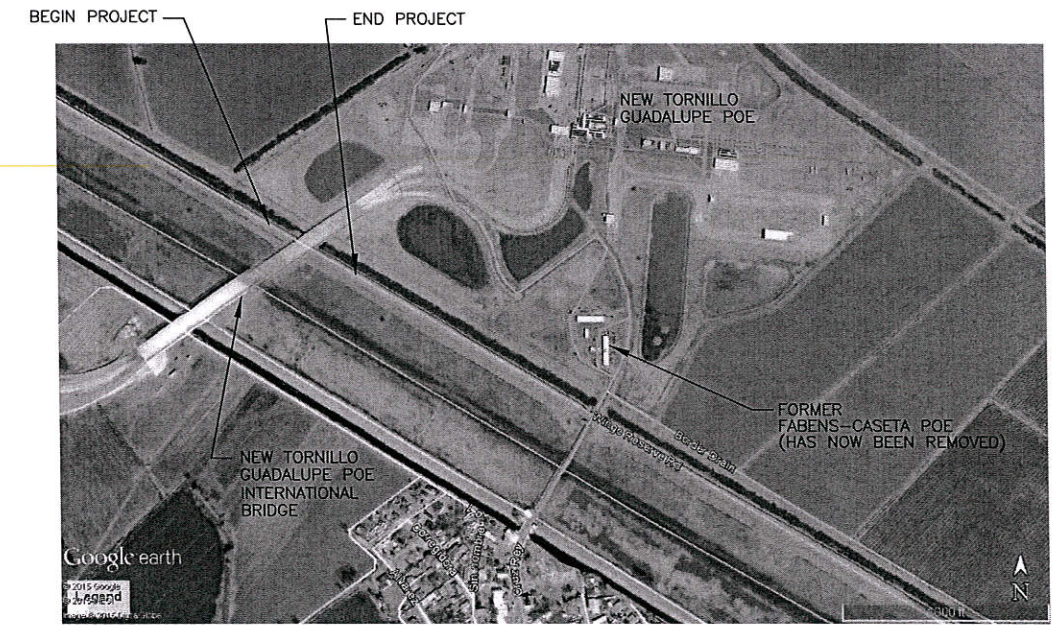
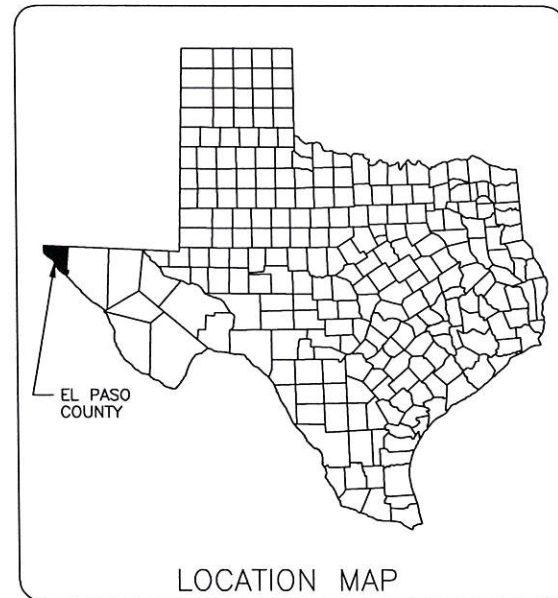


# PLANS FOR THE LEVEE ROAD DEPRESSION UNDER TORNILLO-GUADALUPE INTERNATIONAL BRIDGE

## INDEX OF SHEETS

SHEET NO.	DESCRIPTION
S-1	COVER SHEET
S-2	GENERAL NOTES
S-3	OVERALL PLAN & PROFILE
S-4	TYPICAL SECTIONS DETAILS
S-5	LEVEE ROAD CROSS SECTIONS
S-6	LEVEE ROAD CROSS SECTIONS
S-7	LEVEE ROAD CROSS SECTIONS
S-8	STORM WATER POLLUTION PLAN
S-9	TEMP. SEDIMENT CONTROL FENCE
S-10	CONSTRUCTION EXITS
S-11	EPIC
S-12	TEMPORARY BORDER FENCE
	FOUNDATION DETAILS
S-13	RIPRAP DETAILS
S-14	CONSTRUCTION JOINT & WATERPROOFING DETAILS



VICINITY MAP

### FINAL PLAN DATA:

FINAL CONTRACT PRICE: \_\_\_\_\_  
 CONTRACTOR'S NAME: \_\_\_\_\_  
 CONTRACTOR'S ADDRESS: \_\_\_\_\_  
 LETTING DATE: \_\_\_\_\_  
 DATE WORK BEGINS: \_\_\_\_\_  
 DATE WORK COMPLETED: \_\_\_\_\_  
 DATE OF ACCEPTANCE: \_\_\_\_\_

**SEA** STRUCTURAL ENGINEERING  
 ASSOCIATES, INC.  
 CONSULTING ENGINEERS  
 TBPE FIRM REGISTRATION # F-199



*Sidney A. Mielke*  
 4/23/10

TBPE FIRM REG. NO. F-199



GENERAL NOTES:

- 1 CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PROJECT, PROJECT SITE AND ACCESS TO THE SITE.
  - a. ALL INFORMATION SHOWN ON THESE PLANS RELATING TO EXISTING BRIDGE CONFIGURATION, DIMENSIONS AND MEMBER SIZES IS FOR GENERAL INFORMATION ONLY.
  - b. CONTRACTOR SHALL VERIFY ALL EXISTING BRIDGE INFORMATION THAT MAY AFFECT HIS COSTS PRIOR TO SUBMITTING HIS BID.
  - c. THE CONTRACTOR IS CAUTIONED THAT THE PROJECT SITE IS ADJACENT TO THE RIO GRANDE RIVER FLOOD PLAIN.
2. THE PROJECT SITE IS WITHIN THE JURISDICTION OF THE INTERNATIONAL BOUNDARY AND WATER COMMISSION (IBWC), THE U.S. COAST GUARD, THE U.S. BORDER PATROL AND OTHER FEDERAL AGENCIES; THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THEIR REQUIREMENTS AND COMPLY WITH THEM. SOME OF THEIR REQUIREMENTS INCLUDE:
  - a. ALL CONTRACTOR'S EMPLOYEES ARE SUBJECT TO A BACKGROUND SCREENING BY U.S. BORDER PATROL. EMPLOYEES NOT PASSING THE BACKGROUND SCREENING WILL NOT BE ALLOWED TO WORK ON THIS PROJECT SITE.
  - b. ACCESS TO THE PROJECT SITE IS ONLY THROUGH EXISTING GATES IN THE BORDER FENCE. DIRECT ACCESS IS AVAILABLE AT THE WINGO RESERVE GATE, WHICH IS APPROXIMATELY 2.0 MILES UP STREAM. DIRECT ACCESS AT THE FABENS GATE IS NOT AVAILABLE ON A PUBLIC THOROUGH FARE. CONTRACTOR MAY OBTAIN PERMISSION FROM ADJACENT LAND OWNER TO ACCESS FABENS GATE FROM COUNTY ROAD. ACCESS THROUGH FABENS PORT OF ENTRY (POE) GATE IS NOT PERMITTED.
  - c. CONTRACTOR SHALL TAKE ADEQUATE MEASURES SO THAT NO DEBRIS WILL BE ALLOWED TO FALL INTO THE LOW FLOW CHANNEL OF THE RIVER.
  - d. ALL DEBRIS OR MATERIAL REMOVED FROM THE LEVEE MUST BE COMPLETELY REMOVED FROM THE SITE AND FLOOD PLAIN, AT LEAST WEEKLY OR WHEN REQUESTED BY USIBWC. NO DEBRIS OR MATERIALS ARE TO BE STORED IN THE FLOODPLAIN. NO DEBRIS OR MATERIAL TO BE DEPOSITED/DISPOSED OF IN THE RIVER.
3. BURNING AT THE PROJECT SITE FOR DISPOSAL OF REFUSE AND DEBRIS WILL NOT BE PERMITTED.
4. THE USE OF EXPLOSIVES WILL NOT BE PERMITTED.
5. CONTRACTOR IS REQUIRED TO RE-VEGITATE ALL AREAS WITHIN THE CONSTRUCTION LIMITS DISTURBED BY CONSTRUCTION OPERATIONS.
6. THE WATER LEVEL VARIES THROUGHOUT THE YEAR IN THE RIVER AND FLOOD PLAIN. DIVERSION OF RIVER WATER MAY BE REQUIRED TO DIVERT FLOWS AROUND THE PROJECT SITE.
7. DEWATERING MAY BE REQUIRED FOR CONSTRUCTION. MAINTAIN GROUNDWATER AT LEAST 1 FOOT BELOW BOTTOM OF EXCAVATIONS.

ITEM 35.41.00 TOPSOIL  
 THIS ITEM SHALL COVER THE PLACEMENT OF STOCKPILED TOPSOIL MATERIAL ON THE LEVEE FRONT SLOPE, IN ACCORDANCE WITH THE FINISHED LINES AND GRADES ON THE PLANS, AND PLACEMENT OF NEW TOPSOIL MATERIAL BROUGHT FROM OFF-SITE SOURCE. STOCKPILED TOPSOIL MATERIAL CAN BE REUSED ONLY IF IT MEETS SPECIFICATION REQUIREMENTS FOR TOPSOIL.

ASTM D5268 REQUIREMENTS FOR TOPSOIL WILL BE AS APPLICABLE FOR THE EL PASO COUNTY GEOGRAPHIC AREA.

① ESTIMATED QUANTITIES				
ITEM NO.	QTY	UNIT	DESCRIPTION	GOV. SPEC.
1	1	LS	PREPARING RIGHT OF WAY	31.11.00
2	145.0	CY	REMOVE/STOCKPILE EXISTING MATERIAL (TOPSOIL)	31.14.00
3	120.0	CY	REMOVE/EXISTING MATERIAL (GRAVEL)	31.14.00
4	1	LS	REMOVE/EXISTING MATERIAL (TEMPORARY BORDER FENCE FOUNDATIONS)	31.14.00
5	2105.0	CY	EXCAVATION (LEVEE)	35.41.00
6	1341.0	CY	FILL (IMPERVIOUS MATERIALS)	35.41.00
7	245.0	CY	TOPSOIL	35.41.00
8	881.0	SY	ROAD BASE	32.15.00
9	128.0	CY	REINF. CONC. RETAINING WALL	03.11.00, 03.15.16, 03.21.11, 03.30.00, 03.35.00, 03.39.00
10	1	LS	VEGETATION FOR EROSION CONTROL	32.92.00
11	1	LS	TEMPORARY ENVIRONMENTAL CONTROLS	01.57.13
12	1	LS	MOBILIZATION	01.22.00
13	1	LS	DIVERSION OF WATER/DEWATERING	35.41.00
14	55.0	CY	CONCRETE RIPRAP	03.11.00, 03.15.16, 03.21.11, 03.30.00, 03.35.00, 03.39.00

① THESE ESTIMATED QUANTITIES ARE FOR INFORMATION ONLY. MEASUREMENT AND PAYMENT OF THE VARIOUS BID ITEMS INCLUDED IN THE TABLE WILL BE BASED ON THE VARIOUS SPECIFICATION SECTIONS AND THE CORRESPONDING UNIT BID PRICES OR LUMP SUM BID PRICES IDENTIFIED IN SECTION B OF THE CONTRACT PROVISIONS.

SPECIFICATION NOTES:

ITEM 01.11.00 SUMMARY OF WORK  
 ALL COORDINATION WITH EXISTING UTILITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO CONTACT ALL UTILITIES TO FIELD LOCATE ALL EXISTING UTILITIES IN THE WORK AREA.

ITEM 32.15.00 ROADWAY BASE (FLEXIBLE BASE)  
 ROADWAY BASE SHALL BE AGGREGATE ROAD SURFACING MATERIAL MEETING THE SPECIFICATIONS AND AS SHOWN BELOW:

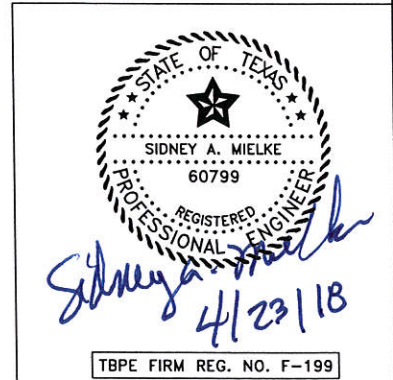
PROPERTY	TEST METHOD	AGGREGATE SURFACING
MASTER GRADATION SIEVE SIZE % PASSING		
1 1/2 IN.	ASTM D422	0-10
3/8 IN.		50-85
NO 4		35-65
NO 40		15-30
LIQUID LIMIT, % MAX	ASTM D4318	40
PLASTICITY INDEX, MAX.	ASTM D4318	12
PLASTICITY INDEX, MIN.		4
SPECIFIC GRAVITY, MIN	ASTM C127/C128	2.40
LA ABRASION, MAX LOSS	ASTM C131	20%

ITEM 32.92.00 VEGETATION FOR EROSION CONTROL  
 SEED MIXES USED SHALL BE EL PASO COUNTY COMPLIANCE CONFIRMED FOR USE IN EL PASO COUNTY AND BE COMPATIBLE WITH THE TOPSOIL.

ITEM 35.41.00 EXCAVATION (LEVEE)  
 THIS ITEM SHALL COVER THE EXCAVATION OF ALL MATERIAL, EXCLUDING THE TOPSOIL FOR STOCKPILE, AND INCLUDES BUT IS NOT LIMITED TO EXCESS TOPSOIL, EXCESS LEVEE MATERIAL, EXISTING ROADWAY BASE AND BENCH EXCAVATION.

ITEM 35.41.00 FILL (IMPERVIOUS MATERIAL)  
 THIS ITEM SHALL COVER THE PLACEMENT OF FILL MATERIAL TO BRING THE LEVEE CROSS SECTIONS TO THE LINES AND GRADES AS INDICATED WITHIN THE PLANS. USE CLEAN FILL: FILL MATERIAL THAT MEETS OR EXCEEDS THE TCEQ TEXAS RISK REDUCTION PROGRAM (TRRP) RULES (30 TAC SEC. 350.51(M)), MEDIAN BACKGROUND CONCENTRATION LEVELS.

PRIOR TO PLACEMENT OF IMPERVIOUS FILL MATERIAL, THE SUBGRADE TO RECEIVE THE FILL MATERIAL SHALL BE SCARIFIED, MOISTURE CONDITIONED AND RE-COMPACTED TO AT LEAST 98% TO NOT MORE THAN 102% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698. SUBSEQUENT LIFTS OF IMPERVIOUS FILL MATERIAL SHALL BE MOISTURE CONDITIONED AND COMPACTED TO AT LEAST 98% TO NOT MORE THAN 102% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698.



TBPE FIRM REG. NO. F-199

**THE COUNTY OF  
EL PASO**

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**STRUCTURAL ENGINEERING  
ASSOCIATES, INC.**

CONSULTING ENGINEERS

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LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

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GENERAL NOTES

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DWN. A.M.H.	DESIGN G.J.S.	DATE 4-9-18	SHEET NO. S-2
DWG. CK. G.J.S.	DESIGN CK. S.A.M.	DRAWING FILE 18-055C	



BENCHMARK NOTES:

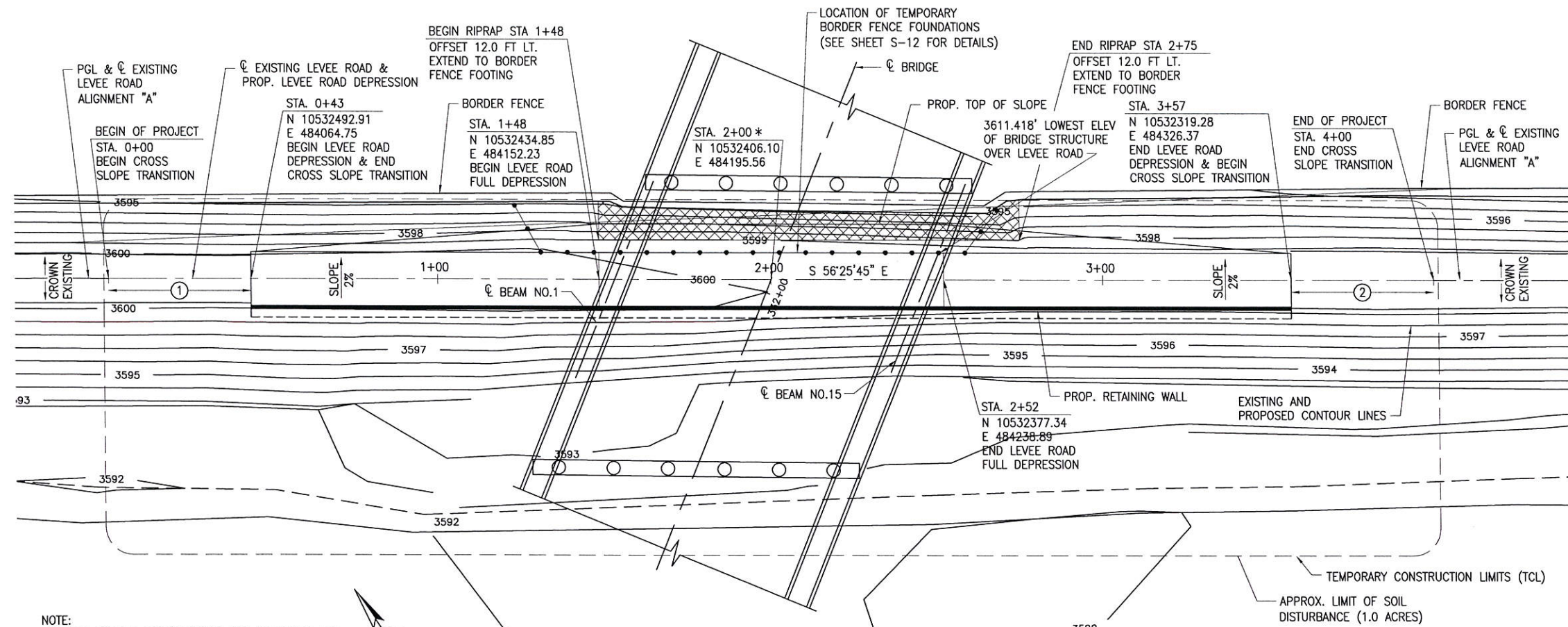
PRIMARY BENCHMARK (BRASS CAP SET IN CONCRETE)  
 N=10534901.07  
 E=503784.55

SECONDARY BENCHMARK:  
 5/8" DIA. REBAR W/ALUM CAP STAMPED FXSA RPLS 2198 SET  
 N=10533169.04  
 E=486931.15  
 EL=3589.75

TEMPORARY BENCHMARKS:  
 THESE ARE SUBJECT TO DISTURBANCE OVER TIME! BRIDGE NAIL  
 SET ON EDGE LEVEE ROAD  
 N=10532207.61  
 E=484480.72  
 EL=3599.30

BRIDGE NAIL SET ON EDGE OF LEVEE ROAD  
 N=10532593.29  
 E=483898.94  
 EL=3599.97

 5" CONCRETE RIPRAP SEE SHEET S-13

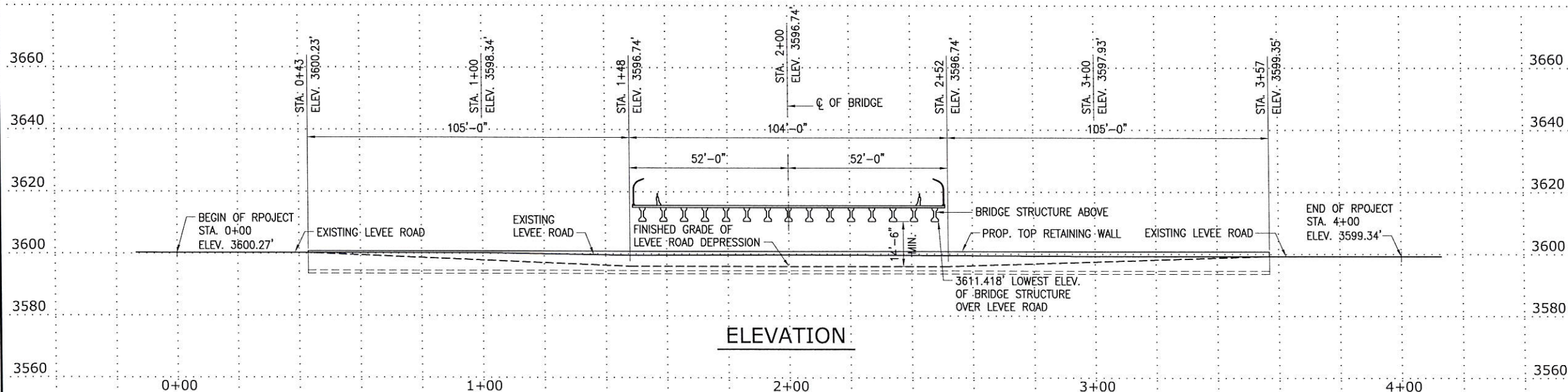



NOTE:  
 USIBWC ROW IS APPROXIMATELY 100 FT NORTH AND  
 250 FT SOUTH OF LEVEE ROAD CENTERLINE.

- ① REWORK EXISTING LEVEE ROAD BASE TO MATCH CROWN AT STA. 0+00 AND TRANSITION TO 2% SLOPE AT STA.0+43.
- ② REWORK EXISTING LEVEE ROAD BASE TO MATCH CROWN AT STA. 4+00 AND TRANSITION TO 2% SLOPE AT STA. 3+57.




*Sidney A. Mielke*  
 4/23/18  
 TBPE FIRM REG. NO. F-199





**THE COUNTY OF  
EL PASO**

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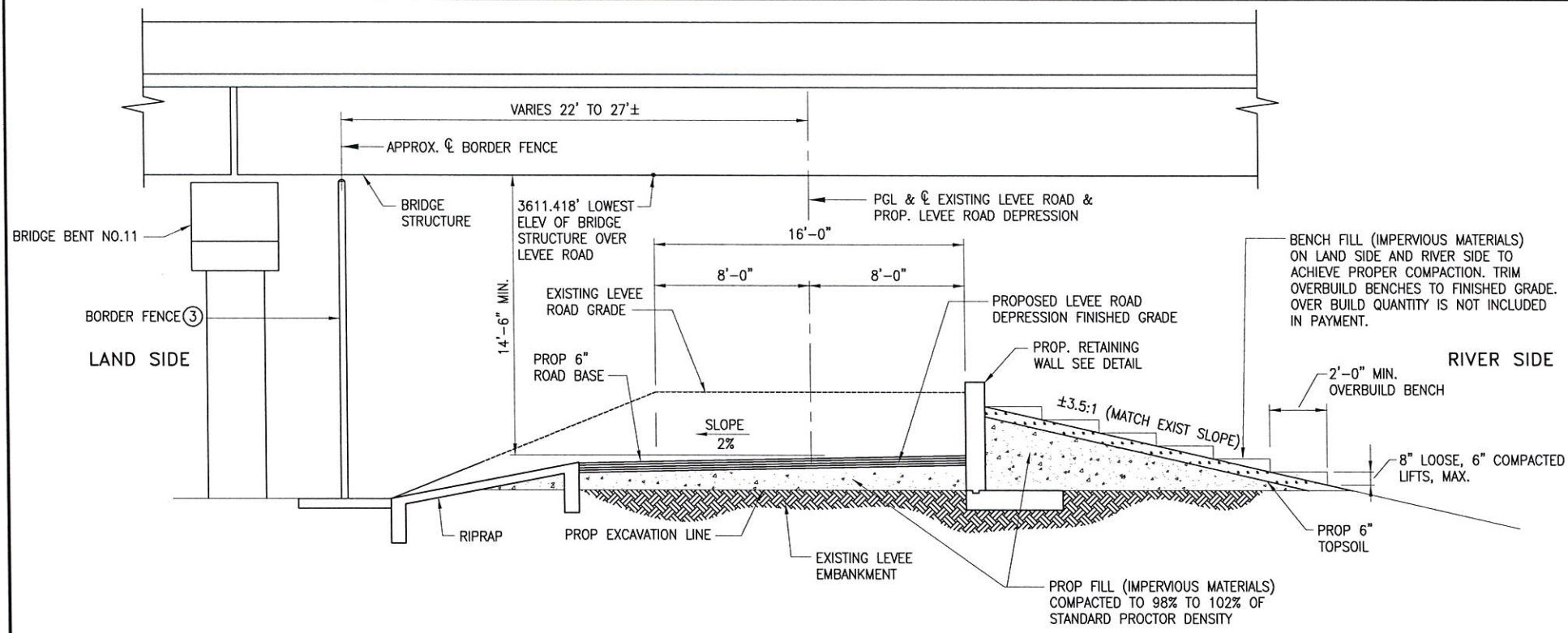
LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

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PROPOSED PLAN AND PROFILE  
LEVEE ROAD ALIGNMENT "A"

DWN. A.M.H.	DESIGN G.J.S.	DATE 4-9-18	SHEET NO. S-3
DWG. CK. G.J.S.	DESIGN CK. S.A.M.	DRAWING FILE 18-055C	

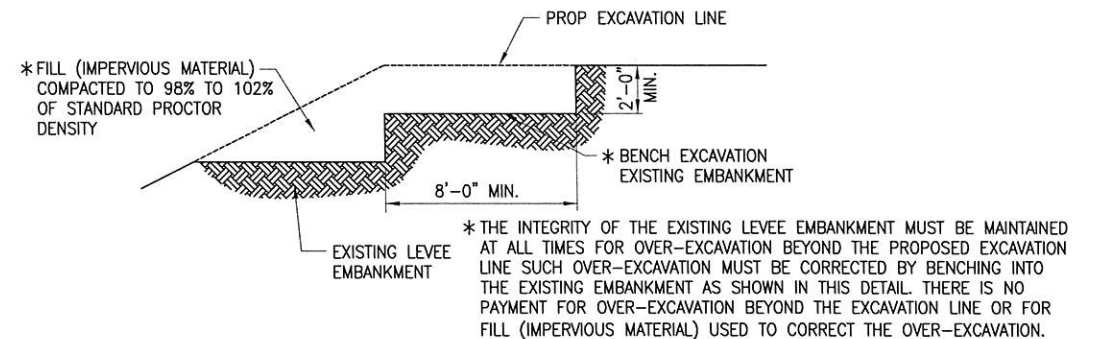




**PROPOSED TYPICAL SECTION  
AT LEVEE ROAD DEPRESSION**

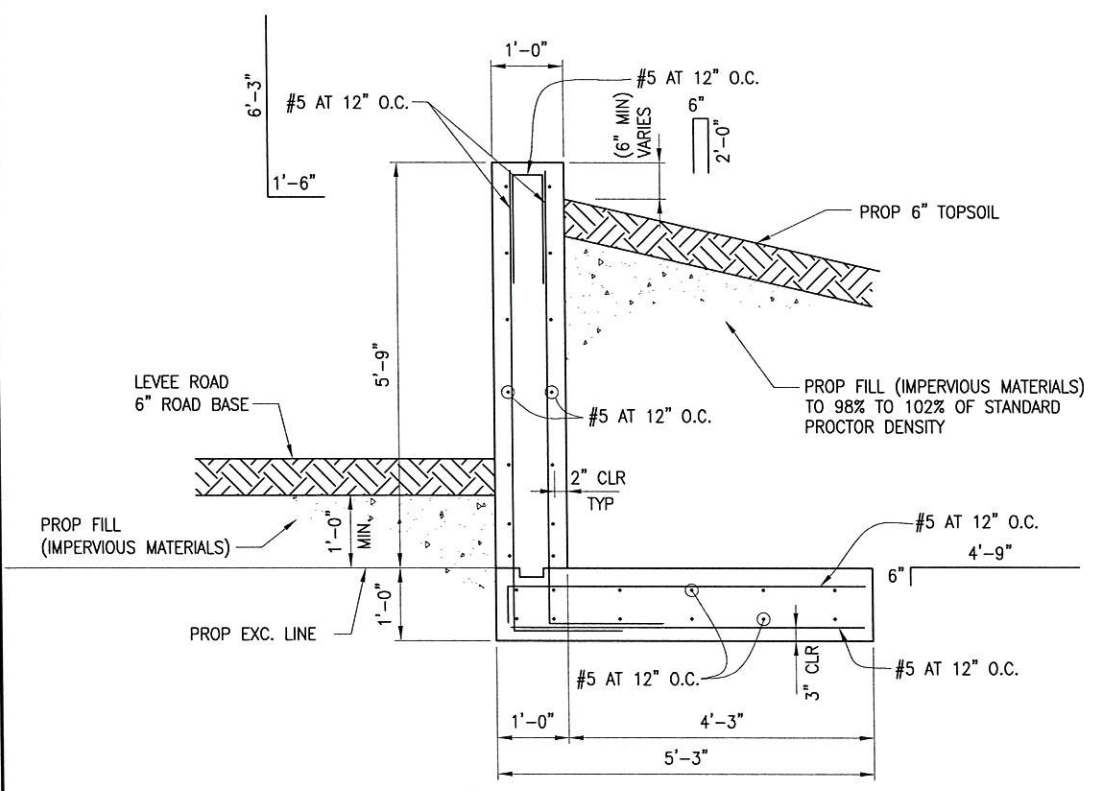
**NOTE:**

- 1 WHERE TOPSOIL IS CALLED OUT SALVAGED EXISTING TOPSOIL MAY BE UTILIZED PROVIDED THAT IT MEETS THE REQUIREMENTS OF SPECIFICATION 35.41.00 SEC. 2.2.
- 2 USIBWC ROW IS APPROXIMATELY 100 FT NORTH AND 250 FT SOUTH OF LEVEE ROAD CENTERLINE.
- 3 BORDER FENCE TO REMAIN IN PLACE. ANY DAMAGE TO THE BORDER FENCE RESULTING FROM WORK PERFORMED ON THIS PROJECT SHALL BE REPAIRED AND RESTORED TO ORIGINAL CONDITION BY CONTRACTOR AT NO EXPENSE TO EL PASO COUNTY.
- 4 REFER TO SPECIFICATION 35.41.00 FOR DENSITY AND MOISTURE CONTENT REQUIREMENTS FOR FILL (IMPERVIOUS MATERIAL), IN-SITU SUBGRADE AND TOPSOIL.



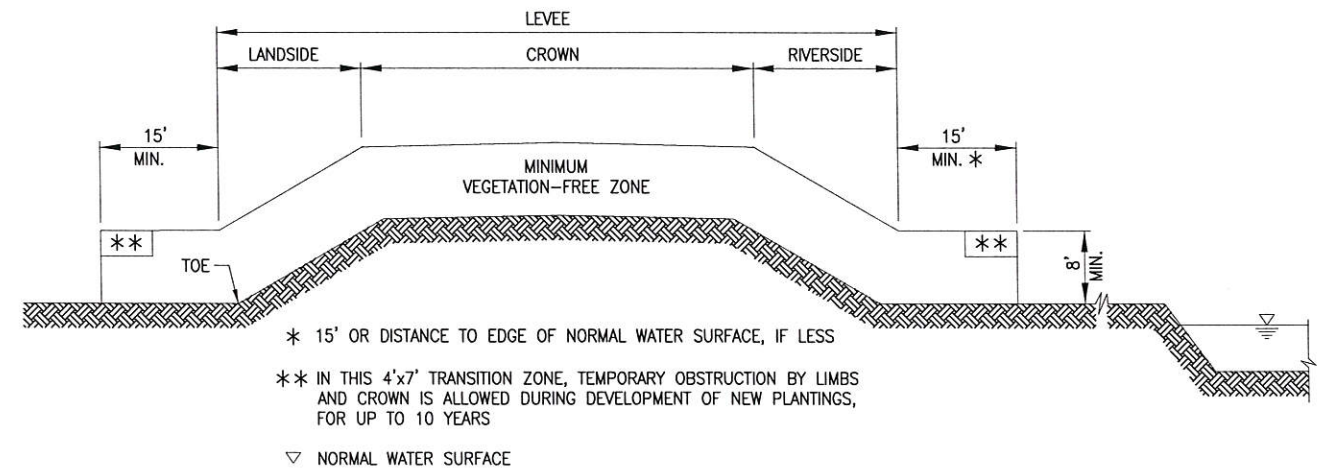
**BENCHING REQUIRED FOR  
OVER-EXCAVATION BEYOND PROP  
EXCAVATION LINE TYPICAL**

N.T.S.



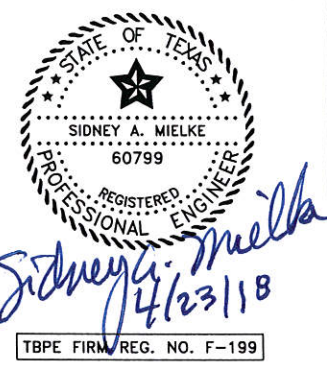
**DETAIL**

REFER TO SPECIFICATIONS DIVISION 03 FOR RETAINING WALL CONCRETE AND REINFORCING. REFER TO SEC. 31.23.00 FOR BACKFILLING AGAINST RETAINING WALL.



**VEGETATION-FREE ZONE TYPICAL**

N.T.S.



**THE COUNTY OF  
EL PASO**

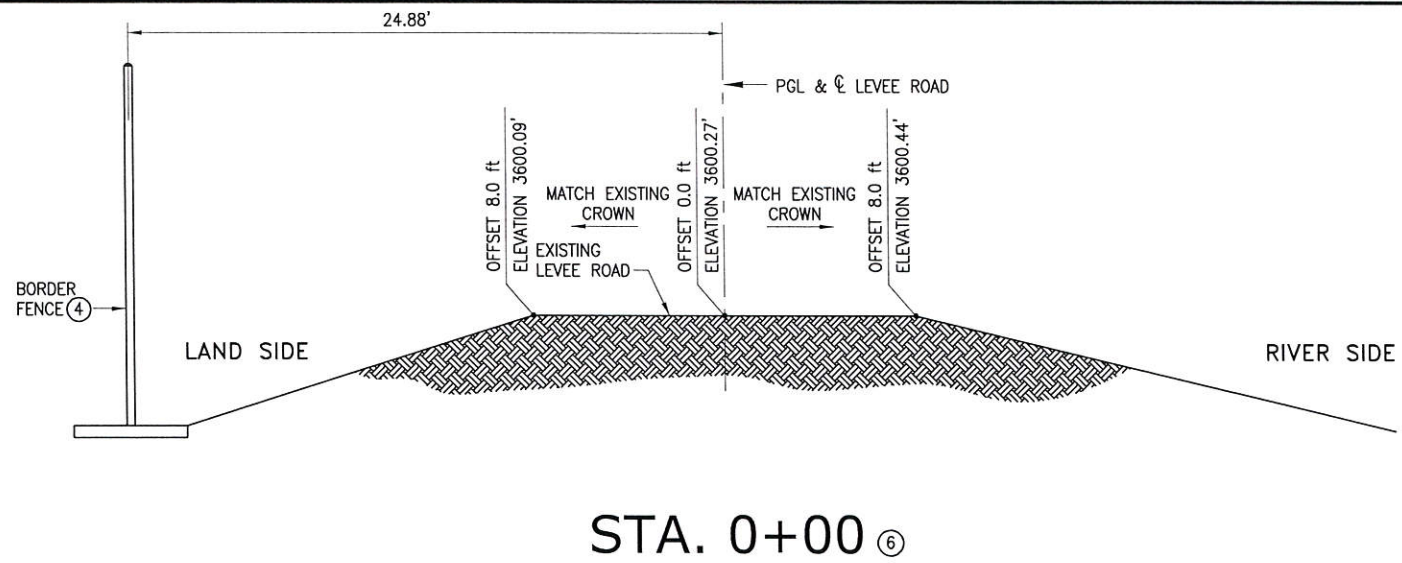
**SEA** STRUCTURAL ENGINEERING  
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CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

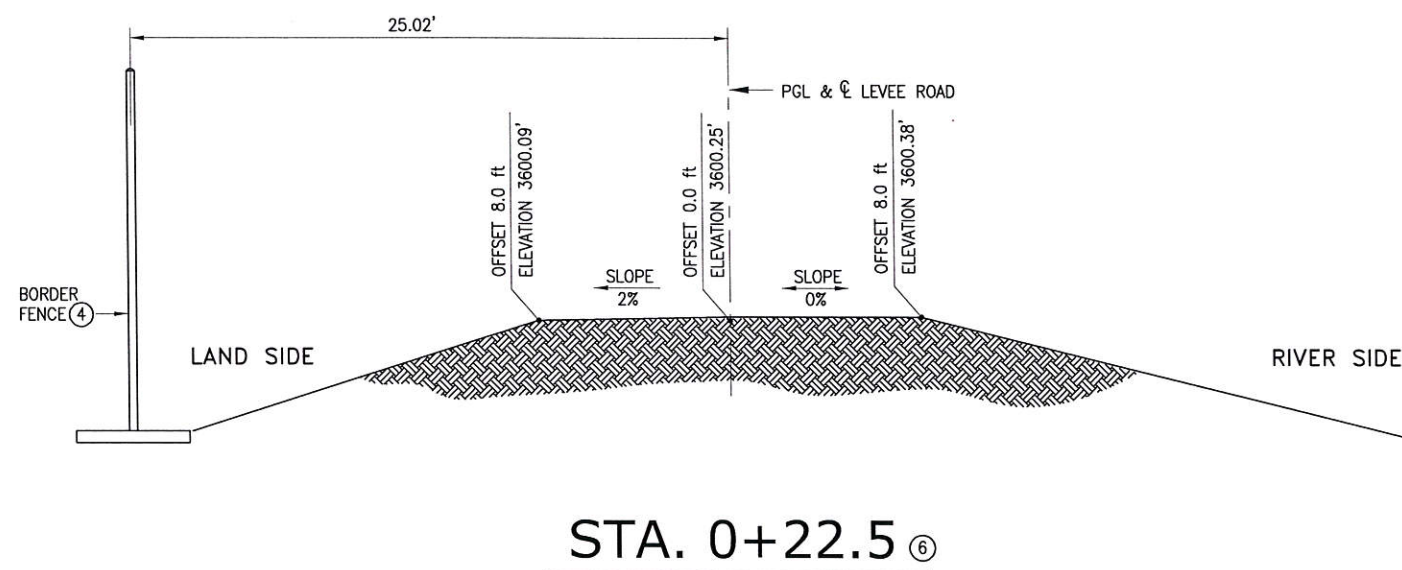
LEVEE ROAD TYPICAL  
SECTION & DETAILS

DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-4
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	

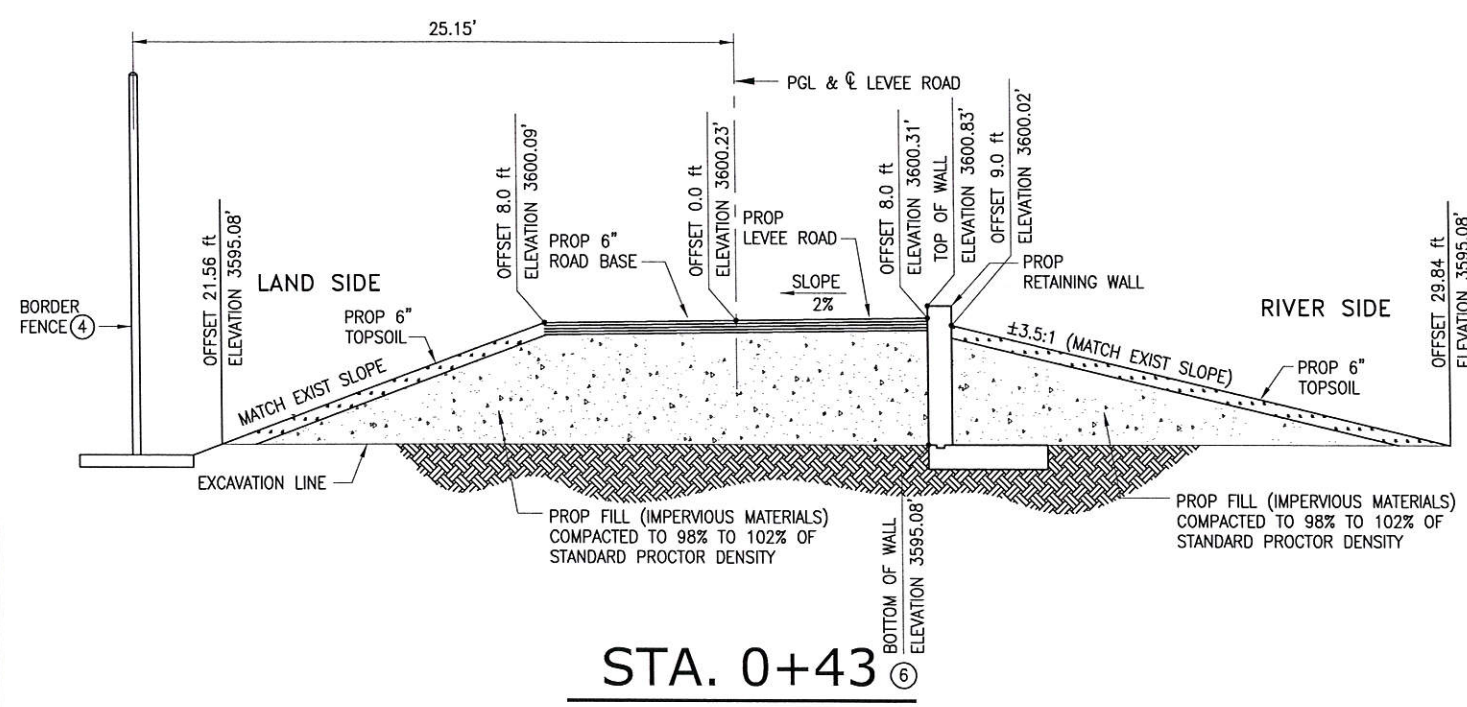




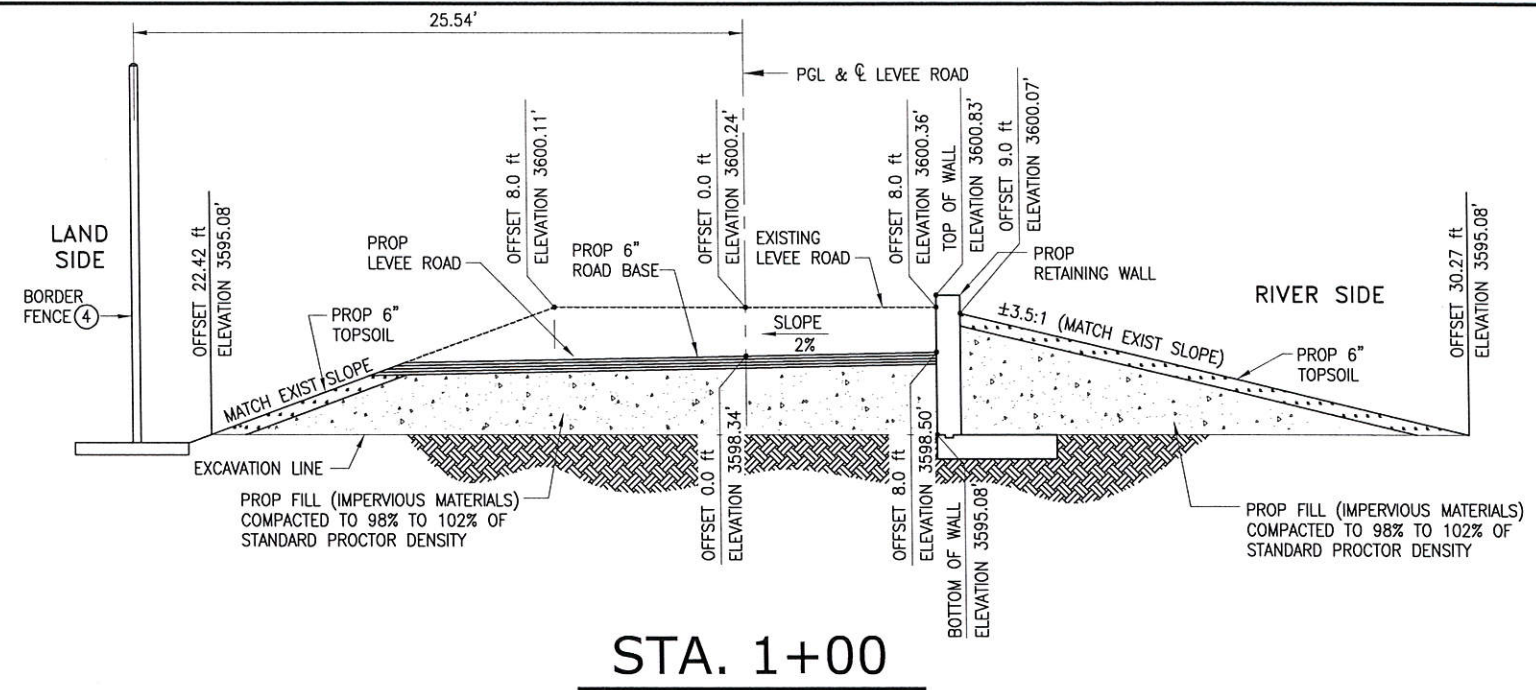
**STA. 0+00** ⑥



**STA. 0+22.5** ⑥



**STA. 0+43** ⑥



**STA. 1+00**

**NOTE:**

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- 2 USIBWC ROW IS APPROXIMATELY 100 FT NORTH AND 250 FT SOUTH OF LEVEE ROAD CENTERLINE.
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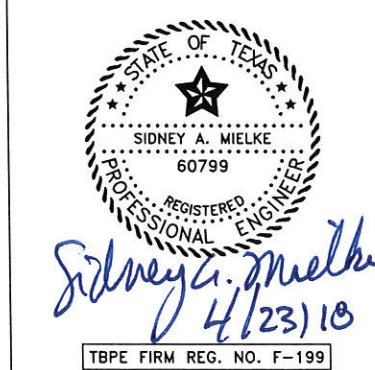
**THE COUNTY OF EL PASO**



**STRUCTURAL ENGINEERING ASSOCIATES, INC.**  
CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

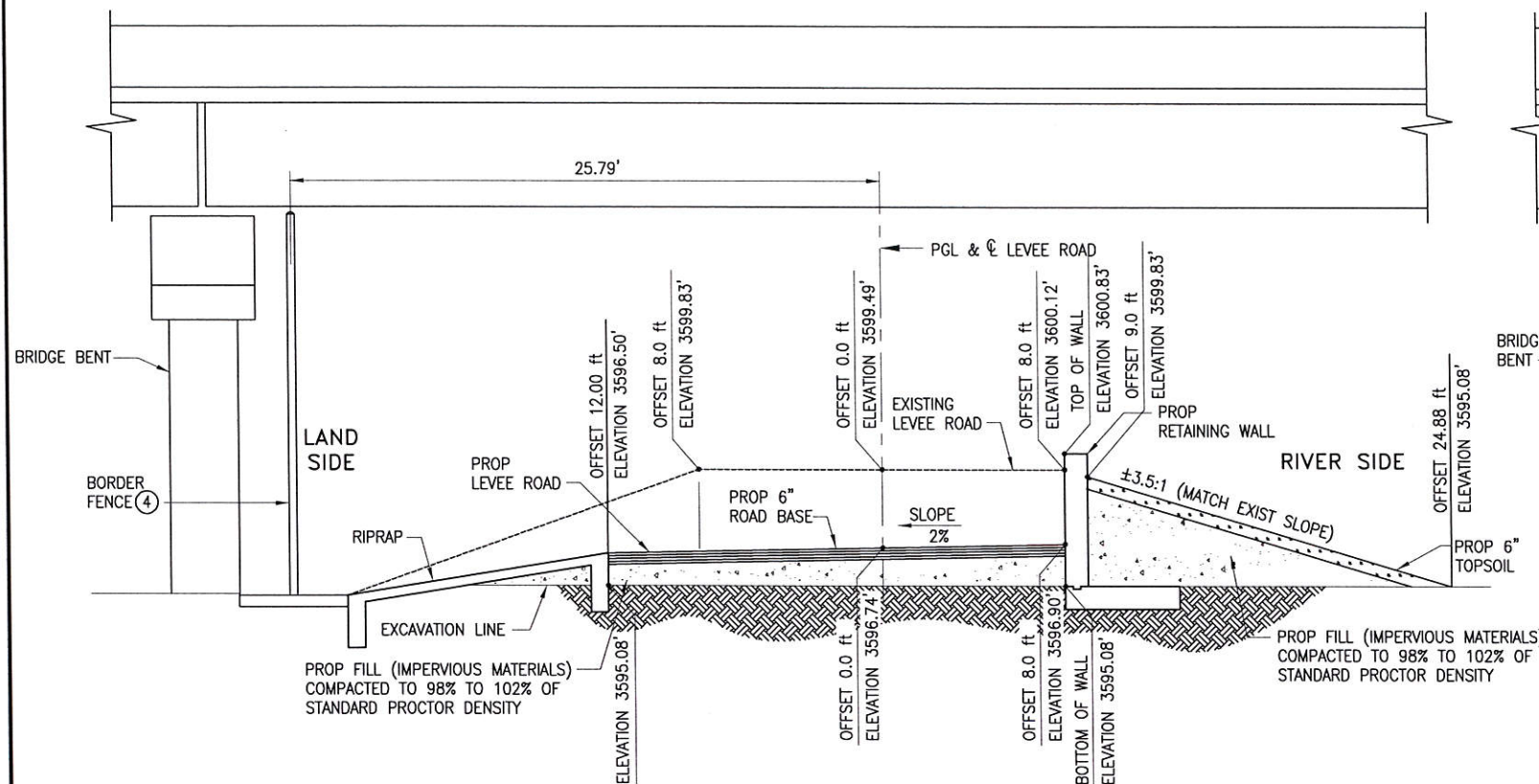
LEVEE ROAD CROSS SECTIONS



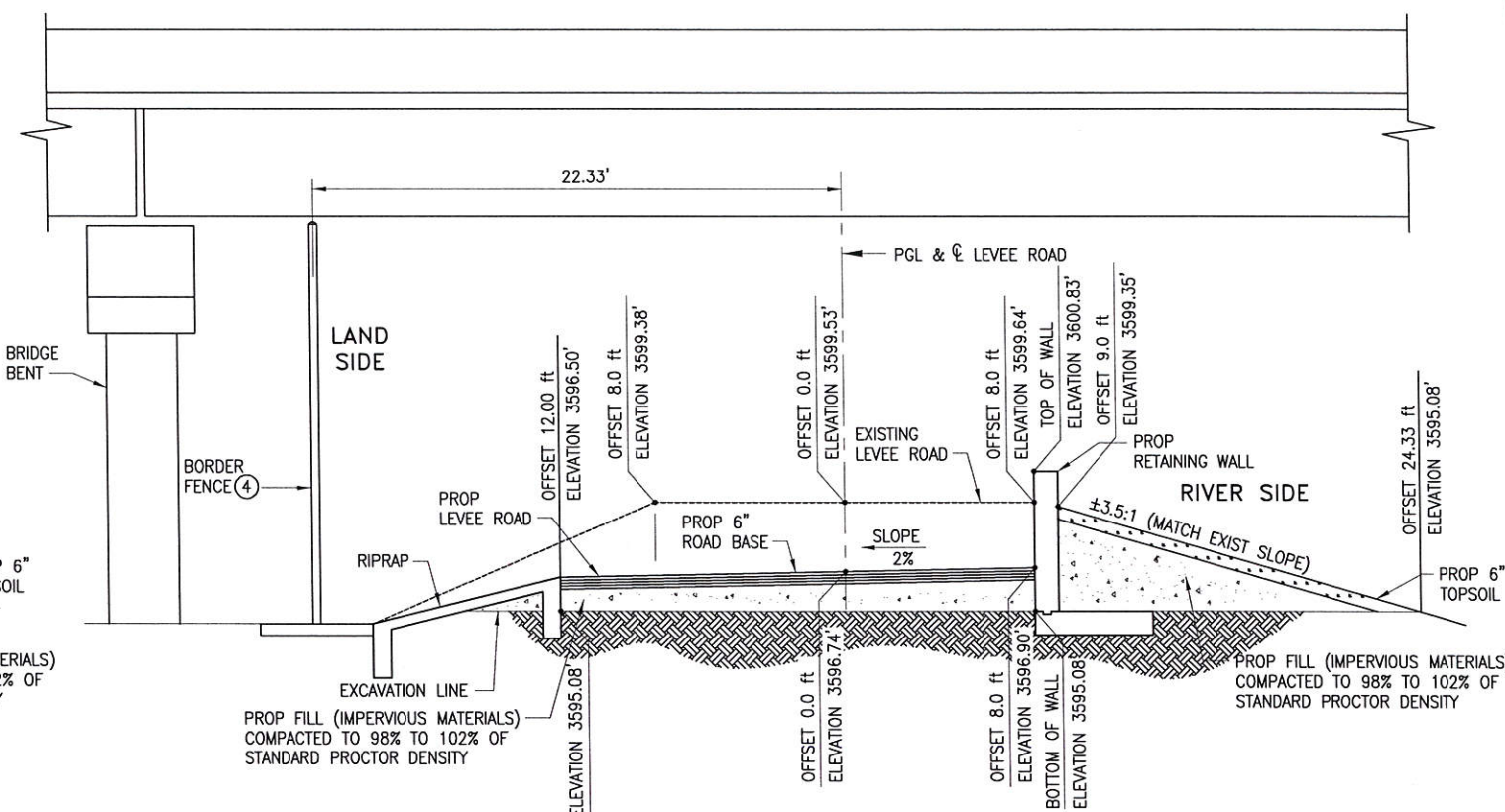
TBPE FIRM REG. NO. F-199

DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-5
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	

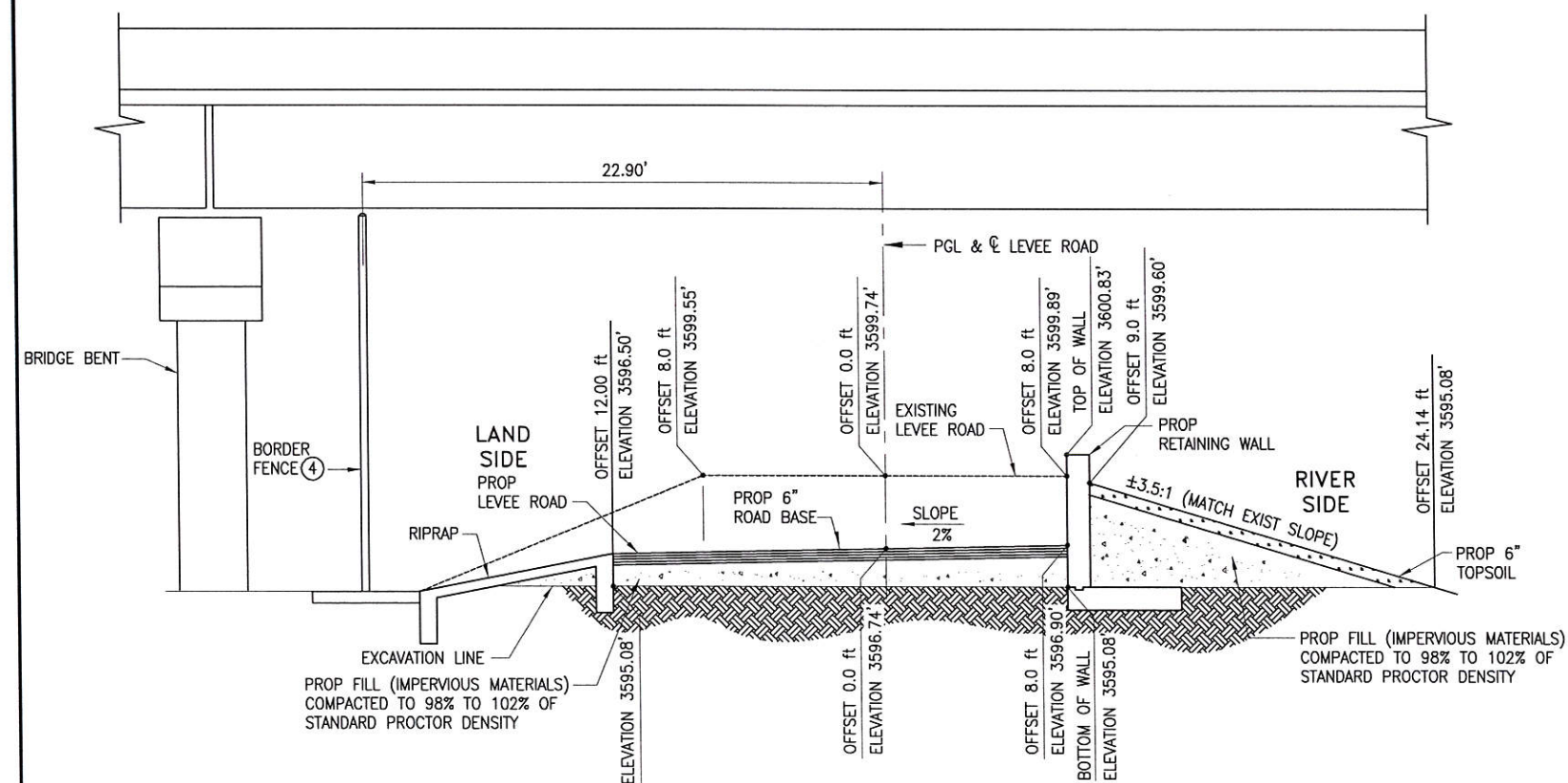




STA. 1+48



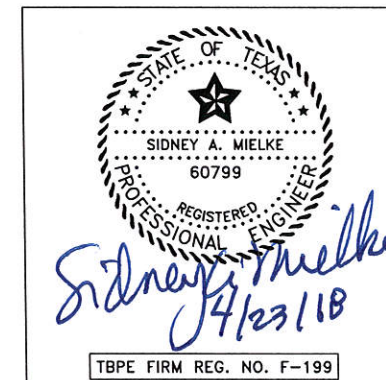
STA. 2+52





STA. 2+00

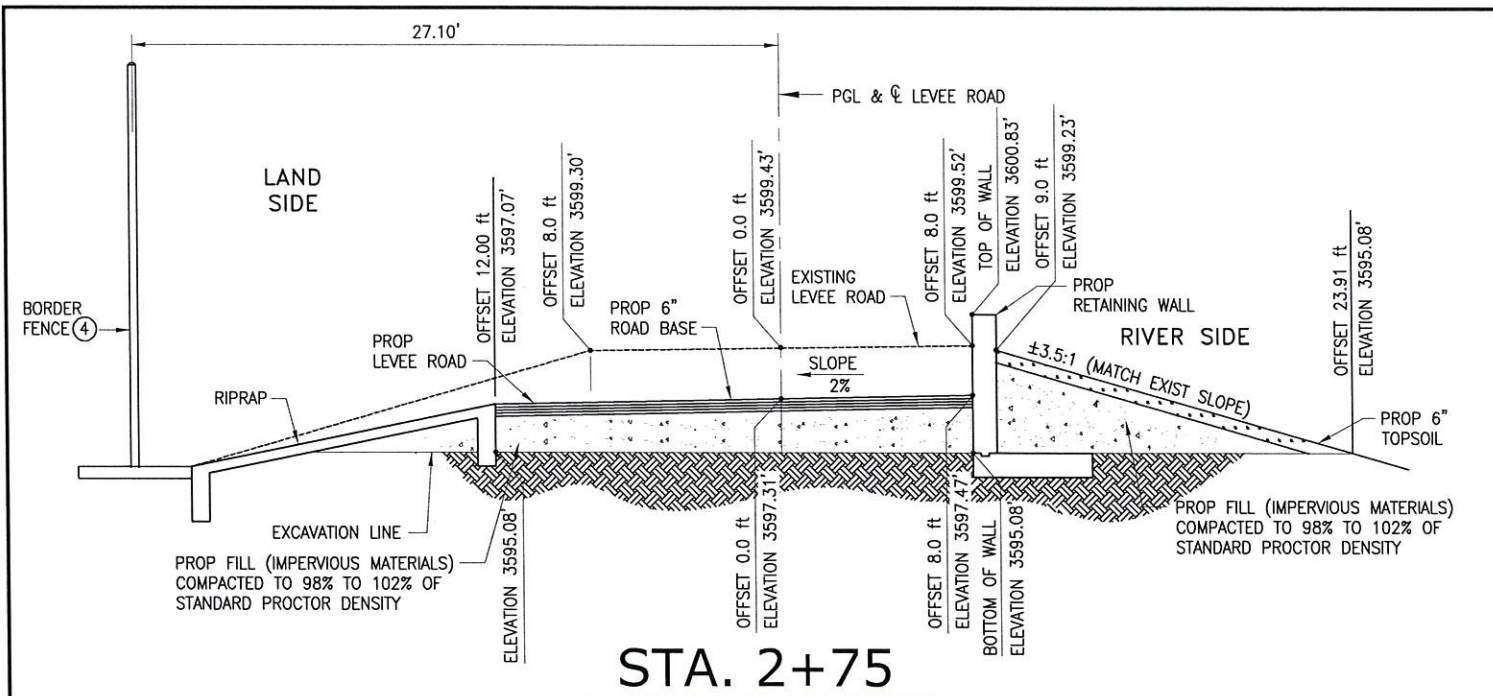
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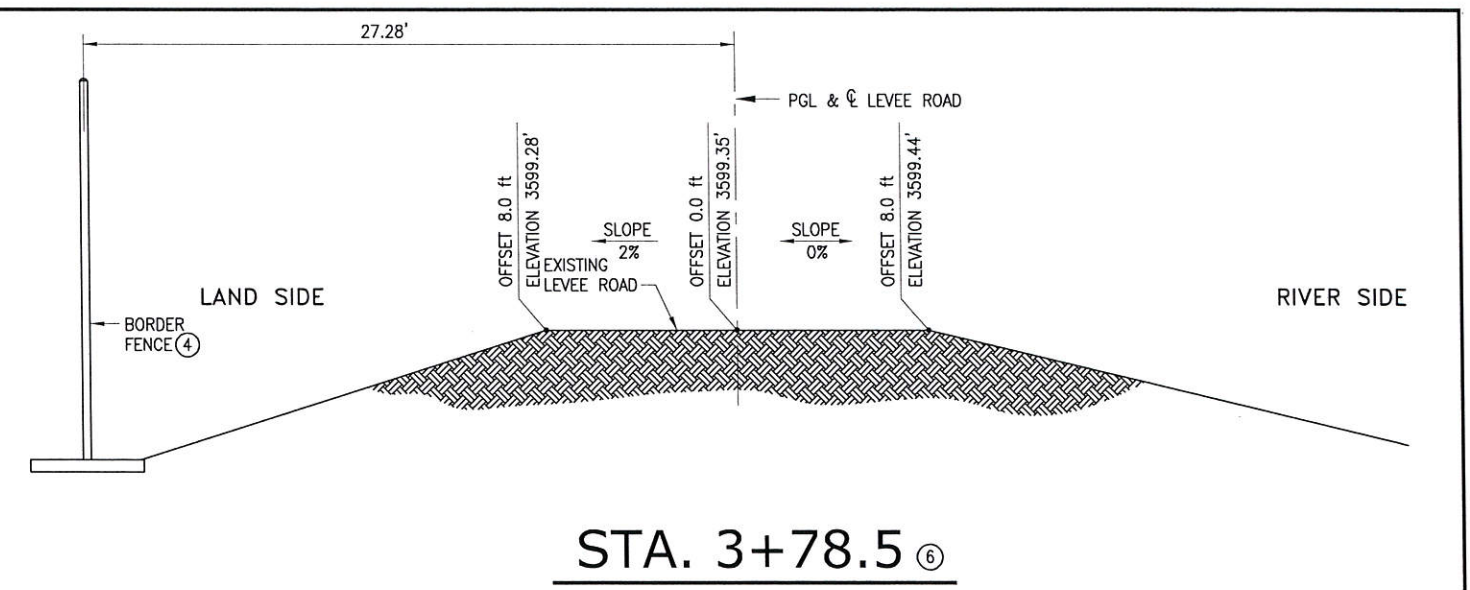


		<b>THE COUNTY OF EL PASO</b>	
		<b>STRUCTURAL ENGINEERING ASSOCIATES, INC.</b> CONSULTING ENGINEERS	
LEVEE ROAD DEPRESSION UNDER TORNILLO-GUADALUPE NEW INTERNATIONAL BRIDGE			
LEVEE ROAD CROSS SECTIONS			
DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-6
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	

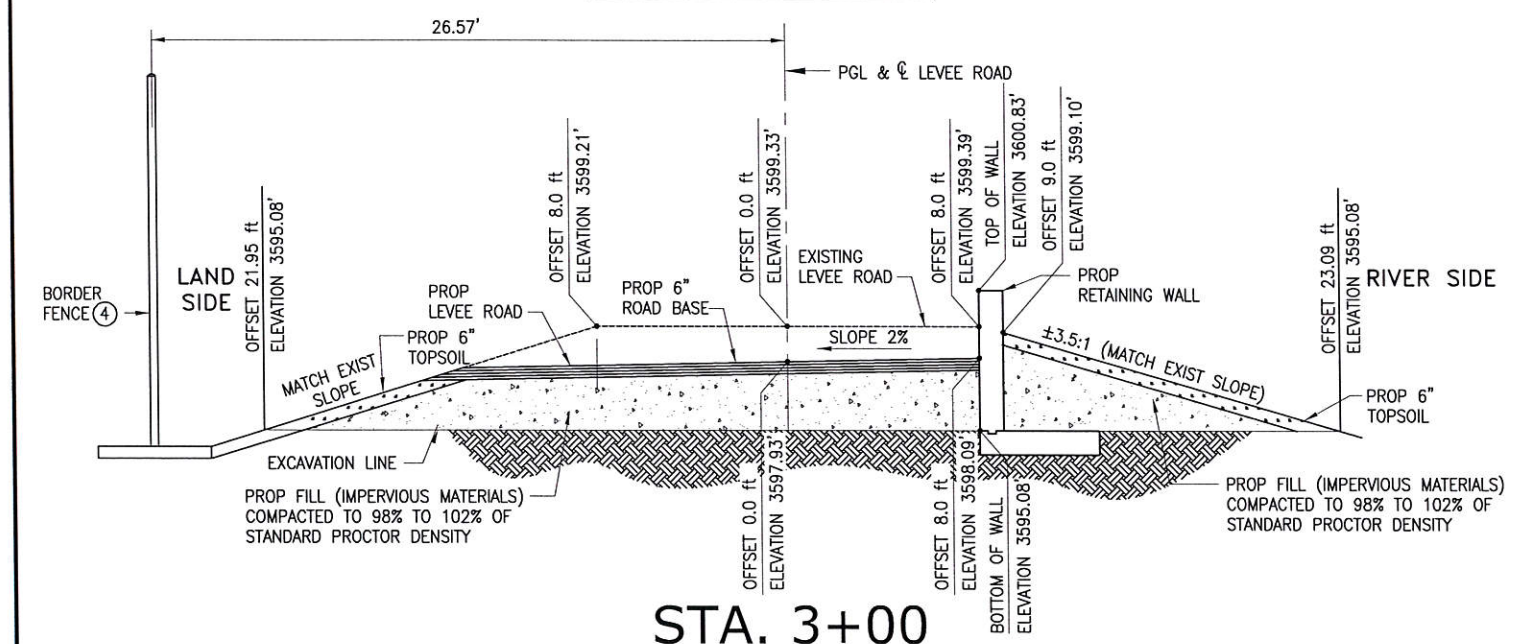




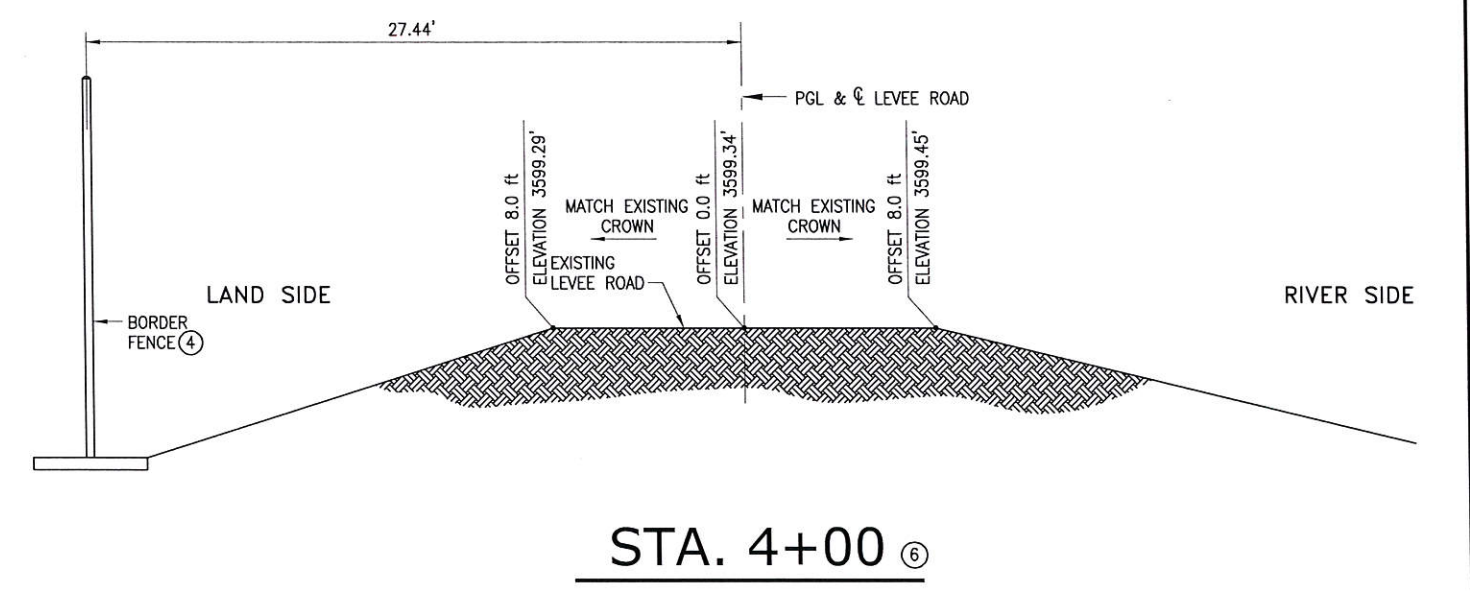
STA. 2+75



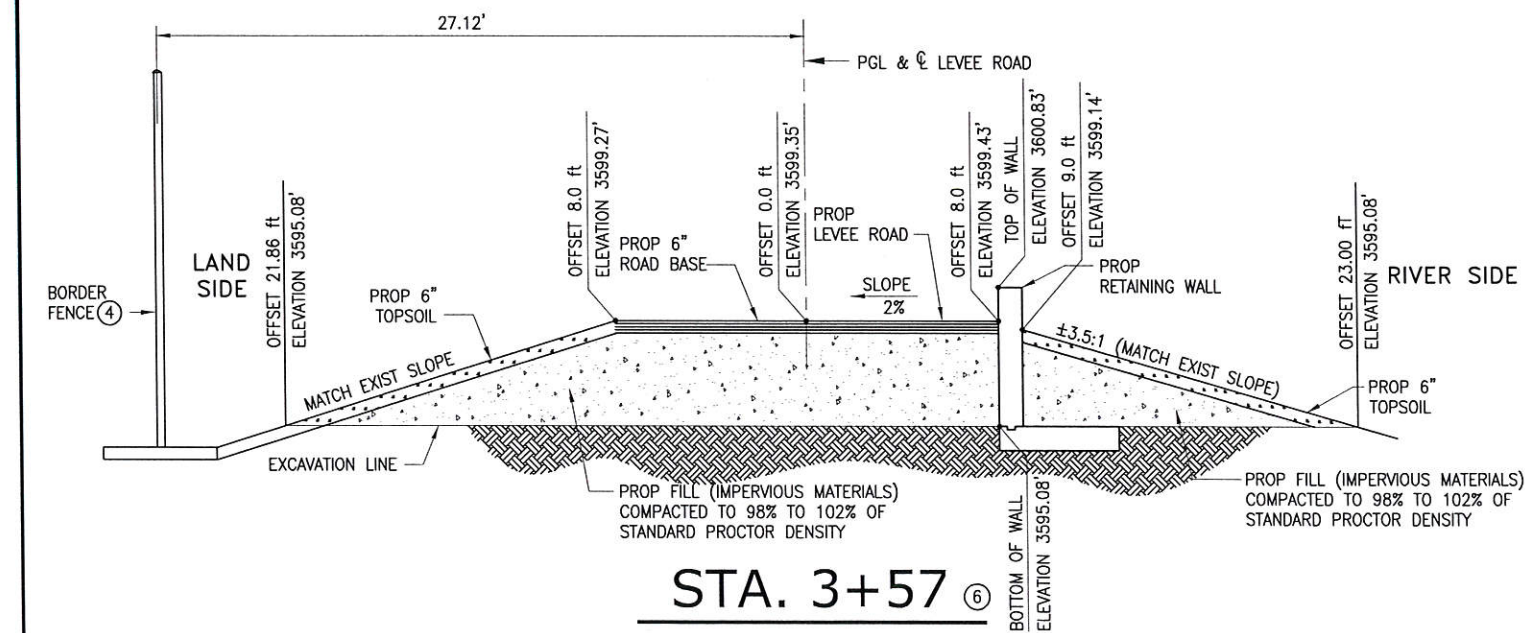
STA. 3+78.5



STA. 3+00



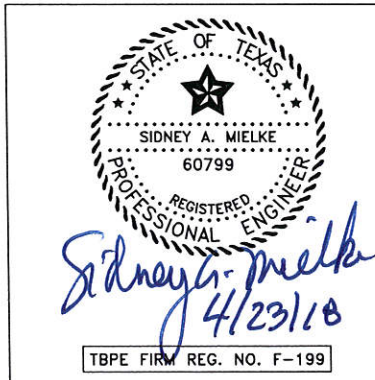
STA. 4+00





STA. 3+57

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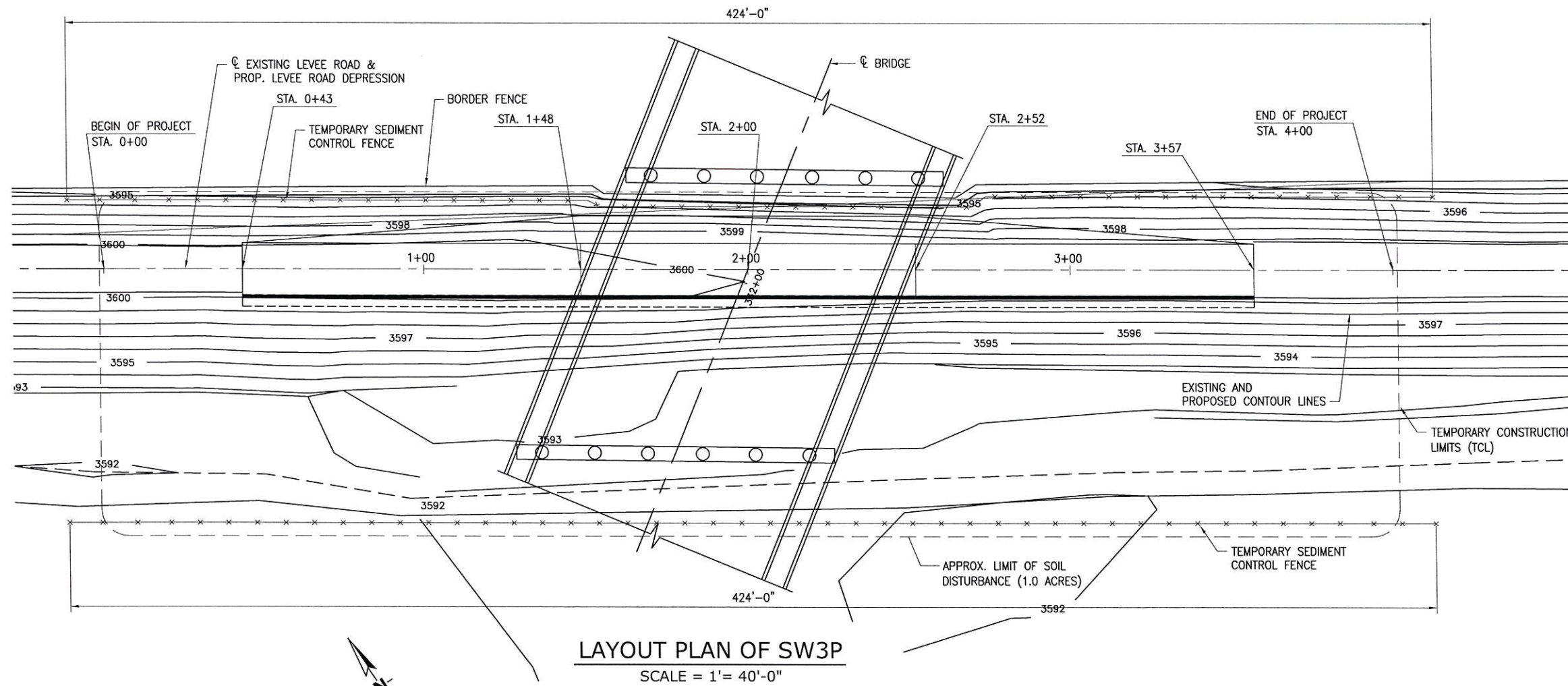


 <b>THE COUNTY OF EL PASO</b>			
 <b>STRUCTURAL ENGINEERING ASSOCIATES, INC.</b> CONSULTING ENGINEERS			
LEVEE ROAD DEPRESSION UNDER TORNILLO-GUADALUPE NEW INTERNATIONAL BRIDGE			
LEVEE ROAD CROSS SECTIONS			
DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-7
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	



NOTE:

- 1 CONTRACTOR MAY NOT STORE ANY MATERIAL IN FLOODPLAIN.
- 2 TEMPORARY SEDIMENT CONTROL FENCES SHOWN HEREON ARE SUGGESTED BMP'S ONLY AND MAY BE MODIFIED BY THE CONTRACTOR'S SWPPP ENGINEER.
- 3 ADJUST BMP'S ACCORDINGLY SHOULD DIVERSION OF RIVER WATER BE REQUIRED TO DIVERT FLOWS AROUND THE PROJECT SITE.
- 4 USIBWC ROW IS APPROXIMATELY 100 FT NORTH AND 250 FT SOUTH OF LEVEE ROAD CENTERLINE.



LAYOUT PLAN OF SW3P  
SCALE = 1" = 40'-0"

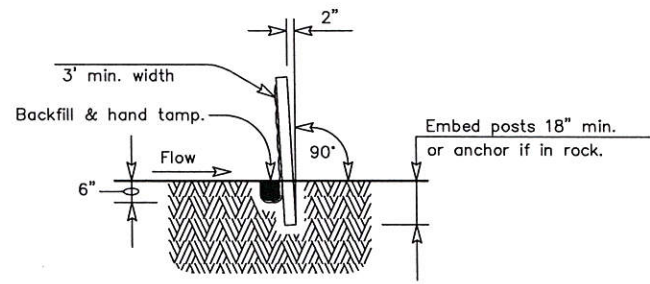


*Sidney A. Mielke*  
4/23/18

TBPE FIRM REG. NO. F-199

	<b>THE COUNTY OF EL PASO</b>		
	<b>STRUCTURAL ENGINEERING ASSOCIATES, INC.</b> CONSULTING ENGINEERS		
LEVEE ROAD DEPRESSION UNDER TORNILLO-GUADALUPE NEW INTERNATIONAL BRIDGE			
STORM WATER POLLUTION PREVENTION PLAN			
DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-8
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	





SECTION A-A

**GENERAL NOTES**

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

**PLAN SHEET LEGEND**

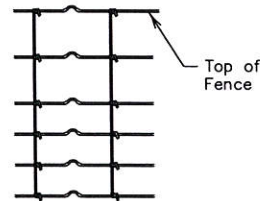
Sediment Control Fence — SCF

**SEDIMENT CONTROL FENCE USAGE GUIDELINES**

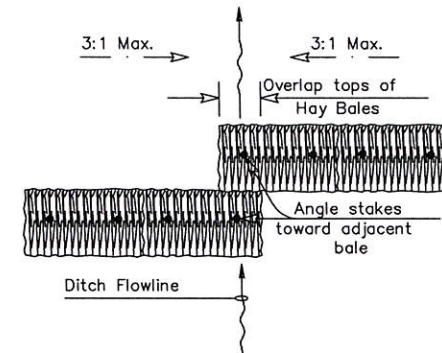
A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

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

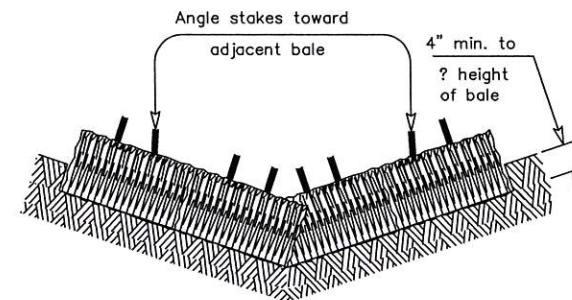
Galv. Hinge joint knot woven mesh (12.5 Ga. Min.) requires a minimum of five horizontal wires spaced at a max. 12 inches apart and all vertical wires spaced at a max. 12 inches apart.



Hinge Joint Knot Woven Mesh (Option)



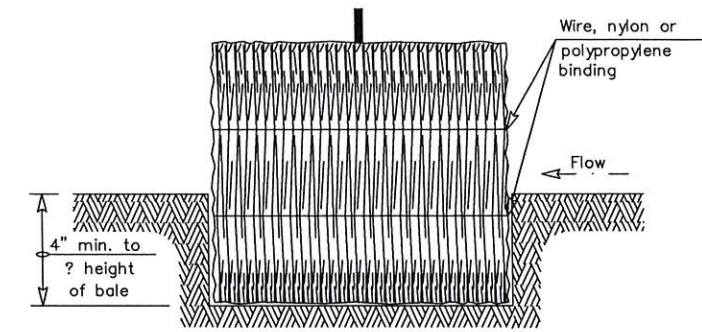
PLAN VIEW



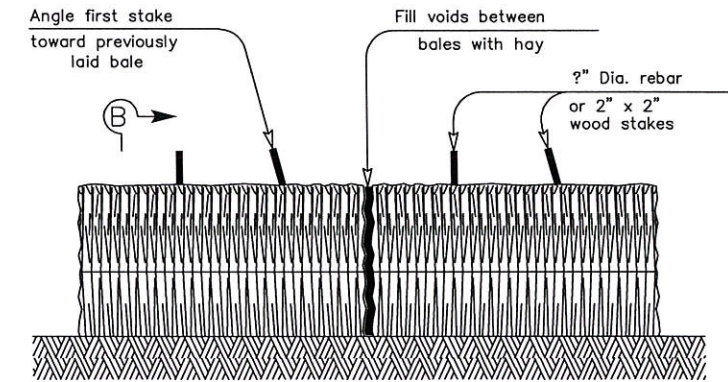
PROFILE VIEW

**PLANS SHEET LEGEND**

Baled Hay — BH



SECTION B-B



BALED HAY FOR EROSION CONTROL

BH

**BALED HAY USAGE GUIDELINES**

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

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

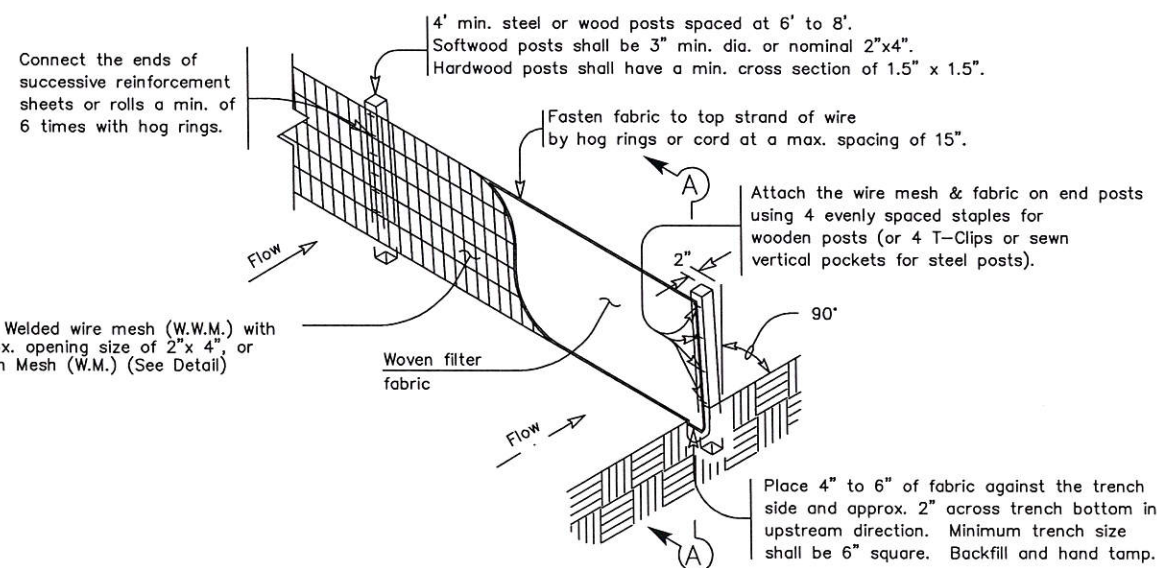
For Baled Hay installations in small ditches, the additional following considerations apply:

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

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

**GENERAL NOTES**

1. Hay bales shall be a minimum of 30" in length and weigh a minimum of 50 Lbs.
2. Hay bales shall be bound by either wire or nylon or polypropylene string. The bales shall be composed entirely of vegetative matter.
3. Hay bales shall be embedded in the soil a minimum of 4" and where possible ? the height of the bale.
4. Hay bales shall be placed in a row with ends tightly abutting the adjacent bales. The bales shall be placed with bindings parallel to the ground.
5. Hay bales shall be securely anchored in place with ?" Dia. rebar or 2" x 2" wood stakes, driven through the bales. The first stake shall be angled towards the previously laid bale to force the bales together.
6. The guidelines shown hereon are suggestions only and may be modified by the Contractor's SWPPP Engineer.
7. Refer to specification Section 01.57.13 Temporary Environmental controls.



TEMPORARY SEDIMENT CONTROL FENCE

SCF



*Sidney A. Melke*  
4/23/18

TBPE FIRM REG. NO. F-199



**THE COUNTY OF EL PASO**



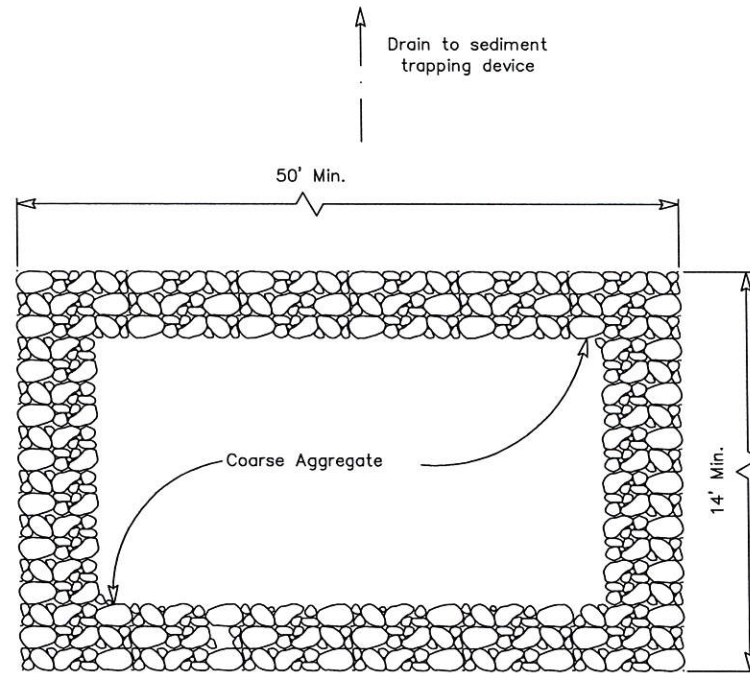
**STRUCTURAL ENGINEERING ASSOCIATES, INC.**  
CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

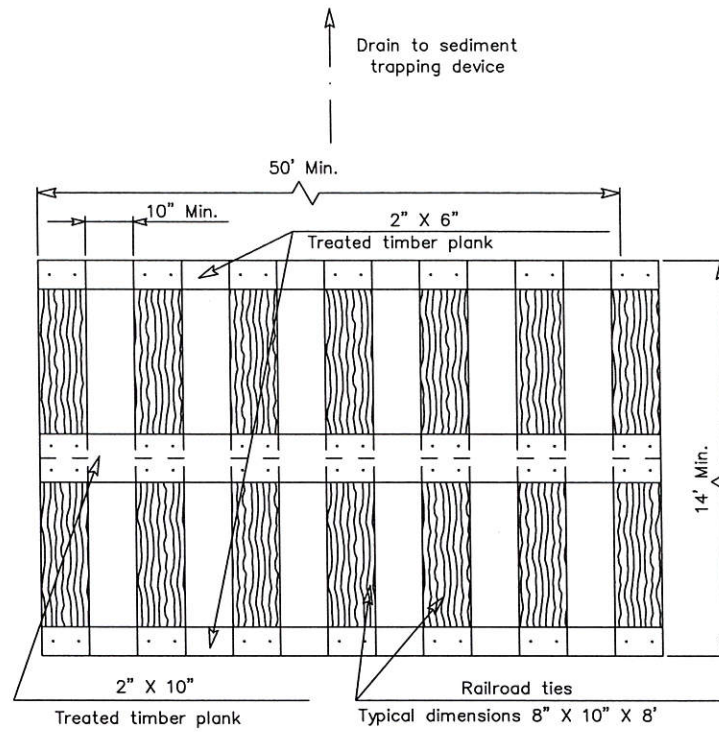
TEMPORARY EROSION, SEDIMENT AND  
WATER POLLUTION CONTROL MEASURES  
FENCE & BALED HAY  
EC (1)-09

DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-9
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	

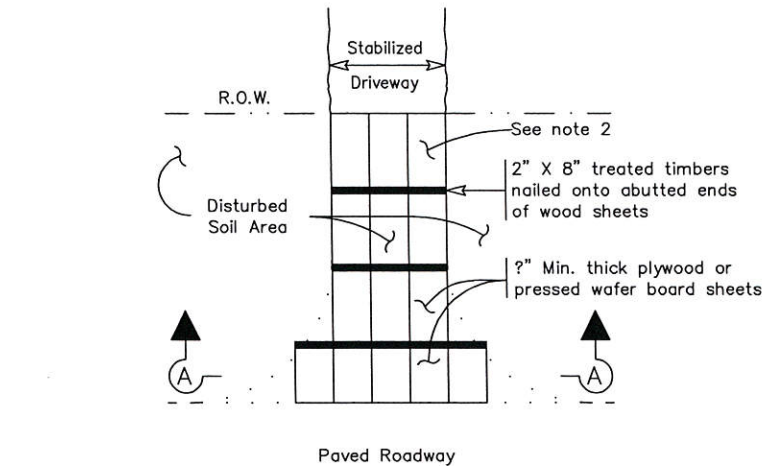




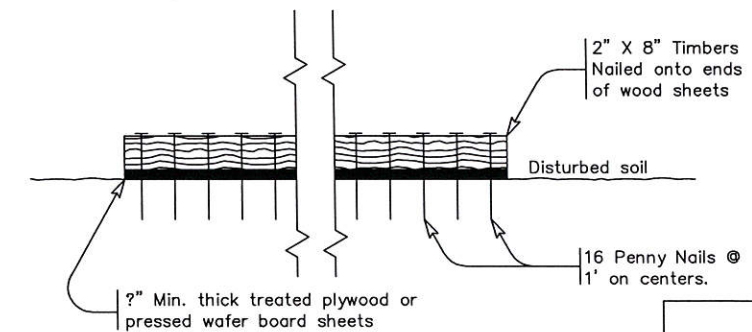
PLAN



PLAN

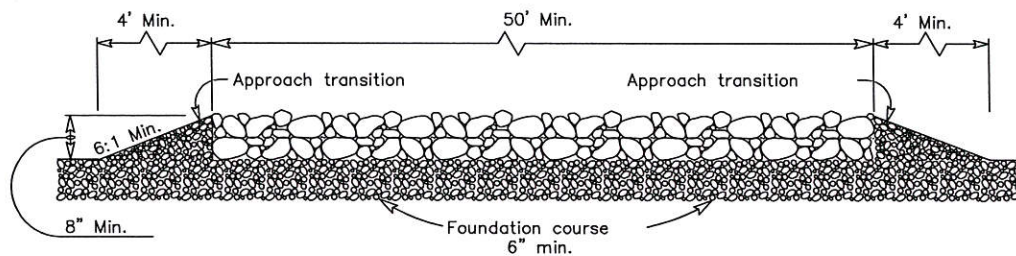


PLAN



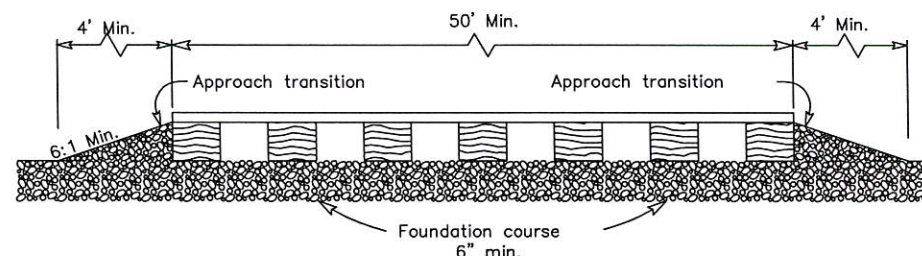
SECTION A-A

CONSTRUCTION EXIT (TYPE 3)



PROFILE

CONSTRUCTION EXIT (TYPE 1)



PROFILE

CONSTRUCTION EXIT (TYPE 2)

GENERAL NOTES

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

GENERAL NOTES

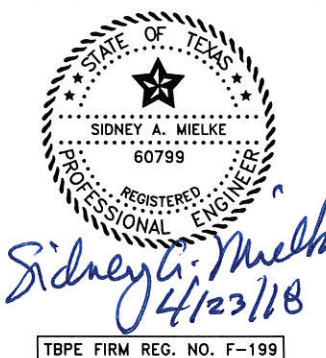
- The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
- The treated timber planks shall be attached to the railroad ties with ?" x 6" min. lag bolts. Other fasteners may be used as approved by the Contractor's SWPPP Engineer.
- The treated timber planks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

GENERAL NOTES

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

NOTE

- Refer to specification Section 01.57.13 Temporary Environmental controls.



TBPE FIRM REG. NO. F-199


**THE COUNTY OF EL PASO**  

**STRUCTURAL ENGINEERING ASSOCIATES, INC.**  
 CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION  
 UNDER TORNILLO-GUADALUPE  
 NEW INTERNATIONAL BRIDGE  
 TEMPORARY EROSION, SEDIMENT AND  
 WATER POLLUTION CONTROL MEASURES  
 CONSTRUCTION EXITS  
 EC (3)-93

DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-10
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	



I. STORMWATER POLLUTION PREVENTION—CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1.  No Action Required  Required Action
2.  No Action Required  Required Action

- Action No.
1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
  2. Comply with the SW3P and revise when necessary to control pollution or required by the Contractor's SWPPP Engineer.
  3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
  4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Contractor's SWPPP Engineer.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

- No Permit Required
- Nationwide Permit 14 – PCN not Required (less than 1/10th acre waters or wetlands affected)
- Nationwide Permit 14 – PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
- Individual 404 Permit Required
- Other Nationwide Permit Required: NWP# 3 (MAINTENCE)

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1. RIO GRANDE RIVER
- 2.
- 3.
- 4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

<b>Erosion</b>	<b>Sedimentation</b>	<b>Post-Construction TSS</b>
<input checked="" type="checkbox"/> Temporary Vegetation	<input checked="" type="checkbox"/> Silt Fence	<input checked="" type="checkbox"/> Vegetative Filter Strips
<input type="checkbox"/> Blankets/Matting	<input type="checkbox"/> Rock Berm	<input type="checkbox"/> Retention/Irrigation Systems
<input type="checkbox"/> Mulch	<input type="checkbox"/> Triangular Filter Dike	<input type="checkbox"/> Extended Detention Basin
<input type="checkbox"/> Sodding	<input type="checkbox"/> Sand Bag Berm	<input type="checkbox"/> Constructed Wetlands
<input type="checkbox"/> Interceptor Swale	<input type="checkbox"/> Straw Bale Dike	<input type="checkbox"/> Wet Basin
<input type="checkbox"/> Diversion Dike	<input type="checkbox"/> Brush Berms	<input type="checkbox"/> Erosion Control Compost
<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Erosion Control Compost	<input type="checkbox"/> Mulch Filter Berm and Socks
<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Mulch Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks
<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Compost Filter Berm and Socks	<input type="checkbox"/> Vegetation Lined Ditches
	<input type="checkbox"/> Stone Outlet Sediment Traps	<input type="checkbox"/> Sand Filter Systems
	<input type="checkbox"/>	<input type="checkbox"/> Grassy Swales
	Sediment Basins	

III. CULTURAL RESOURCES

Refer to Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the County of El Paso Contracting Officer's Representative (COR) immediately.

- No Action Required  Required Action

Action No.

1. If cultural resources are identified, terminate construction activities and immediately notify the EL PASO COUNTY COR. Refer to specifications section 00.31.24, I.5.B.
- 2.
- 3.
- 4.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical. Contractor must adhere to Construction Specification Requirements in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

- No Action Required  Required Action

Action No.

- 1.
- 2.
- 3.
- 4.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

- No Action Required  Required Action

Action No.

1. Observe construction site for presence of Texas Horned lizard
2. Terminate construction activities and immediately notify the El Paso County Contracting Officer's Representative (COR) if Texas horned lizard is identified.
3. The Western Burrowing Owl has been documented along the levees in the Rio Grande Rectification project.
4. Bird surveys in accordance with the Migratory Bird Treaty Act (MBTA) will be required if the project occurs during the months of March through August.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the El Paso County Contracting Officer's Representative (COR) immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the El Paso County Contracting Officer's Representative (COR) immediately.

LIST OF ABBREVIATIONS

BMP: Best Management Practice	SPCC: Spill Prevention Control and Countermeasure
CGP: Construction General Permit	SW3P: Storm Water Pollution Prevention Plan
DSHS: Texas Department of State Health Services	PCN: Pre-Construction Notification
FHWA: Federal Highway Administration	PSL: Project Specific Location
MOA: Memorandum of Agreement	TCEQ: Texas Commission on Environmental Quality
MOU: Memorandum of Understanding	TPDES: Texas Pollutant Discharge Elimination System
MS4: Municipal Separate Stormwater Sewer System	TPWD: Texas Parks and Wildlife Department
MBTA: Migratory Bird Treaty Act	TxDOT: Texas Department of Transportation
NOT: Notice of Termination	T&E: Threatened and Endangered Species
NWP: Nationwide Permit	USACE: U.S. Army Corps of Engineers
NOI: Notice of Intent	USFWS: U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used. Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act. Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the El Paso County Contracting Officer's Representative (COR) immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the El Paso County Contracting Officer's Representative (COR) if any of the following are detected:

- \* Dead or distressed vegetation (not identified as normal)
- \* Trash piles, drums, canister, barrels, etc.
- \* Undesirable smells or odors
- \* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

- Yes  No

If "No", then no further action is required.

If "Yes", then El Paso County is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

- Yes  No

If "Yes", then El Paso County must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then El Paso County is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the El Paso County Contractor Officer's Representative (COR), and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

- No Action Required  Required Action

Action No.

1. Should any potentially hazardous or unknown material be encountered during excavation terminate construction activities and immediately notify the El Paso County COR.
- 2.
- 3.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

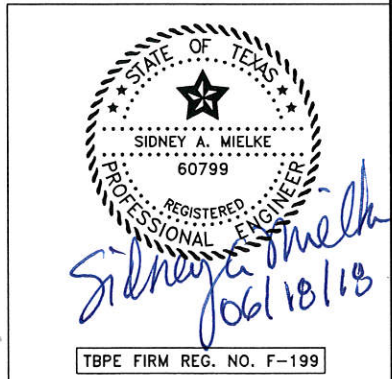
- No Action Required  Required Action

Action No.

- 1.
- 2.
- 3.

NOTE

1. Refer to specification Section 01.57.13 Temporary Environmental controls.



TBPE FIRM REG. NO. F-199



THE COUNTY OF EL PASO



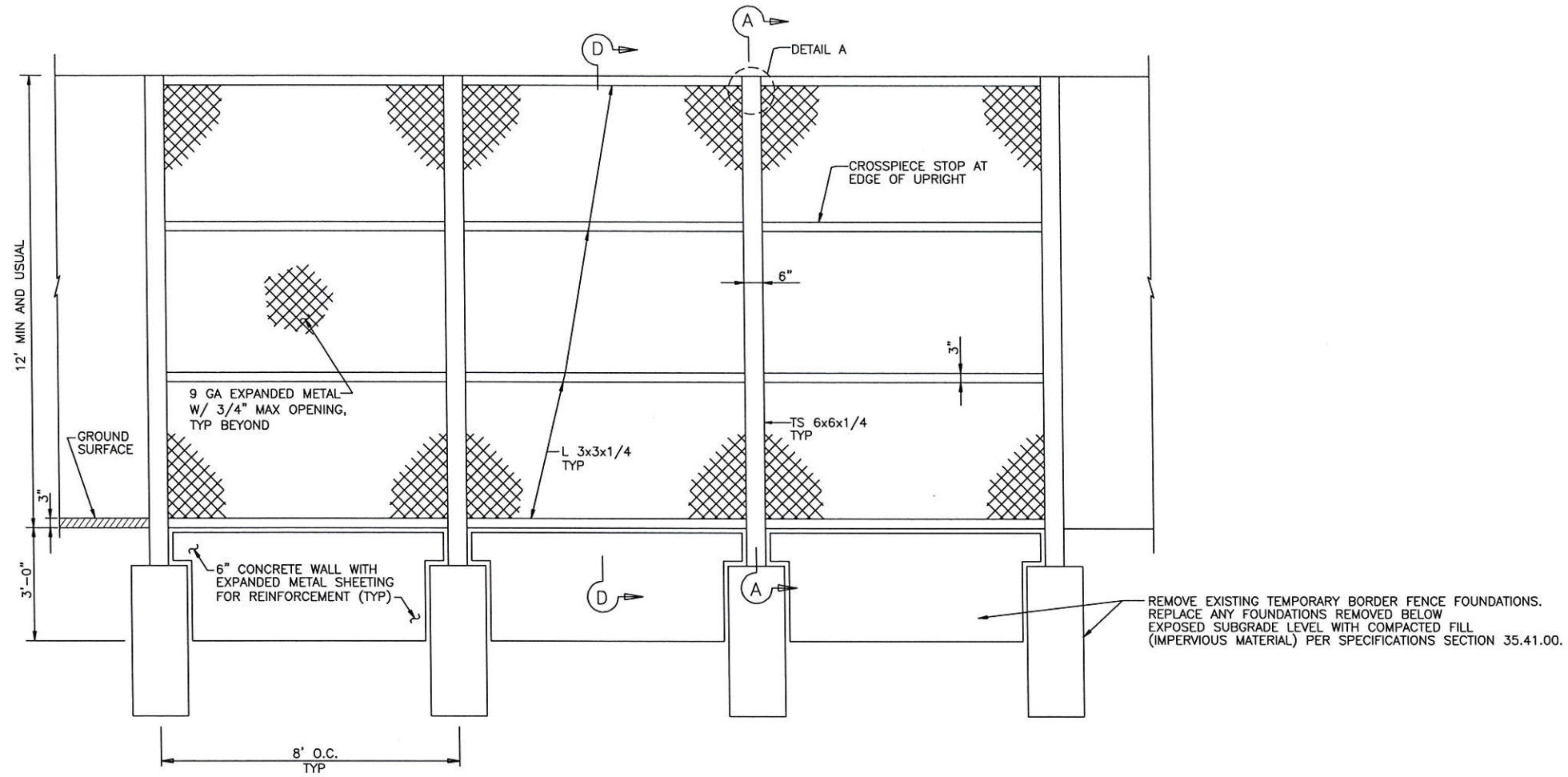
STRUCTURAL ENGINEERING ASSOCIATES, INC. CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION UNDER TORNILLO-GUADALUPE NEW INTERNATIONAL BRIDGE

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS EPIC

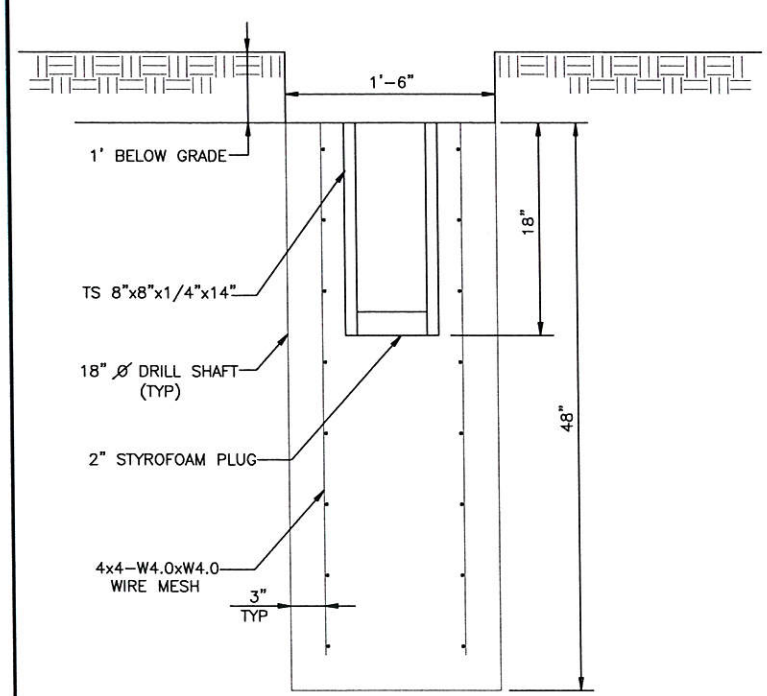
DWN. A.M.H.	DESIGN G.J.S.	DATE 4-9-18	SHEET NO. S-11
DWG. CK. G.J.S.	DESIGN CK. S.A.M.	DRAWING FILE 18-055C	



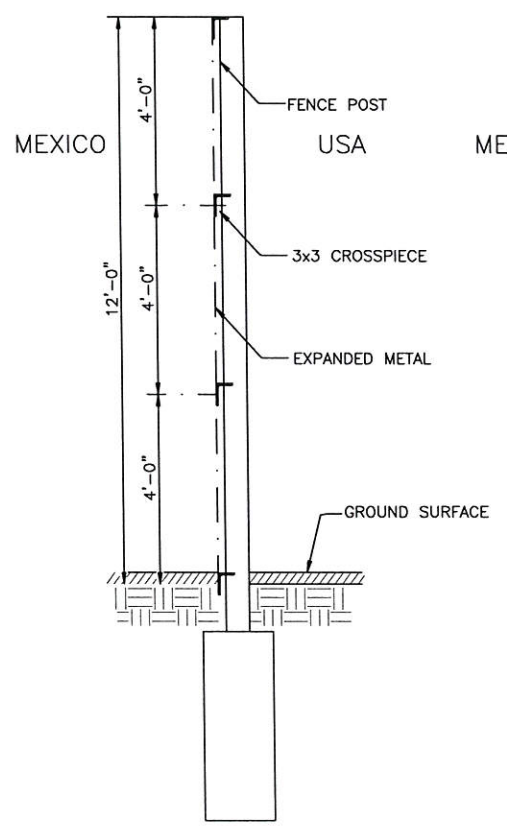


TEMPORARY FENCE ELEVATION  
US SIDE OF FENCE

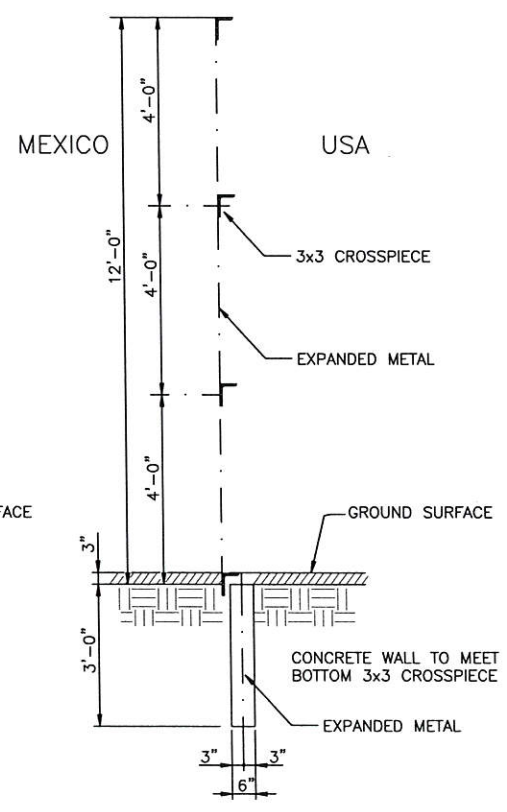
- NOTES:
1. ANY STRUCTURE SHOWN ABOVE EXISTING GROUND SURFACE HAS BEEN REMOVED AND IS SHOWN FOR INFORMATION ONLY.
  2. FOR REMOVAL OF EXISTING TEMPORARY BORDER FENCE FOUNDATIONS REFER TO SPECIFICATION 31.14.00, 1.5.F.



TEMPORARY FENCE FOUNDATION DETAIL



SECTION A-A



SECTION D-D



*Sidney A. Mielke*  
4/23/18  
TBPE FIRM REG. NO. F-199



THE COUNTY OF  
EL PASO



STRUCTURAL ENGINEERING  
ASSOCIATES, INC.  
CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

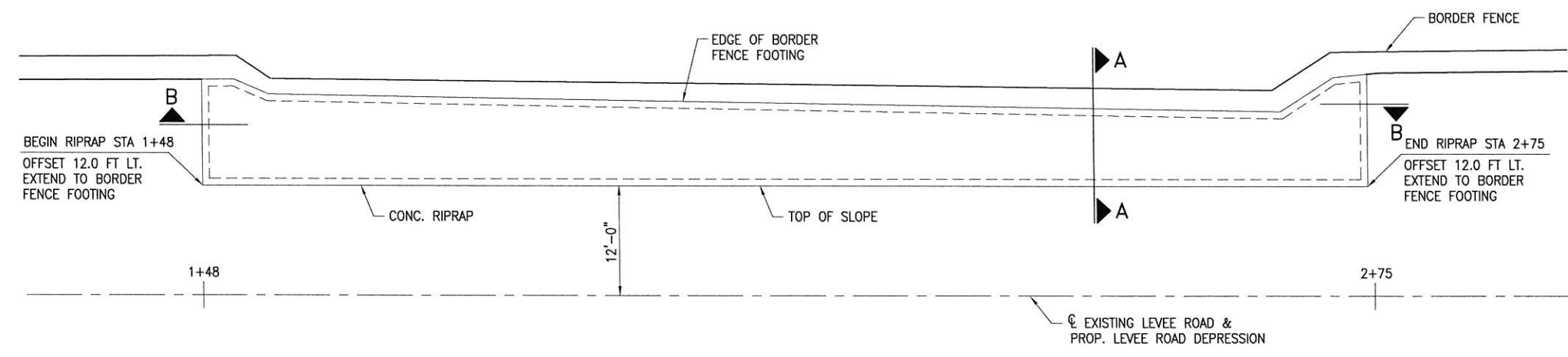
TEMPORARY BORDER FENCE  
FOUNDATION DETAILS

DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	A.M.R.	4-9-18	S-12
DWG. CK.	DESIGN CK.	DRAWING FILE	
A.M.R.	S.A.M.	18-055C	

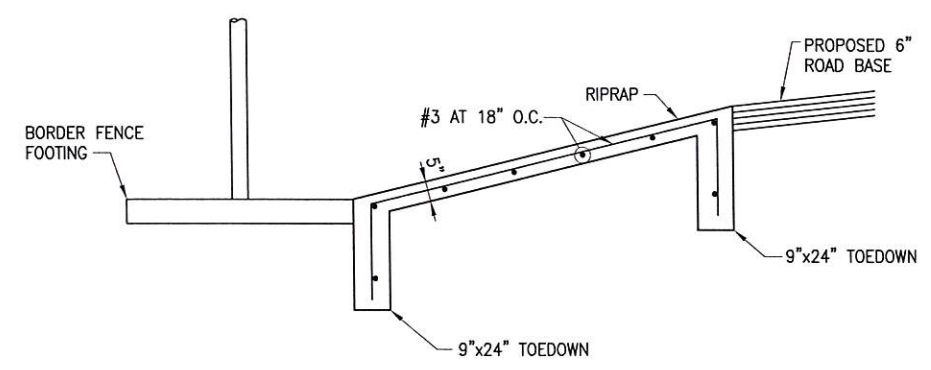


NOTES:

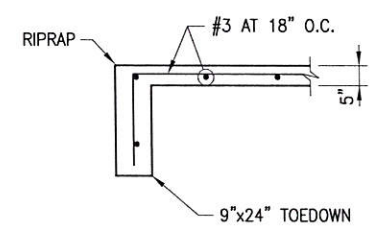
- 1 ALL CONCRETE TO BE CLASS B 2500 PSI.
- 2 ALL REINFORCING STEEL SHALL BE GRADE 60.



## RIPRAP LAYOUT



SECTION A-A



SECTION B



**THE COUNTY OF  
EL PASO**



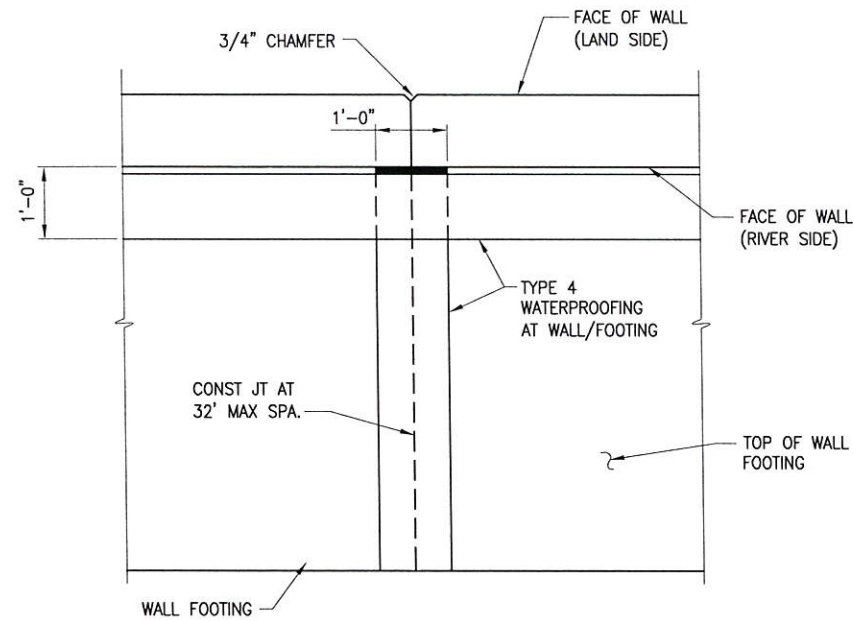
**STRUCTURAL ENGINEERING  
ASSOCIATES, INC.**  
CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

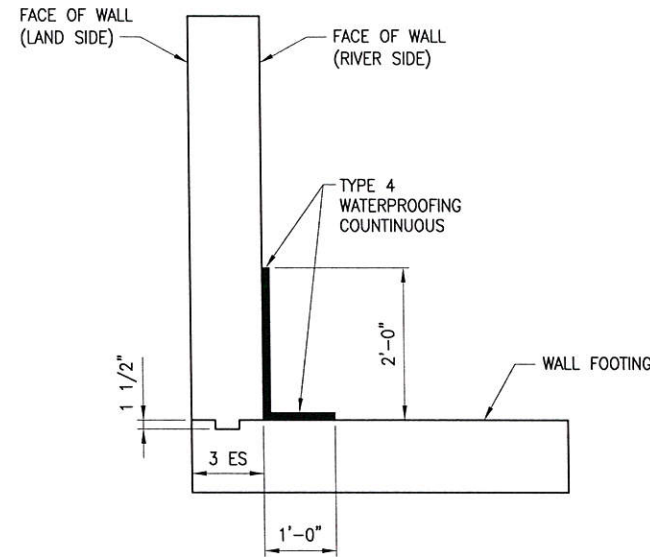
RIPRAP DETAILS

DWN. A.M.H.	DESIGN G.J.S.	DATE 4-9-18	SHEET NO.
DWG. CK. G.J.S.	DESIGN CK. S.A.M.	DRAWING FILE 18-055C	S-13

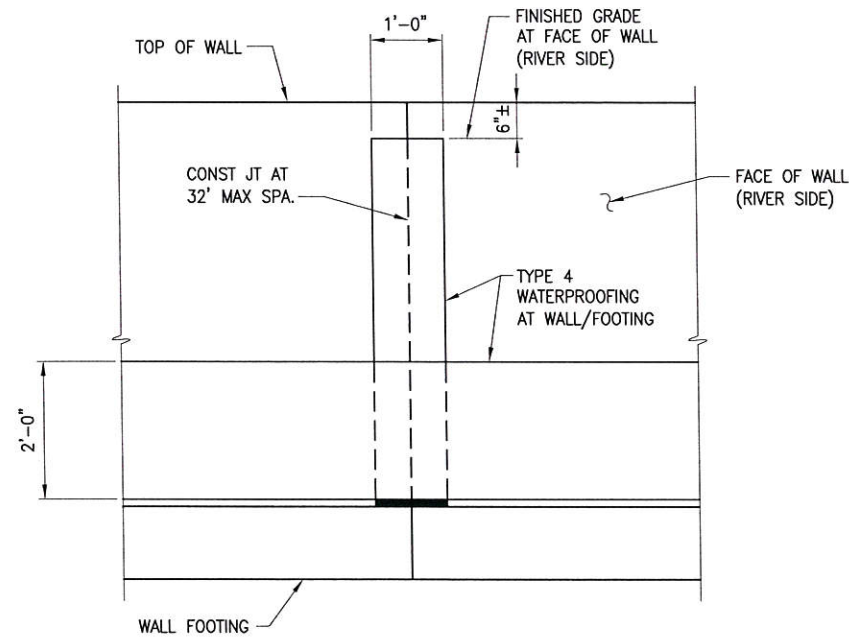




PLAN



SECTION



ELEVATION

CONSTRUCTION JOINT AND  
WATERPROOFING AT WALL  
AND AT FOOTING

WATERPROOFING NOTES:

- 1 FURNISH AND PLACE WATERPROOFING MEMBRANE OF THE TYPE SPECIFIED AS SHOWN. USE TYPE 4 SELF-ADHERING POLYETHYLENE WITH A RUBBERIZED ASPHALT MASTIC MATERIAL. THIS TYPE OF SHEETING CONSISTS OF A MINIMUM 0.1 mm (4 MIL) THICKNESS OF POLYETHYLENE COATED ON ONE SIDE WITH A LAYER OF ADHESIVE RUBBERIZED ASPHALT WITH A PROTECTIVE MEMBRANE COVERING THE ADHESIVE SURFACE UNTIL READY FOR USE.
- 2 THE COMPOSITE SHEETING MUST HAVE A TENSILE STRENGTH OF 3152 N/mm (18 lbs/in) OF WIDTH WHEN TESTED IN ACCORDANCE WITH ASTM D 5035, CUT STRIP TEST-1C AND A NET THICKNESS OF AT LEAST 1.5mm (60 mil) EXCLUDING THE PROTECTIVE RELEASE PAPER MEMBRANE. THE MATERIAL MUST BE BLACK.
- 3 FURNISH SHEETING IN ROLLS OF SUFFICIENT WIDTH AND LENGTH TO SATISFY JOB REQUIREMENTS.
- 4 UNWRAP THE ROLL OF WATERPROOFING AND PRESS THE ADHESIVE SURFACE INTO CONTACT WITH THE CONCRETE HORIZONTALLY. SECURE THE FREE END AND THEN UNROLL SLOWLY, USING HAND PRESSURE TO SMOOTH THE MEMBRANE INTO PLACE AND HELP MAKE A TIGHT BOND WITH THE CONCRETE. OVERLAP ADJACENT STRIPS A MINIMUM OF 1 IN. OVER THE PREVIOUSLY LAID STRIP. BACKFILLING MAY BE STARTED AS SOON AS THE INITIAL HORIZONTAL STRIP HAS BEEN APPLIED.
- 5 THE WORK PERFORMED, MATERIALS FURNISHED, EQUIPMENT, LABOR, TOOLS AND INCIDENTALS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO PERTINENT ITEMS.
- 6 STORE WATERPROOFING MATERIAL IN A MANNER THAT WILL PREVENT DAMAGE. KEEP MATERIAL DRY AT ALL TIMES, AND STORE IN A WARM AREA BEFORE USING IN COLD WEATHER AND OUT OF DIRECT SUNLIGHT IN HOT WEATHER.
- 7 PROVIDE A WOOD FLOAT TO CONCRETE SURFACE TO BE WATERPROOFED. CURE CONCRETE SURFACE TO BE WATERPROOFED FOR AT LEAST 7 DAYS BEFORE APPLYING WATERPROOFING, OR AS DIRECTED BY THE WATERPROOFING MATERIALS MANUFACTURERS.
- 8 ENSURE CONCRETE SURFACES TO BE WATERPROOFED ARE CLEAN, DRY SMOOTH AND FREE OF FINS, SHARP EDGES AND LOOSE MATERIAL. USE GRINDERS, IF NECESSARY, TO REMOVE PROTRUSIONS THAT WOULD PUNCTURE WATERPROOFING MEMBRANE. ENSURE SURFACES ARE FREE OF CONTAMINANTS SUCH AS FORM-RELEASE AGENTS, WAX BASE CURING COMPOUNDS, OIL AND GREASE, REMOVE ANY CONTAMINANTS BY ABRASIVE BLAST CLEANING. ENSURE THERE ARE NO DEPRESSIONS OR POCKETS IN HORIZONTAL SURFACES OF FINISHED WATERPROOFING.
- 9 SWEEP, VACUUM, OR AIR-BLOW THE AREA TO BE WATERPROOFED THOROUGHLY TO REMOVE DUST, DIRT, AND LOOSE FOREIGN MATERIAL. MAINTAIN THE AREA IN A CLEAN CONDITION UNTIL COMPLETION OF WATERPROOFING.
10. PROTECT THE WATERPROOFING AGAINST DAMAGE FROM ANY SOURCE.



**THE COUNTY OF  
EL PASO**



**STRUCTURAL ENGINEERING  
ASSOCIATES, INC.**  
CONSULTING ENGINEERS

LEVEE ROAD DEPRESSION  
UNDER TORNILLO-GUADALUPE  
NEW INTERNATIONAL BRIDGE

CONSTRUCTION JOINT &  
WATERPROOFING DETAILS

DWN.	DESIGN	DATE	SHEET NO.
A.M.H.	G.J.S.	4-9-18	S-14
DWG. CK.	DESIGN CK.	DRAWING FILE	
G.J.S.	S.A.M.	18-055C	