who being by me duly

sworn, deposes and says that (s)he is the Salesperson
(title of newspaper representative)

of the The Monitor ; that said newspaper is regularly
(name of newspaper)

published in Hidalgo County, Texas, and is a newspaper of general
(name of county)

circulation in Starr + Hidalgo County/Counties, Texas;
(name of county or counties newspaper is circulated within)

and that the attached notice was published in said newspaper on the following date:

September 24, 2016.
(date or dates, of publication in the newspaper)

Mercedes Contreras
Newspaper Representative's Signature

Subscribed and sworn to before me this the 26th day of September, 2016, to certify which witness my hand and seal of office.

Elizabeth D. Flores
Notary Public in and for the State of Texas

(Seal)

ELIZABETH D FLORES
Notary ID # 2364934
My Commission Expires
September 29, 2017

Elizabeth D. Flores
Print or type Name of Notary Public

My Commission Expires 9-29-17

305 Pets & Supplies



Giant Schnauzer Pups. Ready 10/13, deposits, $ (M) $1,000 each. $ (F) $1,100 each. Vet. references. Call 956-424-0826.



Rottweiler Puppies ovelash, ch. 8 weeks, 6 females with 1 male 1/2 females. $500. Call (956) 599-4880.



Shorty Jack Russell Terrier Puppies long hair, short & MAP Dachewds, shots, wormed $250. Call Jen 956-496-4621

Valleywide Classifieds 1-866-572-SELL

Valleywide Classifieds valleyclassifieds.com

LEGAL/BIDS LEGAL/BIDS LEGAL/BIDS

NOTICE TO BIDDERS

The Board of Trustees of the Edinburg Consolidated Independent School District is accepting competitive sealed bids on the following:

	DESCRIPTION	DATE/TIME
CSP 17-07	Trophies, Plaques, Ribbons & Medals	10-03-16/3:00 pm
CSP 17-10	Welding, Gas Supplies & Equipment	10-04-16/3:00 pm
CSP 17-11	Fresh Produce	10-04-16/3:30 pm
CSP 17-12	Marquees District Wide	10-04-16/4:00 pm

Complete set of specifications may be downloaded from our Purchasing Department Web-Site at www.sclad.us or picked up at the Office of the Purchasing Coordinator, 2nd Floor, 411 North 8th Ave, Edinburg, Texas 78540. Prominently marked, sealed BIDS will be accepted until the date and time stated above. Late submittals will not be accepted.

Amaro Tijerina, Coordinator of Purchasing

THE HOUSING AUTHORITY OF THE CITY OF ELSA

Solicitation for Architect and Engineering Services

Elsa Housing Authority requests for qualifications (RFQ) from qualified individuals or firms to perform professional Architect & Engineering services for various EHA Projects. All proposals should be submitted and addressed to the Elsa Housing Authority located at 1004 Live Oak, Elsa, TX 78543, no later than 3:00 PM on October 21, 2016.

Any proposals received after the scheduled submission date and time will not be considered and returned to sender unopened. All proposals must be labeled Architect & Engineering Services. (Faxes or email submissions will not be accepted).

Elsa Housing Authority reserves the right to reject any or all proposals or to waive any formalities or technicalities in the selection process which allows for selection of a firm most advantageous to Elsa Housing Authority.

Daily Sudoku

September 24, 2016

Sudoku Puzzle #4082-M

			1	2			3	4
	2		3			5		6
7			5		6		2	
6			4				8	
	3						5	
	5				9			1
	6		9		5			7
4		5			8		9	
2	1			7	3			

Medium

PREVIOUS SOLUTION

Sudoku Solution #4081-M

1	5	6	2	4	3	8	7	9
4	2	8	7	5	9	3	1	6
3	9	7	1	8	6	5	2	4
9	3	5	6	7	8	1	4	2
7	6	4	5	1	2	9	8	3
8	1	2	9	3	4	6	5	7
2	7	3	8	6	1	4	9	5
6	8	9	4	2	5	7	3	1
5	4	1	3	9	7	2	6	8

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF AN APPLICATION FOR A WATER USE PERMIT APPLICATION NO. 13195

Hidalgo County Drainage District No. 1 seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert water from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 - 3), Nueces-Rio Grande Coastal Basin, for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties. More information on the application and how to participate in the permitting process is given below.

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Applicant seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert and use not to exceed 62,712 acre-feet of water per year from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1-3), Nueces-Rio Grande Coastal Basin, at a maximum combined diversion rate of 659.89 cfs (295,156 gpm) for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties.

Panchita Reservoir will be located at located N 61° W, 16,830 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.324179° N and Longitude 97.903773° W in Hidalgo County, in ZIP code 78562. The final design capacity of Panchita Reservoir is unknown at this time.

Santa Cruz Irrigation Reservoir has a capacity of 4,250 acre-feet and is located N 55°W, 37,165 feet from the SE corner of the J. Balli Original Survey, Abstract No. 280, 6 miles in a northwestern direction from the City of Edinburg, at Latitude 26.386328° N and Longitude 98.169883° W in Hidalgo County, in ZIP code 78539.

Engleman Irrigation Reservoir has a capacity of 720 acre-feet and is located N 65°E, 19,900 feet from the SW corner of the V. Ynojosa Original Survey, Abstract No. 75, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.321398° N and Longitude 98.019317° W in Hidalgo County, in ZIP code 78543.

The proposed diversion point and diversion segments are described as follows:

Diversion Point 1 is located on the South Main Drain, S 89° E, 7,465 feet from the NW corner of the J. Balli Original Survey, Abstract No. 54, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.313891° N and Longitude 98.023139° W in Hidalgo County, in ZIP code 78543.

The upstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 57° W, 24,250 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.330833° N and Longitude 97.928389° W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 49° W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611° N and Longitude 97.906369° W in Hidalgo County, in ZIP code 78562.

The upstream limit of Diversion Segment 2 is located on the North Main Drain, N 53° W, 34,352 feet from the SE corner of the J. Balli Original Survey, Abstract No. 280, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.384122° N and Longitude 98.162850° W in Hidalgo County, in ZIP code 78539.

The downstream limit of Diversion Segment 2 is located on the North Main Drain, N 52 °W, 32,322 feet from the SE corner of the J. Balli Original Survey, Abstract No. 280, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.326611° N and Longitude 98.156549°W in Hidalgo County, in ZIP code 78539.

The upstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, N 49°W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.32861 FN and Longitude 97.906369°W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, S 12°W, 55,290 feet from the NE corner of the Jose Narciso Cabazos Original Survey, Abstract No. 8, 7.4 miles in a southwestern direction from Port Mansfield, at Latitude 26.455275°N and Longitude 97.473611°W in Willacy County, in ZIP code 78598.

Applicant seeks authorization to divert a maximum amount of water from each diversion location, as follows: 12,288 acre-feet per year from Diversion Point 1; 44,940, 29,148, and 62,712 acre-feet per year from Diversion Segments 1-3, respectively, with a maximum combined diversion amount of not to exceed 62,712 acre-feet of water per year from all diversion locations.

Applicant indicates that the amount of water that would be available for diversion from each location will depend on the amount of water that is diverted upstream. Applicant indicates that the water requested for appropriation includes irrigation and municipal return flows that are discharged into the South Main Drain, North Main Drain and Main Floodwater Channel.

Applicant also seeks to use the bed and banks of the South Main Drain, North Main Drain, and Main Floodwater Channel to convey the return flows.

Applicant further seeks to divert water from Diversion Segment 2 on the North Main Drain, and discharge the water into the Raymondville Drain, Nueces-Rio Grande Coastal Basin and in La Sal Vieja in Hidalgo and Willacy Counties.

The application and partial fees were received on May 11, 2015. Additional information and fees were received July 13, September 25, and November 3, 2015. The application was declared administratively complete and filed with the Office of the Chief Clerk on November 20, 2015. Additional information was received on December 4, 2015.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if granted, would contain special conditions including, but not limited to, a requirement to measure the quantity diverted and maintain measurement records. The application and Executive Director's draft permit are available for viewing and copying at the Office of the Chief Clerk, 12100 Park 35 Circle, Building F, Austin, TX 78753.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be submitted to the Office of Chief Clerk, at the address provided in the information section below, within 30 days of the date of newspaper publication of the notice. A public meeting is intended for the taking of public comment, and is not a contested case hearing. A public meeting will be held if the Executive Director determines that there is a significant degree of public interest in the application.

CONTESTED CASE HEARING. The TCEQ may grant a contested case hearing on this application if a written hearing request is filed within 30 days from the date of newspaper publication of this notice. The Executive Director may approve the application unless a written request for a contested case hearing is filed within 30 days after newspaper publication of this notice.

To request a contested case hearing, you must submit the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number, and fax number, if any; (2) applicant's name and permit number; (3) the statement "[I/we] request a contested case hearing;" (4) a brief and specific description of how you would be affected by the application in a way not common to the general public; and (5) the location and distance of your property relative to the proposed activity. You may also submit proposed conditions for the requested permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing to the Office of the Chief Clerk at the address provided in the information section below.

If a hearing request is filed, the Executive Director will not issue the permit and will forward the application and hearing request to the TCEQ. Commissioners for their consideration at a scheduled Commission meeting.

INFORMATION. Written hearing requests, public comments or requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at http://www.tceq.texas.gov/about/comments.html by entering WRPERM 13195 in the search field. For information concerning the hearing process, please contact the Public Interest Counsel, MC 103, the same address. For additional information, individual members of the general public may contact the Public Education Program at 1-800-687-4040. General information regarding the TCEQ. can be found at our web site at www.tceq.texas.gov Si desea información en Español, puede llamar al 1-800-687-4040 o para el internet al http://www.tceq.texas.gov.

Issued: September 12, 2016



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Applicant Name: HIDALGO COUNTY DRAINAGE DISTRICT NO 1
Application Number: 13195 CID Item No. 100765
NOTICE OF WATER RIGHT APPLICATION

AFFIDAVIT OF PUBLICATION

STATE OF TEXAS
COUNTY OF: Cameron

Before me, the undersigned authority, on this day personally appeared Adelia Ramon (name of newspaper representative), who being by me duly sworn, deposes and says that (s)he is the Cashier | Representative (title of newspaper representative) of the Valley Morning Star (name of newspaper); that said newspaper is regularly published in Cameron (name of county) County, Texas, and is a newspaper of general circulation in Cameron, Willacy, Hidalgo (name of county or counties newspaper is circulated within) County/Counties, Texas; and that the attached notice was published in said newspaper on the following date:

Sept 24, 2016
(date or dates, of publication in the newspaper)

Adelia Ramon
Newspaper Representative's Signature

Subscribed and sworn to before me this the 25th day of Sept, 20 16, to certify which witness my hand and seal of office.

(Seal)

LUISE RICHARDS
Notary Public, State of Texas
Comm. Expires 05-05-2020
Notary ID 130681178

Luise Richards
Notary Public in and for the State of Texas

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NOTICE
TRUTH IN LENDING ACT

All ads that offer financial options for buying real estate as well as motor vehicles must comply with the Federal Truth in Lending Regulations. The act requires that ads must fully disclose the terms of a loan (down payment, monthly payment, number of payments and the annual percentage rate).

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF AN APPLICATION
FOR A WATER USE PERMIT

APPLICATION NO. 13195

Hidalgo County Drainage District No. 1 seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert water from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 – 3), Nueces-Rio Grande Coastal Basin, for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties. More information on the application and how to participate in the permitting process is given below.

APPLICATION. Hidalgo County Drainage District No. 1, 902 North Doolittle Road Edinburg, Texas 78542, Applicant, has applied to the Texas Commission on Environmental Quality (TCEQ) for Water Use Permit pursuant to Texas Water Code §§ 11.121, 11.042, 11.046 and TCEQ Rules Title 30 Texas Administrative Code (TAC) §§ 295.1, *et seq.* Notice is being published and mailed to the water right holders of record in the Nueces-Rio Grande Coastal Basin pursuant to Title 30 TAC § 295.151.

Applicant seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert and use not to exceed 62,712 acre-feet of water per year from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 – 3), Nueces-Rio Grande Coastal Basin, at a maximum combined diversion rate of 859.89 cfs (396,158 gpm) for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties.

Panchita Reservoir will be located at located N 51° W, 16,830 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.324179° N and Longitude 97.903778° W in Hidalgo County, in ZIP code 78562. The final design capacity of Panchita Reservoir is unknown at this time.

Santa Cruz Irrigation Reservoir has a capacity of 4,250 acre-feet and is located N 55°W, 37,165 feet from the SE corner of the J. Balli Original Survey, Abstract No. 280, 6 miles in a northwestern direction from the City of Edinburg, at Latitude 26.388328° N and Longitude 98.169683° W in Hidalgo County, in ZIP code 78599.

Engleman Irrigation Reservoir has a capacity of 720 acre-feet and is located N 85°E, 19,900 feet from the SW corner of the V. Ynojosa Original Survey, Abstract No. 75, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.321396° N and Longitude 98.019317° W in Hidalgo County, in ZIP code 78543.

The proposed diversion point and diversion segments are described as follows:

Diversion Point 1 is located on the South Main Drain, S 89° E, 7,465 feet from the NW corner of the J. Balli Original Survey, Abstract No. 54, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.313891° N and Longitude 98.023139° W in Hidalgo County, in ZIP code 78549.

The upstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 57° W, 24,250 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.330033° N and Longitude 97.926389° W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 49° W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611° N and Longitude 97.906389° W in Hidalgo County, in ZIP code 78562.

The upstream limit of Diversion Segment 2 is located on the North Main Drain, N 53° W, 34,552 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.384122° N and Longitude 98.162650° W in Hidalgo County, in ZIP code 78539.

The downstream limit of Diversion Segment 2 is located on the North Main Drain, N 52°W, 32,322 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.382197° N and Longitude 98.156549° W in Hidalgo County, in ZIP code 78539.

The upstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, N 49°W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611°N and Longitude 97.906389°W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, S 12°W, 55,290 feet from the NE corner of the Jose Narciso Cabazos Original Survey, Abstract No. 8, 7.4 miles in a southwestern direction from Port Mansfield, at Latitude 26.455278°N and Longitude 97.473611°W in Willacy County, in ZIP code 78598.

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Issued: September 12, 2016

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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The downstream limit of Diversion Segment 2 is located on the North Main Drain, N 52 °W, 32,322 feet from the SE comer of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.328611° N and Longitude 98.156549°W in Hidalgo County, in ZIP code 78539.

The upstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, N 49°W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.32861 FN and Longitude 97.906389°W in Hldalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, S 12°W, 55,290 feet from the NE corner of the Jose Narciso Cabazos Original Survey, Abstract No. 8, 7.4 miles in a southwestern direction from Port Mansfield, at Latitude 26.455278°N and Longitude 97.473611°W in Willacy County, in ZIP code 78598.

Applicant seeks authorization to divert a maximum amount of water from each diversion location, as follows: 12,288 acre-feet per year from Diversion Point 1; 44,940, 29,148, and 62,712 acre-feet per year from Diversion Segments 1-3, respectively, with a maximum combined diversion amount of not to exceed 62,712 acre-feet of water per year from all diversion locations.

Applicant indicates that the amount of water that would be available for diversion from each location will depend on the amount of water that is diverted upstream. Applicant indicates that the water requested for appropriation includes irrigation and municipal return flows that are discharged into the South Main Drain, North Main Drain and Main Floodwater Channel.

Applicant also seeks to use the bed and banks of the South Main Drain, North Main Drain, and Main Floodwater Channel to convey the return flows.

Applicant further seeks to divert water from Diversion Segment 2 on the North Main Drain, and discharge the water into the Raymondville Drain, Nueces-Rio Grande Coastal Basin and in La Sal Vieja in Hidalgo and Willacy Counties.

The application and partial fees were received on May 11, 2015. Additional information and fees were received July 13, September 25, and November 3, 2015. The application was declared administratively complete and filed with the Office of the Chief Clerk on November 20, 2015. Additional information was received on December 4, 2015.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if granted, would contain special conditions including, but not limited to, a requirement to measure the quantity diverted and maintain measurement records. The application and Executive Director's draft permit are available for viewing and copying at the Office of the Chief Clerk, 12100 Park 35 Circle, Building F., Austin, TX 78753.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be submitted to the Office of Chief Clerk, at the address provided in the information section below, within 30 days of the date of newspaper publication of the notice. A public meeting is intended for the taking of public comment, and is not a contested case hearing. A public meeting will be held if the Executive Director determines that there is a significant degree of public interest in the application.

CONTESTED CASE HEARING. The TCEQ may grant a contested case hearing on this application if a written hearing request is filed within 30 days from the date of newspaper publication of this notice. The Executive Director may approve the application unless a written request for a contested case hearing is filed within 30 days after newspaper publication of this notice.

To request a contested case hearing, you must submit the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number, and fax number, if any; (2) applicant's name and permit number; (3) the statement "[I/we] request a contested case hearing;" (4) a brief and specific description of how you would be affected by the application in a way not common to the general public; and (5) the location and distance of your property relative to the proposed activity. You may also submit proposed conditions for the requested permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing to the Office of the Chief Clerk at the address provided in the information section below.

If a hearing request is filed, the Executive Director will not issue the permit and will forward the application and hearing request to the TCEQ. Commissioners for their consideration at a scheduled Commission meeting.

INFORMATION. Written hearing requests, public comments or requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at http://www.tceq.texas.gov/about/comments.html by entering WRPERM 13195 in the search field. For information concerning the hearing process, please contact the Public Interest Counsel, MC 103, the same address. For additional information, individual members of the general public may contact the Public Education Program at 1-800-687-4040. General information regarding the TCEQ. can be found at our web site at www.tceq.texas.gov Si desea informacion en Español, puede llamar al 1-800-687-4040 o para el internet al http://www.tceq.texas.gov.

Issued: September 12, 2016

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
SEP 14 2016
11:20 AM PM
BY: MAP

COPY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 12, 2016

CERTIFIED MAIL

Mr. Raul Sesin P.E., CFM
Hidalgo County Drainage District No. 1
902 North Doolittle Road
Edinburg, Texas 78542

RE: Publication requirements on Notice of Water Rights Application for 13195
Hidalgo County Drainage District No. 1
Hidalgo and Willacy Counties
Nueces – Rio Grande Coastal Basin

Dear Mr. Sesin:

The *Texas Water Code* and the Rules of the Texas Commission on Environmental Quality require that you, as applicant, do the following:

1. Publish the enclosed notice once in its entirety (from "NOTICE OF APPLICATION..." through the issue date) at your expense, in a newspaper of paid circulation having a general circulation in the section of the state (identified by the county or counties referenced above) in which the project is located. **(Please see the 2nd page of this letter for further information on publication.)**

2. Mail to the Texas Commission on Environmental Quality, ATTENTION: CHIEF CLERK, M.C. 105, immediately upon publication, a sworn affidavit from the newspaper giving the date on which the notice was published and the pertinent counties in which the newspaper is of general circulation, **using the enclosed affidavit form.** In order for the publisher's affidavit to be jurisdictionally correct and proper, **it is required that the affidavit enclosed with this notice of application be used and filled out in its entirety.** Please so advise the personnel at the newspaper when you deliver the notice to be published. The affidavit must reflect that the newspaper is of general circulation in the county (or counties) in which the project is located. If more than one county is involved, you may need to publish in more than one newspaper.

3. Send an **original** clipping of the published notice with the **original** affidavit. For each newspaper in which you published, you must submit

proof of publication that shows the notice, the date of publication, and the name of the newspaper.

The original Publisher's Affidavit and original newspaper clipping must be received in the Chief Clerk's Office **no later than October 17, 2016.**

The notice **MUST be published no later than October 3, 2016,** since the required notice period of 30 days will begin on the day after the date of newspaper publication. Should you fail to have the notice published according to the above instructions, please notify us immediately. Unless the notice is published in accordance with these instructions, your application CANNOT be processed further.

We have included in the notice all of the information which we believe to be necessary. Please read it carefully and notify us immediately if it contains any errors or omissions.

Please call Irma Salazar (512) 239-1328 if you have any questions regarding these publication requirements.

Sincerely,

Bridget C. Bohac

Bridget C. Bohac
Chief Clerk

BCB/is

Enclosure

Print Form

TCEQ - Office of the Chief Clerk
MC-105 Attn: Notice Team
PO Box 13087
Austin TX 78711-3087

Applicant Name: HIDALGO COUNTY DRAINAGE DISTRICT NO 1
Application Number: 13195 CID Item No. 100765
NOTICE OF WATER RIGHT APPLICATION

AFFIDAVIT OF PUBLICATION

STATE OF TEXAS
COUNTY OF: _____

Before me, the undersigned authority, on this day personally appeared

_____ , who being by me duly
(name of newspaper representative)

sworn, deposes and says that (s)he is the _____
(title of newspaper representative)

of the _____ ; that said newspaper is regularly
(name of newspaper)

published in _____ County, Texas, and is a newspaper of general
(name of county)

circulation in _____ County/Counties, Texas;
(name of county or counties newspaper is circulated within)

and that the attached notice was published in said newspaper on the following date:

_____ .
(date or dates, of publication in the newspaper)

_____
Newspaper Representative's Signature

Subscribed and sworn to before me this the _____ day of _____,
20 _____, to certify which witness my hand and seal of office.

_____
Notary Public in and for the State of Texas

(Seal)

_____
Print or type Name of Notary Public

My Commission Expires _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF AN APPLICATION FOR A WATER USE PERMIT

APPLICATION NO. 13195

Hidalgo County Drainage District No. 1 seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert water from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 - 3), Nueces-Rio Grande Coastal Basin, for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties. More information on the application and how to participate in the permitting process is given below.

APPLICATION. Hidalgo County Drainage District No. 1, 902 North Doolittle Road Edinburg, Texas 78542, Applicant, has applied to the Texas Commission on Environmental Quality (TCEQ) for Water Use Permit pursuant to Texas Water Code §§ 11.121, 11.042, 11.046 and TCEQ Rules Title 30 Texas Administrative Code (TAC) §§ 295.1, *et seq.* Notice is being published and mailed to the water right holders of record in the Nueces-Rio Grande Coastal Basin pursuant to Title 30 TAC § 295.151.

Applicant seeks authorization to construct and maintain an off-channel reservoir (Panchita Reservoir); and to divert and use not to exceed 62,712 acre-feet of water per year from a diversion point on the South Main Drain (Diversion Point 1) and three diversion segments on the North Main Drain and Main Floodwater Channel (Diversion Segments 1 - 3), Nueces-Rio Grande Coastal Basin, at a maximum combined diversion rate of 659.89 cfs (296,158 gpm) for domestic, municipal, mining, agricultural, industrial, hydroelectric power generation, recreational, flood control and water quality purposes or for storage in the Panchita Reservoir or existing off-channel reservoirs owned by the Santa Cruz Irrigation District and the Engleman Irrigation District for subsequent diversion and use in Hidalgo and Willacy Counties.

Panchita Resevoir will be located at located N 51° W, 16,830 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.324179° N and Longitude 97.903773° W in Hidalgo County, in ZIP code 78562. The final design capacity of Panchita Reservoir is unknown at this time.

Santa Cruz Irrigation Reservoir has a capacity of 4,250 acre-feet and is located N 55°W, 37,165 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northwestern direction from the City of Edinburg, at Latitude 26.388328° N and Longitude 98.169683° W in Hidalgo County, in ZIP code 78539.

Engleman Irrigation Reservoir has a capacity of 720 acre-feet and is located N 85°E, 19,900 feet from the SW corner of the V. Ynojosa Original Survey, Abstract No. 75, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.321398° N and Longitude 98.019317° W in Hidalgo County, in ZIP code 78543.

The proposed diversion point and diversion segments are described as follows:

Diversion Point 1 is located on the South Main Drain, S 89° E, 7,465 feet from the NW corner of the J. Balli Original Survey, Abstract No. 54, 10 miles in a northeastern direction from the City of Edinburg, at Latitude 26.313891° N and Longitude 98.023139° W in Hidalgo County, in ZIP code 78543.

The upstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 57° W, 24,250 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.330833° N and Longitude 97.926389° W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 1 is located on the Main Floodwater Channel, N 49° W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611° N and Longitude 97.906389° W in Hidalgo County, in ZIP code 78562.

The upstream limit of Diversion Segment 2 is located on the North Main Drain, N 53° W, 34,352 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.384122° N and Longitude 98.162650° W in Hidalgo County, in ZIP code 78539.

The downstream limit of Diversion Segment 2 is located on the North Main Drain, N 52°W, 32,322 feet from the SE corner of the J. Balli Original Survey, Abstract No. 290, 6 miles in a northern direction from the City of Edinburg, at Latitude 26.382197°N and Longitude 98.156549°W in Hidalgo County, in ZIP code 78539.

The upstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, N 49°W, 18,523 feet from the SE corner of the V. Ynojosa Original Survey, Abstract No. 75, 17 miles in a northeastern direction from the City of Edinburg, at Latitude 26.328611°N and Longitude 97.906389°W in Hidalgo County, in ZIP code 78562.

The downstream limit of Diversion Segment 3 is located on the Main Floodwater Channel, S 12°W, 55,290 feet from the NE corner of the Jose Narciso Cabazos Original Survey, Abstract No. 8, 7.4 miles in a southwestern direction from Port

Mansfield, at Latitude 26.455278°N and Longitude 97.473611°W in Willacy County, in ZIP code 78598.

Applicant seeks authorization to divert a maximum amount of water from each diversion location, as follows: 12,288 acre-feet per year from Diversion Point 1; 44,940, 29,148, and 62,712 acre-feet per year from Diversion Segments 1 - 3, respectively, with a maximum combined diversion amount of not to exceed 62,712 acre-feet of water per year from all diversion locations.

Applicant indicates that the amount of water that would be available for diversion from each location will depend on the amount of water that is diverted upstream.

Applicant indicates that the water requested for appropriation includes irrigation and municipal return flows that are discharged into the South Main Drain, North Main Drain and Main Floodwater Channel.

Applicant also seeks to use the bed and banks of the South Main Drain, North Main Drain, and Main Floodwater Channel to convey the return flows.

Applicant further seeks to divert water from Diversion Segment 2 on the North Main Drain, and discharge the water into the Raymondville Drain, Nueces-Rio Grande Coastal Basin and in La Sal Vieja in Hidalgo and Willacy Counties.

The application and partial fees were received on May 11, 2015. Additional information and fees were received July 13, September 25, and November 3, 2015. The application was declared administratively complete and filed with the Office of the Chief Clerk on November 20, 2015. Additional information was received on December 4, 2015.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if granted, would contain special conditions including, but not limited to, a requirement to measure the quantity diverted and maintain measurement records. The application and Executive Director's draft permit are available for viewing and copying at the Office of the Chief Clerk, 12100 Park 35 Circle, Building F., Austin, TX 78753.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be submitted to the Office of Chief Clerk, at the address provided in the information section below, within 30 days of the date of newspaper publication of the notice. A public meeting is intended for the taking of public comment, and is not a contested case hearing. A public meeting will be held if the Executive Director determines that there is a significant degree of public interest in the application.

CONTESTED CASE HEARING. The TCEQ may grant a contested case hearing on this application if a written hearing request is filed within 30 days from the date of newspaper publication of this notice. The Executive Director may approve the application unless a written request for a contested case hearing is filed within 30 days after newspaper publication of this notice.

To request a contested case hearing, you must submit the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number, and fax number, if any; (2) applicant's name and permit number; (3) the statement "[*I/we*] request a contested case hearing;" (4) a brief and specific description of how you would be affected by the application in a way not common to the general public; and (5) the location and distance of your property relative to the proposed activity. You may also submit proposed conditions for the requested permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing to the Office of the Chief Clerk at the address provided in the information section below.

If a hearing request is filed, the Executive Director will not issue the permit and will forward the application and hearing request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

INFORMATION. Written hearing requests, public comments or requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at http://www.tceq.texas.gov/about/comments.html by entering WRPERM 13195 in the search field. For information concerning the hearing process, please contact the Public Interest Counsel, MC 103, the same address. For additional information, individual members of the general public may contact the Public Education Program at 1-800-687-4040. General information regarding the TCEQ can be found at our web site at www.tceq.texas.gov Si desea información en Español, puede llamar al 1-800-687-4040 o por el internet al http://www.tceq.texas.gov.

Issued: September 12, 2016

TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
1201 E. Expressway 83 ♦ Mission, Texas 78572
(956) 424-7898

Letter of Transmittal

TO:
Mr. Noe Saldivar
Hidalgo County Drainage District No. 1
902 N. Doolittle Road
Edinburg, Texas 78539

DATE: October 20, 2016

REF.: Delta Watershed Legal Water Rights Project September 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	TEDSI Invoice No. 20162877 for Project No. 2013-1128-12

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
OCT 24 2016
2:06 AM / PM
BY: MAP

REMARKS:

Enclosed please our invoice for review and futher processing.

Thank you,

Signed: for. Clay
Mark W. Lupher, P.E., RPLS

If enclosures are not as stated, please notify us.

AI -57324 **7.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 Bond Series
Pct. 3 Rural Drainage Development

A. Invoice No. 11325989 in the amount of $1,985.00 from L&G Consulting Engineers related to La Joya Watershed Improvement Project Work Authorization No. 4 for Engineering Services for the month of October 2016. PO#625396

B. Invoice No. 11325990 in the amount of $1,215.00 from L&G Consulting Engineers related to La Joya Watershed Improvement Project Work Authorization No. 10 for Engineering Services for the month of October 2016. PO#629641

2012 Bond Series
Mission Inlet Project

C. Invoice No. 11325991 in the amount of $125,292.42 from L&G Consulting Engineers related to Mission Inlet Recertification Project Work Authorization No. 5 for Engineering Services for the month of October 2016. PO#628488

D. Invoice No. 11325992 in the amount of $5,992.24 from L&G Consulting Engineers related to Mission Inlet Recertification Project Work Authorization No. 6 for Engineering Services for the month of October 2016. PO#629786

BACKGROUND

Fiscal Impact

Attachments

L&G Engineering Invoice No. 11325989
L&G Engineering Invoice No. 11325990
L&G Engineering Invoice No. 11325991
L&G Engineering Invoice No. 11325992

Form Review

Inbox	Reviewed By	Date
Final Approval	Monica Badillo	11/10/2016 02:15 PM

Form Started By: Lora Briones Started On: 11/10/2016 08:52 AM

Final Approval Date: 11/10/2016

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 11/2/2016

Engineer/Firm Name: L&G Consulting Engineers, Inc

Project Name/Number: Mission Inlet Recertification Project, WA No. 5

Invoice No.: 11325991

Invoice Date: 10/31/2016

Due Date: 12/2/2016

Purchase Order No.: 628488

Amount: $125,292.42

Total # of Pages Submitted: 8

Attachments: ☑ CD ☐ USB ☐ Plans Other: _____

Engineering: ✓ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

Revised 07/2016

L &G Consulting Engineers Inc
2100 W. Expressway 83
Mercedes, TX 78570
(956)565-9813 Fax (956)565-9018

INVOICE#: 11325991
INVOICE DATE: 10/31/2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

NOV 0 2 2016
11:38 AM / PM
BY: A. C.

BILL TO: 87
Hidalgo County Drainage District#1
902 N. Doolittle
Edinburg, TX 78542

JOB:130205
Mission Inlet Recertification Project
WA#5 P.O.#628488

DESCRIPTION	CONTRACT	PREVIOUS APPLICATIONS	CURRENT COMPLETED	TOTAL COMPLETED	% COMPL	BALANCE TO FINISH
Engineering services for the month of October 2016.						
FC 11003 - PS&E Development - 7.25% Construction Cost	1,042,906.33	573,598.48	104,290.63	677,889.11	65.0	365,017.22
FC 12002 - Outreach/Presentations with Major Stakeholders	19,995.83	14,993.76	1,000.42	15,994.18	80.0	4,001.65
FC 12003 - Meetings & Coordination with HCDD#1, County, FEMA &	59,349.71	44,531.08	2,976.23	47,507.31	80.0	11,842.40
FC 15001 - Coordination & Management of Surveyor	5,014.62	2,801.20	1,538.14	4,339.34	86.5	675.28
FC 15010 - SUB - Design Survey	50,010.00	27,785.00	15,487.00	43,272.00	86.5	6,738.00
FC 33001 - Geotechnical Engineering / SUB	110,206.04	99,185.44		99,185.44	90.0	11,020.60
	1,287,482.53	762,894.96	125,292.42	888,187.38	69.0	399,295.15

PROJECT MANAGER'S SIGNATURE

ORIGINAL CONTRACT SUM	$	1,287,482.53
CHANGE BY CHANGE ORDER	$	0.00
CONTRACT SUM TO DATE	$	1,287,482.53
TOTAL COMPLETED TO DATE	$	888,187.38
LESS PREVIOUS INVOICES	$	762,894.96
CURRENT PAYMENT DUE	$	125,292.42

L&G Consulting Engineers, Inc
2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-9813

Project Workhour Report
Mission Inlet Recert. Project WA#5
Reference: Inv# 11325991
Date: 10/31/2016
P.O.#628488

	Hrs		Rate	Total
Senior Project Manager	7.00	X	212.59	$1,488.13
Senior Engineer	14.00	X	175.07	$2,450.98
Design Engineer	12.00	X	112.55	$1,350.60
Admin/Clerical	4.00	X	56.27	$225.08

Grand Total of Hours	$ 5,514.79
(Difference due to rounding hours)	$ -

Invoice Summary

Man Hours	$ 5,514.79
PS&E Development - 7.25% of Construction Cost	$ 104,290.63
Sub Contract	$ 15,487.00
Geotechnical Engineering (See Attached Sub Invoice for Man Hour Breakdown)	
(Difference due to rounding)	$ -

Total Per Invoice Submitted	**$ 125,292.42**

R. O. W. SURVEYING SERVICES, L.L.C.

October 31, 2016

Jacinto Garza, President/CEO
L & G Engineering
Attn: Reza Badiozzamani, P.E.
2100 W. Expressway 83
Mercedes, Texas 78570

RE: Invoice #R16-111
Mission Inlet Project
Work Authorization #20
Limits: From: River Bend Drive
To: USIBWC Main Floodway (0.43 Miles)

Dear Mr. Badiozzamani:

Attached for your approval is our invoice for services rendered for the month of October, 2016. Attached you will also find a Progress report for review.

Thank you for your business. Should you have any questions or require additional information, please do not hesitate to give me a call at (956) 451-2670.

Sincerely,

Julio Cerda, P.E.
President/CEO

Progress Report as of October 31, 2016:

FC150 Field Surveying (Control Hz & Vt)

PHASE I

- ***B. Secondary Project Control***

  Secondary points have been set where needed to complete topography survey for all phases of project.

PHASE II

2. Topography & Cross Section Survey
   Field work complete for all phases of project. Topo to be delivered by October 28th.

3. Locate Visible Utilities
   Field work complete. Visible utilities have been tied to survey.

4. Cross Culverts, Driveway Culverts, Inverts
   Inverts and structures being verified in the field. Final topo to be delivered October 28th.

5. Right of Entry, ROW Research, Appraisal Dist. Records
   Right of Entry complete.

6. Proposed Centerline on Existing Pavement Pre-Construction for Utilities
   No Activities.

7. Profile and Cross Section Intersecting Streets
   Field work complete.

8. Irrigation Crossing
   Irrigation crossings have been tied and verified.

9. Existing Storm Drain H & V
   All structures and storm drains have been tied to survey. Field work complete and final deliverable being prepared.

10. Tie Existing Underground & Overhead Utilities Coordination with Engineer
    Questions by engineer to existing structure and utilities are being resolved. Updated files to be delivered by end of month.

11. Additional Field Surveying
Structures and channel topography complete.

15. Profiles of Existing Drainage Facilities
Cross sections and topography survey within proposed channel complete.

17. Obtain Elevations of Manholes & Valves of Utilities
Complete. Valves and manholes have been tied to survey.

18. Provide Temporary Signs, Traffic control, flags, safety equipment, etc.
Field work complete.

21. Inventory Signs, Mailboxes, and Driveways
Any mailboxes, signs, and driveways have been tied to survey. Descriptions to be delivered with final topography files.

22. Survey Controlled Data Sheets per TxDOT guidelines
No Activities

23. Recover and Establish Existing CL and ROW
Property corners have been recovered and tied to survey. Easement between Shary and Ware Road to be shown with final survey as requested by engineer.

24. Coordinate with the Engineer for Existing CL Stationing
Proposed centerline has been verified with engineer. Complete.

PHASE III

Final Reports & Deliverables

- **A. CADD file (2D &3D) for limits of Project**
Sections "A", "B", and Inlet outfall previously delivered. Final topography files to be delivered by end of month for review.

- **B. Final Report and Deliverables**
Sections "A", "B", and Inlet outfall previously delivered. Final topography files to be delivered by end of month for review.

Project Management & Oversight

- **A. Meeting & Coordination with Engineers**
Met with engineers regarding project schedule and questions with previous submittals. Updated files to be delivered by end of month.

- **B. QC/QA Survey**
Project data being verified by RPLS. Updated files to be delivered by end of month.

R. O. W. Surveying Services, L.L.C.

INVOICE

900 S. Stewart Road, Suite 13
Mission, TX 78572
TBPLS Reg. # 10193886
956-424-3335

INVOICE NUMBER : R16-111
Date: October 31, 2016
Our Order No.: R16005

BILL TO:
Jacinto Garza, P.E.
L & G Engineering
Attn: David Saenz, P.E.
2100 W. Expressway 83
Mercedes, Texas 78570

RE: Mission Inlet Project (Work Authorization No. 20)
Limits: From River Bend Drive to USIBWC Main Floodway: (0.43 Miles)

Task and Description	Contract Amount	Invoice to Date	Paid to Date	Current Amount Due	Contract Balance	AMOUNT
Function Code 150						
Phase I - Field Surveying (Control Hz & Vt)						
A. Primary Project Control						NA
1. Establish Primary Control						
B. Secondary Project Control						
1. Set Additional Secondary Control Points as Needed	$1,547.00	$1,547.00	$929.00	$618.00	$0.00	100.00%
2. Horizontal Values Established with RTK or VRS	$1,237.00	$1,237.00	$743.00	$494.00	$0.00	100.00%
3. Vertical Values Established with Digital Level	$2,889.00	$2,889.00	$1,734.00	$1,155.00	$0.00	100.00%
Phase II - DTM Topography and Cross Sections						
A. Setting Benchmarks						
1. Setting Benchmarks @ 1000 ft. intervals						NA
2. Topographic & Cross Sections	$5,556.00	$1,112.00	$1,112.00	$0.00	$4,444.00	20.01%
3. Locate Visible Utilities	$2,206.00	$2,206.00	$1,655.00	$551.00	$0.00	100.00%
a. Utilities	$1,258.00	$1,258.00	$944.00	$314.00	$0.00	100.00%
4. Cross Culverts, Driveway Culverts, Inverts	$1,258.00	$1,258.00	$944.00	$314.00	$0.00	100.00%
5. Right of Entry, ROW Research, Apraisal Dist. Records	$539.00	$539.00	$405.00	$134.00	$0.00	100.00%
6. Proposed Centerline on Existing Pavement Pre-Const. for Utilities	$1,137.00	$1,137.00	$853.00	$284.00	$0.00	100.00%
7. Profile and Cross Section Intersecting Streets	$7,520.00	$7,520.00	$5,640.00	$1,880.00	$0.00	100.00%
8. Irrigation Crossing	$1,775.00	$1,775.00	$1,332.00	$443.00	$0.00	100.00%
9. Existing Storm Drain H & V	$784.00	$784.00	$588.00	$196.00	$0.00	100.00%
10. Tie Existing Underground & Overhead Utilities Coord. w/Eng.	$1,024.00	$1,024.00	$768.00	$256.00	$0.00	100.00%
11. Additional Field Surveying						
a. Irrigation Lines	$1,981.00	$1,981.00	$1,486.00	$495.00	$0.00	100.00%
b. Outfalls	$1,981.00	$1,981.00	$1,486.00	$495.00	$0.00	100.00%
c. Driveways and Turnouts	$1,112.00	$1,112.00	$834.00	$278.00	$0.00	100.00%
15. Profiles of Existing Drainage Facilities	$1,103.00	$1,103.00	$828.00	$275.00	$0.00	100.00%
17. Obtain Elevations of Manholes & Valves of Utilites	$1,267.00	$1,267.00	$951.00	$316.00	$0.00	100.00%
18. Provide tem. signs, traffic control, flags, safety equip., etc.	$775.00	$775.00	$582.00	$193.00	$0.00	100.00%
19. Ties to Existing Bridges or Culvert that may be in conflict w/new const.						
21. Inventory Signs, Mailboxes, & Driveways	$1,267.00	$1,267.00	$951.00	$316.00	$0.00	100.00%
22. Survey Control Data Sheets per TxDot	$1,406.00	$0.00	$0.00	$0.00	$1,406.00	0.00%
23. Recover & Establish Existing CL & ROW	$1,478.00	$1,478.00	$1,109.00	$369.00	$0.00	100.00%
24. Coordinate with the Engineer for Existing CL Stationing	$249.00	$225.00	$187.00	$38.00	$24.00	90.36%
Phase III - Final Report & Deliverables						
A. CADD file (2D & 3D) for limits of project	$1,740.00	$1,566.00	$0.00	$1,566.00	$174.00	90.00%
B. Final Report and Deliverables	$2,614.00	$2,353.00	$0.00	$2,353.00	$261.00	90.02%
Project Management and Oversight						
A. Meeting and Coordination w/ Engineers	$1,469.00	$1,323.00	$588.00	$735.00	$146.00	90.06%
B. QC/QA Survey	$2,838.00	$2,555.00	$1,136.00	$1,419.00	$283.00	90.03%
GRAND TOTAL:	**$50,010.00**	**$43,272.00**	**$27,785.00**		**$6,738.00**	**86.5267%**
			TOTAL DUE:	**$15,487.00**		

DIRECT ALL INQUIRIES TO:
JULIO CERDA, P.E.
(956)451-2670
email: julio@southtexasig.com

MAKE ALL CHECKS PAYABLE TO:
R. O. W. Surveying Services, L.L.C.
Attn: JULIO CERDA, P.E.
900 S. Stewart Road, Suite #13, Mission, Texas 78572

THANK YOU FOR YOUR BUSINESS!

L&G Engineering
Transportation Consultants

November 1, 2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
NOV 02 2016
11:38 AM / PM
BY: A.C.

Mr. Raul Sesin, P.E. – District Manager
Hidalgo County Drainage District #1
902 N. Doolittle
Edinburg, Texas 78542

RE: Mission Inlet Recertification Project
Work Authorization #5 – PS&E, Design Survey, Geotechnical
Job # 130205
P.O. # 628488

Dear Mr. Sesin,

Attached for your review and approval is our invoice for the services rendered during the month of October 2016 on the subject referenced project.

The following is attached:

- L&G's Invoice #11325991
- CD w/ Electronic Files of Data for:
  - FC 11003, 12002, 12003, 15001 & 15010

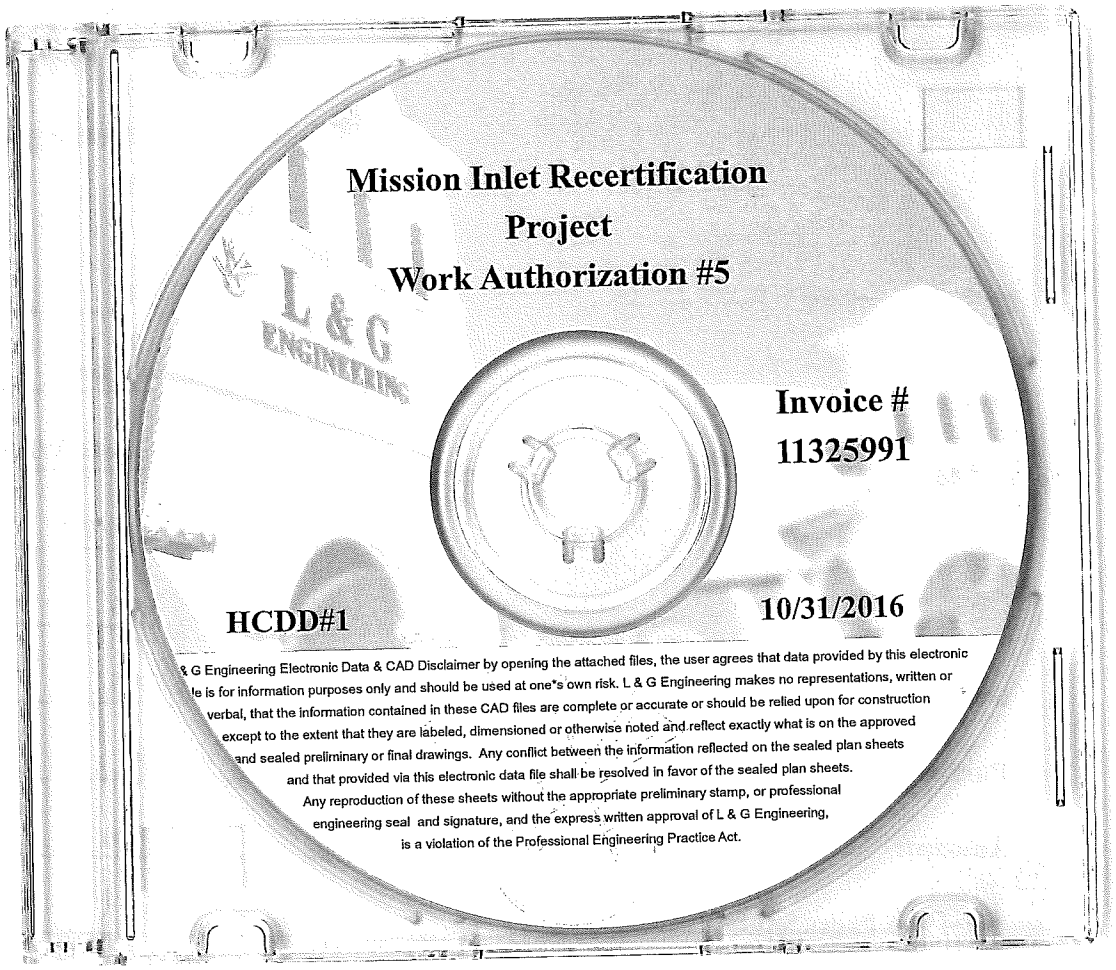
TASK		% COMPL
Mission Inlet Recertification Project		
FC 11003 ~ PS&E Development	L&G	65.0%
Update – PS&E development ongoing including: updating project layouts, junction layouts, P&P sheets, and E&Q sheets. L&G has begun to run cross-sections for earthwork calculations. Project base files have been updated throughout this period to incorporate survey data at SECTION C, D, and E. L&G has continued coordination with AEP Transmission to design around existing utility easements.		
FC 12002 ~ Outreach/Presentations with Major Stakeholders (i.e. City of Mission, City of McAllen, McAllen Airport, etc.)	L&G	80.0%
Update – L&G has held informal conference calls with the stakeholders throughout the month to address project questions and details.		
FC 12003 ~ Meetings & Coordination with HCDD#1, County, FEMA & IBWC	L&G	80.0%
Update – L&G has had informal coordination with HCDD #1 and County throughout the month discussing project status and general details.		

FC 15001 ~ Coordination & Management of Surveyor	L&G	86.5%
Update – L&G has coordinated with R.O.W. SS throughout the month to discuss progress on field surveying and topography and address any questions regarding the project.		
FC 15010 ~ SUB – Design Survey	ROW SS	86.5%
Update – See progress report from R.O.W. SS dated October 31, 2016 (see attached)		
FC 33001 ~ SUB – Geotechnical Engineering	L&G LAB	90.0%
No Update – See progress report from L&G Lab dated April 30, 2016.		

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,

For David Saenz, P.E., C.F.M.
Project Manager
L&G Engineering


Mission Inlet Recertification
Project
Work Authorization #5
L&G
ENGINEERING
Invoice #
11325991
HCDD#1
10/31/2016
& G Engineering Electronic Data & CAD Disclaimer by opening the attached files, the user agrees that data provided by this electronic
le is for information purposes only and should be used at one"s own risk. L & G Engineering makes no representations, written or
verbal, that the information contained in these CAD files are complete or accurate or should be relied upon for construction
except to the extent that they are labeled, dimensioned or otherwise noted and reflect exactly what is on the approved
and sealed preliminary or final drawings. Any conflict between the information reflected on the sealed plan sheets
and that provided via this electronic data file shall be resolved in favor of the sealed plan sheets.
Any reproduction of these sheets without the appropriate preliminary stamp, or professional
engineering seal and signature, and the express written approval of L & G Engineering,
is a violation of the Professional Engineering Practice Act.

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 11/2/2016

Engineer/Firm Name: L&G Consulting Engineers, Inc.

Project Name/Number: Mission Inlet Recert. Project, WA No. 6

Invoice No.: 11325992

Invoice Date: 10/31/2016

Due Date: 12/2/2016

Purchase Order No.: 629786

Amount: $5,992.24

Total # of Pages Submitted: 4

Attachments: ☑ CD ☐ USB ☐ Plans Other: _____

Engineering: ✓ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

Revised 07/2016

L &G Consulting Engineers Inc
2100 W. Expressway 83
Mercedes, TX 78570
(956)565-9813 Fax (956)565-9018

INVOICE#: 11325992
INVOICE DATE: 10/31/2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

NOV 0 2 2016
11:38 AM PM
BY: A. C.

BILL TO: 87
Hidalgo County Drainage District#1
902 N. Doolittle
Edinburg, TX 78542

JOB:130206
Mission Inlet Recertification Project
WA#6 P.O.#629786

DESCRIPTION	CONTRACT	PREVIOUS APPLICATIONS	CURRENT COMPLETED	TOTAL COMPLETED	% COMPL	BALANCE TO FINISH
Engineering services for the month of October 2016.						
FC 11003 - PS&E Development	88,581.89	35,432.76	4,429.09	39,861.85	45.0	48,720.04
FC 60001- Right of Way Acquisition Services	41,000.00			0.00	0.0	41,000.00
FC 33001 - Geotechnical Engineering / SUB	7,513.68			0.00	0.0	7,513.68
FC 16306 - Scour/Erosion Report	10,429.36			0.00	0.0	10,429.36
FC 16307 - Utility Coordination	5,477.28			0.00	0.0	5,477.28
FC 16309 - Meetings & Coordination with HCDD#1 and TxDOT	7,853.22	3,138.78	1,563.15	4,701.93	59.9	3,151.29
	160,855.43	38,571.54	5,992.24	44,563.78	27.7	116,291.65

PROJECT MANAGER'S SIGNATURE

ORIGINAL CONTRACT SUM	$	160,855.43
CHANGE BY CHANGE ORDER	$	0.00
CONTRACT SUM TO DATE	$	160,855.43
TOTAL COMPLETED TO DATE	$	44,563.78
LESS PREVIOUS INVOICES	$	38,571.54
CURRENT PAYMENT DUE	$	5,992.24

L&G Consulting Engineers, Inc
2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-9813

Project Workhour Report
Mission Inlet Recert. Project WA#6
Reference: Inv# 11325992
Date: 10/31/2016
P.O.#629786

	Hrs		Rate	Total
Senior Project Manager	6.00	X	212.59	$1,275.54
Senior Engineer	1.00	X	175.07	$175.07
Design Engineer	0.00	X	112.55	$0.00
Admin/Clerical	2.00	X	56.27	$112.54

Grand Total of Hours		$ 1,563.15
	(Difference due to rounding hours)	$ -

Invoice Summary

Man Hours		$ 1,563.15
PS&E Development		$ 4,429.09
ROW Acquisition Services		
Geotechnical Engineering		
(See Attached Sub Invoice for Man Hour Breakdown)		
	(Difference due to rounding)	$ -

Total Per Invoice Submitted	**$ 5,992.24**

L&G Engineering
Transportation Consultants

November 1, 2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

NOV 0 2 2016
11:38 AM / PM
BY: A. C.

Mr. Raul Sesin, P.E. – District Manager
Hidalgo County Drainage District #1
902 N. Doolittle
Edinburg, Texas 78542

RE: Work Authorization #6 on Mission Inlet Recertification Project (Los Ebanos Bridge)
Job # 130206
P.O. # 629786

Dear Mr. Sesin,

Attached for your review and approval is our invoice for the services rendered during the month of October 2016 on the subject referenced project.

The following is attached:

- L&G's Invoice #11325992
- CD w/ Electronic Files of Data for:
  - FC 11003 & FC16309

TASK		% COMPL
Mission Inlet Recertification Project		
FC 11003 ~ PS&E Development	L&G	45.0%
Update – L&G continued developing the Plan Documents for the project including Title Sheet, Project Layout, Typical Sections, Culvert Layout, Removal Layout, Plan & Profile, Signing, Striping and SW3P Layout. Additionally, all pertinent standard sheets have been compiled and included in the plan set.		
FC 60001 ~ ROW Acquisition Services	L&G	0.0%
No Update – Task Not Started		
FC 33010 ~ SUB – Geotechnical Engineering	L&G Lab	0.0%
No Update – Task Not Started		
FC 16306 ~ Scour/Erosion Report	L&G	0.0%
No Update – Task Not Started		
FC 16307 ~ Utility Coordination	L&G	0.0%
No Update – Task Not Started		

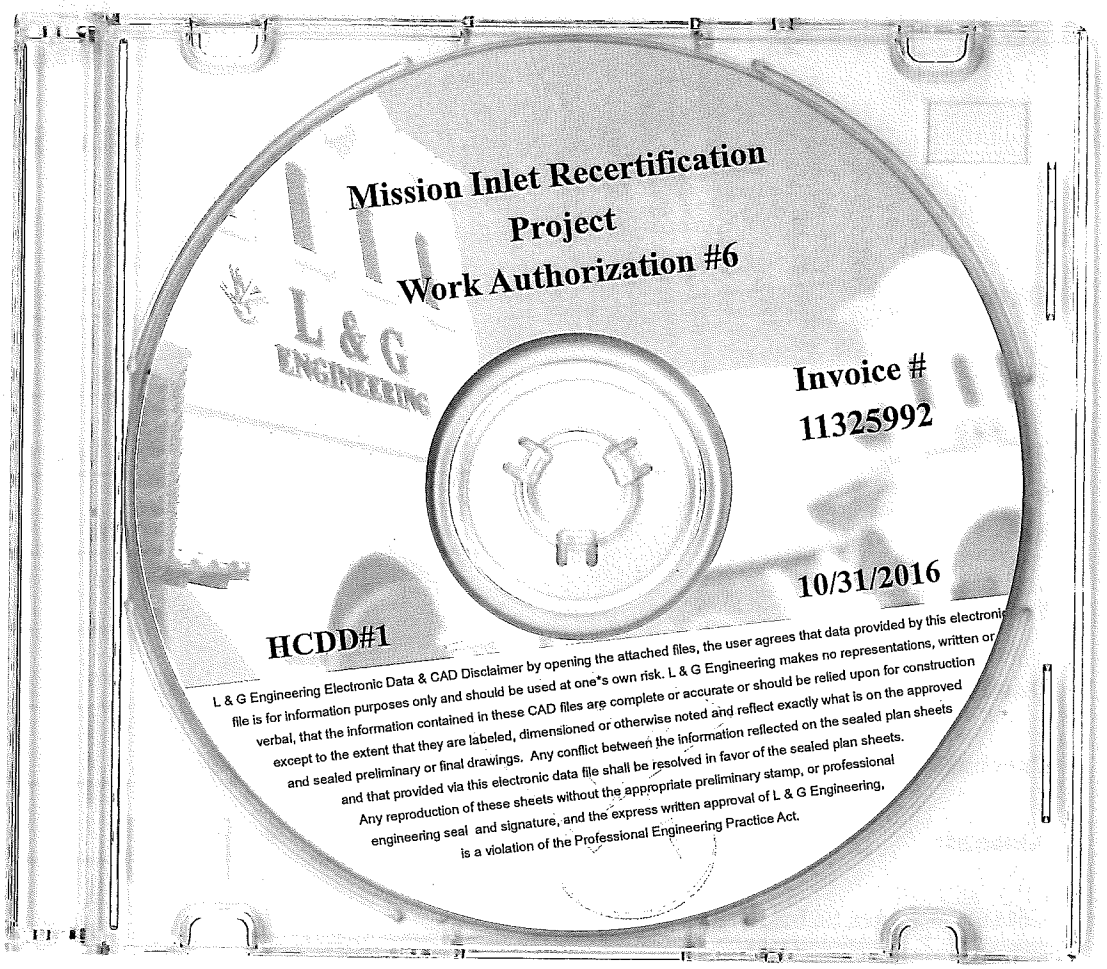
2100 W. Expressway 83 • Mercedes, TX 78570 • Office (956) 565-9813 • Fax (956) 565-9018
900 S. Stewart Rd., Ste. 10 • Mission, TX 78572 • Office (956) 585-1909 • Fax (956) 585-1927

FC 16309 ~ Meetings & Coordination with HCDD#1 and TxDOT	L&G	59.9%
Update – L&G held various informal meetings/conference calls with TxDOT to discuss project details and plan of action. Additionally, coordination continues to verify accuracy of survey data.		

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,

For David Saenz, P.E., C.F.M.
Project Manager
L&G Engineering


Mission Inlet Recertification
Project
Work Authorization #6
L & G
ENGINEERING
Invoice #
11325992
10/31/2016
HCDD#1
L & G Engineering Electronic Data & CAD Disclaimer by opening the attached files, the user agrees that data provided by this electroni
file is for information purposes only and should be used at one*s own risk. L & G Engineering makes no representations, written or
verbal, that the information contained in these CAD files are complete or accurate or should be relied upon for construction
except to the extent that they are labeled, dimensioned or otherwise noted and reflect exactly what is on the approved
and sealed preliminary or final drawings. Any conflict between the information reflected on the sealed plan sheets
and that provided via this electronic data file shall be resolved in favor of the sealed plan sheets.
Any reproduction of these sheets without the appropriate preliminary stamp, or professional
engineering seal and signature, and the express written approval of L & G Engineering,
is a violation of the Professional Engineering Practice Act.

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 11/2/2016

Engineer/Firm Name: L&G Consulting Engineers, Inc

Project Name/Number: Mission Inlet Recertification Project, WA No. 5

Invoice No.: 11325991

Invoice Date: 10/31/2016

Due Date: 12/2/2016

Purchase Order No.: 628488

Amount: $125,292.42

Total # of Pages Submitted: 8

Attachments: ☑ CD ☐ USB ☐ Plans Other: _____

Engineering: ✓ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

Revised 07/2016

L &G Consulting Engineers Inc
2100 W. Expressway 83
Mercedes, TX 78570
(956)565-9813 Fax (956)565-9018

INVOICE#: 11325991
INVOICE DATE: 10/31/2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

NOV 0 2 2016
11:38 AM / PM
BY: A. C.

BILL TO: 87
Hidalgo County Drainage District#1
902 N. Doolittle
Edinburg, TX 78542

JOB:130205
Mission Inlet Recertification Project
WA#5 P.O.#628488

DESCRIPTION	CONTRACT	PREVIOUS APPLICATIONS	CURRENT COMPLETED	TOTAL COMPLETED	% COMPL	BALANCE TO FINISH
Engineering services for the month of October 2016.						
FC 11003 - PS&E Development - 7.25% Construction Cost	1,042,906.33	573,598.48	104,290.63	677,889.11	65.0	365,017.22
FC 12002 - Outreach/Presentations with Major Stakeholders	19,995.83	14,993.76	1,000.42	15,994.18	80.0	4,001.65
FC 12003 - Meetings & Coordination with HCDD#1, County, FEMA &	59,349.71	44,531.08	2,976.23	47,507.31	80.0	11,842.40
FC 15001 - Coordination & Management of Surveyor	5,014.62	2,801.20	1,538.14	4,339.34	86.5	675.28
FC 15010 - SUB - Design Survey	50,010.00	27,785.00	15,487.00	43,272.00	86.5	6,738.00
FC 33001 - Geotechnical Engineering / SUB	110,206.04	99,185.44		99,185.44	90.0	11,020.60
	1,287,482.53	762,894.96	125,292.42	888,187.38	69.0	399,295.15

PROJECT MANAGER'S SIGNATURE

ORIGINAL CONTRACT SUM	$	1,287,482.53
CHANGE BY CHANGE ORDER	$	0.00
CONTRACT SUM TO DATE	$	1,287,482.53
TOTAL COMPLETED TO DATE	$	888,187.38
LESS PREVIOUS INVOICES	$	762,894.96
CURRENT PAYMENT DUE	$	125,292.42

L&G Consulting Engineers, Inc
2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-9813

Project Workhour Report
Mission Inlet Recert. Project WA#5
Reference: Inv# 11325991
Date: 10/31/2016
P.O.#628488

	Hrs		Rate	Total
Senior Project Manager	7.00	X	212.59	$1,488.13
Senior Engineer	14.00	X	175.07	$2,450.98
Design Engineer	12.00	X	112.55	$1,350.60
Admin/Clerical	4.00	X	56.27	$225.08

Grand Total of Hours	$ 5,514.79
(Difference due to rounding hours)	$ -

Invoice Summary

Man Hours	$ 5,514.79
PS&E Development - 7.25% of Construction Cost	$ 104,290.63
Sub Contract	$ 15,487.00
Geotechnical Engineering (See Attached Sub Invoice for Man Hour Breakdown)	
(Difference due to rounding)	$ -

Total Per Invoice Submitted	**$ 125,292.42**

R. O. W. SURVEYING SERVICES, L.L.C.

October 31, 2016

Jacinto Garza, President/CEO
L & G Engineering
Attn: Reza Badiozzamani, P.E.
2100 W. Expressway 83
Mercedes, Texas 78570

RE: Invoice #R16-111
Mission Inlet Project
Work Authorization #20
Limits: From: River Bend Drive
To: USIBWC Main Floodway (0.43 Miles)

Dear Mr. Badiozzamani:

Attached for your approval is our invoice for services rendered for the month of October, 2016. Attached you will also find a Progress report for review.

Thank you for your business. Should you have any questions or require additional information, please do not hesitate to give me a call at (956) 451-2670.

Sincerely,

Julio Cerda, P.E.
President/CEO

Progress Report as of October 31, 2016:

FC150 Field Surveying (Control Hz & Vt)

PHASE I

- ***B. Secondary Project Control***

  Secondary points have been set where needed to complete topography survey for all phases of project.

PHASE II

2. Topography & Cross Section Survey
   Field work complete for all phases of project. Topo to be delivered by October 28th.

3. Locate Visible Utilities
   Field work complete. Visible utilities have been tied to survey.

4. Cross Culverts, Driveway Culverts, Inverts
   Inverts and structures being verified in the field. Final topo to be delivered October 28th.

5. Right of Entry, ROW Research, Appraisal Dist. Records
   Right of Entry complete.

6. Proposed Centerline on Existing Pavement Pre-Construction for Utilities
   No Activities.

7. Profile and Cross Section Intersecting Streets
   Field work complete.

8. Irrigation Crossing
   Irrigation crossings have been tied and verified.

9. Existing Storm Drain H & V
   All structures and storm drains have been tied to survey. Field work complete and final deliverable being prepared.

10. Tie Existing Underground & Overhead Utilities Coordination with Engineer
    Questions by engineer to existing structure and utilities are being resolved. Updated files to be delivered by end of month.

11. Additional Field Surveying
Structures and channel topography complete.

15. Profiles of Existing Drainage Facilities
Cross sections and topography survey within proposed channel complete.

17. Obtain Elevations of Manholes & Valves of Utilities
Complete. Valves and manholes have been tied to survey.

18. Provide Temporary Signs, Traffic control, flags, safety equipment, etc.
Field work complete.

21. Inventory Signs, Mailboxes, and Driveways
Any mailboxes, signs, and driveways have been tied to survey. Descriptions to be delivered with final topography files.

22. Survey Controlled Data Sheets per TxDOT guidelines
No Activities

23. Recover and Establish Existing CL and ROW
Property corners have been recovered and tied to survey. Easement between Shary and Ware Road to be shown with final survey as requested by engineer.

24. Coordinate with the Engineer for Existing CL Stationing
Proposed centerline has been verified with engineer. Complete.

PHASE III

Final Reports & Deliverables

- **A. CADD file (2D &3D) for limits of Project**
Sections "A", "B", and Inlet outfall previously delivered. Final topography files to be delivered by end of month for review.

- **B. Final Report and Deliverables**
Sections "A", "B", and Inlet outfall previously delivered. Final topography files to be delivered by end of month for review.

Project Management & Oversight

- **A. Meeting & Coordination with Engineers**
Met with engineers regarding project schedule and questions with previous submittals. Updated files to be delivered by end of month.

- **B. QC/QA Survey**
Project data being verified by RPLS. Updated files to be delivered by end of month.

R. O. W. Surveying Services, L.L.C.

INVOICE

900 S. Stewart Road, Suite 13
Mission, TX 78572
TBPLS Reg. # 10193886
956-424-3335

INVOICE NUMBER : R16-111
Date: October 31, 2016
Our Order No.: R16005

BILL TO:
Jacinto Garza, P.E.
L & G Engineering
Attn: David Saenz, P.E.
2100 W. Expressway 83
Mercedes, Texas 78570

RE: Mission Inlet Project (Work Authorization No. 20)
Limits: From River Bend Drive to USIBWC Main Floodway: (0.43 Miles)

Task and Description	Contract Amount	Invoice to Date	Paid to Date	Current Amount Due	Contract Balance	AMOUNT
Function Code 150						
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1. Establish Primary Control						
B. Secondary Project Control						
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2. Horizontal Values Established with RTK or VRS	$1,237.00	$1,237.00	$743.00	$494.00	$0.00	100.00%
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A. Setting Benchmarks						
1. Setting Benchmarks @ 1000 ft. intervals						NA
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3. Locate Visible Utilities	$2,206.00	$2,206.00	$1,655.00	$551.00	$0.00	100.00%
a. Utilities	$1,258.00	$1,258.00	$944.00	$314.00	$0.00	100.00%
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7. Profile and Cross Section Intersecting Streets	$7,520.00	$7,520.00	$5,640.00	$1,880.00	$0.00	100.00%
8. Irrigation Crossing	$1,775.00	$1,775.00	$1,332.00	$443.00	$0.00	100.00%
9. Existing Storm Drain H & V	$784.00	$784.00	$588.00	$196.00	$0.00	100.00%
10. Tie Existing Underground & Overhead Utilities Coord. w/Eng.	$1,024.00	$1,024.00	$768.00	$256.00	$0.00	100.00%
11. Additional Field Surveying						
a. Irrigation Lines	$1,981.00	$1,981.00	$1,486.00	$495.00	$0.00	100.00%
b. Outfalls	$1,981.00	$1,981.00	$1,486.00	$495.00	$0.00	100.00%
c. Driveways and Turnouts	$1,112.00	$1,112.00	$834.00	$278.00	$0.00	100.00%
15. Profiles of Existing Drainage Facilities	$1,103.00	$1,103.00	$828.00	$275.00	$0.00	100.00%
17. Obtain Elevations of Manholes & Valves of Utilites	$1,267.00	$1,267.00	$951.00	$316.00	$0.00	100.00%
18. Provide tem. signs, traffic control, flags, safety equip., etc.	$775.00	$775.00	$582.00	$193.00	$0.00	100.00%
19. Ties to Existing Bridges or Culvert that may be in conflict w/new const.						
21. Inventory Signs, Mailboxes, & Driveways	$1,267.00	$1,267.00	$951.00	$316.00	$0.00	100.00%
22. Survey Control Data Sheets per TxDot	$1,406.00	$0.00	$0.00	$0.00	$1,406.00	0.00%
23. Recover & Establish Existing CL & ROW	$1,478.00	$1,478.00	$1,109.00	$369.00	$0.00	100.00%
24. Coordinate with the Engineer for Existing CL Stationing	$249.00	$225.00	$187.00	$38.00	$24.00	90.36%
Phase III - Final Report & Deliverables						
A. CADD file (2D & 3D) for limits of project	$1,740.00	$1,566.00	$0.00	$1,566.00	$174.00	90.00%
B. Final Report and Deliverables	$2,614.00	$2,353.00	$0.00	$2,353.00	$261.00	90.02%
Project Management and Oversight						
A. Meeting and Coordination w/ Engineers	$1,469.00	$1,323.00	$588.00	$735.00	$146.00	90.06%
B. QC/QA Survey	$2,838.00	$2,555.00	$1,136.00	$1,419.00	$283.00	90.03%
GRAND TOTAL:	**$50,010.00**	**$43,272.00**	**$27,785.00**		**$6,738.00**	**86.5267%**
			TOTAL DUE:	**$15,487.00**		

DIRECT ALL INQUIRIES TO:
JULIO CERDA, P.E.
(956)451-2670
email: julio@southtexasig.com

MAKE ALL CHECKS PAYABLE TO:
R. O. W. Surveying Services, L.L.C.
Attn: JULIO CERDA, P.E.
900 S. Stewart Road, Suite #13, Mission, Texas 78572

THANK YOU FOR YOUR BUSINESS!

L&G Engineering
Transportation Consultants

November 1, 2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
NOV 02 2016
11:38 AM / PM
BY: A.C.

Mr. Raul Sesin, P.E. – District Manager
Hidalgo County Drainage District #1
902 N. Doolittle
Edinburg, Texas 78542

RE: Mission Inlet Recertification Project
Work Authorization #5 – PS&E, Design Survey, Geotechnical
Job # 130205
P.O. # 628488

Dear Mr. Sesin,

Attached for your review and approval is our invoice for the services rendered during the month of October 2016 on the subject referenced project.

The following is attached:

- L&G's Invoice #11325991
- CD w/ Electronic Files of Data for:
  - FC 11003, 12002, 12003, 15001 & 15010

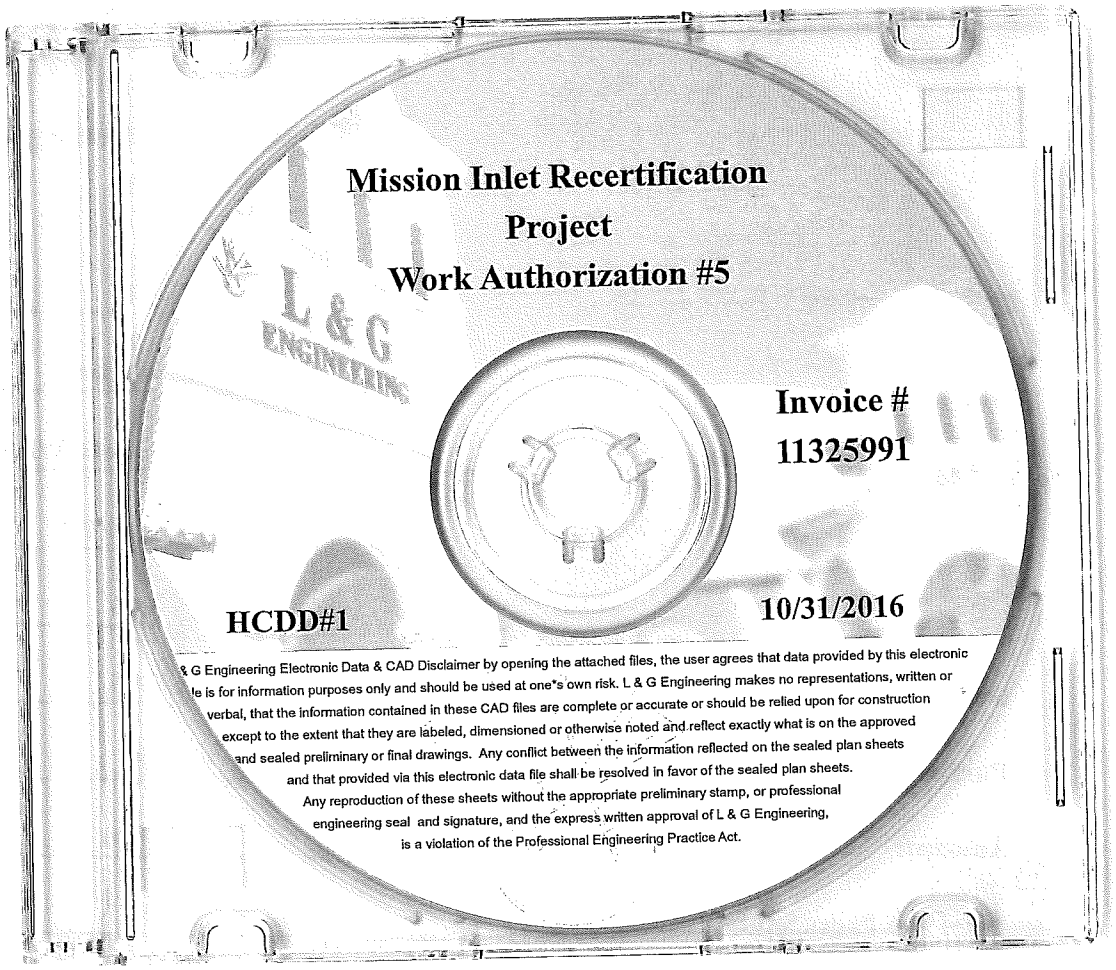
TASK		% COMPL
Mission Inlet Recertification Project		
FC 11003 ~ PS&E Development	L&G	65.0%
Update – PS&E development ongoing including: updating project layouts, junction layouts, P&P sheets, and E&Q sheets. L&G has begun to run cross-sections for earthwork calculations. Project base files have been updated throughout this period to incorporate survey data at SECTION C, D, and E. L&G has continued coordination with AEP Transmission to design around existing utility easements.		
FC 12002 ~ Outreach/Presentations with Major Stakeholders (i.e. City of Mission, City of McAllen, McAllen Airport, etc.)	L&G	80.0%
Update – L&G has held informal conference calls with the stakeholders throughout the month to address project questions and details.		
FC 12003 ~ Meetings & Coordination with HCDD#1, County, FEMA & IBWC	L&G	80.0%
Update – L&G has had informal coordination with HCDD #1 and County throughout the month discussing project status and general details.		

FC 15001 ~ Coordination & Management of Surveyor	L&G	86.5%
Update – L&G has coordinated with R.O.W. SS throughout the month to discuss progress on field surveying and topography and address any questions regarding the project.		
FC 15010 ~ SUB – Design Survey	ROW SS	86.5%
Update – See progress report from R.O.W. SS dated October 31, 2016 (see attached)		
FC 33001 ~ SUB – Geotechnical Engineering	L&G LAB	90.0%
No Update – See progress report from L&G Lab dated April 30, 2016.		

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,

For David Saenz, P.E., C.F.M.
Project Manager
L&G Engineering


Mission Inlet Recertification
Project
Work Authorization #5
L&G
ENGINEERING
Invoice #
11325991
HCDD#1
10/31/2016
& G Engineering Electronic Data & CAD Disclaimer by opening the attached files, the user agrees that data provided by this electronic
le is for information purposes only and should be used at one"s own risk. L & G Engineering makes no representations, written or
verbal, that the information contained in these CAD files are complete or accurate or should be relied upon for construction
except to the extent that they are labeled, dimensioned or otherwise noted and reflect exactly what is on the approved
and sealed preliminary or final drawings. Any conflict between the information reflected on the sealed plan sheets
and that provided via this electronic data file shall be resolved in favor of the sealed plan sheets.
Any reproduction of these sheets without the appropriate preliminary stamp, or professional
engineering seal and signature, and the express written approval of L & G Engineering,
is a violation of the Professional Engineering Practice Act.

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 11/2/2016

Engineer/Firm Name: L&G Consulting Engineers, Inc.

Project Name/Number: Mission Inlet Recert. Project, WA No. 6

Invoice No.: 11325992

Invoice Date: 10/31/2016

Due Date: 12/2/2016

Purchase Order No.: 629786

Amount: $5,992.24

Total # of Pages Submitted: 4

Attachments: ☑ CD ☐ USB ☐ Plans Other: _____

Engineering: ✓ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

Revised 07/2016

L &G Consulting Engineers Inc
2100 W. Expressway 83
Mercedes, TX 78570
(956)565-9813 Fax (956)565-9018

INVOICE#: 11325992
INVOICE DATE: 10/31/2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

NOV 0 2 2016
11:38 AM PM
BY: A. C.

BILL TO: 87
Hidalgo County Drainage District#1
902 N. Doolittle
Edinburg, TX 78542

JOB:130206
Mission Inlet Recertification Project
WA#6 P.O.#629786

DESCRIPTION	CONTRACT	PREVIOUS APPLICATIONS	CURRENT COMPLETED	TOTAL COMPLETED	% COMPL	BALANCE TO FINISH
Engineering services for the month of October 2016.						
FC 11003 - PS&E Development	88,581.89	35,432.76	4,429.09	39,861.85	45.0	48,720.04
FC 60001- Right of Way Acquisition Services	41,000.00			0.00	0.0	41,000.00
FC 33001 - Geotechnical Engineering / SUB	7,513.68			0.00	0.0	7,513.68
FC 16306 - Scour/Erosion Report	10,429.36			0.00	0.0	10,429.36
FC 16307 - Utility Coordination	5,477.28			0.00	0.0	5,477.28
FC 16309 - Meetings & Coordination with HCDD#1 and TxDOT	7,853.22	3,138.78	1,563.15	4,701.93	59.9	3,151.29
	160,855.43	38,571.54	5,992.24	44,563.78	27.7	116,291.65

PROJECT MANAGER'S SIGNATURE

ORIGINAL CONTRACT SUM	$	160,855.43
CHANGE BY CHANGE ORDER	$	0.00
CONTRACT SUM TO DATE	$	160,855.43
TOTAL COMPLETED TO DATE	$	44,563.78
LESS PREVIOUS INVOICES	$	38,571.54
CURRENT PAYMENT DUE	$	5,992.24

L&G Consulting Engineers, Inc
2100 W. Expressway 83
Mercedes, Texas 78570
(956) 565-9813

Project Workhour Report
Mission Inlet Recert. Project WA#6
Reference: Inv# 11325992
Date: 10/31/2016
P.O.#629786

	Hrs		Rate	Total
Senior Project Manager	6.00	X	212.59	$1,275.54
Senior Engineer	1.00	X	175.07	$175.07
Design Engineer	0.00	X	112.55	$0.00
Admin/Clerical	2.00	X	56.27	$112.54

Grand Total of Hours		$ 1,563.15
	(Difference due to rounding hours)	$ -

Invoice Summary

Man Hours		$ 1,563.15
PS&E Development		$ 4,429.09
ROW Acquisition Services		
Geotechnical Engineering		
(See Attached Sub Invoice for Man Hour Breakdown)		
	(Difference due to rounding)	$ -

Total Per Invoice Submitted	**$ 5,992.24**

L&G Engineering
Transportation Consultants

November 1, 2016

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

NOV 0 2 2016
11:38 AM / PM
BY: A. C.

Mr. Raul Sesin, P.E. – District Manager
Hidalgo County Drainage District #1
902 N. Doolittle
Edinburg, Texas 78542

RE: Work Authorization #6 on Mission Inlet Recertification Project (Los Ebanos Bridge)
Job # 130206
P.O. # 629786

Dear Mr. Sesin,

Attached for your review and approval is our invoice for the services rendered during the month of October 2016 on the subject referenced project.

The following is attached:

- L&G's Invoice #11325992
- CD w/ Electronic Files of Data for:
  - FC 11003 & FC16309

TASK		% COMPL
Mission Inlet Recertification Project		
FC 11003 ~ PS&E Development	L&G	45.0%
Update – L&G continued developing the Plan Documents for the project including Title Sheet, Project Layout, Typical Sections, Culvert Layout, Removal Layout, Plan & Profile, Signing, Striping and SW3P Layout. Additionally, all pertinent standard sheets have been compiled and included in the plan set.		
FC 60001 ~ ROW Acquisition Services	L&G	0.0%
No Update – Task Not Started		
FC 33010 ~ SUB – Geotechnical Engineering	L&G Lab	0.0%
No Update – Task Not Started		
FC 16306 ~ Scour/Erosion Report	L&G	0.0%
No Update – Task Not Started		
FC 16307 ~ Utility Coordination	L&G	0.0%
No Update – Task Not Started		

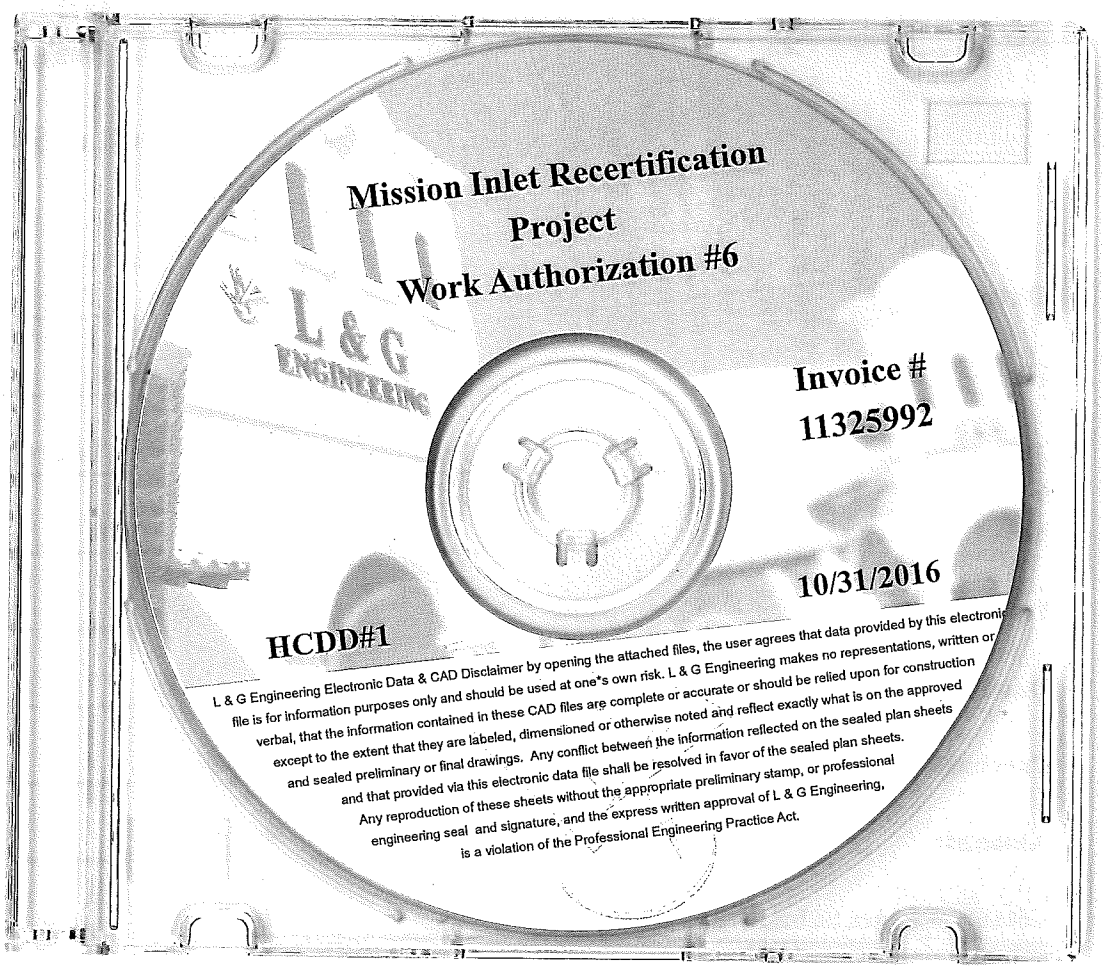
2100 W. Expressway 83 • Mercedes, TX 78570 • Office (956) 565-9813 • Fax (956) 565-9018
900 S. Stewart Rd., Ste. 10 • Mission, TX 78572 • Office (956) 585-1909 • Fax (956) 585-1927

FC 16309 ~ Meetings & Coordination with HCDD#1 and TxDOT	L&G	59.9%
Update – L&G held various informal meetings/conference calls with TxDOT to discuss project details and plan of action. Additionally, coordination continues to verify accuracy of survey data.		

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,

For David Saenz, P.E., C.F.M.
Project Manager
L&G Engineering


Mission Inlet Recertification
Project
Work Authorization #6
L & G
ENGINEERING
Invoice #
11325992
10/31/2016
HCDD#1
L & G Engineering Electronic Data & CAD Disclaimer by opening the attached files, the user agrees that data provided by this electroni
file is for information purposes only and should be used at one*s own risk. L & G Engineering makes no representations, written or
verbal, that the information contained in these CAD files are complete or accurate or should be relied upon for construction
except to the extent that they are labeled, dimensioned or otherwise noted and reflect exactly what is on the approved
and sealed preliminary or final drawings. Any conflict between the information reflected on the sealed plan sheets
and that provided via this electronic data file shall be resolved in favor of the sealed plan sheets.
Any reproduction of these sheets without the appropriate preliminary stamp, or professional
engineering seal and signature, and the express written approval of L & G Engineering,
is a violation of the Professional Engineering Practice Act.

AI -57325 **8.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Lora Briones

Submitted By: Lora Briones, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 Bond Series
Pct. 1 Rural Drainage Development

Invoice No. 1016112804 in the amount of $7,456.00 from Urban Infrastructure Group related to Pct. 1- Mile 13 1/2 and 1015 Area Drainage Improvements Project Work Authorization No. 4 for Special Services to modify the proposed drainage route for the month of September to October 2016. PO#630389

BACKGROUND

Fiscal Impact

Attachments

Urban Infrastructure Group Invoice No. 1016112804

Form Review

Inbox	**Reviewed By**	**Date**
Final Approval	Monica Badillo	11/10/2016 02:15 PM

Form Started By: Lora Briones Started On: 11/10/2016 09:00 AM

Final Approval Date: 11/10/2016

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 10/28/2016

Engineer/Firm Name: Urban Infrastructure Group, Inc.

Project Name/Number: Pct. 1 Mile 13.5 and 1015 Area DIP, WA No. 4

Invoice No.: 1016112804

Invoice Date: 10/27/2016

Due Date: 11/27/2016

Purchase Order No.: 630389

Amount: $7,456.00

Total # of Pages Submitted: 28

Attachments: ☐ CD ☐ USB ☐ Plans Other: _____

Engineering: ☑ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: Construction Plans Included (27 pgs.)

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

URBAN INFRASTRUCTURE GROUP, INC.

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1
OCT 20 2016
8:10 AM PM
BY:

October 27, 2016

Jaime Salazar, Operations Manager
Hidalgo County Drainage District No.1
902 N. Doolittle
Edinburg, Texas 78542

RE: Invoice No. 1016112804

Project Name:	Pct. 1 – Mile 13 ½ and 1015 area Drainage Improvement Project WA4 – PO 630389
Project Number:	112804

Invoice Period:	September - October 2016

This is invoice is for Special Services to modify the proposed drainage route for the Mile 13 ½ and 1015 Area Drainage Improvement project. If you have any questions please don't hesitate to call me.

Professional Services	Complete This Period	Contract Amount	Amount This Month	Total
WA#4 PO 630389 (80% Complete)	80%	$9,320.00	$7,456.00	
				$7,456.00

Reimbursable Expenses	**Each**	**Rate**	**Amount**
Copies 8.5 x 11		$.10	$0.00
Copies Color		$0.35	$0.00
Bond 24x36"		$4.00	$0.00

TOTAL AMOUNT DUE:	**$7,456.00**

I certify that the above information is true and correct.

Craig A Gonzalez, P.E.
Principal

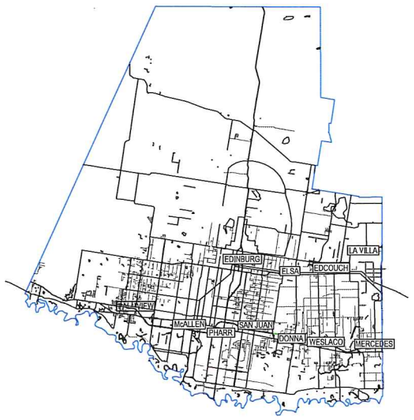
We appreciate the opportunity to serve you on this project.
God Bless.

407 N. Salinas Blvd.
PO Box 729
Donna, Texas 78537

wwww.uigtexas.com
TBPE Firm No. F-13094

P: (956) 464-4710
F: (956) 464-4714

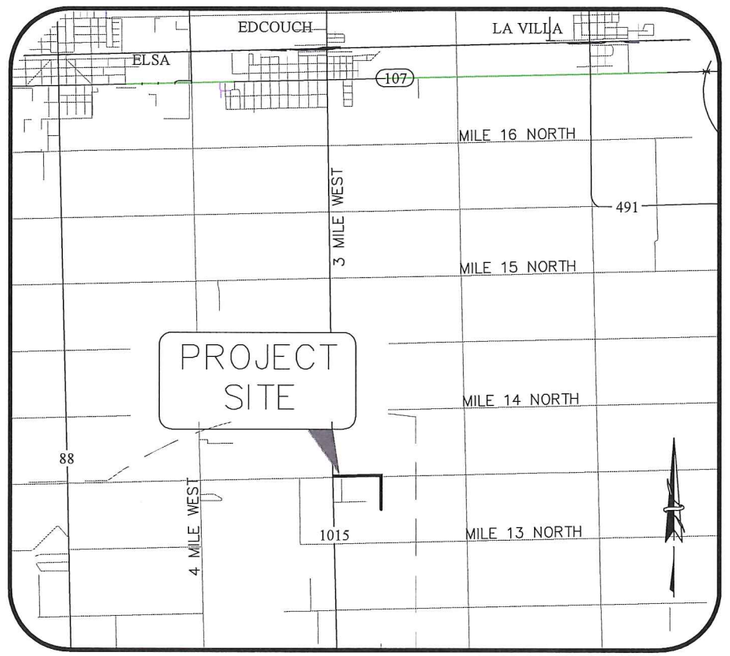
HIDALGO COUNTY DRAINAGE DISTRICT No.1
CONSTRUCTION PLANS FOR
PCT. 1 - MILE $13\frac{1}{2}$ N & FM 1015 AREA
DRAINAGE IMPROVEMENT PROJECT
PHASE I
HIDALGO COUNTY, TEXAS



LOCATION MAP

URBAN INFRASTRUCTURE GROUP, INC.

407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537
(956) 464-4710



VICINITY MAP

APPROVED BY DRAINAGE DISTRICT:
HIDALGO COUNTY DRAINAGE DISTRICT NO. 1

RAUL E. SESIN, P.E., C.F.M. — DATE
GENERAL MANAGER

HIDALGO COUNTY COMMISSIONER'S COURT

COUNTY JUDGE
RAMON GARCIA
COMMISSIONER PRECINCT 1
A.C CUELLAR, JR.
COMMISSIONER PRECINCT 2
EDUARDO "EDDIE" CANTU
COMMISSIONER PRECINCT 3
JOE M. FLORES
COMMISSIONER PRECINCT 4
JOSEPH PALACIOS
HIDALGO COUNTY DRAINAGE DISTRICT No.1

MILE $13\frac{1}{2}$ NORTH ROAD & FM 1015 DRAINAGE PROJECT PHASE I

UIG PROJ. NO. 112800
HWY. FM 1015 AND MILE 13.5 NORTH RD.
DATE ACCEPTED_____

Adolfo Navarro File: Y:\112800 HC Los Olivarez Drng Imp\CD\COVER SHEET PHASE 1.dwg

SHEET NO. DESCRIPTION

GENERAL

G1 COVER SHEET
G2 INDEX SHEET
G3 GENERAL NOTES
G4 PROJECT LAYOUT
G5 DEMOLITION PLAN

CIVIL DRAWINGS

C1 1+00 – 6+00
C2 6+00 – 11+00
C3 11+00 – 16+00
C4 16+00 – 21+00
C5 21+00 – 26+00
C6 26+00 – 31+00
C7 31+00 – 36+00
C8 DITCH CROSS-SECTIONS

DETAILS AND STANDARDS

C9 TCP(2-1)-12 [S]
C10-C21 BC(1)-14 THRU BC(12)-14 [S]
C22 DETAILS

NO.	DESCRIPTION	INITIALS	DATE

THIS DOCUMENT IS RELEASED FOR INTERIM REVIEW ONLY UNDER AUTHORITY OF CRAIG A. GONZALEZ, P.E., (NO. 99268) ON 10/28/2016 AND IS NOT TO BE USED FOR BIDDING OR CONSTRUCTION.

HIDALGO COUNTY DRAINAGE DISTRICT No.1

URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD. (956) 464-4710
PO BOX 729 TBPE FIRM NO. F-13094
DONNA, TEXAS 78537 WWW.UIGTEXAS.COM

MILE 13 1/2 & FM 1015 AREA
DRAINAGE IMPROVEMENT PROJECT
INDE EET

PROJECT NO.	112800
DATE:	10/27/2016
SCALE:	NTS

SHEET NUMBER: G2

GENERAL NOTES:

1. ALL WORK SHALL BE COMPLETED TO THE SATISFACTION OF THE HIDALGO COUNTY PRECINCT No. 1 AND HIDALGO COUNTY DRAINAGE DISTRICT No. 1.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT MR. RICHARD GARCIA WITH NORTH ALAMO WATER SUPPLY CORP. 48 HOURS PRIOR TO COMMENCEMENT OF WORK @ (956) 383-1618 TO COORDINATE AND MEET ANY ADDITIONAL REQUIREMENTS AND/OR SPECIFICATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT MR. JOHNNY MIZE WITH HIDALGO AND CAMERON COUNTIES IRRIGATION DISTRICT No. 9 - 48 HOURS PRIOR TO COMMENCEMENT OF WORK @ (956) 565-2411 TO COORDINATE AND MEET ANY ADDITIONAL REQUIREMENTS AND/OR SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT MR. NOE SALDIVAR, P.E., WITH HIDALGO COUNTY DRAINAGE DISTRICT NO. 1 - 48 HOURS PRIOR TO COMMENCEMENT OF WORK @ (956) 292-7080 TO COORDINATE AND MEET ANY ADDITIONAL REQUIREMENTS AND/OR SPECIFICATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL DIG TEXAS811 PRIOR TO COMMENCEMENT OF WORK FOR UTILITY SPOTTING @ 811.
6. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES FOR VERIFICATION OF LOCATION OF EXISTING FACILITIES PRIOR TO BEGINNING ANY EXCAVATION.
7. 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.
8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE CORRESPONDING UTILITY CORPORATION IN REGARDS TO THE RELOCATION/ADJUSTION OF ANY CONFLICTING UTILITIES. THE RELOCATION/ADJUSTMENT SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.
9. THE CONTRACTOR SHALL REMOVE ALL FENCES LOCATED WITHIN THE EASEMENTS AND RIGHT OF WAY, INTERFERING WITH CONSTRUCTION OPERATION AND PROVIDE TEMPORARY FENCING DURING CONSTRUCTION. REMOVED FENCES SHALL BE REPLACED WITH A NEW FENCE OR UNDAMAGED ORIGINAL FENCING. REMOVAL AND REPLACEMENT OF EXISTING AND TEMPORARY FENCES SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.
10. ANY DAMAGES TO FENCES, WALKS, OR PRIVATE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
11. THE CONTRACTOR SHALL AT ALL TIME PROVIDE ACCESS TO EXISTING RESIDENCES.
12. THE CONTRACTOR IS TO MAINTAIN ALL EQUIPMENT AND TRANSPORTATION OF SAID EQUIPMENT WITHIN THE EXISTING RIGHT-OF-WAYS OF THE COUNTY OR STATE.
13. NO OPEN EXCAVATION SHALL BE LEFT OPEN OVERNIGHT. ALL EXCAVATIONS WHICH CANNOT BE BACKFILLED OVERNIGHT SHALL BE COVERED, AS A MINIMUM, WITH STEEL PLATING WHEN IN PAVED AND UNPAVED AREAS SUBJECT TO VEHICULAR LOADING; ¾ PLYWOOD, WOOD PLANKING WITH O.S.H.A. ORANGE PLASTIC EXPANDED MESH BARRIER AROUND PERIMETER IN UNPAVED AREAS NOT SUBJECT TO VEHICULAR LOADING, OR AS APPROVED BY THE ENGINEER.
14. THE PREPARATION OF THESE PLANS REFLECTS INFORMATION, PROVIDED BY OTHERS, ON THE APPROXIMATE LOCATION AND EXISTENCE OF EXISTING UTILITY AND ADJACENT PHYSICAL FEATURES. HOWEVER, THEY DO NOT IMPLY OR AFFIRM THAT ALL UTILITIES OR PHYSICAL FEATURES ARE SHOWN. GENERALLY, UTILITY SERVICE CONNECTIONS ARE NOT INDICATED ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATIONS OF THE OWNER IMMEDIATELY UPON ENCOUNTERING UNFORESEEN CONFLICTS.
15. THE APPROXIMATE LOCATIONS OF KNOWN EXISTING UTILITIES ARE SHOWN, CONTRACTOR SHALL DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATIONS IN THE FIELD PRIOR TO COMMENCING WORK. CONTRACTOR TO BE FULLY RESPONSIBLE FOR DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE EXISTING UTILITIES.
16. PUBLIC AND PRIVATE UTILITY LINES AND CUSTOMER SERVICE LINES MAY EXIST THAT ARE NOT SHOWN ON THE CONSTRUCTION DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, MAINTAIN AND PROTECT THE INTEGRITY OF THESE LINES. HAND EXCAVATION MAY BE REQUIRED. THE CONTRACTOR SHALL RESTORE RELOCATED OR DIVERTED UTILITY TO ITS ORIGINAL CONDITION AND LOCATION WHEN APPLICABLE UPON COMPLETION OF CONSTRUCTION. SAID RESTORATION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.
17. WHERE NEW WATER LINES AND SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC 317 (DESIGN OF SEWAGE SYSTEMS) OR 30 TAC 290 (WATER HYGIENE).
18. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING WATER AND SEWER CONNECTIONS TO ALL HOMES AND BUSINESSES IN WORKING ORDER AT ALL TIMES, EXCEPT FOR BRIEF INTERRUPTIONS IN SERVICE FOR CONNECTIONS TO BE REINSTALLED. IN NO CASE SHALL SERVICES BE ALLOWED TO REMAIN OUT OF SERVICE OVERNIGHT. CONTRACTOR IS RESPONSIBLE FOR DAMAGES TO SAID SERVICES.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE DRAINAGE OF PROPOSED AND/OR EXISTING FACILITIES AT ALL TIMES DURING CONSTRUCTION.
20. ROADSIDE DITCHES SHALL BE REGRADED TO PROVIDE POSITIVE FLOW TO THE EXISTING AND/OR PROPOSED DRAINAGE STRUCTURES.
21. THE CONTRACTOR SHALL CLEANUP AND RESTORE THE AREA OF OPERATIONS TO A CONDITION AS GOOD AS OR BETTER THAN THAT WHICH EXISTED PRIOR TO INSTALLATION OF ALL ITEMS TO BE CONSTRUCTED.
22. COUNTY WILL PROVIDE CONTROL POINTS (BENCHMARK AND PROPERTY CORNERS) FOR THE WORK TO BE PERFORMED BY THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION STAKING, INCLUDING BUT NOT LIMITED TO HORIZONTAL & VERTICAL GRADE CUTS FOR CURB & GUTTER, ROADWAY, STORM DRAIN PIPE, ROADSIDE DITCHES, DRIVEWAY CULVERTS AND DITCH WORK. THE HMAC, BASE AND SUBGRADE SHALL BE GRADED AS PER THE PROPOSED CROSS SLOPE.
23. THE CONTRACTOR SHALL PROVIDE/MAINTAIN ADEQUATE POSITIVE DRAINAGE AT ALL TIMES DURING THE INSTALLATION OF THE STRUCTURES, DRAINAGE, UTILITY, IRRIGATION AND ROAD IMPROVEMENTS. DEWATERING OF THE TRENCH MAY BE REQUIRED DURING THE INSTALLATION OF THE DRAINAGE, UTILITY AND IRRIGATION FACILITIES/STRUCTURES. SAID DEWATERING SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST AND REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED IN THE PROPOSAL.
24. THE CONTRACTOR IS RESPONSIBLE FOR THE PREPARATION AND SUBMITTAL OF THE TRENCH EXCAVATION PROTECTION PLAN. CONTRACTOR SHALL SUBMIT CONSTRUCTION DETAILS AND DESIGN CALCULATIONS BEARING THE SEAL OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS BEFORE CONSTRUCTING THE SHORING AND/OR UTILIZING A TRENCH PROTECTION SYSTEM (BOX). THE ENGINEER RESERVES THE RIGHT TO REJECT DESIGNS NOT MEETING THE REQUIREMENTS OF SECTION ITEM 402 AND 403.
25. PERMANENT PAVEMENT MARKINGS FOR THIS PROJECT SHALL BE 0.100 INCHES (100 MIL) THICK THERMOPLASTIC. ANY PERMANENT PAVEMENT MARKINGS OR NON-REMOVAL WORK ZONE PAVEMENT MARKINGS LACKING REFLECTIVITY IN ACCORDANCE WITH TEST METHOD TEX 828-B, WILL NOT BE PAID FOR AS PER COUNTY POLICY. THE ROADWAY WILL BE RE-STRIPED AT NO ADDITIONAL COMPENSATION.
26. THE BEADS USED ON THIS PROJECT SHALL MEET THE REQUIREMENTS OF TxDOT MATERIALS SPECIFICATION DMS-8290, GLASS TRAFFIC BEADS TEXAS TYPE II & III. USE A 50% TYPE II/ 50% TYPE III MIX UTILIZING A DOUBLE DROP SYSTEM WITH TYPE III BEADS DROPPED FIRST.
27. PAVEMENT SURFACE PREPARATION FOR MARKINGS AND MARKERS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED ON THE PROPOSAL.
28. THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN ON ALL STREET AND ROAD CROSSINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER LICENSED PROFESSIONAL TO PRACTICE IN THE STATE OF TEXAS FOR APPROVAL BY HIDALGO COUNTY PRECINCT No. 1 AND PROJECT ENGINEER PRIOR TO COMMENCEMENT OF WORK. ALL CONSTRUCTION OPERATIONS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO TRAFFIC AS PROVIDED FOR IN THE SPECIFICATIONS, TxDOT STANDARDS, TEXAS M.U.T.C.D. AND/OR AS DIRECTED. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT EDITION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
29. FLEXIBLE BASE AGGREGATE SHALL MEET THE REQUIREMENTS IN THE TABLE BELOW. NEW CALICHE MATERIAL SHALL BE TREATED WITH 1.5% LIME BY DRY WEIGHT OF MATERIAL IF THE PLASTICITY INDEX OF SAID MATERIAL IS GREATER THAN 12.

PROPERTY	TEST METHOD	REQUIREMENT
2½" SEIVE (CUMULATIVE, %RET)	TEX-110-E	0
1¾" SEIVE (CUMULATIVE, %RET)	TEX-110-E	0-10
#4 SEIVE (CUMULATIVE, %RET)	TEX-110-E	45-75
#40 SEIVE (CUMULATIVE, %RET)	TEX-110-E	50-85
LIQUID LIMIT, % MAX	TEX-104-E	40
PLASTICITY INDEX, % MAX	TEX-106-E	12
WET BALL MILL, % MAX	TEX-116-E	50
WET BALL MILL, % MAX INCREASE PASSING #40 SEIVE	TEX-116-E	60

30. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY SURFACE IRREGULARITIES, AS DIRECTED BY THE ENGINEER, CAUSED BY THE CONTRACTOR'S WORKING OPERATIONS.
31. ALL CONSTRUCTION OPERATIONS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO TRAFFIC AS PROVIDED IN THE SPECIFICATIONS, TXDOT STANDARDS, TEXAS M.U.T.C.D. AND/OR AS DIRECTED.
32. ALL DEBRIS, VEGETATION AND SURPLUS MATERIAL RESULTING FROM DEMOLITION AND/OR CLEARING OF THE RIGHT-OF-WAY AND PROJECT LOCATION, IN PREPARATION OF PROPOSED IMPROVEMENTS, SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF AT A SITE ACCEPTABLE TO HIDALGO COUNTY PRECINCT NO 1. THE CONTRACTOR SHALL PROVIDE A LETTER STATING SO. THIS SHALL BE INCIDENTAL AND NOT A SEPARATE PAY ITEM UNLESS STATED SO. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAYS WITHOUT WRITTEN PERMISSION FROM THE AFFECTED PROPERTY OWNER AND THE HIDALGO COUNTY PRECINCT NO 1. IF THE CONTRACTOR PLACES EXCESS MATERIAL IN THE AREAS WITHOUT WRITTEN PERMISSION, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND CONTRACTOR SHALL REMOVE THE MATERIAL AT OWN COST.
33. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL EXISTING WATER VALVES AND MANHOLES TO MATCH PROPOSED FINISH GRADE OF ROADWAY. CONCRETE COLLARS SHALL BE INSTALLED TO MATCH TOPS WITH PAVEMENT GRADE. THIS WORK SHALL BE INCIDENTAL AND NOT A SEPARATE PAY ITEM UNLESS STATED OTHERWISE.
34. THE CONTRACTOR SHALL BE RESPONSIBLE TO FOLLOW ALL T.C.E.Q. STORM WATER POLLUTION PREVENTION PLAN (SWP3) REQUIREMENTS AS STATED IN TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM CONSTRUCTION GENERAL PERMIT (TPDES TXR150000, EFFECTIVE DATE MARCH 5, 2008), INCLUDING N.O.I. SUBMITTAL AND MS4 NOTIFICATION.
35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT/RELOCATION OF ALL REGULATORY SIGNS REMOVED DUE TO CONSTRUCTION OPERATIONS WITH THE SAME SIGN ON FIXED SUPPORT(S) IMMEDIATELY UPON ITS REMOVAL. APPROVAL BY THE ENGINEER IS NECESSARY BEFORE REMOVING ANY REGULATORY ROADWAY SIGN(S). FLAGGERS ARE REQUIRED TO BE AVAILABLE TO DIRECT TRAFFIC DURING SIGN INTERMEDIATE DOWN TIME. RELOCATION OF ANY DIRECTIONAL SIGN ASSEMBLIES REMOVED DURING CONSTRUCTION OPERATIONS, IMMEDIATELY UPON THEIR REMOVAL, IS REQUIRED. ALL SIGNING, BARRICADING AND TRAFFIC CONTROL SHALL CONFORM TO THE LATEST VERSION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". IN NO CASE WILL A SIGN BE REMOVED WITHOUT A REPLACEMENT SIGN AND SUPPORT(S) BEING READILY AVAILABLE AND A LOCATION ESTABLISHED. REMOVAL AND RELOCATION OF THESE SIGNS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST REFLECTED IN THE UNIT BID PRICES FOR VARIOUS ITEMS LISTED ON THE PROPOSAL.
36. ALL NEW SIGNING SHALL BE IN CONFORMANCE WITH THE CURRENT EDITION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
37. THE CONTRACTOR SHALL EXERCISE DILIGENCE IN THE APPLICATION OF PRIME COAT/ TACK COAT BY THE USE OF FLAGGING AND ROLLING PROCEDURES TO KEEP FROM SPRAYING OR SPLATTERING THE TRAVELING PUBLIC WITH ASPHALT MATERIAL, BLADING MAY ALSO BE NECESSARY TO CLEAN DIRT AND GRASS FROM PAVEMENT EDGES AND TURNOUT AREAS. THE COST OF THIS BLADING WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT COST.

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NO.	DESCRIPTION	INITIALS	DATE

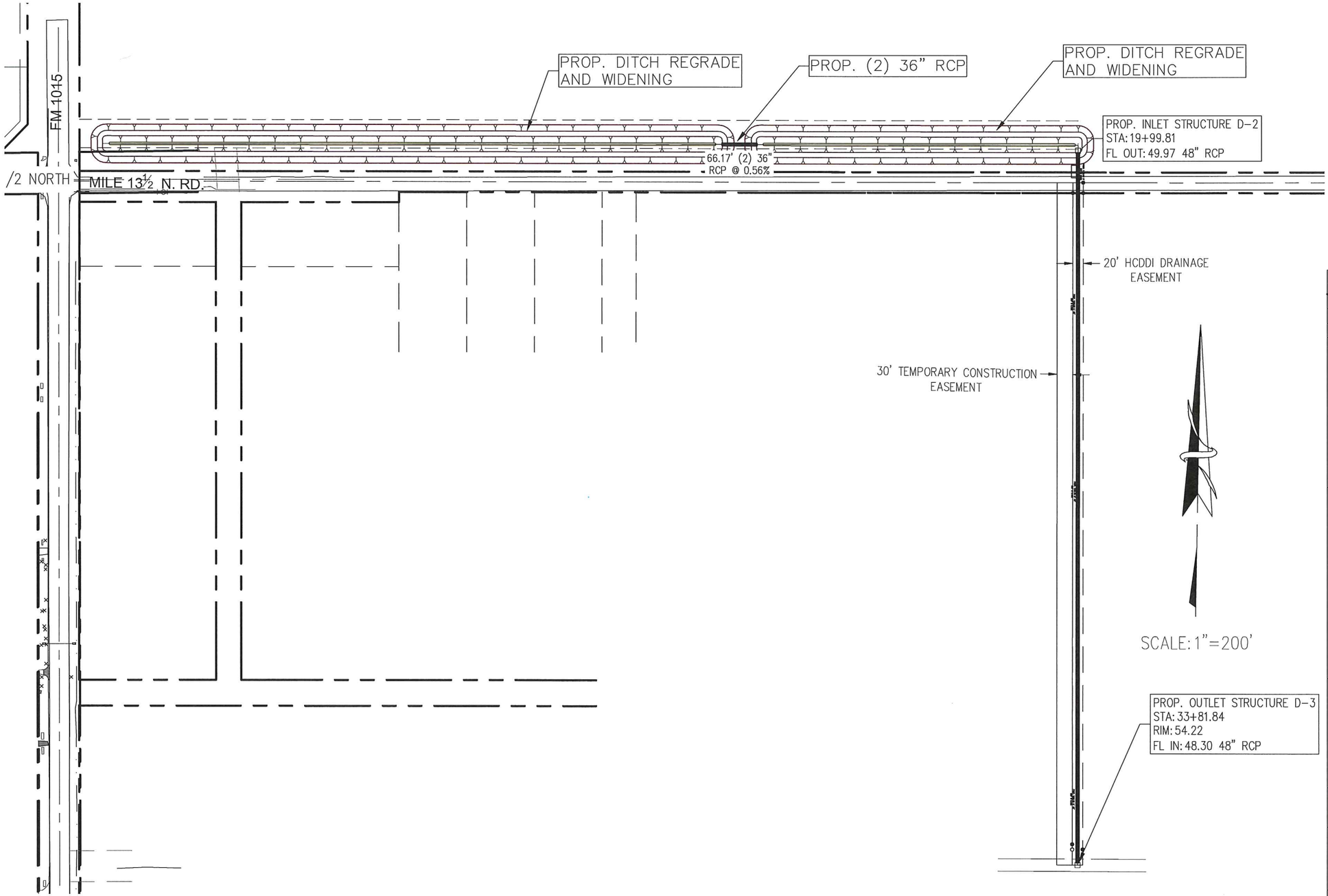
HIDALGO COUNTY DRAINAGE DISTRICT No.1 HCDD1

URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537
(956) 464-4710
TBPE FIRM NO. F-13094
WWW.UIGTEXAS.COM

MILE 13 1/2 N & FM 1015 AREA
DRAINAGE IMPROVEMENT PROJECT
GENERAL NOTE

PROJECT NO.	112800
DATE:	10/27/2016
SCALE:	

SHEET NUMBER: G3



NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1

URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537
(956) 464-4710
TBPE FIRM NO. F-13094
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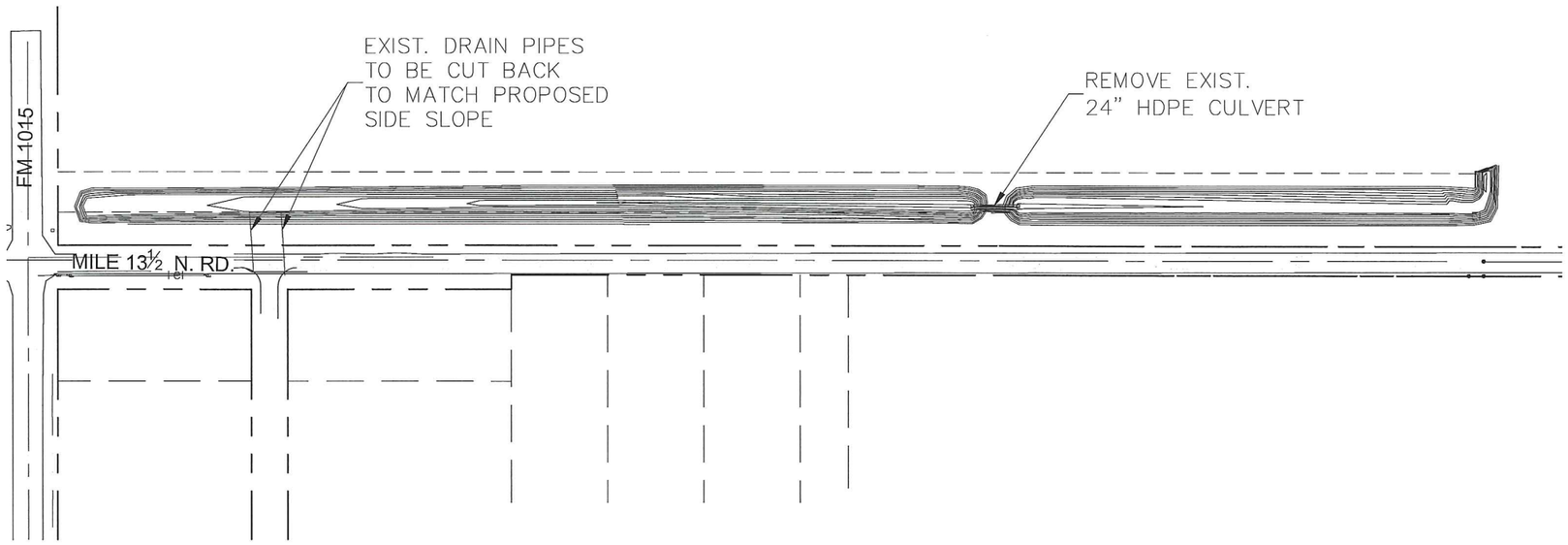
MILE 13 1/2 N & FM 1015 AREA DRAINAGE IMPROVEMENT PROJECT

PROJECT LAYOUT

PROJECT NO.	112800
DATE:	10/27/2016
SCALE:	1:200

SHEET NUMBER: G4

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SCALE: 1"=200'

NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1

URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537
(956) 464-4710
TBPE FIRM NO. F-13094
WWW.UIGTEXAS.COM

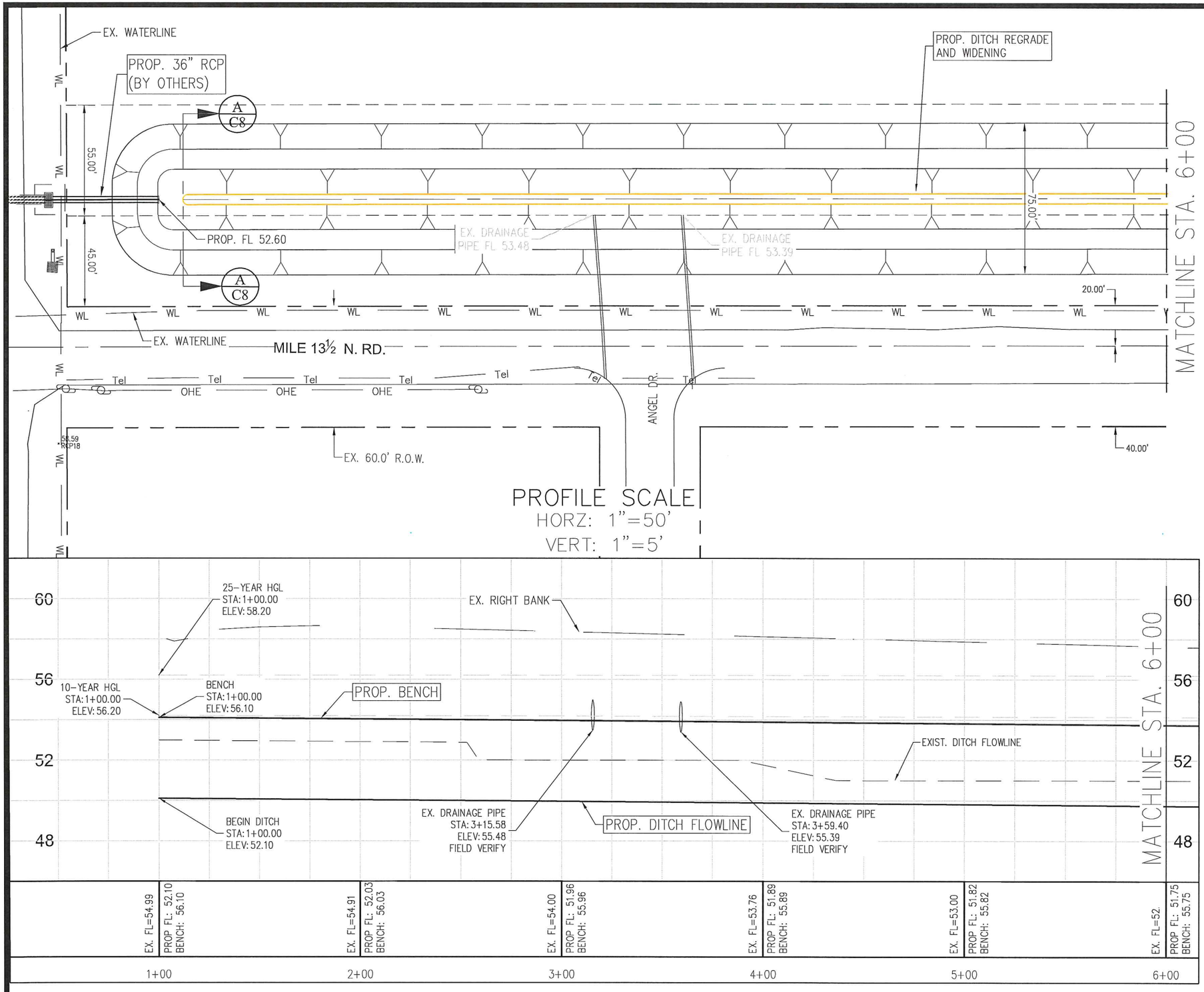
MILE 13 1/2 N & FM 1015 AREA DRAINAGE IMPROVEMENT PROJECT

DEMOLITION PLAN

PROJECT NO.	112800
DATE:	10/27/2016
SCALE:	1:200

SHEET NUMBER: G5

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NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1 HCDD1

URBAN INFRASTRUCTURE GROUP, INC.

407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537

(956) 464-4710
TBPE FIRM NO. F-13094
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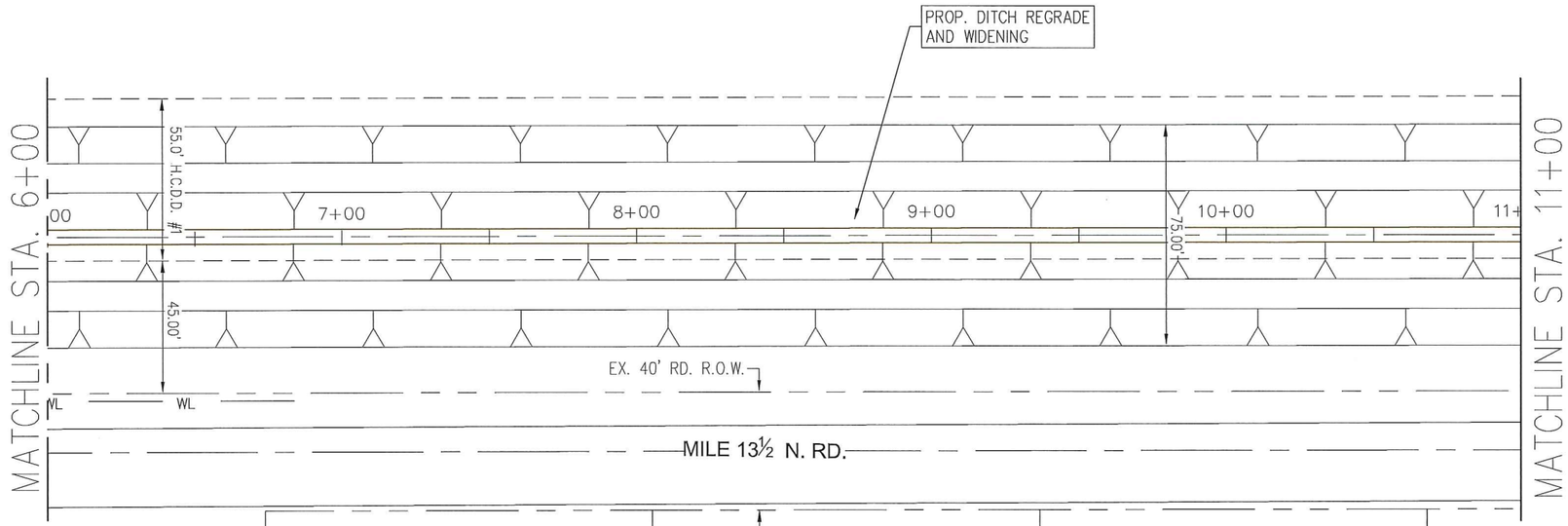
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MILE 13 1/2 DITCH REGRADE DRAINAGE IMPROVEMENTS

STA 1+00 TO 6+00

PROJECT NO.	112800
DATE:	OCTOBER 2016
SCALE:	H: 1"=50' V: 1"=5'

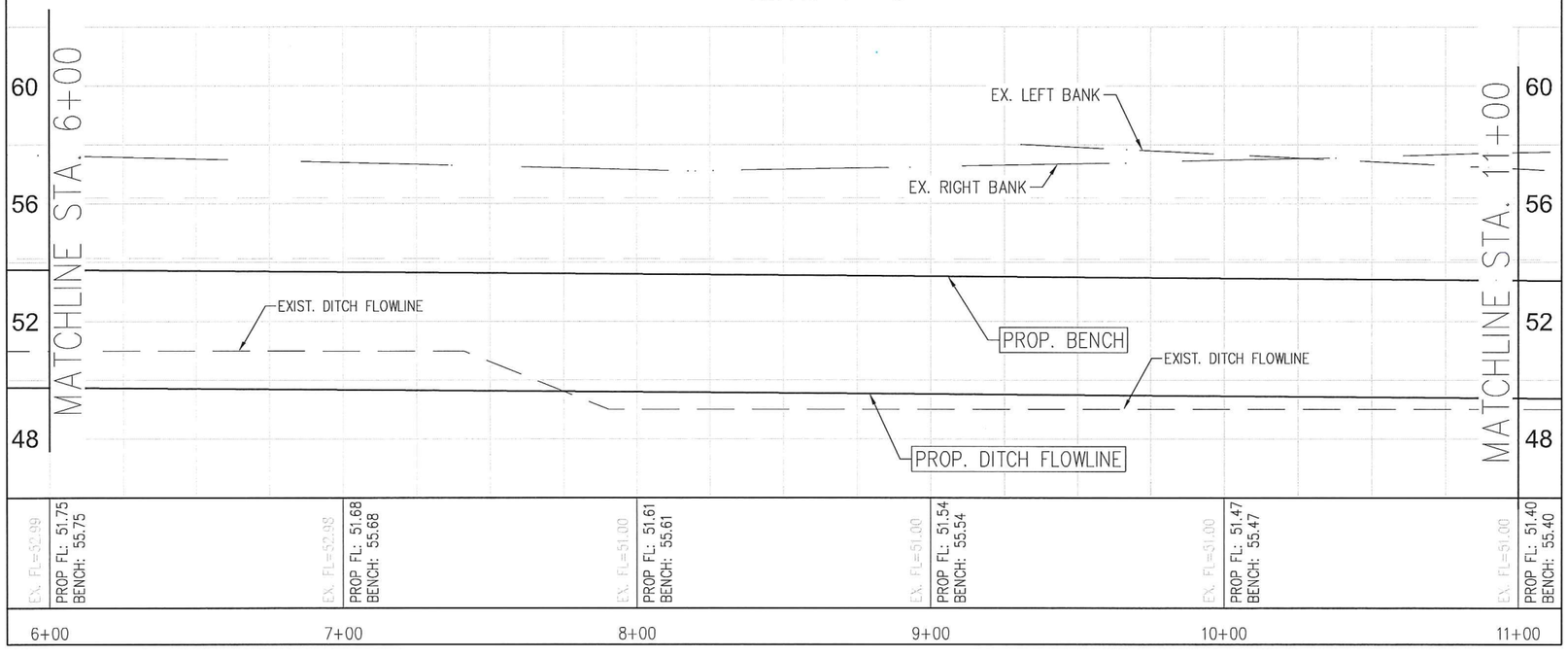
SHEET NUMBER: C1



PROFILE SCALE

HORZ: 1"=50'

VERT: 1"=5'



NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1 — HCDD1

URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD. (956) 464-4710
PO BOX 729 TBPE FIRM NO. F-13094
DONNA, TEXAS 78537 WWW.UIGTEXAS.COM

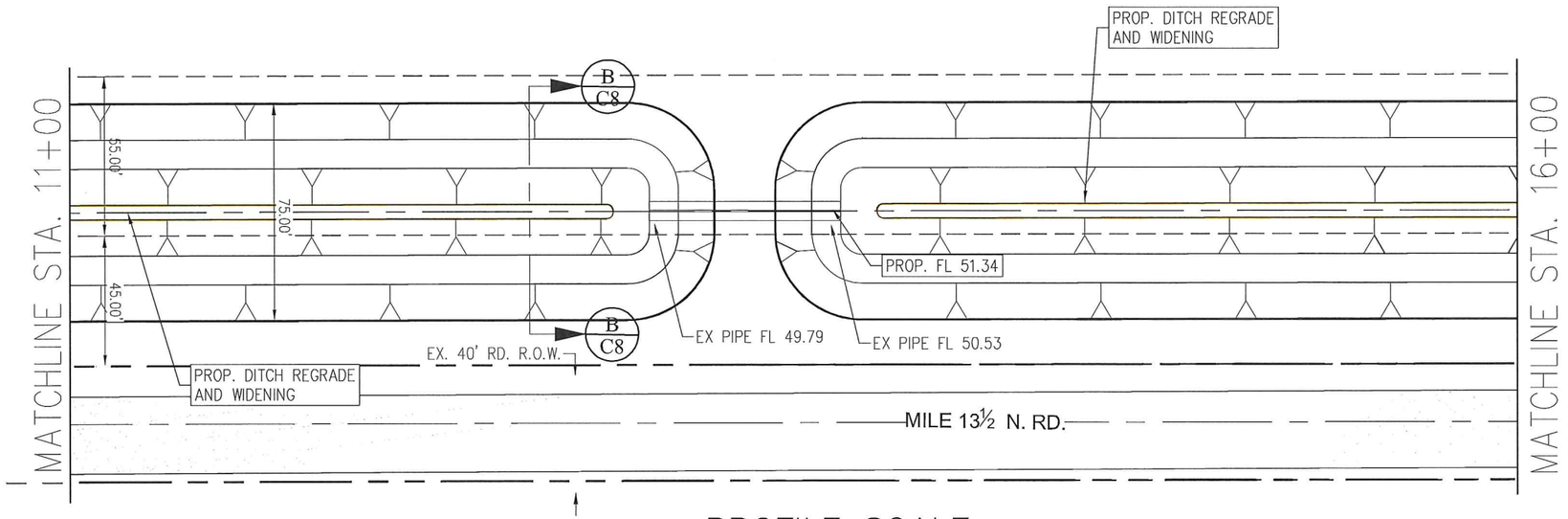
MILE 13 1/2 DITCH REGRADE DRAINAGE IMPROVEMENTS

STA 6+00 TO 11+00

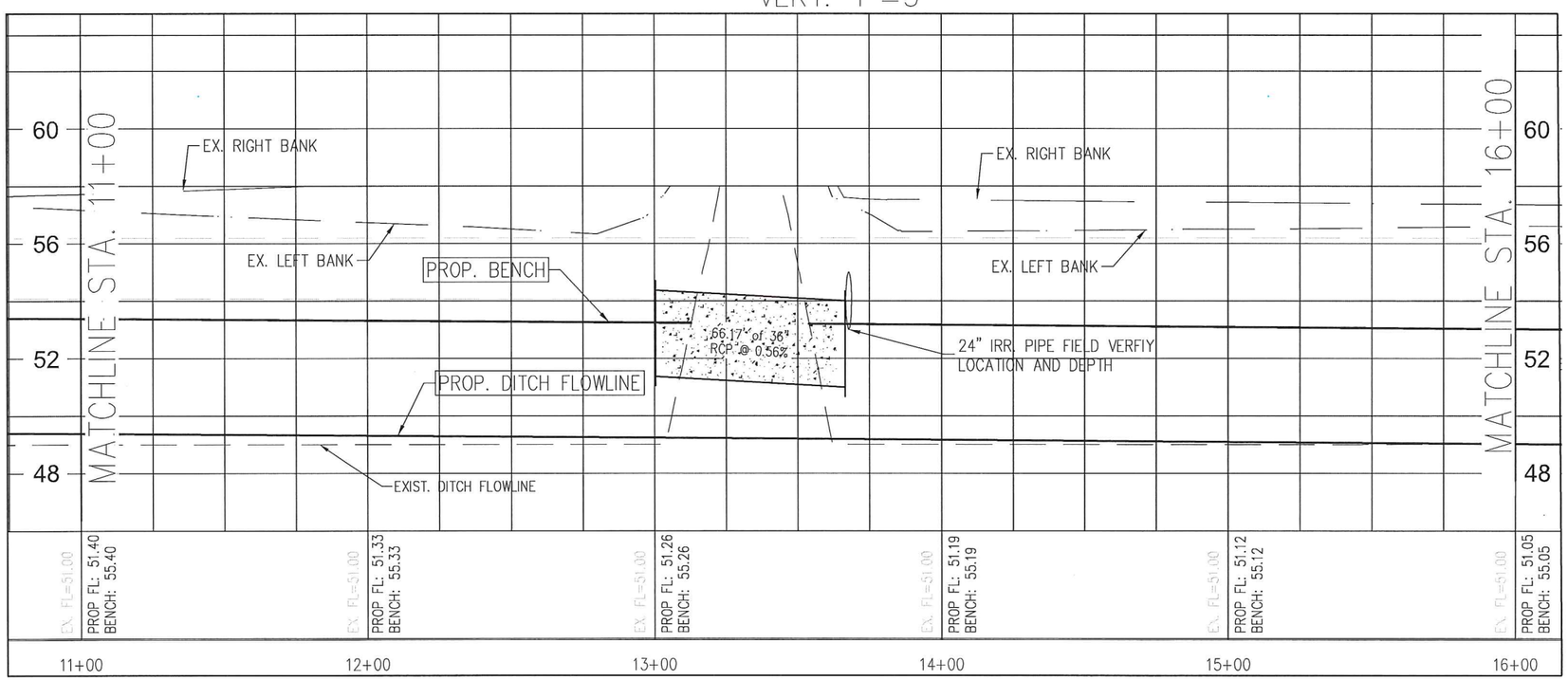
PROJECT NO.	112800
DATE:	OCTOBER 2016
SCALE:	H: 1"=50' V: 1"=5'

SHEET NUMBER: C2

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



NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1 — HCDD1

URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD. (956) 464-4710
PO BOX 729 TBPE FIRM NO. F-13094
DONNA, TEXAS 78537 WWW.UIGTEXAS.COM

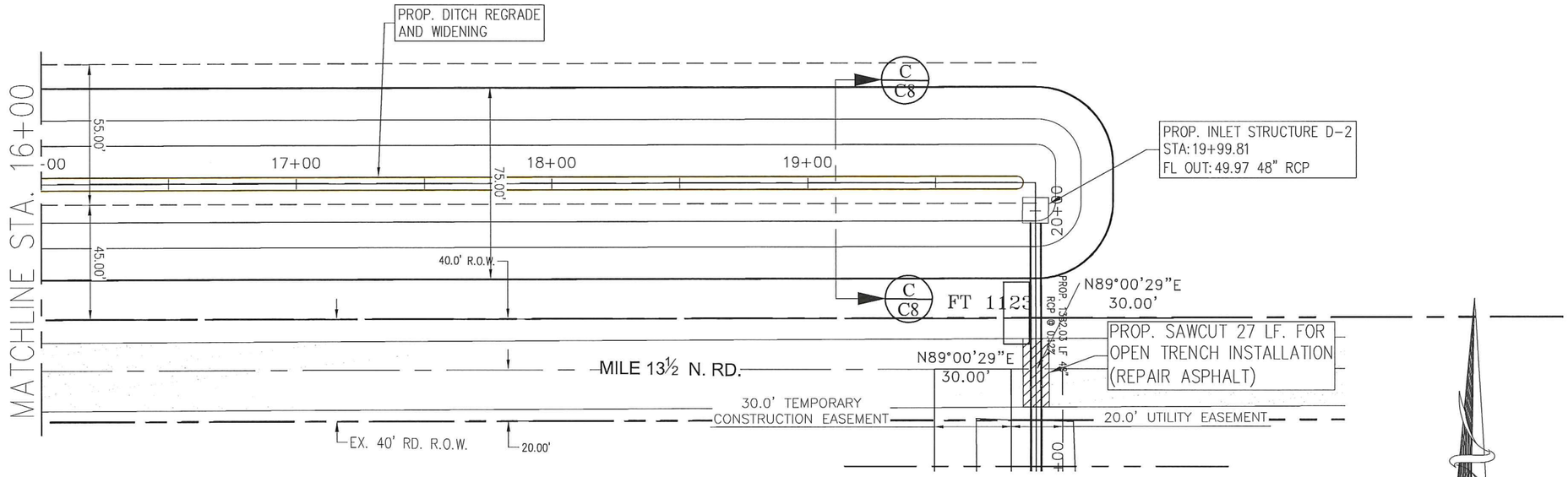
MILE 13 1/2 DITCH REGRADE DRAINAGE IMPROVEMENTS

STA 11+00 TO 16+00

PROJECT NO.	112800
DATE:	OCTOBER 2016
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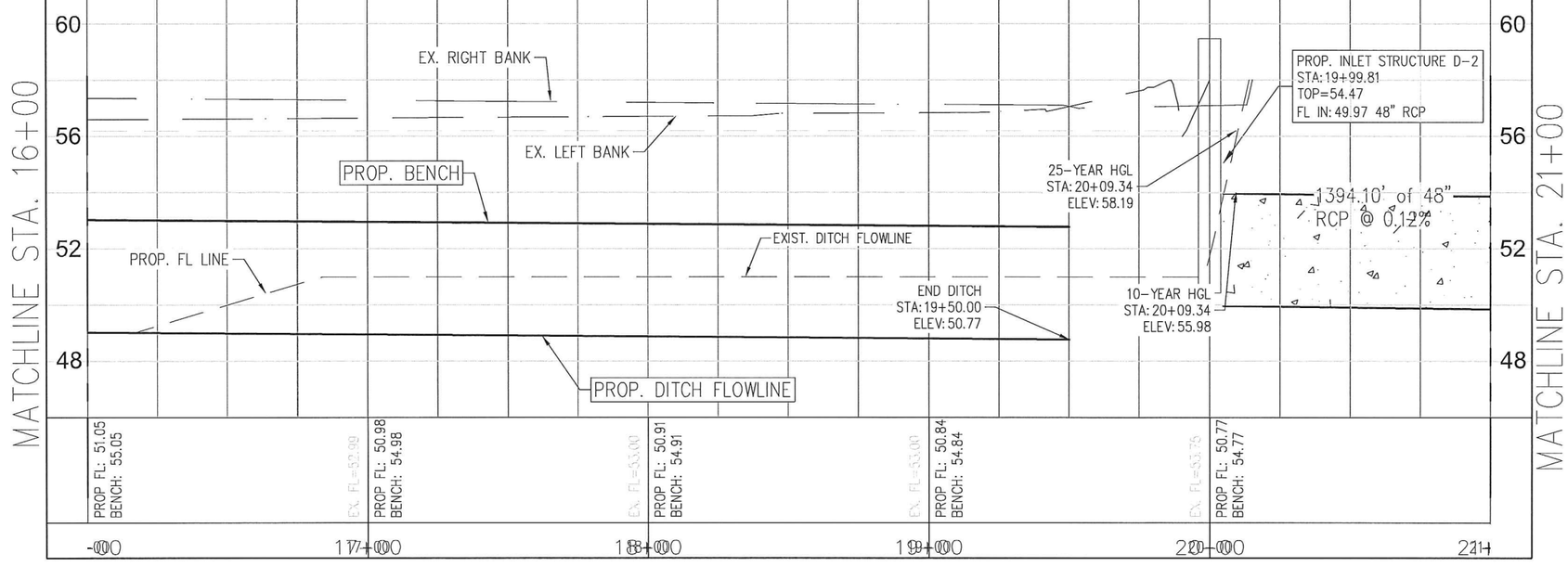
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PROFILE SCALE
HORZ: 1"=50'
VERT: 1"=5'

MATCHLINE STA. 21+00



NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1

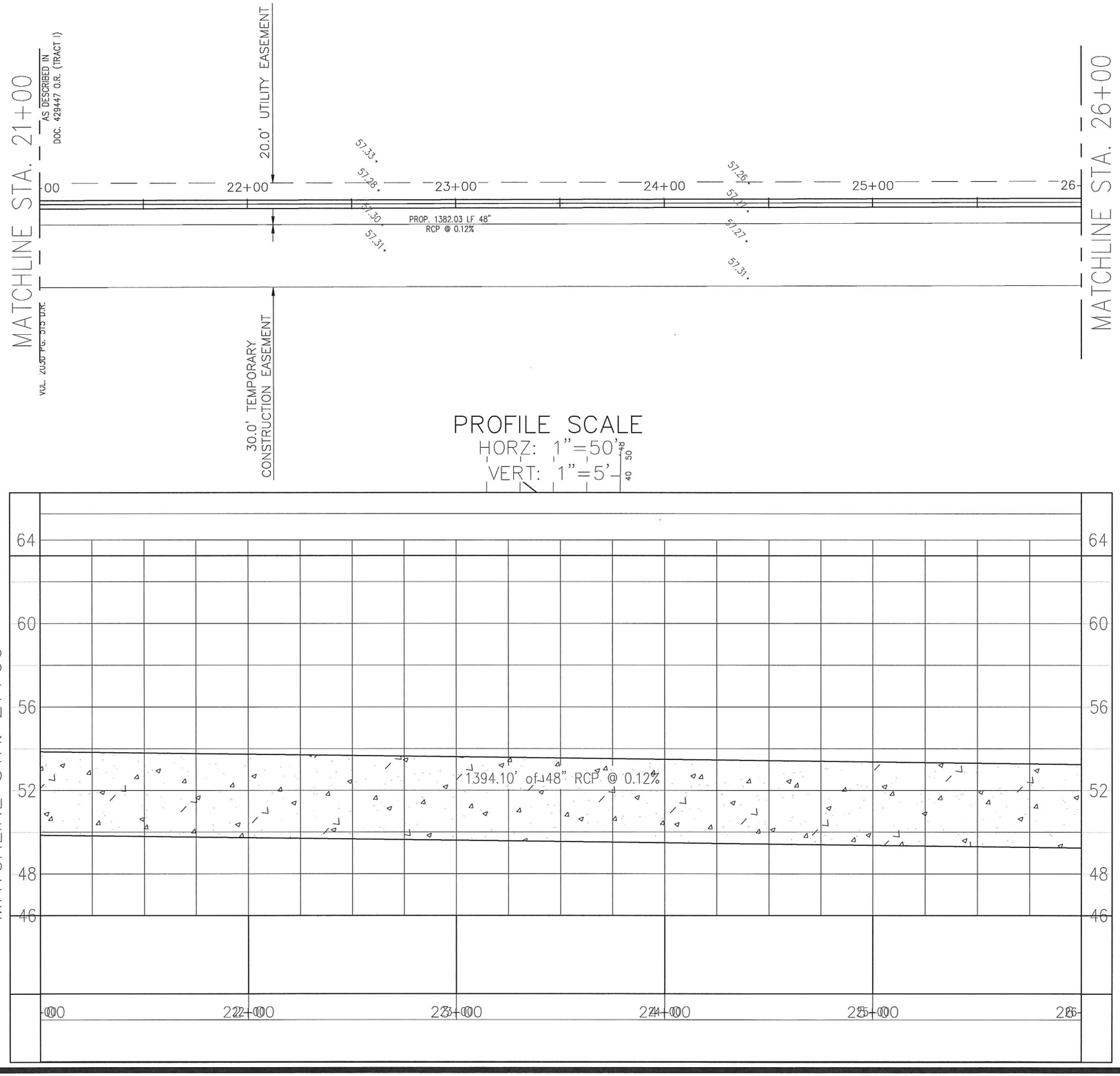
URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537
(956) 464-4710
TBPE FIRM NO. F-13094
WWW.UIGTEXAS.COM

MILE 13 1/2 DITCH REGRADE DRAINAGE IMPROVEMENTS
STA 16+00 TO 21+00

PROJECT NO.	112800
DATE:	OCTOBER 2016
SCALE:	H: 1"=50' V: 1"=5'

SHEET NUMBER: C4

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NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1

URBAN INFRASTRUCTURE GROUP, INC.

407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537

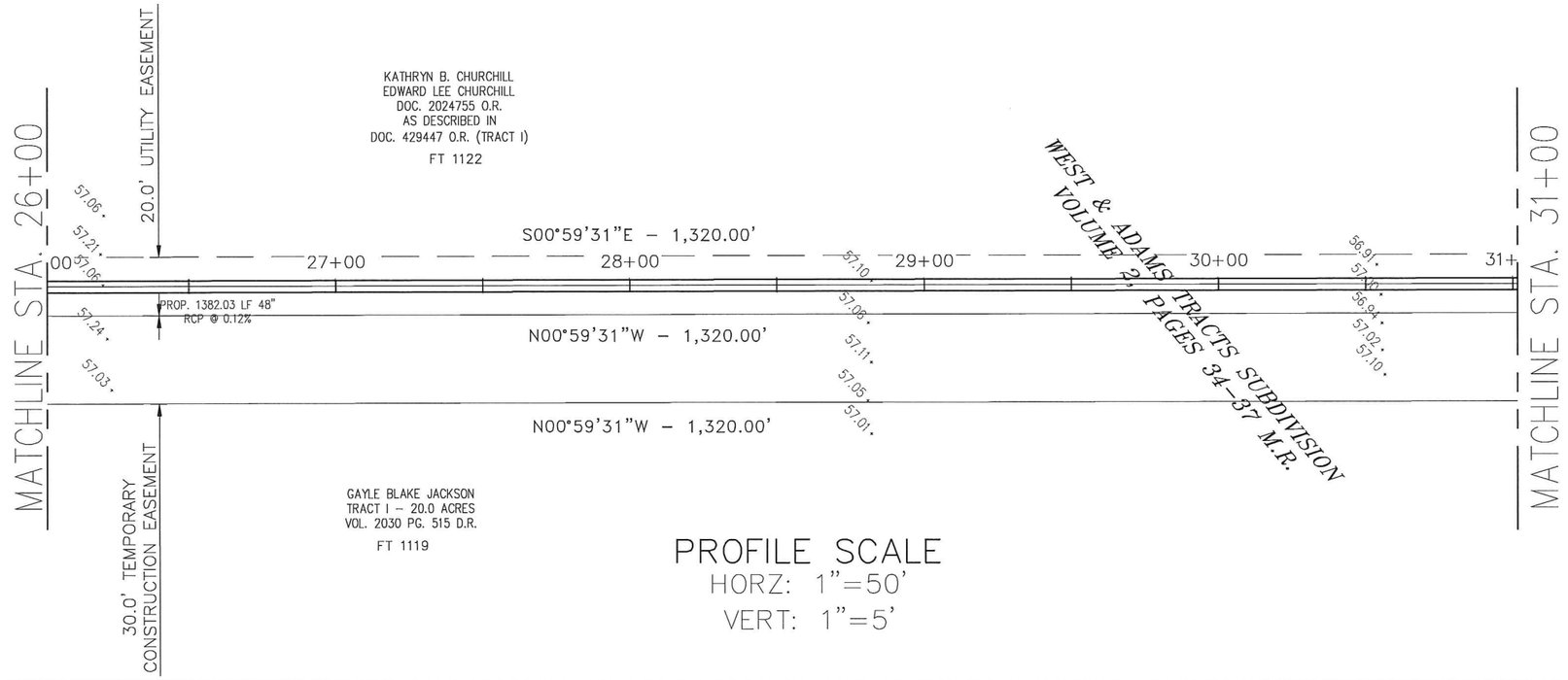
(956) 464-4710
TBPE FIRM NO. F-13094
WWW.UIGTEXAS.COM

MILE 13 1/2 DITC REGRADE
DRAINAGE IMPROVEMENT
TA 21 00 TO 26 00

PROJECT NO.	112800
DATE:	OCTOBER 2016
SCALE:	

SHEET NUMBER: C5

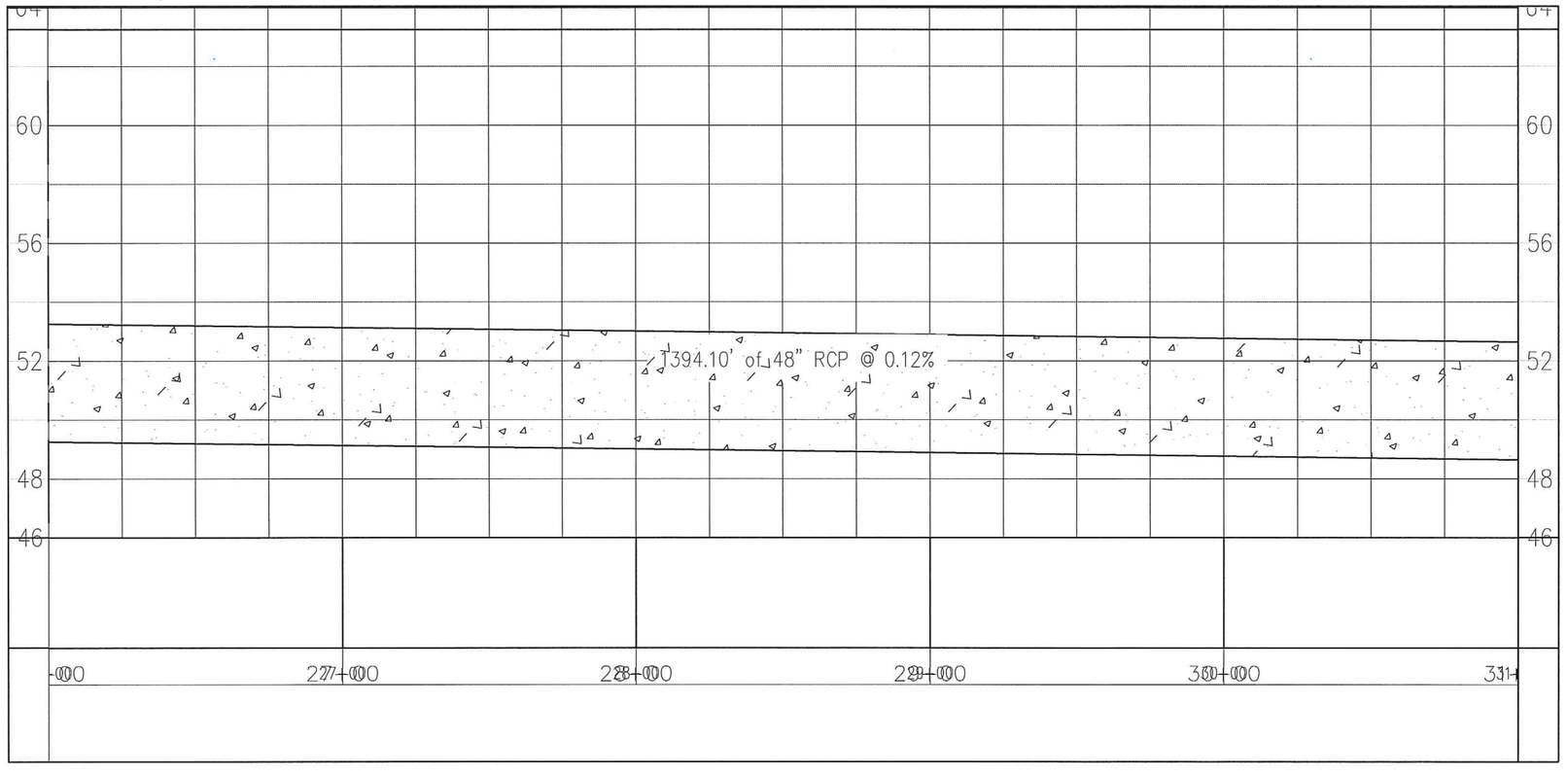
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PROFILE SCALE

HORZ: 1"=50'

VERT: 1"=5'



NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1

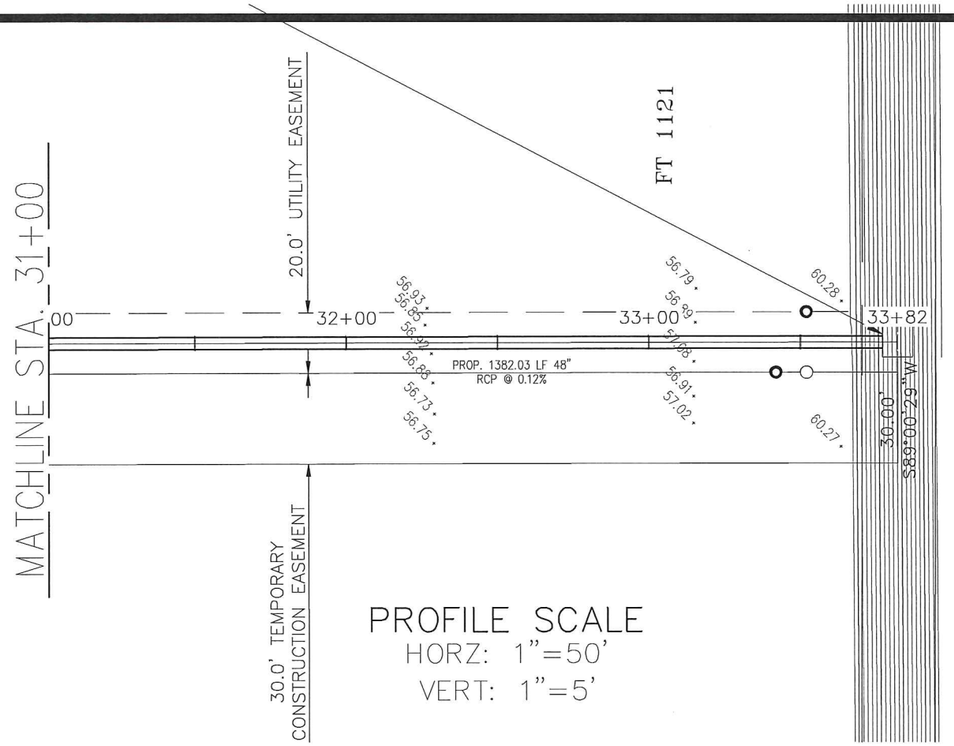
URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537
(956) 464-4710
TBPE FIRM NO. F-13094
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MILE 13 1/2 DITC REGRADE
DRAINAGE IMPROVEMENT
TA 26 00 TO 31 00

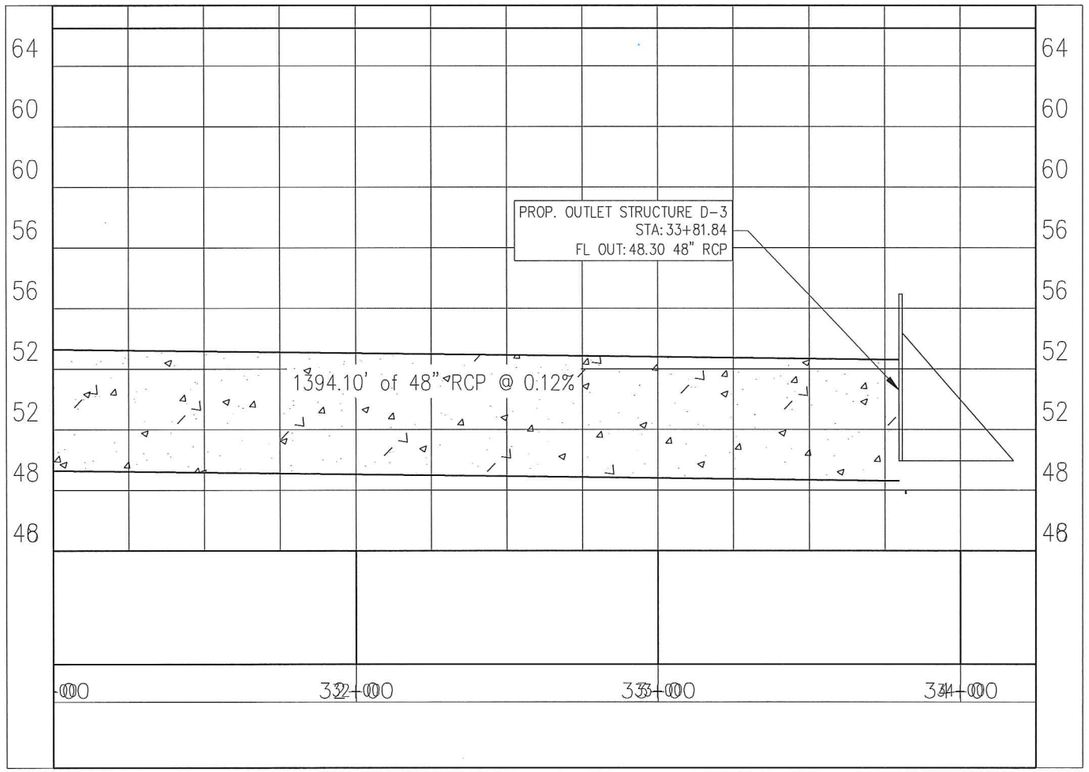
PROJECT NO.	112800
DATE:	OCTOBER 2016
SCALE:	

SHEET NUMBER: C6

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



NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1 — HCDD1

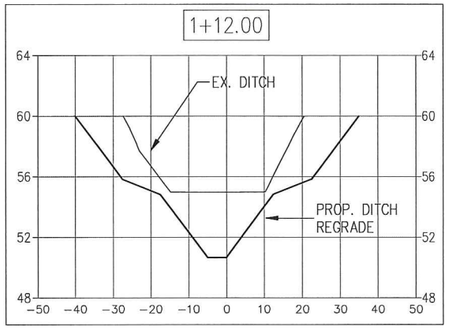
URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD.
PO BOX 729
DONNA, TEXAS 78537
(956) 464-4710
TBPE FIRM NO. F-13094
WWW.UIGTEXAS.COM

MILE 13 1/2 DITC REGRADE
DRAINAGE IMPROVEMENT
TA 31 00 TO END

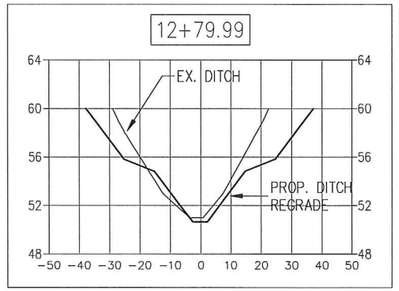
PROJECT NO.	112800
DATE:	OCTOBER 2016
SCALE:	

SHEET NUMBER: C7

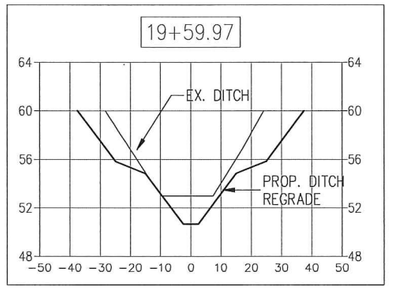
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DITC REGRADE
CRO ECTION
HORZ: 1"=40'
VERT: 1"=4'



DITC REGRADE
CRO ECTION
HORZ: 1"=40'
VERT: 1"=4'



DITC REGRADE
CRO ECTION
HORZ: 1"=40'
VERT: 1"=4'

NO.	DESCRIPTION	INITIALS	DATE

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HIDALGO COUNTY DRAINAGE DISTRICT No.1

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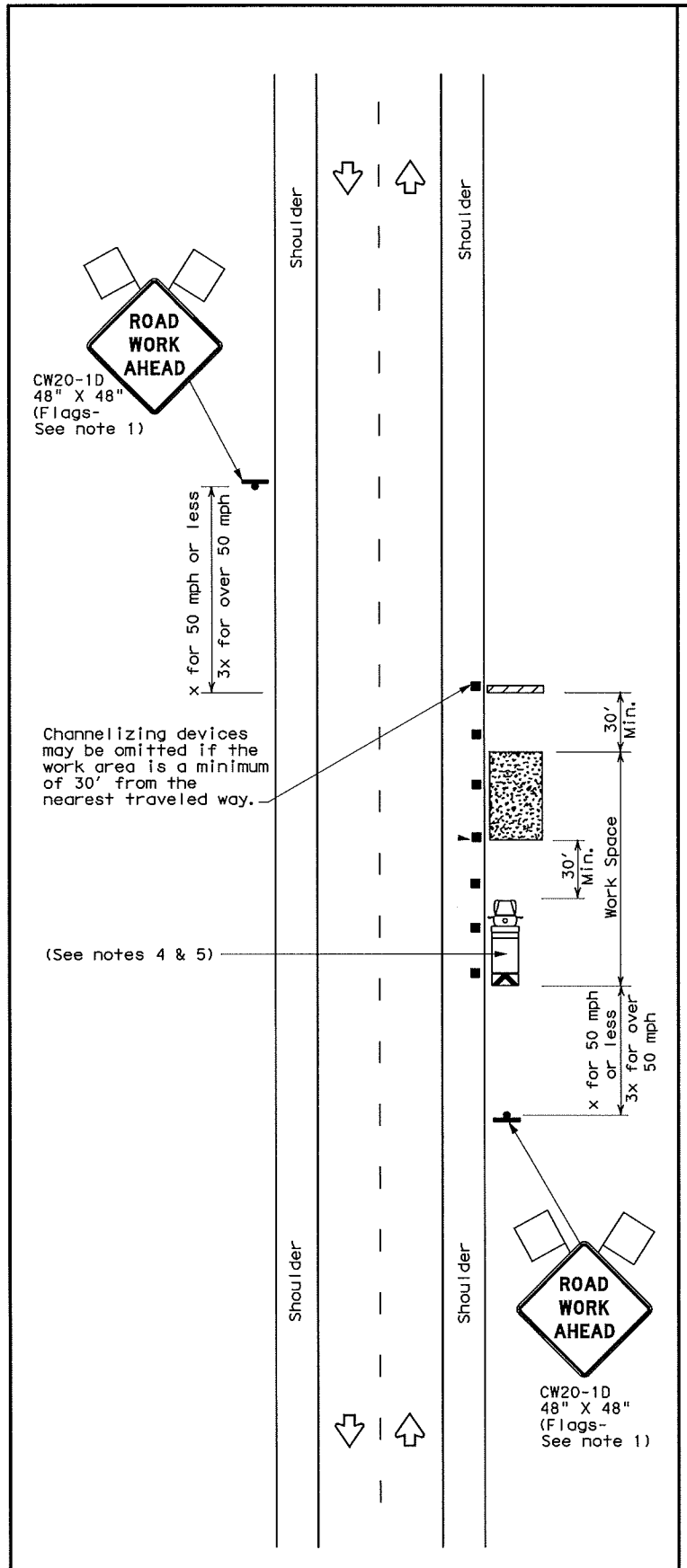
MILE 13 1/2 DITC REGRADE DRAINAGE IMPROVEMENT CRO ECTION

PROJECT NO.	112800
DATE:	OCTOBER 2016
SCALE:	H: 1"=40' V: 1"=4'

SHEET NUMBER: C8

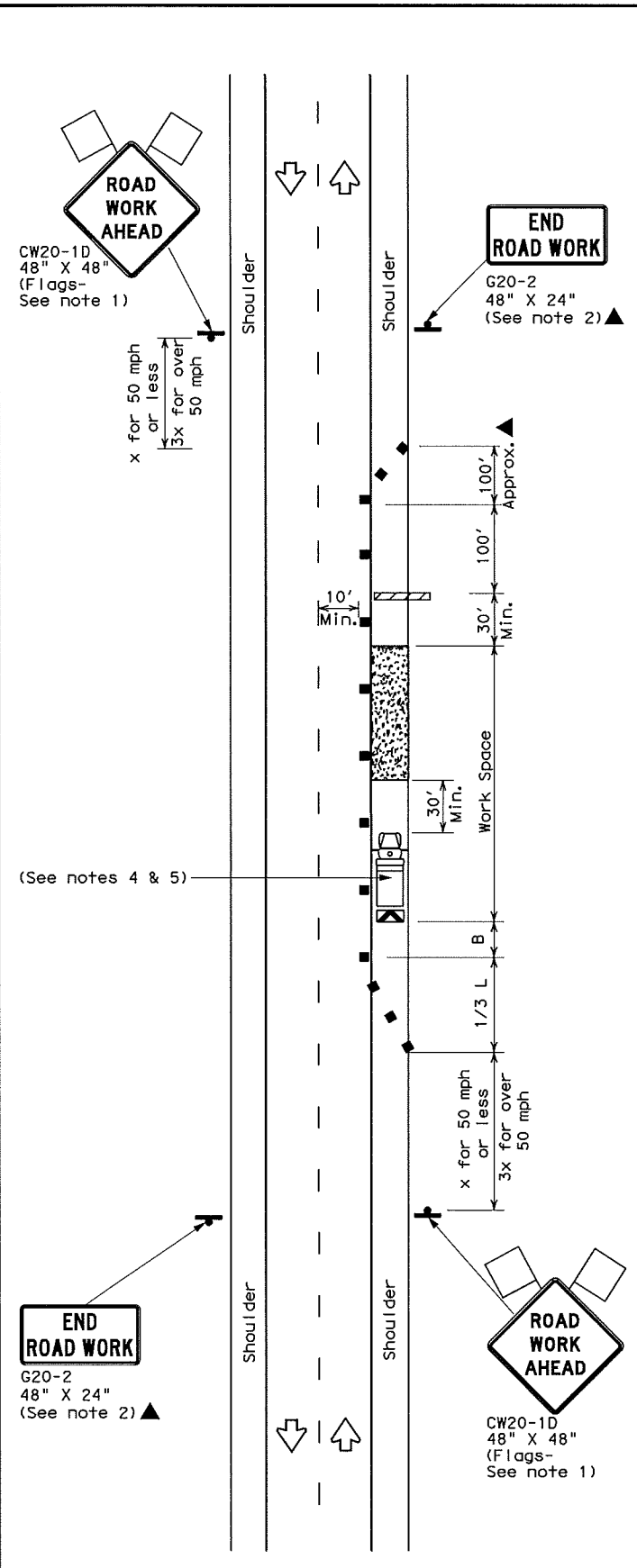
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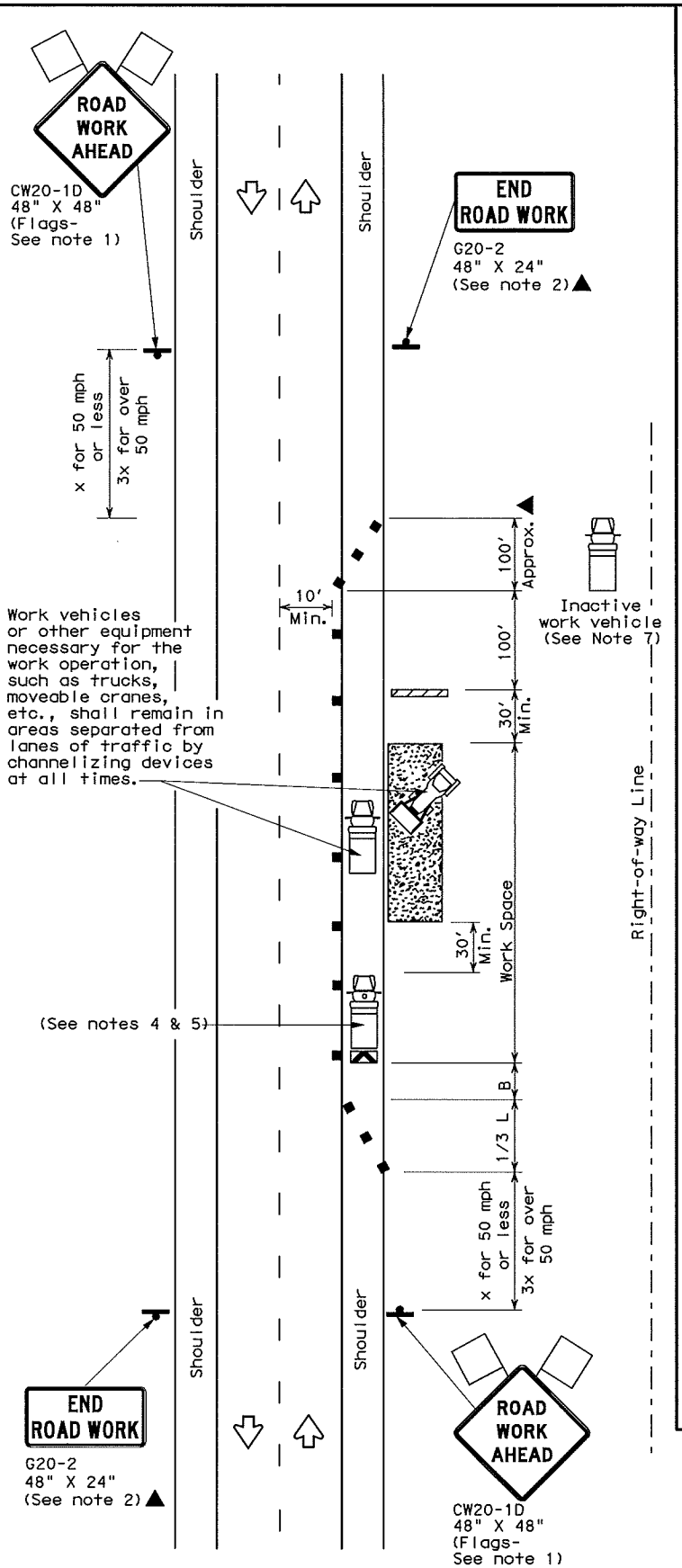
TCP (2-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade	■ ■	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

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	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

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

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
3. Stockpiled material should be placed a minimum of 30 feet from nearest traveled way.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
8. CW21-5 "SHOULDER WORK" signs may be used in place of CW21-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(2-1)-12

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4-98

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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, STAY ALERT TALK OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.

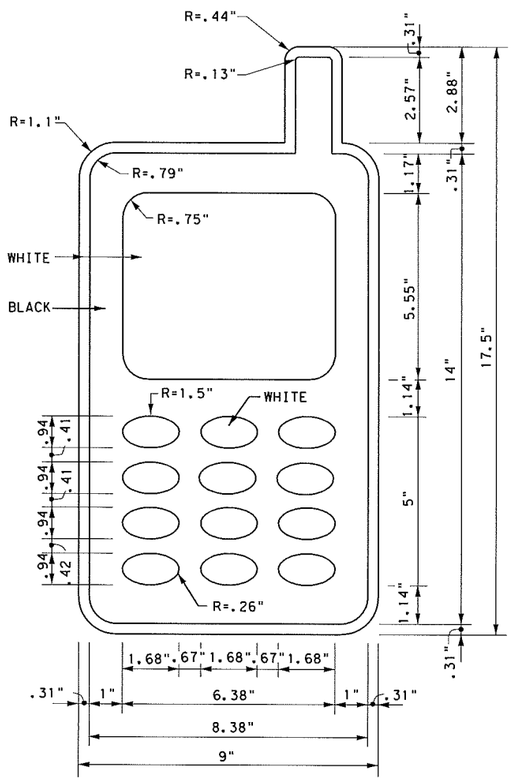
11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.

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," or equivalent revisions, and 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.





3.0" Radius, 1.25" Border, 0.75" Indent, Black on Yellow;
[STAY ALERT] Font: D
3.0" Radius, 1.25" Border, 0.75" Indent, Black on Orange;
[TALK OR TEXT LATER] Font: C specified length;

SIGN DETAIL (G20-10T)

Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified 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) 416-3118

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

Texas Department of Transportation | Traffic Operations Division Standard

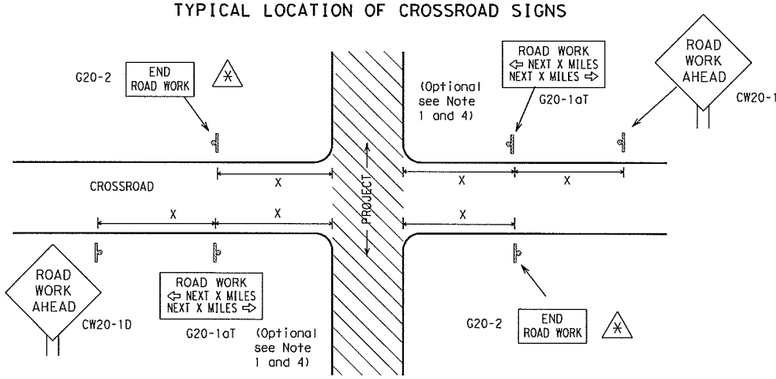
BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-14

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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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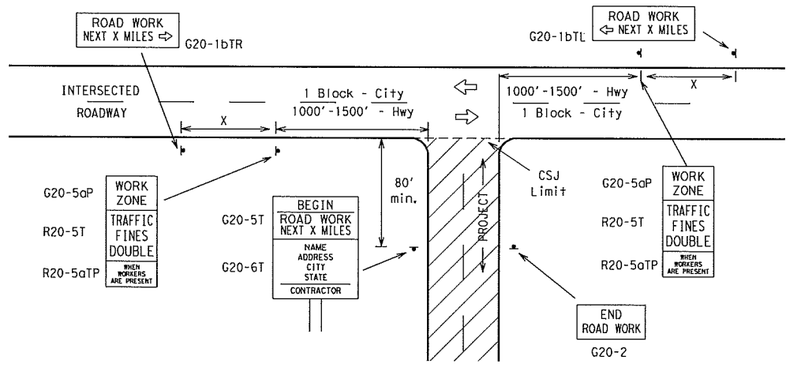
TYPICAL LOCATION OF CROSSROAD SIGNS



⁂ May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign Spacing "X" △
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
*	*[3]

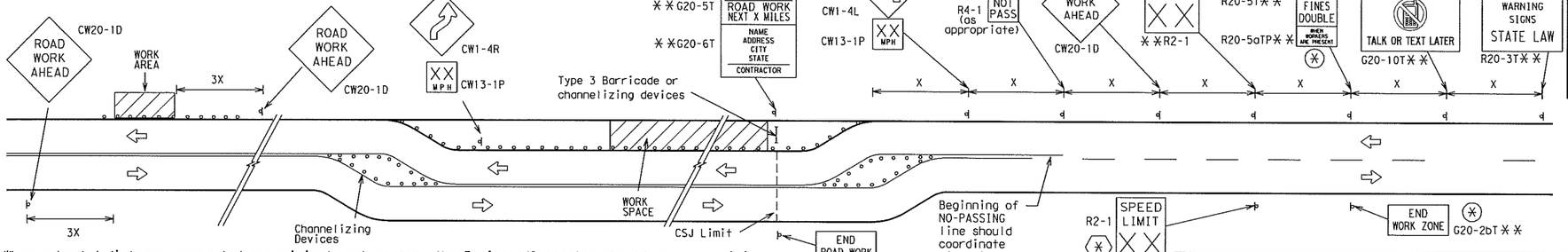
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

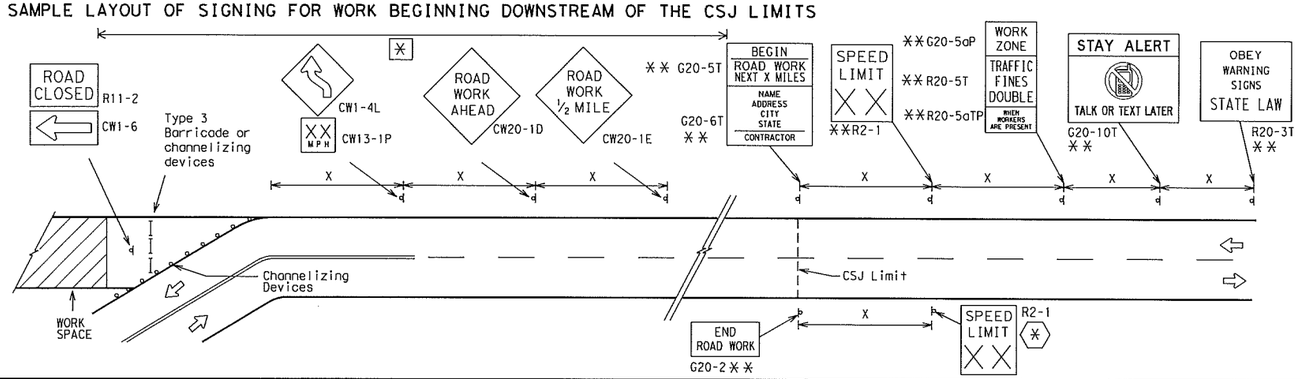
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

⁂ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

⁂⁂ Required CSJ Limit signing. See Note 10 on BC(1). TRAFFIC FINES DOUBLE signs will not be required on projects consisting solely of mobile operations work.

⁂ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

⁂ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

⊢⊣	Type 3 Barricade
○ ○ ○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

Texas Department of Transportation

Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-14

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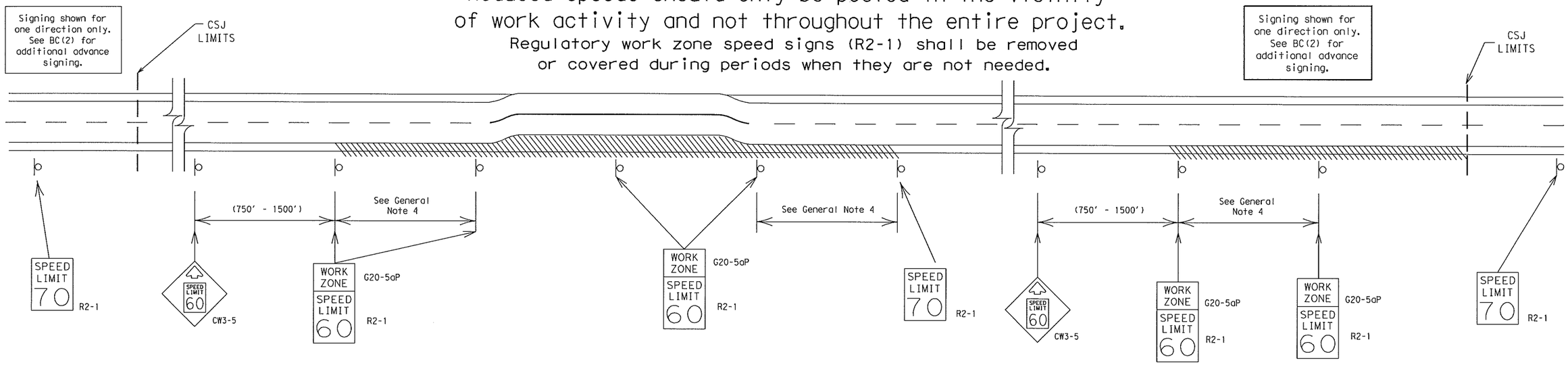
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TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the travelled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

Texas Department of Transportation | Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

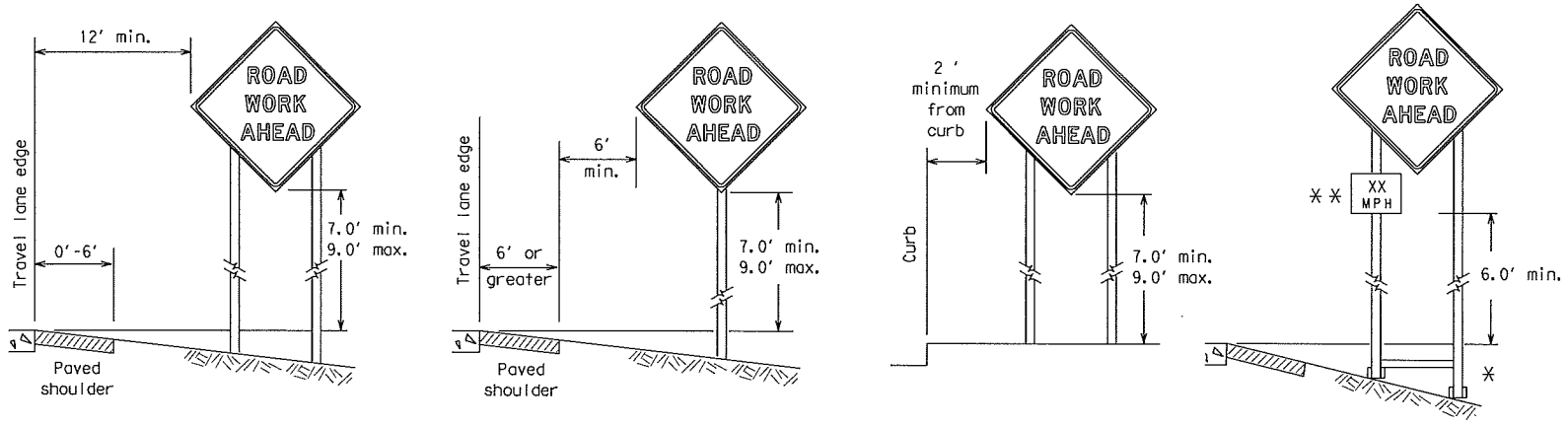
BC(3)-14

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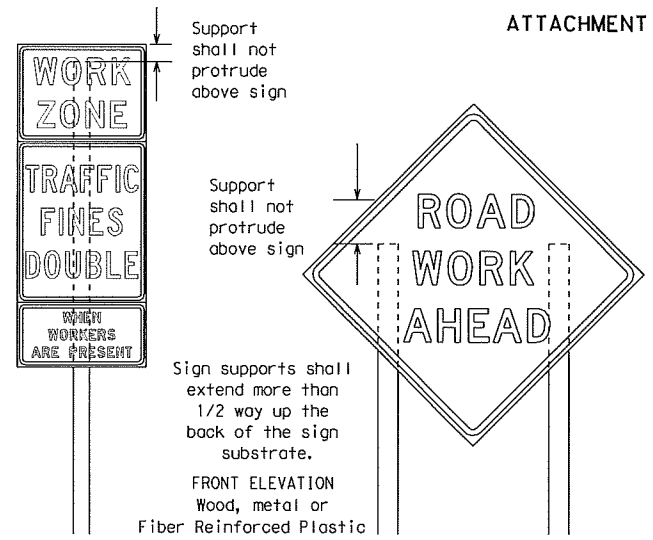
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

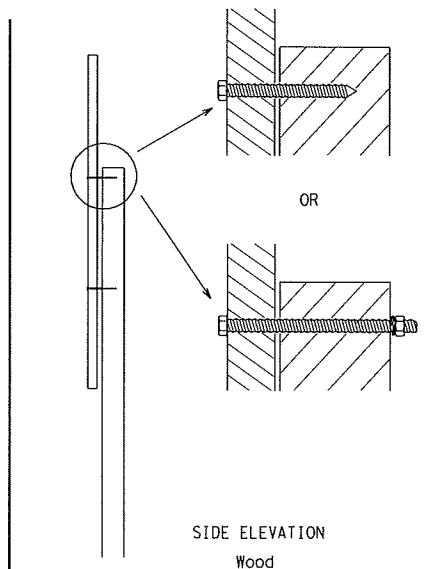


⁂ When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

⁂⁂ 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





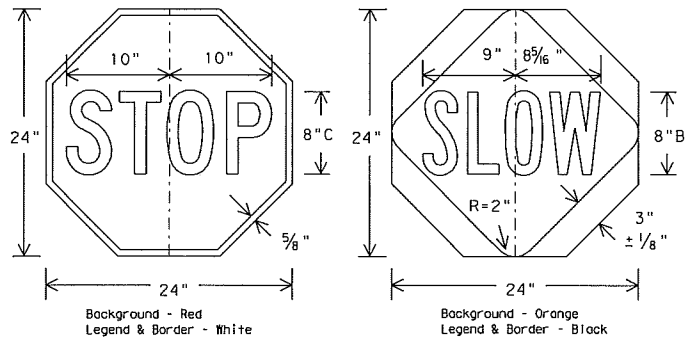
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall 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 gauge 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. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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 Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans 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 A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, 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 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.
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 should be used.
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. Rubber (such as tire inner tubes) shall NOT be used.
6. 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.
7. 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.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

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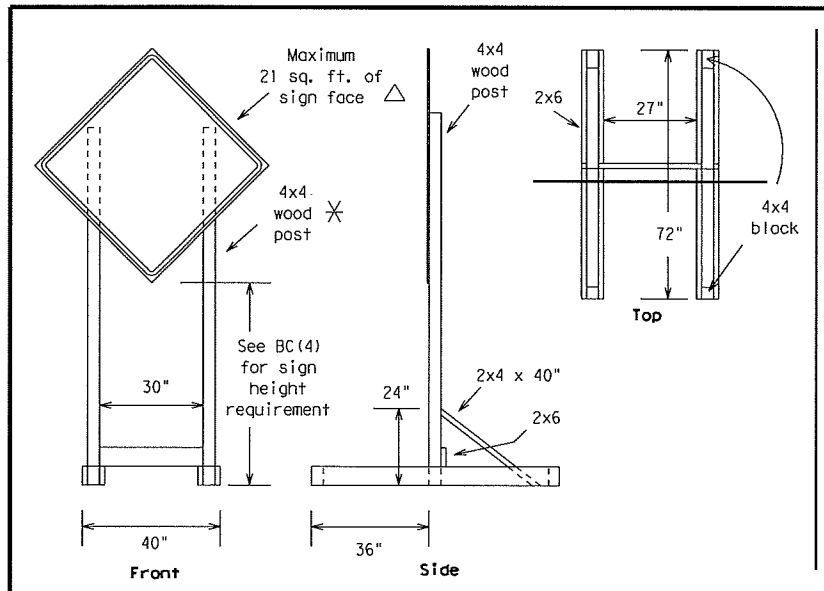
Traffic Operations Division Standard

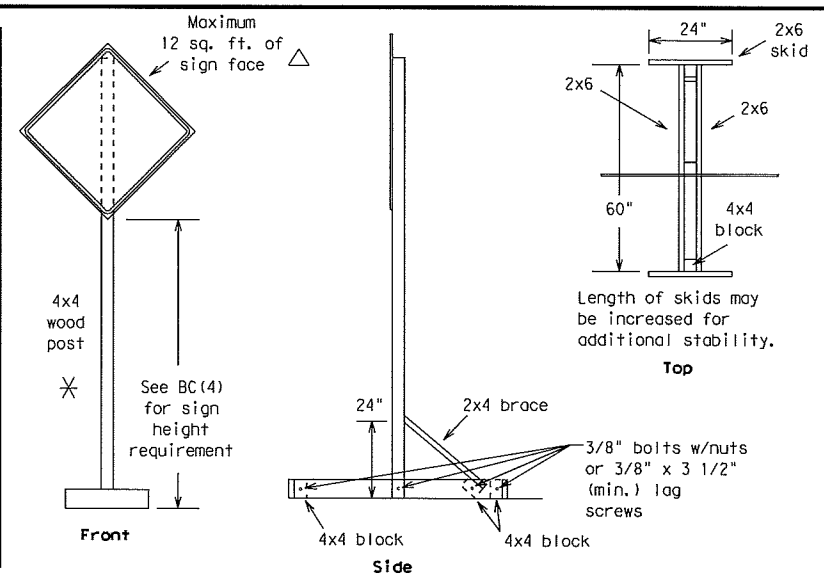
BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-14

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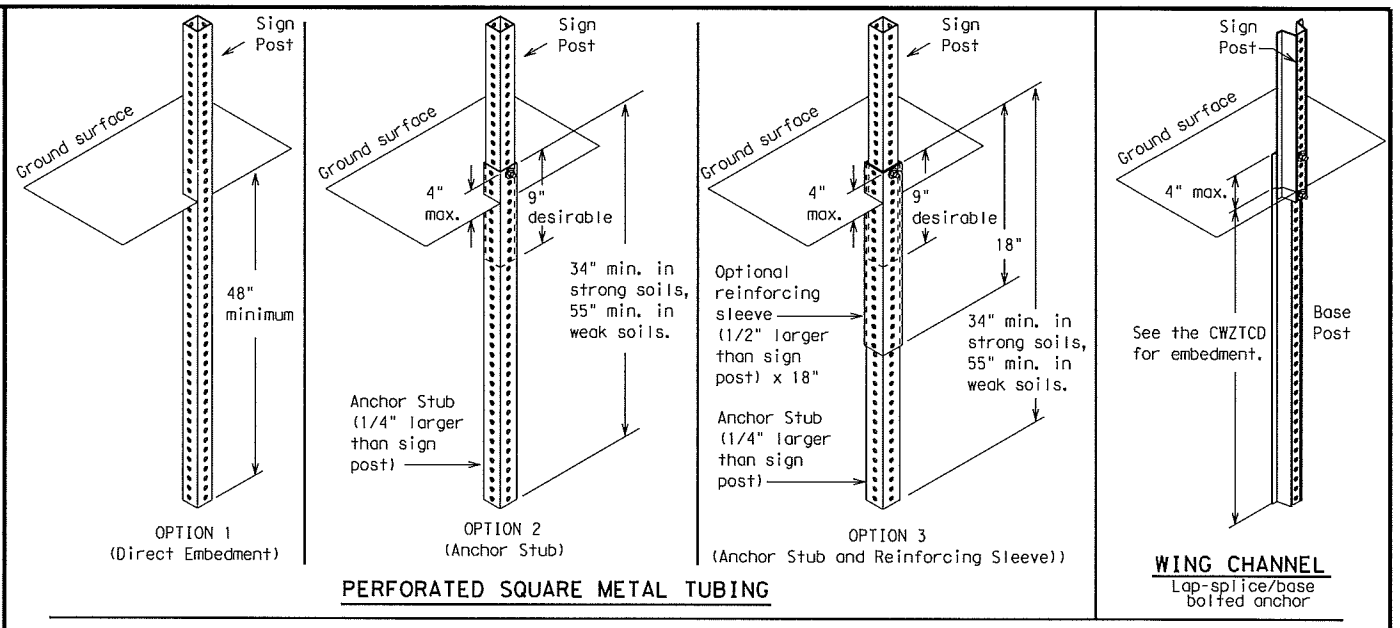
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SKID MOUNTED WOOD SIGN SUPPORTS

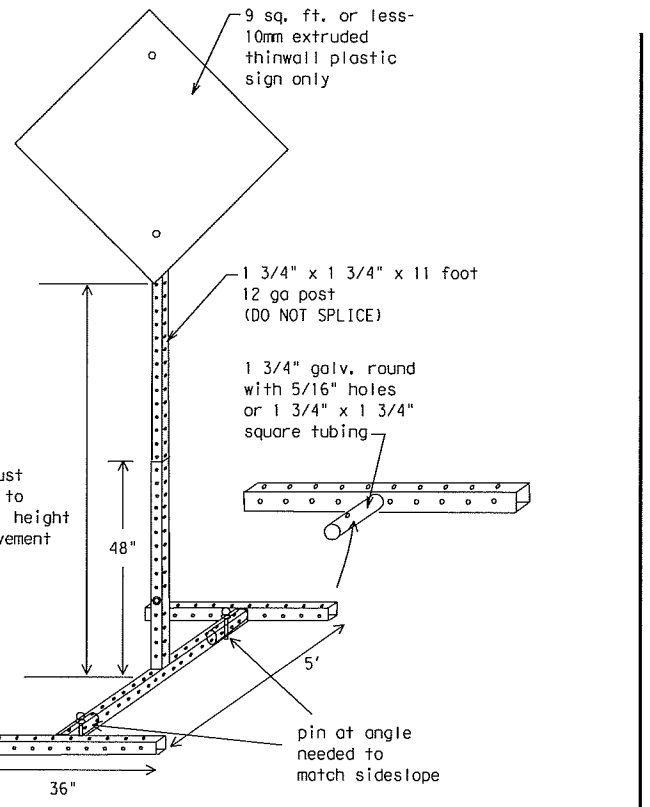
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □

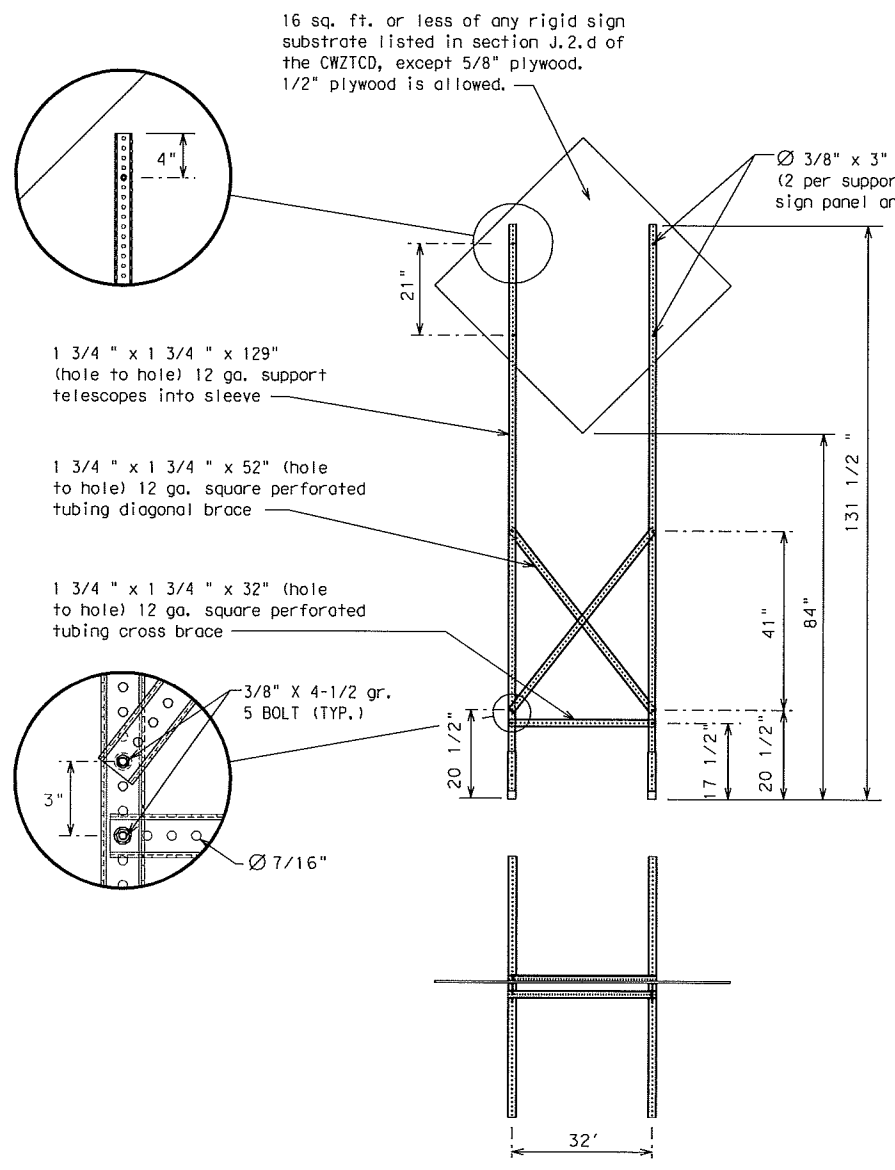


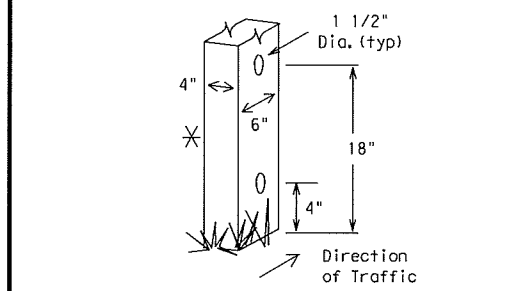
PERFORATED SQUARE METAL TUBING

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.

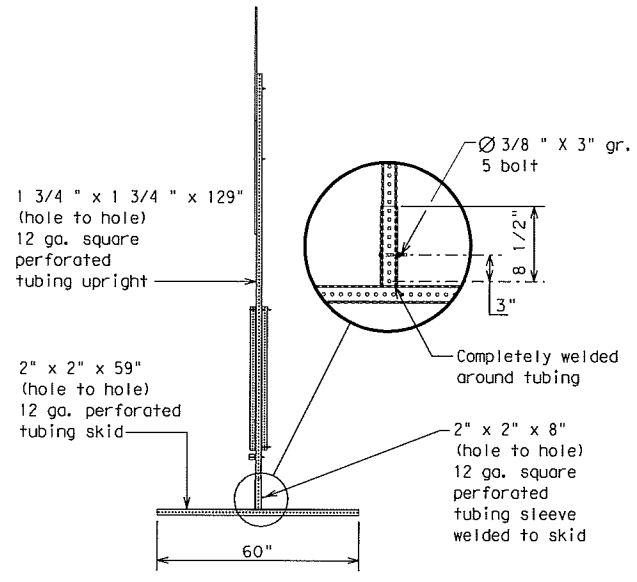






Nominal Post Size	Number of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	NO
4 x 4	2	21	36"	NO
4 x 6	1	21	36"	YES
4 x 6	2	36	36"	YES

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS



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)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

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. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. 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.

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Traffic Operations Division Standard

SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-14

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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT

WORD OR PHRASE	ABBREVIATION
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation # IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE	FRONTAGE ROAD CLOSED
ROAD CLOSED AT SH XXX	SHOULDER CLOSED XXX FT
ROAD CLSD AT FM XXXX	RIGHT LN CLOSED XXX FT
RIGHT X LANES CLOSED	RIGHT X LANES OPEN
CENTER LANE CLOSED	DAYTIME LANE CLOSURES
NIGHT LANE CLOSURES	I-XX SOUTH EXIT CLOSED
VARIOUS LANES CLOSED	EXIT XXX CLOSED X MILE
EXIT CLOSED	RIGHT LN TO BE CLOSED
MALL DRIVEWAY CLOSED	X LANES CLOSED TUE - FRI
XXXXXXXX BLVD CLOSED	

Other Condition List

ROADWORK XXX FT	ROAD REPAIRS XXXX FT
FLAGGER XXXX FT	LANE NARROWS XXXX FT
RIGHT LN NARROWS XXXX FT	TWO-WAY TRAFFIC XX MILE
MERGING TRAFFIC XXXX FT	CONST TRAFFIC XXX FT
LOOSE GRAVEL XXXX FT	UNEVEN LANES XXXX FT
DETOUR X MILE	ROUGH ROAD XXXX FT
ROADWORK PAST SH XXXX	ROADWORK NEXT FRI-SUN
BUMP XXXX FT	US XXX EXIT X MILES
TRAFFIC SIGNAL XXXX FT	LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

MERGE RIGHT	FORM X LINES RIGHT
DETOUR NEXT X EXITS	USE XXXXX RD EXIT
USE EXIT XXX	USE EXIT I-XX NORTH
STAY ON US XXX SOUTH	USE I-XX E TO I-XX N
TRUCKS USE US XXX N	WATCH FOR TRUCKS
WATCH FOR TRUCKS	EXPECT DELAYS
EXPECT DELAYS	PREPARE TO STOP
REDUCE SPEED XXX FT	END SHOULDER USE
USE OTHER ROUTES	WATCH FOR WORKERS
STAY IN LANE *	

Location List

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXX TO XXXXXXX
US XXX TO FM XXXX

Warning List

SPEED LIMIT XX MPH
MAXIMUM SPEED XX MPH
MINIMUM SPEED XX MPH
ADVISORY SPEED XX MPH
RIGHT LANE EXIT
USE CAUTION
DRIVE SAFELY
DRIVE WITH CARE

** Advance Notice List

TUE-FRI XX AM- X PM
APR XX-XX X PM-X AM
BEGINS MONDAY
BEGINS MAY XX
MAY X-X XX PM - XX AM
NEXT FRI-SUN
XX AM TO XX PM
NEXT TUE AUG XX
TONIGHT XX PM- XX AM

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation

Traffic Operations Division Standard

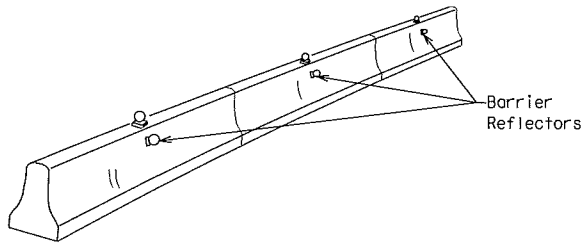
BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-14

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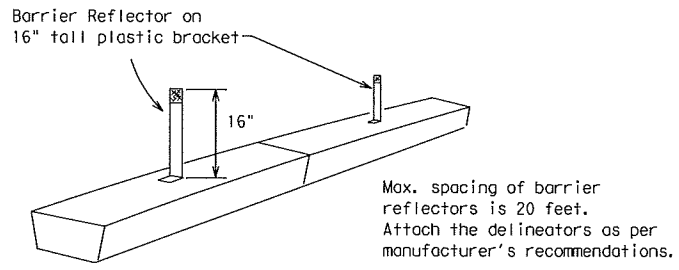
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1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.

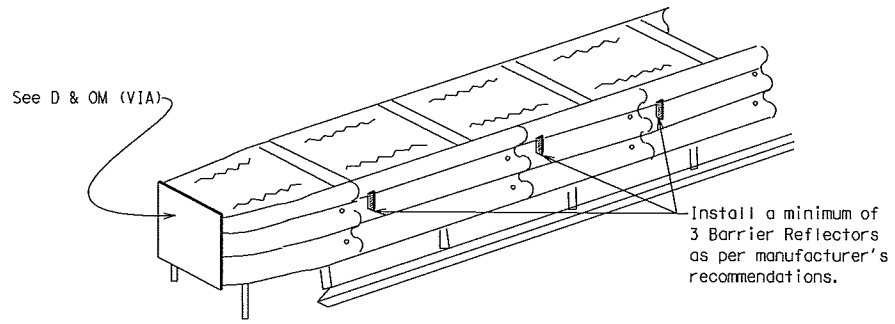


CONCRETE TRAFFIC BARRIER (CTB)

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.
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)

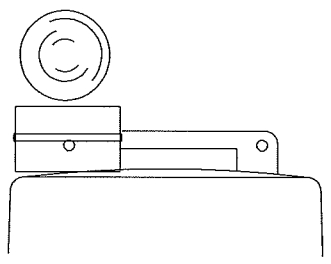


DELINEATION OF END TREATMENTS

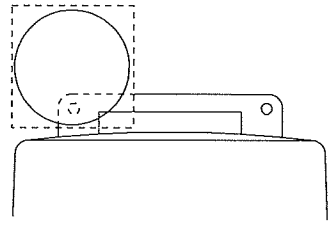
END TREATMENTS FOR CTB'S USED IN WORK ZONES

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.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



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



Warning reflector may be round or square. Must have a yellow 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 B_{FL} or C_{FL} Sheeting 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.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

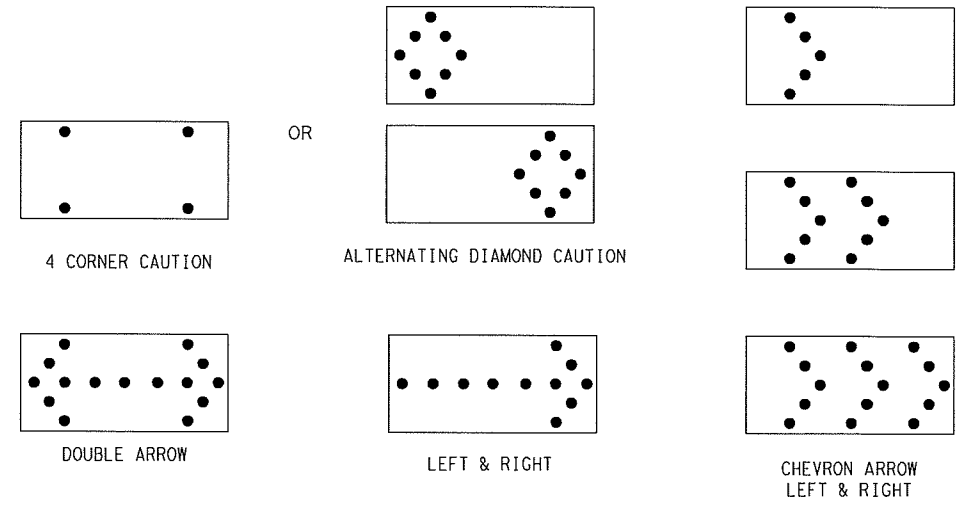
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing 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 B or Type C.
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.

Arrow Boards 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 Board 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 Boards 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 Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board 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.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board 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 Boards should be 7 feet from roadway to bottom of panel.

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 Boards shall be equipped with automatic dimming devices.

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

FLASHING ARROW BOARDS

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) or the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. 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 Standard

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

BC(7)-14

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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

Pre-qualified plastic drums shall meet the following requirements:

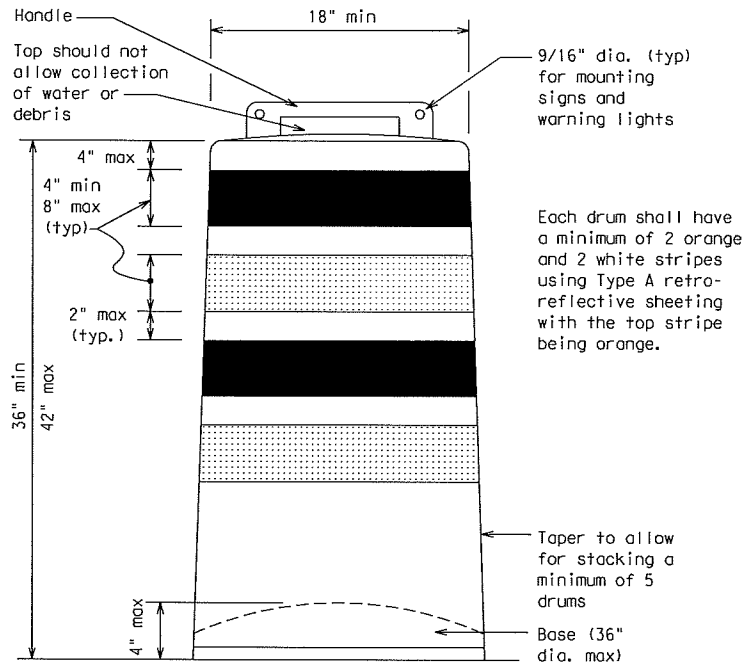
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents 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 maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

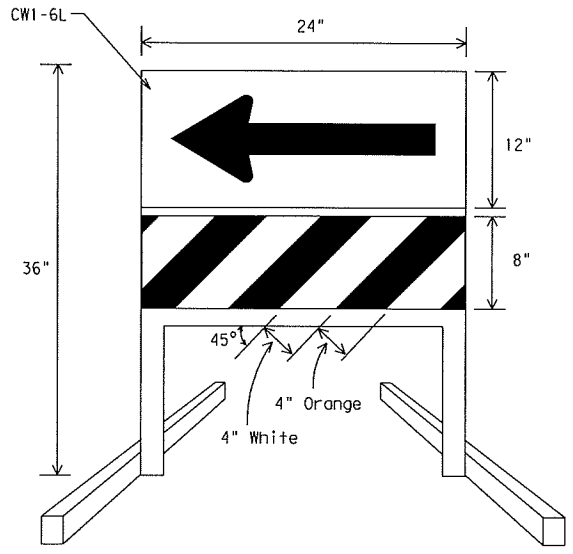
RETROREFLECTIVE SHEETING

1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A reflective 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. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. 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.
5. 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.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

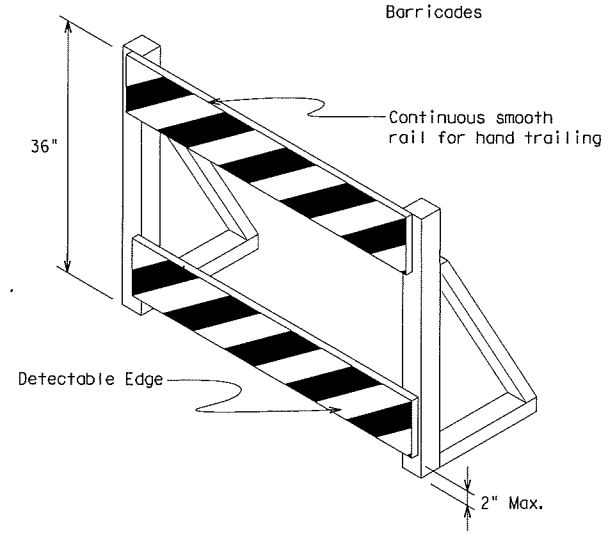




DIRECTION INDICATOR BARRICADE

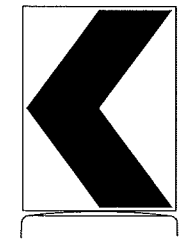
1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. 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 B_{FL} or Type C_{FL} Orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheeting types shall be as per DMS 8300.
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.

This detail is not intended for fabrication. See note 3 and the CWZTCD list for providers of approved Detectable Pedestrian Barricades

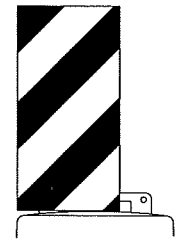


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



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 B_{FL} or Type C_{FL} Orange 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 A 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, except for the R9 series signs discussed in note 8 below.
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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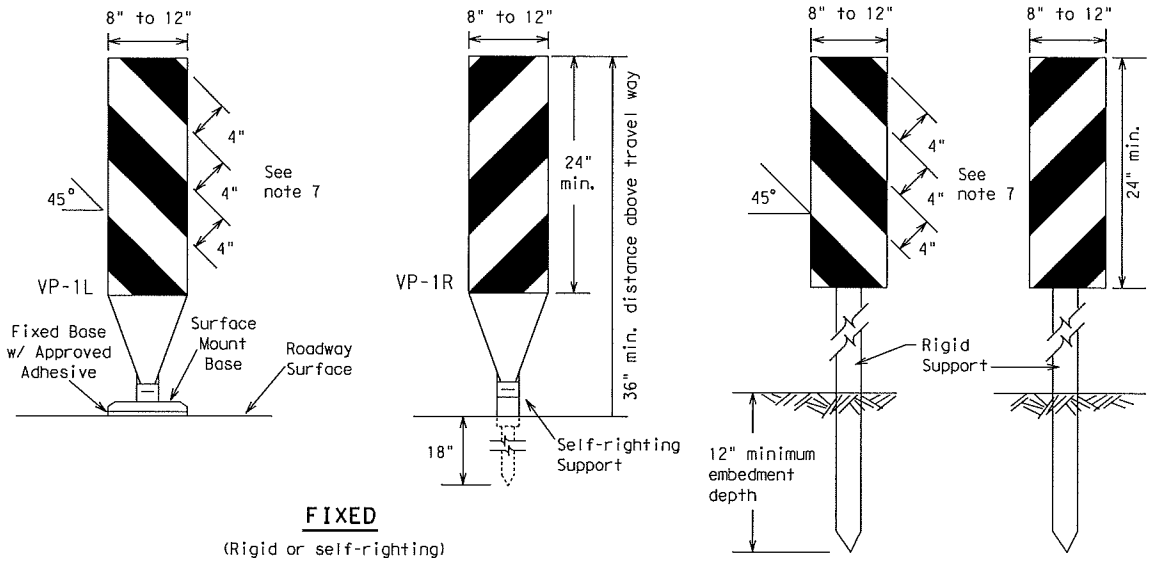
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-14

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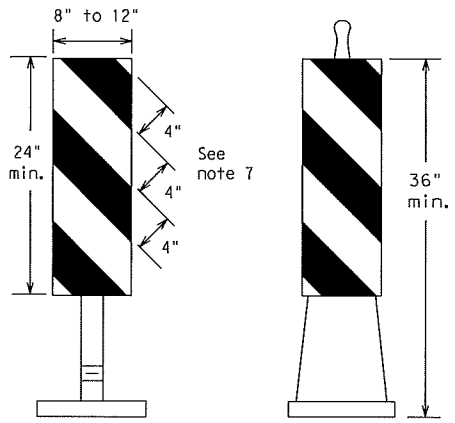
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FIXED

(Rigid or self-righting)

DRIVEABLE

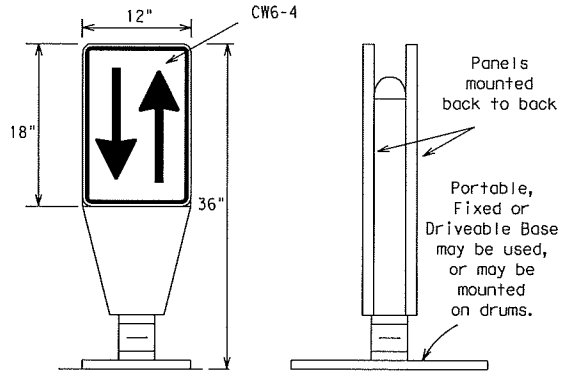


(Rigid or self-righting)

PORTABLE

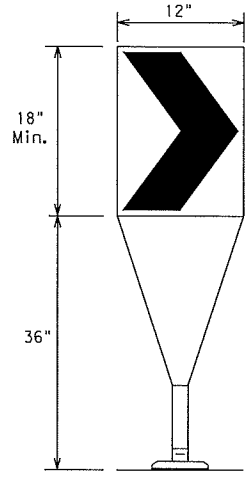
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is 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, may have more than 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 A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



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 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



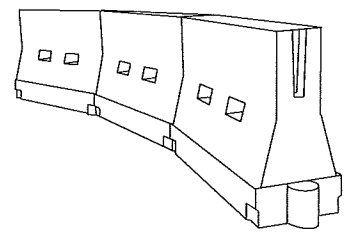
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

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 B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet 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.

CHEVRONS

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 a minimum of 30 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.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs 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. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

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 a 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 not be less than 32 inches in height.

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

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′
35		205′	225′	245′	35′	70′
40		265′	295′	320′	40′	80′
45	$L=WS$	450′	495′	540′	45′	90′
50		500′	550′	600′	50′	100′
55		550′	605′	660′	55′	110′
60		600′	660′	720′	60′	120′
65		650′	715′	780′	65′	130′
70		700′	770′	840′	70′	140′
75		750′	825′	900′	75′	150′
80		800′	880′	960′	80′	160′

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

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

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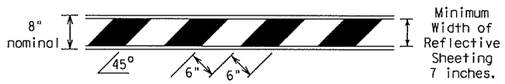
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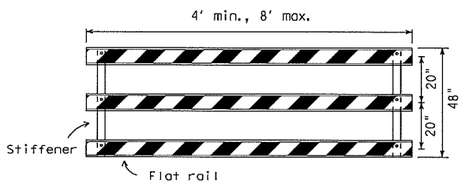
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 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 A conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



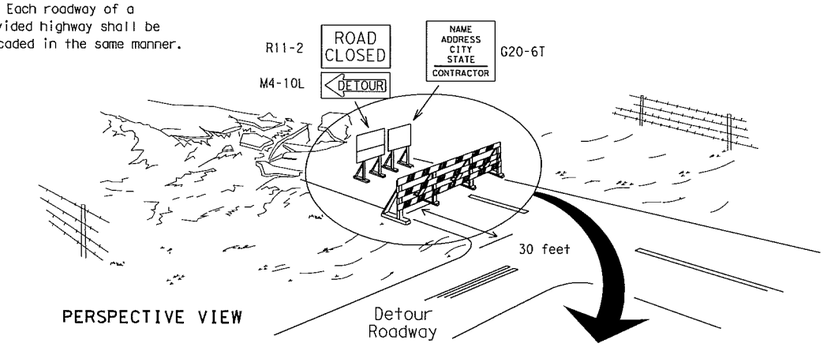
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



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

TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

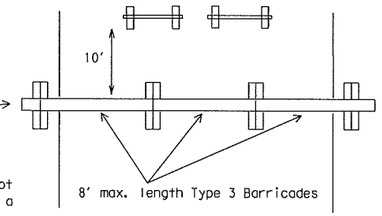
Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.

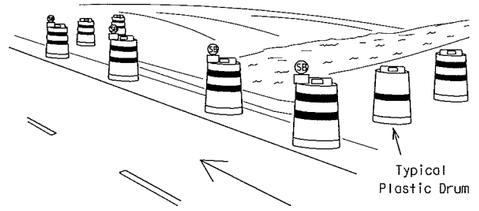
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

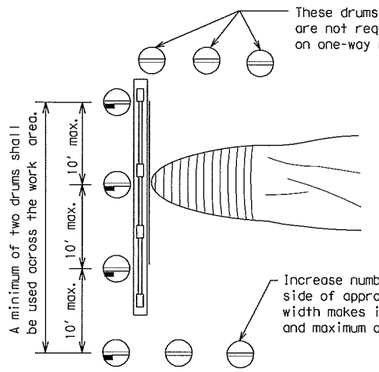
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

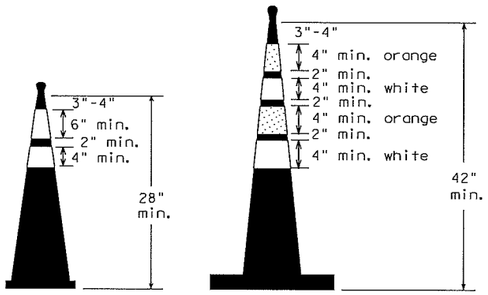
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder 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

LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

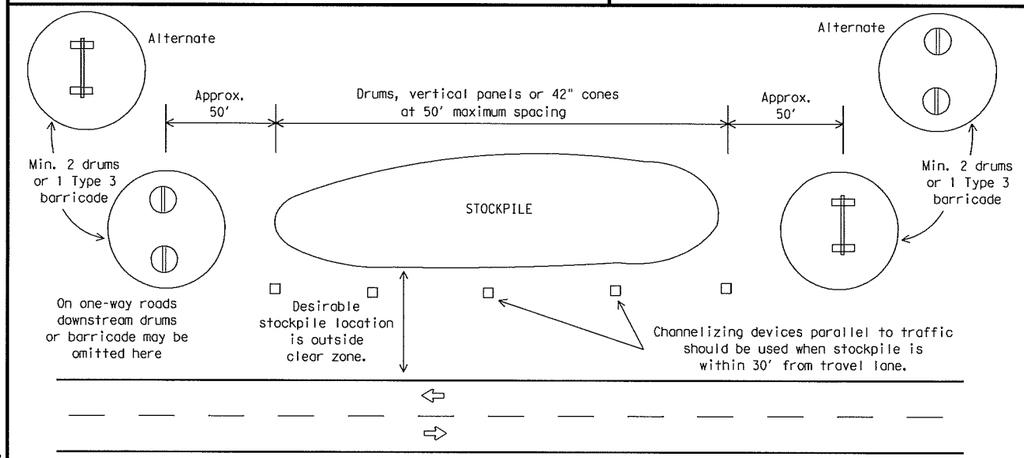
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



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

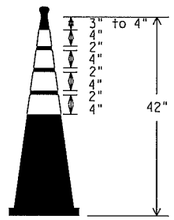
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers used at night shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

THIS DEVICE SHALL NOT BE USED ON PROJECTS LET AFTER MARCH 2014.



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 A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

SHEET 10 OF 12

Texas Department of Transportation

Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-14

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WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

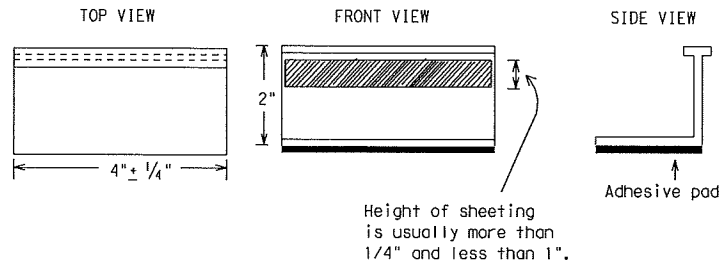
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation

Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-14

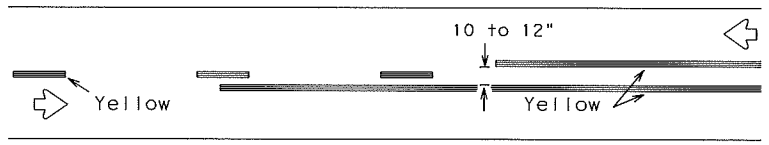
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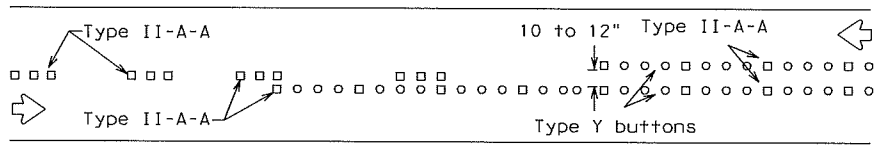
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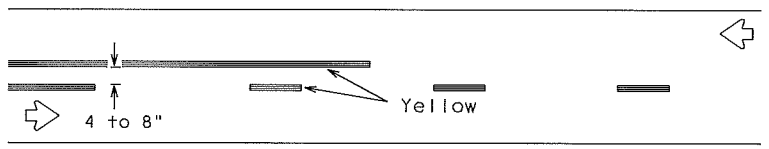
PAVEMENT MARKING PATTERNS



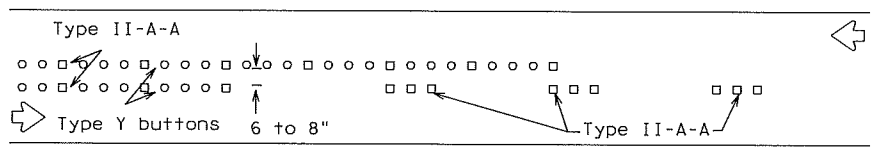
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



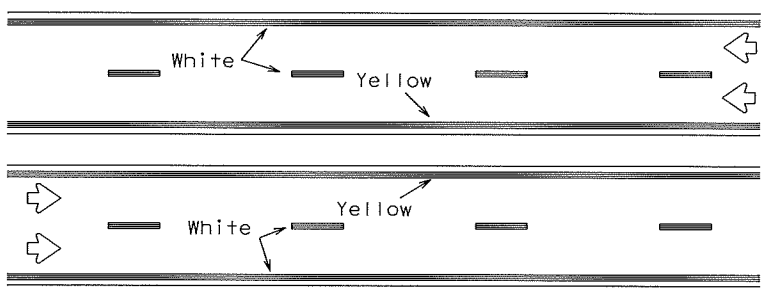
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



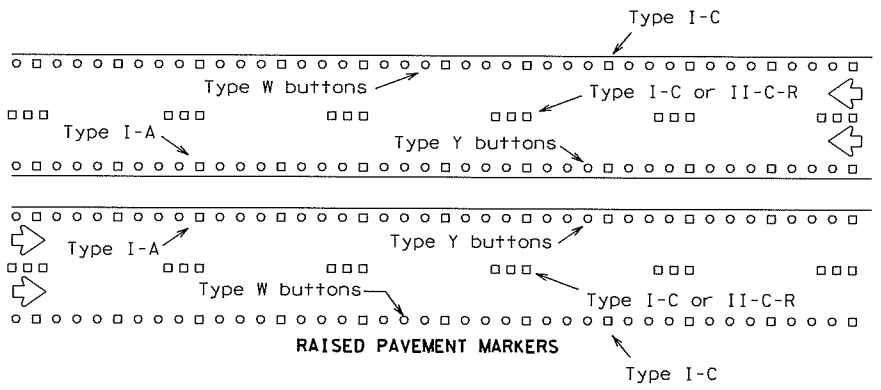
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



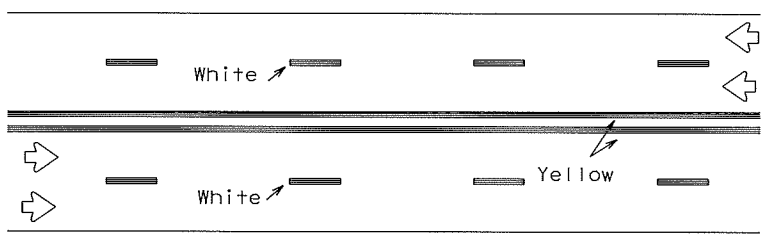
REFLECTORIZED PAVEMENT MARKINGS



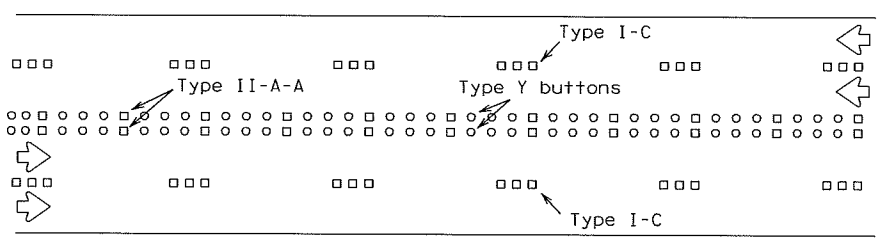
RAISED PAVEMENT MARKERS

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EDGE & LANE LINES FOR DIVIDED HIGHWAY



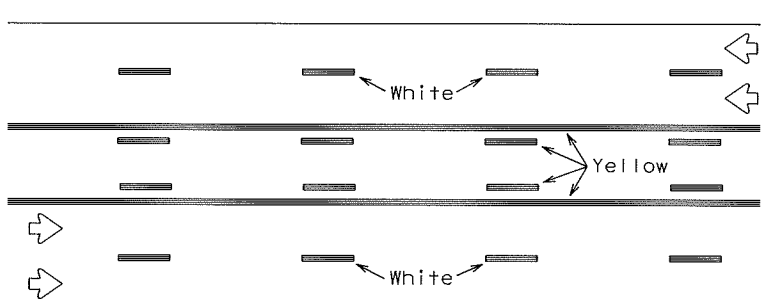
REFLECTORIZED PAVEMENT MARKINGS



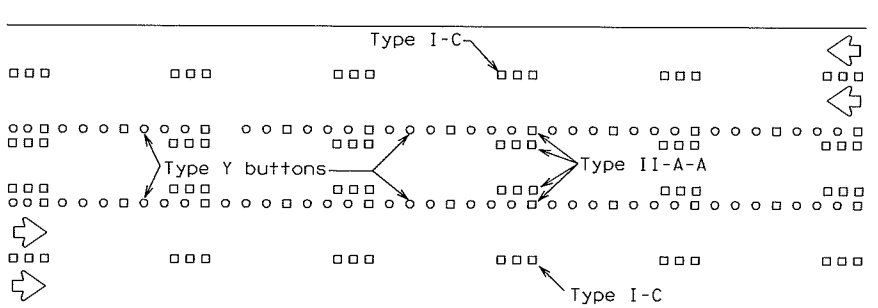
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

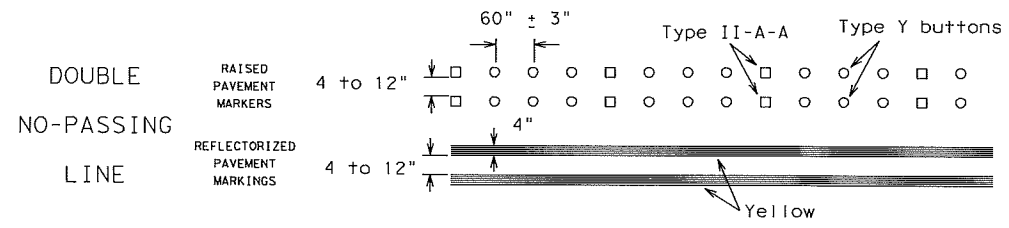
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

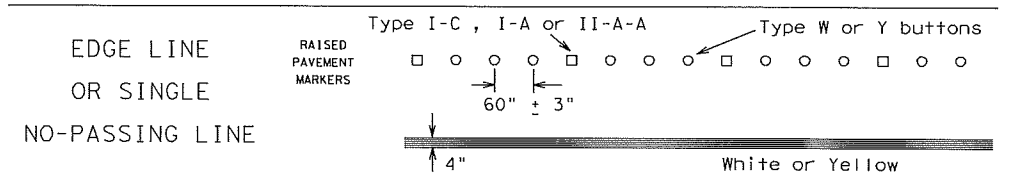
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

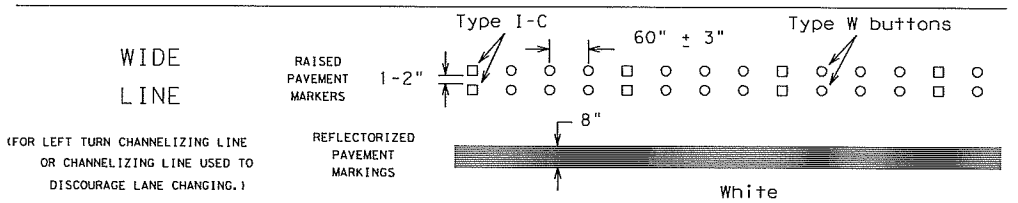


EDGE LINE OR SINGLE NO-PASSING LINE



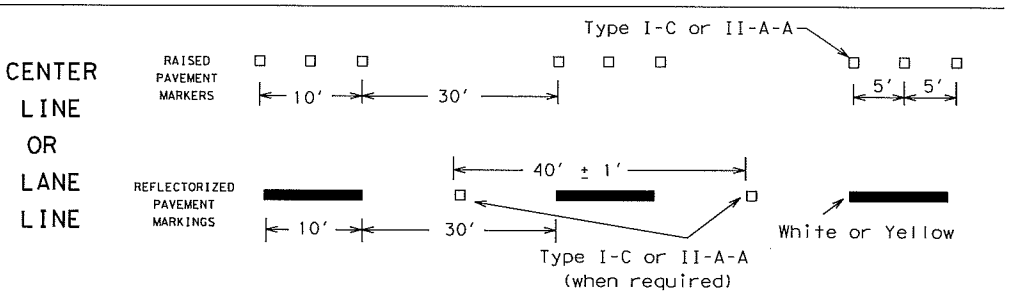
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

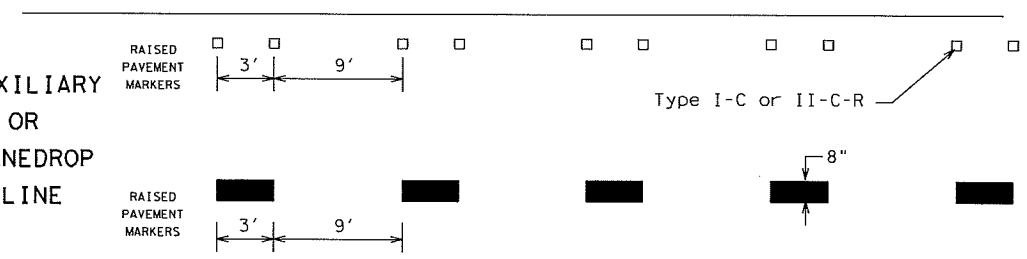


BROKEN LINES

CENTER LINE OR LANE LINE

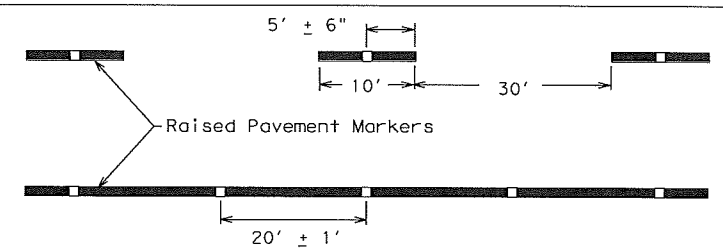


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

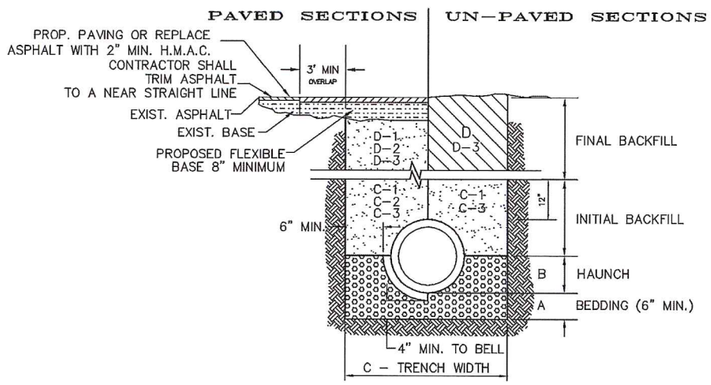
Texas Department of Transportation

Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-14

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STORM TRENCH BEDDING AND BACKFILL DETAILS

N.T.S

A. BEDDING FOR RCP CLASS III, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE – SAND AND/OR GRAVEL MIX BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW OF PIPE (MIN. COMPACTED THICKNESS = 6") – PIT RUN GRAVEL ¾" MAX SIZE.

B. HAUNCH FOR RCP CLASS III, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE – SHALL BE CLASS I OR CLASS II (ASTM D2321) BACKFILL MATERIAL COMPACTED TO 92% S.P.D., 8" LOOSE LIFTS, MECHANICAL COMPACTION.

C. TRENCH WIDTH – SHALL BE BELL O.D. X 1.5 + 12". MINIMUM TRENCH WIDTH SHALL EQUAL STRUCTURE WIDTH + 4 FT. THROUGHOUT THE HEIGHT OF THE STRUCTURE.

C-1 INITIAL BACKFILL FOR RCP CLASS III STORM DRAIN PIPE ON CITY STREETS, PARKING AREAS, DRIVEWAYS, COUNTY ROADS & UNPAVED AREAS – SHALL BE SOIL TYPE A1, A2, A3 WITH A MAXIMUM P.I. OF 19 (AASHTO M145) COMPACTED TO 92% S.P.D., 8" LOOSE LIFTS, MECHANICAL COMPACTION.

C-2 INITIAL BACKFILL FOR RCP CLASS III STORM DRAIN PIPE ON STATE MAINTAINED ROADWAYS – COMPACTED SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT, COMPACTED TO 92% S.P.D. AS PER ASTM D4253 AND ASTM D698, 8" LOOSE LIFTS, MECHANICAL COMPACTION.

C-3 INITIAL BACKFILL FOR HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE – SHALL BE CLASS I OR CLASS II WITH A MAXIMUM P.I. OF 19 (ASTM D2321) BACKFILL MATERIAL COMPACTED TO 92% S.P.D., 8" LOOSE LIFTS, MECHANICAL COMPACTION.

D. FINAL BACKFILL FOR RCP CLASS III, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE UNDER UNPAVED SECTIONS – SHALL BE CLASS I, II, III OR IV, COMPACTED TO 92% S.P.D. (12" LOOSE LIFT, MECHANICAL COMPACTION).

D-1 FINAL BACKFILL FOR RCP CLASS III, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE ON CITY STREETS, PARKING AREAS, DRIVEWAYS AND COUNTY ROADS– SHALL BE SOIL TYPE A1, A2, A3 WITH A MAXIMUM P.I. OF 19 (AASHTO M145) COMPACTED TO 92% S.P.D., 8" LOOSE LIFTS, MECHANICAL COMPACTION.

D-2 FINAL BACKFILL FOR RCP CLASS III, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE ON STATE MAINTAINED ROADWAYS – COMPACTED SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT, COMPACTED TO 92% S.P.D. AS PER ASTM D4253 AND ASTM D698, 8" LOOSE LIFTS, MECHANICAL COMPACTION.

D-3 FINAL BACKFILL FOR STRUCTURES (INLETS, MANHOLES, ETC.) – STRUCTURES UNDER THE ROADWAY AND UP TO 5 FT BEYOND THE EDGE OF PAVEMENT/BACK OF CURB SHALL HAVE CLASS I OR CLASS II (ASTM D2321) OR SOIL TYPE A1, A2, OR A3 (AASHTO M145) WITH A MAXIMUM P.I. OF 19 BACKFILL MATERIAL. STRUCTURES BEYOND 5 FT FROM THE E.O.P./B.O.C. SHALL HAVE CLASS I, II, III OR IV (ASTM D2321) BACKFILL MATERIAL. FOUNDATION PREPARATION (WELLPOINTS, MINIMUM 4" GRAVEL OR CEMENTS 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% S.P.D. (USE RELATIVE DENSITY TEST PER ASTM D4253 & ASTM D698). THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 8".

NOTES:
1. MAXIMUM COVER SHALL BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. FOR D-1 AND D-2 THE COMPACTION REQUIREMENT SHALL BE 95% S.P.D. WITHIN 12 IN. BELOW THE FLEXIBLE BASE.
3. FOR PAVED SECTIONS THE ABOVE REQUIREMENTS SHALL APPLY WHEN ANY PART OF THE TRENCH WIDTH IS WITHIN 5 FT. FROM THE E.O.P./B.O.C.
4. THE ABOVE REQUIREMENTS SHALL APPLY TO UTILITY PIPELINES AND UTILITY STRUCTURES OF OTHER UTILITY ENTITIES.

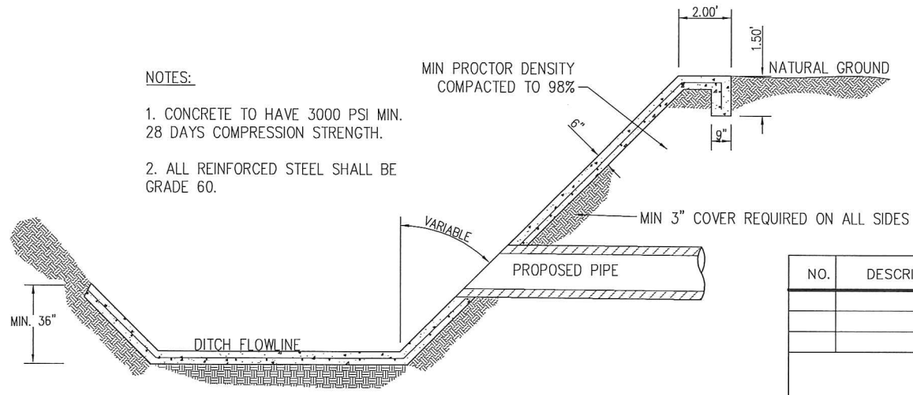
STORM TRENCH BEDDING AND BACKFILL DETAIL

HIDALGO COUNTY PLANNING DEPARTMENT
1304 S. 25 TH. STREET
EDINBURG TX. 78539
TEL: (956) 318-2840 ★ FAX: (956) 318-2844
www.co.hidalgo.tx.us
RAUL E. SESIN, P.E., C.F.M.
PLANNING ADMINISTRATOR

NOTES:

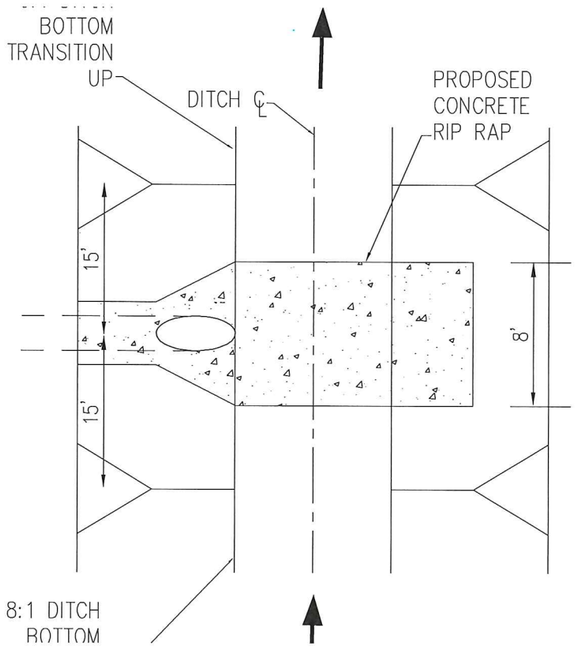
1. CONCRETE TO HAVE 3000 PSI MIN. 28 DAYS COMPRESSION STRENGTH.

2. ALL REINFORCED STEEL SHALL BE GRADE 60.



STORM DISCHARGE STRUCTURE

N.T.S.



THIS DOCUMENT IS RELEASED FOR INTERIM REVIEW ONLY UNDER AUTHORITY OF CRAIG A. GONZALEZ, P.E., (NO. 99268) ON 10/25/2016 AND IS NOT TO BE USED FOR BIDDING OR CONSTRUCTION.

NO.	DESCRIPTION	INITIALS	DATE

HIDALGO COUNTY DRAINAGE DISTRICT No.1 — HCDD1

URBAN INFRASTRUCTURE GROUP, INC.
407 N. SALINAS BLVD. (956) 464-4710
PO BOX 729 TBPE FIRM NO. F-13094
DONNA, TEXAS 78537 WWW.UIGTEXAS.COM

MILE 13 1/2 N & FM 1015 AREA DRAINAGE IMPROVEMENT PROJECT

DETAILS

PROJECT NO.	112800
DATE:	10/27/2016
SCALE:	NTS

SHEET NUMBER: C22

AI -57352 **9.**

DRAINAGE - CONSENT

Meeting Date: 11/15/2016

Submitted For: Claudette Guerrero

Submitted By: Claudette Guerrero, DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 Bonds
Budget: 305-PSJA Lateral
Engineering Firm: Javier Hinojosa Engineering
Invoice No. 16087 in the amount of $33,750.00 pertaining to Work Authorization No. 1-Engineering Services for the PSJA Lateral Drain. PO#627762

BACKGROUND

Fiscal Impact

Attachments

Javier H. Inv#16087

Form Review

Inbox	**Reviewed By**	**Date**
Final Approval	Monica Badillo	11/10/2016 04:44 PM

Form Started By: Claudette Guerrero Started On: 11/10/2016 04:15 PM

Final Approval Date: 11/10/2016

Hidalgo County Drainage District No. 1

902 North Doolittle Road, Edinburg, TX 78542 Office: 956-292-7080

Invoice Processing Routing Slip

Invoice/ Backup

Date Received: 10/12/2016

Engineer/Firm Name: Javier Hinojosa Engineering

Project Name/Number: PSJA Lateral Drain Ditch in Pct. 2, WA No. 1

Invoice No.: 16087-Revised

Invoice Date: 9/20/2016

Due Date: 11-11-1016

Purchase Order No.: 627762

Amount: $33,750.00

Total # of Pages Submitted: 2

Attachments: ☐ CD ☐ USB ☐ Plans Other: _____

Engineering: ☑ **Construction:** ☐

Received By: Maria Perez

Forwarded to:

Nora D. Cavazos _____ **Date:** _____

Esther Layton _____ **Date:** _____

Claudette Guerrero _____ **Date:** _____

Jose N. Saldivar _____ **Date:** _____

Lora Briones _____ **Date:** _____

Additional Comments: _____

THIS ROUTING SLIP MUST BE KEPT WITH ORIGINAL INVOICE

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

OCT 12 2016
10:45 AM PM
BY: MP

Javier Hinojosa Engineering
416 E. Dove Avenue
McAllen, TX 78504
956/668-1588 Fax: 956/994-8102

Invoice No. 16087

Customer

Name: Hidalgo County Drainage District No. 1
Address: 902 N. Doolittle
City: Edinburg State: Texas Zip: 78541
Attention: Mr. Raul Sesin, P.E., District Manager

Date: September 20, 2016

Project Name: PSJA Lateral Drain Ditch in Precinct No. 2

Description

Engineering services rendered for completion of the Phase I (Data Collection), completion of Phase II (Preliminary Engineering & Design) and towards completion of Phase III (Final Design) for the PSJA Lateral Drain Ditch in Precinct No. 2.

P.O.#627762
Work Authorization No. 1
CONTRACT AMT.: $135,000.00

Task Description	Contract Amount	% Completed To Date	Total Due	Less Previous Payments	Amount Due This Request	Balance To Complete
Phase I - Data Collection	$20,250.00	100%	$20,250.00	$15,187.50	$5,062.50	$0.00
Phase II - Preliminary Engineering & Design	$20,250.00	100%	$20,250.00	$15,187.50	$5,062.50	$0.00
Phase III - Final Design	$67,500.00	70%	$47,250.00	$23,625.00	$23,625.00	$20,250.00
Phase IV - Construction	$27,000.00	0%	$0.00	$0.00	$0.00	$27,000.00
TOTAL	**$135,000.00**	**0%**	**$87,750.00**	**$54,000.00**	**$33,750.00**	**$47,250.00**

TOTAL AMOUNT DUE THIS INVOICE: $33,750.00

Submitted By: Javier Hinojosa Engineering

Office Use Only

We Appreciate Your Business.

Zimbra **esther.layton@hcdd1.org**

INVOICE NO. 16087

From : javhin@rgv.rr.com Wed, Oct 12, 2016 10:22 AM
Subject : INVOICE NO. 16087 1 attachment
To : esther layton <esther.layton@hcdd1.org>

Esther,

Attached please find revised Invoice No. 16087 as requested. If you have any questions please let me know.

Thank you,

Javier Hinojosa, P.E.
Javier Hinojosa Engineering
416 E. Dove Avenue
McAllen, Texas 78504
956-668-1588
fax: 956-994-8102
e-mail: javhin@rgv.rr.com

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353 KB