

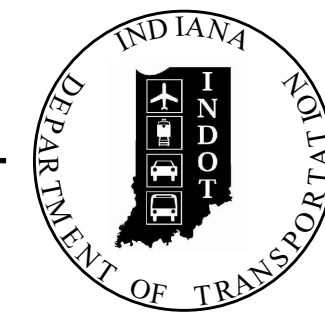
PROJECT 1800133	DESIGNATION 1800133
CONTRACT B-42174	BRIDGE FILE (158)58-47-03027

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN & SKEW	OVER	STATION
(158)58-47-03027	PRECAST REINFORCED CONCRETE THREE-SIDED STRUCTURE	SPAN: 1 @ 32'-0" SKEW: 45°0'0" RT.	SILVERVILLE CREEK	712+89.00 LINE "PR-1"

KIN PROJECT INFORMATION	
DESIGNATION	PROJECT DESCRIPTION
1800133 ⊗	BRIDGE REPLACEMENT, SR 158 OVER SILVERVILLE CREEK, RP 0+47
1800135	BRIDGE REPLACEMENT, SR 158 OVER SILVERVILLE CREEK, RP 0+69
2000651	BRIDGE DECK OVERLAY, SR 158 OVER Br. INDIAN CREEK, RP 2+25

⊗ Indicates Lead Des. Number

INDIANA DEPARTMENT OF TRANSPORTATION



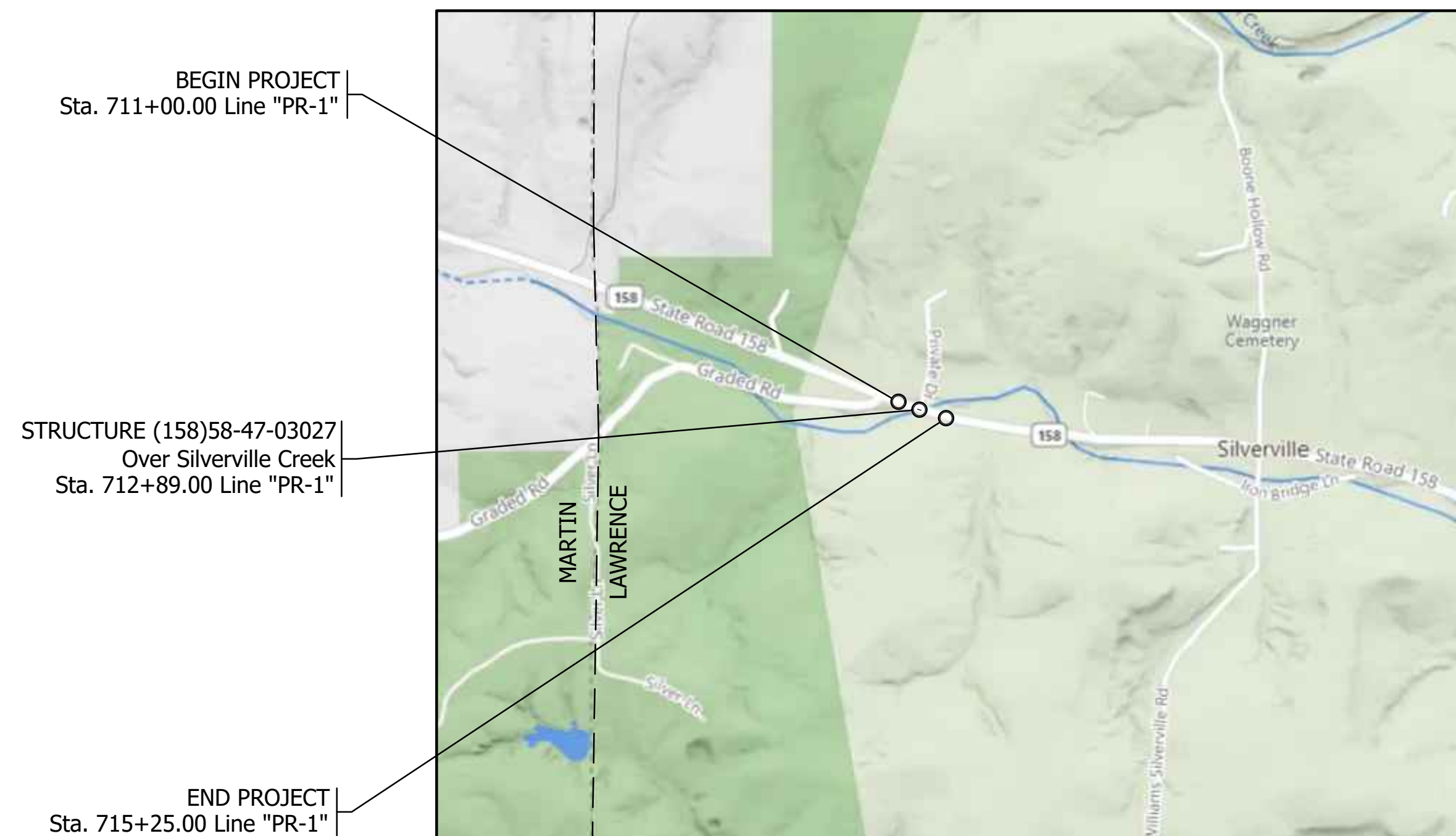
BRIDGE PLANS

FOR SPANS OVER 20 FEET

ROUTE: SR 158 OVER SILVERVILLE CREEK AT: RP 0+47

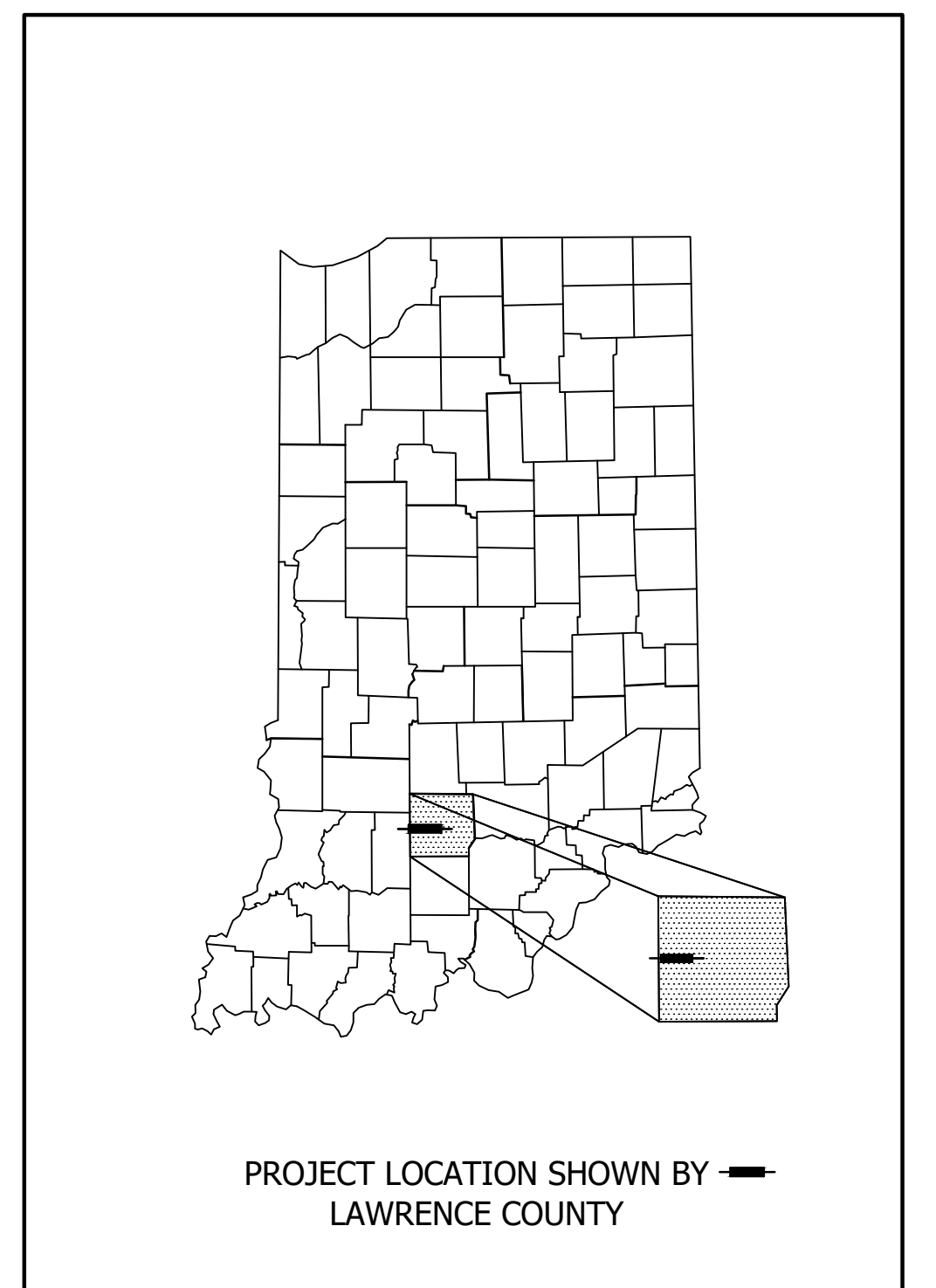
PROJECT NO. 1800133
1800133 R/W
1800133 CONST.

REPLACEMENT OF BRIDGE CARRYING SR 158 OVER SILVERVILLE CREEK
PROJECT IS LOCATED 7.94 MILES WEST OF SR 458
SECTION 19, TOWNSHIP 5 NORTH, RANGE 2 WEST
INDIAN CREEK TOWNSHIP, LAWRENCE COUNTY, INDIANA
R-3-W R-2-W



TRAFFIC DATA		
A.A.D.T.	(2023)	1,058 V.P.D.
A.A.D.T.	(2043)	1,058 V.P.D.
D.H.V.	(2043)	121 V.P.H.
DIRECTIONAL DISTRIBUTION		51%WEST/49% EAST
TRUCKS		2.84% A.A.D.T.
		0.83% D.H.V.

DESIGN DATA	
DESIGN SPEED	45 M.P.H.
PROJECT DESIGN CRITERIA	3R NON-FREEWAY
FUNCTIONAL CLASSIFICATION	STATE COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



LATITUDE: 38°51'31"N LONGITUDE: 86°40'30"W

BRIDGE LENGTH:	0.006 MI
ROADWAY LENGTH:	0.080 MI.
TOTAL LENGTH:	0.086 MI.
MAX. GRADE:	-0.64 %

HUC: 051202080904

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2022 TO
BE USED WITH THESE PLANS.

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FULL SIZE PLANS HAVE BEEN PREPARED USING
STANDARD ENGINEERING SCALES. REDUCED SIZED
PLANS WILL NOT CONFORM TO STANDARD SCALES.

PLANS PREPARED BY:	Butler Fairman and Seufert Inc. (317)713-4615	PHONE
CERTIFIED BY:		DATE
APPROVED FOR LETTING:		DATE
INDIANA DEPARTMENT OF TRANSPORTATION		

BRIDGE FILE	
(158)58-47-03027	
DESIGNATION	
1800133	
SURVEY BOOK	SHEET
ELECTRONIC	1 OF 26
CONTRACT	PROJECT
B-42174	1800133

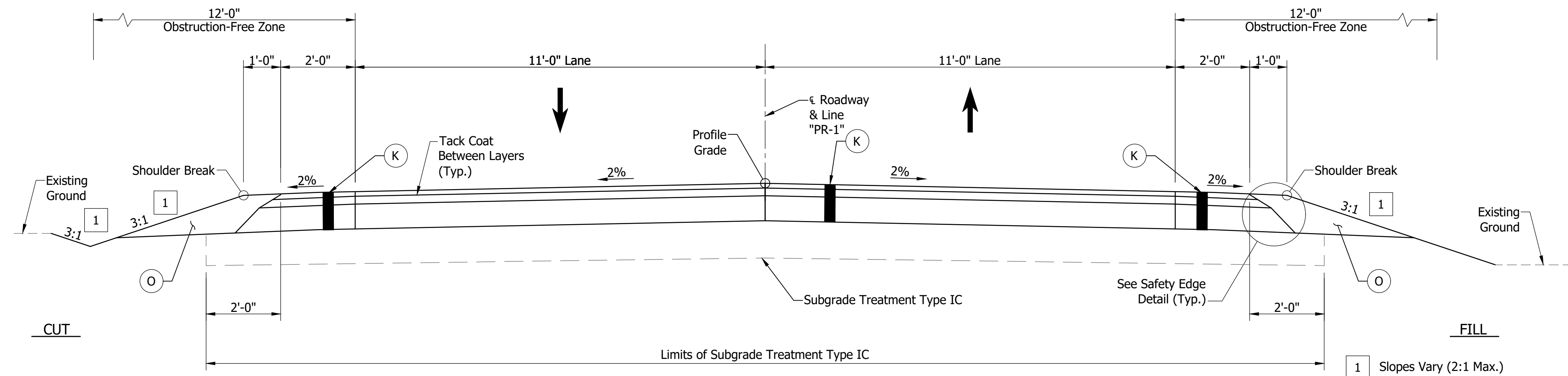
6415_0204

LEGEND

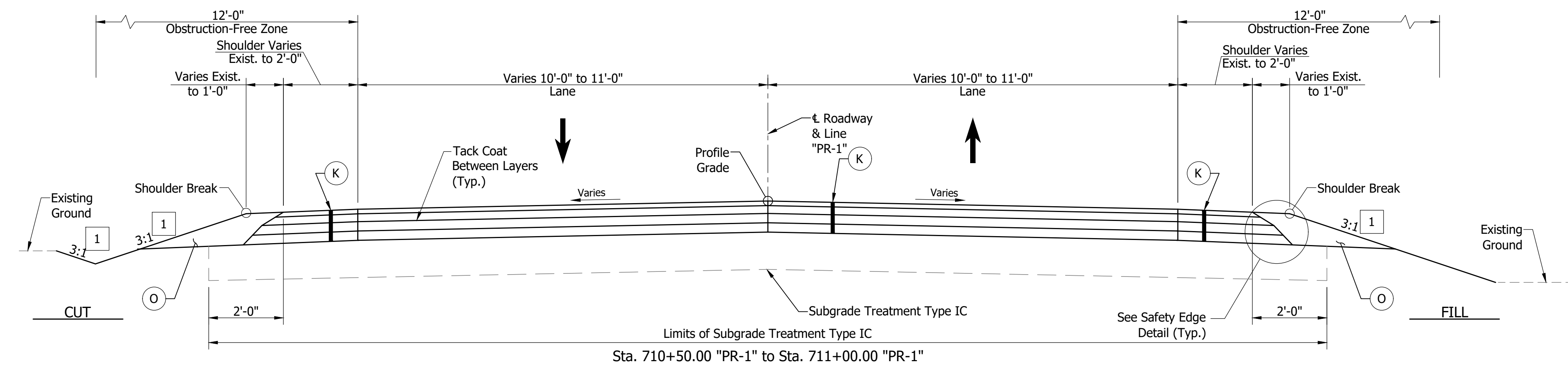
- (K) HMA FULL DEPTH PAVEMENT:
165#/Syd. QC/QA-HMA Surface, 3, 64, 9.5mm on
275#/Syd. QC/QA-HMA Intermediate, 3, 64, 19.0mm on
660#/Syd. QC/QA-HMA Base, 3, 64, 25.0mm on
Subgrade Treatment Type IC on Geotextile For Pavment Type
2B (or Geotechnical Report)
- (O) Variable Depth Compacted Aggregate, No. 53

NOTES:

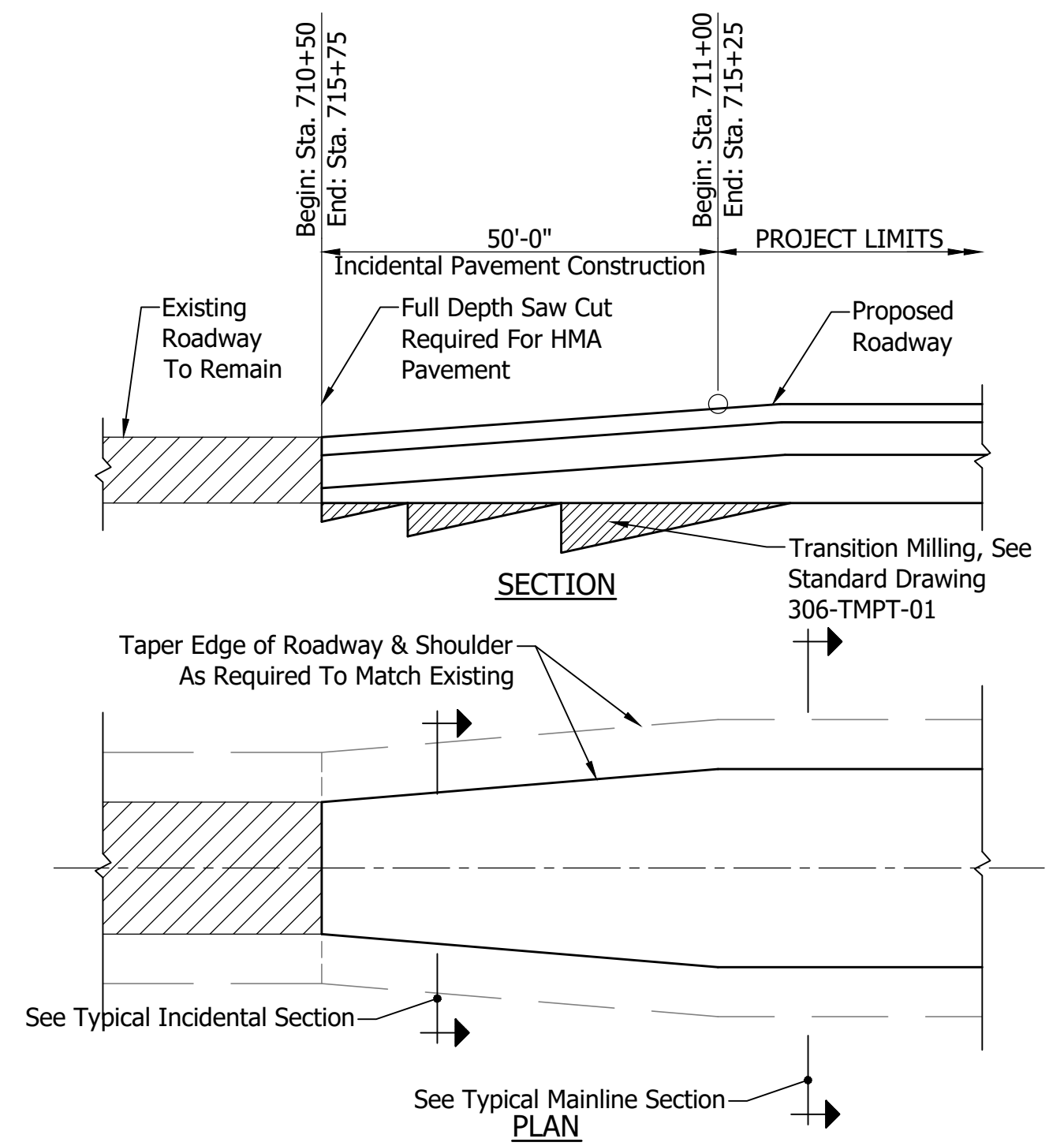
1. A safety edge shall be placed in the surface and intermediate layers of all edges of pavements that are not bound by a curb or barrier wall or adjacent to a guardrail.



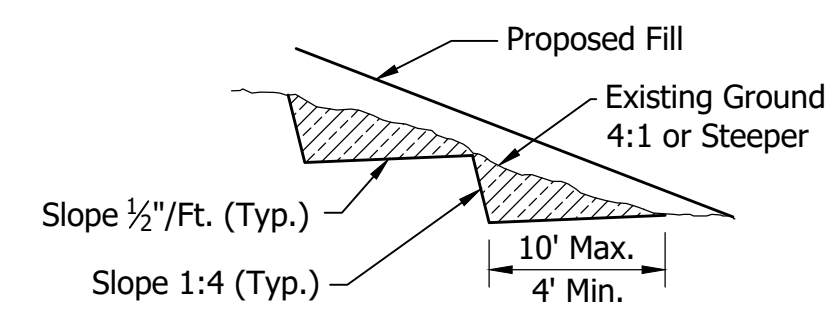
Sta. 711+00.00 "PR-1" to Sta. 715+25.00 "PR-1"
TYPICAL MAINLINE SECTION
Scale: 1/2" = 1'-0"



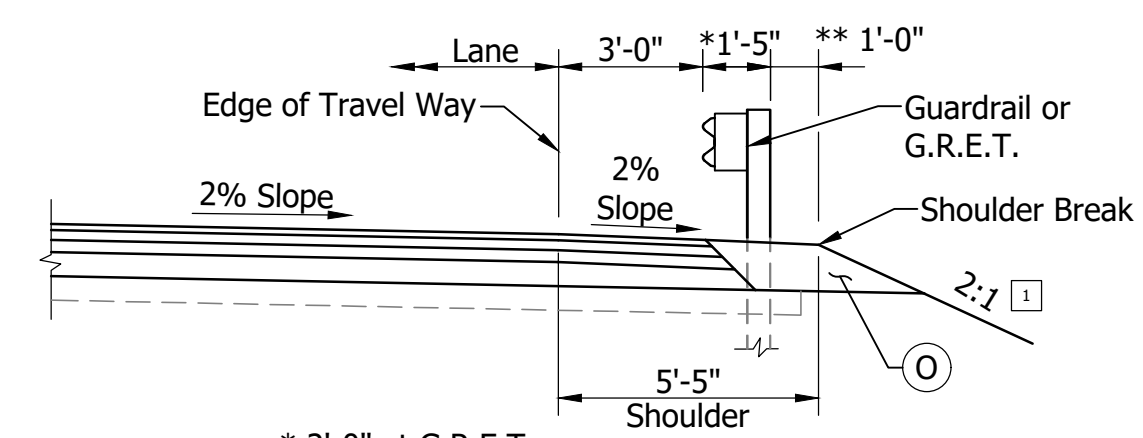
Sta. 710+50.00 "PR-1" to Sta. 711+00.00 "PR-1"
& Sta. 715+25.00 "PR-1" to Sta. 715+75.00 "PR-1"
TYPICAL INCIDENTAL SECTION
Scale: 1/2" = 1'-0"



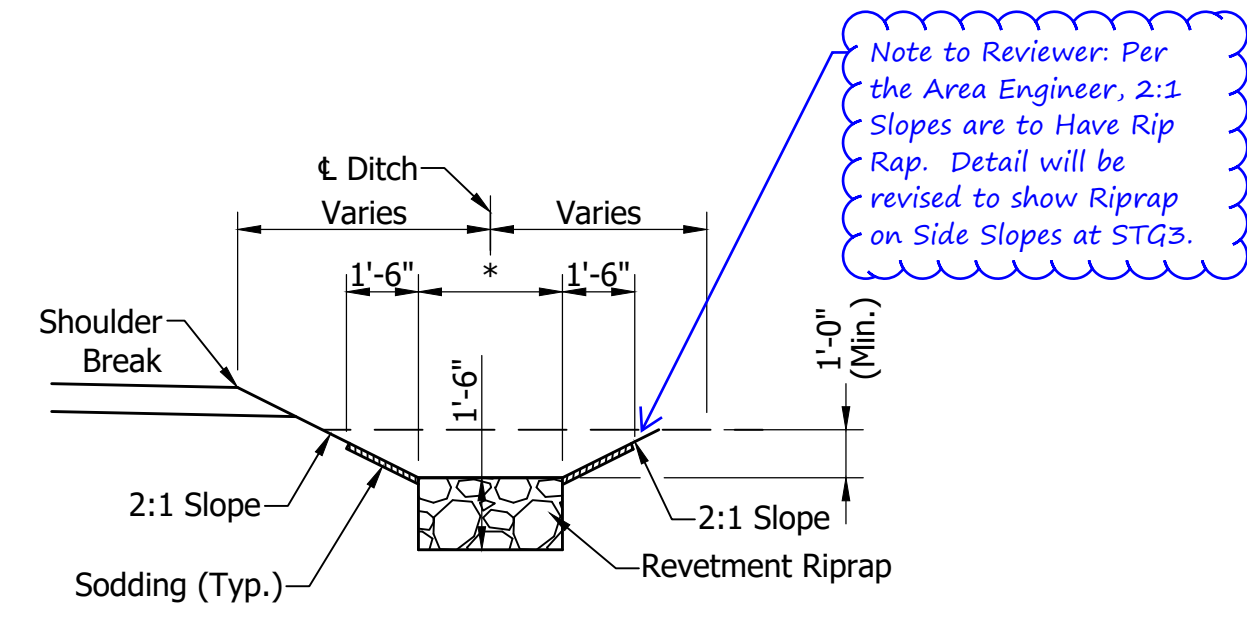
TYPICAL INCIDENTAL CONSTRUCTION DETAILS
Not to Scale



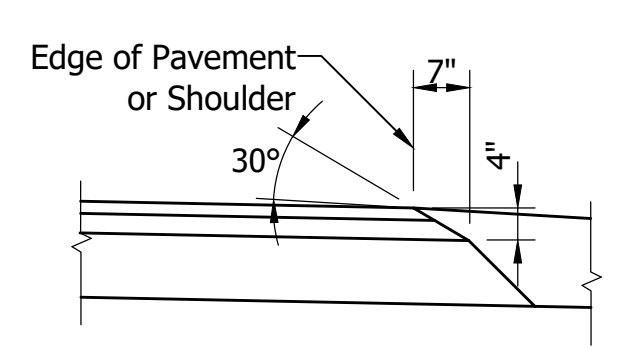
TYPICAL BENCHING DETAIL
Not to Scale



* 2'-0" at G.R.E.T.
** Note: 2'-0" Req'd at Guardrail End Treatment Type OS
See Sheet 4 For Guardrail Stations & Locations
TYPICAL SECTION WITH GUARDRAIL
Scale: 1/4" = 1'-0"



* Sta. 711+25.00 "PR-1" to Sta. 711+70.00 "PR-1" Rt. (2' Bot.)
* Sta. 713+50.00 "PR-1" to Sta. 715+25.00 "PR-1" Rt. (4' Bot.)
TYPICAL RIPRAP FLAT BOTTOM DITCH DETAIL
Scale: 1/4" = 1'-0"

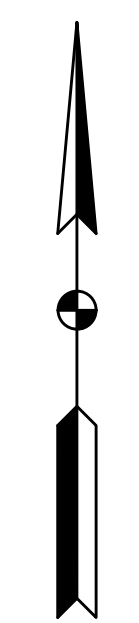
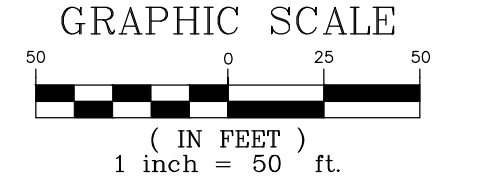
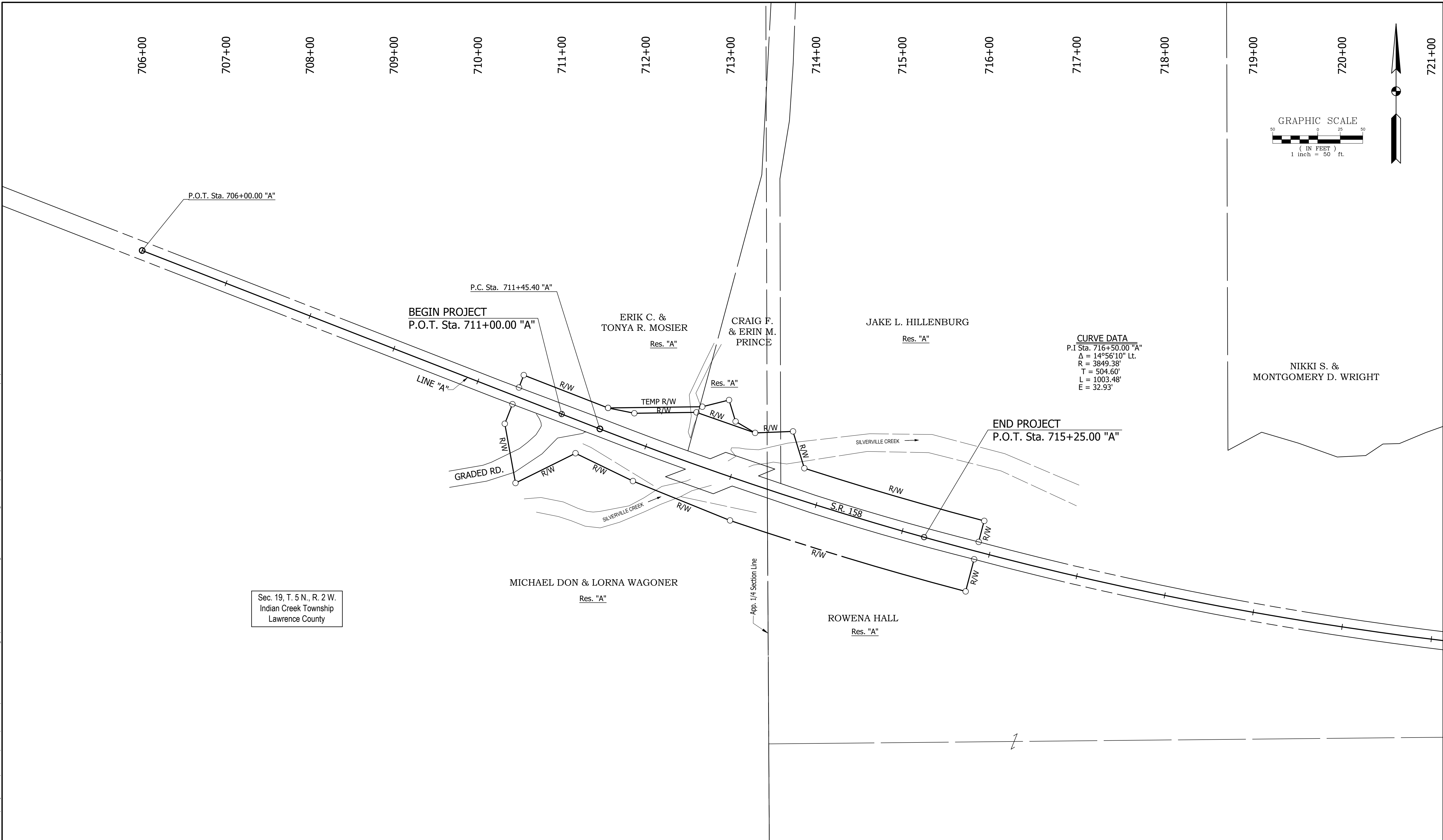


SAFETY EDGE DETAIL
Scale: 1/2" = 1'-0"

RECOMMENDED FOR APPROVAL: _____ DESIGNED: V. SATHIRAJU CHECKED: B. WRIGHT	DESIGN ENGINEER _____ DATE _____ DRAWN: D. PIERCEFIELD CHECKED: B. WRIGHT	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
			AS NOTED	(158)58-47-03027
		TYPICAL APPROACH SECTIONS	VERTICAL SCALE	DESIGNATION
			N/A	1800133
			SURVEY BOOK	SHEET
			ELECTRONIC	3 OF 26
			CONTRACT	PROJECT
			B-42174	1800133

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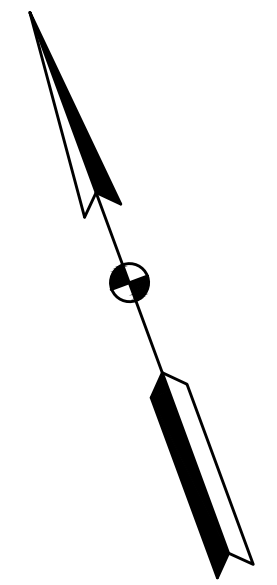
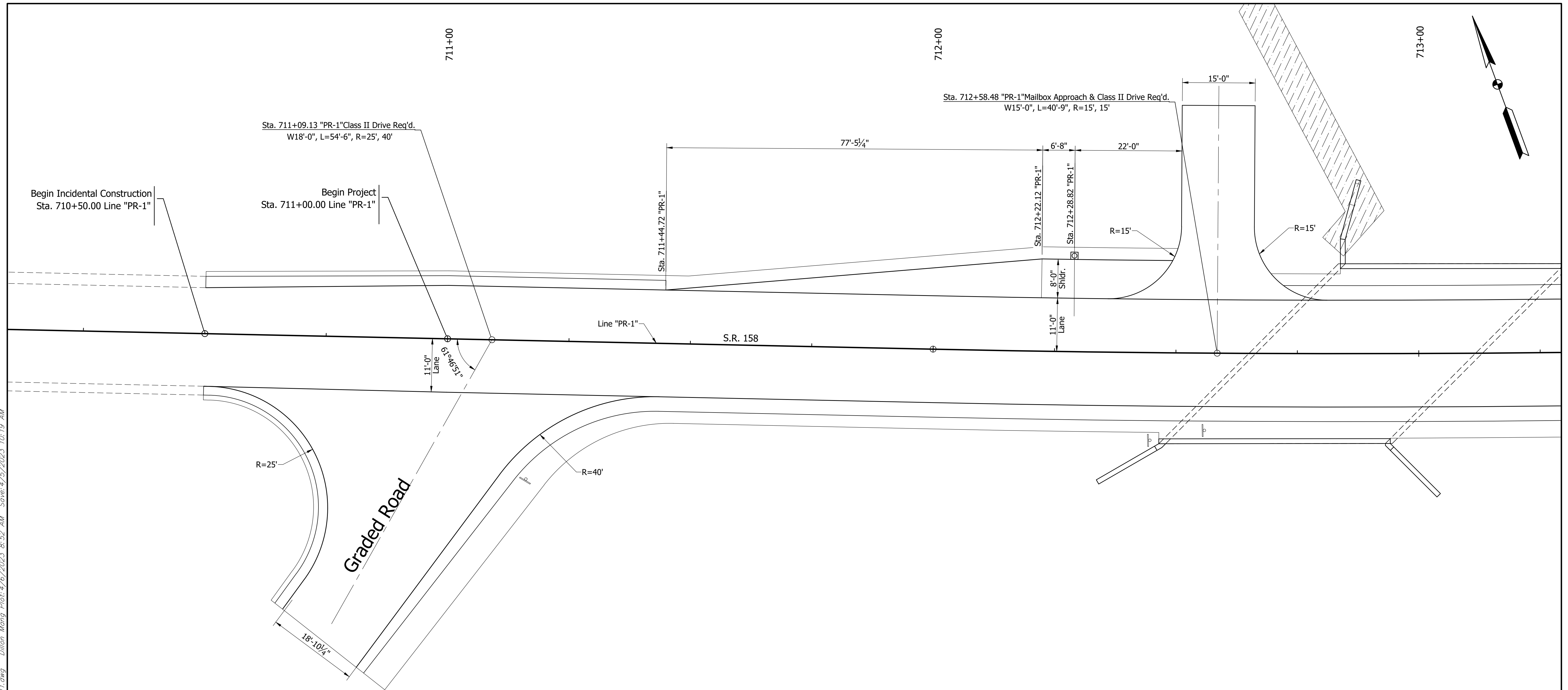


Sec. 19, T. 5 N., R. 2 W.
Indian Creek Township
Lawrence County

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION PLAT-1		HORIZONTAL SCALE	BRIDGE FILE
			1" = 50'-0"	(158)58-47-03027
DESIGNED: B. WRIGHT DRAWN: T. FRYE			VERTICAL SCALE	DESIGNATION
CHECKED: R. NICK CHECKED: J. FRY			N/A	1800133
			SURVEY BOOK	SHEET
			ELECTRONIC	4 OF 26
			CONTRACT	PROJECT
			B-42174	1800133

6415_0204
BFS NO.

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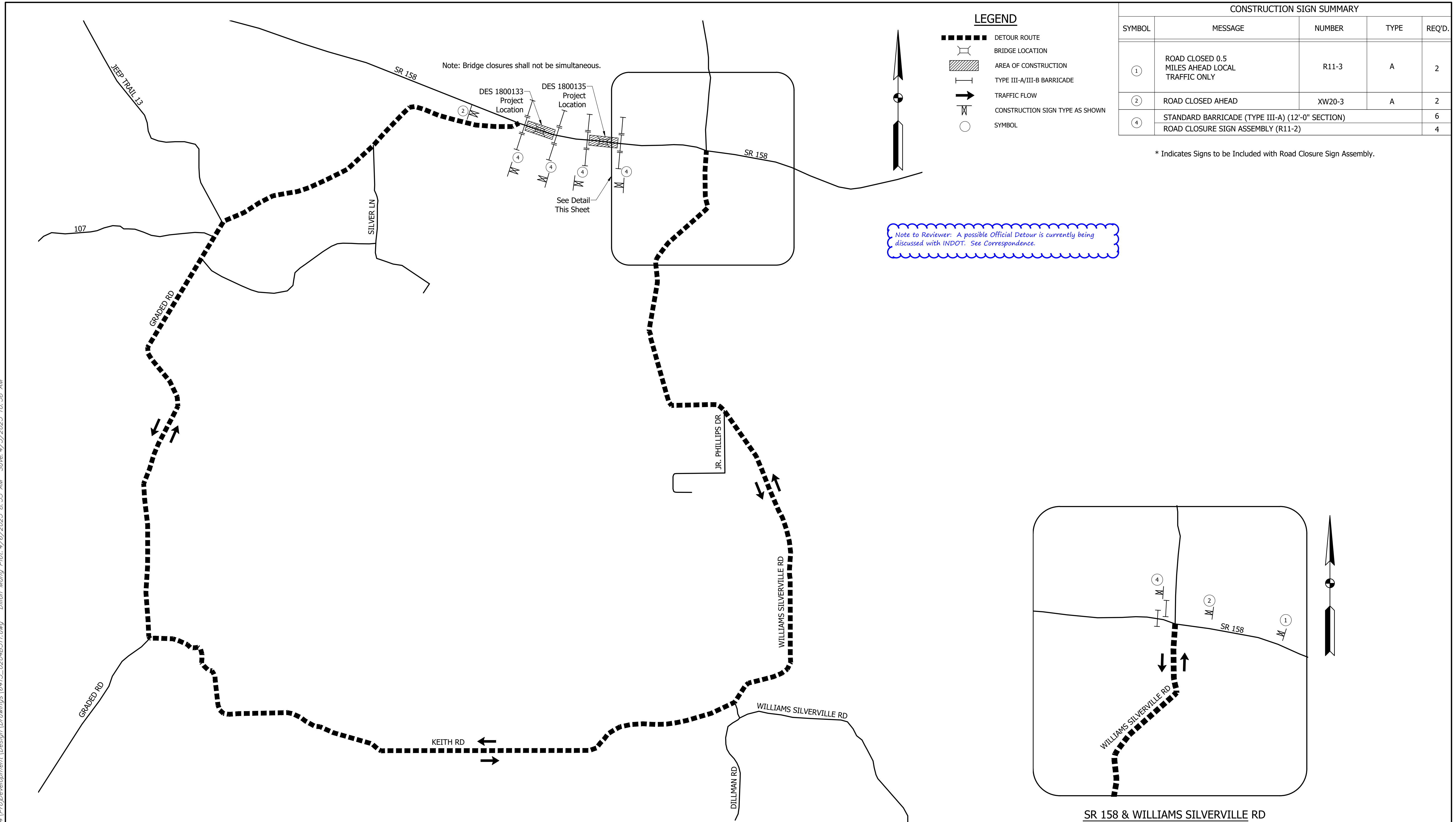
MAILBOX ASSEMBLIES					
LOCATION		DESCRIPTION	WIDTH (ft)	MAILBOX ASSEMBLIES REQUIRED	
LT or RT	± BOX STATION			SINGLE	DOUBLE
		Line "PR-1"			
LT	712+28.82	Paved Shoulder, Mailbox Beyond Drive	8	1	
TOTAL				1	

DRIVE & MAILBOX APPROACH DETAIL
Scale: 1" = 10'

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE AS NOTED	BRIDGE FILE (158)58-47-03027
		VERTICAL SCALE N/A	DESIGNATION 1800133
DESIGNED: C. RENFROW DRAWN: J. LOPEZ	MAILBOX APPROACH & DRIVE DETAILS	SURVEY BOOK ELECTRONIC	SHEET 5 OF 26
CHECKED: B. WRIGHT CHECKED: C. RENFROW		CONTRACT B-42174	PROJECT 1800133

6415_0204

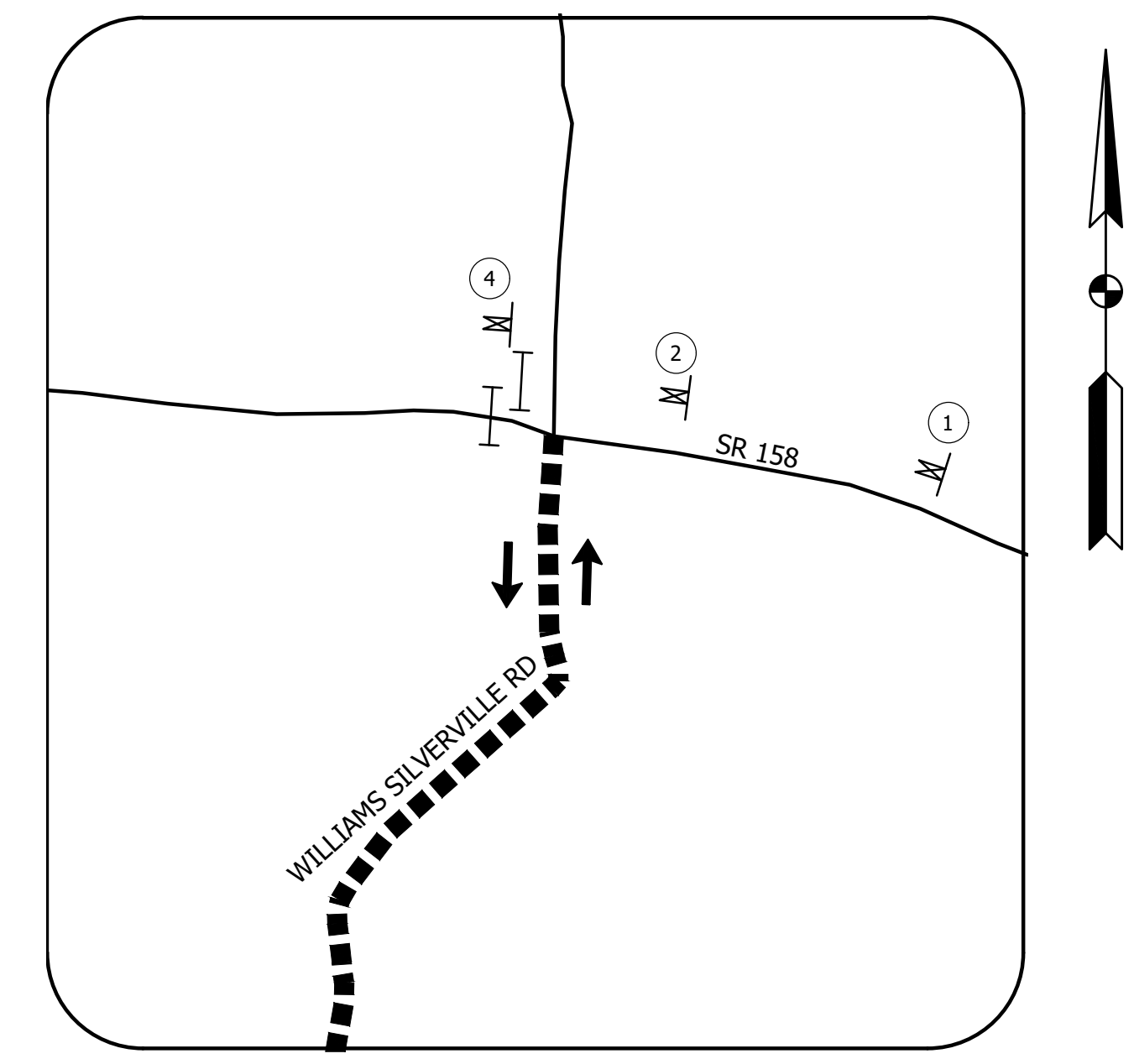
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CONSTRUCTION SIGN SUMMARY				
SYMBOL	MESSAGE	NUMBER	TYPE	REQ'D.
①	ROAD CLOSED 0.5 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3	A	2
②	ROAD CLOSED AHEAD	XW20-3	A	2
④	STANDARD BARRICADE (TYPE III-A) (12'-0" SECTION)			6
④	ROAD CLOSURE SIGN ASSEMBLY (R11-2)			4

* Indicates Signs to be Included with Road Closure Sign Assembly.

Note to Reviewer: A possible Official Detour is currently being discussed with INDOT. See Correspondence.



SR 158 & WILLIAMS SILVERVILLE RD

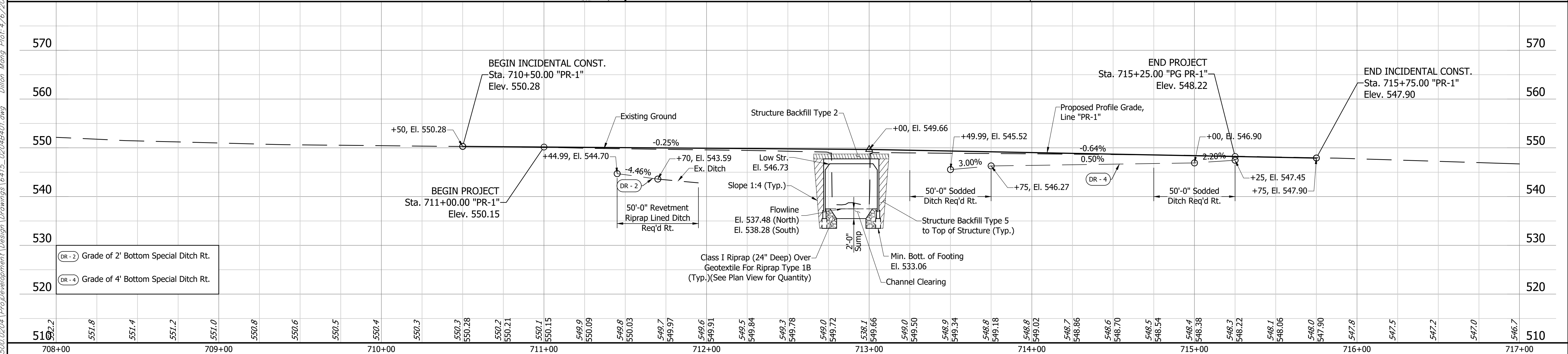
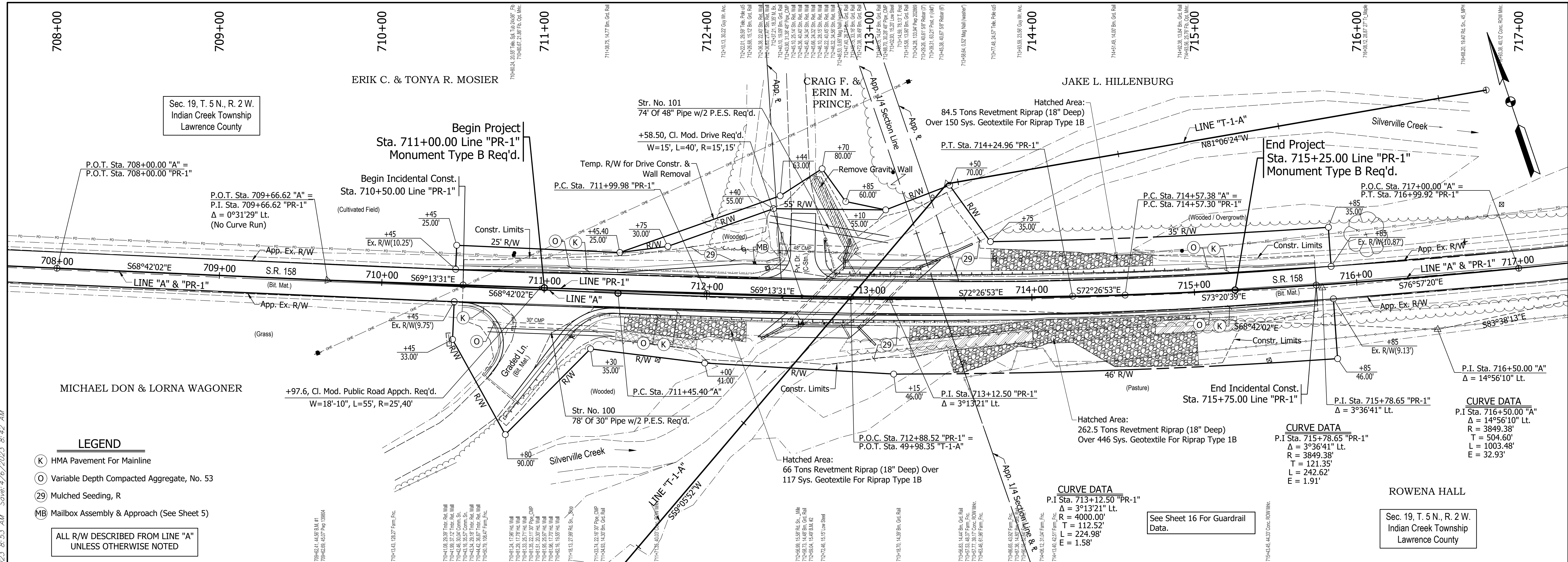
Scale: 1" = 500'

OVERALL LOCAL DETOUR ROUTE

Scale: 1" = 600'

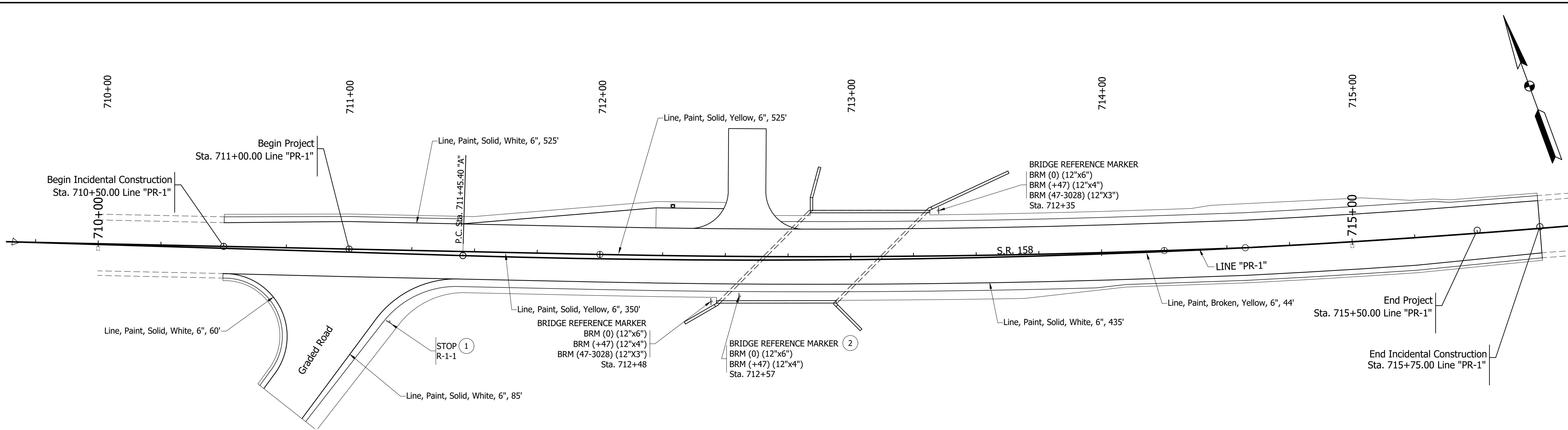
RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE AS NOTED VERTICAL SCALE AS NOTED	BRIDGE FILE (158)58-47-03027 DESIGNATION 1800133	SURVEY BOOK ELECTRONIC 6 OF 26 CONTRACT B-42174	SHEET PROJECT 1800133
DESIGNED: C. RENFROW DRAWN: K. COFFMAN CHECKED: B. WRIGHT CHECKED: B. WRIGHT	TRAFFIC MAINTENANCE DETAILS				

6415_0204



<p>1. N.C. Co. M&R Add. 301 Mosier - 108.94' - 310' Az 2. Top 55.00' Cor. 1st Station - 18.00' - 330' Az 3. N. Face Sign (45 MPH) - 75.15' - 250' Az</p> <p>O.P.O.T. Sta. 703+54.09 "A", 9.77' RL Mag Nail, Plumb (Set 6/3/2021)</p>	<p>1. N. Mod. Face Sign Post (No Post) - 139.64' - 310' Az 2. Top 55.00' Cor. 1st Station - 18.00' - 330' Az 3. Mag Spike Post #13804 - 99.39' - 250' Az</p> <p>O.P.O.T. Sta. 710+55.99 "A", 11.00' RL Mag Nail, Plumb (Set 6/3/2021)</p>	<p>1. S.W. Cor. Mailbox Add. 401 Prince - 36.30' - 0' Az 2. S.E. Cor. 1st Station - 37.45' - 250' Az 3. N.W. Cor. Mailbox Post - 33.63' - 45' Az</p> <p>O.P.O.T. Sta. 712+57.26 "A", 11.98' RL Mag Nail, Plumb (Set 6/3/2021)</p>	<p>BM #1 El. = 550.25' Mag Spike Pwp. #139804 Sta. 709+62.41 "A", 44.56' Rt.</p> <p>BM #2 El. = 552.26' Cut Square S. Barrier Rail S.W. Cor. Sta. 712+59.04 "A", 15.49' Rt.</p>	<p>RECOMMENDED FOR APPROVAL: _____ DATE _____</p> <p>DESIGNED: B. WRIGHT DRAWN: D. MANG</p> <p>CHECKED: C. RENFROW CHECKED: B. WRIGHT</p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>PLAN & PROFILE</p>	<p>HORIZONTAL SCALE 1" = 30' = 0"</p> <p>VERTICAL SCALE 1" = 10' = 0"</p> <p>SURVEY BOOK ELECTRONIC 7 OF 26</p> <p>CONTRACT B-42174</p> <p>BRIDGE FILE (158)58-47-03027</p> <p>DESIGNATION 1800133</p> <p>SHEET PROJECT 1800133</p>
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SHEET SIGN & POST SUMMARY

SIGN		POST														
SIGN LOCATION	SIGN CODE	SIGN SIZE (IN. X IN.)	GROUND-MOUNTED SIGN AREA (SFT)			MOUNTED ON PANEL SIGN, AREA (SFT)	U CHANNEL				SQUARE					
			0.080	0.100	0.125		0.080	2" x 2" x 12 GA. (TYPE 2)		2 1/4" x 2 1/4" x 12 GA. (TYPE 1)						
								POST LENGTH	POST LENGTH	REINFORCED ANCHOR	REINFORCED ANCHOR					
1	1	TYPE A	TYPE B	POST LENGTH (FT)	POST LENGTH (FT)	1	2	TOTAL	1	TOTAL						
GRADED ROAD	R1-1	30X30				5.18									12	12
TOTAL																12

BRIDGE REFERENCE POST MARKER TABLE

RP/BRP/MP NO.	LOCATION	SIGN CODE	SIZE	POST LENGTH (FT.)	REFERENCE POST (EACH)
PR-1	712+48 RT	BRM (0)	12x6	6	1
	RT	BRM (+47)	12x4		
	RT	47-3028	12x3		
PR-1	713+35 LT	BRM (0)	12x6	6	1
	LT	BRM (+47)	12x4		
	LT	47-3028	12x3		
TOTAL				12	2

- LEGEND**
- ① Remove existing sign and support and replace with new sign in same location.
 - ② Remove existing sign and support.

PAVEMENT MARKING SUMMARY TABLE

LOCATION	LINE PAINT				LINE, THERMOPLASTIC				LINE, THERMOPLASTIC				TRANSVERSE MARKINGS THERMOPLASTIC STOP LINE		TRANSVERSE MARKINGS CROSSHATCH LINE		TRANSVERSE MARKINGS CROSSWALK LINE		PAVEMENT MESSAGE THERMOPLASTIC LANE INDICATOR ARROW	PAVEMENT MESSAGE THERMOPLASTIC WORD "ONLY"	SNOWPLOWABLE RAISED PAVEMENT MARKERS
	SOLID	BROKEN	SOLID	BROKEN	SOLID	BROKEN	SOLID	BROKEN	SOLID	BROKEN	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID					
	6 in	6 in	6"	6 in	8 in	8 in	8 in	8 in	6 in	6 in	8 in	8 in	6 in	6 in	8 in	8 in					
GRADED ROAD	145																				
PR-1																					
710+50 - 715+75	960																				
710+50 - 714+01			525																		
714+00 - 715+75			350	44																	

RECOMMENDED FOR APPROVAL: _____ DATE _____
DESIGNED: C. RENFROW DRAWN: J. LOPEZ
CHECKED: B. WRIGHT CHECKED: C. RENFROW

INDIANA DEPARTMENT OF TRANSPORTATION

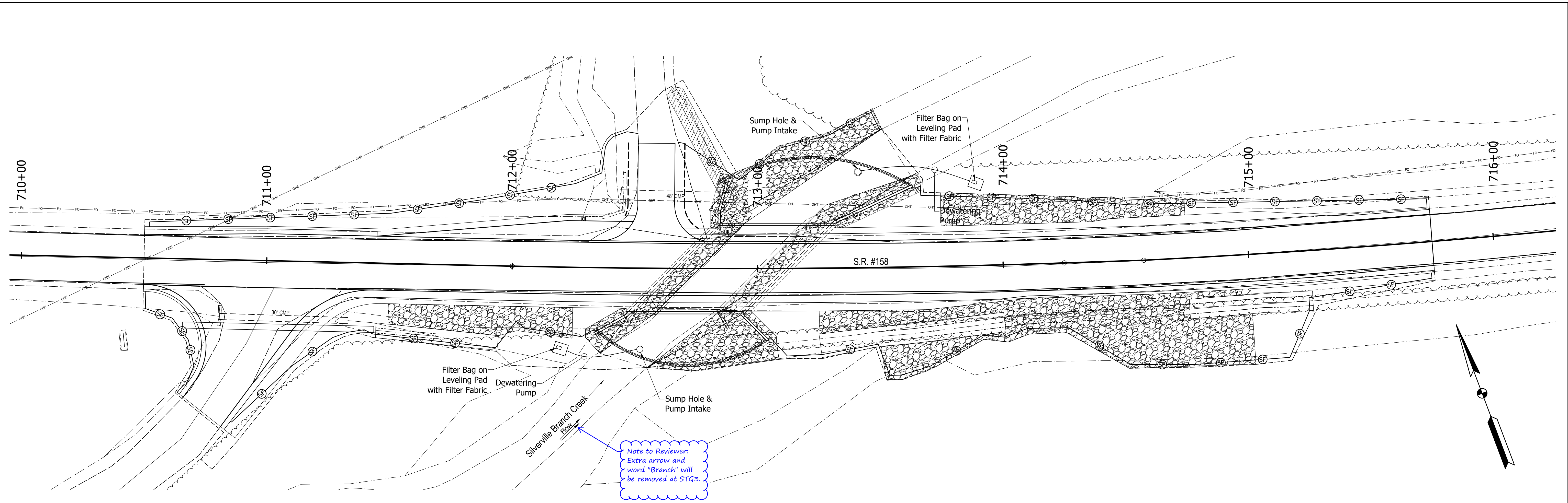
SIGNING AND PAVEMENT MARKING LINE "PR-1"

HORIZONTAL SCALE AS NOTED	BRIDGE FILE (158)58-47-03027
VERTICAL SCALE N/A	DESIGNATION 1800133
SURVEY BOOK ELECTRONIC	SHEET 8 OF 26
CONTRACT B-42174	PROJECT 1800133

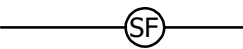

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EROSION CONTROL PLAN
 Scale: Not to Scale

LEGEND	
	SILT FENCE
	PERMANENT RIPRAP OVER GEOTEXTILE

SOIL EROSION CONTROL SUMMARY

- Grade the site. Disturbed areas should be kept to a minimum at all times.
- Contractor shall control soil accumulation on all roads surrounding project by installing stone surface at all locations where construction traffic leaves the site.
- Maintain all filters and traps during construction to prevent any blockages from accumulated sediment. Additional seeding may be required during construction as specified by the Engineer or Indiana Dept. of Natural Resources, Division of Soil Conservation.
- Entrenched silt fence perimeter protection shall be in place around the limits of the project throughout the duration of construction, regardless of the presence of disturbed areas.

SEEDING / SODDING SPECIFICATIONS

- Shall be in accordance with section 621 of the current Indiana Department of Transportation Standard Specifications.

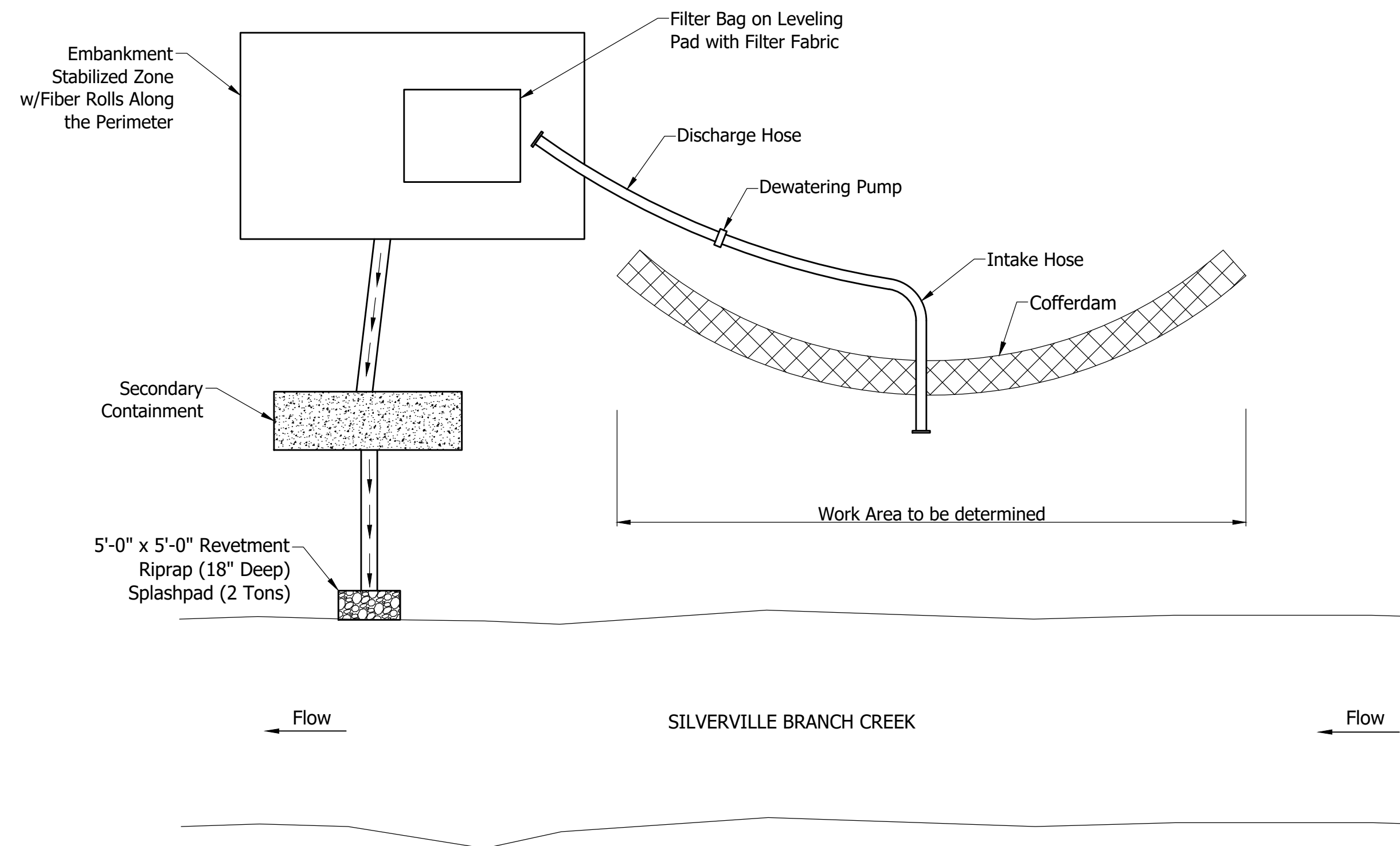
RECOMMENDED EROSION CONTROL MEASURES

- Shall be in accordance with current Indiana Department of Transportation Standard Specifications Section 205.
- Topsoil Salvage and Utilization: Removal of topsoil from all areas to be excavated or filled. Topsoil should be stored at a location where it will not interfere with construction operations. Stockpiled topsoil must be stabilized with seed and/or mulch along with perimeter protection. Failure to cover the stockpiles could result in the severe degrading of the fertility of the topsoil. The use of a Perimeter Erosion Control Method shall be required and as directed by the project Engineer. Any excess excavation shall be disposed of outside of the R/W as directed in sections 203.08, 203.10 & 202.
- Surface Roughening: All Slopes which are graded & not immediately stabilized with other erosion control measures shall be roughened as described in section 203.09 until permanent Erosion Control Measures are placed.
- Tree Conservation/Protection: as per section 201.02 the Contractor shall, at the direction of the Engineer, endeavor to save and protect any vegetation which does not impair construction of improvements as designed.
- Maintenance Schedule: Maintenance of all erosion control practices should be done as needed on a weekly basis and after all large storms. A construction supervisor should be assigned the task of seeing that all practices are maintained according to the design criteria and as described in section 205.04.

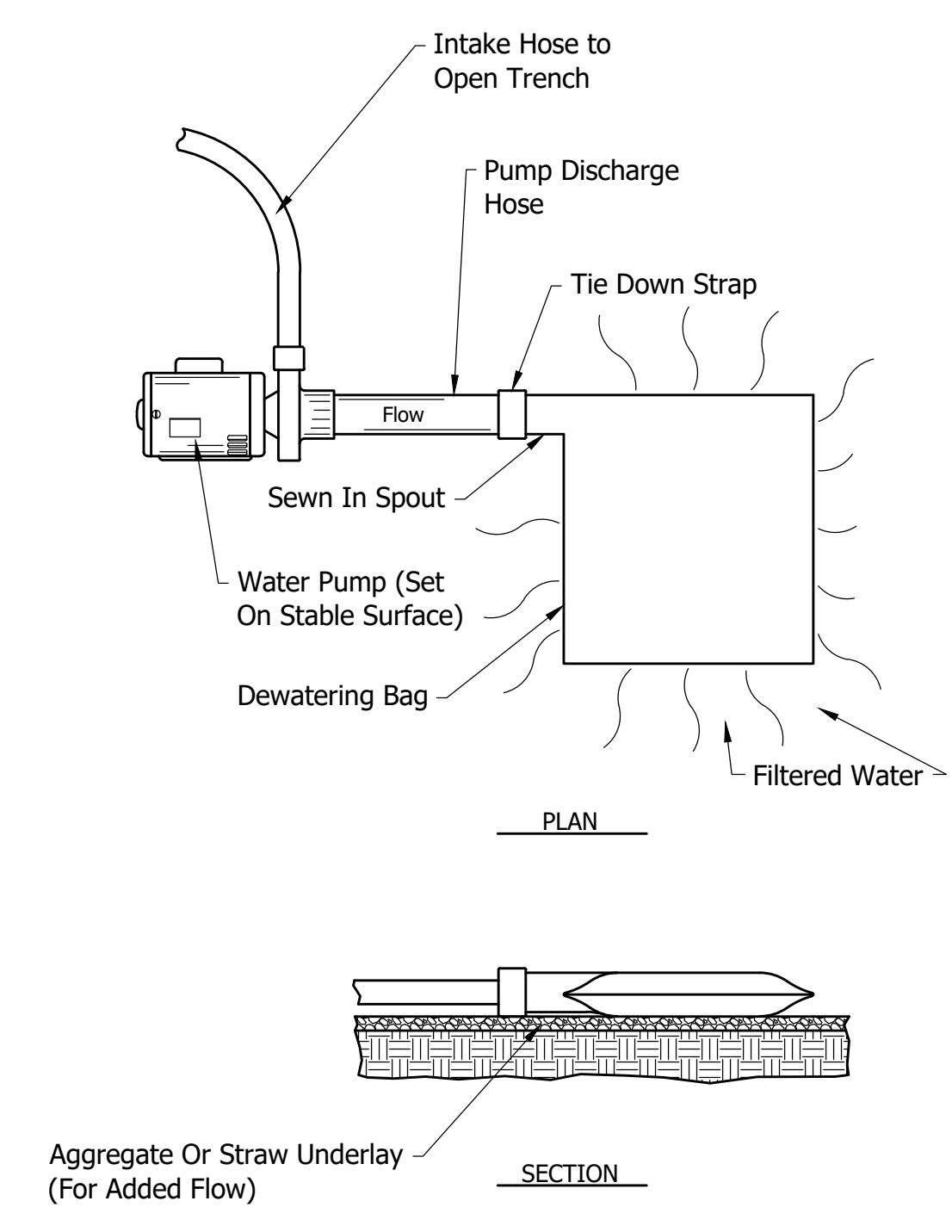
All Temporary Erosion Control Measures shall be Removed when Appropriate as Directed by the Engineer.

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
		NONE	(158)58-47-03027
DESIGNED: C. RENFROW DRAWN: K. COFFMAN	EROSION CONTROL PLAN	VERTICAL SCALE	DESIGNATION
CHECKED: -- CHECKED: --		NONE	1800133
		SURVEY BOOK	SHEET
		ELECTRONIC 9 OF 26	
	CONTRACT	PROJECT	
	B-42174	1800133	

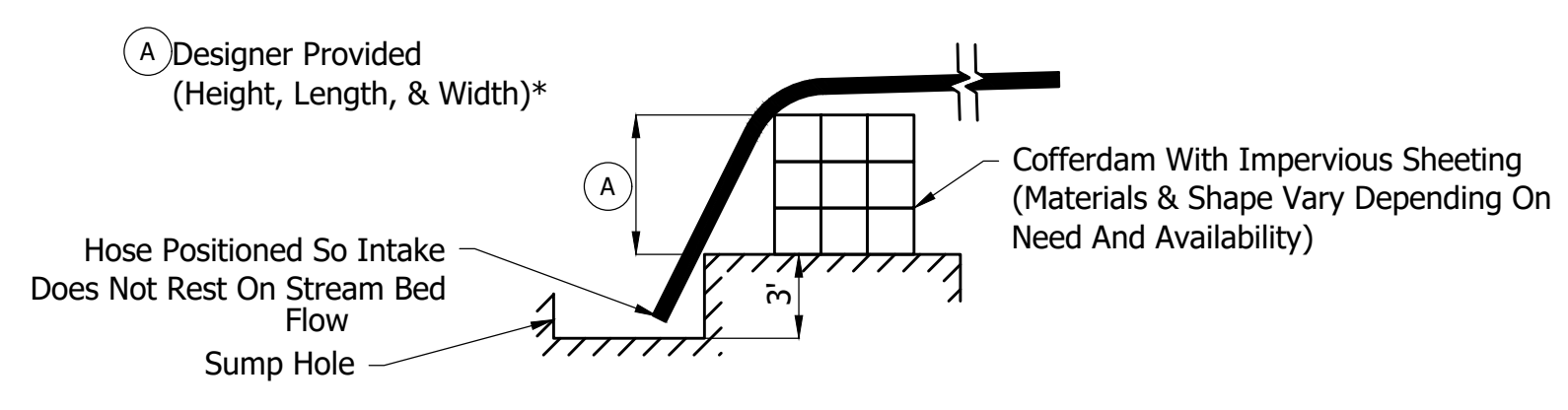
6415_0204



PUMPING DETAIL
Scale: 3/4" = 1'-0"



DEWATERING DETAIL
Scale: Not to Scale



COFFERDAM/SUMP HOLE WORK AREA
Scale: Not to Scale

NOTES:

- Materials:**
- The Dewatering Bag Shall Be Sewn Of Non-woven Fabric Using A Double Needled Machine And A High Strength Thread.
 - The Dewatering Bag Shall Have A Spout Opening Large Enough To Accommodate At Least A Four Inch Pump Discharge Hose With An Attached Strap To Tie The Unit Closed.
 - The Seams Shall Be A Double Stitched "J" Type Seam With An Average Wide Width Strength Per ASTM D-4884 of 60 lbs./in. For A 8 Ounce Fabric With The Following Characteristics.

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	0.9 (205) x 0.9 (205)
Grab Tensile Elongation	ASTM D 4632	%	50 x 50
Puncture Strength	ASTM D 4633	kN (lbs)	0.58 (130)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	2618 (380)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.36 (80) x 0.36 (80)
UV Resistance	ASTM D 4632	%	70
Apparent Opening Size	ASTM D 4632	Mm (US Std Sieve)	0.180 (80)
Flow Rate	ASTM D 4632	1/min/m ² (gal/min/ft ²)	3866 (95)
Permittivity	ASTM D 4632	Sec ⁻¹	1.2000

Installation:

- Lifting Straps Shall Be Placed Under The Unit To Facilitate Removal After Use.
- Unfold Dewatering Bag On A Stabilized Area Over Dense Vegetation, Straw, Or Gravel.

Insert Discharge Hose From Pump Into Dewatering Bag A Minimum of 6 Inches And Tightly Secure With Attached Strap To Prevent Water From Flowing Out Of The Unit Without Being Filtered.

Maintenance:

- Replace The Unit When 1/2 Full Of Sediment Or When Sediment Has Reduced The Flow Rate Of The Pump Discharge To An Impractical Rate.
- Remove And Dispose Of The Sediment In A Manner Satisfactory To The Engineer Or In One Of The Following Ways:
 - A) Remove The Unit And Sediment From Environmentally Sensitive Areas & Waterways. At The Approved Disposal Site, Slit The Unit, Remove The Sediment And Grade Smoothly Into The Existing Topography. Dispose Of Unit No Longer In Use At An Appropriate Recycling Or Solid Waste Facility.
 - B) Bury Unit On Site. Remove Any Visible Fabric Or Seed.

NOTES:

- 1.) Placement of the Cofferdam/Pumps Shall Take Into Account the Weather. If Precipitation is Forecasted, This Work Shall be Placed on Hold.
- 2.) Once Work has Begun on the Cofferdam/Pump, it is Imperative to Complete as Soon as Possible.
- 3.) The Pump is Required to Have a Float to Kick on as Needed.
- 4.) The Pump Shall be Located so as to Not Become Submerged During a Rain Event.
- 5.) All Fuel and fluids for the Pump Shall be Securely Stored Away from the Waterway.
- 6.) On Site Personell Shall be Dedicated to Monitoring of the Pump Including Weekend and Rain Events.

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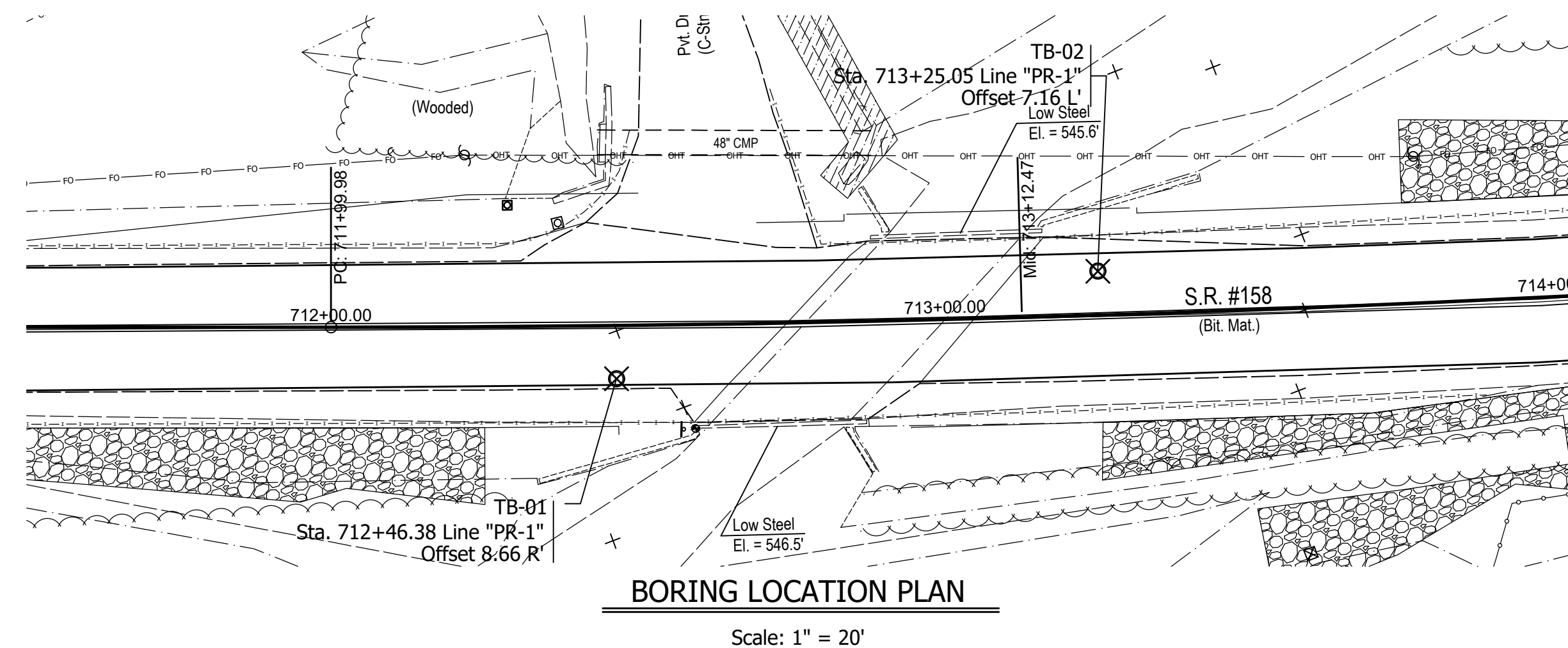
RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE NONE BRIDGE FILE (158)58-47-03027
DESIGNED: C. RENFROW DRAWN: K. COFFMAN	EROSION CONTROL DEWATERING DETAILS	VERTICAL SCALE NONE DESIGNATION 1800133
CHECKED: -- CHECKED: --		SURVEY BOOK ELECTRONIC SHEET CONTRACT 11 OF 26 B-42174 PROJECT 1800133

6415_0204

INDOT BORING LOG									
BORING NO. : TB-01		SHEET : 1 OF 3		ROUTE # : SR-158		COUNTY : Lawrence		PROJECT TYPE : Bridge Replacement	
LATITUDE : 38.858587		LONGITUDE : -86.674979		DATE STARTED : 11-14-22		DATE COMPLETED : 11-15-22		PROJECT NO. : 2063-2045.50	
ELEVATION : 549.0		BORING METHOD : HSA		HAMMER : Auto		DRILLER/INSP : KCIAM		TEMPERATURE : 46 °F	
STATION : 0+47 (RP)		RIG TYPE : Truck		CASING DIA. : 3.3 in		WEATHER : Sunny		GROUNDWATER : Encountered at 18.5 ft	
OFFSET : 7.0 ft Right		CORE SIZE : 2 in		At completion 9.4 ft (28.1 ft prior to adding water)					
LINE : 'SR-158'		DEPTH : 48.5 ft							
STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	% RECOVERY	MOISTURE CONTENT	POCKET UNCONF. COMP.	ATTERBERG LIMITS	REMARKS	
548.3	0.0	Asphalt (Visual).	SS 1	9	19.9	1.5			
548.0	0.3	Base, (Visual).	SS 1	6	83	12			
545.5	2.5	Loam A-4, Brown, Slightly Moist, Stiff, with some Gravel, Contains Aggregate Base (FILL), (Lab No. 3).	SS 2	4	19.2	2.0	31	16	15
543.0	5.0	Silty Clay Loam A-6 (10), Brown, Moist, Medium Stiff, Contains Black Silt Pockets.	SS 3	3	17.3	0.5			
543.0	6.0		SS 3	3	78	5			
537.3	10.0	Loam A-4, Brown, Moist, Soft To Medium Stiff, (Lab No. 3).	SS 4	2	25.2	0.5			
537.3	11.8		SS 4	2	61	9			
532.3	15.0	Sandy Loam Brown, Moist, Medium Dense, with some Gravel, Contains Shale and Sandstone Fragments, (Visual).	SS 5	9	83	19			
532.3	16.8		SS 5	9					
20.0	20.0	Clay Loam A-6 (5), Brown, Moist, Medium Stiff, with some Gravel, Contains Limestone and Shale Fragments.	SS 6	5	18.9	0.25	39	13	26
			SS 6	4	89	9			

INDOT BORING LOG									
BORING NO. : TB-01		SHEET : 2 OF 3		ROUTE # : SR-158		COUNTY : Lawrence		PROJECT TYPE : Bridge Replacement	
LATITUDE : 38.858587		LONGITUDE : -86.674979		DATE STARTED : 11-14-22		DATE COMPLETED : 11-15-22		PROJECT NO. : 2063-2045.50	
ELEVATION : 549.0		BORING METHOD : HSA		HAMMER : Auto		DRILLER/INSP : KCIAM		TEMPERATURE : 46 °F	
STATION : 0+47 (RP)		RIG TYPE : Truck		CASING DIA. : 3.3 in		WEATHER : Sunny		GROUNDWATER : Encountered at 18.5 ft	
OFFSET : 7.0 ft Right		CORE SIZE : 2 in		At completion 9.4 ft (28.1 ft prior to adding water)					
LINE : 'SR-158'		DEPTH : 48.5 ft							
STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	% RECOVERY	MOISTURE CONTENT	POCKET UNCONF. COMP.	ATTERBERG LIMITS	REMARKS	
525.5	23.5	Clay Loam A-6 (5), Brown, Moist, Medium Stiff, with some Gravel, Contains Limestone and Shale Fragments.	SS 7	50/3	0				23.0 @23', Slight Rig Chatter (possible Boulder)
30.0	30.0	Limestone Light Gray And Light Brown, Highly Weathered, Contains Little Sand, Silt, and Clay, (Visual).	SS 8	16	26	56			30.0 @30'-35', Heavy Rig Chatter
515.5	33.5		SS 9	50/2	6				
35.0	35.0	Limestone Gray And Brownish Gray, Moderately Weathered, Hard, Crystalline, Thinly bedded, Highly fractured, (Visual).	RC 1	75					
40.0	40.0		RC 2	58%					

INDOT BORING LOG									
BORING NO. : TB-01		SHEET : 3 OF 3		ROUTE # : SR-158		COUNTY : Lawrence		PROJECT TYPE : Bridge Replacement	
LATITUDE : 38.858587		LONGITUDE : -86.674979		DATE STARTED : 11-14-22		DATE COMPLETED : 11-15-22		PROJECT NO. : 2063-2045.50	
ELEVATION : 549.0		BORING METHOD : HSA		HAMMER : Auto		DRILLER/INSP : KCIAM		TEMPERATURE : 46 °F	
STATION : 0+47 (RP)		RIG TYPE : Truck		CASING DIA. : 3.3 in		WEATHER : Sunny		GROUNDWATER : Encountered at 18.5 ft	
OFFSET : 7.0 ft Right		CORE SIZE : 2 in		At completion 9.4 ft (28.1 ft prior to adding water)					
LINE : 'SR-158'		DEPTH : 48.5 ft							
STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	% RECOVERY	MOISTURE CONTENT	POCKET UNCONF. COMP.	ATTERBERG LIMITS	REMARKS	
45.0	45.0	Limestone Gray And Brownish Gray, Moderately Weathered, Hard, Crystalline, Thinly bedded, Highly fractured, (Visual).							
500.5	48.5	Bottom of Boring at 48.5 ft							



STANDARD PENETRATION TEST
 Driving 2" O.D. Sampler 1'-6" with 140# Hammer falling 30". Count made at 6" intervals. First 6" for seating sampler. "N" is the Sum of the Hammer Blows of the Second and Third 6" intervals of an 1'-6" Drive.

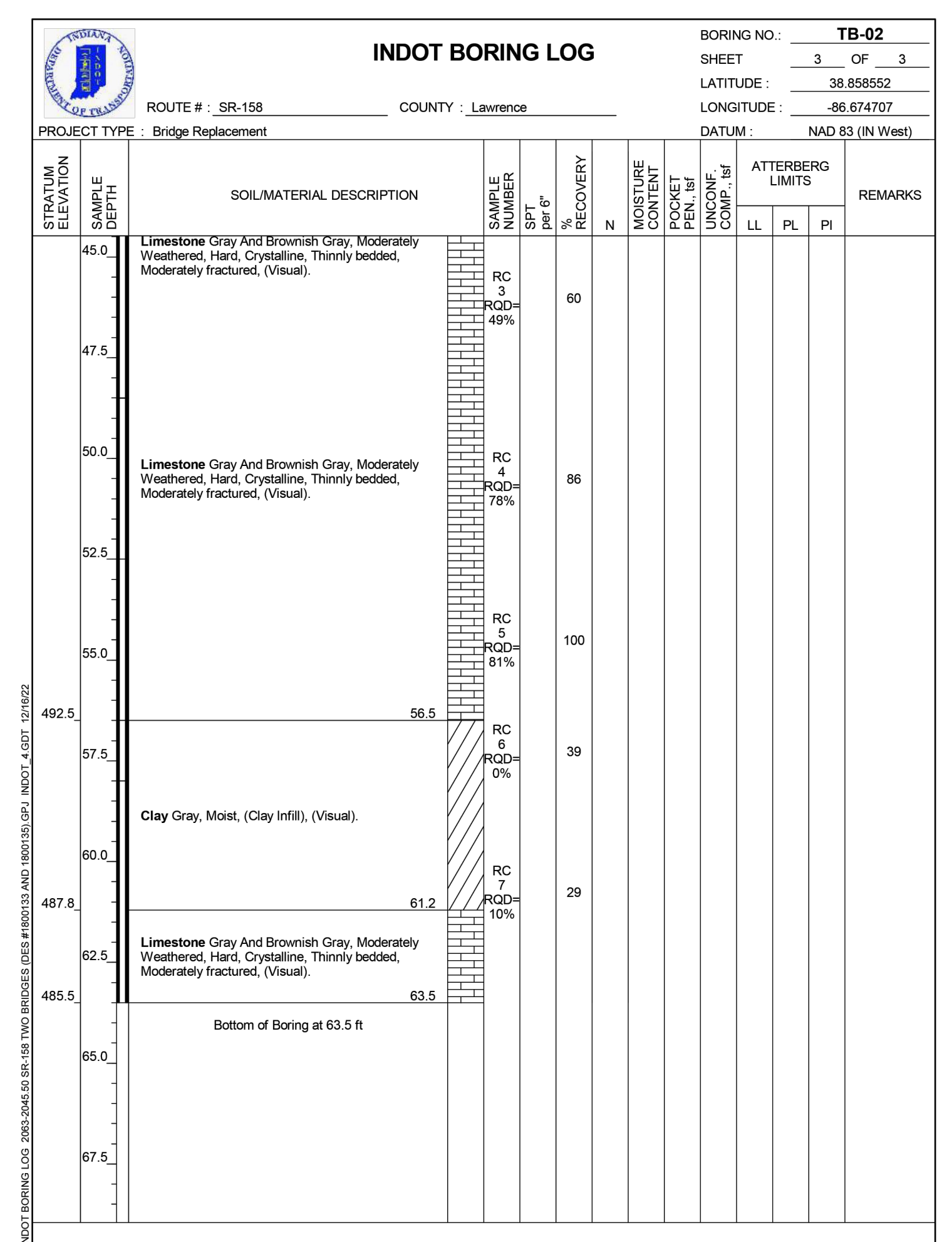
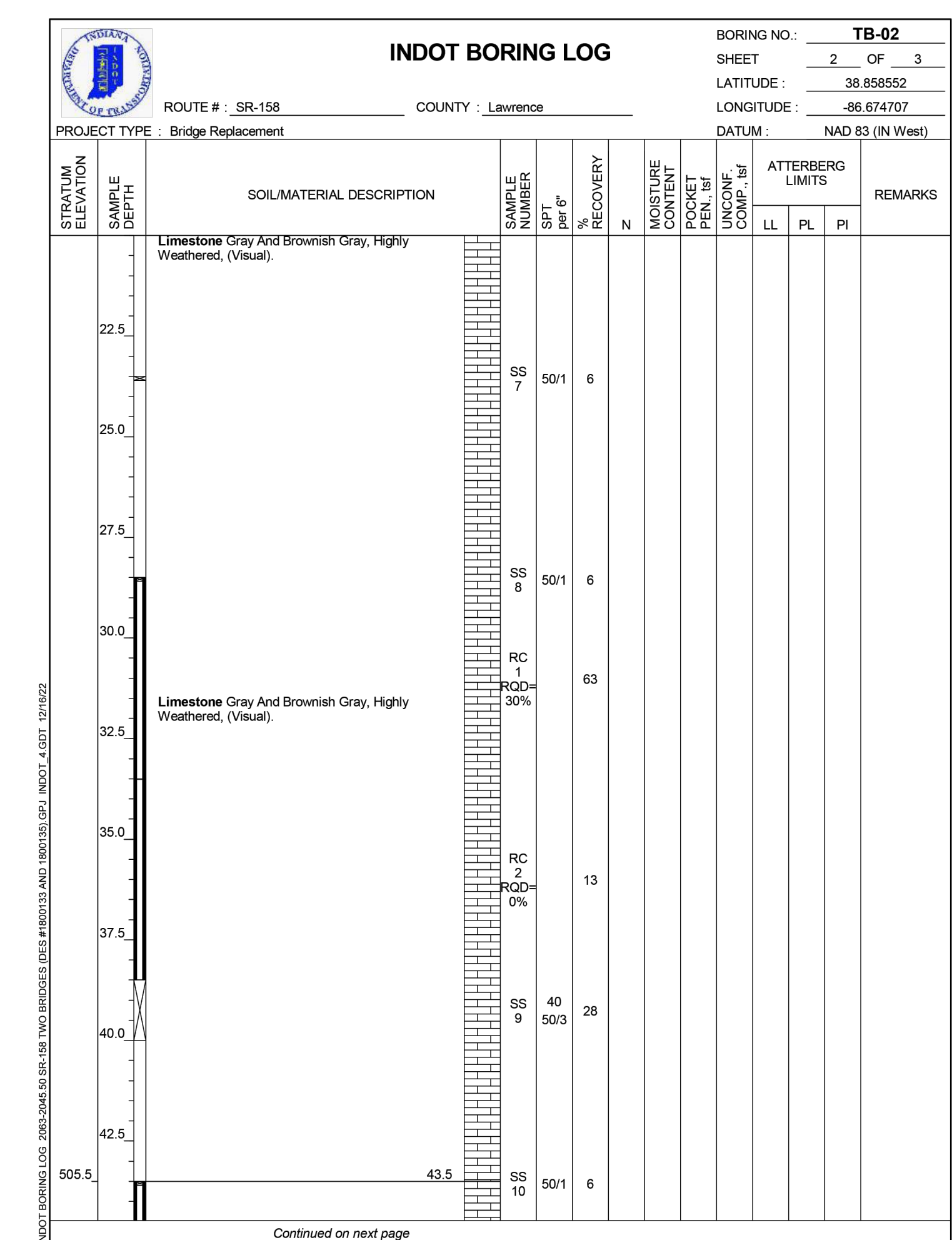
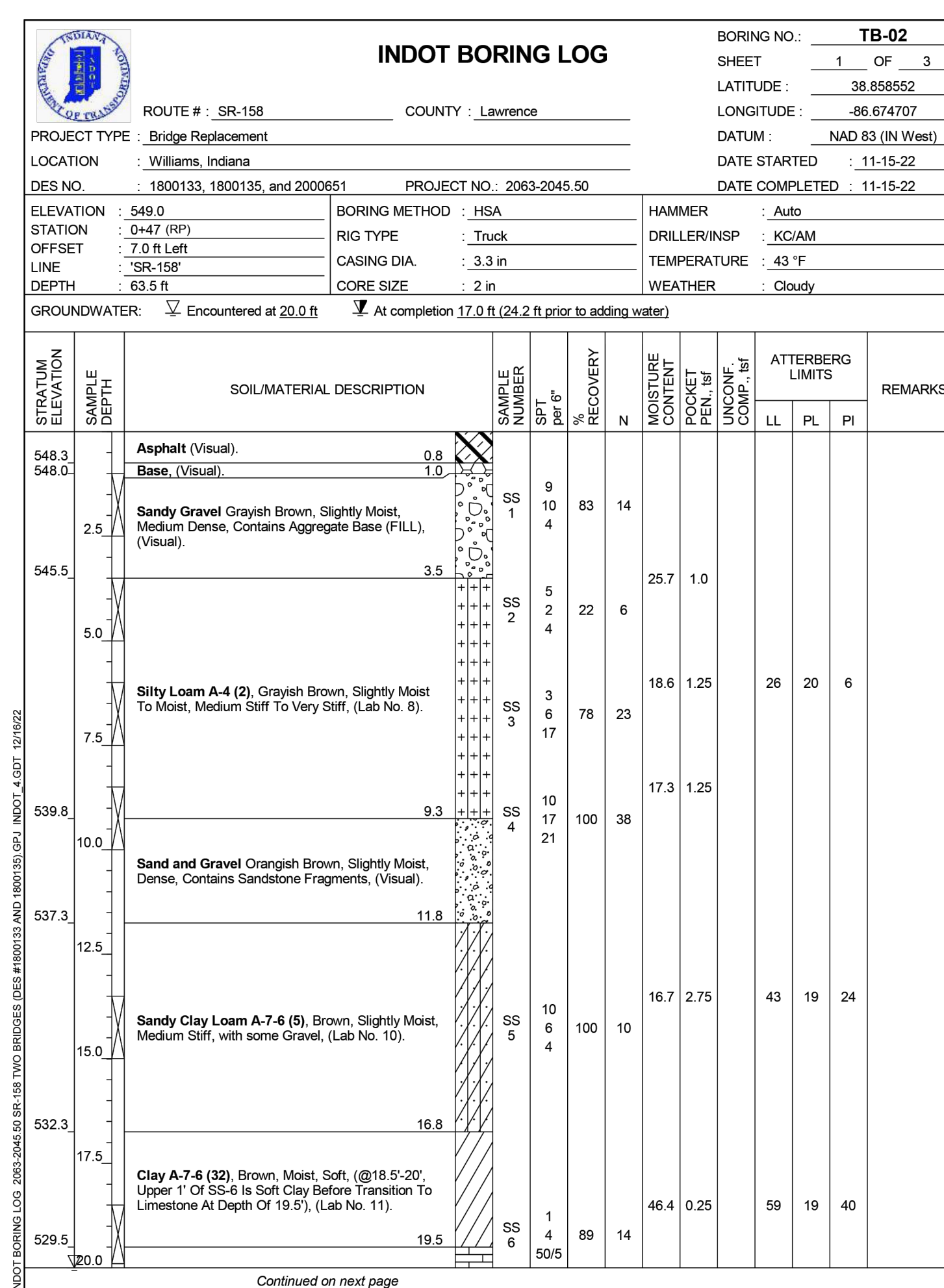
Note:
 The entire Geotechnical Report developed by DLZ will be made available to the Contractor upon request.

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE AS NOTED	BRIDGE FILE (158)58-47-03027
DESIGNED: C. RENFROW DRAWN: J. LOPEZ		VERTICAL SCALE N/A	DESIGNATION 1800133
CHECKED: B. WRIGHT CHECKED: C. RENFROW		SOIL BORINGS	

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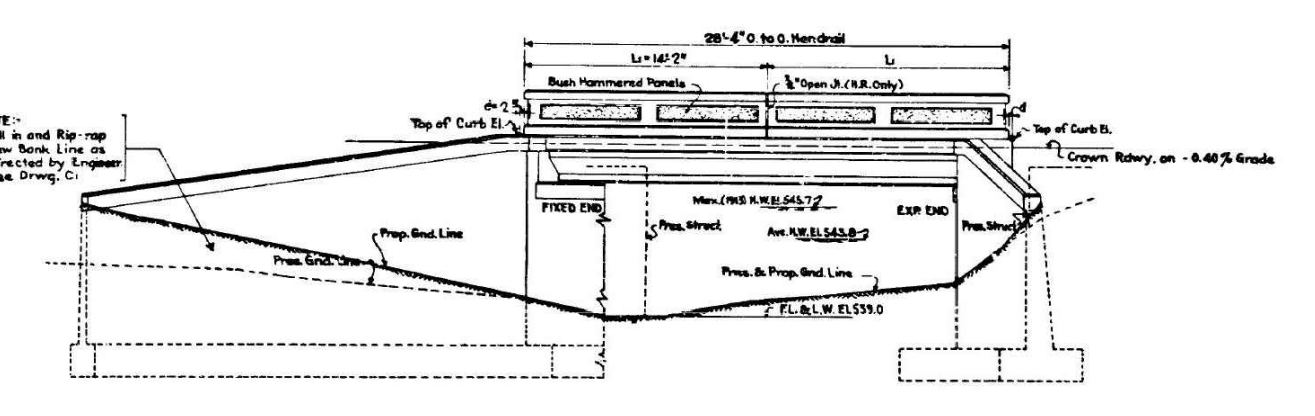
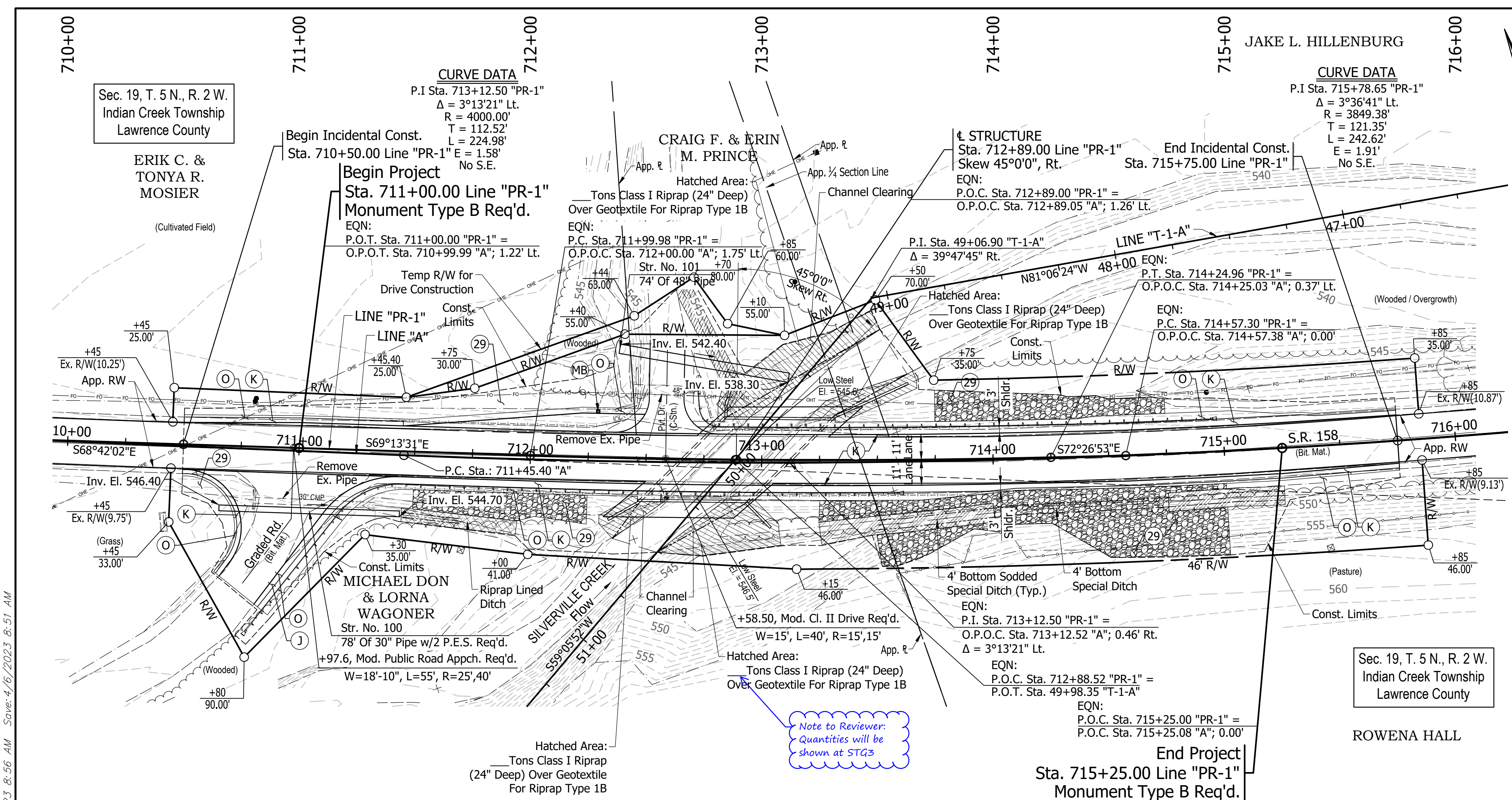
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Note:
The entire Geotechnical Report developed by DLZ will be made available to the Contractor upon request.

RECOMMENDED FOR APPROVAL: _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION SOIL BORINGS	HORIZONTAL SCALE AS NOTED VERTICAL SCALE N/A	BRIDGE FILE (158)58-47-03027 DESIGNATION 1800133	6415_0204
DESIGNED: C. RENFROW DRAWN: J. LOPEZ CHECKED: B. WRIGHT CHECKED: C. RENFROW		SURVEY BOOK ELECTRONIC CONTRACT B-42174	SHEET OF 26 PROJECT 1800133	BFS NO.



The existing Reinforced Girder Bridge was built in 1938.
Span length: 1 @ 25'-0".
Clear roadway 27'-0". Total length of 26'-10"
Existing structure to be removed.

EXISTING STRUCTURE
Not To Scale

- LEGEND**
- (K) HMA Pavement For Mainline
 - (O) Variable Depth Compacted Aggregate, No. 53
 - (29) Mulched Seeding, R
 - (MB) Mailbox Assembly & Approach (See Sheet 5)

- Riprap Lined Ditch
- Sodded Ditch
- Riprap Lined Slopes
- Wall Removal

LINE "PR-1" TO BE CONSTRUCTED
ALL TOPOGRAPHY INFORMATION REFERENCED TO LINE "A" UNLESS OTHERWISE NOTED
ALL R/W ON THIS SHEET DESCRIBED FROM LINE "A" UNLESS OTHERWISE NOTED

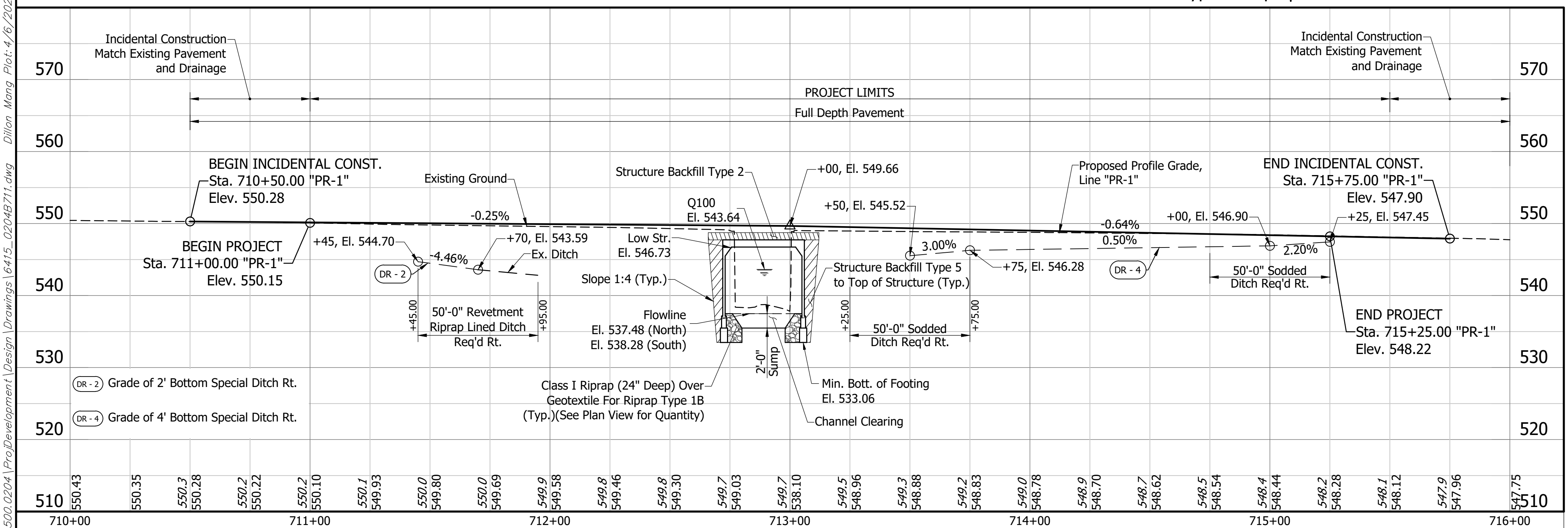
HYDRAULIC DATA		
ITEM	EXISTING STRUCTURE	PROPOSED STRUCTURE
DRAINAGE AREA	1.57 Sq. Mi.	1.57 Sq. Mi.
Q100	543.64 Ft.	543.64 Ft.
DESIGN DISCHARGE Q100	1,690 Cu. Ft./Sec.	1,690 Cu. Ft./Sec.
BACKWATER Q100	4.47 Ft.	0.02 Ft.
GROSS WATERWAY AREA PROVIDED BELOW Q100	100.96 Sq. Ft.	197.19 Sq. Ft.
ROADWAY OVERFLOW	0 Sq. Ft.	0 Sq. Ft.
TOTAL WATERWAY AREA PROVIDED	134.99 Sq. Ft.	296.00 Sq. Ft.
VELOCITY THROUGH STRUCTURE	14.79 Ft./Sec.	8.15 Ft./Sec.
LOW STRUCTURE ELEVATION	546.71 Ft.	546.73 Ft.

EARTHWORK	
ITEM	QUANTITY
FILL + 15%	Cys.
COMMON EXCAVATION	Cys.
USABLE WATERWAY EXCAVATION (30%)	Cys.
BORROW	Cys.

STRUCTURE EXCAVATION	
ITEM	QUANTITY
WATERWAY EXCAVATION	Cys.
WET EXCAVATION	Cys.
FOUNDATION EXCAVATION (UNCLASSIFIED)	Cys.
DRY EXCAVATION	Cys.

Note: Above Quantities Do Not Include ### Cys. For Benching. Estimated Benching Will Not Be Paid For Directly. Cost Of Benching Shall Be Included In Cost Of Common Excavation.

Note to Reviewer: Tables and quantities will be completed at STG3.



PRECAST REINFORCED CONCRETE THREE-SIDED STRUCTURE
32'-0" SPAN X 11'-8" RISE; SKEW: 45°0'0" RT.
SR 158 OVER SILVERVILLE CREEK
LAWRENCE COUNTY

300

1. N. & S. Cor. Marlon Add. 301.10' x 108.94' - 310' At
2. Top S. Cor. 1st Marlon - 180.00' - 300' At
3. N. Face Sign (45 MPH) - 75.15' - 290' At

O.P.O.T. Sta. 710+54.09 "A", 9.77' Rt.
Mag Nail, Plumb (Set 6/3/2021)

301

1. N. Mod. Face Sign (70 MPH) - 139.64' - 310' At
2. Top S. Cor. 1st Marlon - 180.00' - 300' At
3. Mag Spike Post #13804 - 99.39' - 270' At

O.P.O.T. Sta. 710+55.99 "A", 11.00' Rt.
Mag Nail, Plumb (Set 6/3/2021)

302

1. S.W. Cor. Marlon Add. 401.10' x 139.64' - 310' At
2. S.E. Cor. 1st Marlon - 180.00' - 300' At
3. N.W. Cor. Rail Post - 33.62' - 45' At

O.P.O.T. Sta. 712+57.26 "A", 11.98' Rt.
Mag Nail, Plumb (Set 6/3/2021)

BM #1 El. = 550.25'
Mag Spike Pwp. #139804
Sta. 709+62.41 "A", 44.56' Rt.
BM #2 El. = 552.26'
Cut Square S. Barrier Rail S.W. Cor.
Sta. 712+59.04 "A", 15.49' Rt.

RECOMMENDED FOR APPROVAL: _____ DATE _____

DESIGNED: B. WRIGHT DRAWN: L. KIRSCH

CHECKED: C. RENFROW CHECKED: B. WRIGHT

NOTES
See Sheet 2 For Utility Owners.

INDIANA
DEPARTMENT OF TRANSPORTATION

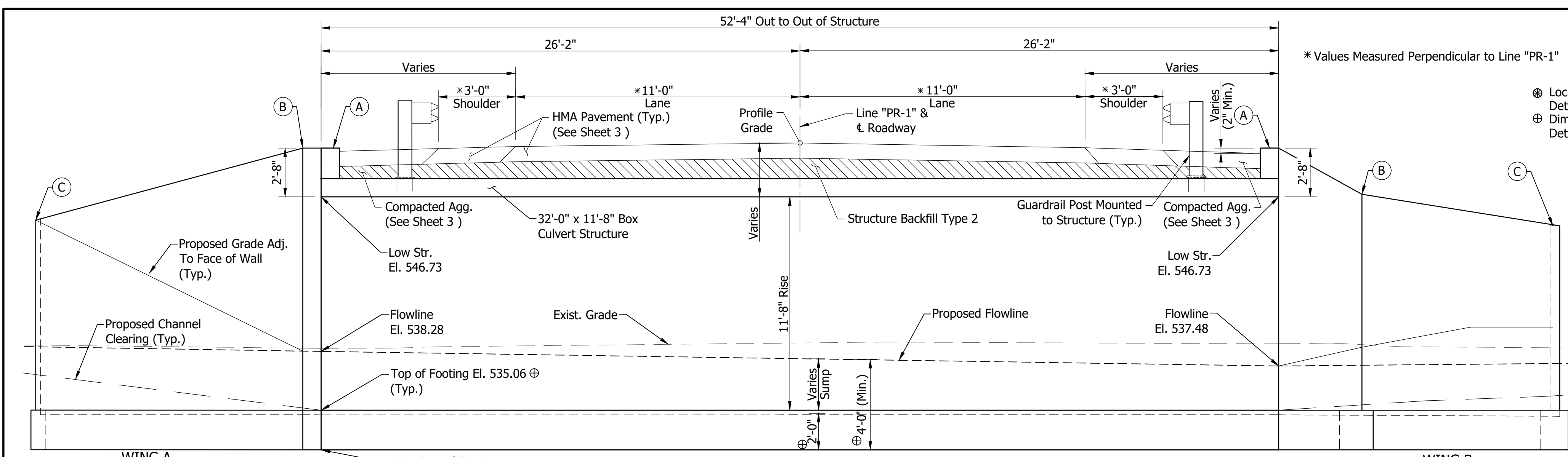
LAYOUT

HORIZONTAL SCALE 1" = 30'-0"	BRIDGE FILE (158)58-47-03027
VERTICAL SCALE 1" = 10'-0"	DESIGNATION 1800133
SURVEY BOOK ELECTRONIC	SHEET 14 OF 26
CONTRACT B-42174	PROJECT 1800133

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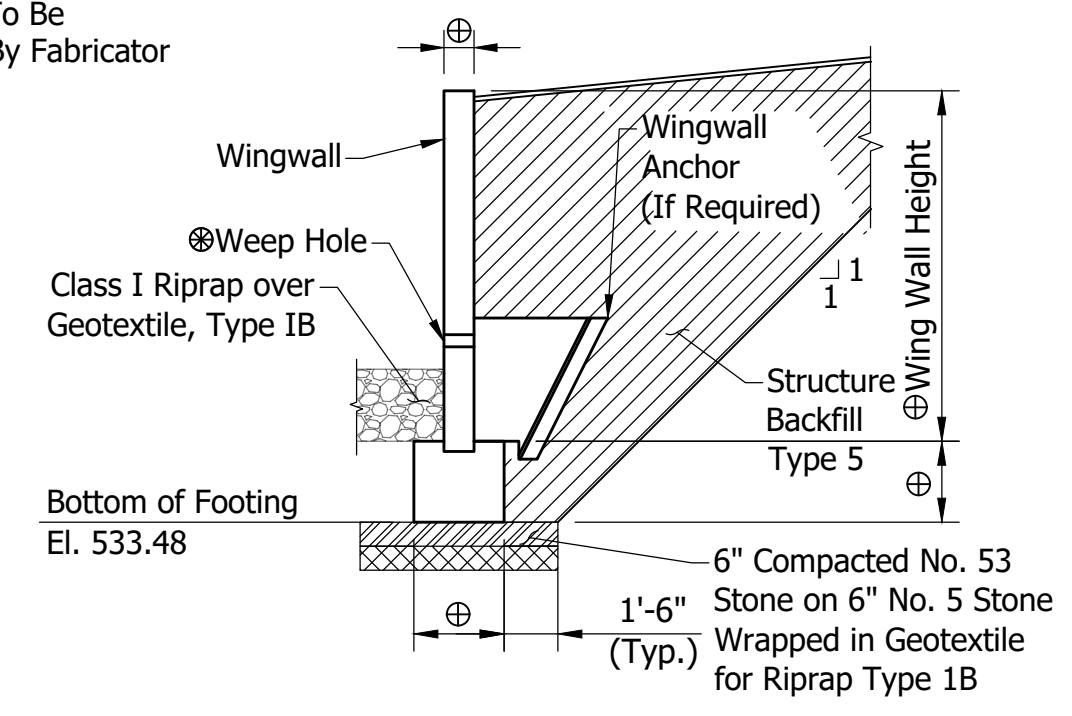
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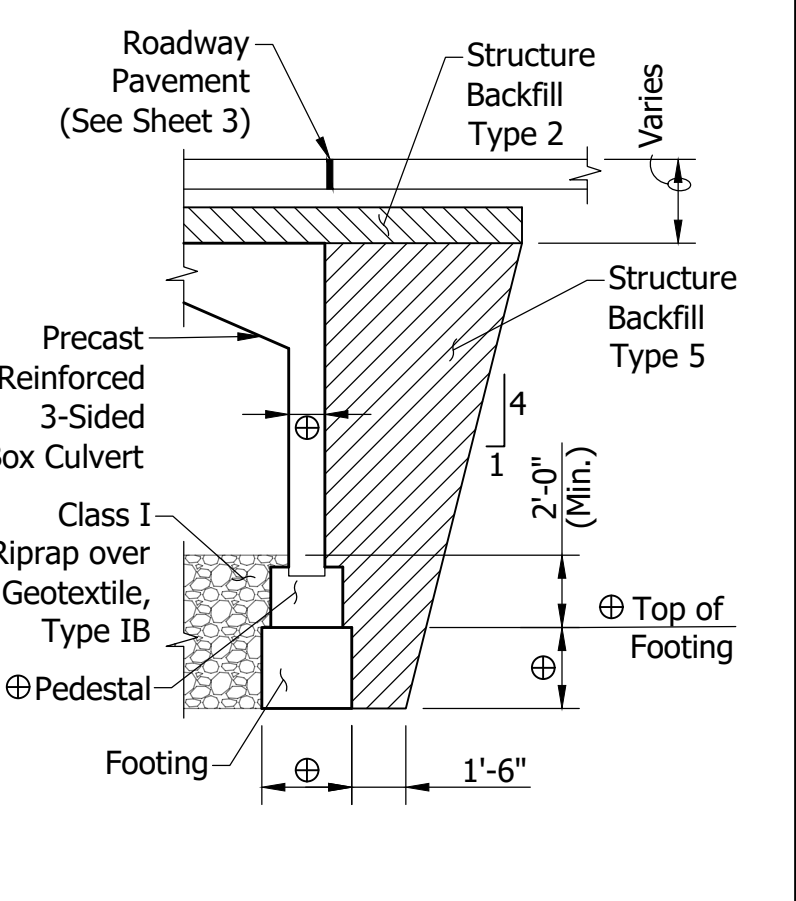
SECTION "B-B"
Scale: 1/4" = 1'-0"

LEGEND

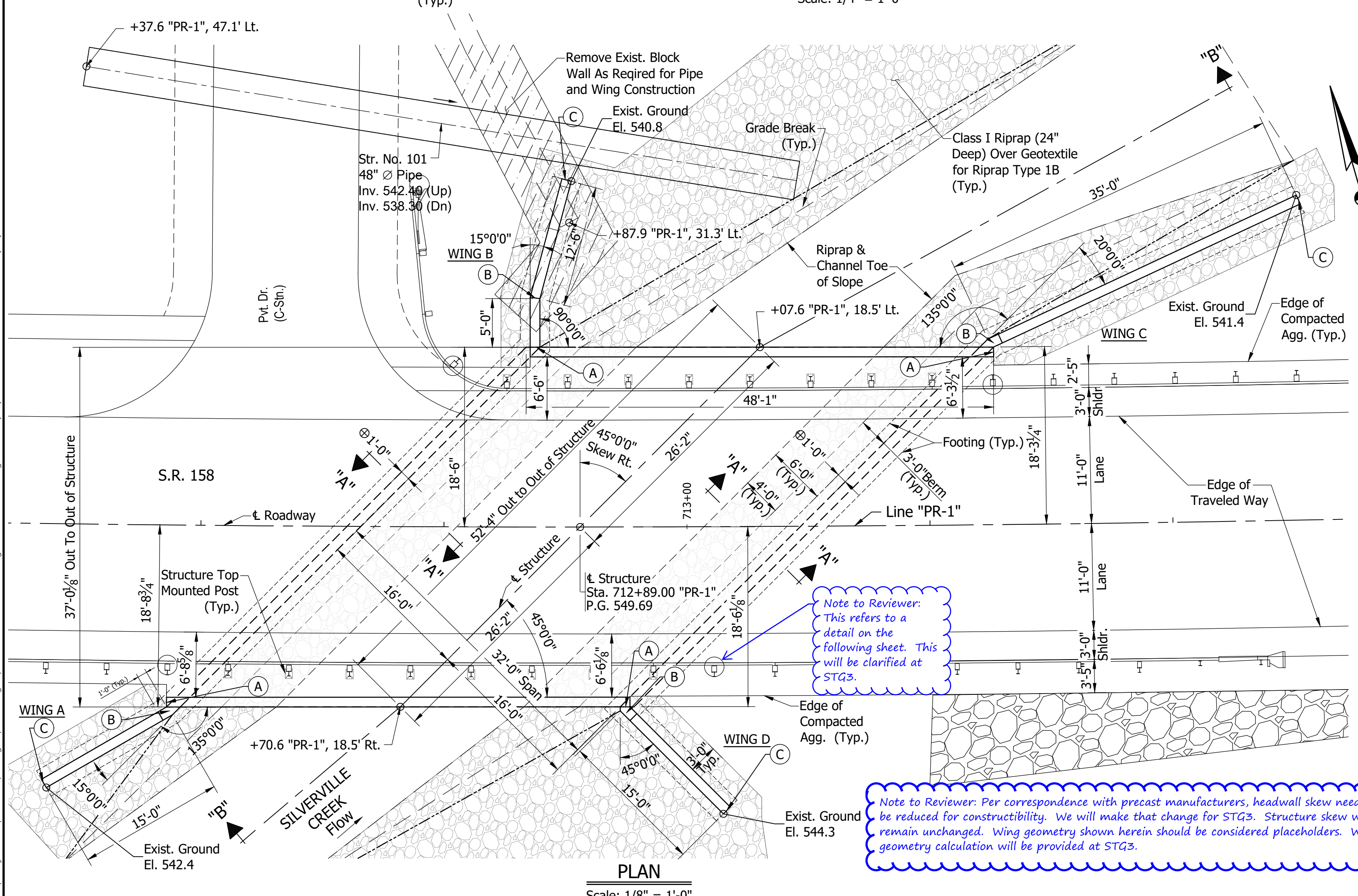
- ⊕ Location of Weep Holes To Be Determined By Fabricator
- ⊕ Dimensions To Be Determined By Fabricator



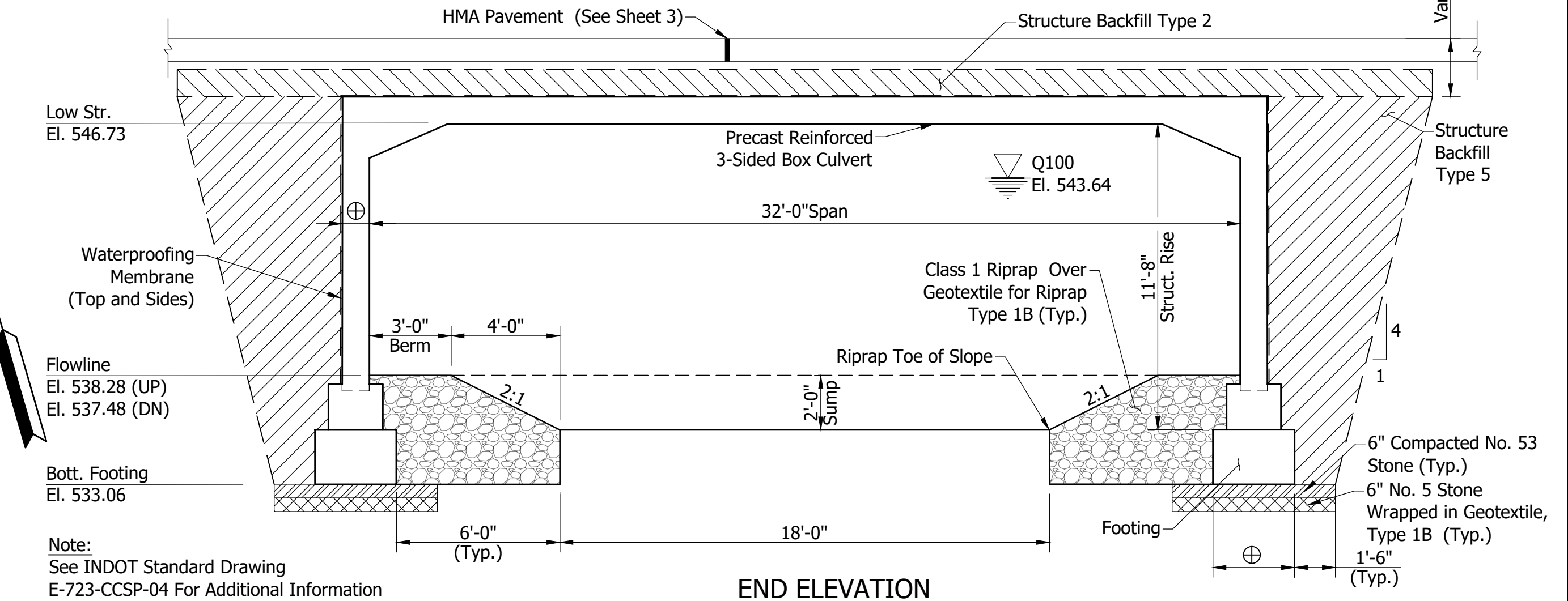
WINGWALL SECTION
Scale: 3/16" = 1'-0"



SECTION "A-A"
Scale: 3/16" = 1'-0"



PLAN
Scale: 1/8" = 1'-0"



END ELEVATION
Scale: 1/4" = 1'-0"

GENERAL NOTES

- Precast units shall be constructed and installed in accordance with INDOT Standard Specification Section 723.
- Present structure shall be removed.
- Reinforcing steel covering shall be 3" in footings except bottom steel which shall be 4", and 2" in all other locations.
- Reinforcing steel shall be A.S.T.M. A615, Grade 60 or WWR in accordance with INDOT Standard Specification Section 723.
- Reinforcing steel or WWR shall be epoxy coated in accordance with INDOT Standard Specification Section 723. If cast in place concrete is utilized, concrete shall be Class "B" or higher in Footings and Class "A" or higher in Headwalls and Wing Walls.
- Chamfer exposed corners of concrete 1" unless noted.
- See INDOT Standard Drawing E 723-CCSP for sumping and riprap details.
- An alternative 3-sided arch-topped structure with a 32'-0" perpendicular span and 11'-8" rise may be substituted for the structure shown. Required waterway opening below elevation 546.24 = 196.44 square feet. A true-arch structure will not be permitted.

DESIGN DATA

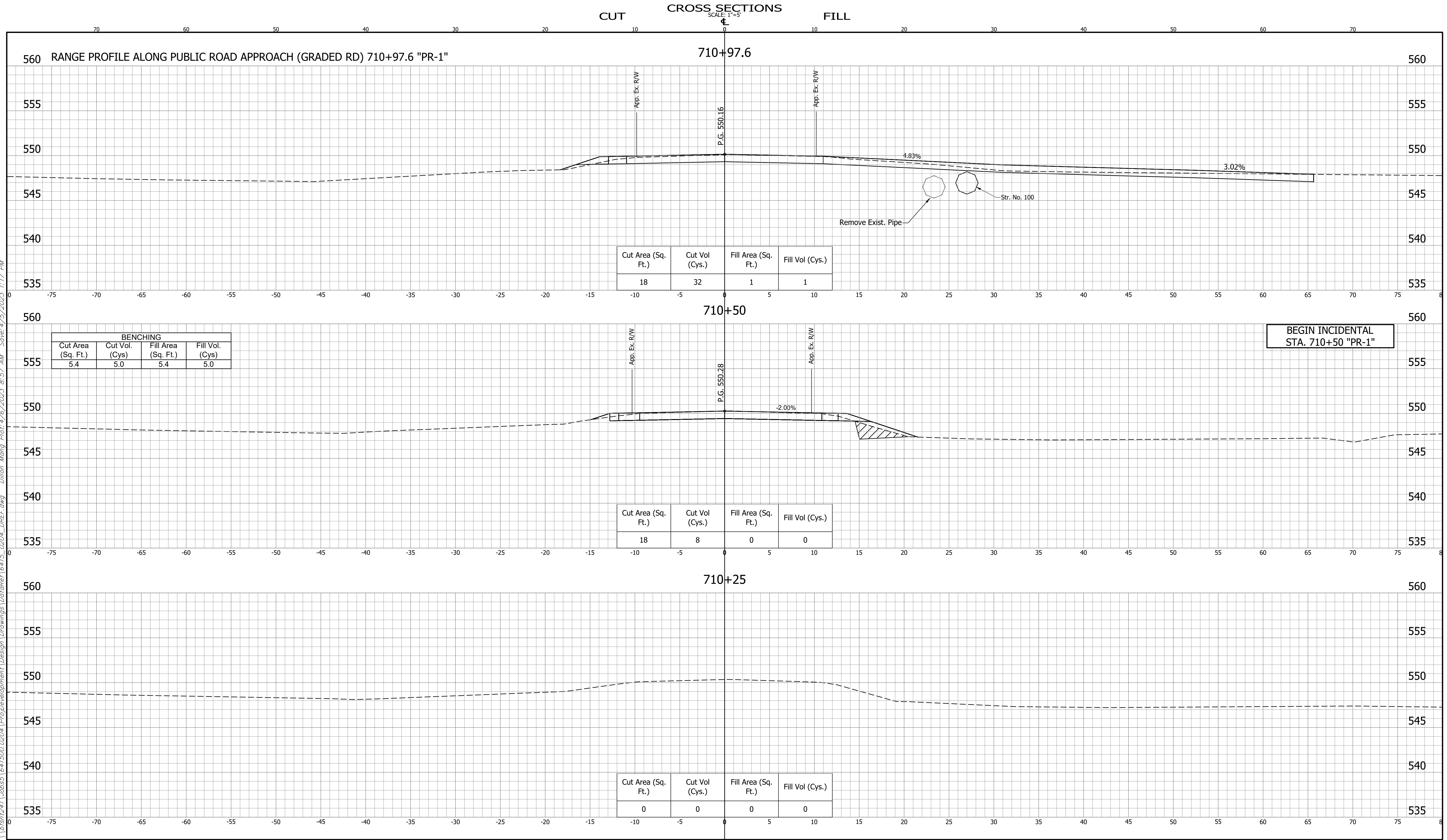
- Structure shall be designed for HL-93 loading with impact and distribution in accordance with A.A.S.H.T.O. LRFD Bridge Design Specifications, Ninth Edition, 2020, and all subsequent interim revisions.
- DEAD LOAD**
Actual weight plus 35 lb/ft² for future wearing surface.
- DESIGN STRESSES**
- CONCRETE**
Class "C" Concrete $f_c = 4,000$ psi
Class "B" Concrete $f_c = 3,000$ psi
- REINFORCING STEEL**
Grade 60 $F_y = 60,000$ psi
- FOUNDATION**
Resistance Factor (soil) $\phi_b = 0.5$
Factored Bearing Resistance $q_u = 2,130$ psf
- SEISMIC DESIGN DATA**
Seismic Performance Zone Zone 1
Acceleration Coefficient 0.14
Seismic Soil Profile Type Class C

**PRECAST REINFORCED CONCRETE THREE-SIDED STRUCTURE
32'-0" SPAN X 11'-8" RISE; SKEW: 45°0'0" RT.
SR 158 OVER SILVERVILLE CREEK
LAWRENCE COUNTY**

WINGWALL TABLE						
WALL	LENGTH	BOTT. OF FOOTING	POINT (A)	POINT (B)	POINT (C)	AREA (SF)
"A"	17'-1 1/2"	533.06	549.86	549.86	542.75	153.9
"B"	17'-0"	533.06	549.40	546.87	545.20	189.9
"C"	37'-6"	533.06	549.40	549.40	541.75	371.7
"D"	16'-5"	533.06	549.86	549.86	545.50	174.1
TOTAL						889.6

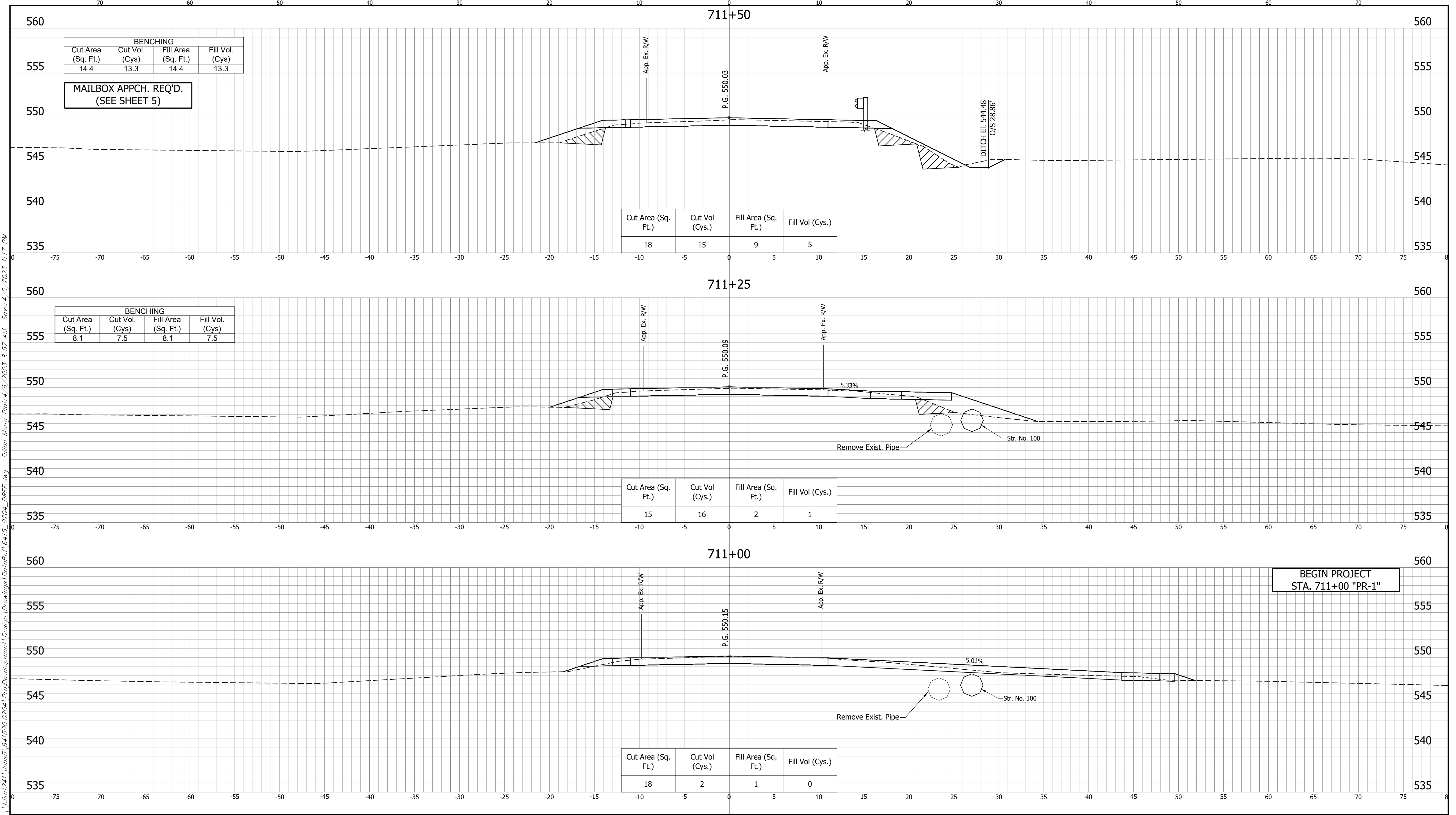
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				AS NOTED	(158)58-47-03027
DESIGNED: Q. O'BRIEN	DRAWN: J. LOPEZ		GENERAL PLAN	VERTICAL SCALE	DESIGNATION
CHECKED: C. O'BRIEN	CHECKED: B. WRIGHT			AS NOTED	1800133
				SURVEY BOOK	SHEET
				ELECTRONIC	15 OF 26
				CONTRACT	PROJECT
				B-42174	1800133

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CROSS SECTIONS LINE "PR-1"	INDIANA DEPARTMENT OF TRANSPORTATION	<table border="1" style="font-size: small;"> <tr> <td>HORIZONTAL SCALE</td> <td>BRIDGE FILE</td> </tr> <tr> <td>1" = 5'-0"</td> <td>(158)58-47-03027</td> </tr> <tr> <td>VERTICAL SCALE</td> <td>DESIGNATION</td> </tr> <tr> <td>1" = 5'-0"</td> <td>1800133</td> </tr> <tr> <td>SURVEY BOOK</td> <td>SHEET</td> </tr> <tr> <td>ELECTRONIC</td> <td>18 OF 26</td> </tr> <tr> <td>CONTRACT</td> <td>PROJECT</td> </tr> <tr> <td>B-42174</td> <td>1800133</td> </tr> </table>	HORIZONTAL SCALE	BRIDGE FILE	1" = 5'-0"	(158)58-47-03027	VERTICAL SCALE	DESIGNATION	1" = 5'-0"	1800133	SURVEY BOOK	SHEET	ELECTRONIC	18 OF 26	CONTRACT	PROJECT	B-42174	1800133
HORIZONTAL SCALE	BRIDGE FILE																	
1" = 5'-0"	(158)58-47-03027																	
VERTICAL SCALE	DESIGNATION																	
1" = 5'-0"	1800133																	
SURVEY BOOK	SHEET																	
ELECTRONIC	18 OF 26																	
CONTRACT	PROJECT																	
B-42174	1800133																	
<table border="1" style="font-size: x-small;"> <tr> <td>DESIGNED: B. WRIGHT</td> <td>DRAWN: L. KIRSCH</td> </tr> <tr> <td>CHECKED: C. RENFROW</td> <td>CHECKED: B. WRIGHT</td> </tr> </table>	DESIGNED: B. WRIGHT	DRAWN: L. KIRSCH	CHECKED: C. RENFROW	CHECKED: B. WRIGHT	CROSS SECTIONS	6415_0204 BFS NO.												
DESIGNED: B. WRIGHT	DRAWN: L. KIRSCH																	
CHECKED: C. RENFROW	CHECKED: B. WRIGHT																	

CUT CROSS SECTIONS FILL
SCALE: 1"=5'



BENCHING

Cut Area (Sq. Ft.)	Cut Vol. (Cys.)	Fill Area (Sq. Ft.)	Fill Vol. (Cys.)
14.4	13.3	14.4	13.3

MAILBOX APPCH. REQ'D.
(SEE SHEET 5)

BENCHING

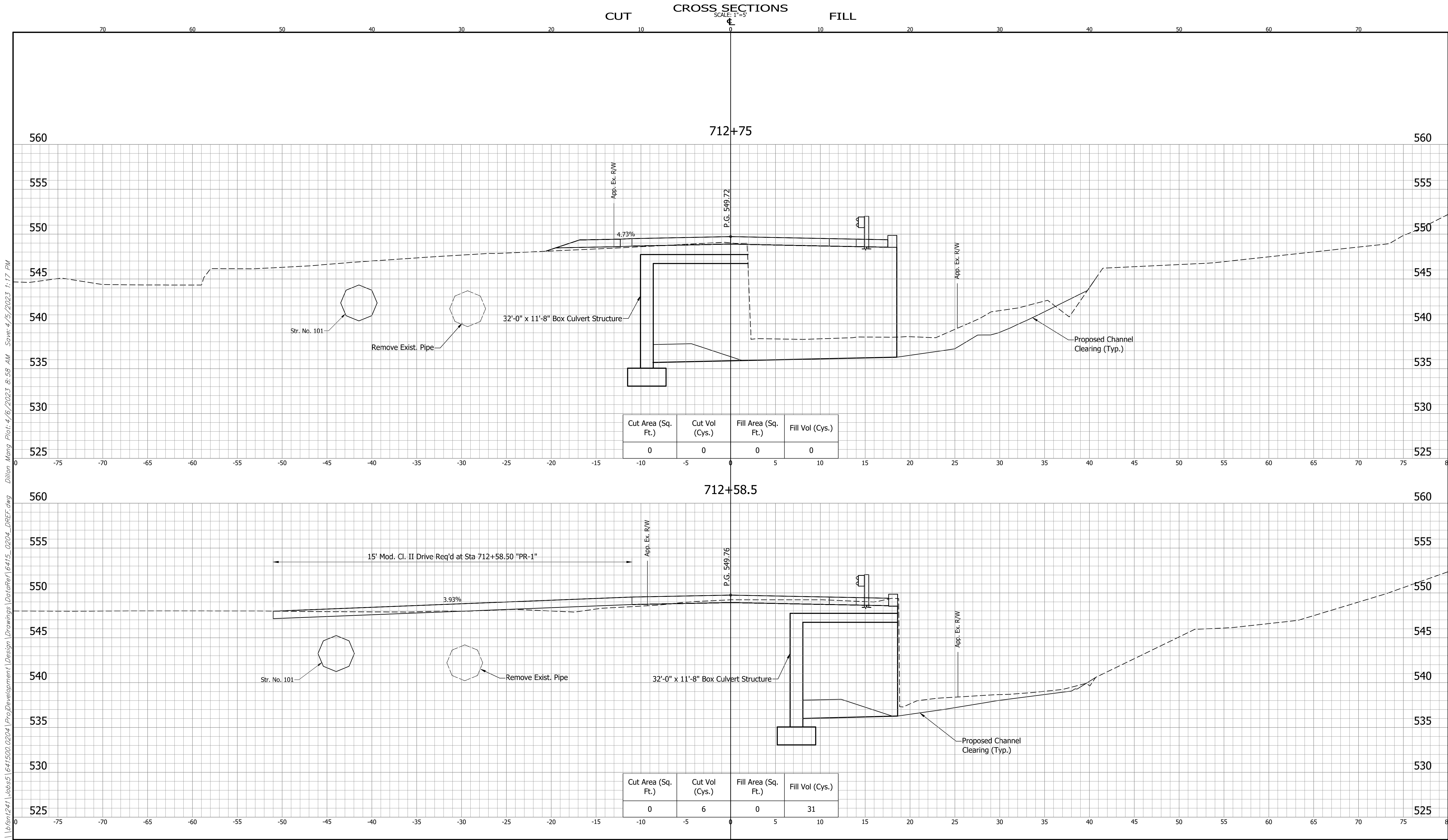
Cut Area (Sq. Ft.)	Cut Vol. (Cys.)	Fill Area (Sq. Ft.)	Fill Vol. (Cys.)
8.1	7.5	8.1	7.5

BEGIN PROJECT
STA. 711+00 "PR-1"

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<p>CROSS SECTIONS LINE "PR-1"</p> <p>DESIGNED: B. WRIGHT DRAWN: L. KIRSCH CHECKED: C. RENFROW CHECKED: B. WRIGHT</p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>CROSS SECTIONS</p>	<p>HORIZONTAL SCALE 1" = 5'-0"</p>	<p>BRIDGE FILE (158)58-47-03027</p>
		<p>VERTICAL SCALE 1" = 5'-0"</p>	<p>DESIGNATION 1800133</p>
		<p>SURVEY BOOK ELECTRONIC</p>	<p>SHEET 19 OF 26</p>
		<p>CONTRACT B-42174</p>	<p>PROJECT 1800133</p>

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BFS NO.

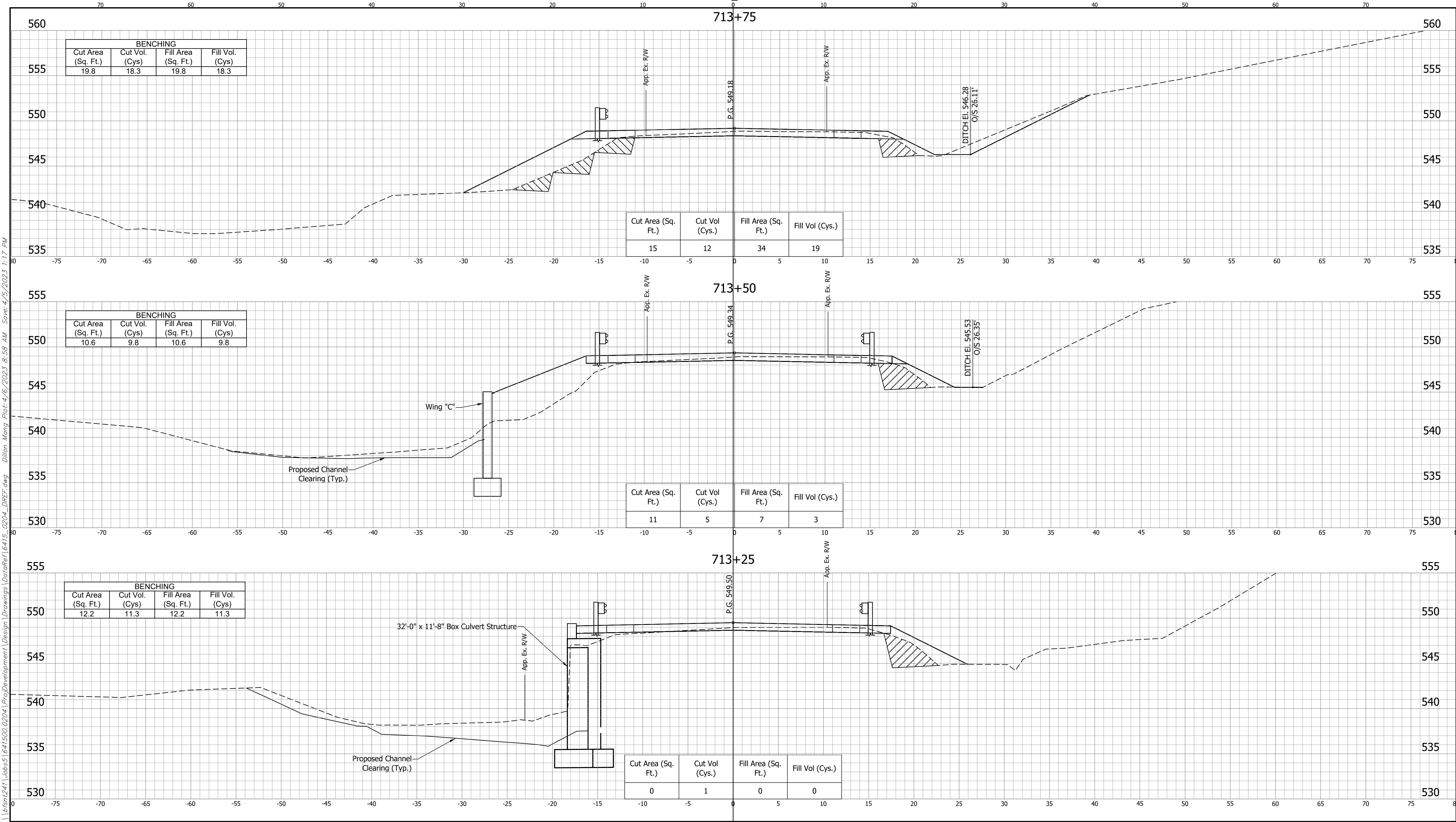


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CROSS SECTIONS LINE "PR-1"		INDIANA DEPARTMENT OF TRANSPORTATION		BRIDGE FILE (158)58-47-03027
DESIGNED: <u>B. WRIGHT</u>	DRAWN: <u>L. KIRSCH</u>	CROSS SECTIONS		DESIGNATION 1800133
CHECKED: <u>C. RENFROW</u>	CHECKED: <u>B. WRIGHT</u>			SHEET 21 OF 26
				PROJECT 1800133

6415_0204
BFS NO.

CUT CROSS SECTIONS FILL
SCALE: 1"=5'



BENCHING

Cut Area (Sq. Ft.)	Cut Vol. (Cys)	Fill Area (Sq. Ft.)	Fill Vol. (Cys)
19.8	18.3	19.8	18.3

BENCHING

Cut Area (Sq. Ft.)	Cut Vol. (Cys)	Fill Area (Sq. Ft.)	Fill Vol. (Cys)
10.6	9.8	10.6	9.8

BENCHING

Cut Area (Sq. Ft.)	Cut Vol. (Cys)	Fill Area (Sq. Ft.)	Fill Vol. (Cys)
12.2	11.3	12.2	11.3

**CROSS SECTIONS
LINE "PR-1"**

DESIGNED: B. WRIGHT DRAWN: L. KIRSCH
CHECKED: C. RENFROW CHECKED: B. WRIGHT

**INDIANA
DEPARTMENT OF TRANSPORTATION**

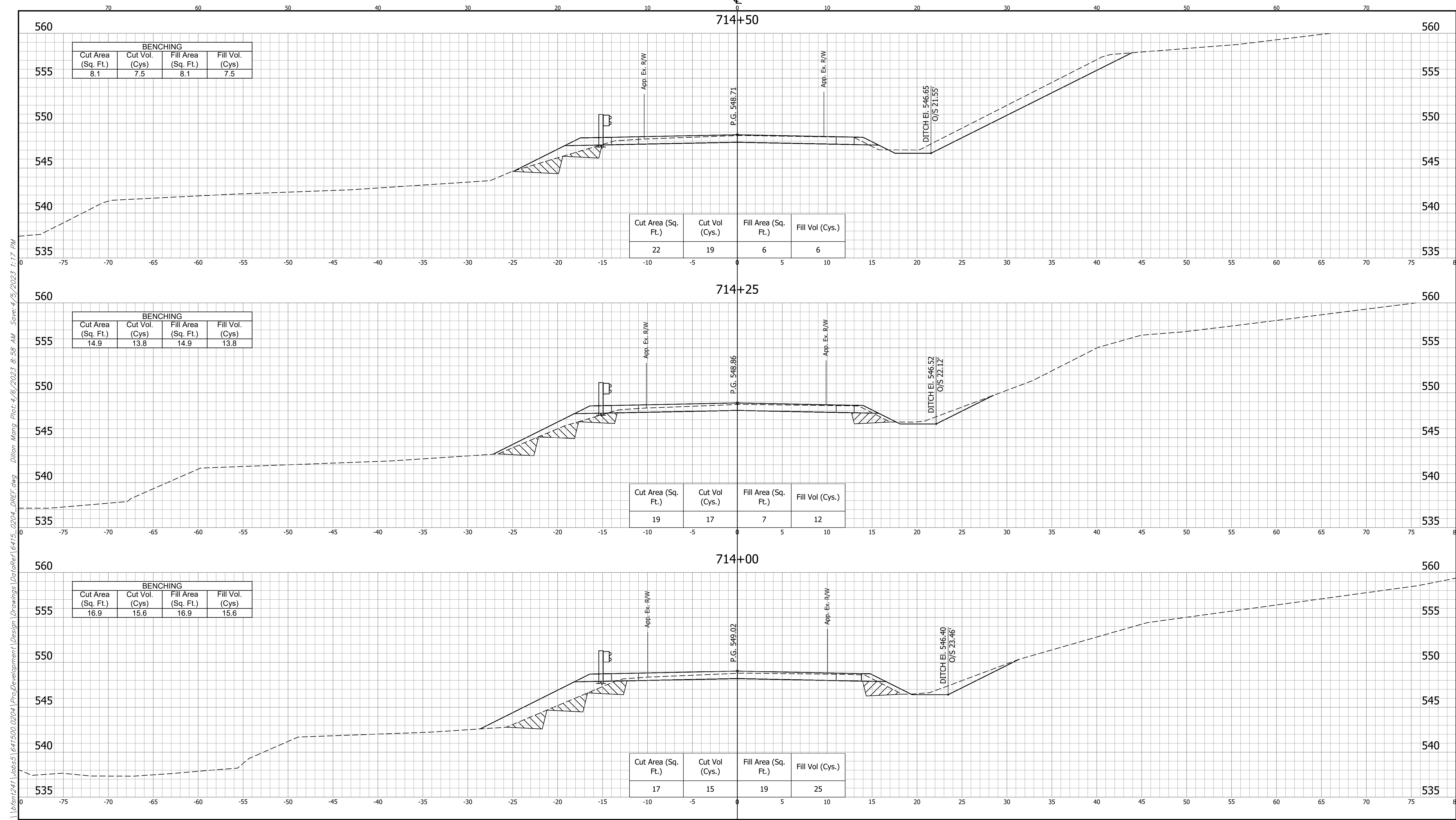
CROSS SECTIONS

HORIZONTAL SCALE 1" = 5'-0"	BRIDGE FILE (158)58-47-03027
VERTICAL SCALE 1" = 5'-0"	DESIGNATION 1800133
SURVEY BOOK ELECTRONIC	SHEET 23 OF 26
CONTRACT B-42174	PROJECT 1800133

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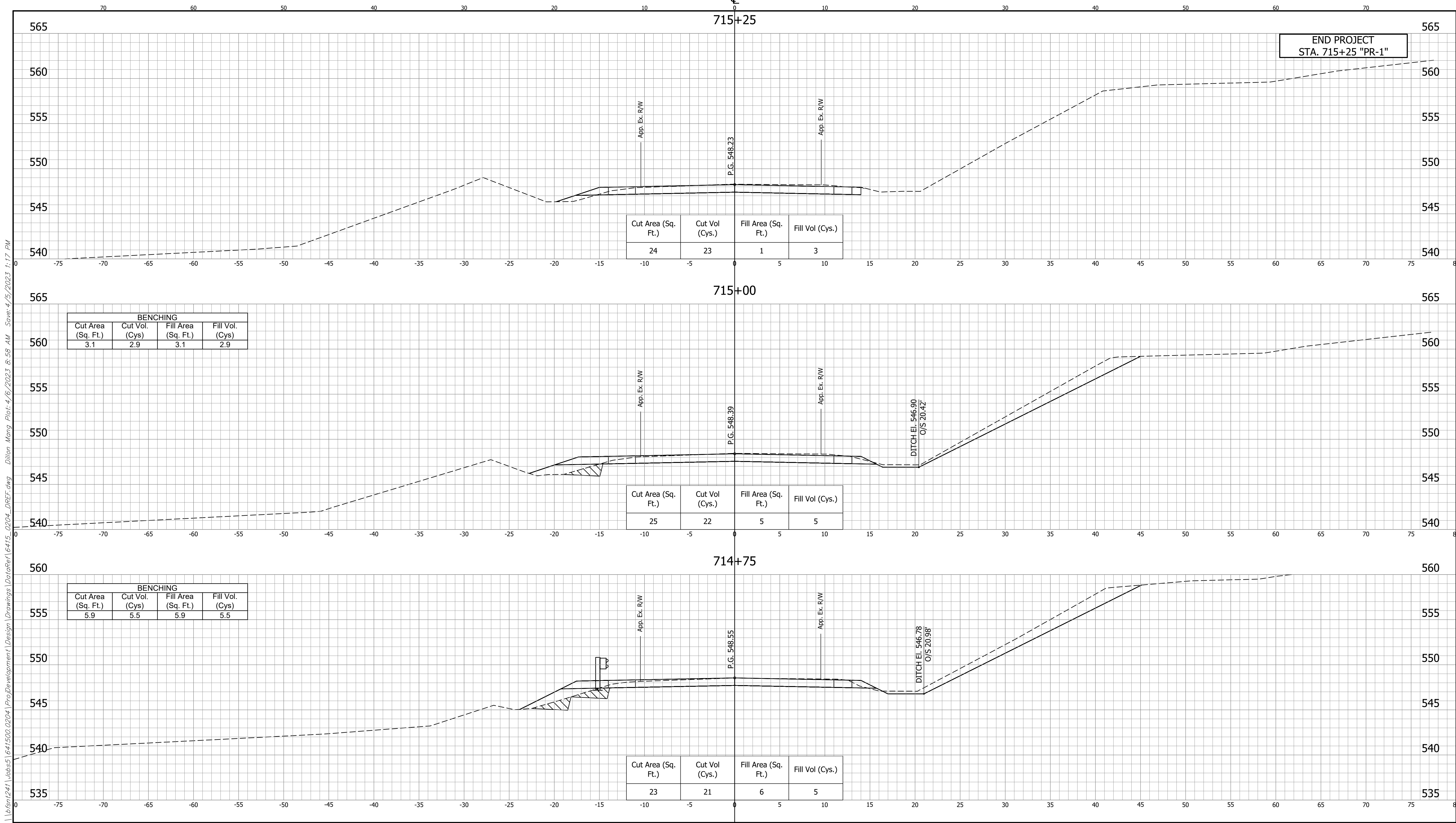
6415_0204
BFS NO.

CUT CROSS SECTIONS FILL
SCALE: 1"=5'



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CROSS SECTIONS LINE "PR-1"	INDIANA DEPARTMENT OF TRANSPORTATION	<table border="1" style="font-size: 8px;"> <tr> <td>HORIZONTAL SCALE</td> <td>BRIDGE FILE</td> </tr> <tr> <td>1" = 5'-0"</td> <td>(158)58-47-03027</td> </tr> <tr> <td>VERTICAL SCALE</td> <td>DESIGNATION</td> </tr> <tr> <td>1" = 5'-0"</td> <td>1800133</td> </tr> <tr> <td>SURVEY BOOK</td> <td>SHEET</td> </tr> <tr> <td>ELECTRONIC</td> <td>24 OF 26</td> </tr> <tr> <td>CONTRACT</td> <td>PROJECT</td> </tr> <tr> <td>B-42174</td> <td>1800133</td> </tr> </table>	HORIZONTAL SCALE	BRIDGE FILE	1" = 5'-0"	(158)58-47-03027	VERTICAL SCALE	DESIGNATION	1" = 5'-0"	1800133	SURVEY BOOK	SHEET	ELECTRONIC	24 OF 26	CONTRACT	PROJECT	B-42174	1800133
HORIZONTAL SCALE	BRIDGE FILE																	
1" = 5'-0"	(158)58-47-03027																	
VERTICAL SCALE	DESIGNATION																	
1" = 5'-0"	1800133																	
SURVEY BOOK	SHEET																	
ELECTRONIC	24 OF 26																	
CONTRACT	PROJECT																	
B-42174	1800133																	
<table border="1" style="font-size: 8px;"> <tr> <td>DESIGNED: B. WRIGHT</td> <td>DRAWN: L. KIRSCH</td> </tr> <tr> <td>CHECKED: C. RENFROW</td> <td>CHECKED: B. WRIGHT</td> </tr> </table>	DESIGNED: B. WRIGHT	DRAWN: L. KIRSCH	CHECKED: C. RENFROW	CHECKED: B. WRIGHT	CROSS SECTIONS	BFS NO. 6415_0204												
DESIGNED: B. WRIGHT	DRAWN: L. KIRSCH																	
CHECKED: C. RENFROW	CHECKED: B. WRIGHT																	



END PROJECT
STA. 715+25 "PR-1"

BENCHING

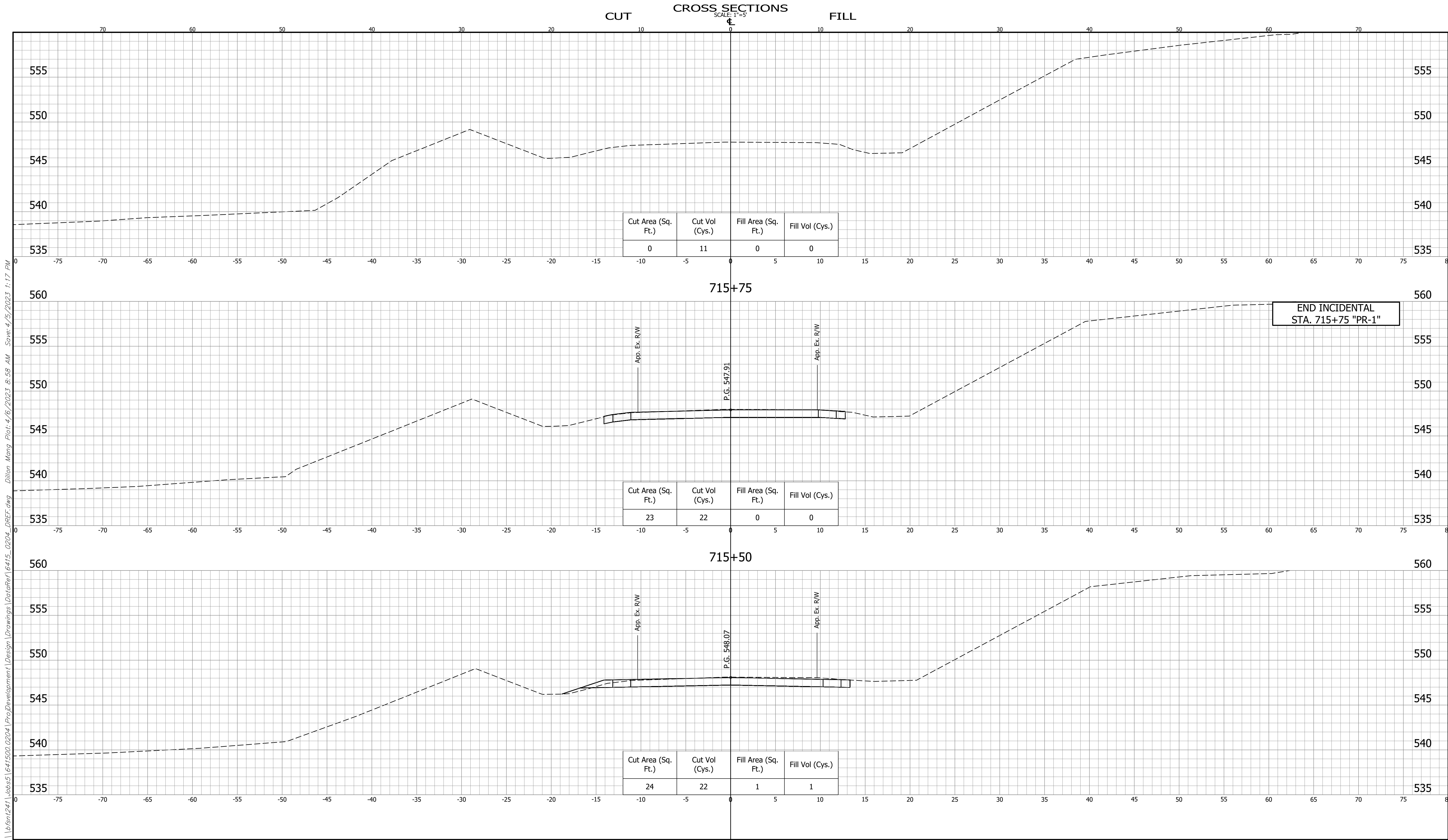
Cut Area (Sq. Ft.)	Cut Vol (Cys.)	Fill Area (Sq. Ft.)	Fill Vol (Cys.)
3.1	2.9	3.1	2.9

BENCHING

Cut Area (Sq. Ft.)	Cut Vol (Cys.)	Fill Area (Sq. Ft.)	Fill Vol (Cys.)
5.9	5.5	5.9	5.5

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<p>CROSS SECTIONS LINE "PR-1"</p> <p>DESIGNED: B. WRIGHT DRAWN: L. KIRSCH</p> <p>CHECKED: C. RENFROW CHECKED: B. WRIGHT</p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>CROSS SECTIONS</p>	<p>HORIZONTAL SCALE 1" = 5'-0"</p>	<p>BRIDGE FILE (158)58-47-03027</p>	6415_0204 BFS NO.
		<p>VERTICAL SCALE 1" = 5'-0"</p>	<p>DESIGNATION 1800133</p>	
<p>SURVEY BOOK</p>		<p>SHEET 25 OF 26</p>		
<p>ELECTRONIC CONTRACT B-42174</p>		<p>PROJECT 1800133</p>		



END INCIDENTAL
STA. 715+75 "PR-1"

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CROSS SECTIONS LINE "PR-1"	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE 1" = 5'-0" VERTICAL SCALE 1" = 5'-0"	BRIDGE FILE (158)58-47-03027 DESIGNATION 1800133
DESIGNED: B. WRIGHT CHECKED: C. RENFROW	DRAWN: L. KIRSCH CHECKED: B. WRIGHT	CROSS SECTIONS	
		SURVEY BOOK ELECTRONIC CONTRACT B-42174	SHEET OF 26 PROJECT 1800133

6415_0204
BFS NO.