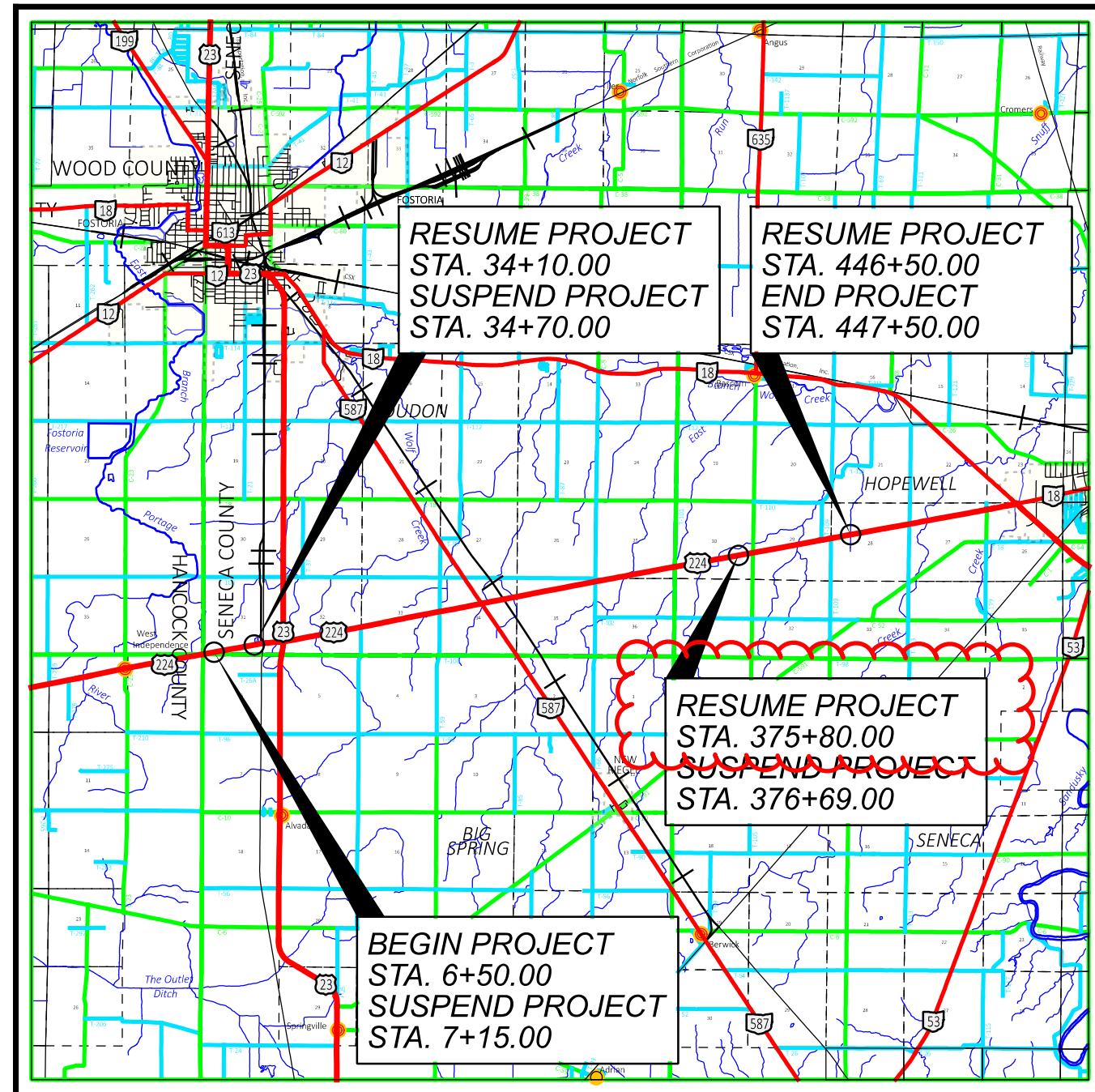


# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

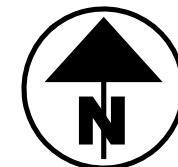
## SEN-224-0.13/0.65/6.94/8.48

### HOPEWELL AND LOUDON TOWNSHIPS SENECA COUNTY



**LOCATION MAP**

LATITUDE: 41°05'29" LONGITUDE: 83°20'26"



PORTION TO BE IMPROVED	=====
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	=====

**DESIGN DESIGNATION**

	SEN-224-0.13/0.65	SEN-224-6.94	SEN-224-8.48:
CURRENT ADT (2025)	5500	5600	5800
DESIGN YEAR ADT (2045)	5600	5900	6100
DESIGN HOURLY VOLUME (2045)	560	590	610
DIRECTIONAL DISTRIBUTION	62%	55%	55%
TRUCKS (24 HOUR B&C)	12%	15%	15%
DESIGN SPEED	60 MPH	60 MPH	60 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:			
RURAL MINOR ARTERIAL (ALL LOCATIONS)			
NHS PROJECT	NO		

**DESIGN EXCEPTIONS**

NONE REQUIRED

**ADA DESIGN WAIVERS**

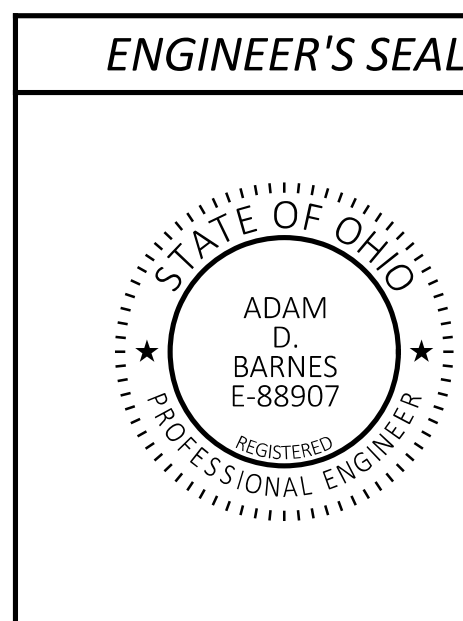
NONE REQUIRED

**UNDERGROUND UTILITIES**  
Contact Two Working Days  
Before You Dig

**OHIO811.org**  
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764  
(Non members must be called directly)

PLAN PREPARED BY:  
ODOT DISTRICT 2  
317 E. POE RD.  
BOWLING GREEN, OH 43402



**INDEX OF SHEETS:**

TITLE SHEET	1
TYPICAL SECTION	2
GENERAL NOTES	3
MAINTENANCE OF TRAFFIC NOTES	4-5
GENERAL SUMMARY	6-7
SUBSUMMARY	8
PLAN AND PROFILES	9-12
CROSS SECTIONS	13-19
CHANNEL CROSS SECTIONS	20-22
CULVERT DETAILS	23-31
RIGHT OF WAY	RW1-RW9

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
CB-2-2A, 2B, 2C	7/19/24	MT-97.10	4/19/19	800-2023	7/19/24
		MT-101.60	4/21/23	832	7/19/24
DM-1.1	7/17/20	MT-105.10	1/17/20		
DM-4.3	1/15/16				
DM-4.4	1/15/16	TC-61.30	7/19/24		
MGS-1.1	7/16/21				
MGS-2.1	1/19/18				
MGS-5.3	7/15/16				
RM-1.1	1/20/23				
HW-1.1	7/20/18				
HW-2.1	7/15/22				
HW-2.2	7/20/18				

**FEDERAL PROJECT NUMBER**

E140257

**RAILROAD INVOLVEMENT**

NONE

**PROJECT DESCRIPTION**

REPLACE EXISTING CULVERTS ON STATE ROUTE 224  
AT FOUR LOCATIONS IN SENECA COUNTY;  
PERFORM NECESSARY RELATED WORK.

**EARTH DISTURBED AREAS**

Project	Project Earth Disturbed Area	Estimated Contractor Earth Disturbed Area	Notice of Intent Earth Disturbed Area
SEN-224-0.13:	0.3 ACRES	0.2 ACRES	N/A (NOI NOT REQUIRED)
SEN-224-0.65:	0.4 ACRES	0.2 ACRES	N/A (NOI NOT REQUIRED)
SEN-224-6.94:	0.2 ACRES	0.2 ACRES	N/A (NOI NOT REQUIRED)
SEN-224-8.48:	0.5 ACRES	0.2 ACRES	N/A (NOI NOT REQUIRED)

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 4.

Pat McColley, P.E., S.I.  
District 02 Deputy Director

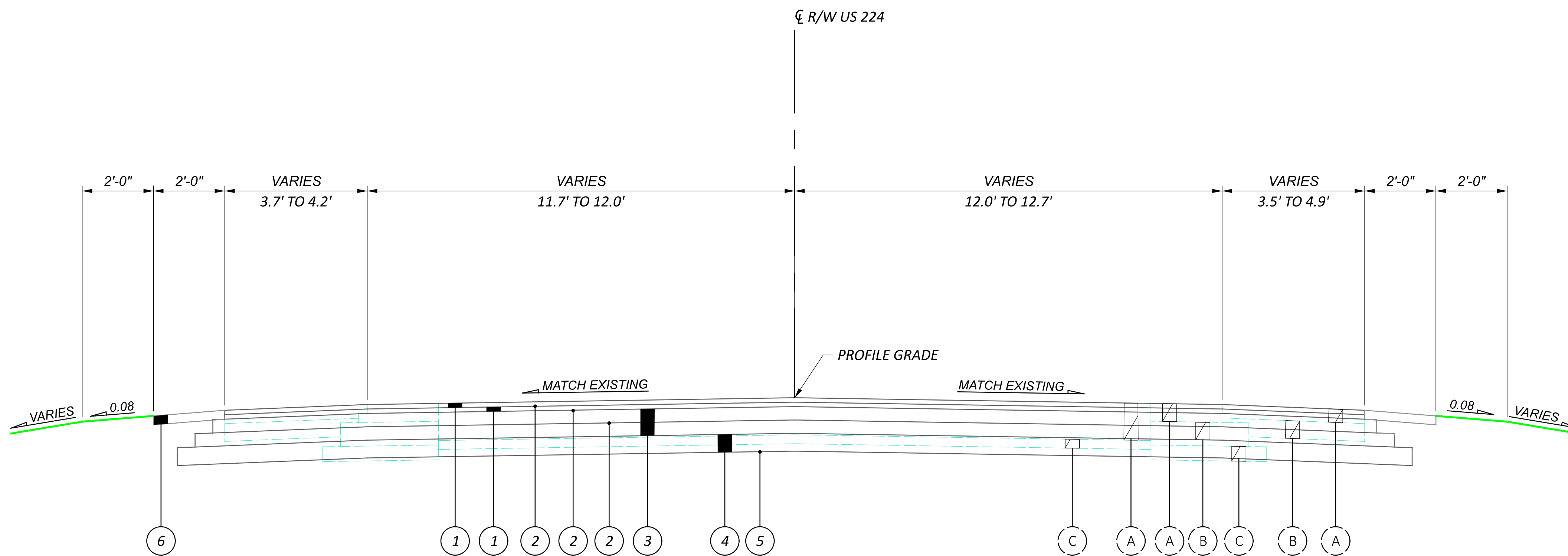
Pamela Boratyn  
Director, Department of Transportation

TITLE SHEET

DESIGN AGENCY



DESIGNER	ADB
REVIEWER	DJG 06-07-24
PROJECT ID	97425
SHEET	TOTAL
P.1	31



TYPICAL FULL DEPTH PAVEMENT SECTION

STA. 6+50.00 TO STA. 7+15.00

STA. 34+10.00 TO STA. 34+70.00

STA. 375+80.00 TO STA. 376+69.00

STA. 446+50.00 TO STA. 447+50.00

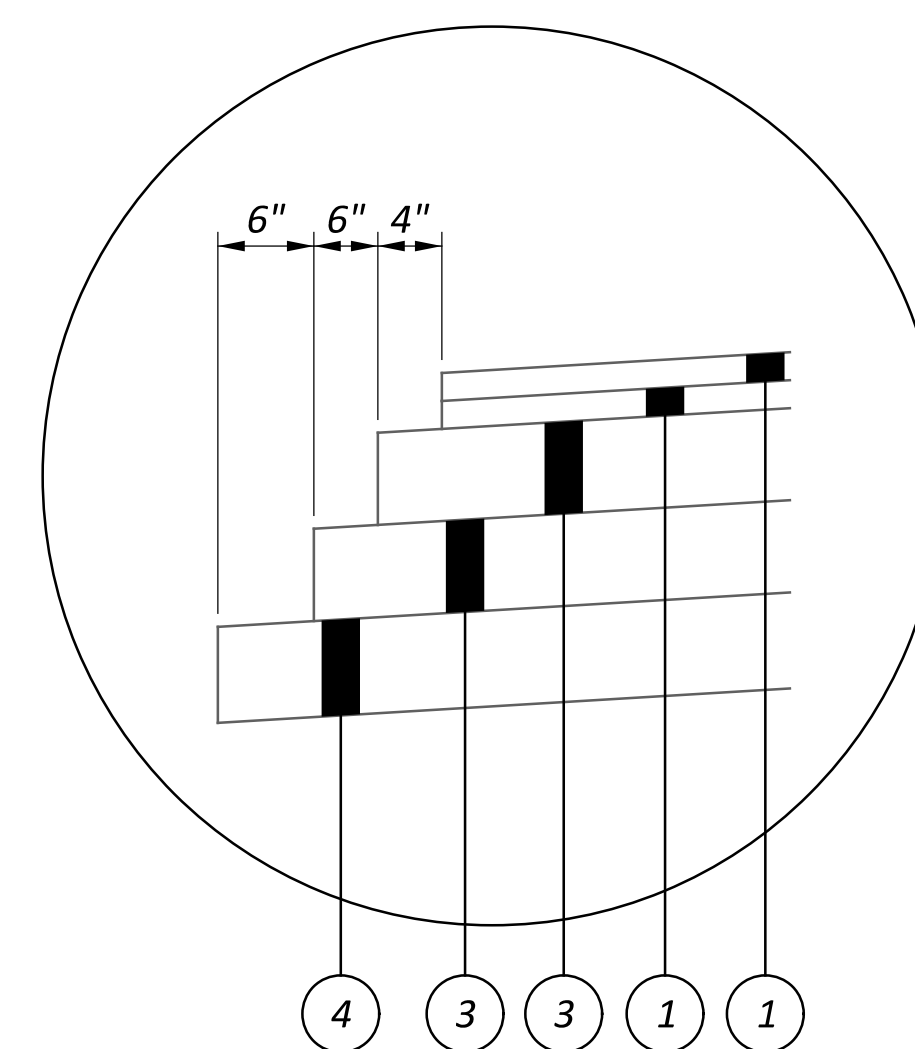
NOTE: SEE CROSS SECTION SHEETS FOR SLOPES AND OFFSETS.  
 SEE SHEET 30 FOR SEN-224-6.94 SLOPES AND OFFSETS.

LEGEND

- ① ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22\*
- ② ITEM 407 - TACK COAT
- ③ ITEM 301 - 9" ASPHALT CONCRETE BASE, (449), PG64-22
- ④ ITEM 304 - 6" AGGREGATE BASE
- ⑤ ITEM 204 - SUBGRADE COMPACTION
- ⑥ ITEM 617 - 3" COMPACTED AGGREGATE

EXISTING LEGEND

- Ⓐ ASPHALT CONCRETE (VARIES 8" TO 12.5")
- Ⓑ AGGREGATE BASE (VARIES 8" TO 9")
- Ⓒ SUBBASE




EDGE COURSE DETAIL  
 (TACK COAT NOT SHOWN FOR CLARITY)

\*ITEM 441 TO BE PLACED IN TWO LIFTS 1 1/2" EACH FOR A TOTAL THICKNESS OF 3".



SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	3	4	5	8	24	29	30	31	RW2	RW4	RW6	01/STR/04	EXT	TOTAL					
					2,946								2,946	509	10000	2,946	LB	EPOXY COATED STEEL REINFORCEMENT	
					9								9	511	46000	9	SY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
					18								18	511	46510	18	CY	CLASS QC1 CONCRETE, FOOTING	
					2								2	511	46610	2	CY	CLASS QC1 CONCRETE, HEADWALL	
					32	15							47	512	10000	47	SY	SEALING OF CONCRETE SURFACES	
					119								119	512	33000	119	SY	TYPE 2 WATERPROOFING	
					31								31	516	13600	31	SF	1" PREFORMED EXPANSION JOINT FILLER	
					LS	LS							LS	518	21230	LS		POROUS BACKFILL WITH GEOTEXTILE FABRIC	
																		<b>MAINTENANCE OF TRAFFIC</b>	
		194											194	202	23000	194	SY	PAVEMENT REMOVED	
		33											33	301	56000	33	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
		22											22	407	10000	22	GAL	TACK COAT	
		17											17	441	70000	17	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
			6										6	614	18601	6	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	5
																		<b>INCIDENTALS</b>	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

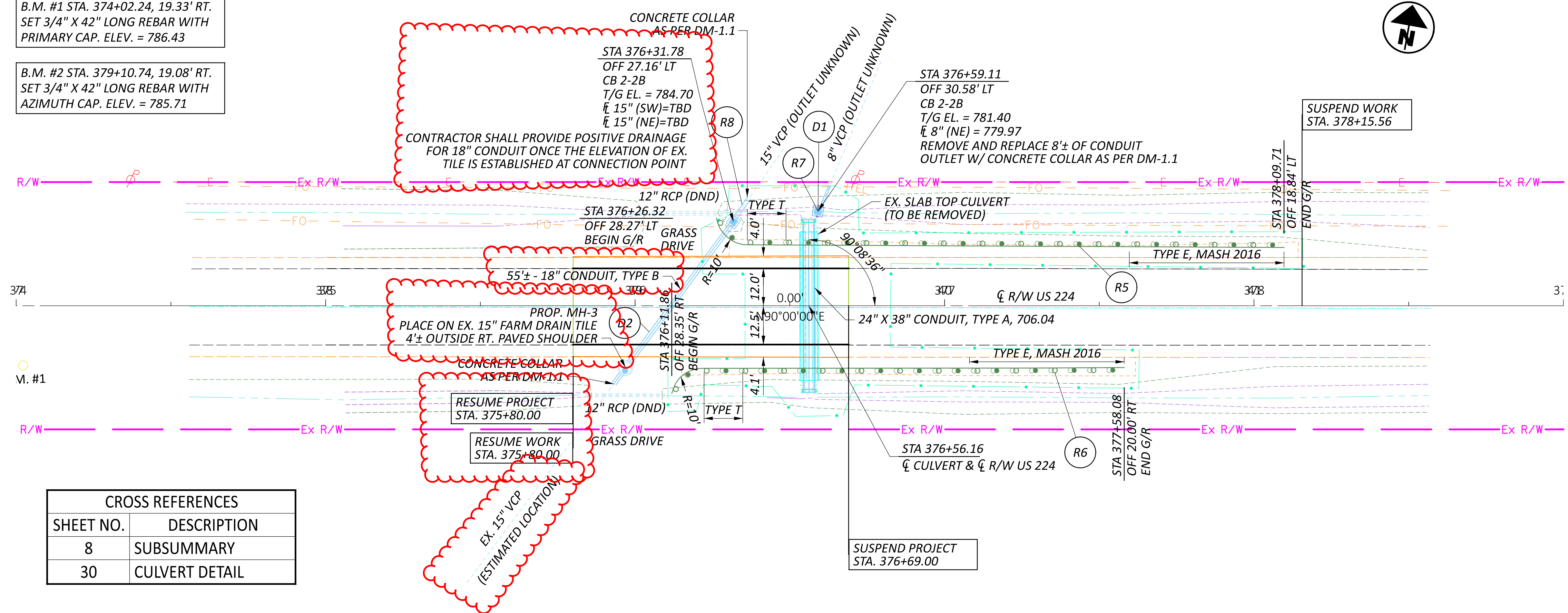
GENERAL SUMMARY

DESIGN AGENCY	
DESIGNER	ADB
REVIEWER	DJG
PROJECT ID	06-07-24
SHEET	97425
TOTAL	31
P.7	

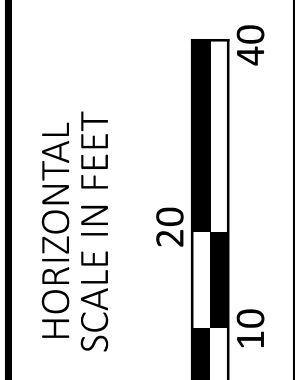
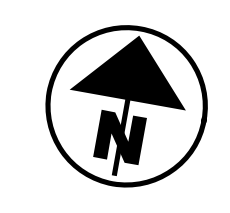
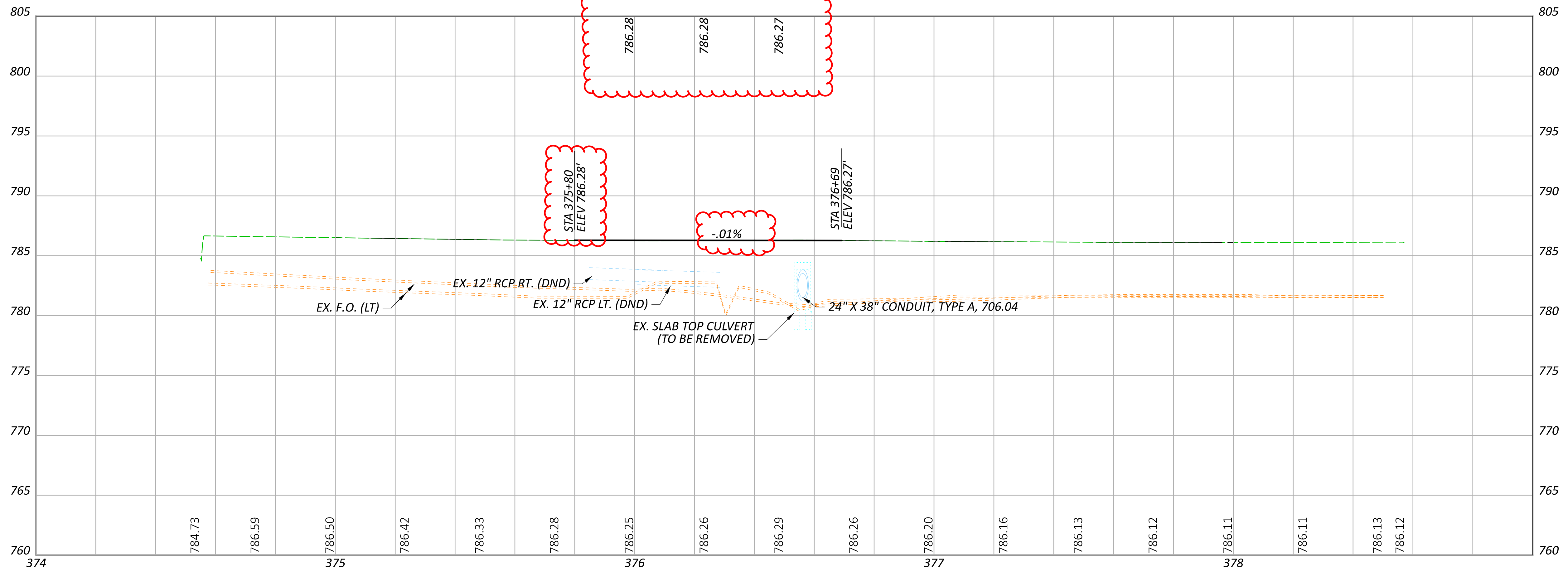


B.M. #1 STA. 374+02.24, 19.33' RT.  
 SET 3/4" X 42" LONG REBAR WITH  
 PRIMARY CAP. ELEV. = 786.43

B.M. #2 STA. 379+10.74, 19.08' RT.  
 SET 3/4" X 42" LONG REBAR WITH  
 AZIMUTH CAP. ELEV. = 785.71



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
8	SUBSUMMARY
30	CULVERT DETAIL



PLAN AND PROFILE  
 STA. 374+00.00 TO STA. 379+00.00

DESIGN AGENCY

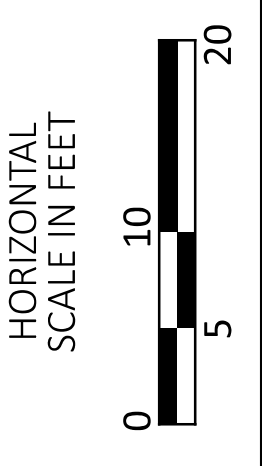
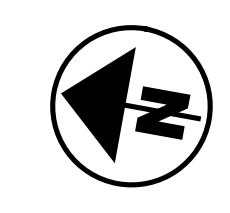
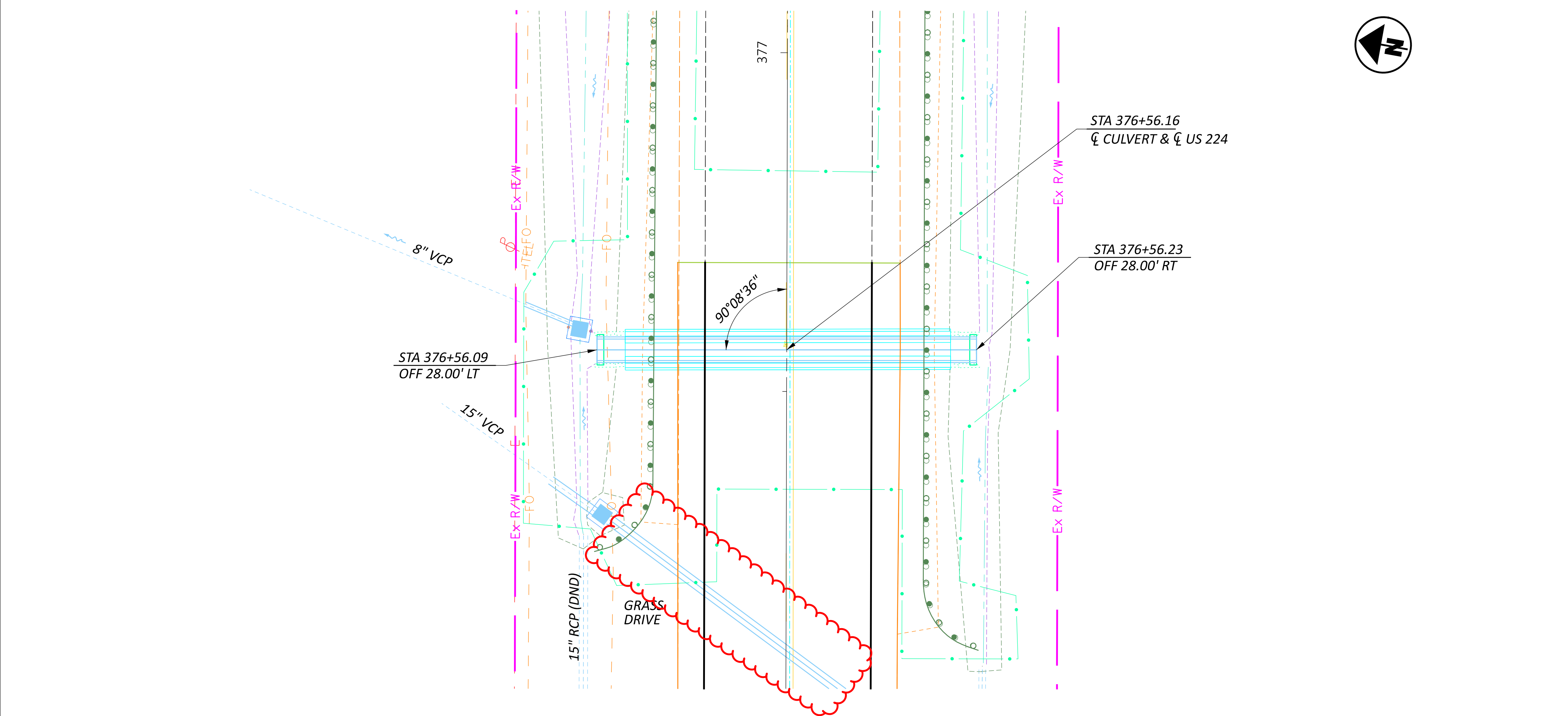


DESIGNER  
 ADB

REVIEWER  
 DJG 06-07-24

PROJECT ID  
 97425

SHEET TOTAL  
 P.11 31



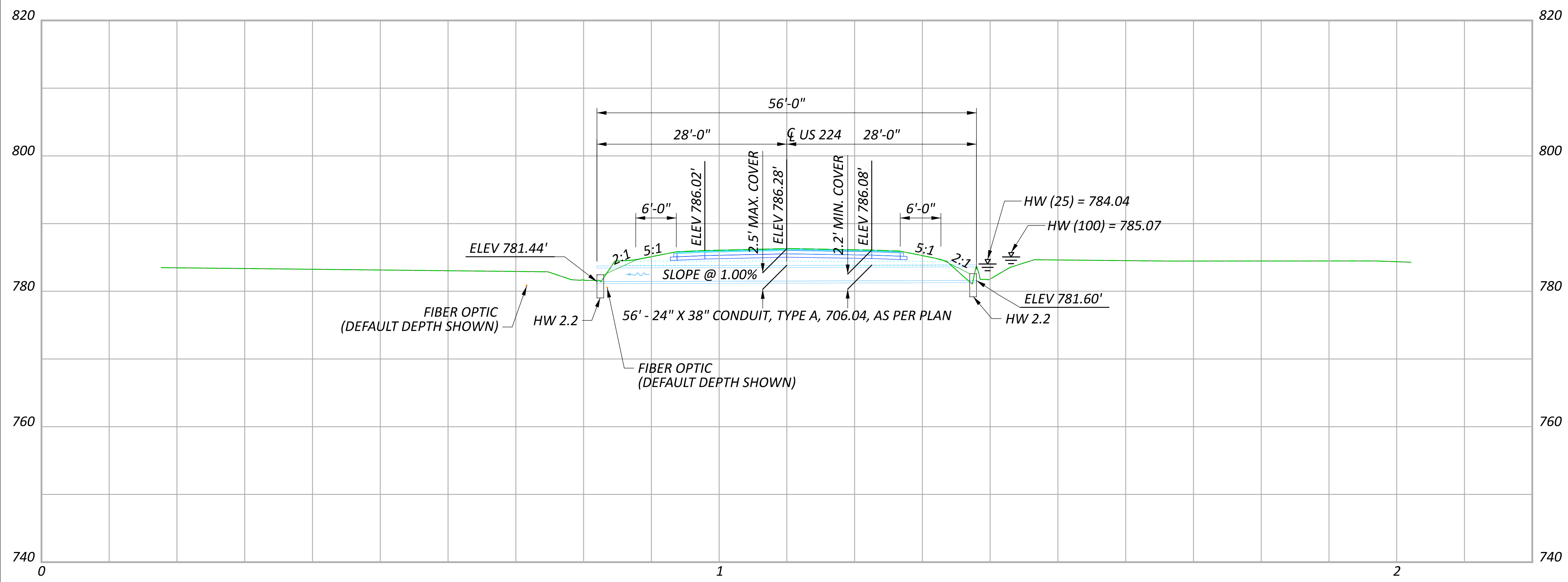
ESTIMATED QUANTITIES			
ITEM	QUANTITY	UNIT	DESCRIPTION
202	LS		STRUCTURE REMOVED
602	0.9	CY	CONCRETE MASONRY
611	56	FT	24" X 38" CONDUIT, TYPE A, 706.04, AS PER PLAN

HYDRAULIC DATA			
DRAINAGE AREA =	38 ACRES		
Q (25) =	26.2 CFS	V (25) = 6.62 FT/S	HW (25) = 784.04 FT
Q (100) =	37.8 CFS	V (100) = 8.05 FT/S	HW (100) = 785.07 FT
ORDINARY HIGH WATER MARK:	N/A		
DESIGN SERVICE LIFE:	75 YEARS		
ABRASION LEVEL:	1		
pH:	8.4		

EXISTING STRUCTURE	
TYPE:	CONCRETE SLAB TOP WITH EXTENSIONS
SIZE:	4'-0" X 2'-0" X 49' LENGTH
SKEW:	0°
ALIGNMENT:	TANGENT
DATE BUILT:	1920; EXTENDED: 1955
CONDITION:	POOR
CFN:	1846407

PROPOSED STRUCTURE	
TYPE:	24" RISE X 38" SPAN REINFORCED CONCRETE ELLIPTICAL PIPE, 706.04, AS PER PLAN, 56' LENGTH
SKEW:	0° 8'36" R.F.
ALIGNMENT:	TANGENT
CFN:	1988009

**ITEM 611 - 24" X 38" CONDUIT, TYPE A, 706.04, AS PER PLAN**  
 THE CONTRACTOR SHALL FURNISH LOW STRENGTH MORTAR BACKFILL (LSM) PER CMS 613 FOR THE STRUCTURAL BACKFILL OF THE CULVERT. ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM FOR ITEM 611 - 24" X 38" CONDUIT, TYPE A, 706.04, AS PER PLAN.



CULVERT DETAIL  
 STA. 376+56.16

DESIGN AGENCY



DESIGNER  
 ADB

REVIEWER  
 DJG 06-07-24

PROJECT ID  
 97425

SHEET TOTAL  
 P.30 31