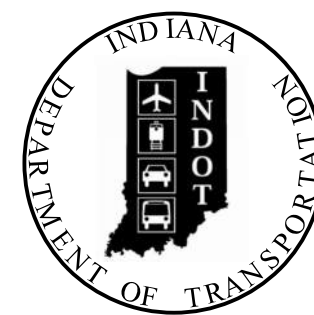


PROJECT	DESIGNATION
2100161	2100161
CONTRACT	
T-43663	
CULVERT ASSET ID	
CV 445-28-000.53	

INDIANA DEPARTMENT OF TRANSPORTATION



ROAD PLANS

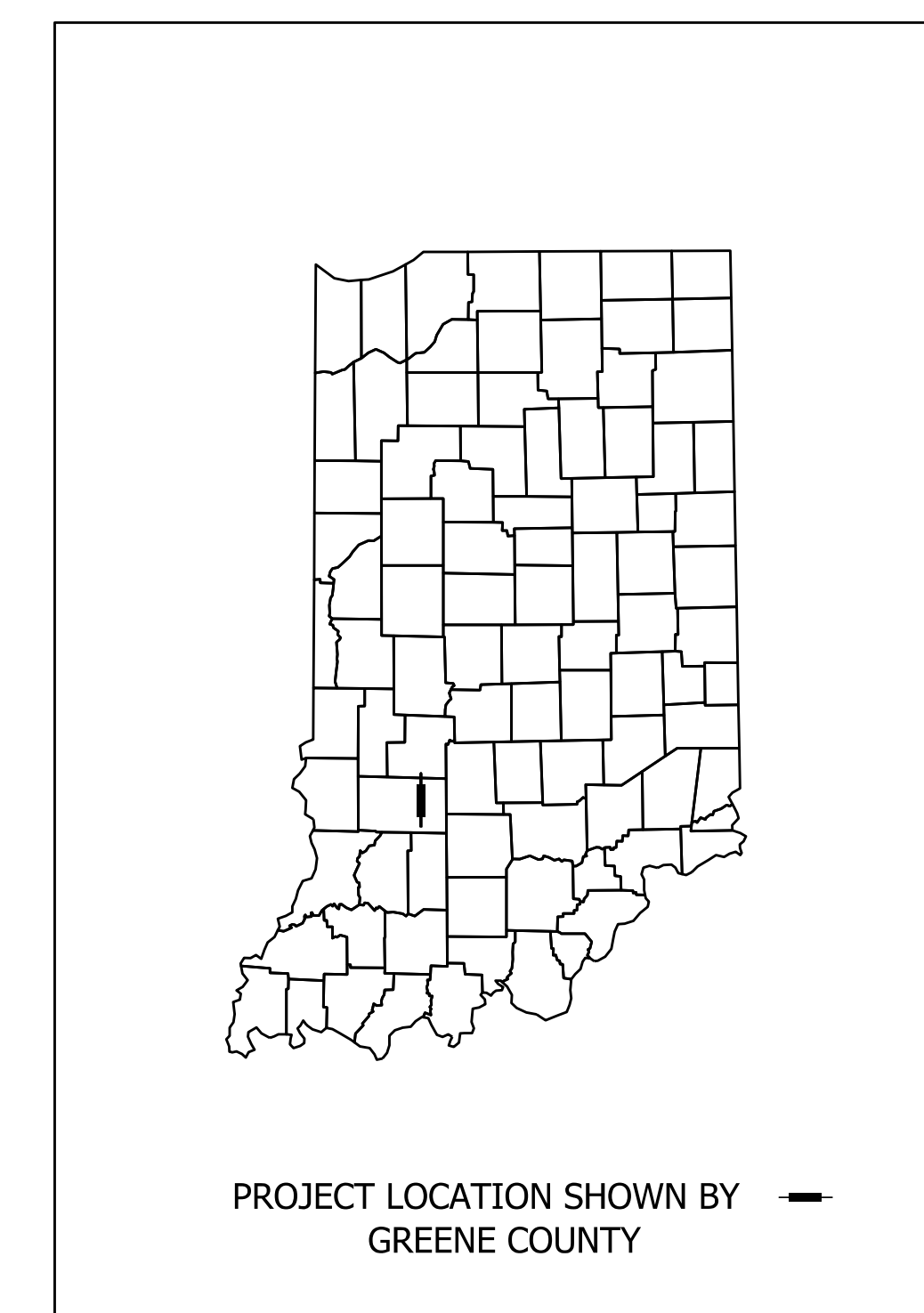
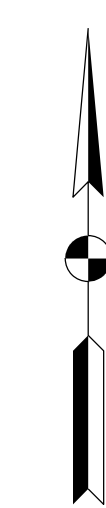
ROUTE: SR 445 AT: RP 0+39 TO 0+62

PROJECT NO. 2100161 P.E.
2100161 R/W
2100161 CONST.

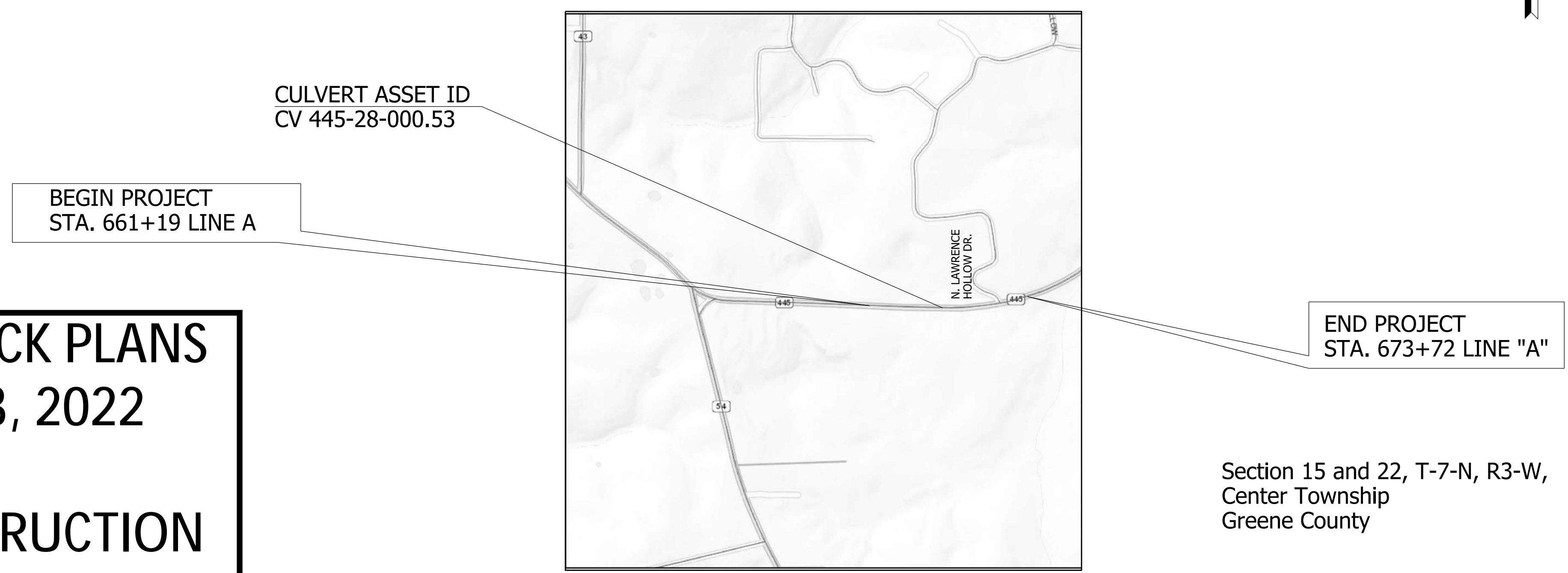
TRAFFIC DATA		
A.A.D.T.	(2022)	3,751 V.P.D.
A.A.D.T.	(2043)	3,751 V.P.D.
D.H.V.	(2043)	9.78 %
DIRECTIONAL DISTRIBUTION		48.41 %
TRUCKS		2.83 % A.A.D.T.
		2.18 % D.H.V.
DESIGN DATA		
DESIGN SPEED		50 M.P.H.
PROJECT DESIGN CRITERIA		3R (Non-Freeway)
FUNCTIONAL CLASSIFICATION		State Collector
RURAL/URBAN		Rural
TERRAIN		Rolling
ACCESS CONTROL		None

Small structure extension on SR 445 over Unnamed Tributary , located approximately 0.39 miles East of State Road 54 in Section 15 and 22, T-7-N, R-3-W, Center Township Greene County, Indiana.

Gross Length: 0.237 MI.
Net Length: 0.237 MI.
Maximum Grade: 6.82 %



LATITUDE: 39°02'10" LONGITUDE: 86°43'41"



FINAL FIELD CHECK PLANS
DECEMBER 13, 2022
NOT FOR CONSTRUCTION

Section 15 and 22, T-7-N, R3-W,
Center Township
Greene County

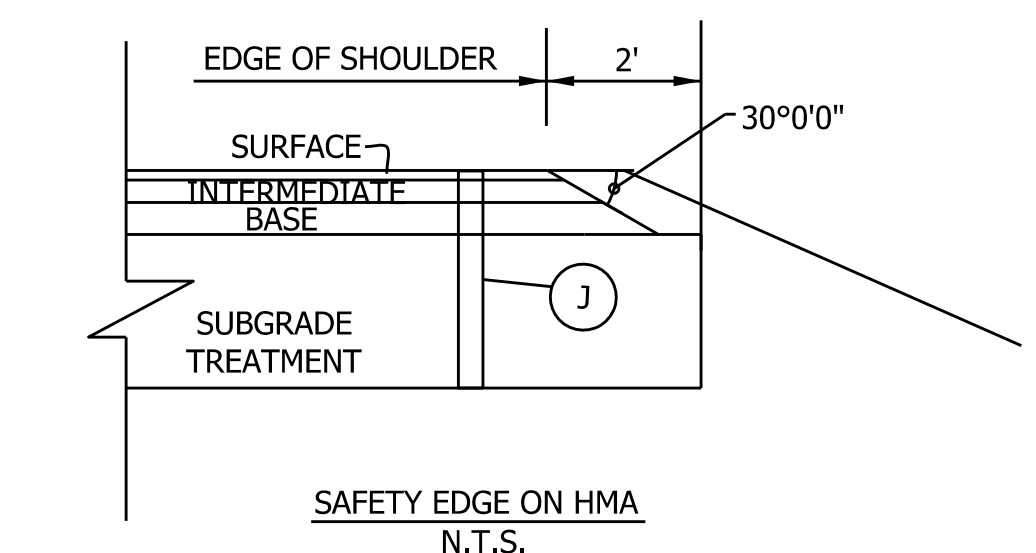
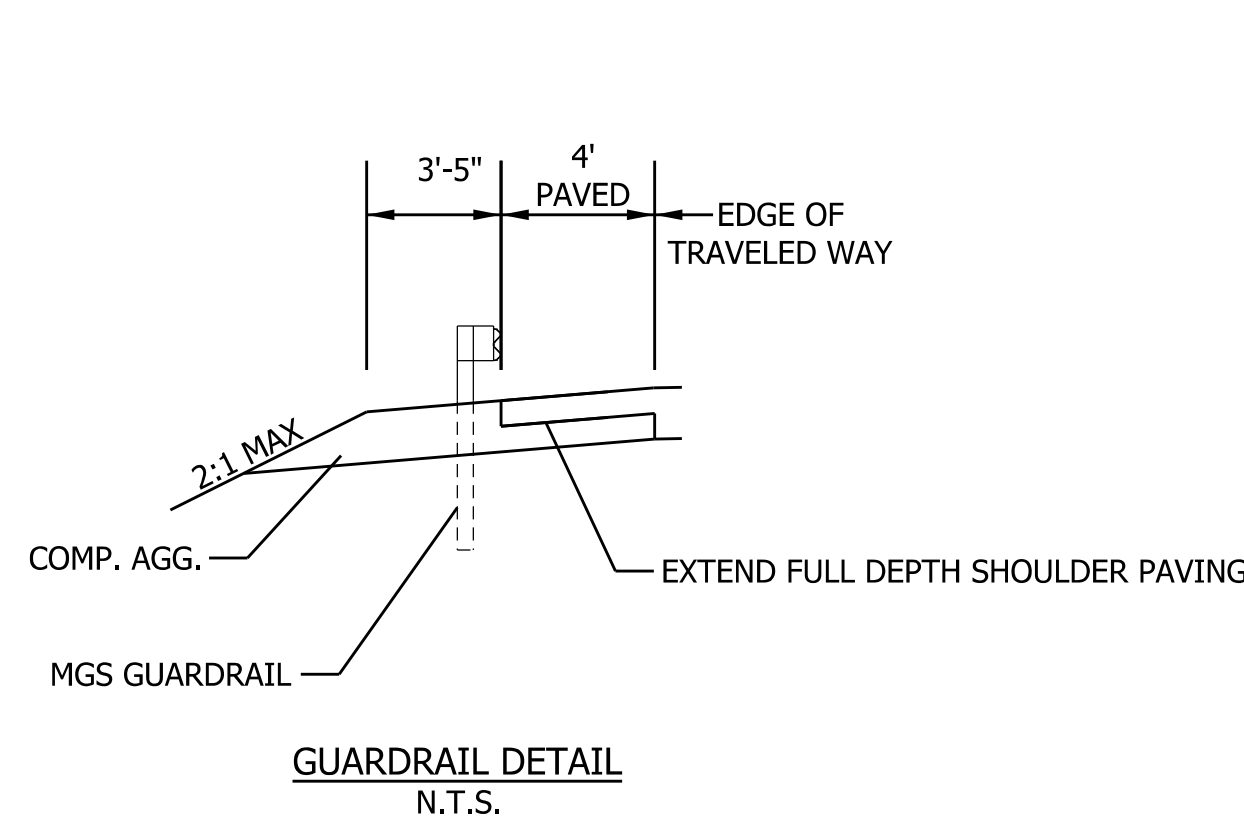
SCALE: 1" = 8,000'
0' 8,000'

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

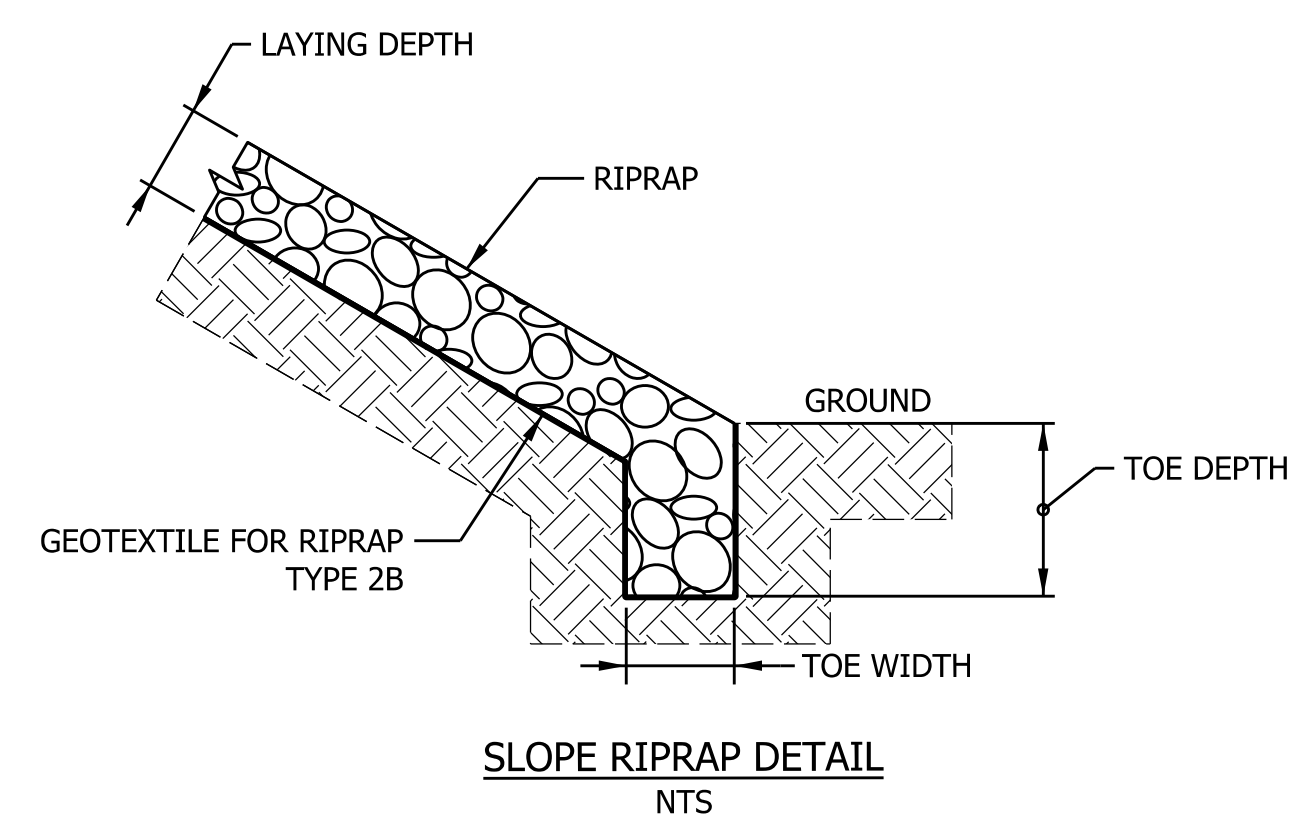
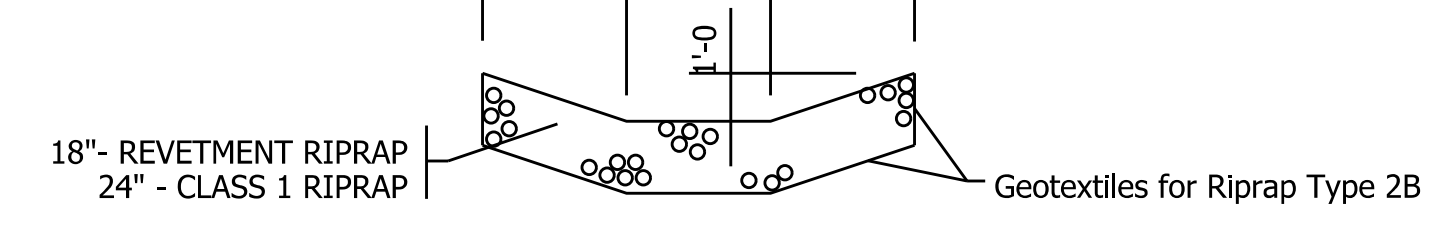
2857 Charlestown Road, Suite 400
New Albany, IN 47150
Phone (812) 944-9672

PLANS PREPARED BY: **HMB Professional Engineers** (812) 944-9672
PHONE NUMBER
CERTIFIED BY: _____ DATE _____
APPROVED FOR LETTING: _____ DATE _____
INDIANA DEPARTMENT OF TRANSPORTATION

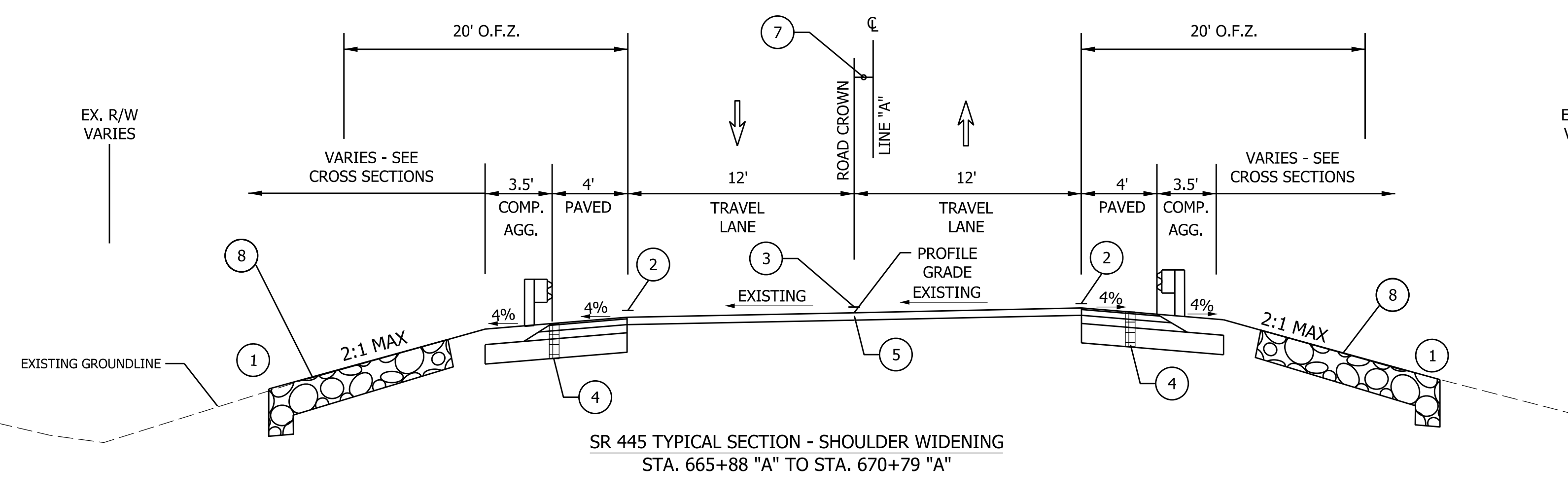
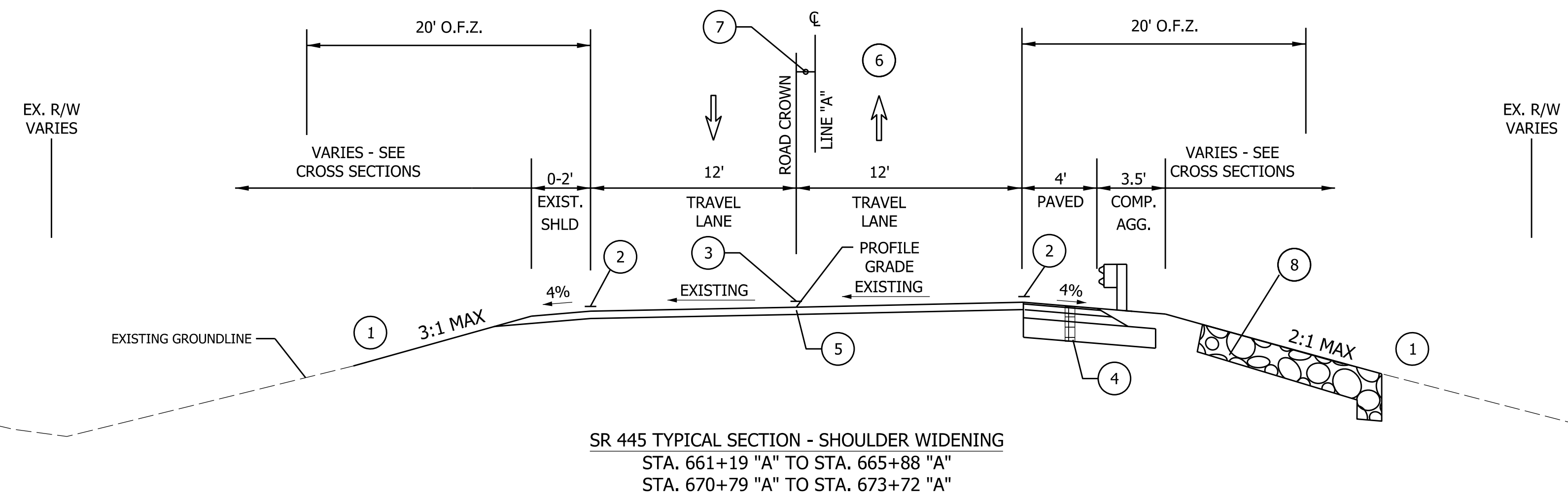
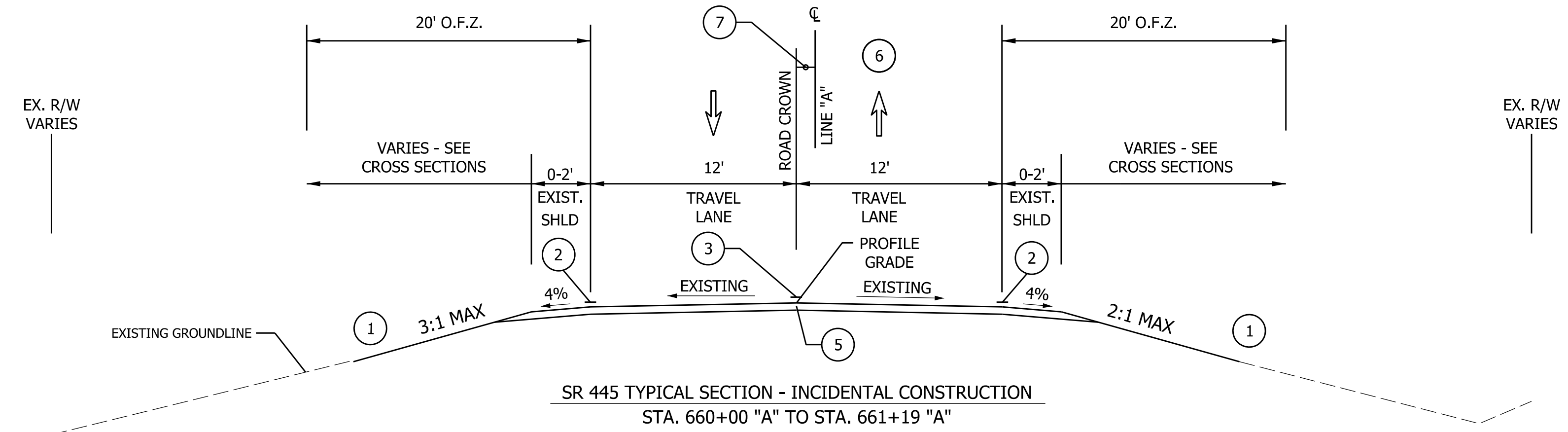
CULVERT ASSET ID	
CV 445-28-000.53	
DESIGNATION	
2100161	
SHEETS	
1	of 19
CONTRACT	PROJECT
T-43663	2100161



2:1 Slopes	2'-0"	4'-0"	2'-0"
3:1 Slopes	3'-0"	4'-0"	3'-0"
4:1 Slopes	4'-0"	4'-0"	4'-0"



RIPRAP CLASS	TOE WIDTH	TOE DEPTH	LAYING DEPTH
REVTMENT	2 FT	2 FT	1.5 FT
CLASS 1	3 FT	3 FT	2 FT
CLASS 2	4 FT	4 FT	2.5 FT

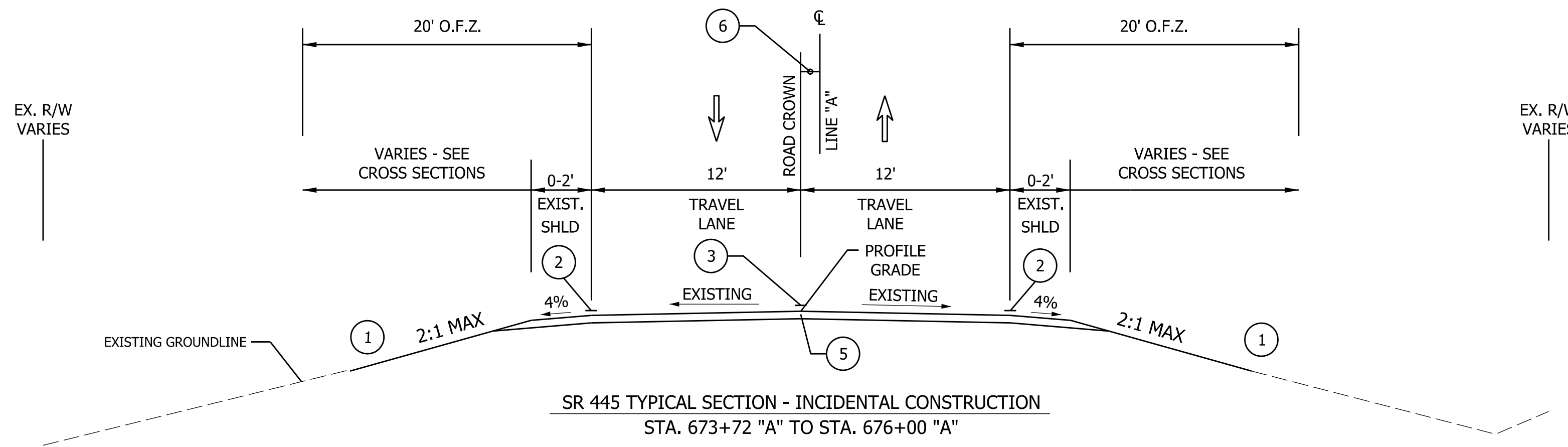


- LEGEND:**
- ① SEE CROSS SECTIONS FOR SLOPES.
 - ② LINE, PAINT, SOLID, WHITE, 4".
 - ③ DOUBLE LINE, PAINT, SOLID, YELLOW, 4".
 - ④ 165 LBS/SYD QC/QA-HMA, 3, 64, SURFACE, 9.5 MM ON WIDENING WITH HMA, TYPE B CONSISTING OF: 275 LBS/SYD HMA INTERMEDIATE, TYPE B, ON COMPACTED AGGREGATE, NO. 53 (6 INCH MINIMUM, MATCH EXISTING MAINLINE) ON SUBGRADE TREATMENT TYPE II
 - ⑤ TRANSITION MILL THE EXISTING ASPHALT PAVEMENT UP TO 1.5 INCHES FOR VERTICAL ALIGNMENT PURPOSES 165 LBS/SYD QC/QA-HMA, 3, 64, SURFACE, 9.5MM.
 - ⑥ NORMAL CROWN FROM STA. 661+63 TO STA. 664+00
 - ⑦ ALIGNMENT IS OFFSET FROM ROAD CROWN, VARIES FROM 0' TO 1.54', REFER TO CROSS SECTIONS.
 - ⑧ RIPRAP, REVETMENT ON GEOTEXTILE, TYPE 2B

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH 04-11-22	DRAWN: AKH	04-11-22
CHECKED: RMH 04-11-22	CHECKED: RMH	04-11-22

INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

SCALE 1/4" = 1'-0"	CULVERT ASSET ID CV 445-28-000.53
	DESIGNATION 2100161
	SHEETS 3 of 19
CONTRACT T-43663	PROJECT 2100161



LEGEND:

- ① SEE CROSS SECTIONS FOR SLOPES.
- ② LINE, THERMOPLASTIC, SOLID, WHITE, 4".
- ③ DOUBLE LINE, THERMOPLASTIC, SOLID, YELLOW, 4".
- ④ 165 LBS/SYD QC/QA-HMA, 3, 64, SURFACE, 9.5 MM ON WIDENING WITH HMA, TYPE B CONSISTING OF: 275 LBS/SYD HMA INTERMEDIATE, TYPE B, ON COMPACTED AGGREGATE, NO. 53 (6 INCH MINIMUM, MATCH EXISTING MAINLINE) ON SUBGRADE TREATMENT TYPE II
- ⑤ TRANSITION MILL THE EXISTING ASPHALT PAVEMENT UP TO 1.5 INCHES FOR VERTICAL ALIGNMENT PURPOSES 165 LBS/SYD QC/QA- HMA,3, 64, SURFACE, 9.5MM.
- ⑥ ALIGNMENT IS OFFSET FROM ROAD CROWN, VARIES FROM 0' TO 1.54', REFER TO CROSS SECTIONS.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	SCALE	CULVERT ASSET ID
		1/4" = 1'-0"	CV 445-28-000.53
DESIGNED: AKH 04-11-22 DRAWN: AKH 04-11-22	TYPICAL CROSS SECTIONS	DESIGNATION	
CHECKED: RMH 04-11-22 CHECKED: RMH 04-11-22		2100161	
		SHEETS	
		4 of 19	
		CONTRACT	PROJECT
		T-43663	2100161

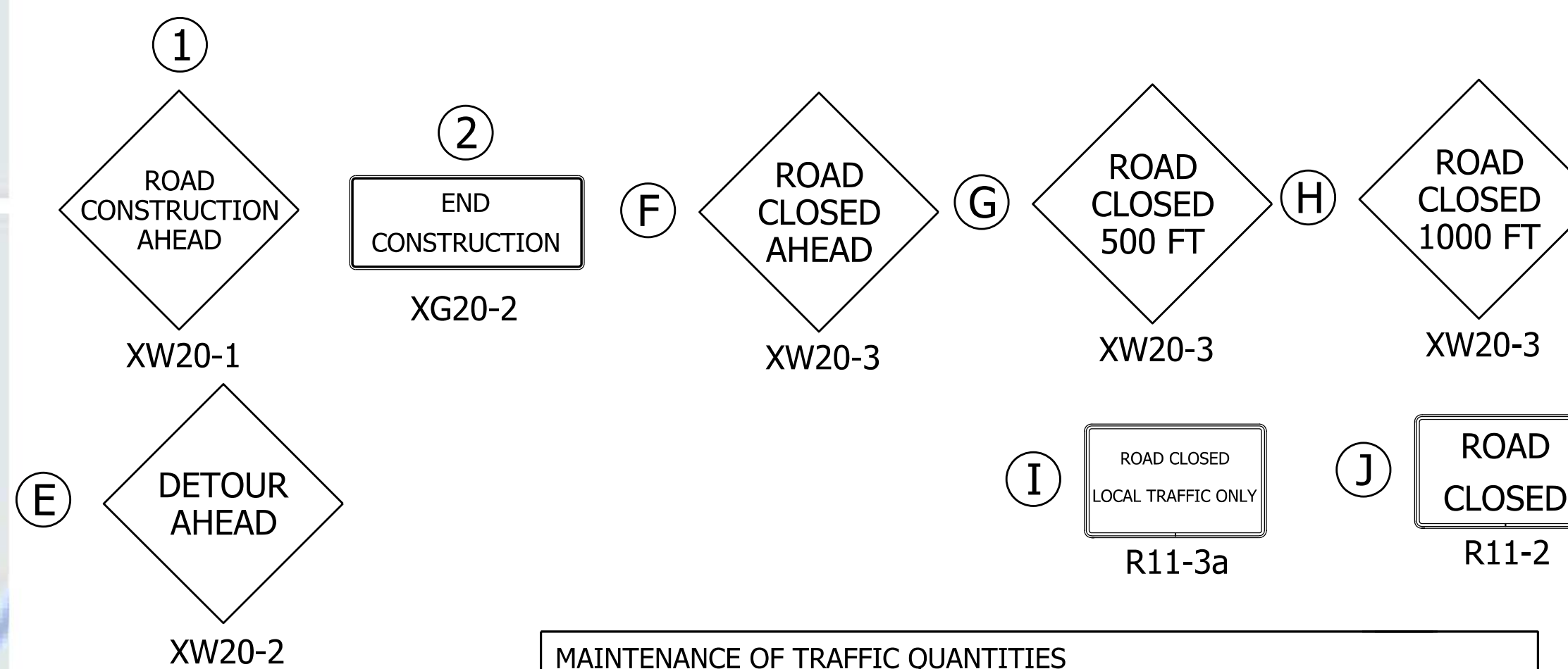


TRAFFIC CONTROL PLAN

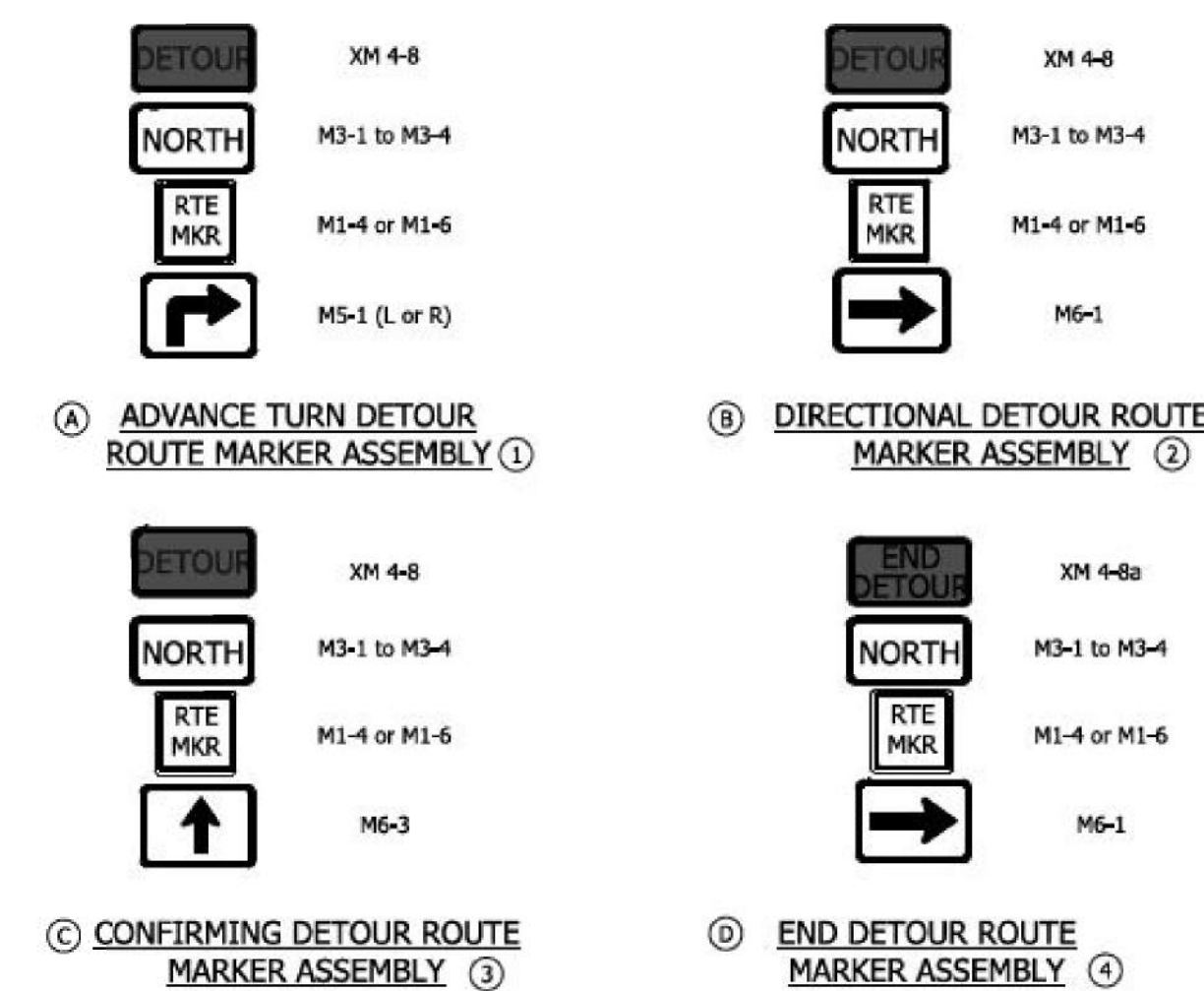
ROUTE DETOUR = 4.50 MILES

A ROAD CLOSURE WILL BE UTILIZED FOR THE PROJECT. THE OFFICIAL STATE DETOUR WILL UTILIZE SR45 AND SR54.

SEE STANDARD DRAWINGS:
 E 801-TCDT-01 RURAL DETOUR
 E 801-TCDT-03 DETOUR ROUTE MARKER ASSEMBLIES

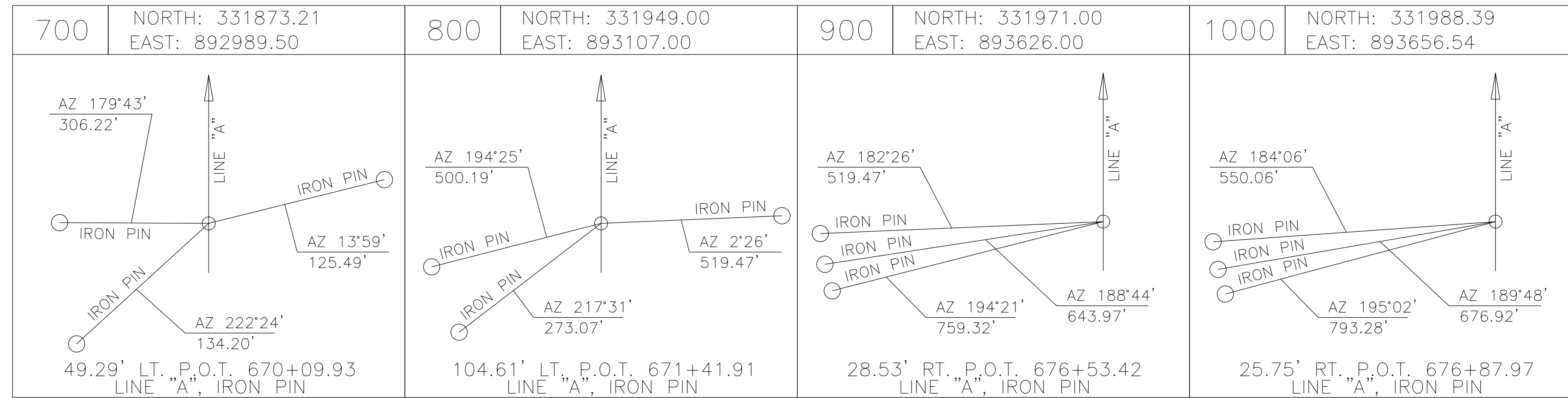
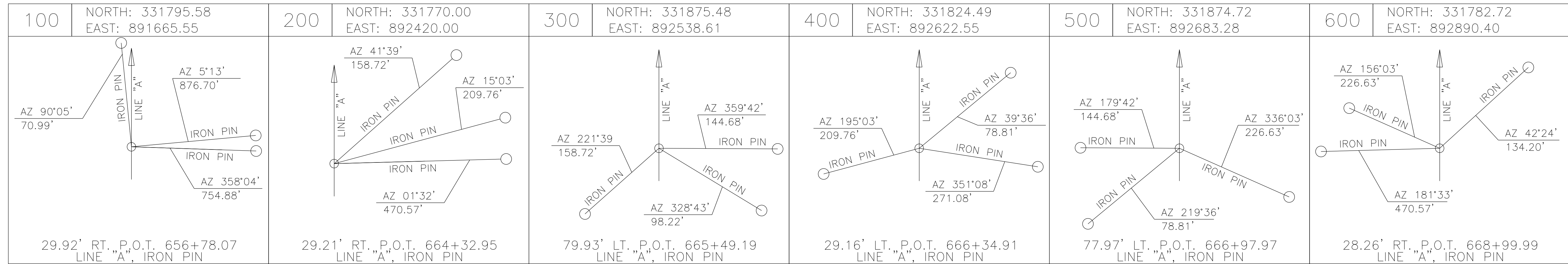


MAINTENANCE OF TRAFFIC QUANTITIES			
PAY ITEM	EACH	LFT	SFT
Construction Sign, A	21		
Construction Sign, B	2		
Detour Route Marker Assembly	36		
Temporary Traffic Barrier, Type IIIB		48	
Temporary Traffic Barrier, Type IIIA		48	
Road Closure Sign Assembly	4		



SCALE: 1" = 800'
 0' 400' 800'

RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		SCALE	CULVERT ASSET ID
DESIGNED: AKH 04-11-22	DRAWN: AKH 04-11-22	CHECKED: RMH 04-11-22	CHECKED: RMH 04-11-22			NTS	CV 445-28-000.53
TRAFFIC CONTROL PLAN SR 445 DETOUR ROUTE				DESIGNATION		2100161	
				SHEETS		5 of 19	
CONTRACT				PROJECT		SHEETS	
T-43663				2100161		PROJECT	



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION		SCALE	CULVERT ASSET ID
			NTS	CV 445-28-000.53
			DESIGNATION	
DESIGNED: AKH 04-11-22	DRAWN: AKH 04-11-22	GEOMETRIC TIE-UP SHEET	SHEETS	
CHECKED: RMH 04-11-22	CHECKED: RMH 04-11-22		6 of 19	
			CONTRACT	PROJECT
		T-43663	2100161	

CURVE # 1
 PI = 669+02.60 (1) PI = 677+05.96(2)
 Delta = 40° 00'00" LT
 D = 2° 00'00"(1) D = 2° 59'59"(2)
 R = 2864.65'(1) R = 1910.07'(2)
 T = 914.26'(1) T = 752.74'(2)
 L = 799.96'(1) L = 800.09'(2)
 E = 142.36'

JAMES L. BALES
 LAWRENCE HOLLOW ADDITION
 (P.B. 2, PG. 99-100)

CAITLYN FRYE & DANIAL DOMINIC HILL
 (INST. NO. 201700001879)

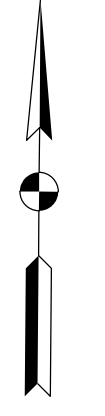
SEC. 15, T-7N, R-3W
 CENTER TWP.
 GREENE COUNTY

JASON L. WADSWORTH & ANDREA M. CHESAK
 (INST. NO. 201900000001)

RONALD J. & JUANITA D. THOMPSON
 (INST. NO. 202000000471)

HERITAGE LAND COMPANY, LLC
 (INST. NO. 20200006482)

SEC. 22, T-7N, R-3W
 CENTER TWP.
 GREENE COUNTY



SCALE: 1" = 100'
 0 50 100

NOTE: All Topography and R/W described from Line "A" unless otherwise noted.

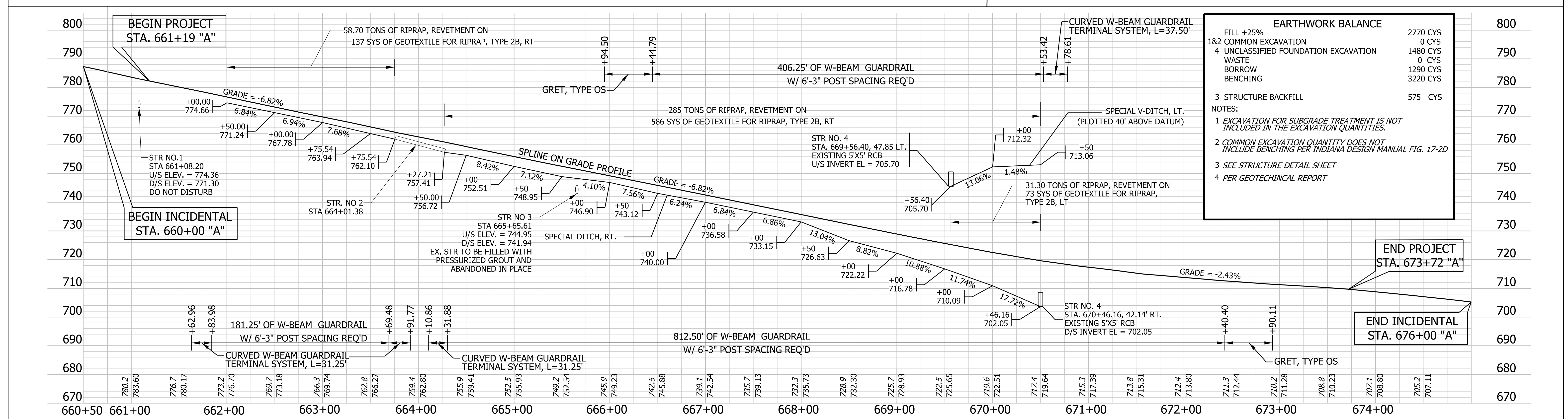
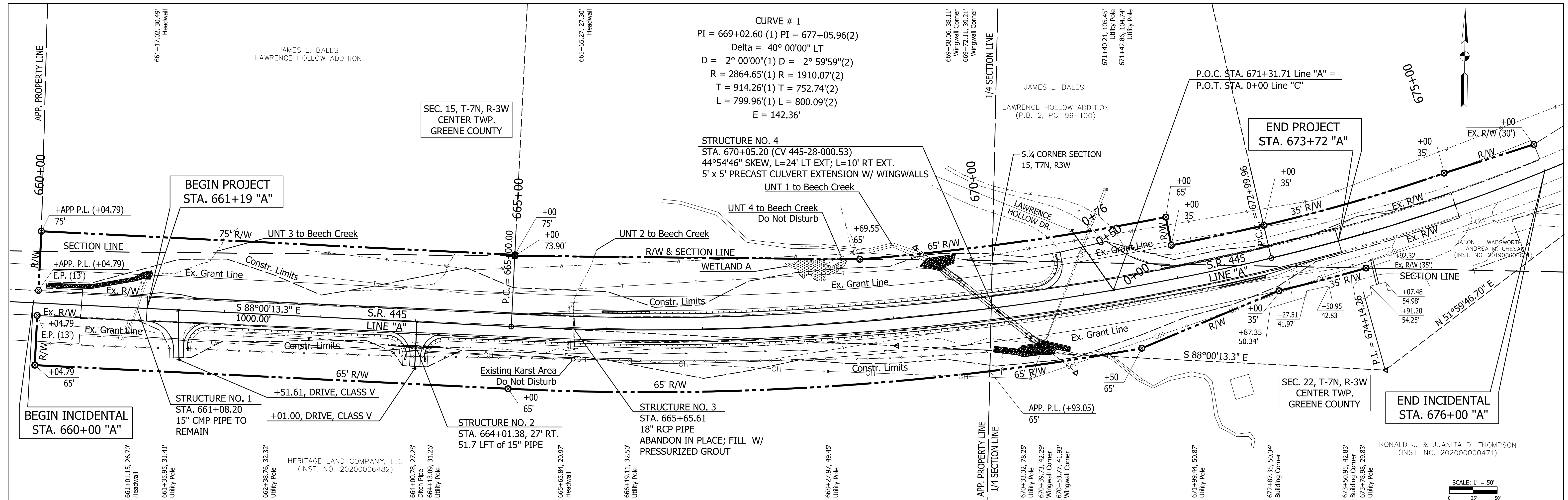
☒ Concrete Right-of-Way Marker

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04-11-22	DRAWN: AKH 04-11-22
CHECKED: RMH	04-11-22	CHECKED: RMH 04-11-22

INDIANA
 DEPARTMENT OF TRANSPORTATION

PLAT NO. 1

SCALE 1"=50'	CULVERT ASSET ID CV 445-28-000.53
	DESIGNATION 2100161
SURVEY BOOK	SHEETS 7 of 19
CONTRACT T-43663	PROJECT 2100161



EARTHWORK BALANCE		800
FILL +25%	2770 CYS	800
1&2 COMMON EXCAVATION	0 CYS	790
4 UNCLASSIFIED FOUNDATION EXCAVATION	1480 CYS	790
WASTE	0 CYS	780
BORROW	1290 CYS	780
BENCHING	3220 CYS	780
3 STRUCTURE BACKFILL	575 CYS	770

NOTES:
 1 EXCAVATION FOR SUBGRADE TREATMENT IS NOT INCLUDED IN THE EXCAVATION QUANTITIES.
 2 COMMON EXCAVATION QUANTITY DOES NOT INCLUDE BENCHING PER INDIANA DESIGN MANUAL FIG. 17-2D
 3 SEE STRUCTURE DETAIL SHEET
 4 PER GEOTECHNICAL REPORT

Note: For Reference Ties, See Geometric Tie-up Sheet.
 All Topo and Right of Way described from Line A unless otherwise noted.
 ☒ Concrete Right-of-Way Marker

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04-11-22	DRAWN: AKH
CHECKED: RMH	04-11-22	CHECKED: RMH

INDIANA
 DEPARTMENT OF TRANSPORTATION

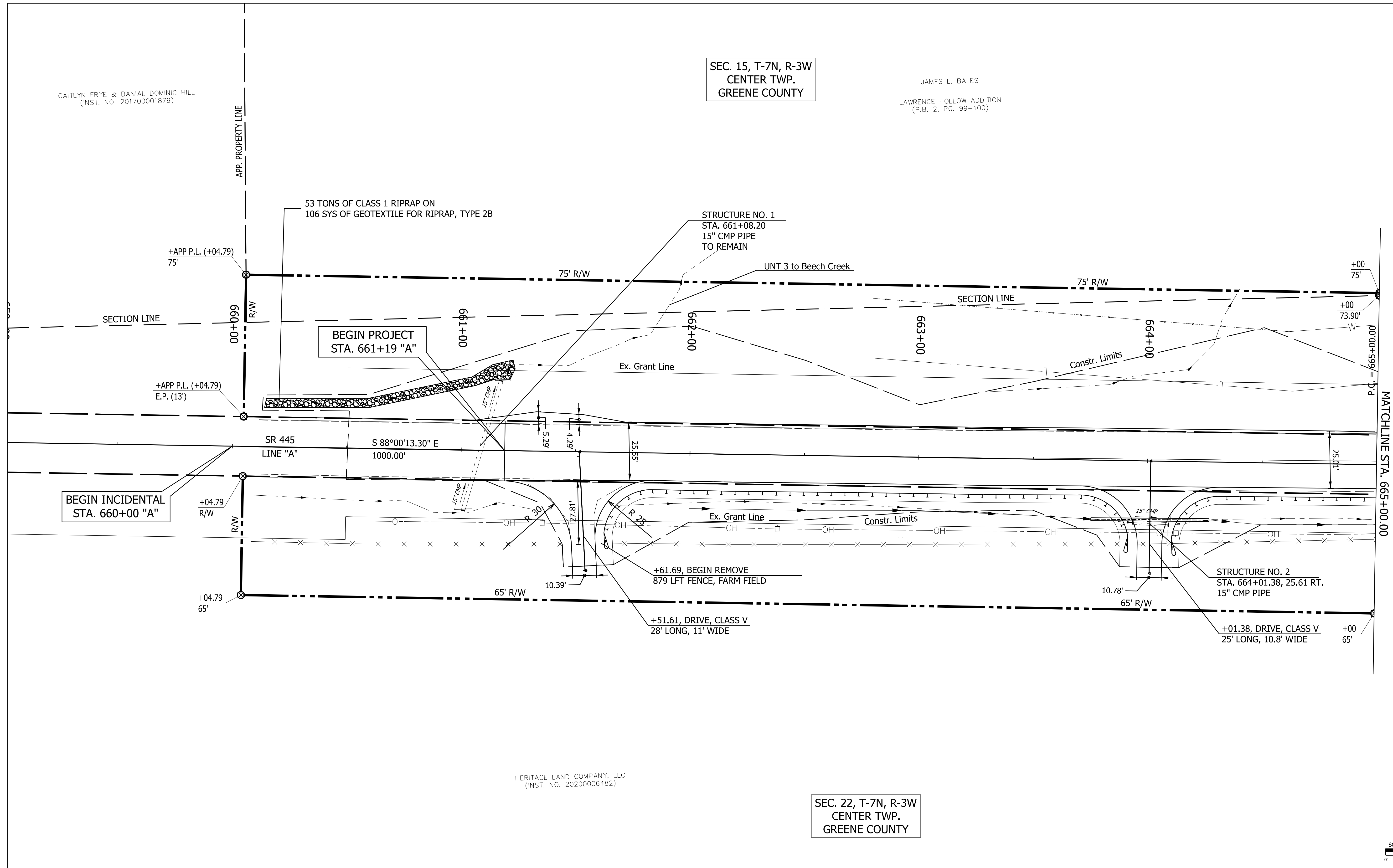
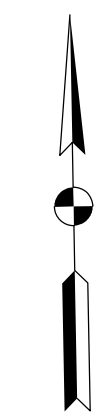
PLAN AND PROFILE SHEET

SCALE	CULVERT ASSET ID
1:50 HORIZONTAL	CV 445-28-000.53
1:3 VERTICAL	DESIGNATION
	2100161
	SHEETS
	8 of 19
CONTRACT	PROJECT
T-43663	2100161

CAITLYN FRYE & DANIAL DOMINIC HILL
(INST. NO. 201700001879)

SEC. 15, T-7N, R-3W
CENTER TWP.
GREENE COUNTY

JAMES L. BALES
LAWRENCE HOLLOW ADDITION
(P.B. 2, PG. 99-100)



HERITAGE LAND COMPANY, LLC
(INST. NO. 20200006482)

SEC. 22, T-7N, R-3W
CENTER TWP.
GREENE COUNTY

SCALE: 1" = 20'

NOTE: All Topography and R/W described from Line "A" unless otherwise noted.

Concrete Right-of-Way Marker

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH 04/11/22	DRAWN: AKH	04/11/22
CHECKED: RMH 04/11/22	CHECKED: RMH	04/11/22

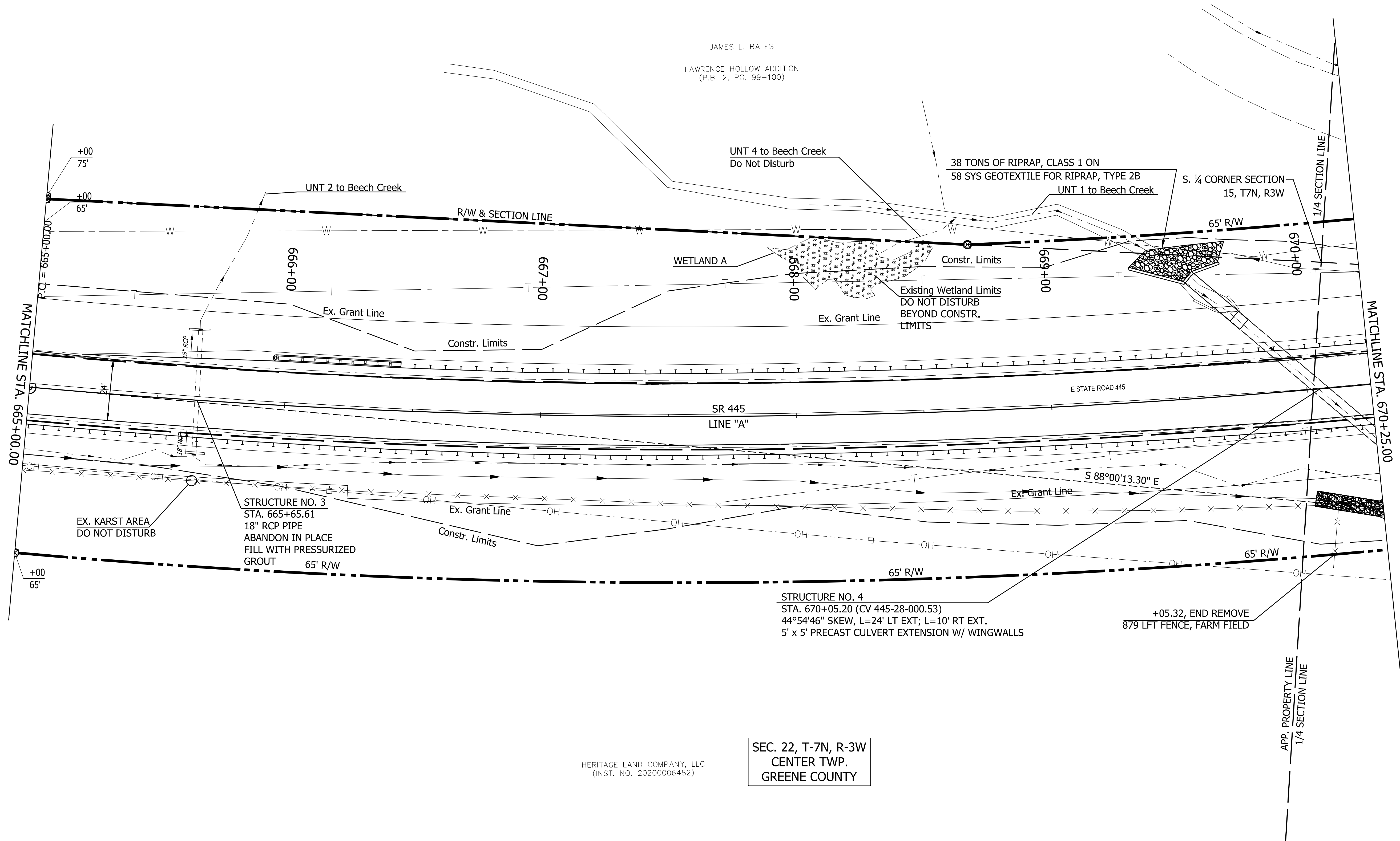
INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

SCALE	CULVERT ASSET ID
1"=20'	CV 445-28-000.53
	DESIGNATION
	1200161
SURVEY BOOK	SHEETS
	9 of 19
CONTRACT	PROJECT
T-43663	1200161

SEC. 15, T-7N, R-3W
 CENTER TWP.
 GREENE COUNTY

JAMES L. BALES
 LAWRENCE HOLLOW ADDITION
 (P.B. 2, PG. 99-100)



SEC. 22, T-7N, R-3W
 CENTER TWP.
 GREENE COUNTY

HERITAGE LAND COMPANY, LLC
 (INST. NO. 2020006482)

SCALE: 1" = 20'

NOTE: All Topography and R/W described from Line "A" unless otherwise noted.

☒ Concrete Right-of-Way Marker

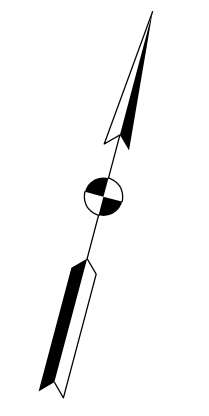
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04/11/22	DRAWN: AKH 04/11/22
CHECKED: RMH	04/11/22	CHECKED: RMH 04/11/22

INDIANA
 DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

SCALE	CULVERT ASSET ID
1"=20'	CV 445-28-000.53
	DESIGNATION
	2100161
SURVEY BOOK	SHEETS
	10 of 19
CONTRACT	PROJECT
T-43663	2100161

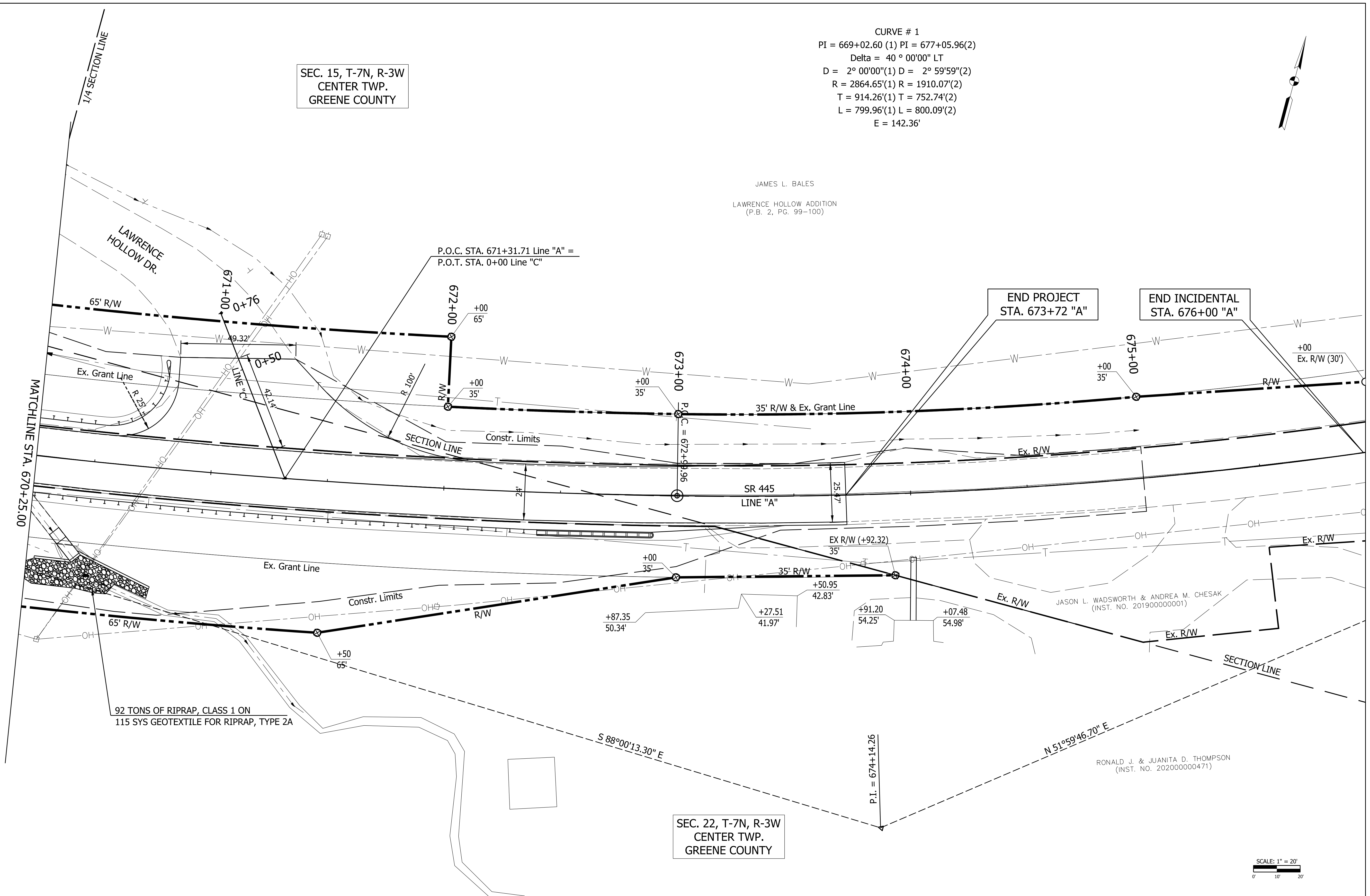
CURVE # 1
 PI = 669+02.60 (1) PI = 677+05.96(2)
 Delta = 40° 00'00" LT
 D = 2° 00'00"(1) D = 2° 59'59"(2)
 R = 2864.65'(1) R = 1910.07'(2)
 T = 914.26'(1) T = 752.74'(2)
 L = 799.96'(1) L = 800.09'(2)
 E = 142.36'



JAMES L. BALES
 LAWRENCE HOLLOW ADDITION
 (P.B. 2, PG. 99-100)

SEC. 15, T-7N, R-3W
 CENTER TWP.
 GREENE COUNTY

SEC. 22, T-7N, R-3W
 CENTER TWP.
 GREENE COUNTY

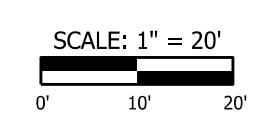


JASON L. WADSWORTH & ANDREA M. CHESAK
 (INST. NO. 201900000001)

RONALD J. & JUANITA D. THOMPSON
 (INST. NO. 202000000471)

NOTE: All Topography and R/W described from Line "A" unless otherwise noted.

☒ Concrete Right-of-Way Marker

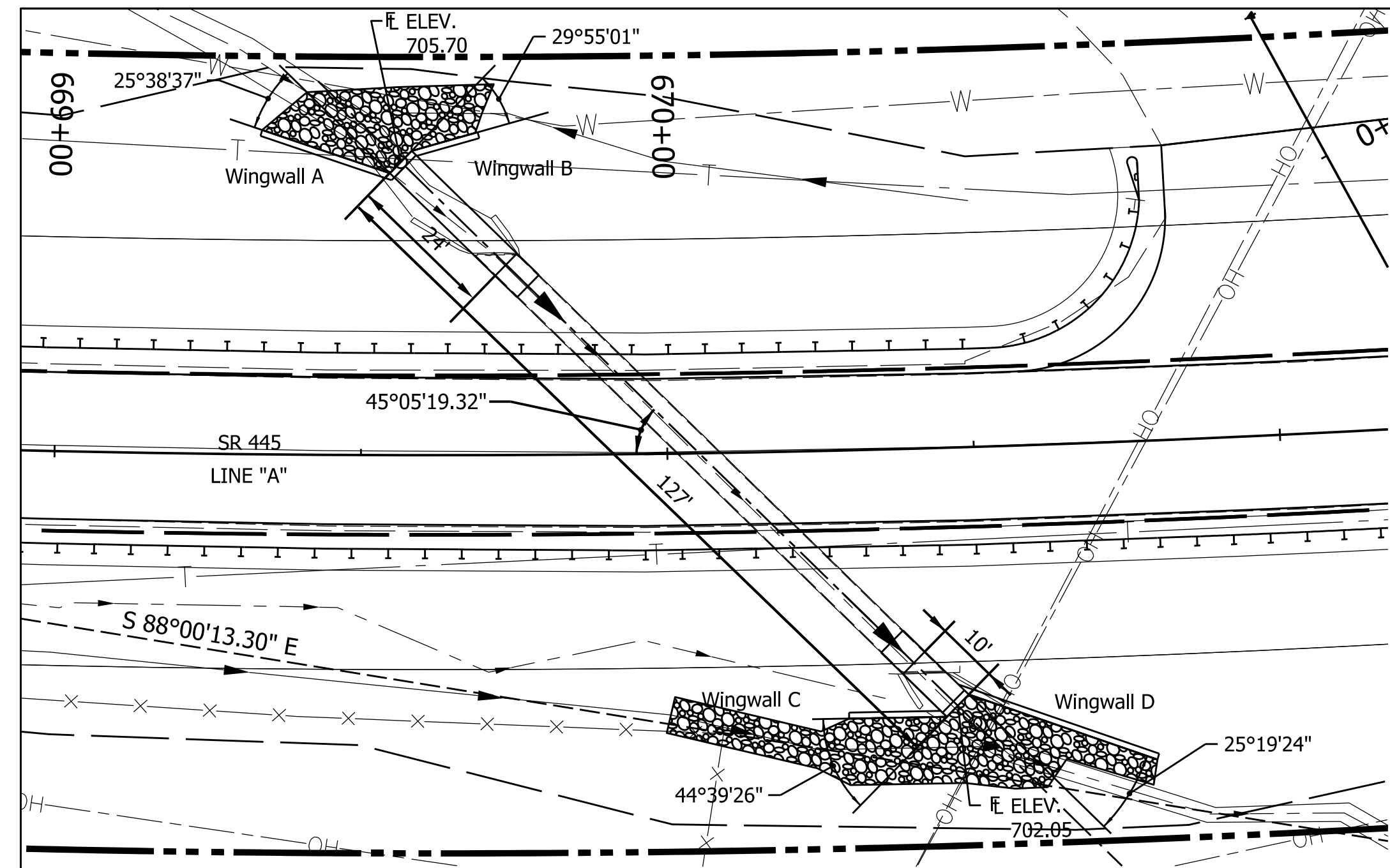


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04/11/22	DRAWN: AKH 04/11/22
CHECKED: RMH	04/11/22	CHECKED: RMH 04/11/22

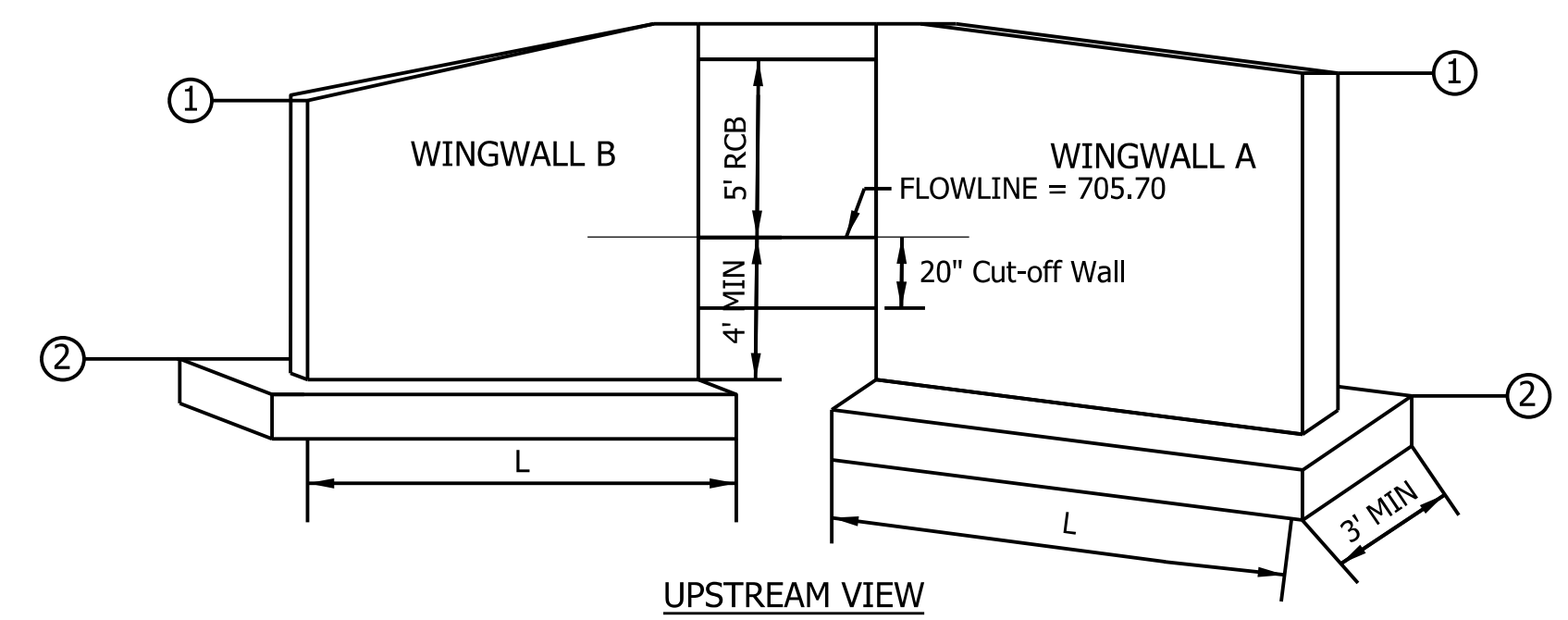
INDIANA
 DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS

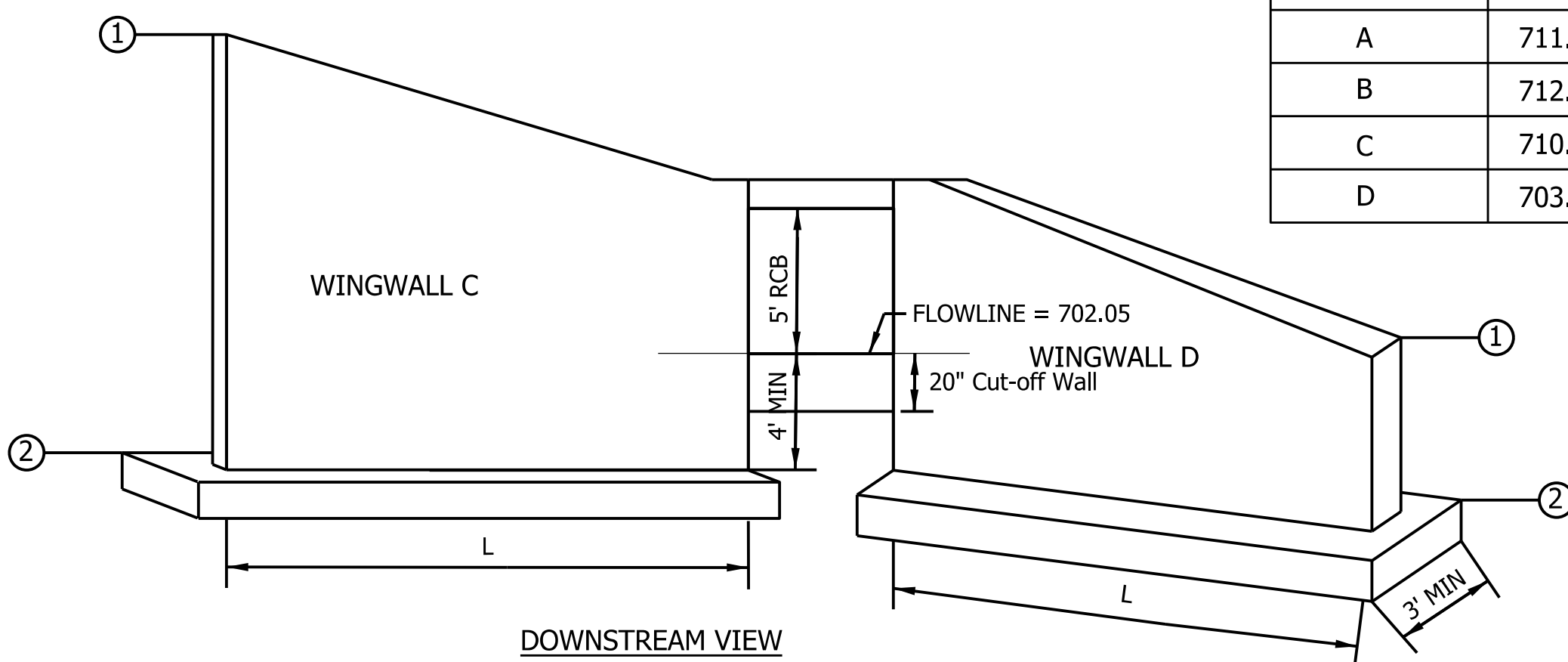
SCALE	CULVERT ASSET ID
1"=20'	CV 445-28-000.53
	DESIGNATION
	2100161
SURVEY BOOK	SHEETS
	11 of 19
CONTRACT	PROJECT
T-43663	2100161



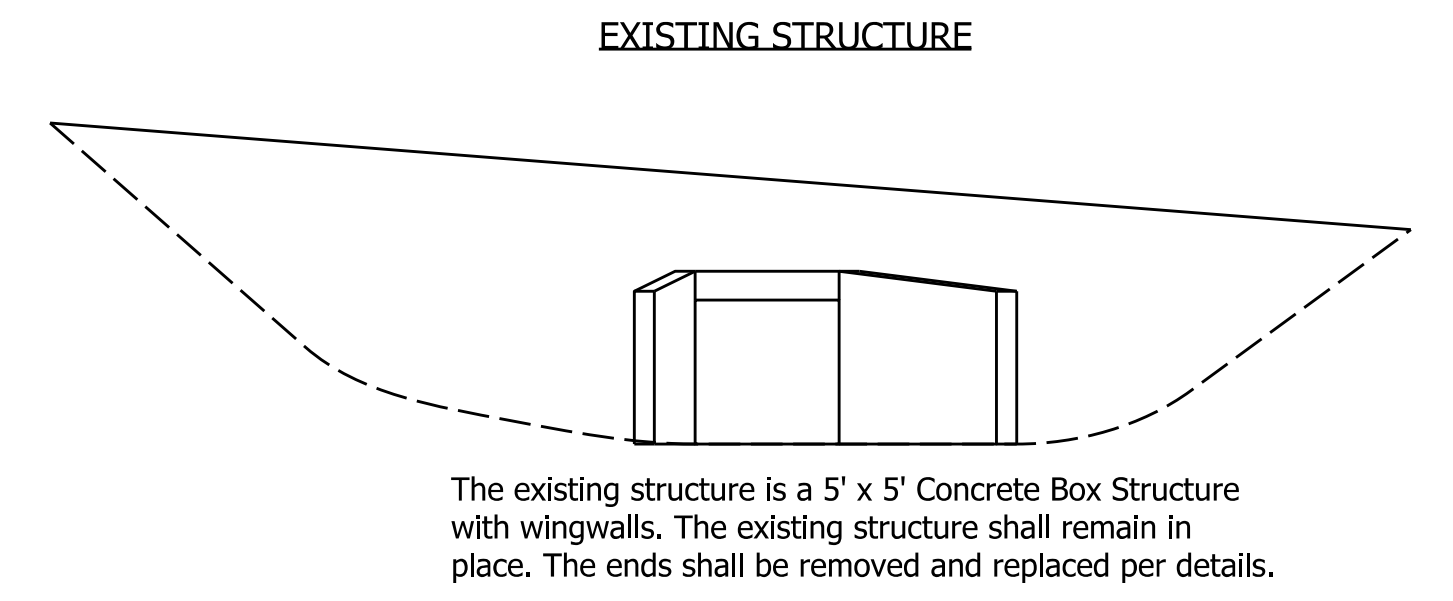
PLAN VIEW
SCALE: 1"=20'



UPSTREAM VIEW



DOWNSTREAM VIEW



EXISTING STRUCTURE
The existing structure is a 5' x 5' Concrete Box Structure with wingwalls. The existing structure shall remain in place. The ends shall be removed and replaced per details.

DESIGN DATA

ALLOWABLE DESIGN STRESSES:
REINFORCING STEEL (GRADE 60) $f_y = 60,000$ psi
CLASS A CONCRETE OR HIGHER $f_c = 5,000$ psi
STRUCTURES:
HEADWALLS, WINGWALLS, OR SPANDELL WALLS: $f_c = 4,000$ psi
CLASS B CONCRETE
FOOTINGS AND BASE SLABS $f_c = 3,000$ psi
LIVE LOAD:
DESIGN FOR HL-93 LOADING IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE SPECIFICATIONS, 9th EDITION, 2020 AND ITS SUBSEQUENT INTERIMS.
DEAD LOAD:
DEAD LOAD INCREASED 35 psf FOR FUTURE WEARING SURFACE.

WINGWALL #	1	2	L
A	711.00	701.70	31.65'
B	712.00	701.70	31.68'
C	710.50	698.05	23.52'
D	703.50	698.05	31.70'

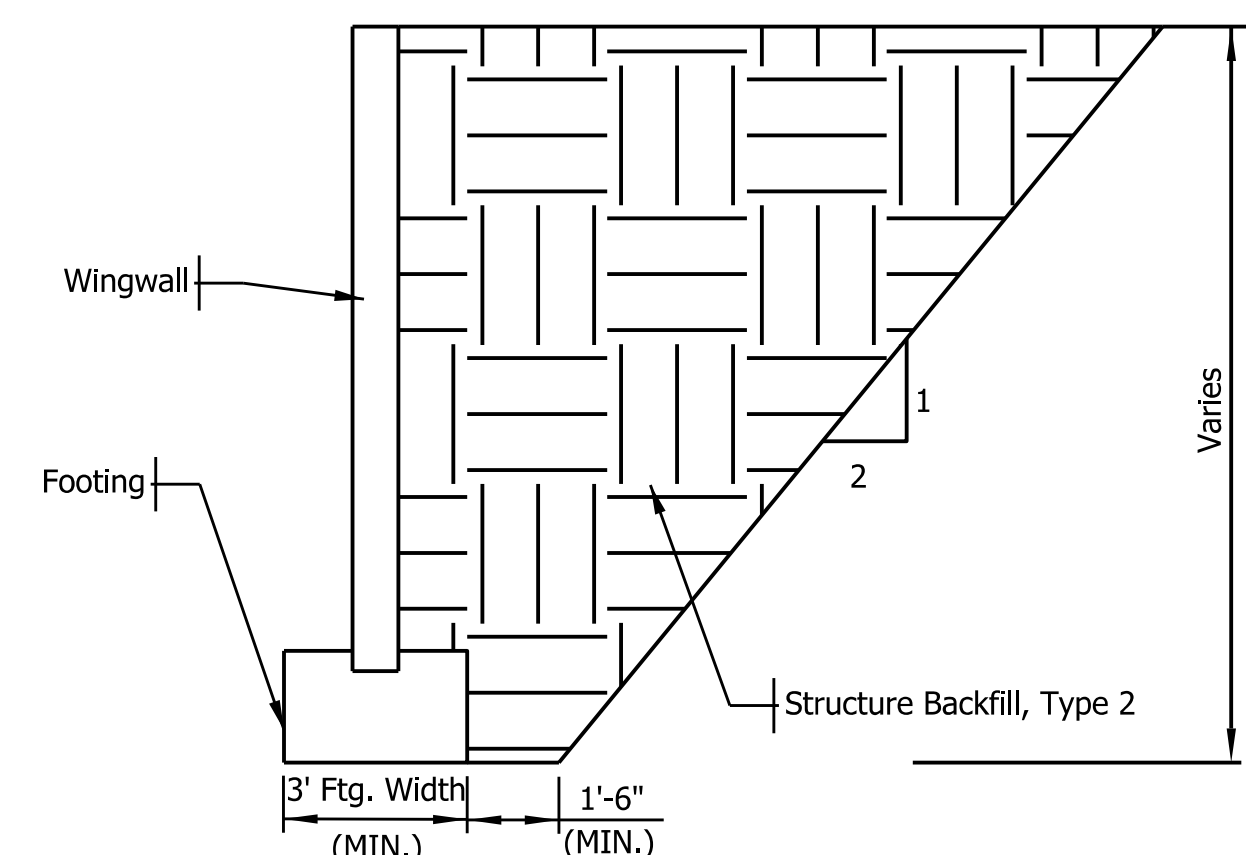
HYDRAULIC REQUIREMENTS

Drainage Area: 30.82 acres
Q100 (AEP 1%) Discharge = 86.60 cfs
Q50 (AEP 2%) Discharge for velocity = 79.40 cfs
Q100 (AEP 1%) Tailwater Depth = 1.38 feet
US Edge of Travel Lane Elevation = 717.48 ft
Design Roadway Serviceability Elevation = 716.48 ft
Q100 (AEP 1%) Headwater Elevation = 709.58
Q100 Backwater = 2.12 ft
Min. Low Structure Elevation (DS) = 706.55
Sump Depth = 0 inches
Outlet Velocity at Q50 = 15.61 ft/sec
Natural Channel Velocity at Q50 = 8.33 ft/sec

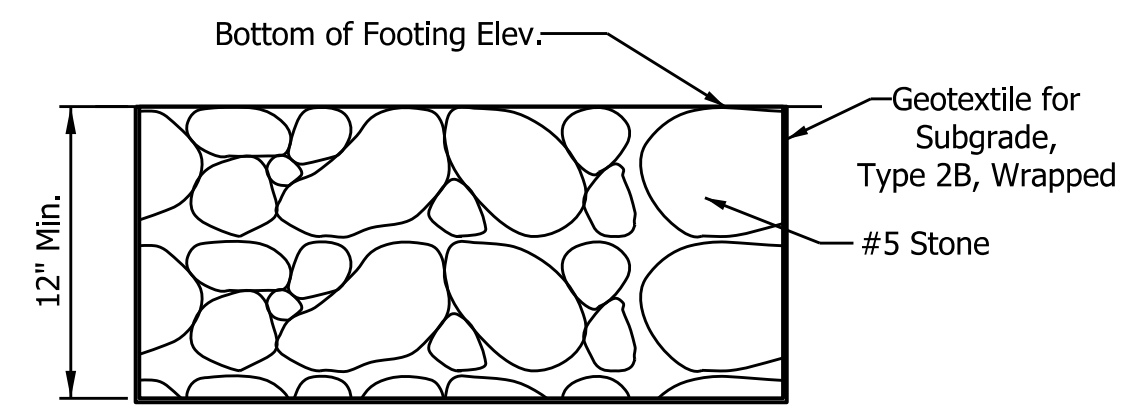
Notes:
The Contractor shall verify the existing flowline elevation to set the appropriate sump depth.

GEOTECHNICAL TABLE

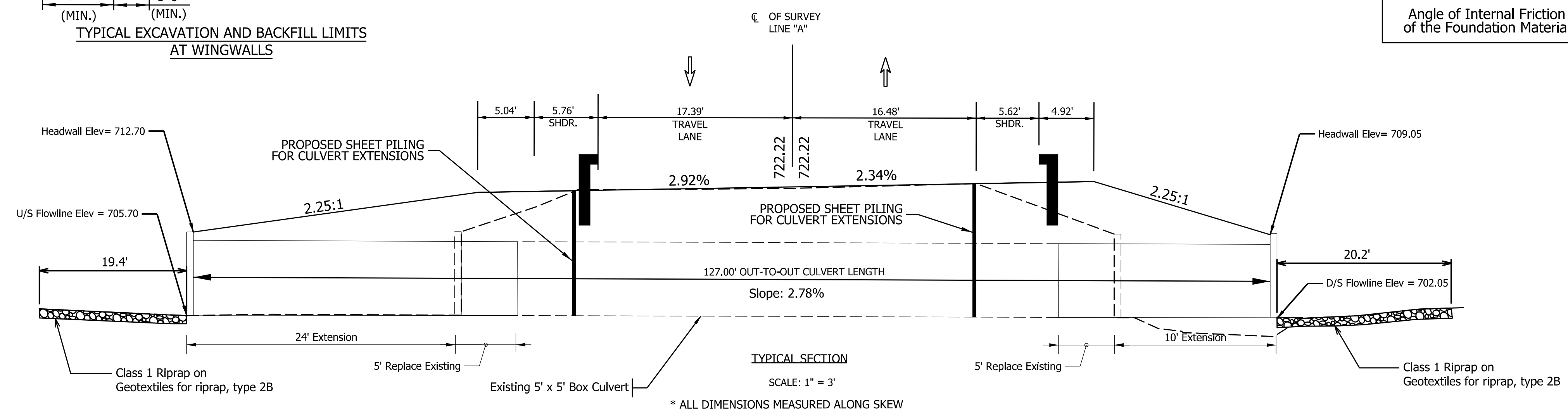
Factored Bearing Resistance	2025 psf
Resistance Factor	0.45
Nominal Bearing Resistance	4500 psf
Friction Angle between wingwall & soil backfill (Type II Backfill)	20°
Friction Factor between footing & foundation soil	0.32
Cohesion of foundation soil	N/A
Adhesion of foundation soil	N/A
Angle of Internal Friction of the Foundation Material	27°



TYPICAL EXCAVATION AND BACKFILL LIMITS AT WINGWALLS

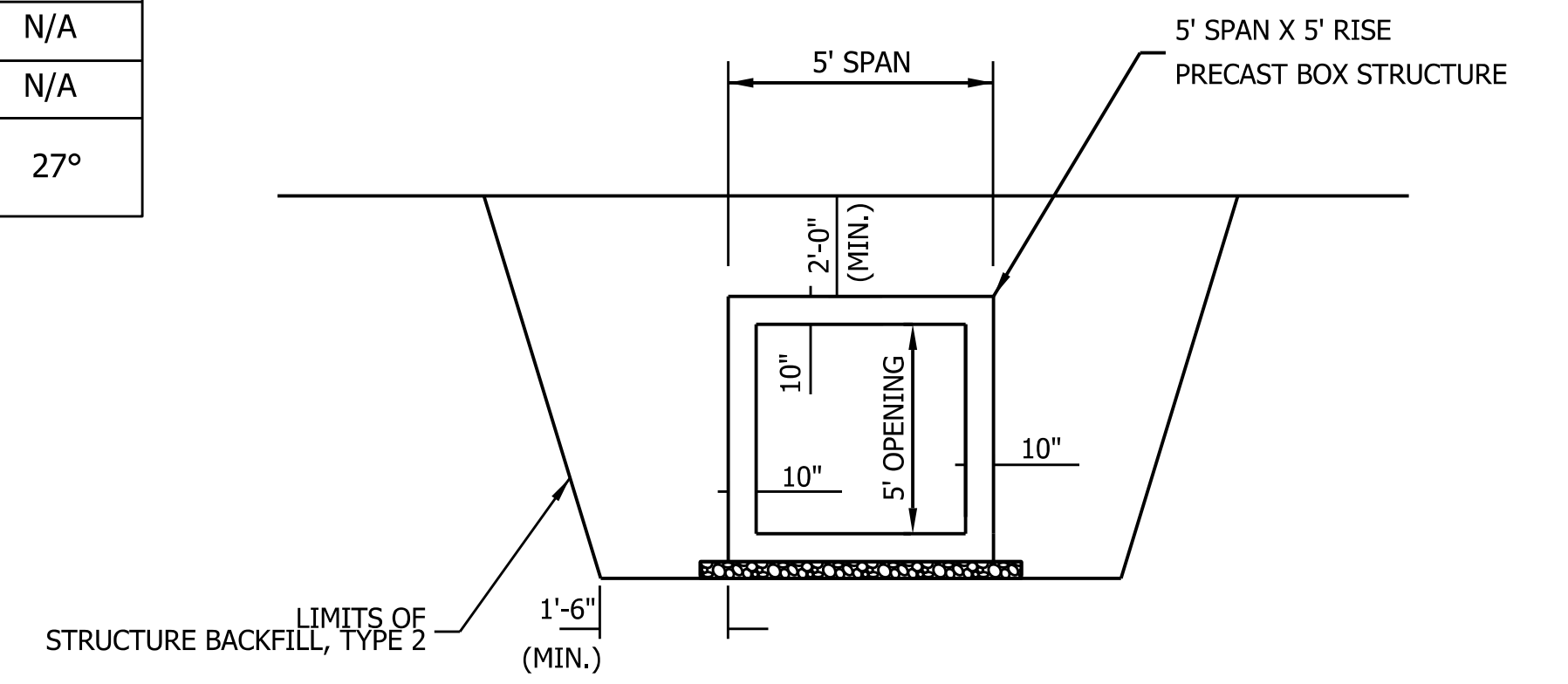


FOUNDATION IMPROVEMENT DETAIL
N.T.S.



TYPICAL SECTION
SCALE: 1" = 3'

* ALL DIMENSIONS MEASURED ALONG SKEW



PROPOSED TYPICAL SECTION THRU BARREL
SR 445

STRUCTURE DATA

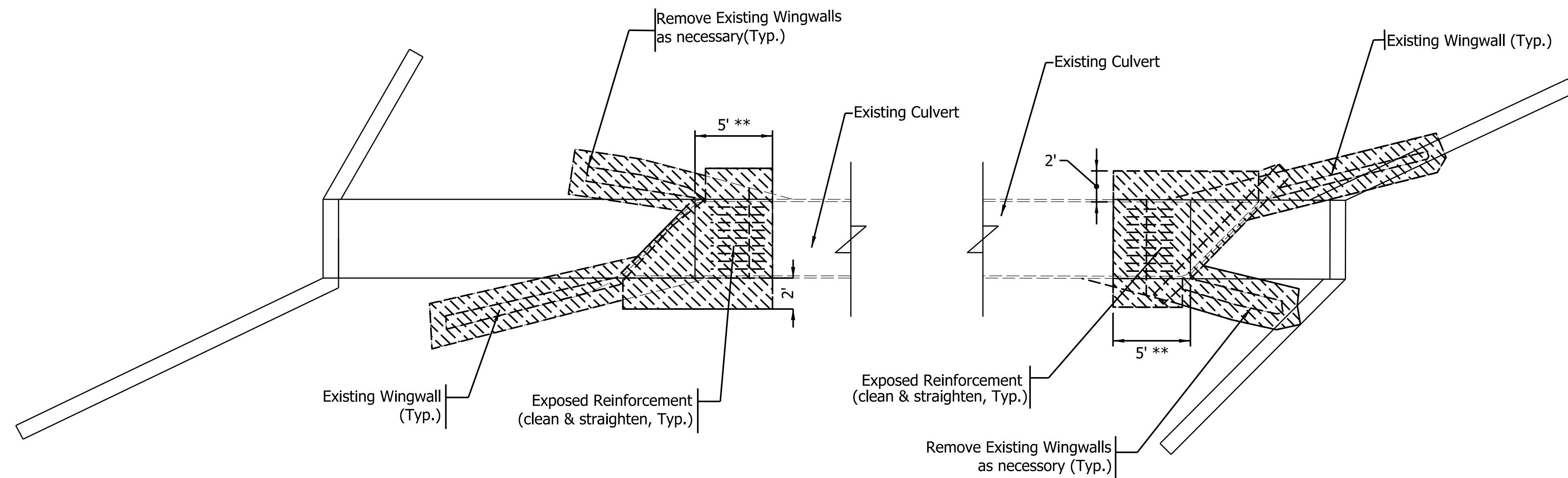
5' X 5' EXISTING PRECAST 4-SIDED STRUCTURE SKEW

Contractor shall verify existing structure size prior to ordering.

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	01/01/22	DRAWN: AKH
CHECKED: RMH	01/01/22	CHECKED: RMH

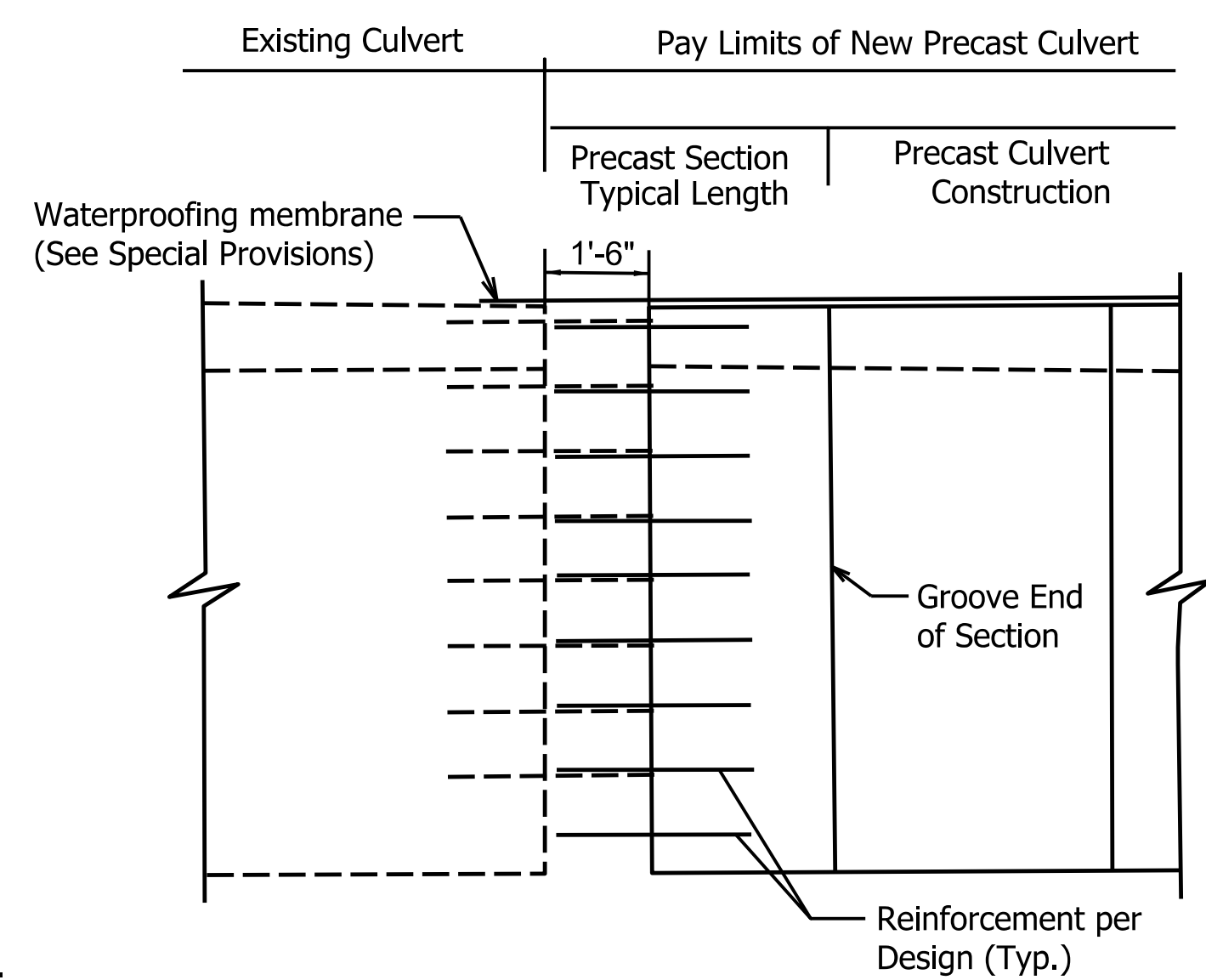
INDIANA
DEPARTMENT OF TRANSPORTATION
SR 445
STRUCTURE DETAIL SHEET

SCALE	CULVERT ASSET ID
NTS	CV 445-28-000.53
	DESIGNATION
	2100161
	SHEETS
	12 of 19
CONTRACT	PROJECT
T-43663	2100161

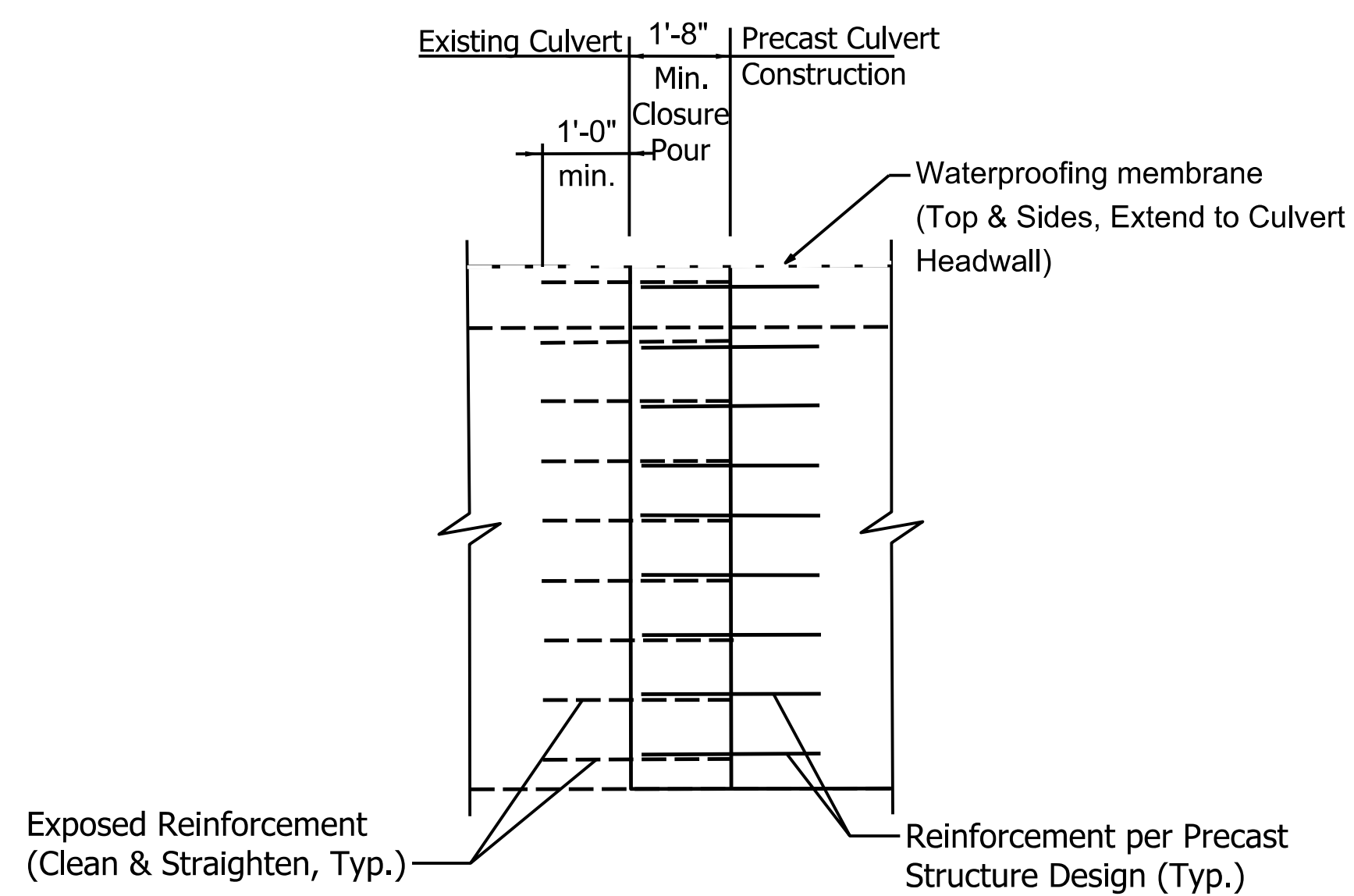


** As required per Structure Detail Sheet

CULVERT WITH WINGWALLS PLAN
EXTENSION PREPARATION
SCALE 1"=4'

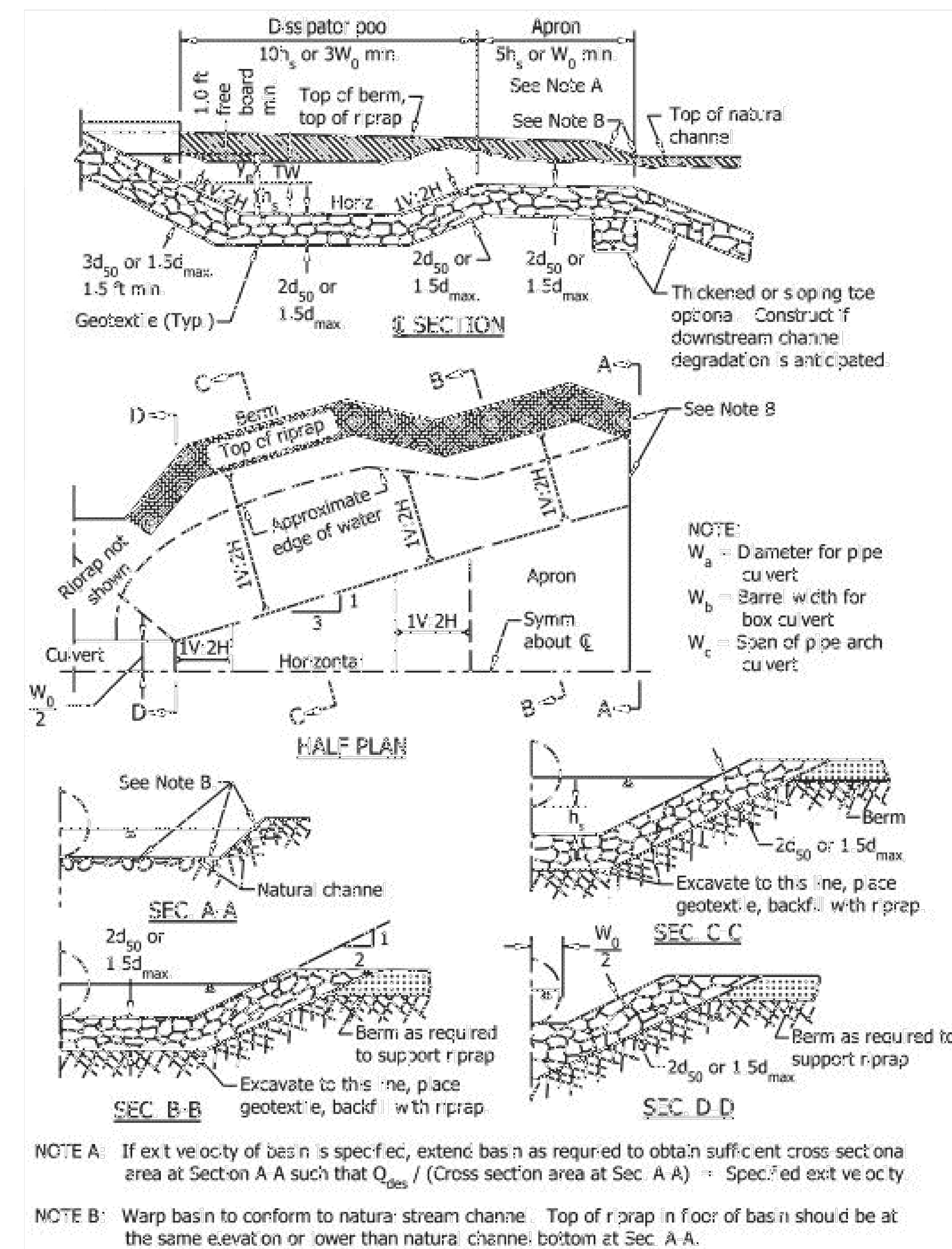


SECTION A-A
CONNECTION ELEVATION



CULVERT CLOSURE POUR
ELEVATION DETAILS

- LEGEND:
- Existing Structure
 - Structure Removal
 - Proposed Structure



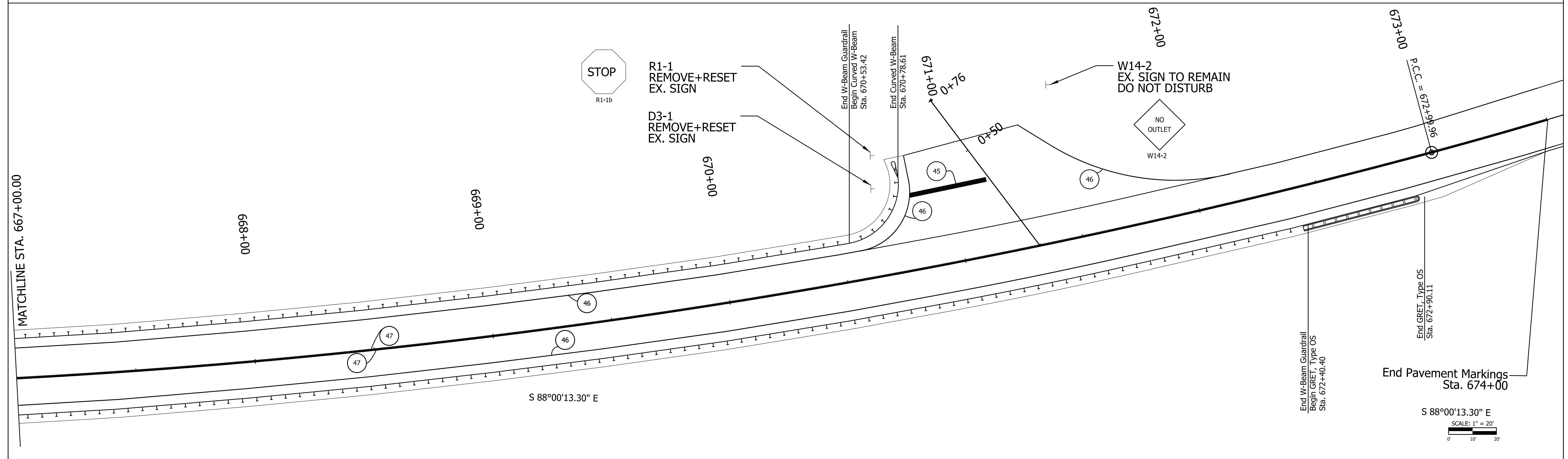
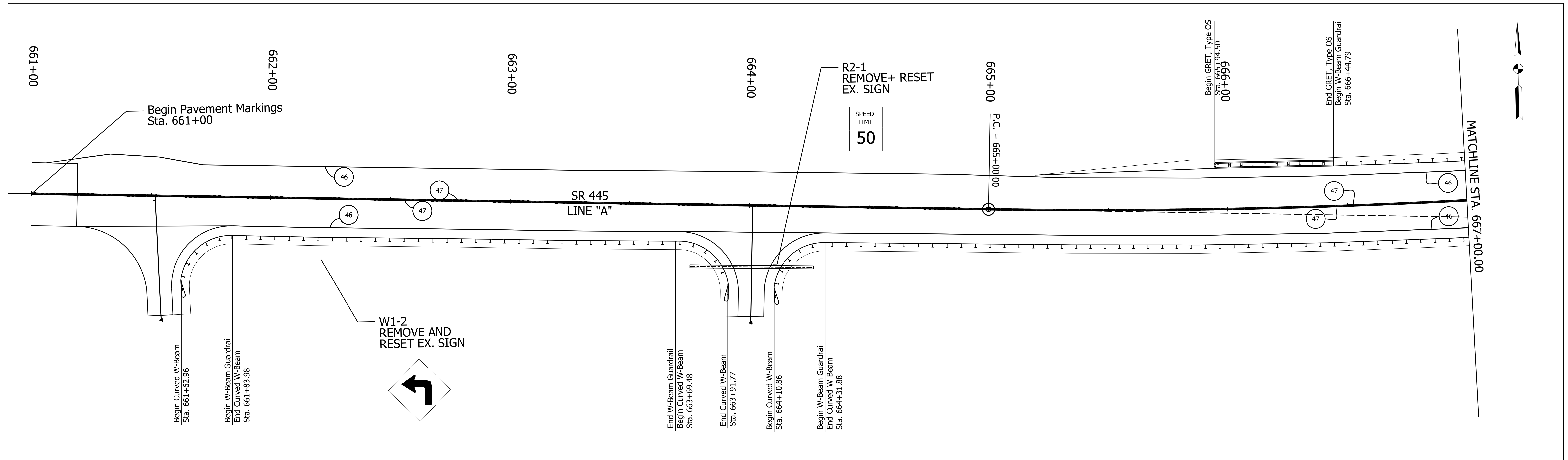
RIPRAP BASIN ENERGY DISSIPATOR DETAIL
STA. 672+75 RT.

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	01/01/22	DRAWN: AKH 01/01/22
CHECKED: RMH	7/25/2022	CHECKED: RMH 01/01/22

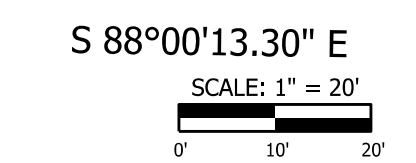
INDIANA
DEPARTMENT OF TRANSPORTATION

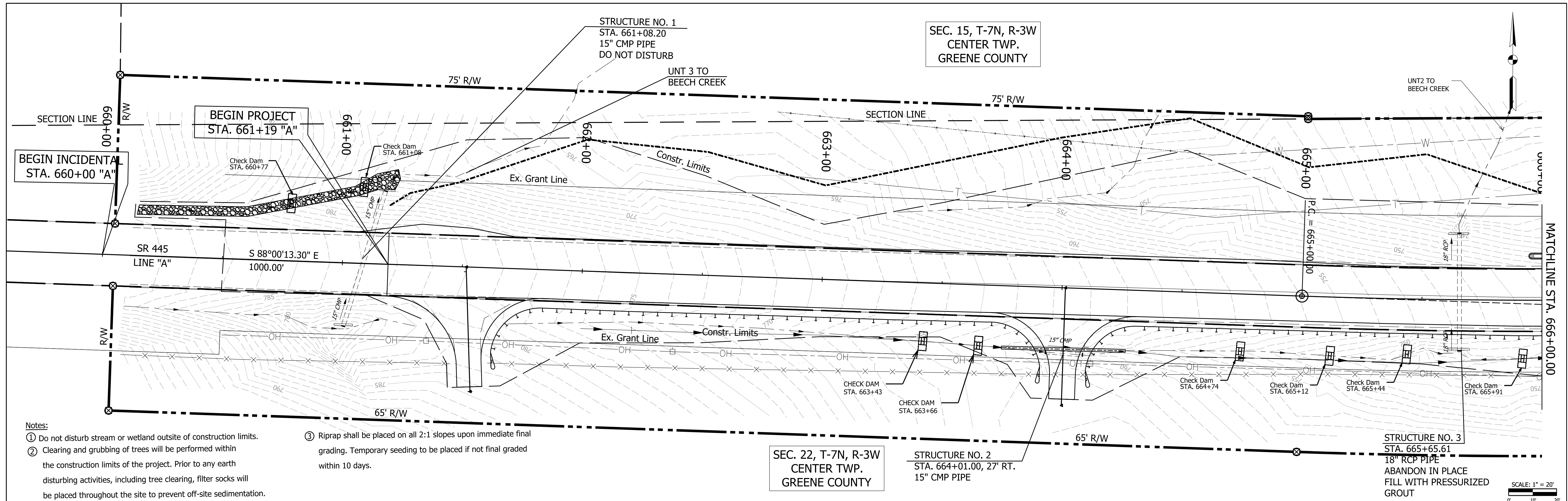
SR 445
STRUCTURE DETAIL SHEET

SCALE	CULVERT ASSET ID
1" = 20'	CV 445-28-000.53
	DESIGNATION
	2100161
SURVEY BOOK	SHEETS
	13 of 19
CONTRACT	PROJECT
T-43663	2100161

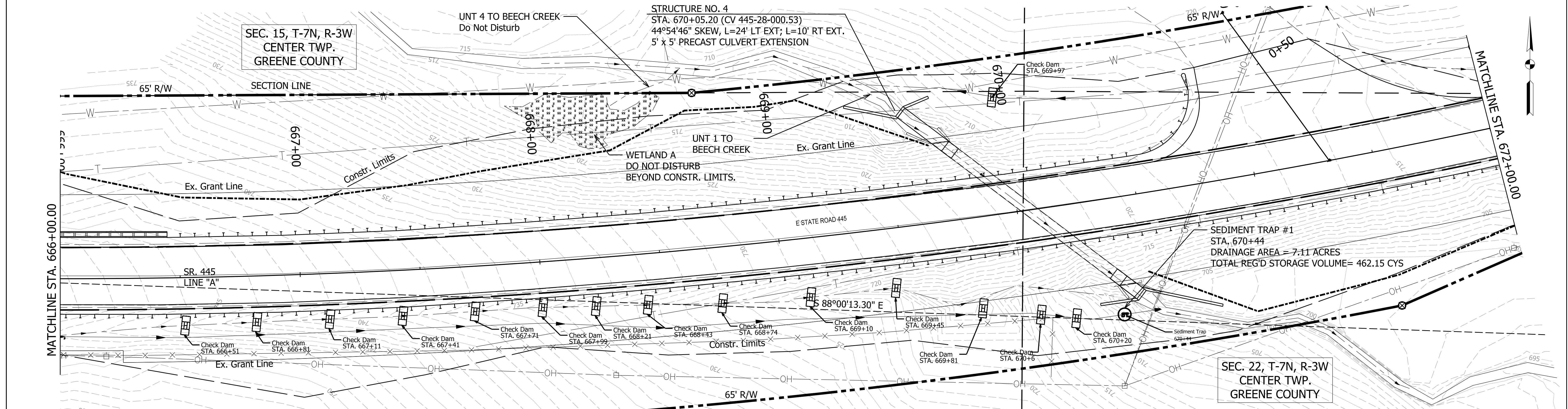


<p>46 6IN SOLID WHITE THERMOPLASTIC LINE</p> <p>47 6IN SOLID YELLOW THERMOPLASTIC LINE</p> <p>45 24IN WHITE, STOP LINE, PREFORMED PLASTIC</p>	RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____ DATE _____		<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>GUARDRAIL AND PAVEMENT MARKING DETAILS</p>	SCALE 1"=20'	CULVERT ASSET ID CV 445-28-000.53
	DESIGNED: AKH 04/11/22	DRAWN: AKH 04/11/22				SURVEY BOOK	SHEETS 14 of 19
	CHECKED: RMH 04/11/22	CHECKED: RMH 04/11/22				CONTRACT T-43663	PROJECT 2100161





- Notes:
- ① Do not disturb stream or wetland outside of construction limits.
 - ② Clearing and grubbing of trees will be performed within the construction limits of the project. Prior to any earth disturbing activities, including tree clearing, filter socks will be placed throughout the site to prevent off-site sedimentation.
 - ③ Riprap shall be placed on all 2:1 slopes upon immediate final grading. Temporary seeding to be placed if not final graded within 10 days.



NOTE: All Topography and R/W described from Line "A" unless otherwise noted.

- Legend
- CHECK DAM
 - FILTER SOCK
 - SEDIMENT TRAP

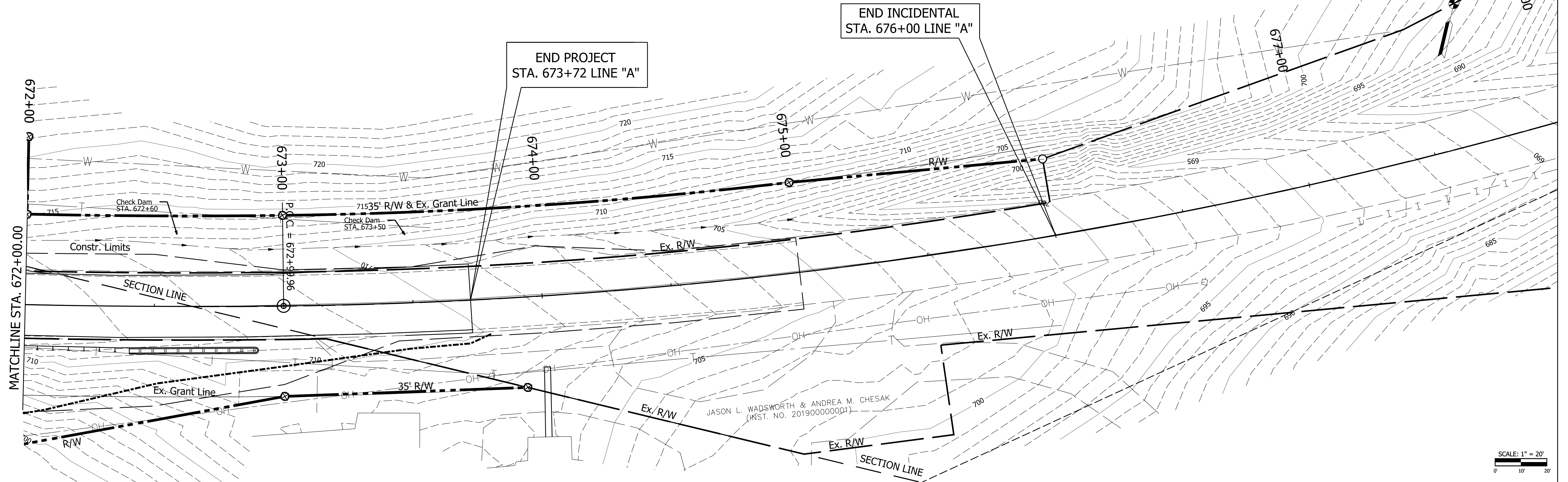
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: RMH	7/19/2022	DRAWN: BR 7/21/2022
CHECKED: AKH	7/25/2022	CHECKED: RMH 7/22/2022

INDIANA DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION & SEDIMENT CONTROL

SCALE 1"=20'	CULVERT ASSET ID CV 445-28-000.53
	DESIGNATION 2100161
SURVEY BOOK	SHEETS 15 of 19
CONTRACT T-43663	PROJECT 2100161

JAMES L. BALES
LAWRENCE HOLLOW ADDITION
(P.B. 2, PG. 99-100)



JASON L. WADSWORTH & ANDREA M. CHESAK
(MST. NO. 201900000001)

TEMPORARY EROSION CONTROL TABLE

STATION	LOCATION		SEDIMENT TRAP	TEMPORARY SEDIMENT TRAP REVEITEMT RIPRAP	TEMPORARY DITCH CHECK DAM REVEITEMT RIPRAP	COMPACTED #5 STONE	TEMPORARY GEOTEXTILES	DITCH INLET PROTECTION	COMPACTED EARTH	PERIMETER PROTECTION	REMARKS
	LEFT	RIGHT									
661+19 - 669+67	X									869	FILTER SOCK
660+77	X				6.12	0.54	27				CHECK DAM
661+08	X				6.12	0.54	27				CHECK DAM
669+97	X				4.80	0.42	24				CHECK DAM
663+43		X			12.00	0.89	36				CHECK DAM
663+66		X			12.00	0.89	36				CHECK DAM
664+74		X			12.00	0.89	36				CHECK DAM
665+12		X			12.00	0.89	36				CHECK DAM
665+44		X			12.00	0.89	36				CHECK DAM
665+91		X			12.00	0.89	36				CHECK DAM
666+51		X			12.00	0.89	36				CHECK DAM
666+81		X			12.00	0.89	36				CHECK DAM
667+11		X			12.00	0.89	36				CHECK DAM
667+41		X			12.00	0.89	36				CHECK DAM
667+71		X			12.00	0.89	36				CHECK DAM
667+99		X			12.00	0.89	36				CHECK DAM
668+21		X			12.00	0.89	36				CHECK DAM
668+43		X			12.00	0.89	36				CHECK DAM
668+74		X			12.00	0.89	36				CHECK DAM
669+10		X			12.00	0.89	36				CHECK DAM
669+45		X			12.00	0.89	36				CHECK DAM
669+81		X			12.00	0.89	36				CHECK DAM
670+06		X			12.00	0.89	36				CHECK DAM
670+20		X			12.00	0.89	36				CHECK DAM
670+38		X			69.00	1.48	120				SEDIMENT TRAP
670+53.80 - 672+82.94		X								245	FILTER SOCK
TOTAL			0.00	0.00	326.04	20.78	918.02	0.00	0.00	1,114.12	

- Notes:
- Do not disturb stream or wetland outside of construction limits.
 - Clearing and grubbing of trees will be performed within the construction limits of the project. Prior to any earth disturbing activities, including tree clearing, filter socks will be placed throughout the site to prevent off-site sedimentation.
 - Riprap shall be placed on all 2:1 slopes upon immediate final grading. Temporary seeding to be placed if not final graded within 10 days.

NOTE: All Topography and R/W described from Line "A" unless otherwise noted.

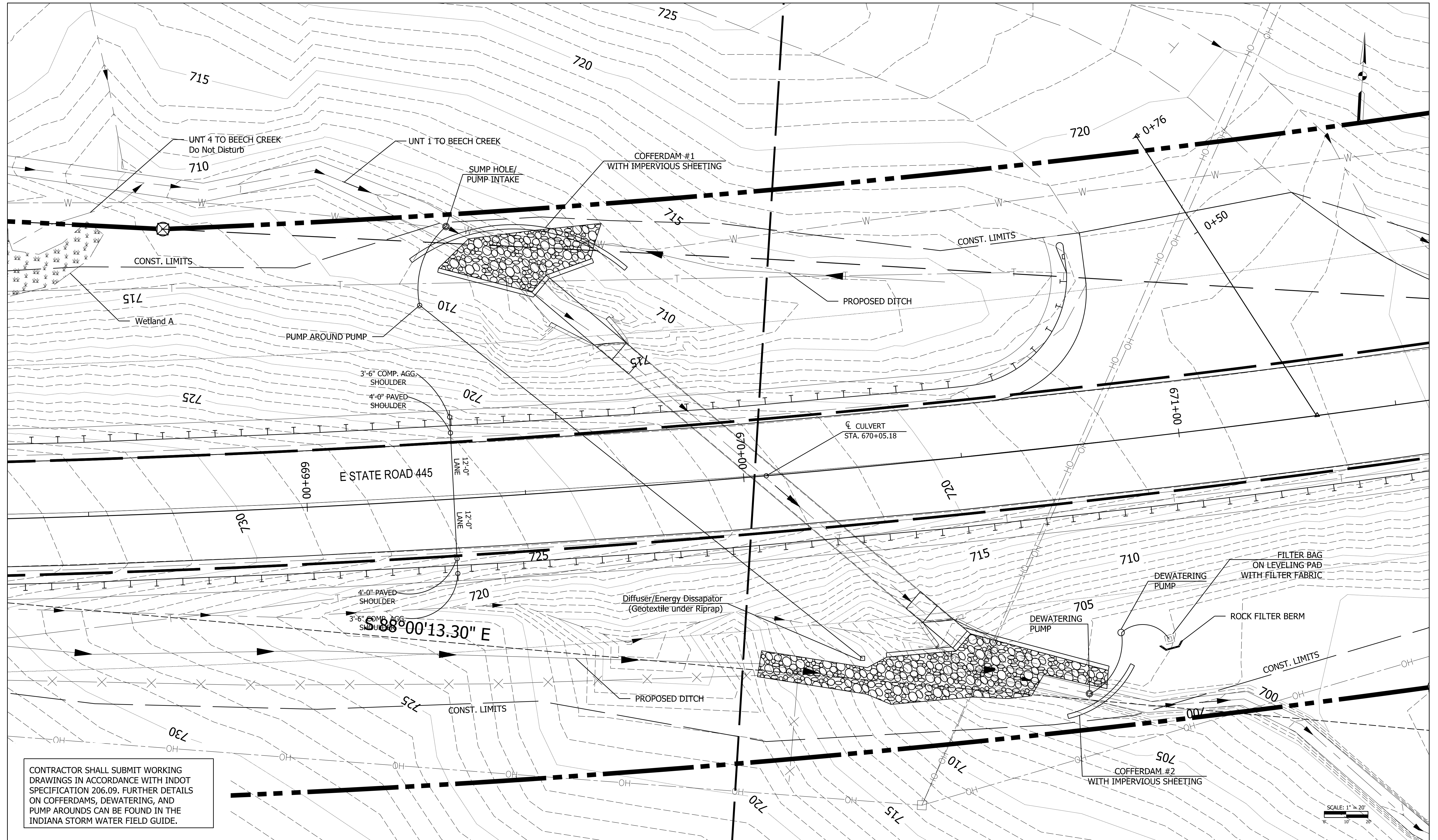
- Legend
- CHECK DAM
 - FILTER SOCK
 - SEDIMENT TRAP

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	01/01/22	DRAWN: AKH 01/01/22
CHECKED: RMH	01/01/22	CHECKED: RMH 01/01/22

INDIANA
DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION &
SEDIMENT CONTROL

SCALE	CULVERT ASSET ID
	CV 445-28-000.53
	DESIGNATION
	2100161
SURVEY BOOK	SHEETS
	16 of 19
CONTRACT	PROJECT
T-43663	2100161



CONTRACTOR SHALL SUBMIT WORKING DRAWINGS IN ACCORDANCE WITH INDOT SPECIFICATION 206.09. FURTHER DETAILS ON COFFERDAMS, DEWATERING, AND PUMP AROUNDS CAN BE FOUND IN THE INDIANA STORM WATER FIELD GUIDE.

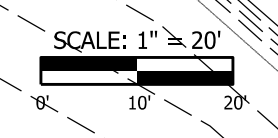
NOTE: COFFERDAM #1 DIMS: L= 54'x3'x3'
 COFFERDAM #2 DIMS: L= 20'x3'x3'

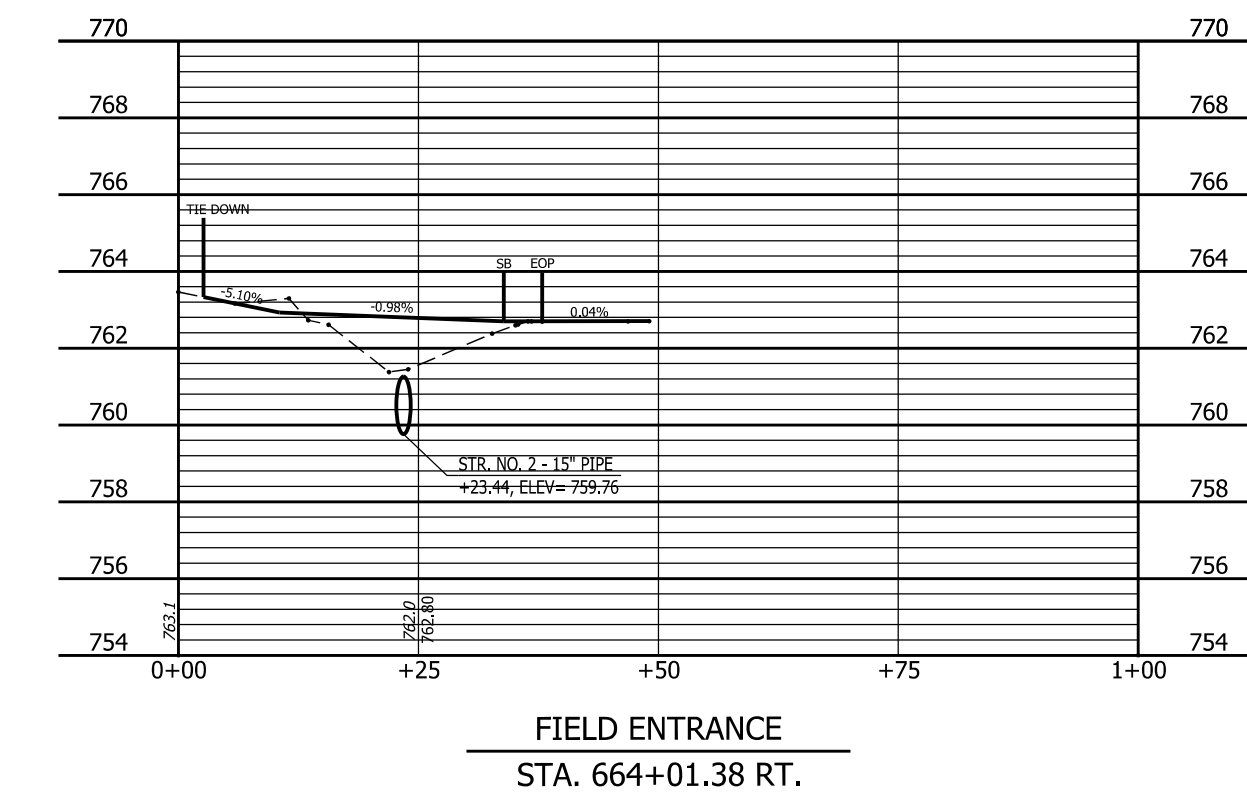
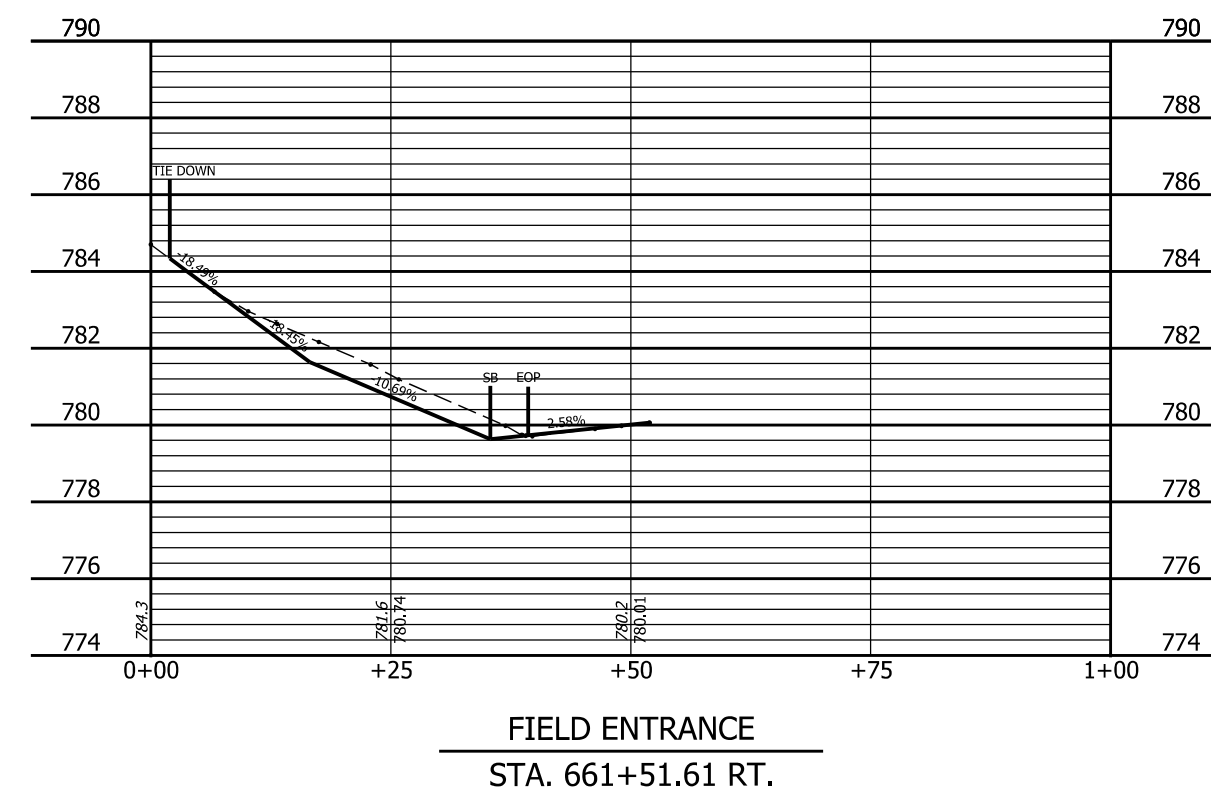
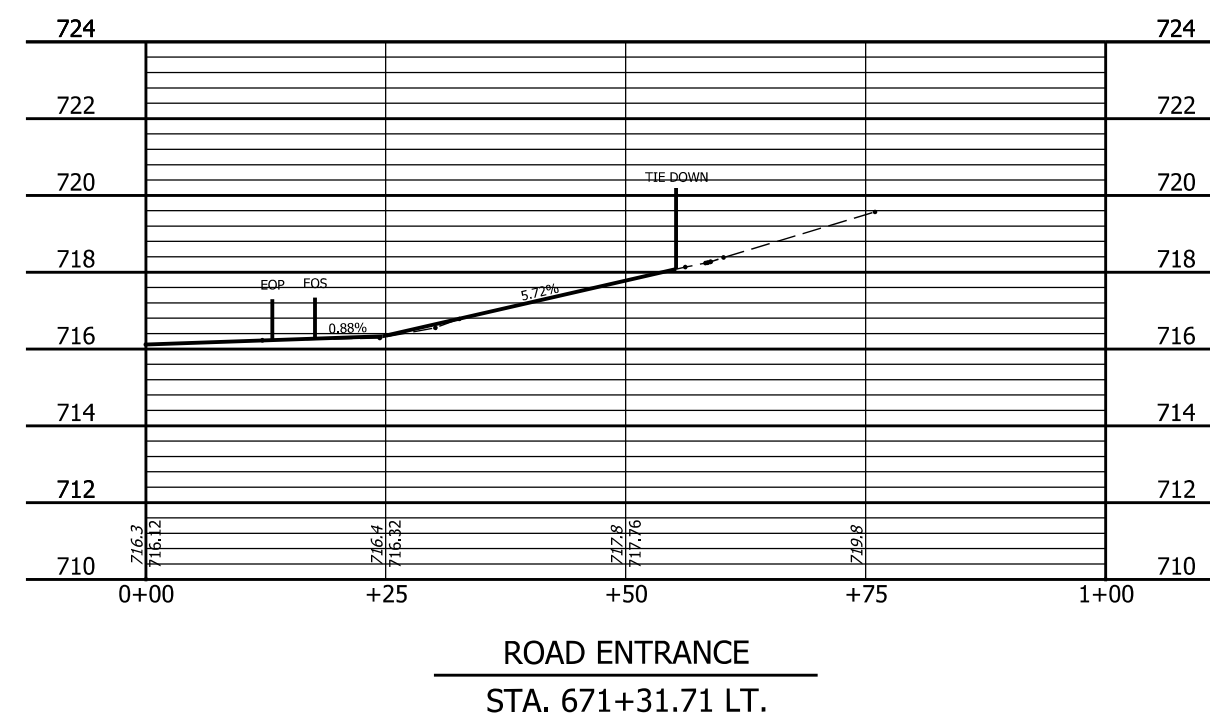
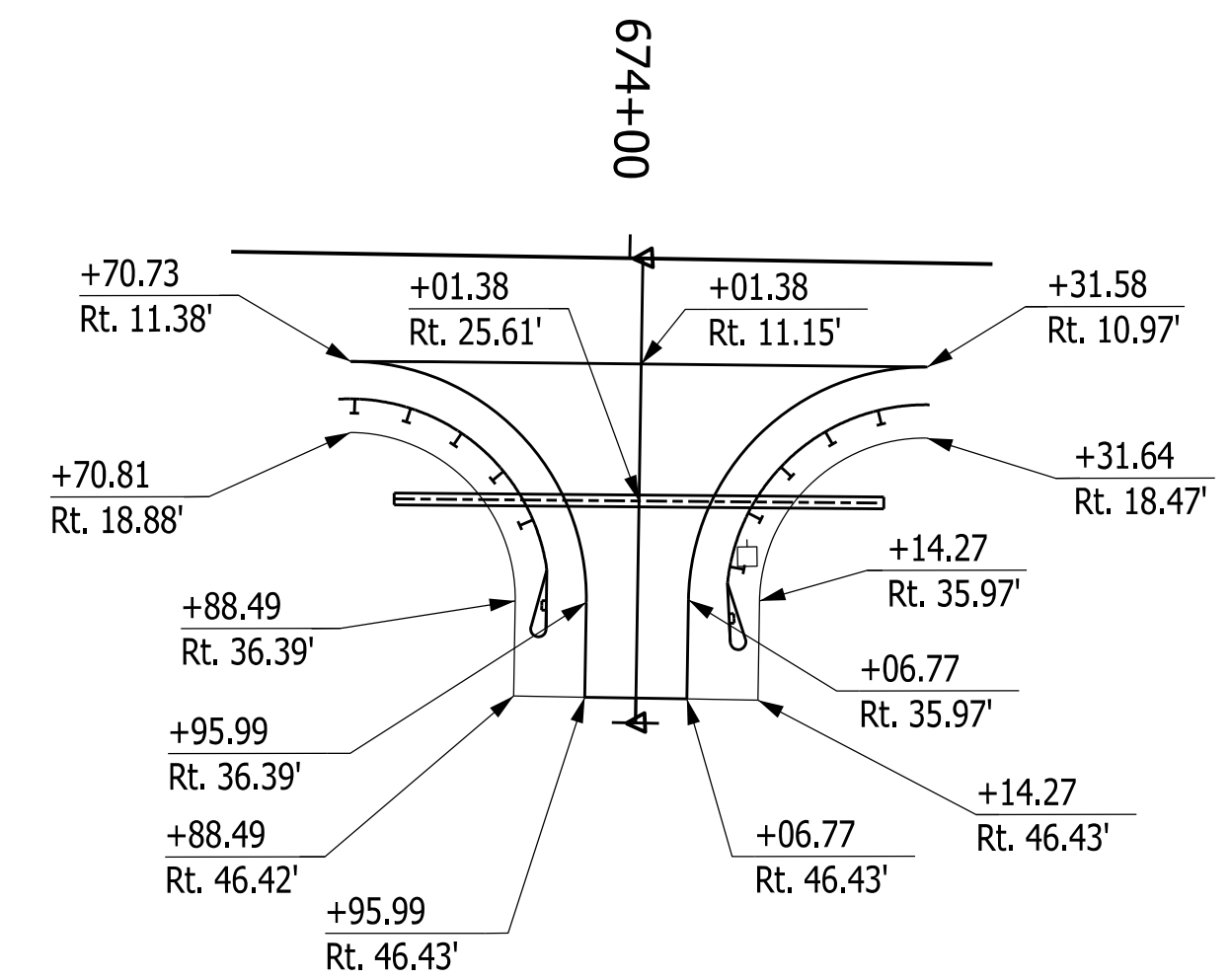
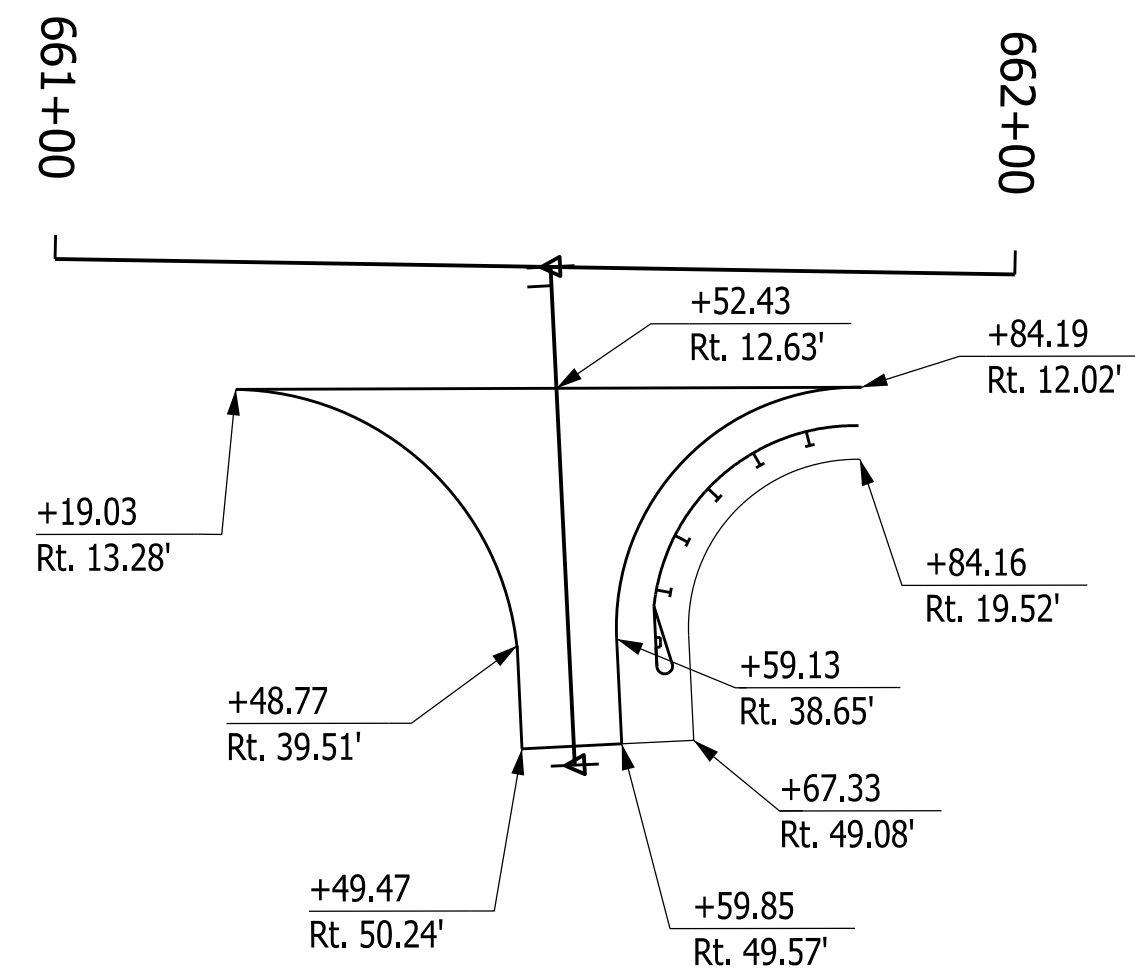
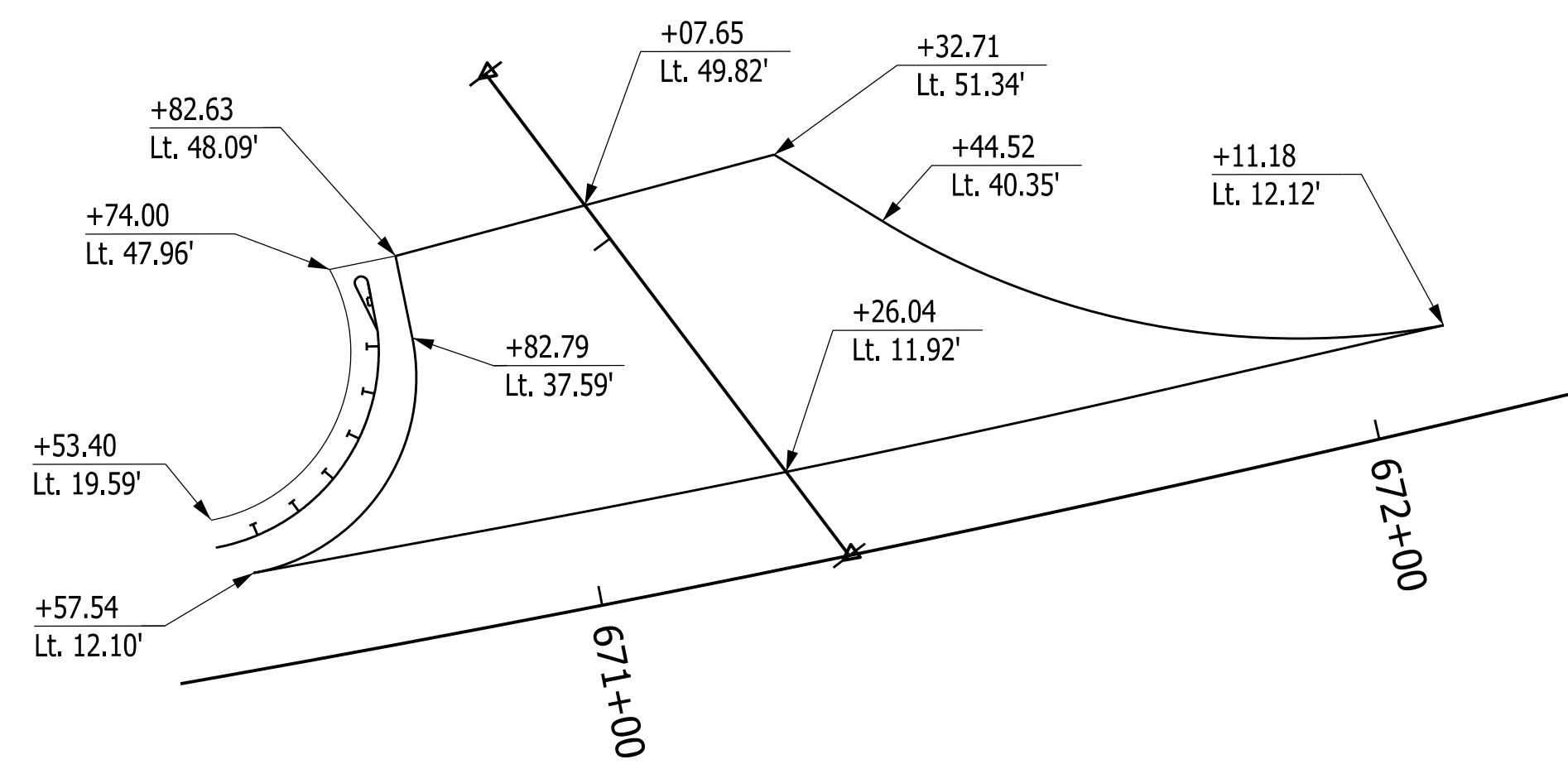
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04/11/22	DRAWN: AKH 04/11/22
CHECKED: RMH	04/11/22	CHECKED: RMH 04/11/22

INDIANA
 DEPARTMENT OF TRANSPORTATION

PUMP AROUND DETAIL

SCALE 1"=20'	CULVERT ASSET ID CV 445-28-000.53
	DESIGNATION 2100161
SURVEY BOOK	SHEETS 17 of 19
CONTRACT T-43663	PROJECT 2100161





RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____ DATE _____	
DESIGNED: AKH	04/11/22	DRAWN: AKH	04/11/22
CHECKED: RMH	04/11/22	CHECKED: RMH	04/11/22

INDIANA
DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS

SCALE 1"=20'	CULVERT ASSET ID CV 445-28-000.53
	DESIGNATION 1200161
SURVEY BOOK	SHEETS 18 of 19
CONTRACT T-43663	PROJECT 1200161

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH FT	LENGTH FT	RADII FT	DISTANCE BEYOND R/W/LINE FT	SURFACE BEYOND R/W LINE			GRADE 1 % 2 %	EXCAVATION CUT CYS FILL CYS	CLEAR ZONE AT DRIVE FT	HMA FOR APPROACHES				HMA FOR ROADS			SEAL COAT TYPE	ASPHALT MATERIAL FOR				COMPACTED AGGREGATE FOR SURFACE NO. 73		RIPRAP SLOPES TONS	SUBGRADE TREATMENT, TYPE IC TONS	LINE PAINT, SOLID WHITE, 4 IN. LFT	LINE PAINT, SOLID YELLOW, 4 IN. LFT	REMARKS									
						COMPACTED AGGREGATE BASE	HMA	PCCP				SURFACE TYPE	INTERMD TYPE	BASE TYPE	SURFACE 3.64, 9.5mm	HMA WIDEN TYPE B	BASE 2.64, 19.0mm	TACK COAT		LIQUID ASPHALT SEALANT	JOINT ADHESIVE SURFACE	JOINT ADHESIVE INTERM.	DEPTH 6" VARIES																
						SYS	SYS	SYS				TONS	TONS	TONS	TONS	TONS	TONS	TONS		TONS	TONS	TONS	TONS	TONS	TONS														
						LBS PER SYD	LBS PER SYD	LBS PER SYD				LBS PER SYD	LBS PER SYD	LBS PER SYD	LBS PER SYD	LBS PER SYD	LBS PER SYD	LBS PER SYD		LBS PER SYD	LBS PER SYD	LBS PER SYD	LBS PER SYD	LBS PER SYD	LBS PER SYD														
661+19 - 673+72	MAINLINE	VARIES	1,253								3,701																												
661+19 - 661+65.22	DRIVE - CLASS V	10.79	37	30/25					16.75																														
663+70.80 - 664+31.38	DRIVE - CLASS V	10.78	35	25/25					4.82																														
670+57.55 - 672+10.38	PublicRD - Approach	49.3	42	25/100							332																												
TOTAL										0	2,770	4,034					378	117																					

GUARDRAIL SUMMARY TABLE

LOCATION		W-BEAM GUARDRAIL LENGTH										CURVED W-BEAM GUARDRAIL SYSTEM								REMARKS																		
FROM STATION	TO STATION	LEFT MEDIAN LEFT MEDIAN RIGHT RIGHT	STANDARD POST AT 3 FT 3 IN. SPA.	STANDARD POST AT 3 FT 1.5 IN. SPA.	DOUBLE FACED AT 6 FT 3 IN. SPA.	DOUBLE FACED AT 3 FT 1.5 IN. SPA.	SHOP CURVED AT ___ FT. SPA.	NESTING GUARDRAIL	GUARDRAIL FLARE RATE	GUARDRAIL TRANSITION TYPE	GUARDRAIL TRANSITION TYPE	GUARDRAIL END TREATMENT TYPE OS	TERMINAL SYSTEM		TERMINAL ANCHOR		GUARDRAIL REMOVE	GUARDRAIL RESET	IMPACT ATTENUATOR TYPE		IMPACT ATTENUATOR TYPE																	
													LFT	LFT	LFT	LFT						LFT	EACH	EACH	EACH	EACH	EACH	EACH	EACH									
		LFT		LFT		LFT		LFT		EACH		EACH		EACH		EACH		EACH			EACH																	
666+44.79	670+53.42	X		406.25									V	1			V	1																				
661+83.98	663+69.48		X	181.25									V	2			V	2																				
664+31.88	672+40.40		X	812.50									V	1			V	1																				
TOTALS				1,400.00																																		

MONUMENT TABLE								
STATION	OFFSET	R/W MARKER	BENCHMARK	SECTION CORNER	MONUMENT TYPE			
					A	B	C	D
+04.79	13' RT	1				X		
+04.79	65' RT	1					X	
+04.79	75' LT	1						X
+04.79	13' LT	1				X		
+00	65' RT	1						X
+00	73.90' LT	1						X
+00	75' LT	1						X
+69.55	65' LT	1						X
+50	65' RT	1						X
+00	65' LT	1						X
+00	35' LT	1						X
+00	35' RT	1						X
+00	35' LT	1						X
+92.32	35' RT	1				X		
+00	35' LT	1						X
+00	30' LT	1						X
669+59.05			1					
670+43.39			1					

STRUCTURE DATA

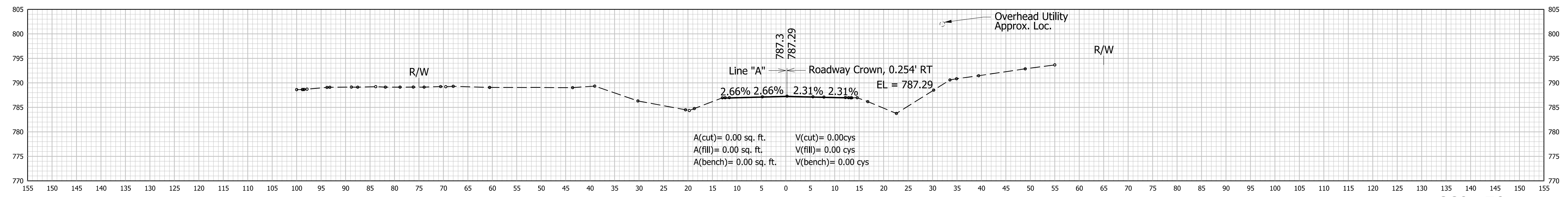
* If contractor elects to use metal pipe, thicknesses shown below are to be used.

STRUCTURE NUMBER	LOCATION			PIPE TYPE	MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE AND TYPE	LENGTH LFT	SKEW	FLOW LINE				SITE DESIGNATION	PH	BACKFILL METHOD	STRUCTURE BACKFILL	CLASS 1 RIPRAP	GEOTEXTILE FOR SURGRADE	GEOTEXTILE FOR RIPRAP	PIPE END SECTION	GRATED BOX END SECTION	SAFETY METAL END SECTION	REMARKS																	
	STATION	LEFT	CROSS RIGHT					SIZE IN.	COVER	UP STREAM ELEV.	DOWN STREAM ELEV.												YR SERVICE LIFE																
	TYPE	CYS	TONS					SYS	SYS	EA.	TYPE												SLOPE	EA.	SIZE	SLOPE	EA.												
2	664+01		X	15	PIPE	51.7		2	762.1	757.41	50			2	27																								
3	665+65.61		X	18	EX. PIPE			15																															ABANDON IN PLACE
4	669+54.56	X		60X60	RCB	29		12	705.7		75		2	2	325	38	271	58																					CV 445-28-000.53
4	670+05.20		X	60X60	RCB	15		12		702.05	75		2	2	172	53	168	35																					CV 445-28-000.53
TOTAL															524	91	499	93																					

PAVED SIDE DITCH, RIPRAP DITCH AND SODDING SUMMARY TABLE

LOCATION		LEFT MEDIAN RIGHT	ACTUAL LENGTH	PAVEMENT SIDE DITCH					RIPRAP DITCH			SODDING					NURSERY SODDING FOR LAWNS																					
FROM STATION	TO STATION			TOTAL EQUIVALENT PAY LENGTHS					RIPRAP, REVETMENT	RIPRAP, CLASS 1	GEOTEXTILES TYPE 2B	FOR PAVED SIDE DITCHES	FOR DITCHES	FOR MEDIAN	FOR SHOULDER BREAK	SODDING AT BRIDGE CONE		TOTAL SODDING																				
				CUT OFF WALLS (8 FT EQUIV. LENGTH EACH)	LFT	LFT	LFT	LFT											LFT	TONS	TONS	SYS	SYS	SYS	SYS	SYS												
662+00	663+76		X																																			
664+27	665+75		X																																			
665+75	670+46		X																																			
669+56	670+50		X																																			
660+00	661+19		X																																			
TOTALS															375	53	902																					

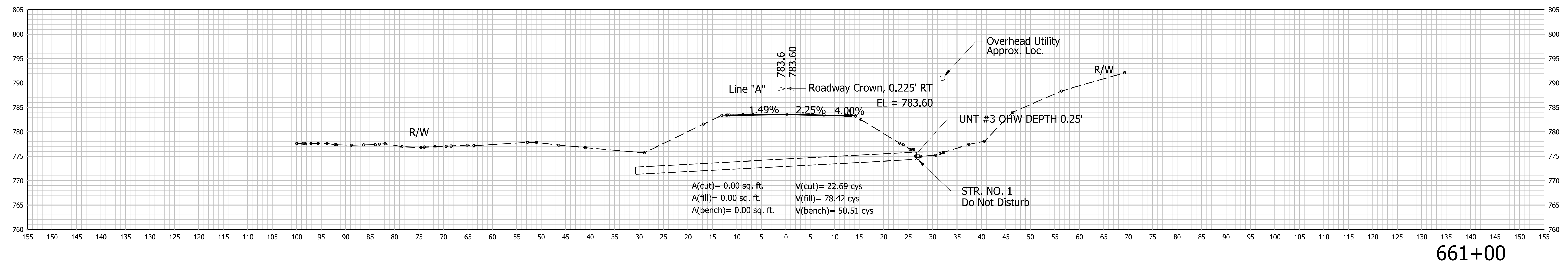
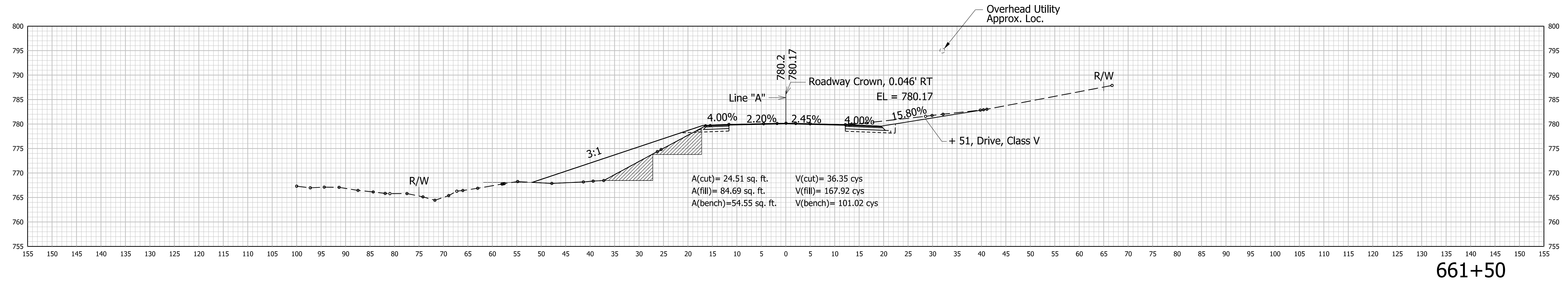
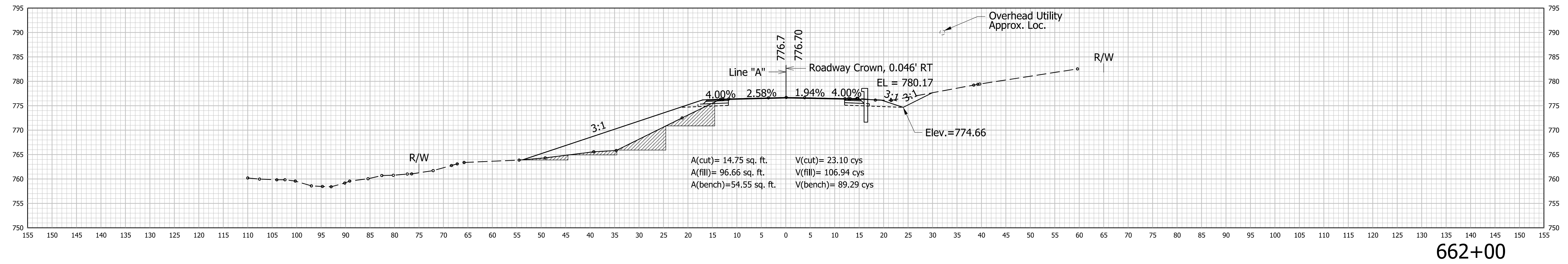
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	SCALE: NTS CULVERT ASSET ID: CV 445-28-000.53 DESIGNATION: 2100161
DESIGNED: LDC 3/14/2022 DRAWN: LDC 3/14/2022 CHECKED: RMH 3/14/2022 CHECKED: RMH 3/14/2022	ROAD SUMMARY SHEET	SURVEY BOOK: _____ SHEETS: 19 of 19 CONTRACT: T-43663 PROJECT: 2100161



BEGIN CONSTRUCTION
 STA 660+50 LINE "A"

660+50

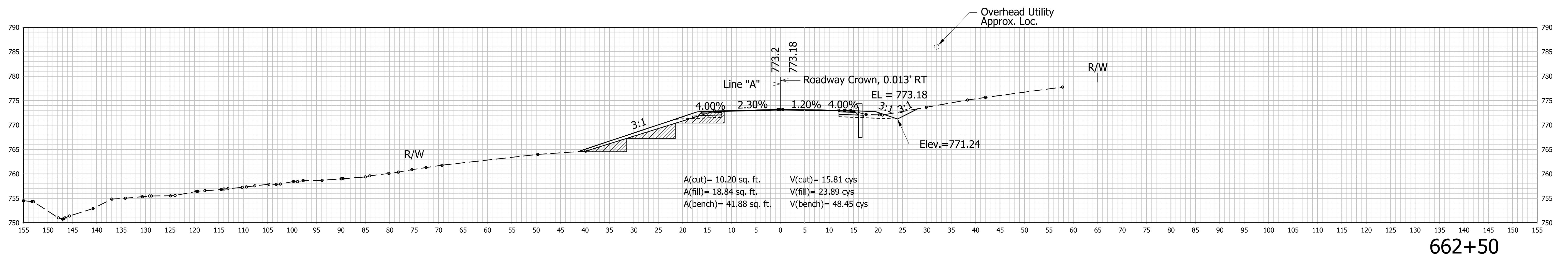
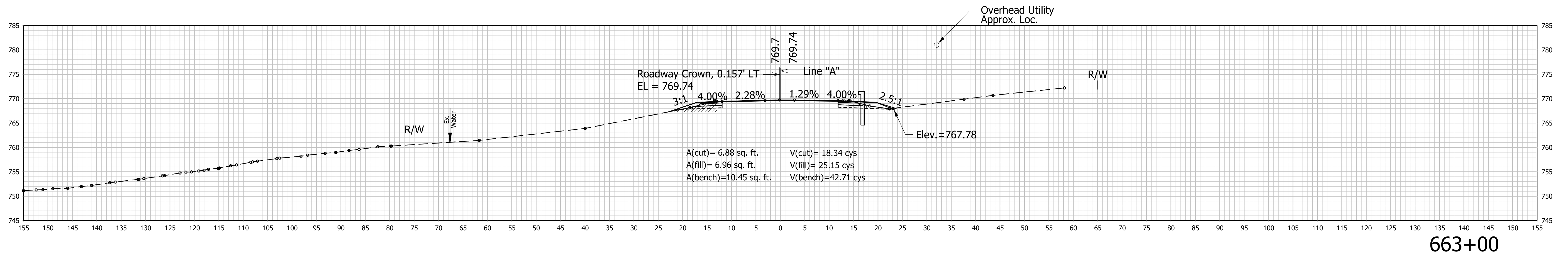
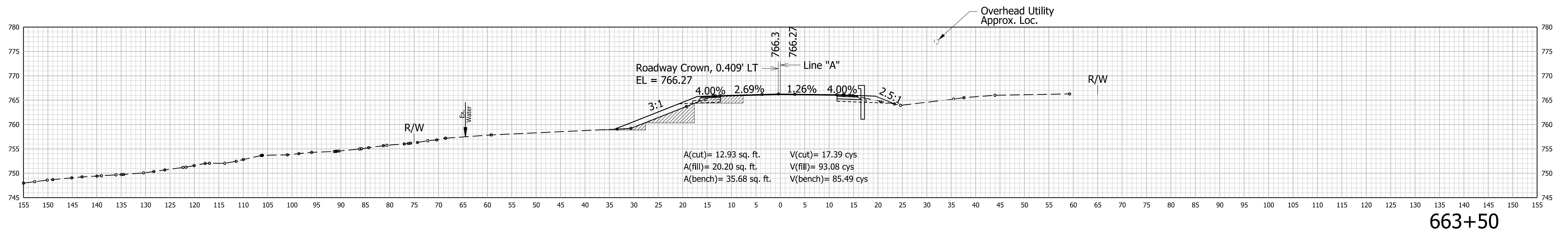
		RECOMMENDED FOR APPROVAL _____	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	CULVERT ASSET ID	
		DESIGN ENGINEER _____		DATE _____	1"=10'	CV 445-28-000.53
		DESIGNED: AKH 04/11/22		DRAWN: AKH 04/11/22	VERTICAL SCALE	DESIGNATION
		CHECKED: RMH 04/11/22		CHECKED: RMH 04/11/22	1"=10'	2100161
		CROSS SECTIONS LINE "A"		SHEETS		
				CONTRACT	PROJECT	
				T-43663	2100161	



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION CROSS SECTIONS LINE "A"		HORIZONTAL SCALE	CULVERT ASSET ID
			1"=10'	CV 445-28-000.53
			VERTICAL SCALE	DESIGNATION
			1"=10'	2100161
DESIGNED: AKH 04/11/22	DRAWN: AKH 04/11/22	SHEETS XS2 of XS15		
CHECKED: RMH 04/11/22	CHECKED: RMH 04/11/22			
		CONTRACT	PROJECT	
		T-43663	2100161	

\$FILES\$

STA. 661+00 TO STA. 662+00

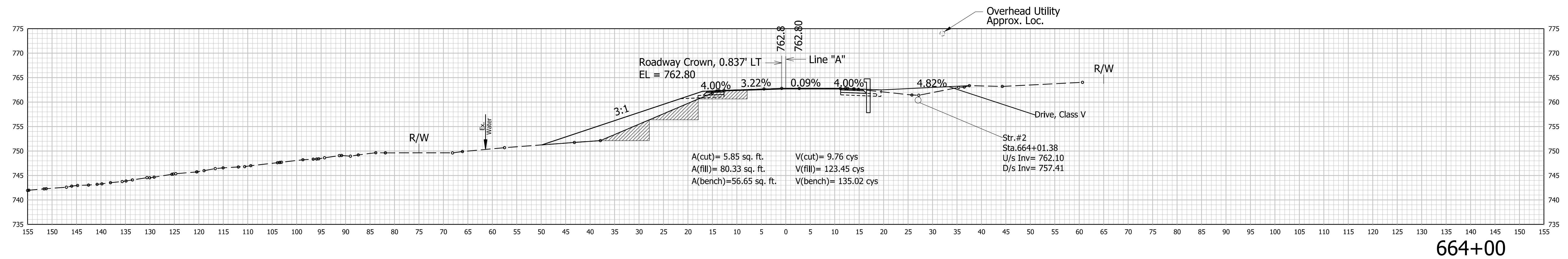
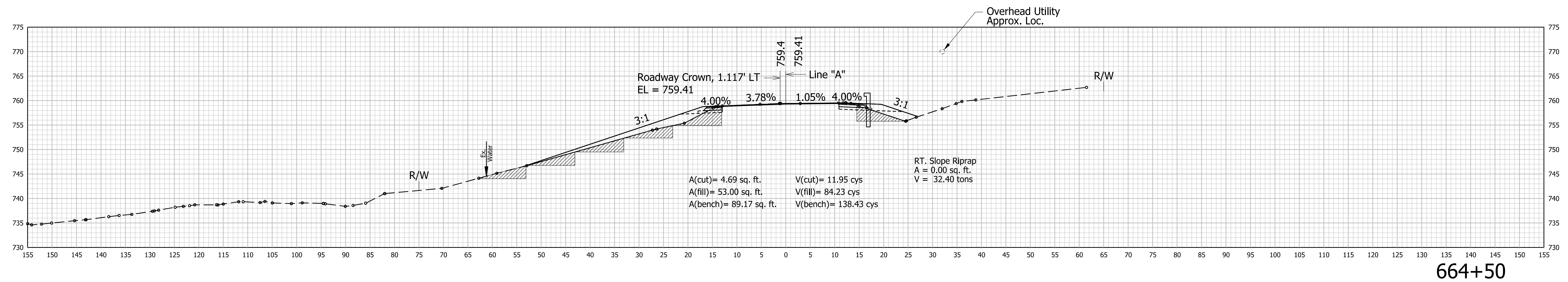
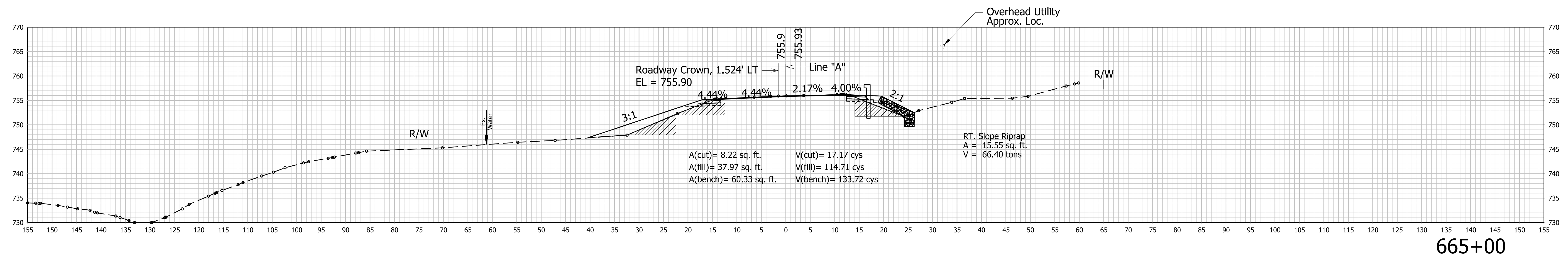


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04/11/22	DRAWN: AKH
CHECKED: RMH	04/11/22	CHECKED: RMH

INDIANA
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
LINE "A"

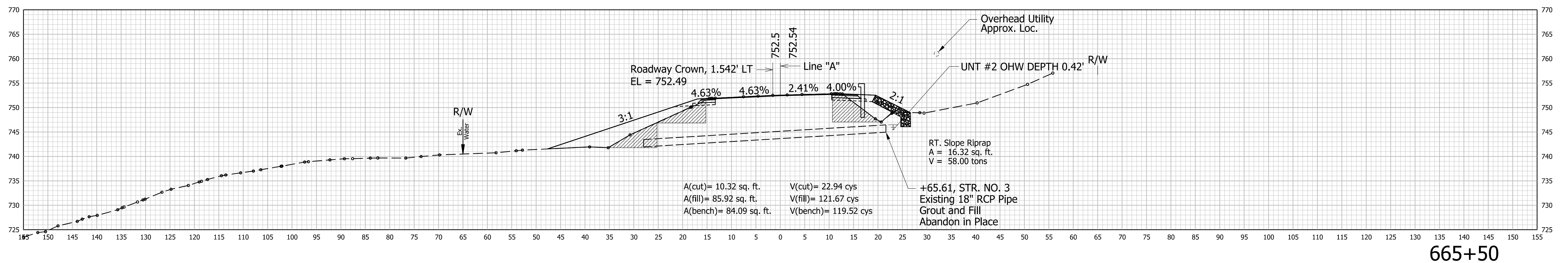
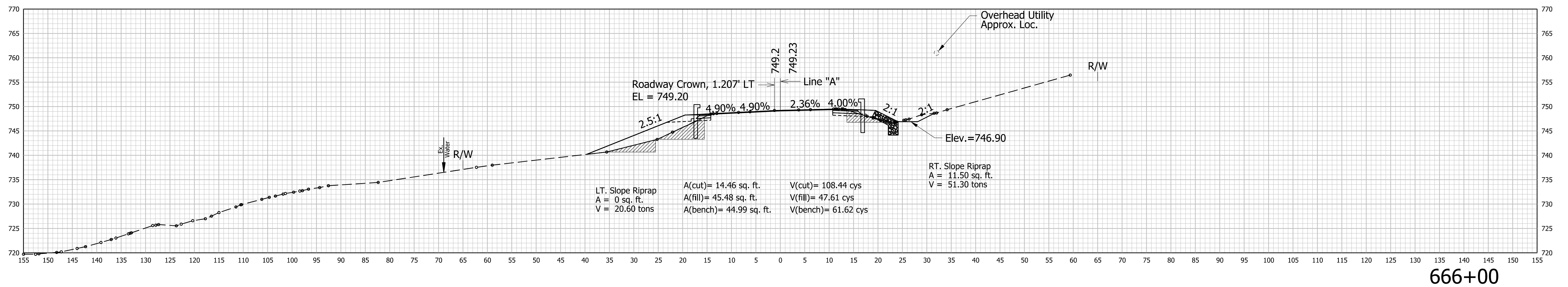
HORIZONTAL SCALE	CULVERT ASSET ID
1"=10'	CV 445-28-000.53
VERTICAL SCALE	DESIGNATION
1"=10'	2100161
SHEETS	
CONTRACT	PROJECT
T-43663	2100161



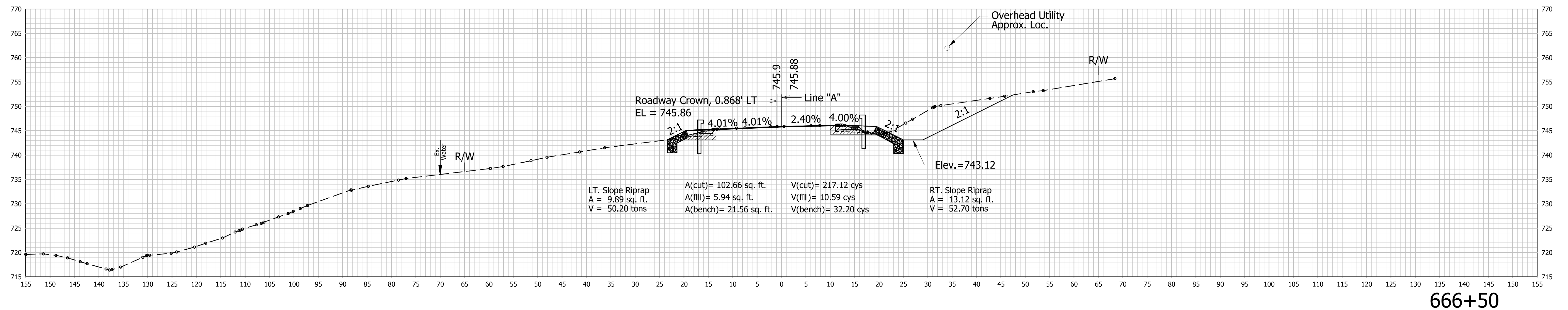
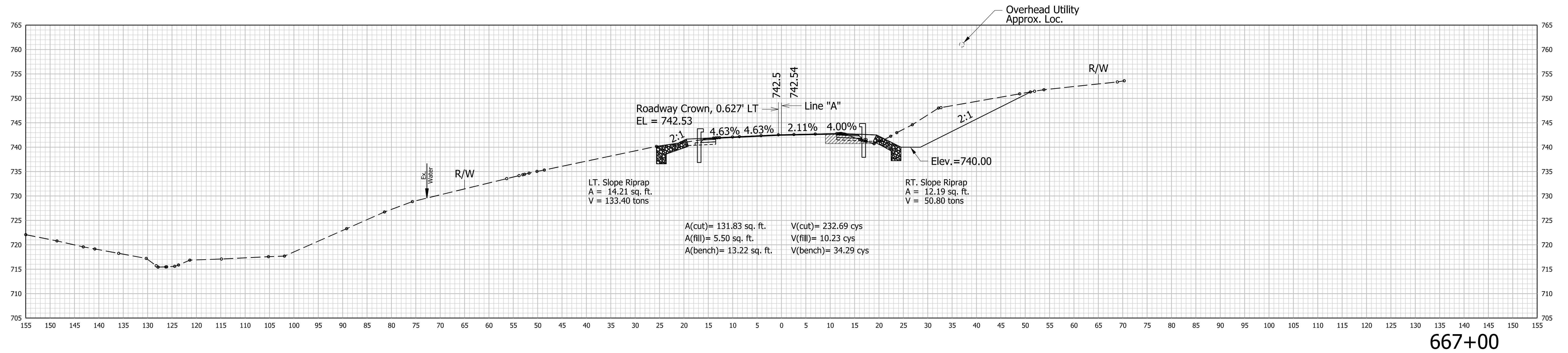
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER		DATE		INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	CULVERT ASSET ID
						1"=10'	CV 445-28-000.53
						VERTICAL SCALE	DESIGNATION
DESIGNED: AKH 04/11/22		DRAWN: AKH 04/11/22		CROSS SECTIONS LINE "A"		1"=10'	2100161
CHECKED: RMH 04/11/22		CHECKED: RMH 04/11/22				SHEETS	
						XS4 of XS15	
						CONTRACT	PROJECT
						T-43663	2100161

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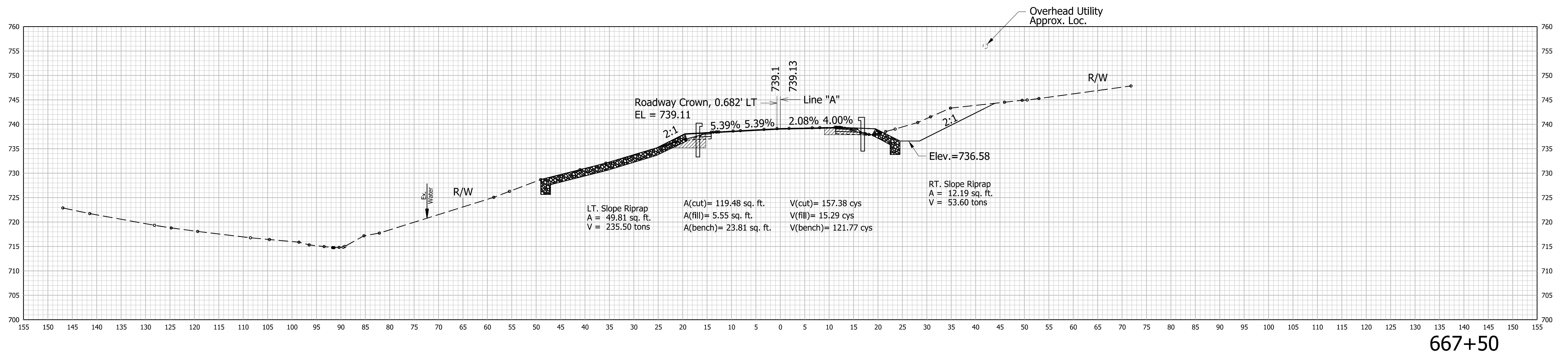
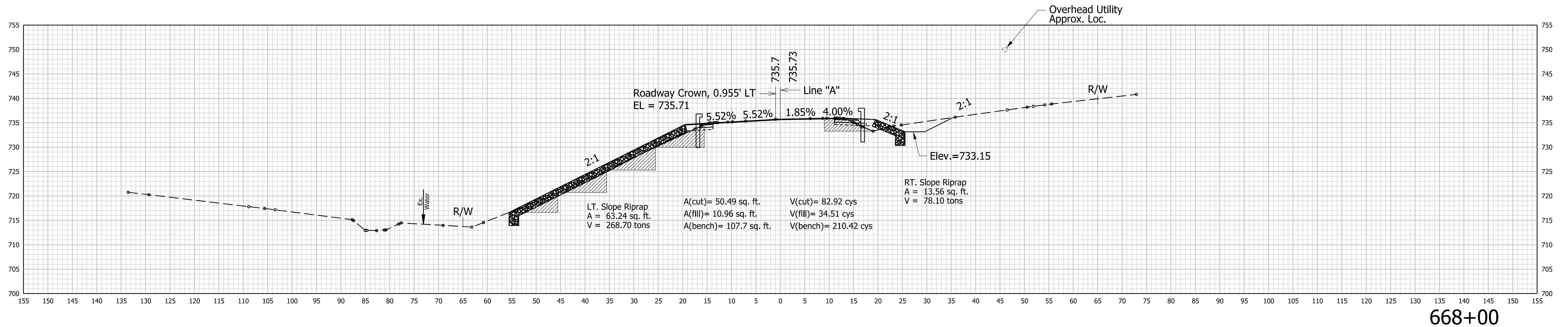
STA. 664+00 TO STA. 665+00



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION CROSS SECTIONS LINE "A"	HORIZONTAL SCALE 1"=10'	CULVERT ASSET ID CV 445-28-000.53
		VERTICAL SCALE 1"=10'	DESIGNATION 2100161
		SHEETS XS5 of XS15	
DESIGNED: AKH 04/11/22 DRAWN: AKH 04/11/22 CHECKED: RMH 04/11/22 CHECKED: RMH 04/11/22	CONTRACT T-43663		PROJECT 2100161



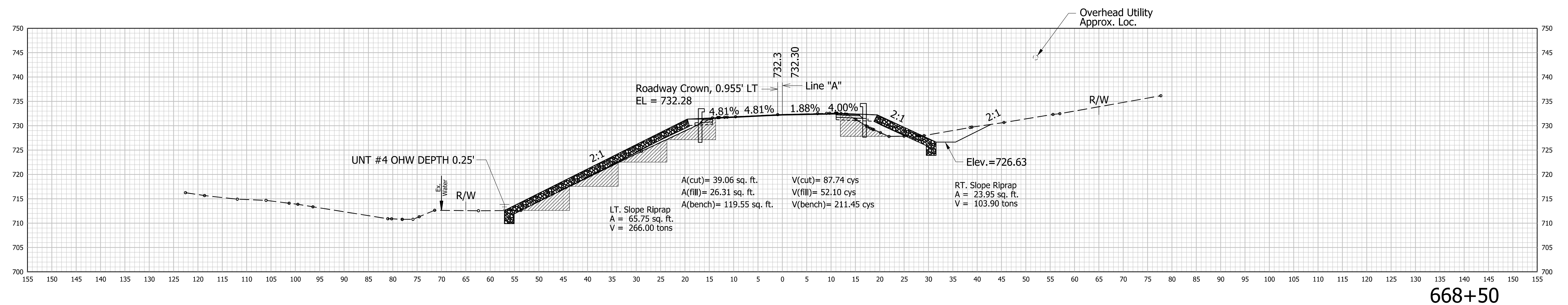
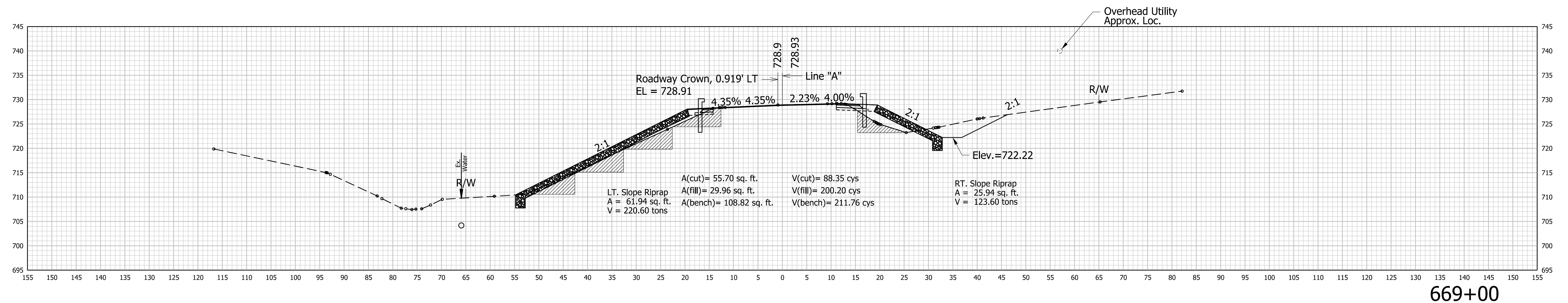
RECOMMENDED FOR APPROVAL _____ DESIGNED: AKH 04/11/22 CHECKED: RMH 04/11/22	DESIGN ENGINEER _____ DRAWN: AKH 04/11/22 CHECKED: RMH 04/11/22	INDIANA DEPARTMENT OF TRANSPORTATION CROSS SECTIONS LINE "A"	HORIZONTAL SCALE 1"=10'	CULVERT ASSET ID CV 445-28-000.53
			VERTICAL SCALE 1"=10'	DESIGNATION 2100161
			SHEETS XS6 of XS15	
			CONTRACT T-43663	PROJECT 2100161



RECOMMENDED FOR APPROVAL _____ DESIGNED: AKH 04/11/22 CHECKED: RMH 04/11/22	DESIGN ENGINEER _____ DRAWN: AKH 04/11/22 CHECKED: RMH 04/11/22	INDIANA DEPARTMENT OF TRANSPORTATION CROSS SECTIONS LINE "A"		HORIZONTAL SCALE	CULVERT ASSET ID
				1"=10'	CV 445-28-000.53
				VERTICAL SCALE	DESIGNATION
				1"=10'	2100161
				SHEETS	
				XS7	of XS15
				CONTRACT	PROJECT
				T-43663	2100161

\$FILES\$

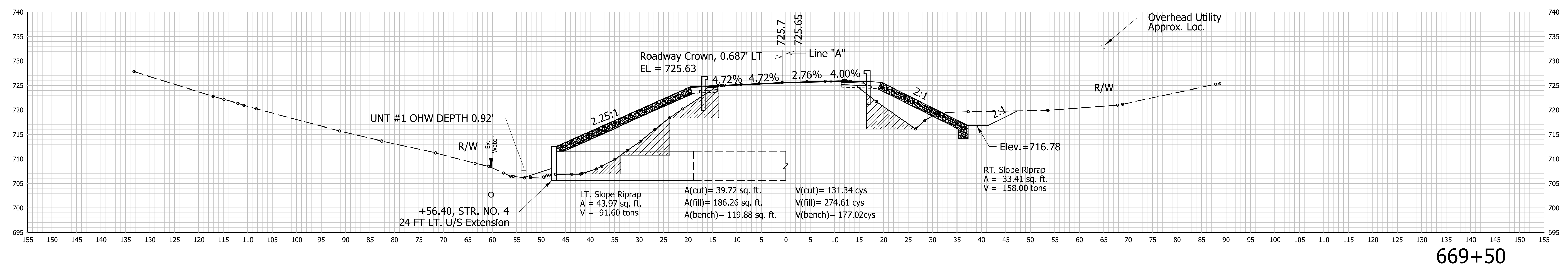
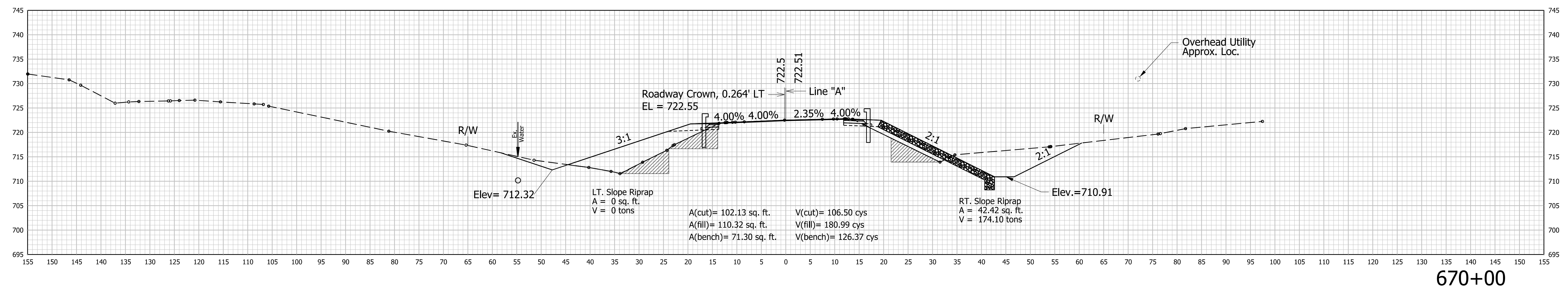
STA. 667+50 TO STA. 668+00



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION CROSS SECTIONS LINE "A"		HORIZONTAL SCALE 1"=10'	CULVERT ASSET ID CV 445-28-000.53
			VERTICAL SCALE 1"=10'	DESIGNATION 2100161
			SHEETS	
DESIGNED: AKH 04/11/22 DRAWN: AKH 04/11/22 CHECKED: RMH 04/11/22 CHECKED: RMH 04/11/22	CONTRACT T-43663		XS8 of XS15 PROJECT 2100161	

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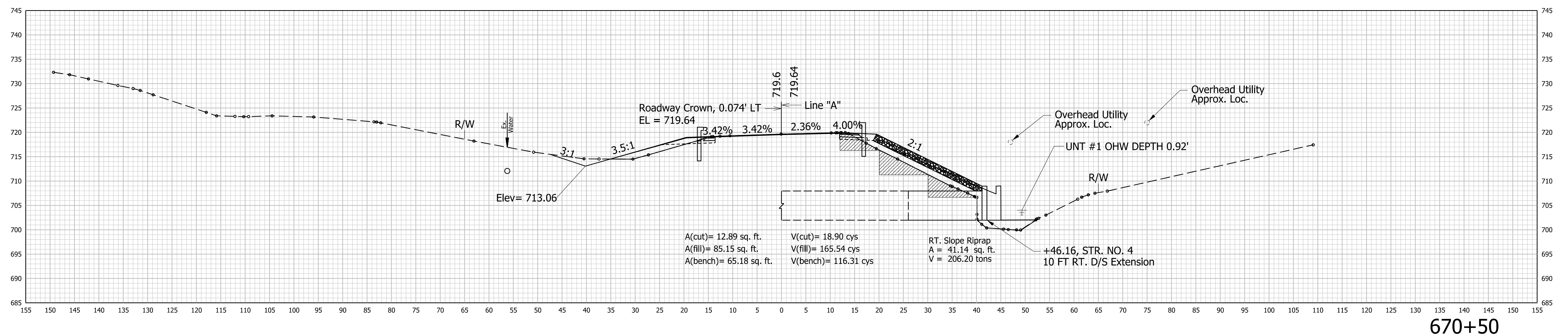
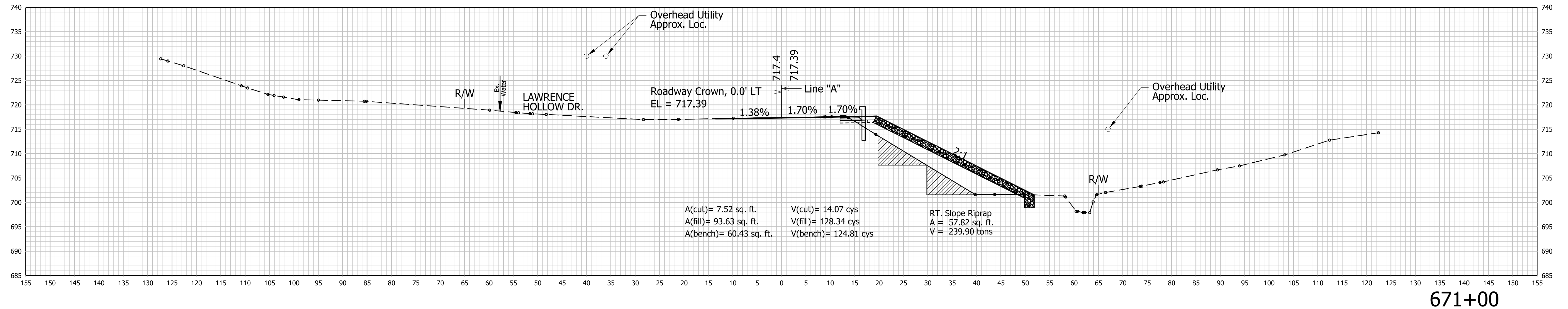
STA. 668+50 TO STA. 669+00



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	DESIGNED: AKH 04/11/22 DRAWN: AKH 04/11/22 CHECKED: RMH 04/11/22 CHECKED: RMH 04/11/22	INDIANA DEPARTMENT OF TRANSPORTATION CROSS SECTIONS LINE "A"		HORIZONTAL SCALE	CULVERT ASSET ID
				1"=10'	CV 445-28-000.53
				VERTICAL SCALE	DESIGNATION
				1"=10'	2100161
				SHEETS	
				CONTRACT	PROJECT
				T-43663	2100161

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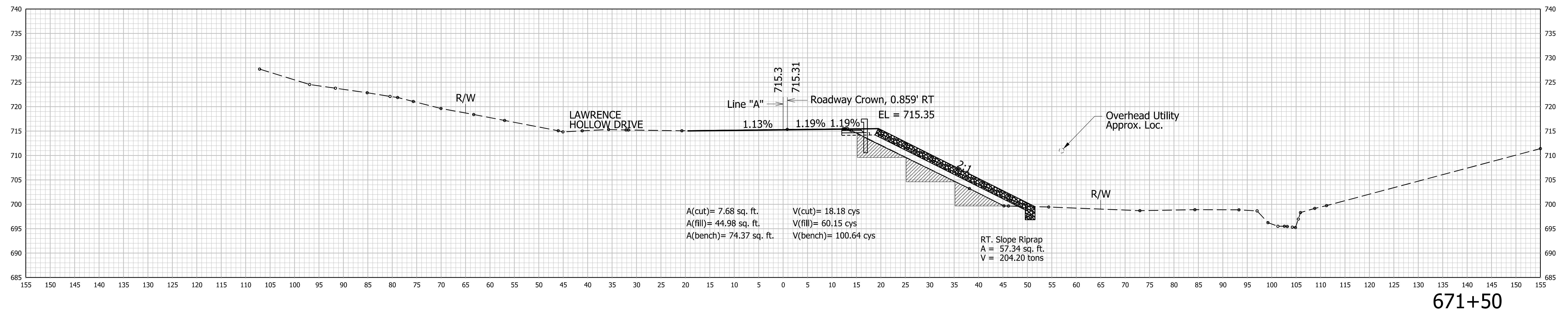
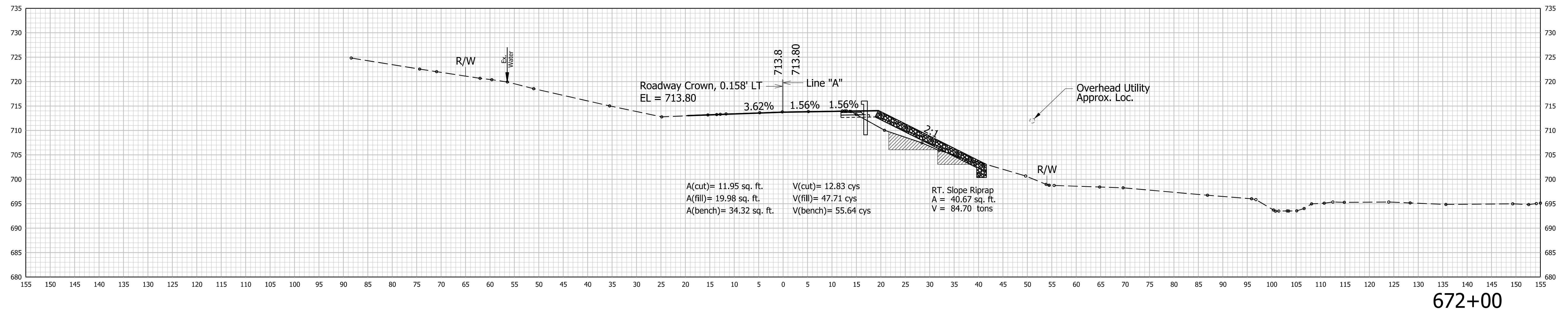
STA. 669+50 TO STA. 670+00



RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE	CULVERT ASSET ID
	DESIGNED: AKH 04/11/22 DRAWN: AKH 04/11/22				1"=10'	CV 445-28-000.53
	CHECKED: RMH 04/11/22 CHECKED: RMH 04/11/22		CROSS SECTIONS LINE "A"		VERTICAL SCALE	DESIGNATION
		1"=10'			2100161	
				SHEETS		
				CONTRACT		XS10 of XS15
				T-43663		PROJECT 2100161

\$FILES

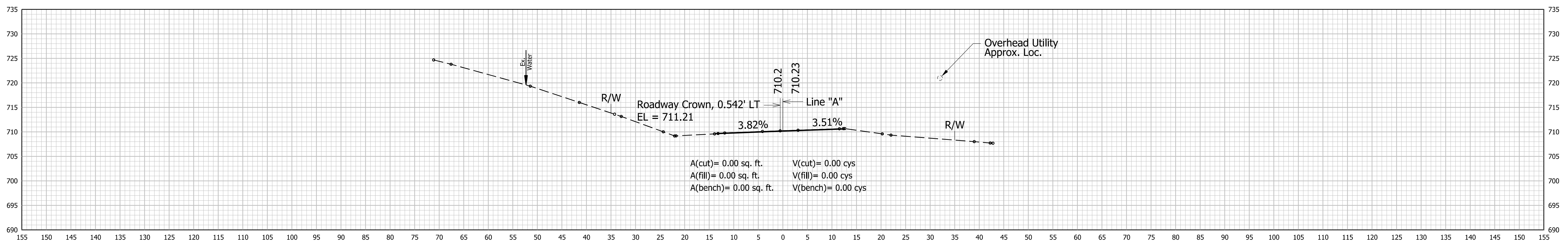
STA. 670+50 TO STA. 671+00



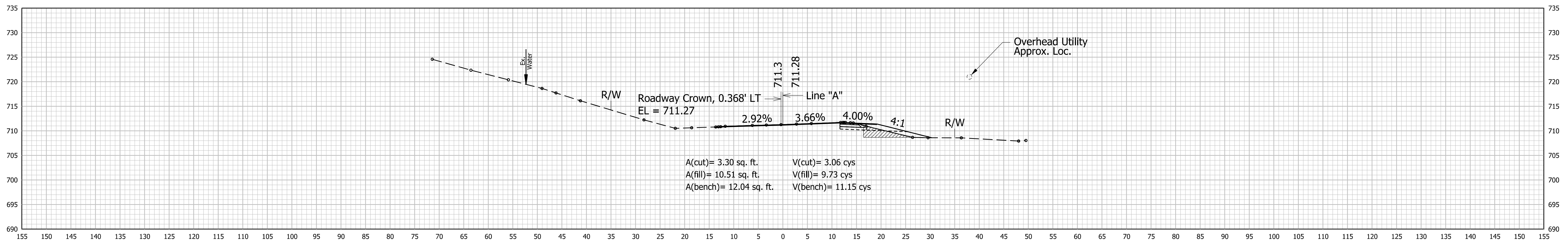
	RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION CROSS SECTIONS LINE "A"	HORIZONTAL SCALE	CULVERT ASSET ID
					1"=10'	CV 445-28-000.53
					1"=10'	DESIGNATION 2100161
	DESIGNED: AKH 04/11/22	DRAWN: AKH 04/11/22			SHEETS	XS11 of XS15
	CHECKED: RMH 04/11/22	CHECKED: RMH 04/11/22			CONTRACT	PROJECT
					T-43663	2100161

\$FILES

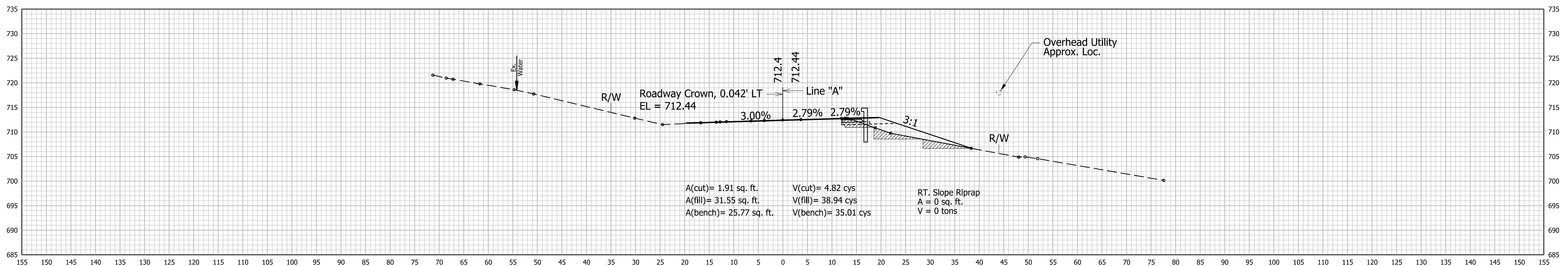
STA. 671+50 TO STA. 672+00



673+50



673+00



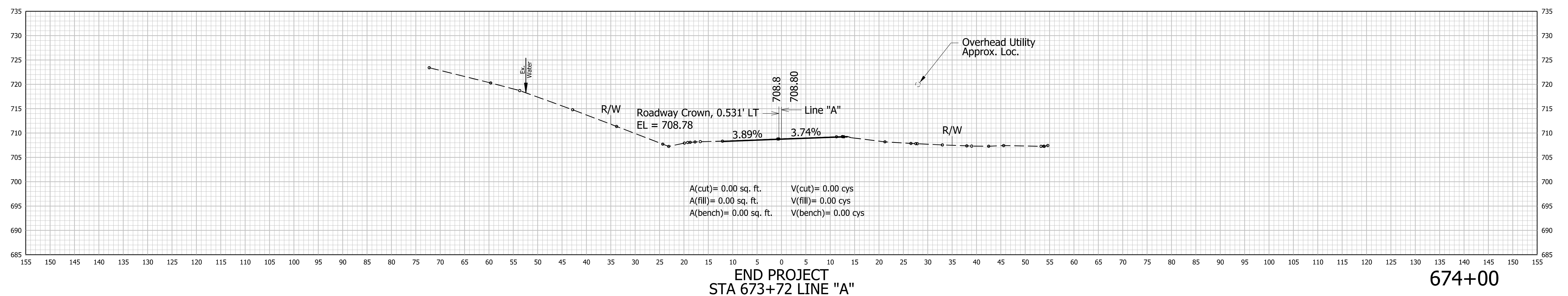
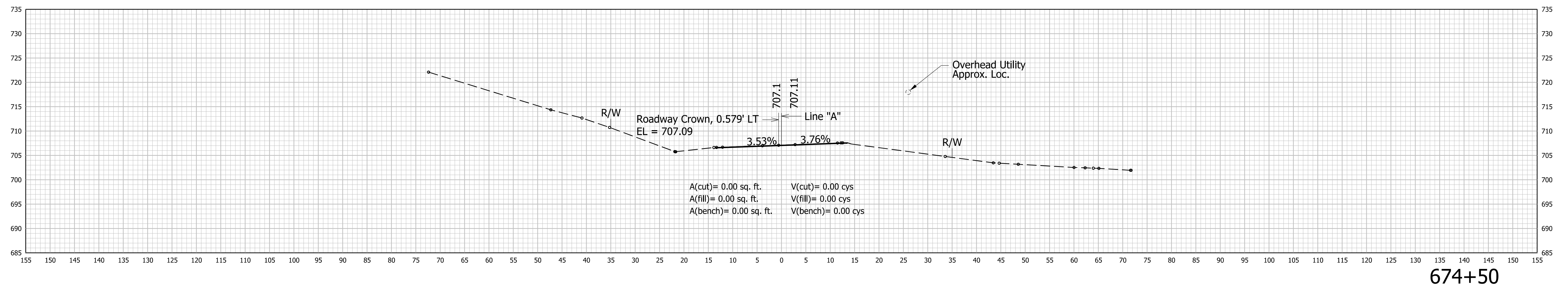
672+50

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04/11/22	DRAWN: AKH
CHECKED: RMH	04/11/22	CHECKED: RMH

INDIANA
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
LINE "A"

HORIZONTAL SCALE	CULVERT ASSET ID
1"=10'	CV 445-28-000.53
VERTICAL SCALE	DESIGNATION
1"=10'	2100161
SHEETS	
CONTRACT	PROJECT
T-43663	2100161



END PROJECT
STA 673+72 LINE "A"

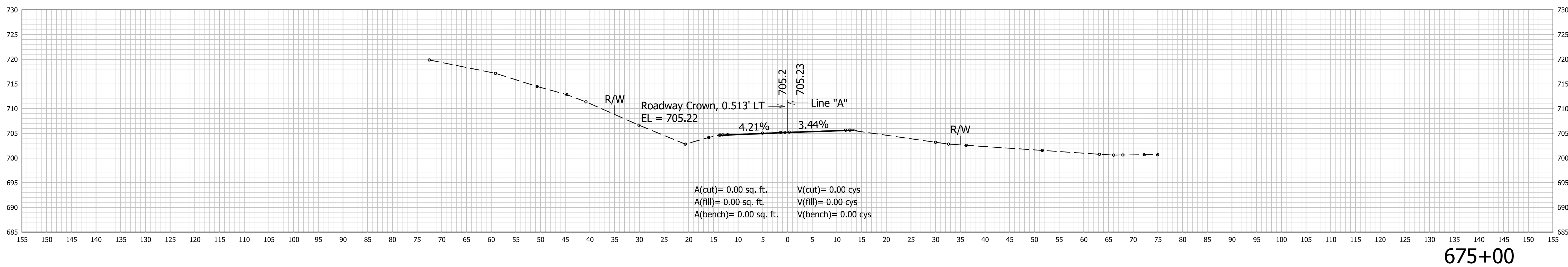
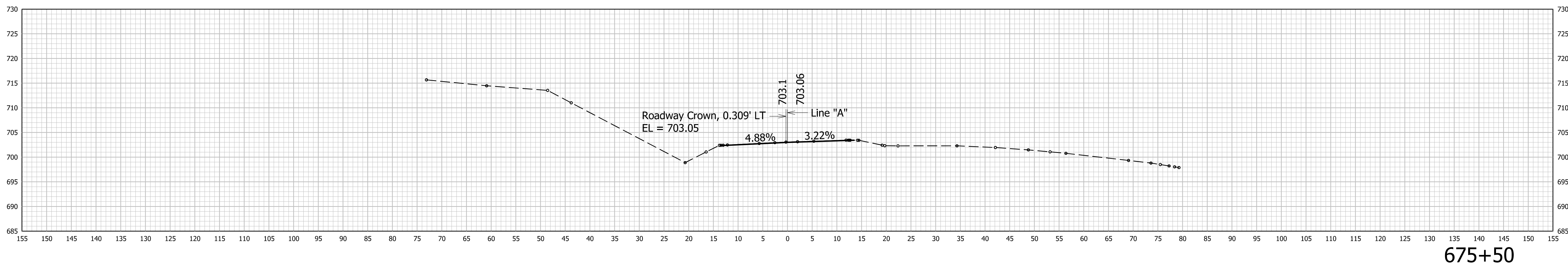
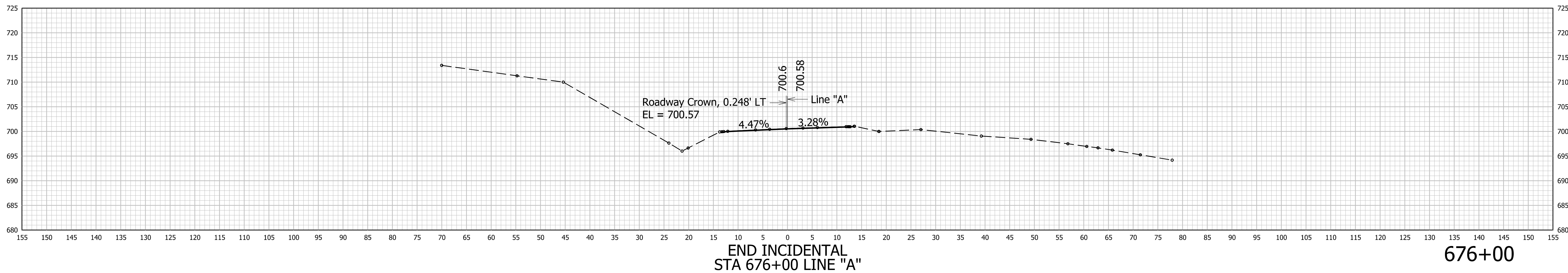
674+00

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE
DESIGNED: AKH	04/11/22	DRAWN: AKH	04/11/22	
CHECKED: RMH	04/11/22	CHECKED: RMH	04/11/22	

INDIANA
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
LINE "A"

HORIZONTAL SCALE	CULVERT ASSET ID	
1"=10'	CV 445-28-000.53	
VERTICAL SCALE	DESIGNATION	
1"=10'	2100161	
SHEETS		
	XS13	of XS15
CONTRACT	PROJECT	
T-43663	2100161	

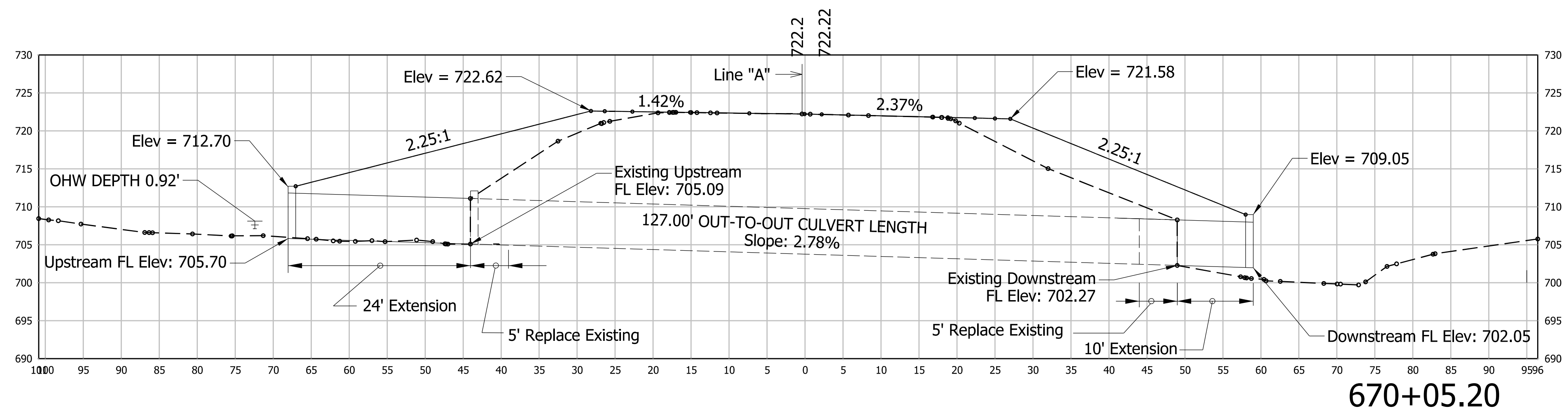


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: AKH	04/11/22	DRAWN: AKH
CHECKED: RMH	04/11/22	CHECKED: RMH

INDIANA
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
LINE "A"

HORIZONTAL SCALE 1"=10'	CULVERT ASSET ID CV 445-28-000.53
VERTICAL SCALE 1"=10'	DESIGNATION 2100161
SHEETS	
CONTRACT T-43663	PROJECT 2100161



670+05.20

	RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	CULVERT ASSET ID
			1"=10'	CV 445-28-000.53
			VERTICAL SCALE	DESIGNATION
	DESIGNED: AKH 04/11/22 DRAWN: AKH 04/11/22	CROSS SECTIONS STR. NO 4-STA. 670+05.20 "A"	1"=10'	2100161
CHECKED: RMH 04/11/22 CHECKED: RMH 04/11/22	SHEETS			
	XS15 of XS15			
			CONTRACT	PROJECT
			T-43663	2100161