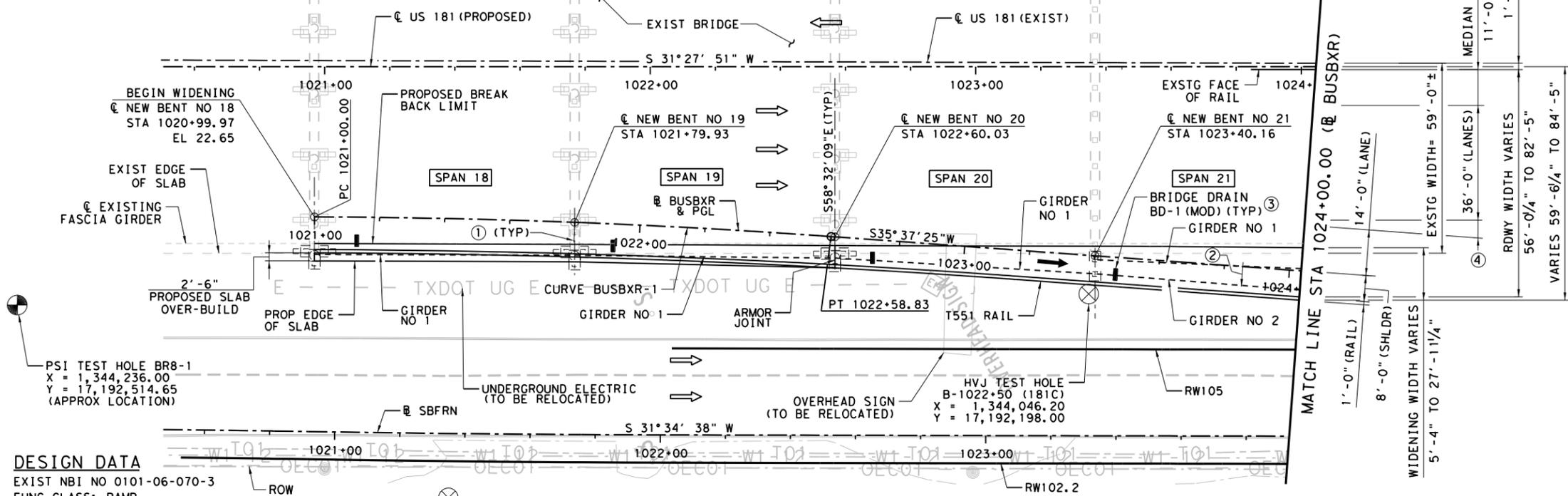


CURVE BUSBXR-1  
 P. I. STATION = 1021+79.45  
 DELTA = 03°58'14.91" (RT)  
 DEGREE = 2°30'00.00"  
 TANGENT = 79.45  
 LENGTH = 158.83  
 RADIUS = 2291.83  
 P. C. STATION = 1021+00.00  
 P. T. STATION = 1022+58.83



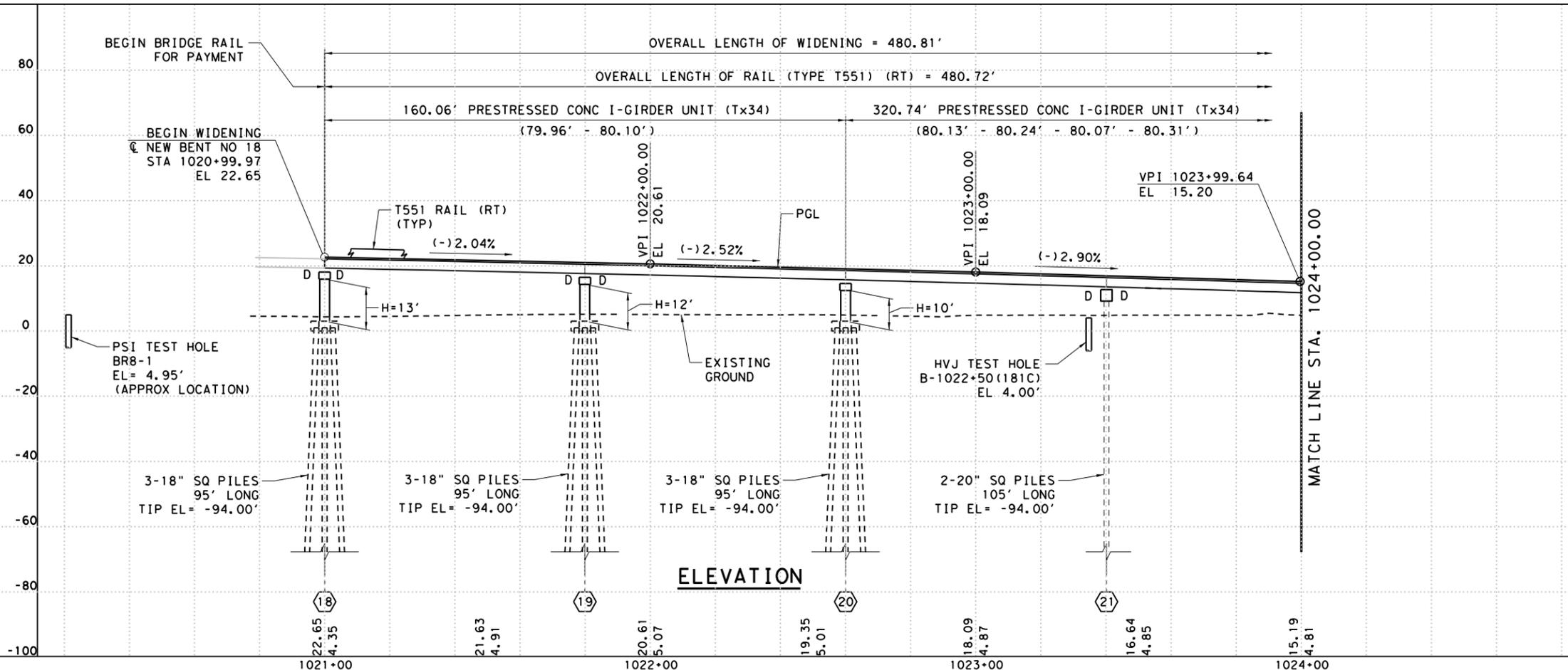
**DESIGN DATA**

EXIST NBI NO 0101-06-070-3  
 FUNC CLASS: RAMP  
 DESIGN SPEED: 45 MPH  
 ADT: BRIDGE 10  
 (2023) = 610  
 (2035) = 710

HVJ TEST HOLE  
 B-1021+00 (181L)  
 X = 1,344,095.60  
 Y = 17,192,398.40

**PLAN**

← PROPOSED TRAFFIC FLOW  
 ⇐ EXISTING TRAFFIC FLOW  
 ⊕ PSI BORE HOLE  
 ⊗ HVJ BORE HOLE



**ELEVATION**

- NOTES:**
- FOR GENERAL NOTES, SEE "GENERAL NOTES" SHEETS.
  - ROADWAY HORIZONTAL AND VERTICAL GEOMETRY, WIDTH, SUPERELEVATION, TRAFFIC DIRECTION, EXISTING GROUND LINE, PROPOSED GROUND LINE, RIGHT OF WAY AND DRAINAGE DATA PROVIDED BY STATEC. TOPO DATA PROVIDED BY CIVIL CORP. UTILITY DATA PROVIDED BY KCI.
  - ALL DIMENSIONS ARE EITHER HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROWN AND/OR SUPERELEVATION.
  - ALL SUPERELEVATION TRANSITIONS ARE LINEAR.
  - FOR CONCRETE GIRDER SPANS, "D" DENOTES BENTS WITH DOWN BARS AND SLOTTED HOLES AT ENDS OF EXTERIOR GIRDER ONLY.
  - PILE TIP ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE GEOTECHNICAL ENGINEER OF RECORD OR AN AUTHORIZED REPRESENTATIVE BASED UPON ACTUAL SOIL CONDITIONS ENCOUNTERED AT EACH PILE LOCATION.
  - CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING STRUCTURES AND UTILITIES PRIOR TO CONSTRUCTION.
  - SEE "TYPICAL SECTION" SHEET FOR TYPICAL SECTION.
  - SEE "BORING LOG DATA" SHEETS FOR BORING LOG INFORMATION.
  - SEE "FOUNDATION LAYOUT" SHEETS FOR DRAINAGE AND UTILITY INFORMATION.
  - SOIL EXPLORATION DATA AND PILE TIP ELEVATION PROVIDED BY PSI.
  - BRIDGE NOT DESIGNED FOR OVERLAY LOAD.
  - SEE "ROADWAY ILLUMINATION" SHEETS FOR UNDERPASS LIGHT FIXTURE DETAILS.
  - FOR HVJ BORING DATA SEE HVJ GEOTECHNICAL DATA REPORT DATED 9/29/2014.
  - SEE SIGNAGE SHEETS FOR SIGN LOCATIONS AND BRIDGE MOUNT DETAILS.
- ① FOR BENT SKEW ANGLES, SEE "FOUNDATION LAYOUT" SHEETS.  
 ② CROSS SLOPE VARIES. SEE TYPICAL SECTIONS.  
 ③ FOR BRIDGE DRAIN LOCATIONS, SEE "160.06' CONC 1-GIRDER UNIT" & "320.74' CONC 1-GIRDER UNIT" SHEETS.  
 ④ FOR CORE/SHOULDER AREA LIMITS, SEE "BRIDGE LAYOUT", SHEET 2.
- HS-20 LOADING (EXISTING)  
 HL-93 LOADING (NEW)

FIGG BRIDGE ENGINEERS, INC.  
 PRELIMINARY - FOR INTERIM REVIEW ONLY

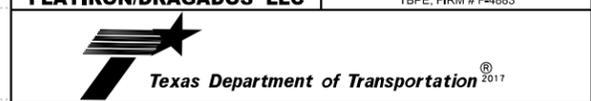
THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL PERMIT, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

CESAR FERNANDES 98112 06/30/2017  
 TBPE FIRM #F-4883 PE. NO. DATE

NO.	DATE	REVISION	APPROVED

**FLATIRON/DRAAGADOS LLC**

**FIGG**  
 TBPE, FIRM # F-4883



US 181 HARBOR BRIDGE  
**BRIDGE LAYOUT**  
 US 181 SB OVERPASS WIDENING  
 AT BEACH AVENUE  
 BRIDGE 10

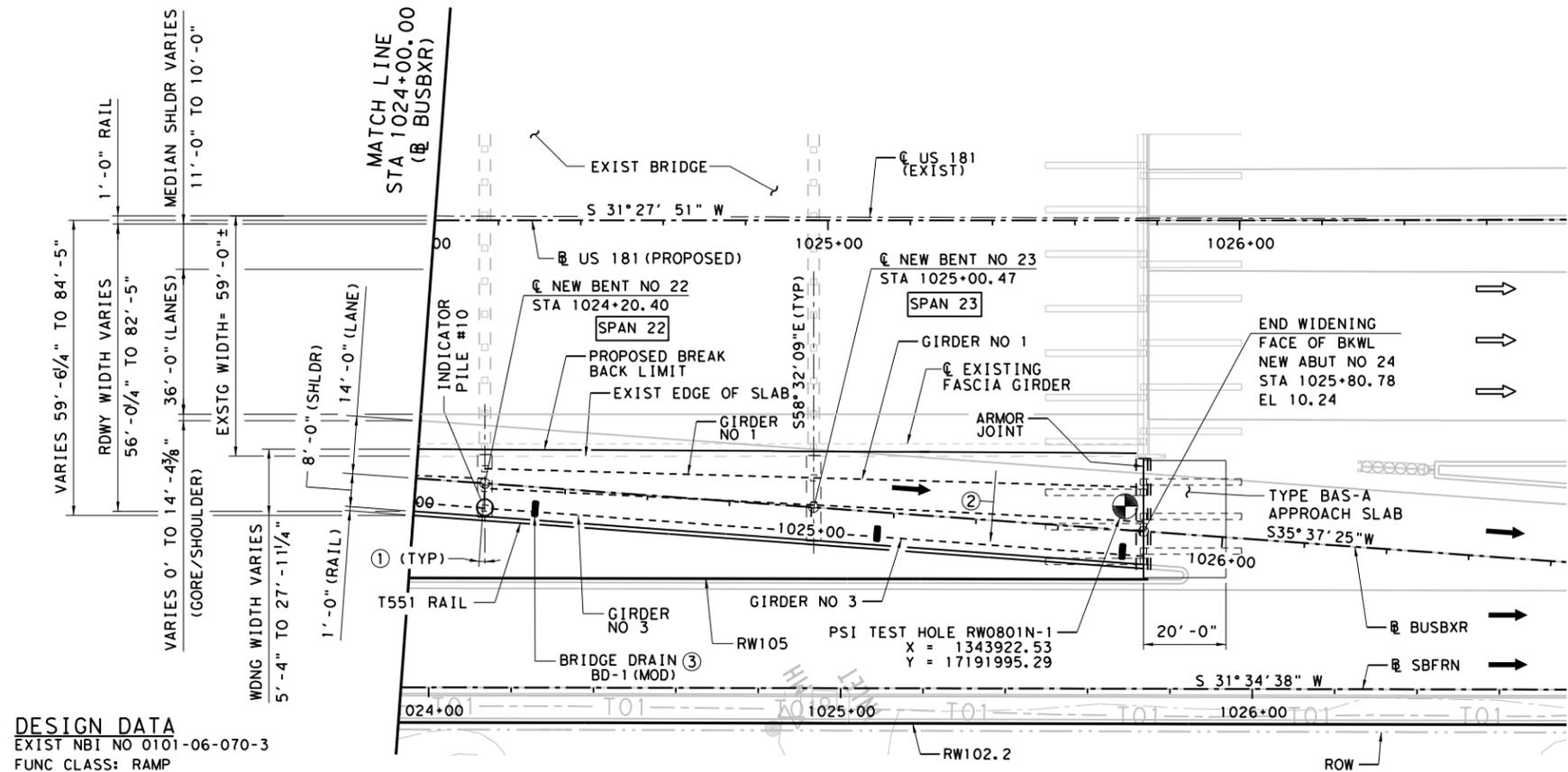
SCALE: 1"=40'-0" SHEET 1 OF 2

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DMS	X	(See Title Sheet)		US 181
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SGF	TEXAS	CRP	NUECES	RB10
CHECK	CONTROL	SECTION	JOB	001
DAK	0101	06	095	

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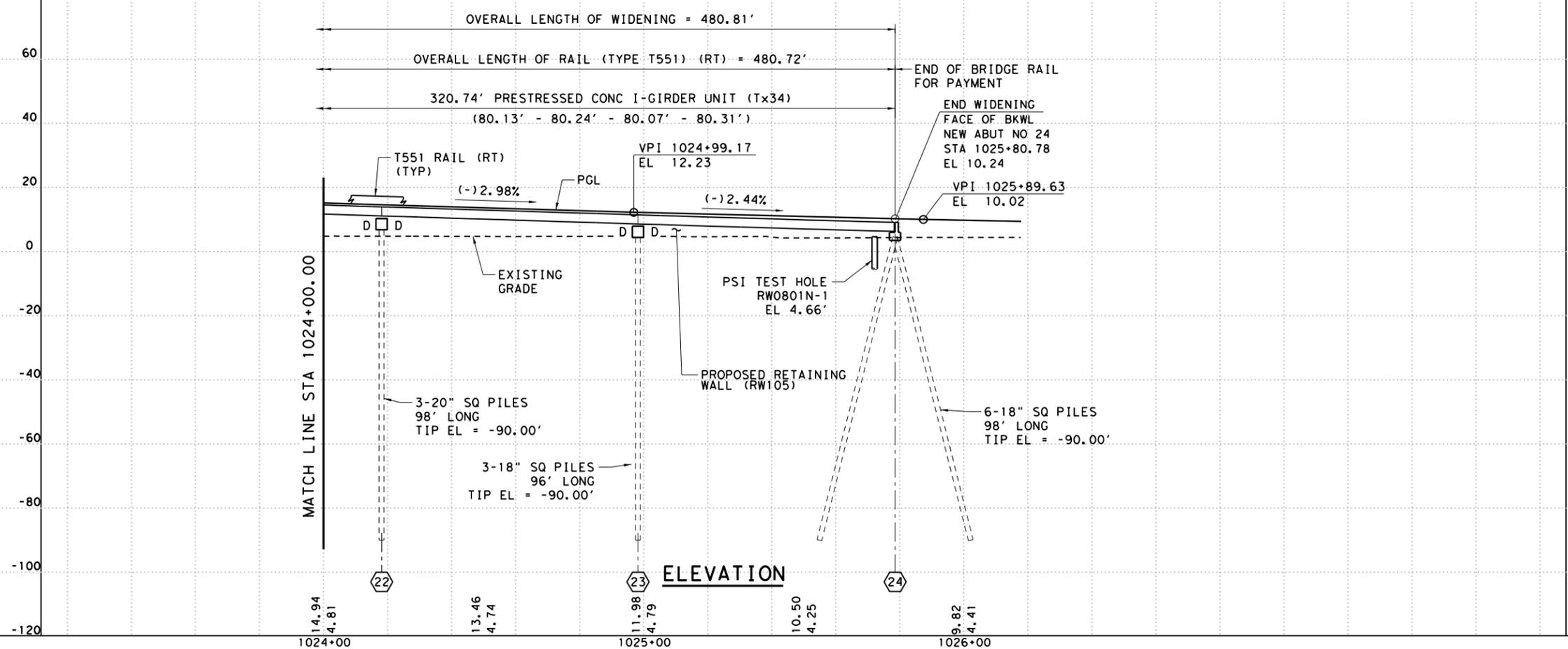
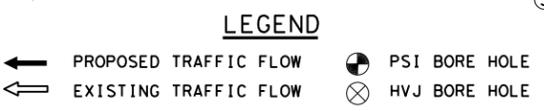
PRELIMINARY NOT FOR CONSTRUCTION, JUNE 2017

- NOTES:**
- FOR GENERAL NOTES, SEE "GENERAL NOTES" SHEETS.
  - ROADWAY HORIZONTAL AND VERTICAL GEOMETRY, WIDTH, SUPERELEVATION, TRAFFIC DIRECTION, EXISTING GROUND LINE, PROPOSED GROUND LINE, RIGHT OF WAY AND DRAINAGE DATA PROVIDED BY STANTEC, TOPO DATA PROVIDED BY CIVIL CORP. UTILITY DATA PROVIDED BY KCI.
  - ALL DIMENSIONS ARE EITHER HORIZONTAL OR VERTICAL AND MUST BE CORRECTED FOR GRADE, CROWN AND/OR SUPERELEVATION.
  - ALL SUPERELEVATION TRANSITIONS ARE LINEAR.
  - FOR CONCRETE GIRDER SPANS, "D" DENOTES BENTS WITH DOWEL BARS AND SLOTTED HOLES AT ENDS OF EXTERIOR GIRDER ONLY.
  - PILE TIP ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE GEOTECHNICAL ENGINEER OF RECORD OR AN AUTHORIZED REPRESENTATIVE BASED UPON ACTUAL SOIL CONDITIONS ENCOUNTERED AT EACH PILE LOCATION.
  - CONTRACTOR TO FIELD VERIFY LOCATIONS OF EXISTING STRUCTURES AND UTILITIES PRIOR TO CONSTRUCTION.
  - SEE "TYPICAL SECTION" SHEET FOR TYPICAL SECTION.
  - SEE "BORING LOG DATA" SHEETS FOR BORING LOG INFORMATION.
  - SEE "FOUNDATION LAYOUT" SHEETS FOR DRAINAGE AND UTILITY INFORMATION.
  - SOIL EXPLORATION DATA AND PILE TIP ELEVATION PROVIDED BY PSI.
  - BRIDGE NOT DESIGNED FOR OVERLAY LOAD.
  - SEE "ROADWAY ILLUMINATION" SHEETS FOR UNDERPASS LIGHT FIXTURE DETAILS.
  - FOR HVJ BORING DATA SEE HVJ GEOTECHNICAL DATA REPORT DATED 9/29/2014.
  - SEE SIGNAGE SHEETS FOR SIGN LOCATIONS AND BRIDGE MOUNT DETAILS.



**DESIGN DATA**  
 EXIST NBI NO 0101-06-070-3  
 FUNC CLASS: RAMP  
 DESIGN SPEED: 45 MPH  
 ADT: BRIDGE 10  
 (2023) = 610  
 (2035) = 710

**PLAN**



**ELEVATION**

80  
 HS-20 LOADING (EXISTING)  
 HL-93 LOADING (NEW)

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 CESAR FERNANDES 98112 06/30/2017  
 TBPE FIRM #F-4883 PE. NO. DATE

NO.	DATE	REVISION	APPROVED

**FLATIRON DRAGADOS LLC**  **FIGG**  
 TBPE, FIRM # F-4883

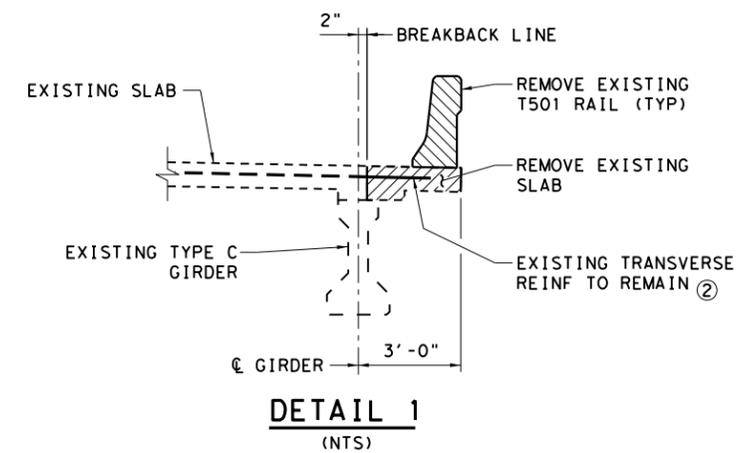
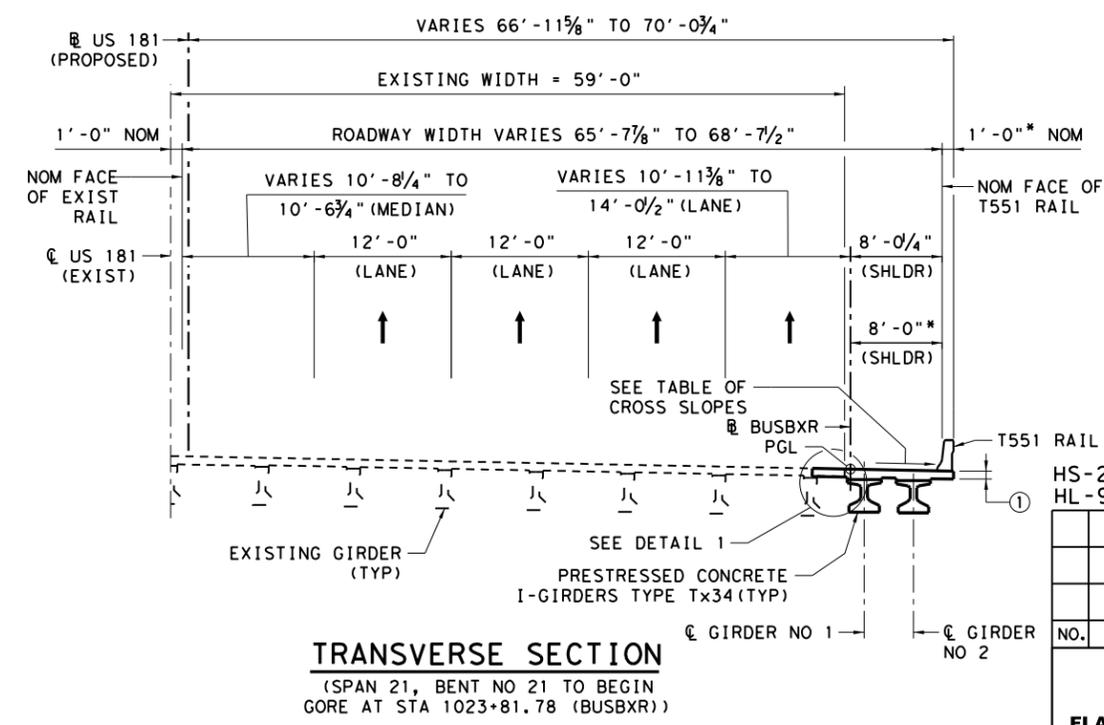
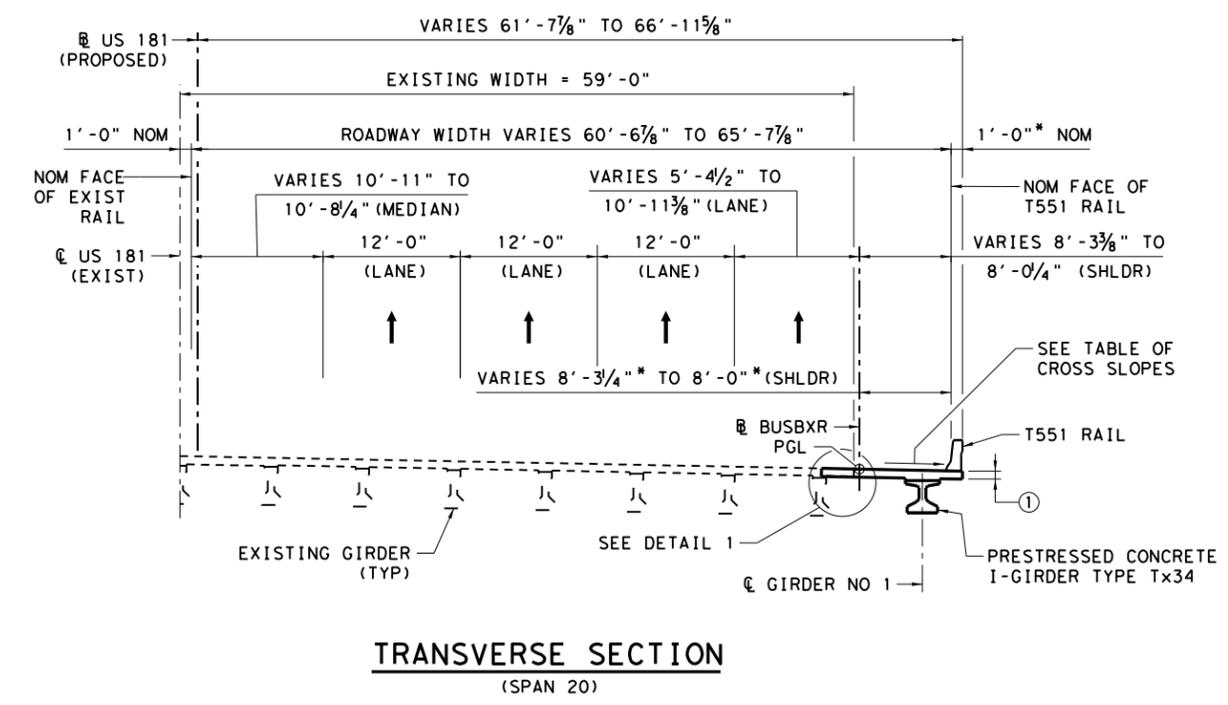
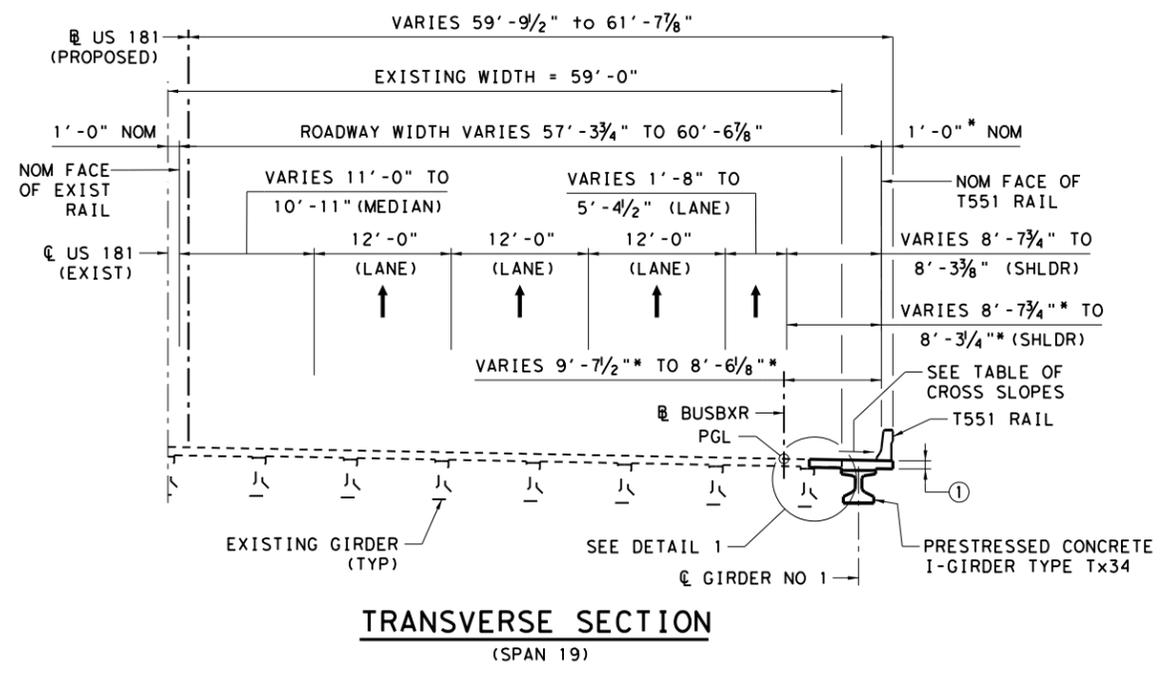
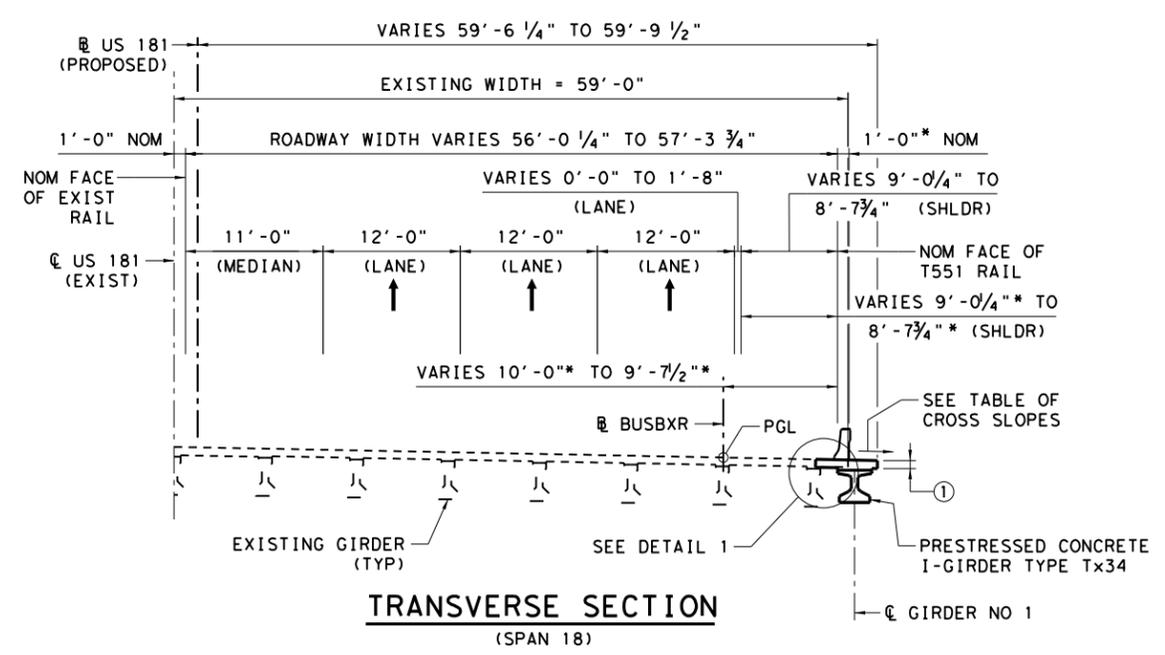


US 181 HARBOR BRIDGE  
**BRIDGE LAYOUT**  
 US 181 SB OVERPASS WIDENING  
 AT BEACH AVENUE  
 BRIDGE 10

SCALE: 1"=40'-0" SHEET 2 OF 2

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DMS	X	(See Title Sheet)		US 181
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SGF	TEXAS	CRP	NUECES	RB10
CHECK	CONTROL	SECTION	JOB	002
DAK	0101	06	095	
CHECK	CF			

TABLE OF CROSS SLOPES	
BASELINE STATION (BUSBXR)	CROSS SLOPE*
1020+99.97	1.89%
1021+20.00	1.94%
1021+40.00	1.97%
1021+60.00	1.90%
1021+80.00	1.94%
1022+00.00	1.90%
1022+20.00	1.85%
1022+40.00	1.84%
1022+60.00	1.81%
1022+80.00	1.81%
1023+00.00	1.80%
1023+20.00	1.81%
1023+40.00	1.79%
1023+60.00	1.79%
1023+80.00	1.78%
1024+00.00	1.79%
1024+20.00	1.79%
1024+40.00	1.79%
1024+60.00	1.79%
1024+80.00	1.79%
1025+00.00	1.82%
1025+20.00	1.83%
1025+40.00	1.82%
1025+60.00	1.83%
1025+80.00	2.31%
1026+00.00	1.79%



- NOTES:**
- FOR GENERAL NOTES, SEE "GENERAL NOTES" SHEETS.
  - NEW WIDENED PORTION OF BRIDGE DESIGNED FOR HL-93 LOADING ACCORDING TO AASHTO LRFD SPECIFICATIONS, 7TH EDITION.
  - ALL DIMENSIONS SHOWN ARE MEASURED PERPENDICULAR TO  $\bar{C}$  US 181 (PROPOSED) EXCEPT AS INDICATED BY "\*" WHICH ARE MEASURED PERPENDICULAR TO  $\bar{C}$  BUSBXR.
- ① FOR SLAB AND OVERHANG THICKNESSES, SEE "160.06' CONCRETE I-GIRDER UNIT" SHEETS AND "320.74' CONCRETE I-GIRDER UNIT" SHEETS.
- ② SEE WIDENING DETAIL ON "160.06' CONCRETE I-GIRDER UNIT" SHEETS AND "320.74' CONCRETE I-GIRDER UNIT" SHEETS.

**LEGEND**

← PROPOSED TRAFFIC FLOW

FIGG BRIDGE ENGINEERS, INC.  
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CESAR FERNANDES 98112 06/30/2017  
TBPE FIRM #F-4883 P.E. NO. DATE

HS-20 LOADING (EXISTING)  
HL-93 LOADING (NEW)

NO.	DATE	REVISION	APRVD.

FLATIRON DRAGADOS LLC  
FIGG  
TBPE, FIRM # F-4883

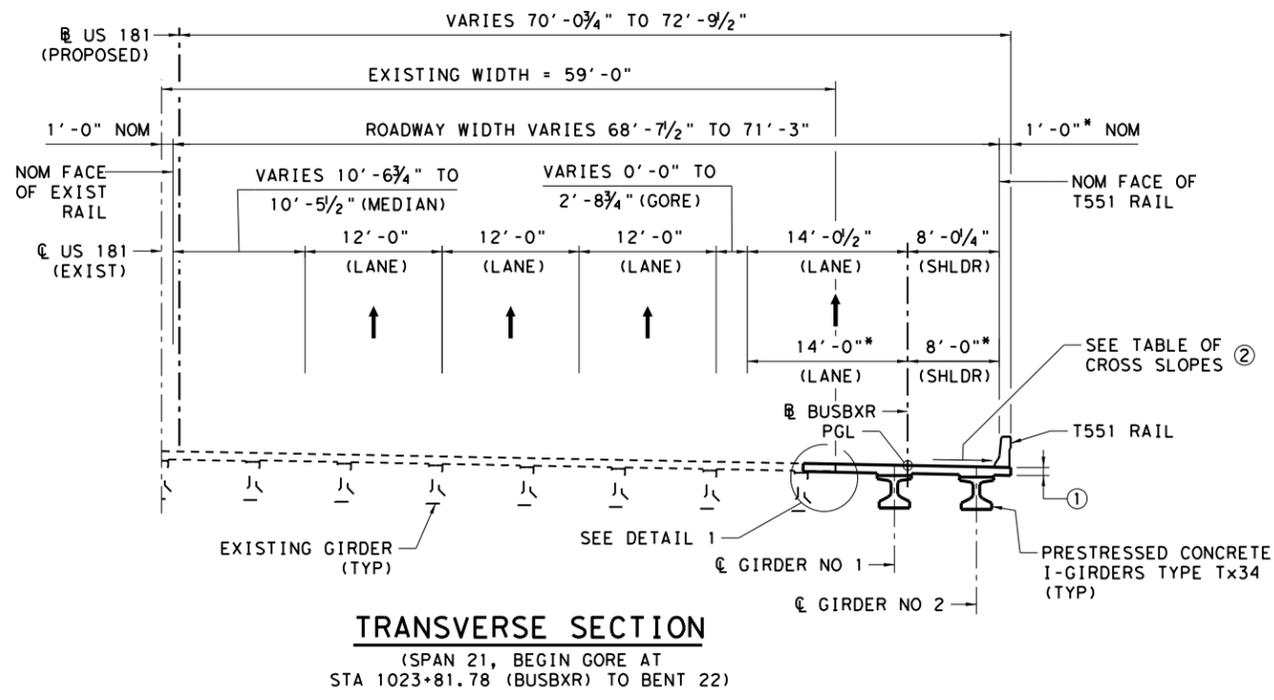
Texas Department of Transportation 2017

US 181 HARBOR BRIDGE  
**TYPICAL SECTION**  
US 181 SB OVERPASS WIDENING AT BEACH AVENUE BRIDGE 10

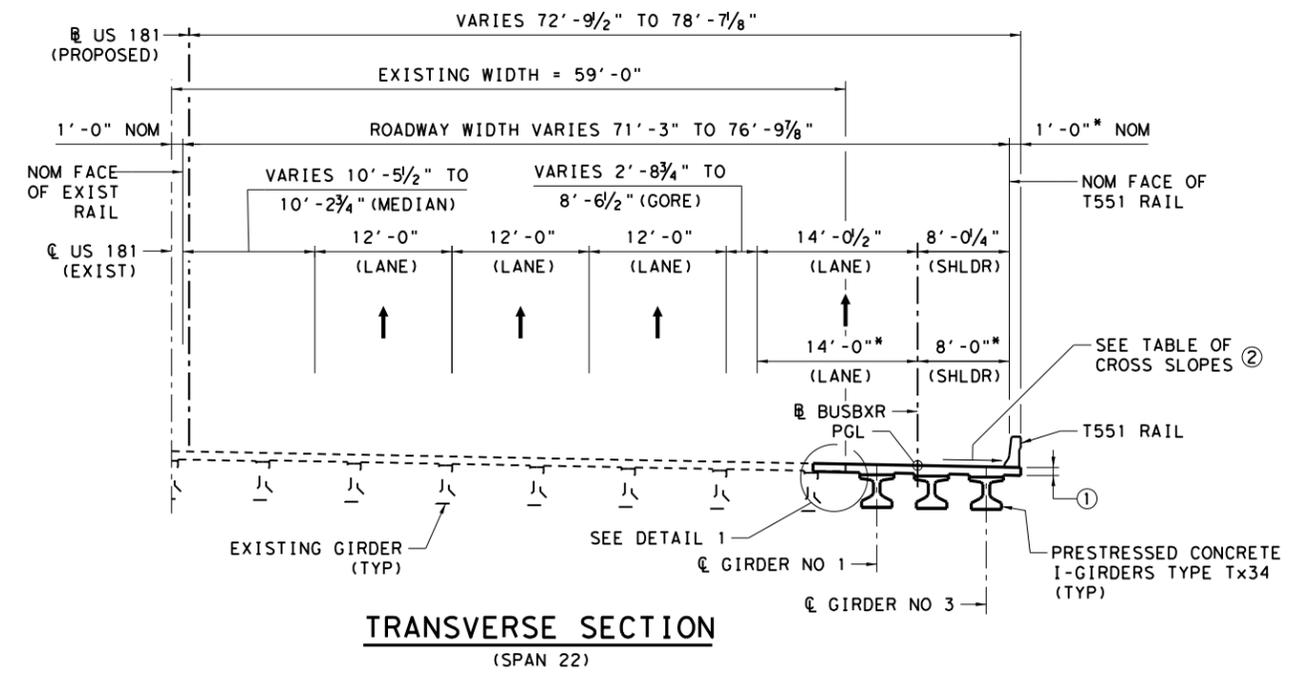
SCALE: 1/16" = 1'-0" SHEET 1 OF 2

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DMS	X	(See Title Sheet)		US 181
GRAPHICS	SGF	STATE	DISTRICT	COUNTY
CHECK	DAK	TEXAS	CRP	NUECES
CHECK	CF	CONTROL	SECTION	JOB
		0101	06	095

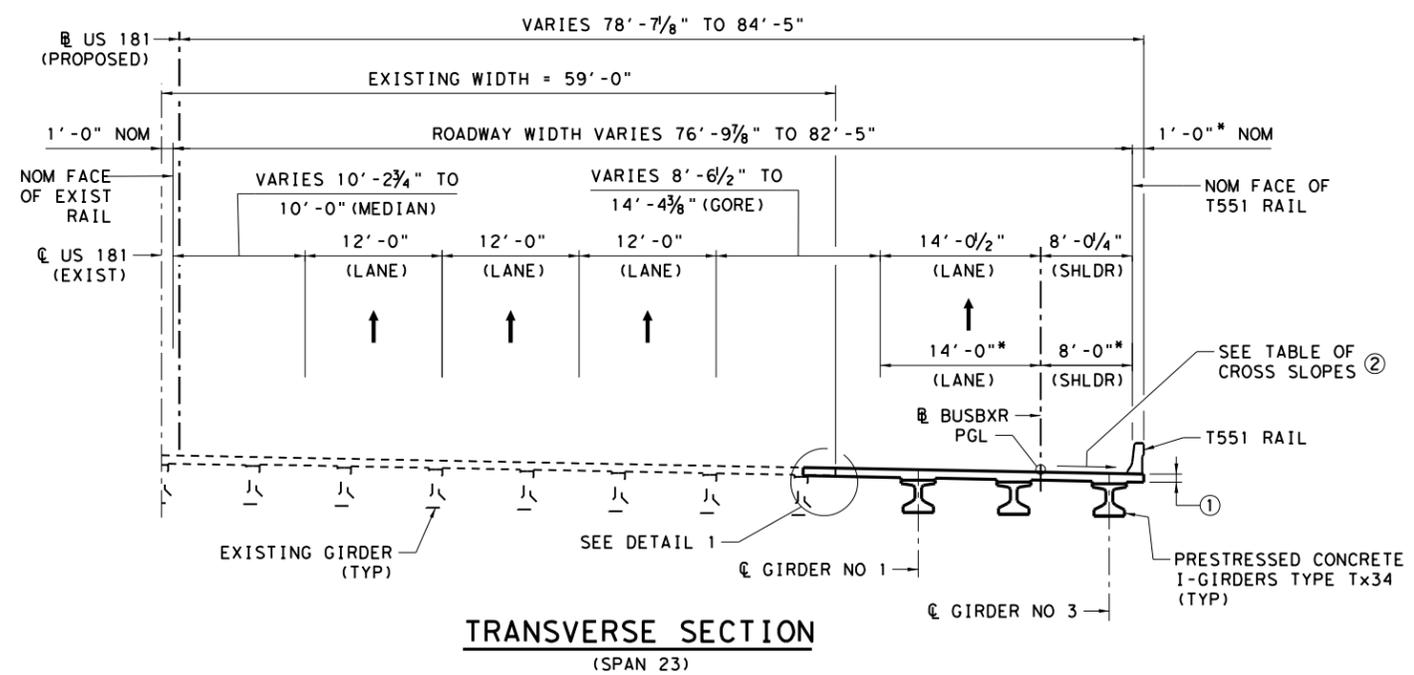
RB10  
**003**



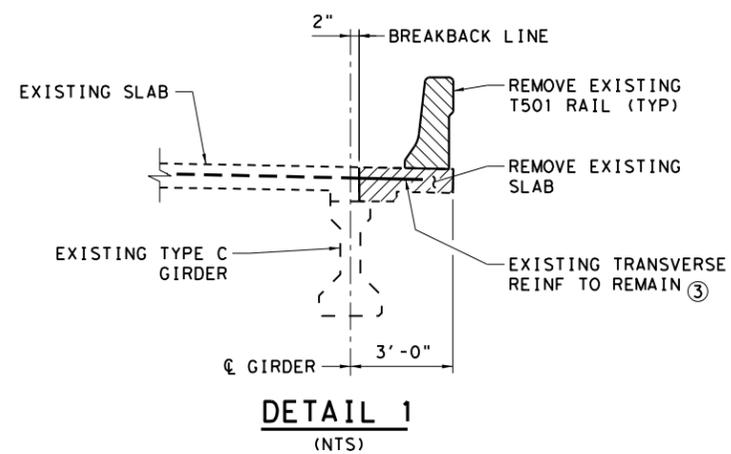
**TRANSVERSE SECTION**  
(SPAN 21, BEGIN CORE AT STA 1023+81.78 (BUSBXR) TO BENT 22)



**TRANSVERSE SECTION**  
(SPAN 22)



**TRANSVERSE SECTION**  
(SPAN 23)



**DETAIL 1**  
(NTS)

- NOTES:**
- FOR GENERAL NOTES, SEE "GENERAL NOTES" SHEETS.
  - NEW WIDENED PORTION OF BRIDGE DESIGNED FOR HL-93 LOADING ACCORDING TO AASHTO LRFD SPECIFICATIONS, 7TH EDITION.
  - ALL DIMENSIONS SHOWN ARE MEASURED PERPENDICULAR TO US 181 (PROPOSED) EXCEPT AS INDICATED BY "\*" WHICH ARE MEASURED PERPENDICULAR TO BUSBXR.
    - ① FOR SLAB AND OVERHANG THICKNESSES, SEE "320.74' CONCRETE I-GIRDER UNIT" SHEETS.
    - ② FOR TABLE OF CROSS SLOPES, SEE "TYPICAL SECTION", SHEET 1 OF 2.
    - ③ SEE WIDENING DETAIL ON "320.74' CONCRETE I-GIRDER UNIT" SHEETS.

**LEGEND**

← PROPOSED TRAFFIC FLOW

HS-20 LOADING (EXISTING)  
HL-93 LOADING (NEW)

(NTS)			
NO.	DATE	REVISION	APRVD.

FLATIRON DRAGADOS LLC

FIGG  
TBPE, FIRM # F-4883

Texas Department of Transportation

US 181 HARBOR BRIDGE  
**TYPICAL SECTION**  
US 181 SB OVERPASS WIDENING  
AT BEACH AVENUE  
BRIDGE 10

SCALE: 1/16" = 1'-0" SHEET 2 OF 2

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
DMS	X	(See Title Sheet)		US 181
GRAPHICS	STATE	DISTRICT	COUNTY	SHEET NO.
SGF	TEXAS	CRP	NUECES	RB10
CHECK	CONTROL	SECTION	JOB	004
DAK	CF	0101	06 095	

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TBPE FIRM #F-4883 P.E. NO. DATE