



**CONSENT AGENDA
DRAINAGE DISTRICT
BOARD OF DIRECTORS
September 20, 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being discussed separately unless requested by a Board Member, in which event the item or items will immediately be withdrawn for individual consideration in its normal sequence after the items not requiring separate discussion have been acted upon.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 -56433** 2013 Bonds Projects
Budget: 370-Control Structures

Engineering Firm: Tedsy Infrastructure Group

Invoice No. 20162708-B in the amount of \$7,107.10 related to Work
Authorization No. 19-Donna North Lateral Control Structure & FM 495.
PO#628016

3. **AI -56443** Request Approval of Invoice No. 0041-12-001-9 in the amount of \$29,331.60 to Entech Civil Engineers, Inc. for Construction Engineering services related to the Weir No. 5 from the Main Flood Water Channel.

AI -56433

2.

DRAINAGE - CONSENT

Meeting Date: 09/20/2016

Submitted By: Claudette Guerrero,
DRAINAGE DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

2013 Bonds Projects

Budget: 370-Control Structures

Engineering Firm: Tedsi Infrastructure Group

Invoice No. 20162708-B in the amount of \$7,107.10 related to Work Authorization No. 19-Donna North Lateral Control Structure & FM 495.

PO#628016

BACKGROUND

Fiscal Impact

Attachments

Teds Inv#20162708-B

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	09/16/2016 01:48 PM
Glinda Pacheco	Glinda Pacheco	09/16/2016 04:02 PM
Final Approval	Monica Badillo	09/16/2016 04:26 PM
Form Started By: Claudette Guerrero		Started On: 09/16/2016 11:23 AM
Final Approval Date: 09/16/2016		



Hidalgo County Drainage District No. 1

902 North Doolittle Road

Edinburg, Texas 78542

Office: (956) 292-7080

Invoice Processing Routing Slip Invoice/ Backup

Date Received:

6/15/2016

Engineer/Firm Name:

TEDSI Infrastructure Group

Project Name/Number:

Donna North Lat. CS & FM 495 Drain CS WA No. 19

Invoice No.:

20162708-B

Purchase Order No.:

628016

Received By:

Maria Perez

Forwarded to:

Nora D. Cavazos

Date:

Claudette Guerrero

Date:

Total # of Pages Submitted:

19

Attachments:

CD

Amount:

\$7,107.10

Forwarded to:

Jose N. Saldivar

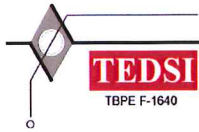
Date:

Forwarded to:

Lora Briones

Date:

Additional Comments:



TEDSI INFRASTRUCTURE GROUP

Consulting Engineers

1201 East Expressway 83 ♦ Mission, Texas 78572
 Tel: (956) 424-7898
 Fax: (956) 424-7022

April 28, 2016

Project No: 2013-1128-19

Invoice No: 20162708-B

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

Project 2013-1128-19 Donna North Lateral Control Structure & FM 495 Drain Control Structure

Precinct One 2012 Bond Referendum
P.O. No. 628016
Account No. 15-133-433-370-010-006-43340
W.A. No. 19

Professional Services from January 1, 2016 to March 31, 2016

Phase 100		Donna North Lateral Control Structure				
Fee						
Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Basic Services	23,690.29	40.00	9,476.12	5,922.57	3,553.55	
Topographic Survey	6,500.00	100.00	6,500.00	6,500.00	0.00	
Geotechnical Report (TEDSI)	1,267.52	100.00	1,267.52	1,267.52	0.00	
Geotechnical Report (RABA)	6,337.61	100.00	6,337.61	6,337.61	0.00	
Total Fee	37,795.42		23,581.25	20,027.70	3,553.55	
Total Fee						3,553.55
Total this Phase						\$3,553.55

Phase 200		FM 495 Drain Control Structure				
Fee						
Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing	
Basic Services	23,690.29	40.00	9,476.12	5,922.57	3,553.55	
Topographic Survey	6,500.00	100.00	6,500.00	6,500.00	0.00	
Geotechnical Report (TEDSI)	1,257.10	100.00	1,257.10	1,257.10	0.00	
Geotechnical Report (RABA)	6,285.51	100.00	6,285.51	6,285.51	0.00	
Total Fee	37,732.90		23,518.73	19,965.18	3,553.55	

Project	2013-1128-19	Donna North Lateral and FM 495	Invoice	20162708-B
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Total Fee	3,553.55
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Total this Phase	\$3,553.55
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Billing Summary

	Current	Prior	To-Date	
Total Billings	7,107.10	39,992.88	47,099.98	
Total Fee			75,528.32	
Remaining Fee			28,428.34	
		Total this Invoice		\$7,107.10

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



Authorized By: _____
Jose A. Sanchez, P.E.

Date: **04-29-2016** _____

RECEIVED
HIDALGO COUNTY
DRAINAGE DISTRICT #1

JUN 15 2016

3:30 AM/PM

BY: 



TEDSI
TBPE F-1640

TEDSI INFRASTRUCTURE GROUP

Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022

Project Memorandum

PROJECT: Donna - SH 495 Laterals	TEDSI JOB NO.: 2013-1128-19
CLIENT: Hidalgo County Drainage District No. 1	DATE: 2016-03-16
SUBJECT: Donna North & SH 495 Laterals Confluence Recommendations	
FROM: TEDSI	
DISTRIBUTION: HCDD No.1 and TEDSI	

Following are the recommendations for each confluence:

Donna North Lateral:

Existing 10'x10' concrete box culvert is adequate for 10-yr storm design. Recommend installation of gate control structure to prevent backflow from South Main Drain into this channel during larger storm events. Existing culvert is **inadequate** for storm events larger than 10-yr frequency.

SH 495 Lateral:

Existing 10'x10' concrete box culvert is adequate for 10-yr storm design. Recommend installation of gate control structure to prevent backflow from South Main Drain into this channel during larger storm events. Existing culvert is **adequate** for 25-yr and 100-yr storm events.

Recommendations are based on available topographical, hydrological, and hydraulic information, including the HEC-RAS model provided to TEDSI by HCDD No. 1. 10-yr design frequency justification is found in the *Flood Protection Plan for Hidalgo County, Texas*, dated September 1997.

Should you have further questions and/or comments regarding these recommendations, please feel free to contact Jason Adams, E.I.T. (jadams@tedsi.com).

Thank you,

for

Mark Corbitt, P.E.

TEDSI Infrastructure Group

956-424-7898

WATERSHED & HYDROLOGIC PARAMETERS

Name	WSHED	ACRE (AC)	DRAINID (STUD AREA (S.MI))	SystemName	CN_EXIST	IMPER_EXST	CN_BASE	IMPER_ULT	LFP_SLOPE	LFP_SL_PCT	LFP_LENGTH
495	SM	5099	1	7.9672 495	73	22	42	40	0.00100	0.100	37188
Donna	SM	3980	1	6.2188 Donna	73	22	42	40	0.00100	0.100	25112

PRF & LAGTIME CALCS

PRF	PRF1	Lag (min)	Lag(hr)
143.1	150	1336.8	22.3
134.0	150	976.4	16.3

HMS INPUT

SUBBASIN	PRF	LAG
495	150	22.28
Donna	150	16.27

SH 495 & DONNA LATERALS
 UNIT HYDROGRAPH CALCULATION
 FOR HEC-HMS INPUT (USER-SPECIFIED UHG)

Time	495	Donna
DA (SM)	7.9672	6.2188
PRF	150	150
Tc (hr)	37.13	27.12
Tlag (hr)	22.28	16.27
Drecom (hr)	4.94	3.61
Dmax (hr)	6.31	4.61
Dchosen (hr)	1.00	1.00
ϕ	0.23	0.23
α	0.47	0.47
Tr (hr)	22.78	16.77
Qp	52.46	55.61

TIME (HR)	495	Donna
0.0	0.0	0.0
1.0	19.0	23.1
2.0	25.8	31.1
3.0	30.5	36.5
4.0	34.2	40.6
5.0	37.2	43.8
6.0	39.7	46.4
7.0	41.8	48.5
8.0	43.6	50.2
9.0	45.1	51.6
10.0	46.4	52.7
11.0	47.5	53.6
12.0	48.5	54.3
13.0	49.3	54.8
14.0	50.0	55.2
15.0	50.6	55.5
16.0	51.1	55.6
17.0	51.5	55.6
18.0	51.8	55.5
19.0	52.1	55.4
20.0	52.3	55.2
21.0	52.4	54.9
22.0	52.4	54.6
23.0	52.5	54.2
24.0	52.4	53.8
25.0	52.4	53.3
26.0	52.2	52.8
27.0	52.1	52.2
28.0	51.9	51.7
29.0	51.7	51.1
30.0	51.5	50.5
31.0	51.2	49.8
32.0	50.9	49.2
33.0	50.6	48.5
34.0	50.3	47.9
35.0	49.9	47.2
36.0	49.5	46.5
37.0	49.2	45.8
38.0	48.8	45.1
39.0	48.4	44.4
40.0	47.9	43.7
41.0	47.5	43.0
42.0	47.1	42.3
43.0	46.6	41.6
44.0	46.2	40.9
45.0	45.7	40.2
46.0	45.2	39.5
47.0	44.8	38.8
48.0	44.3	38.1
49.0	43.8	37.4
50.0	43.3	36.7
51.0	42.9	36.0
52.0	42.4	35.4
53.0	41.9	34.7
54.0	41.4	34.0
55.0	40.9	33.4
56.0	40.4	32.7
57.0	39.9	32.1
58.0	39.4	31.5
59.0	38.9	30.9
60.0	38.4	30.2
61.0	37.9	29.6
62.0	37.5	29.0
63.0	37.0	28.5
64.0	36.5	27.9
65.0	36.0	27.3
66.0	35.5	26.8
67.0	35.1	26.2
68.0	34.6	25.7
69.0	34.1	25.1
70.0	33.6	24.6
71.0	33.2	24.1
72.0	32.7	23.6
73.0	32.3	23.1
74.0	31.8	22.6
75.0	31.4	22.1
76.0	30.9	21.6

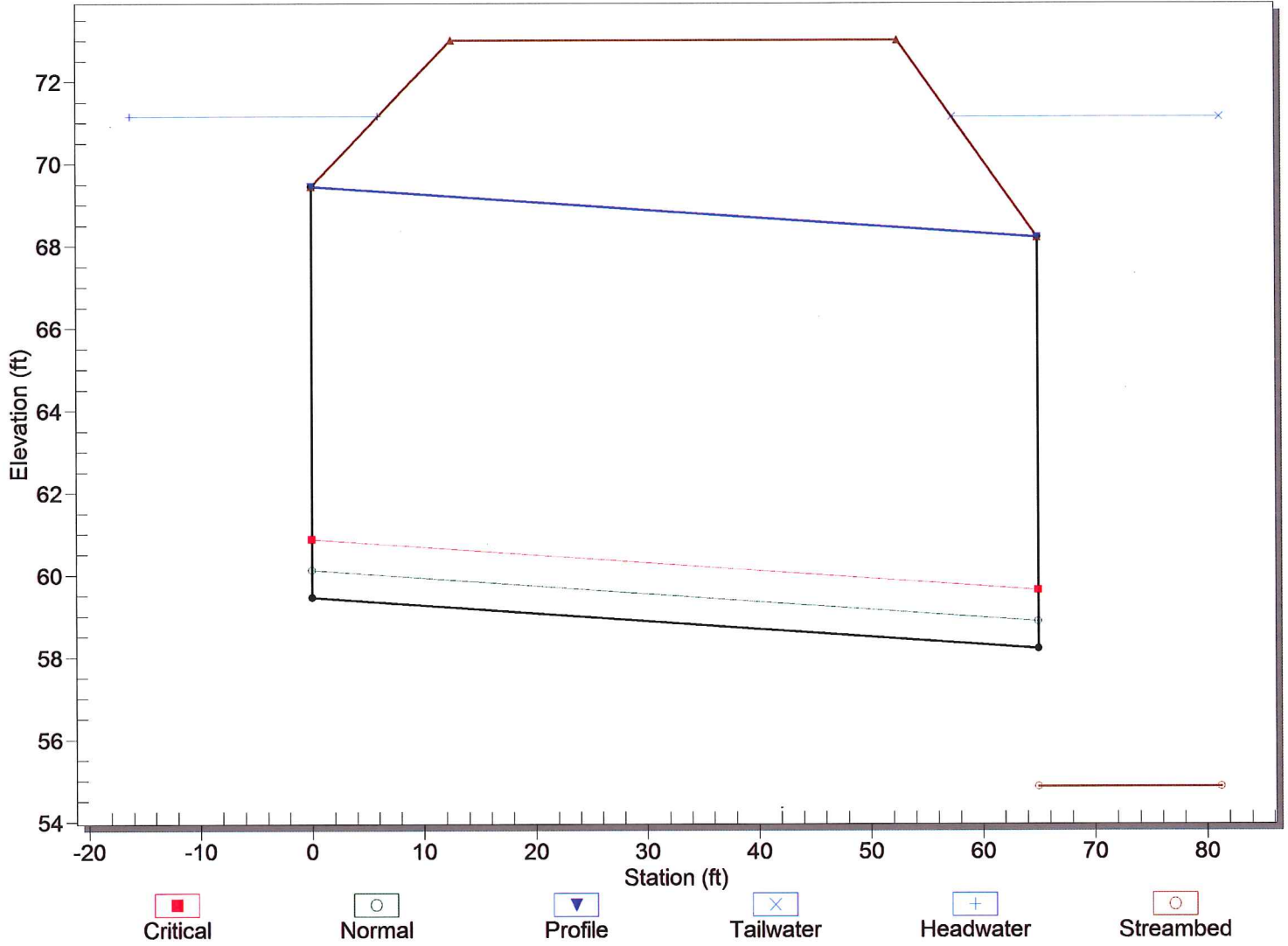
SH 495 & DONNA LATERALS
 UNIT HYDROGRAPH CALCULATION
 FOR HEC-HMS INPUT (USER-SPECIFIED UHG)

Time	495	Donna
DA (SM)	7.9672	6.2188
PRF	150	150
Tc (hr)	37.13	27.12
Tlag (hr)	22.28	16.27
Drecom (hr)	4.94	3.61
Dmax (hr)	6.31	4.61
Dchosen (hr)	1.00	1.00
ϕ	0.23	0.23
α	0.47	0.47
Tp (hr)	22.78	16.77
Qp	52.46	55.61
TIME (HR)		
77.0	30.5	21.2
78.0	30.0	20.7
79.0	29.6	20.3
80.0	29.2	19.8
81.0	28.7	19.4
82.0	28.3	19.0
83.0	27.9	18.5
84.0	27.5	18.1
85.0	27.1	17.7
86.0	26.7	17.3
87.0	26.3	17.0
88.0	25.9	16.6
89.0	25.5	16.2
90.0	25.1	15.8
91.0	24.7	15.5
92.0	24.3	15.1
PRF	24.0	14.8
94.0	23.6	14.5
95.0	23.2	14.1
96.0	22.9	13.8
97.0	22.5	13.5
98.0	22.2	13.2
99.0	21.8	12.9
ϕ	21.5	12.6
101.0	21.1	12.3
102.0	20.8	12.0
103.0	20.5	11.7
104.0	20.1	11.5
105.0	19.8	11.2
106.0	19.5	10.9
107.0	19.2	10.7
108.0	18.9	10.4
109.0	18.6	10.2
110.0	18.3	10.0
111.0	18.0	9.7
112.0	17.7	9.5
113.0	17.4	9.3
114.0	17.1	9.1
115.0	16.8	8.9
116.0	16.6	8.6
117.0	16.3	8.4
118.0	16.0	8.2
119.0	15.8	8.0
120.0	15.5	7.9
121.0	15.3	7.7
122.0	15.0	7.5
123.0	14.8	7.3
124.0	14.5	7.1
125.0	14.3	7.0
126.0	14.0	6.8
127.0	13.8	6.6
128.0	13.6	6.5
129.0	13.3	6.3
130.0	13.1	6.2
131.0	12.9	6.0
132.0	12.7	5.9
133.0	12.5	5.7
134.0	12.3	5.6
135.0	12.0	5.5
136.0	11.8	5.3
137.0	11.6	5.2
138.0	11.4	5.1
139.0	11.2	5.0
140.0	11.1	4.8
141.0	10.9	4.7
142.0	10.7	4.6
143.0	10.5	4.5
144.0	10.3	4.4
145.0	10.1	4.3
146.0	10.0	4.2
147.0	9.8	4.1
148.0	9.6	4.0
149.0	9.5	3.9
150.0	9.3	3.8
151.0	9.1	3.7
152.0	9.0	3.6
153.0	8.8	3.5
154.0	8.7	3.4
155.0	8.5	3.3
156.0	8.4	3.3

SH 495 & DONNA LATERALS RUNOFF COMPUTATIONS

ELEMENT	DAREA (SQ MI)	EXISTING CONDITION					
		10Y PKQ	10Y VOL	25Y PKQ	25Y VOL	100Y PKQ	100Y VOL
495	7.9672	91.1	676	130.3	968.3	217.9	1616.8
Donna	6.2188	96.2	560.4	137.4	802.8	230.1	1340.4

Crossing - DONNA, Design Discharge - 96.2 cfs
 Culvert - DONNA, Culvert Discharge - 96.2 cfs



HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: DONNA

Headwater Elevation (ft)	Total Discharge (cfs)	DONNA Discharge (cfs)	Roadway Discharge (cfs)	Iterations
71.15	96.20	96.20	0.00	1
71.16	109.59	109.59	0.00	1
71.17	122.98	122.98	0.00	1
71.18	136.37	136.37	0.00	1
71.18	149.76	149.76	0.00	1
71.20	163.15	163.15	0.00	1
71.21	176.54	176.54	0.00	1
71.22	189.93	189.93	0.00	1
71.23	203.32	203.32	0.00	1
71.24	216.71	216.71	0.00	1
71.26	230.10	230.10	0.00	1
73.00	872.97	872.97	0.00	Overtopping

HY-8 Analysis Results

Culvert Summary Table - DONNA

Culvert Crossing: DONNA

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
96.20	96.20	71.15	2.39	11.70	4-FFf	0.67	1.42	10.00	16.28	0.96	0.00
109.59	109.59	71.16	2.61	11.71	4-FFf	0.76	1.55	10.00	16.28	1.10	0.00
122.98	122.98	71.17	2.82	11.72	4-FFf	0.85	1.67	10.00	16.28	1.23	0.00
136.37	136.37	71.18	3.02	11.73	4-FFf	0.93	1.79	10.00	16.28	1.36	0.00
149.76	149.76	71.18	3.22	11.73	4-FFf	0.98	1.91	10.00	16.28	1.50	0.00
163.15	163.15	71.20	3.40	11.75	4-FFf	1.03	2.02	10.00	16.28	1.63	0.00
176.54	176.54	71.21	3.59	11.76	4-FFf	1.08	2.13	10.00	16.28	1.77	0.00
189.93	189.93	71.22	3.77	11.77	4-FFf	1.12	2.24	10.00	16.28	1.90	0.00
203.32	203.32	71.23	3.94	11.78	4-FFf	1.17	2.34	10.00	16.28	2.03	0.00
216.71	216.71	71.24	4.11	11.79	4-FFf	1.22	2.44	10.00	16.28	2.17	0.00
230.10	230.10	71.26	4.28	11.81	4-FFf	1.27	2.54	10.00	16.28	2.30	0.00

HY-8 Analysis Results

Water Surface Profiles

Culvert Crossing: DONNA

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Length Full (ft)	Length Free (ft)
96.20	96.20	71.15	2.39	11.70	4-FFf	65.01	0.00
109.59	109.59	71.16	2.61	11.71	4-FFf	65.01	0.00
122.98	122.98	71.17	2.82	11.72	4-FFf	65.01	0.00
136.37	136.37	71.18	3.02	11.73	4-FFf	65.01	0.00
149.76	149.76	71.18	3.22	11.73	4-FFf	65.01	0.00
163.15	163.15	71.20	3.40	11.75	4-FFf	65.01	0.00
176.54	176.54	71.21	3.59	11.76	4-FFf	65.01	0.00
189.93	189.93	71.22	3.77	11.77	4-FFf	65.01	0.00
203.32	203.32	71.23	3.94	11.78	4-FFf	65.01	0.00
216.71	216.71	71.24	4.11	11.79	4-FFf	65.01	0.00
230.10	230.10	71.26	4.28	11.81	4-FFf	65.01	0.00

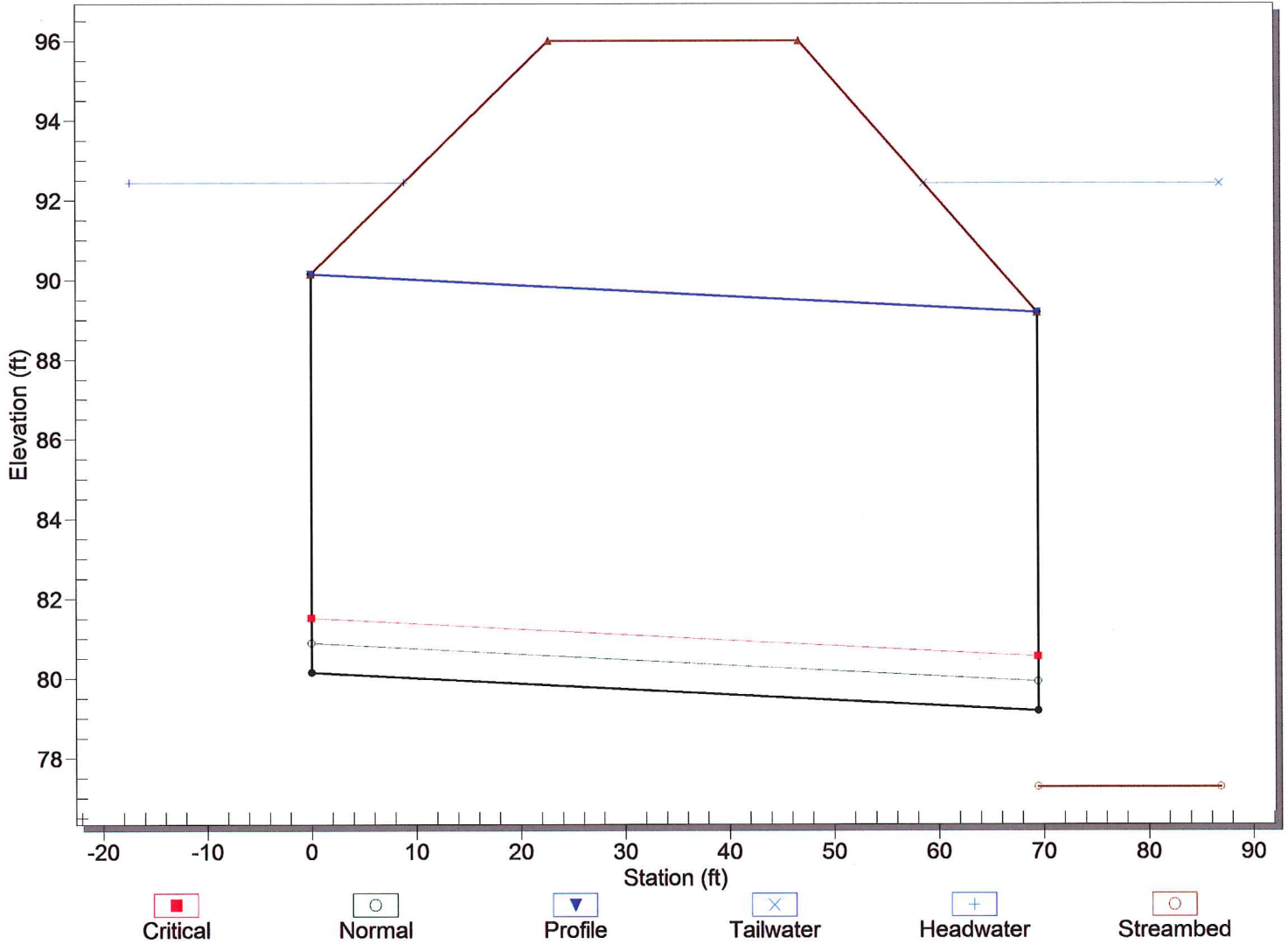
HY-8 Analysis Results

Tapered Inlet Table

Culvert Crossing: DONNA

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Crest Control Elev(ft)	Face Control Elev(ft)	Throat Control Elev(ft)	Tailwater Elevation (ft)
96.20	96.20	71.15	2.39	11.70	4-FFf	0.00	0.00	0.00	71.13
109.59	109.59	71.16	2.61	11.71	4-FFf	0.00	0.00	0.00	71.13
122.98	122.98	71.17	2.82	11.72	4-FFf	0.00	0.00	0.00	71.13
136.37	136.37	71.18	3.02	11.73	4-FFf	0.00	0.00	0.00	71.13
149.76	149.76	71.18	3.22	11.73	4-FFf	0.00	0.00	0.00	71.13
163.15	163.15	71.20	3.40	11.75	4-FFf	0.00	0.00	0.00	71.13
176.54	176.54	71.21	3.59	11.76	4-FFf	0.00	0.00	0.00	71.13
189.93	189.93	71.22	3.77	11.77	4-FFf	0.00	0.00	0.00	71.13
203.32	203.32	71.23	3.94	11.78	4-FFf	0.00	0.00	0.00	71.13
216.71	216.71	71.24	4.11	11.79	4-FFf	0.00	0.00	0.00	71.13
230.10	230.10	71.26	4.28	11.81	4-FFf	0.00	0.00	0.00	71.13

Crossing - 495, Design Discharge - 91.1 cfs
 Culvert - 495, Culvert Discharge - 91.1 cfs



HY-8 Analysis Results

Crossing Summary Table

Culvert Crossing: 495

Headwater Elevation (ft)	Total Discharge (cfs)	495 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
92.44	91.10	91.10	0.00	1
92.45	103.78	103.78	0.00	1
92.45	116.46	116.46	0.00	1
92.46	129.14	129.14	0.00	1
92.47	141.82	141.82	0.00	1
92.48	154.50	154.50	0.00	1
92.49	167.18	167.18	0.00	1
92.50	179.86	179.86	0.00	1
92.51	192.54	192.54	0.00	1
92.52	205.22	205.22	0.00	1
92.54	217.90	217.90	0.00	1
96.00	1205.82	1205.82	0.00	Overtopping

HY-8 Analysis Results

Culvert Summary Table - 495

Culvert Crossing: 495

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
91.10	91.10	92.44	2.32	12.30	4-FFf	0.74	1.37	10.00	15.15	0.91	0.00
103.78	103.78	92.45	2.53	12.31	4-FFf	0.84	1.50	10.00	15.15	1.04	0.00
116.46	116.46	92.45	2.73	12.31	4-FFf	0.93	1.61	10.00	15.15	1.16	0.00
129.14	129.14	92.46	2.93	12.32	4-FFf	0.98	1.73	10.00	15.15	1.29	0.00
141.82	141.82	92.47	3.12	12.33	4-FFf	1.04	1.84	10.00	15.15	1.42	0.00
154.50	154.50	92.48	3.30	12.34	4-FFf	1.09	1.95	10.00	15.15	1.54	0.00
167.18	167.18	92.49	3.48	12.35	4-FFf	1.15	2.06	10.00	15.15	1.67	0.00
179.86	179.86	92.50	3.65	12.36	4-FFf	1.20	2.16	10.00	15.15	1.80	0.00
192.54	192.54	92.51	3.82	12.37	4-FFf	1.26	2.26	10.00	15.15	1.93	0.00
205.22	205.22	92.52	3.99	12.38	4-FFf	1.31	2.36	10.00	15.15	2.05	0.00
217.90	217.90	92.54	4.15	12.40	4-FFf	1.37	2.45	10.00	15.15	2.18	0.00

HY-8 Analysis Results

Water Surface Profiles

Culvert Crossing: 495

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Length Full (ft)	Length Free (ft)
91.10	91.10	92.44	2.32	12.30	4-FFf	69.51	0.00
103.78	103.78	92.45	2.53	12.31	4-FFf	69.51	0.00
116.46	116.46	92.45	2.73	12.31	4-FFf	69.51	0.00
129.14	129.14	92.46	2.93	12.32	4-FFf	69.51	0.00
141.82	141.82	92.47	3.12	12.33	4-FFf	69.51	0.00
154.50	154.50	92.48	3.30	12.34	4-FFf	69.51	0.00
167.18	167.18	92.49	3.48	12.35	4-FFf	69.51	0.00
179.86	179.86	92.50	3.65	12.36	4-FFf	69.51	0.00
192.54	192.54	92.51	3.82	12.37	4-FFf	69.51	0.00
205.22	205.22	92.52	3.99	12.38	4-FFf	69.51	0.00
217.90	217.90	92.54	4.15	12.40	4-FFf	69.51	0.00

HY-8 Analysis Results

Tapered Inlet Table

Culvert Crossing: 495

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Flow Type	Crest Control Elev(ft)	Face Control Elev(ft)	Throat Control Elev(ft)	Tailwater Elevation (ft)
91.10	91.10	92.44	2.32	12.30	4-FFf	0.00	0.00	0.00	92.42
103.78	103.78	92.45	2.53	12.31	4-FFf	0.00	0.00	0.00	92.42
116.46	116.46	92.45	2.73	12.31	4-FFf	0.00	0.00	0.00	92.42
129.14	129.14	92.46	2.93	12.32	4-FFf	0.00	0.00	0.00	92.42
141.82	141.82	92.47	3.12	12.33	4-FFf	0.00	0.00	0.00	92.42
154.50	154.50	92.48	3.30	12.34	4-FFf	0.00	0.00	0.00	92.42
167.18	167.18	92.49	3.48	12.35	4-FFf	0.00	0.00	0.00	92.42
179.86	179.86	92.50	3.65	12.36	4-FFf	0.00	0.00	0.00	92.42
192.54	192.54	92.51	3.82	12.37	4-FFf	0.00	0.00	0.00	92.42
205.22	205.22	92.52	3.99	12.38	4-FFf	0.00	0.00	0.00	92.42
217.90	217.90	92.54	4.15	12.40	4-FFf	0.00	0.00	0.00	92.42



TEDSI
TBPE F-1640

TEDSI INFRASTRUCTURE GROUP

Consulting Engineers
1201 East Expressway 83 ♦ Mission, Texas 78572
Tel: (956) 424-7898
Fax: (956) 424-7022

Project Memorandum

PROJECT: Donna - SH 495 Laterals	TEDSI JOB NO.: 2013-1128-19
CLIENT: Hidalgo County Drainage District No. 1	DATE: April 28, 2016
SUBJECT: Donna North & SH 495 Laterals Confluence Recommendations	
FROM: TEDSI	
DISTRIBUTION: HCDD No.1 and TEDSI	

In response to the email sent from HCDD No. 1 on April 27, 2016:

Donna North Lateral:

The existing 10'x10' concrete box culvert will convey the 25-yr storm event. The issue at this location is that the 25-yr storm event water surface elevation is higher than the berm and roadway surface elevations, resulting in overtopping. Recommend increasing the height of the berm along the South Main Drain upstream to at least the Dillon Rd crossing (~ 4000 lf), as well as along the Donna North Lateral upstream to the Anderson Rd crossing (~ 1200 lf).

SH 495 Lateral:

A gate control structure at this location would need to be closed to prevent backflow from the South Main Drain for any storm event of 25-yr frequency or greater.

Should you have further questions and/or comments regarding these recommendations, please feel free to contact us.



DVD

TEDSI

Inv# 20162708-B

Jan-Mar. Invoice

Backup

16x speed
1x - 16x compatible
support.staples.com

AI -56443

3.

DRAINAGE - CONSENT

Meeting Date: 09/20/2016

Submitted For: Raul Sesin

Submitted By: Lora Briones, DRAINAGE
DISTRICT

Department: DRAINAGE DISTRICT

Information

CAPTION

Request Approval of Invoice No. 0041-12-001-9 in the amount of \$29,331.60 to Entech Civil Engineers, Inc. for Construction Engineering services related to the Weir No. 5 from the Main Flood Water Channel.

BACKGROUND

Fiscal Impact

Attachments

Entech

Form Review

Inbox	Reviewed By	Date
Budget & Management	Veronica Ortiz	09/16/2016 03:46 PM
Glinda Pacheco	Glinda Pacheco	09/16/2016 04:06 PM
Final Approval	Monica Badillo	09/16/2016 04:26 PM
Form Started By: Lora Briones		Started On: 09/16/2016 02:58 PM
Final Approval Date: 09/16/2016		

ENTECH CIVIL ENGINEERS, IN
CONSULTING ENGINEERS • PROJECT MANAGER

Submitted: 2-25-16
Spreadsheet: Book:
Received Payment: _____
Paid Subs: _____

INVOICE

Mr. Raul E. Sesin
Hidalgo County Drainage District No. 1
902 N. Doolittle Rd.
Edinburg, Texas 78542

INVOICE NUMBER: **0041-12-001-9**
DATE: 5/12/2015
PURCHASE ORDER NO. 621259-R

Re: Hidalgo County Drainage District No. 1 - Weir #5
Contract No: 12-016-03-27
Entech Project No. 0041-12-001

Description	Amount
Invoice for	
5/1/2015 To 1/31/2016	\$29,331.60
Total	\$29,331.60

Thank you,



Nick Alanis
Vice President

