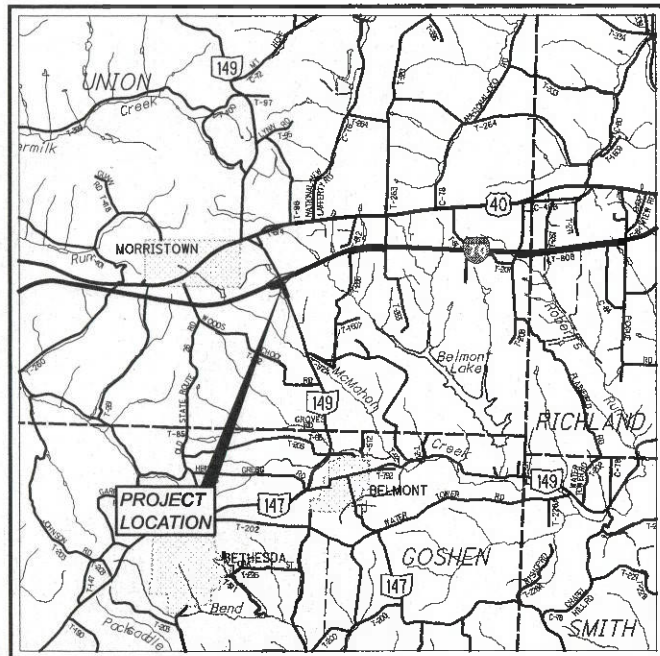


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

BEL-149-23.64

BELMONT COUNTY
UNION TOWNSHIP



LOCATION MAP

LATITUDE: 40°3'35" N LONGITUDE: 81°3'10" W



DESIGN DESIGNATION

	S.R. 149
CURRENT ADT (2022)	13500
DESIGN YEAR ADT (2042)	18000
DESIGN HOURLY VOLUME (2042)	1800
DIRECTIONAL DISTRIBUTION	70%
TRUCKS (24 HOUR B&C)	35%
DESIGN SPEED	45
LEGAL SPEED	45
DESIGN FUNCTIONAL CLASSIFICATION:	
05 - MAJOR COLLECTOR	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE

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:

O.D.O.T. DISTRICT 11
CAPITAL PROGRAMS - ENGINEERING
NEW PHILADELPHIA, OHIO

ENGINEER'S SEAL:



SIGNED: *DAH*
DATE: 11/17/2021

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STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS		
BP-2.1	7/17/15	F-3.4	7/19/13	HL-20.11	1/15/21	TC-12.31	1/21/22	TC-73.20	1/17/20	800-2019	10/15/21	WATERWAY
BP-2.2	1/15/21			HL-30.11	1/15/21	TC-21.21	7/16/21	TC-81.22	7/16/21	809	1/15/21	PERMITS
BP-3.1	1/17/20	MGS-1.1	7/16/21	HL-30.21	4/17/20	TC-41.10	7/19/13	TC-83.10	1/17/20	813	10/19/18	CONDITIONS
BP-4.1	7/19/13	MGS-2.1	1/19/18	HL-30.22	1/15/21	TC-41.20	10/18/13	TC-83.20	7/21/17	825	1/17/20	8/23/21
BP-5.1	7/16/21	MGS-4.2	7/19/13	HL-40.20	7/17/20	TC-41.30	10/18/13	TC-85.20	7/20/18	832	10/19/18	
				HL-60.11	7/21/17	TC-41.40	10/18/13			909	1/15/21	
CB-3	7/16/21	MH-3	7/16/21	HL-60.12	7/16/21	TC-41.41	7/19/19					
CB-3A	7/16/21			HL-60.31	1/17/20	TC-41.50	10/18/13					
		RM-4.2	4/17/20			TC-42.10	10/18/13					
DM-1.1	7/17/20			MT-97.10	4/19/19	TC-42.20	10/18/13					
DM-1.2	7/16/21	HW-1.1	7/20/18	MT-98.28	1/17/20	TC-52.10	10/18/13					
DM-4.3	1/15/16	HW-2.2	7/20/18	MT-101.60	1/17/20	TC-52.20	1/15/21					
DM-4.4	1/15/16			MT-101.70	1/17/20	TC-61.30	7/19/19					
				HL-10.11	1/15/21	MT-101.90	7/17/20	TC-65.10	1/17/14			
F-2.1	7/20/18			HL-10.12	1/20/17	MT-105.10	1/17/20	TC-65.11	7/21/17			
F-3.3	7/19/13			HL-10.13	4/17/20	MT-120.00	1/19/18	TC-71.10	7/16/21			

FEDERAL PROJECT NUMBER

E190(225)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

IMPROVEMENT TO ±0.10 MILES OF S.R. 149 AND ±0.05 MILES OF EASTBOUND I.R. 70 EXIT RAMP AT THE INTERSECTION OF S.R. 149 AND I.R. 70 EASTBOUND ON/OFF RAMP AT I.R. 70 EXIT 208. THIS PROJECT INCLUDES NEW TRAFFIC SIGNAL HARDWARE, ANALYSIS OF THE SIGNAL TIMING AND PHASING THROUGH THE S.R. 149 CORRIDOR FROM I.R. 70 TO BOND DRIVE, AND ADDING RIGHT TURN LANES ON NORTHBOUND SR 149 AND THE EASTBOUND I.R. 70 EXIT RAMP.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 1.423 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.4 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 1.8 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 8, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: *Thomas J. Gray*
DATE: 11-17-2021 DISTRICT DEPUTY DIRECTOR

APPROVED: _____
DATE: _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

BEL-149-23.64

MODEL: Sheet PAPER: 22x36 DATE: 11/17/2021 TIME: 10:24:06 PM USER: shorriab
D:\vol\hobdott-pw\belmont\106789\400-Engineering\Roadway\Sheets\106789.ctb

TITLE SHEET

DESIGN AGENCY



DESIGNER

SAH

REVIEWER

DAH 11-15-21

PROJECT ID

106789

SHEET TOTAL

P.1 88

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AEP OHIO POWER COMPANY COLUMBIA GAS OF OHIO, INC.
ATTN: JEFF TURNER ATTN: TIMOTHY SEECH
P. O. BOX 99, 300 LURAY DRIVE
47687 NATIONAL ROAD WINTERSVILLE, OHIO 43953
ST. CLAIRSVILLE, OHIO 43950 740-266-4282
740-699-7845

AT&T OHIO, INC. WINDSTREAM
ATTN: BARRETT J. TAMOSIVICH ATTN: JOHN MCDOWELL
160 NORTH 6TH STREET 32699 OLD NATIONAL ROAD
ZANESVILLE, OHIO 43701 BARNESVILLE, OHIO 43713
740-454-3552 OFFICE: 1-339-650-8302

BELMONT COUNTY SANITARY COMCAST
SEWER DISTRICT ATTN: GENE HELMES
ATTN: BRIAN STREET 908 NATIONAL RD.
P.O. BOX 457 BRIDGEPORT, OH 43912
ST CLAIRSVILLE, OHIO 43950 740-314-5397
(740) 695-3144

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

THE OHIO DEPARTMENT OF TRANSPORTATION HAS UTILITY FACILITIES (HIGHWAY LIGHTING AND/OR TRAFFIC SIGNALS) WITHIN THE LIMITS OF THIS PROJECT.

IN ADDITION TO THE INFORMATION OUTLINED IN THIS CONTRACT, THE CONTRACTOR SHALL TAKE THE FOLLOWING ACTION TO PROTECT ODOT'S FACILITIES DURING CONSTRUCTION:

HIGHWAY LIGHTING AND/OR TRAFFIC SIGNALS: EVEN THOUGH ODOT IS LISTED AS A MEMBER OF THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE CONTRACTOR IS REQUIRED TO CONTACT ODOT DIRECTLY SO THAT THE ODOT UTILITIES LOCATED WITHIN THIS PROJECT ARE MARKED. THE CONTRACTOR SHALL NOTIFY THE ODOT PROJECT ENGINEER/PROJECT SUPERVISOR, FOURTEEN (14) CALENDAR DAYS IN ADVANCE OF ANY WORK, FOR THE NEED TO MARK ODOT OWNED UTILITIES.

THE ABOVE REQUIREMENTS ARE IN ADDITION TO SECTION 105.07 & 107.16 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY OTHER UTILITIES THROUGH OUPS OR DIRECTLY A MINIMUM OF FORTY-EIGHT HOURS IN ADVANCE OF ANY WORK.

INTERIM COMPLETION DATE AND SCHEDULE OF WORK

INTERIM COMPLETION DATE OF OCTOBER 31, 2022 HAS BEEN SET UP FOR COMPLETION OF ALL WORK EXCEPT THE LIGHT POLE AND STRAIN POLE ERECTION INCLUDING MAST ARMS, SIGNAL HEADS, FINAL WIRING, AND EXISTING SIGNAL REMOVAL. FAILURE TO COMPLETE THIS WORK AND OPEN BOTH LANES OF THE ROADWAY TO TRAFFIC BY THE INTERIM COMPLETION DATE WILL RESULT IN THE ASSESSMENT OF LIQUIDATED DAMAGES FOR ANY DAY BEYOND THE INTERIM COMPLETION DATE AS PER CMS 108.07.

TC-12.31 BASE PLATE CONNECTION

ALL REFERENCE ITEMS THAT REFER TO THE TC-12.31 STANDARD DRAWING SHALL HAVE BASE CONNECTION FABRICATED AS PER THE "STANDARD BASE DESIGN" WHICH UTILIZES COMPLETE JOINT PENETRATION (CJP) WELDS.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

EXISTING PLANS

THE FOLLOWING EXISTING PLANS ARE AVAILABLE FOR REFERENCE AT THE DISTRICT 11 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, 2201 REISER AVE. S.E., NEW PHILADELPHIA, OHIO, 44663:

- BEL-149-(0.70-2.83) (1959)
- BEL-40-7.61 (1963)
- BEL-149-23.77, PID 76265 (2004)
- BEL-70-7.61, PID 76825 (2011)
- BEL-149-23.85, PID 99042 (2015)

IN ADDITION, THE EXISTING PLANS CAN BE FOUND ON THE DEPARTMENT'S WEBSITE AT THE FOLLOWING ADDRESS: <http://www.dot.state.oh.us/pub/contracts/attach>

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE THIS SHEET FOR 'SURVEY CONTROL TABLE' CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

POSITIONING METHOD: ODOT VRS

MONUMENT TYPE: TYPE A

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID 12B

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: GRS 1980

MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, SOUTH ZONE
COMBINED SCALE FACTOR: 1.00004621
ORIGIN OF COORDINATE SYSTEM: (N, 0, E 0)

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

**ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN (PG70-22M)
ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), AS PER PLAN (PG64-22)**

THE CONTRACTOR SHALL FOLLOW THE SPECIFICATIONS OF CMS 703.05, EXCEPT DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED "SR" OR "SRH" AS DEFINED BY THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM OF WORK.

ENDANGERED BAT HABITAT REMOVAL

THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

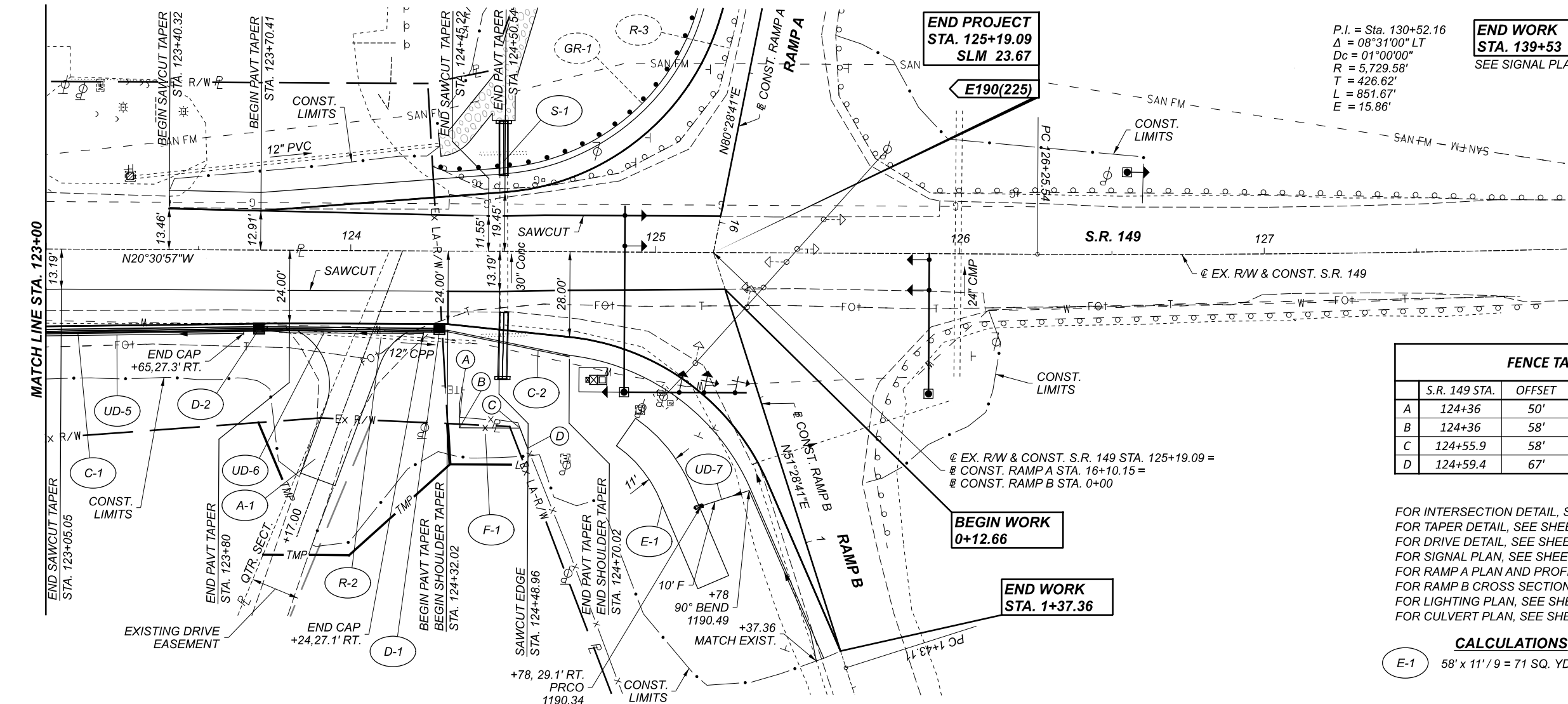
CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, PROVIDE CONTRACTION JOINTS IN THE NEW CONCRETE TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE ARE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2, IF NECESSARY, ADDITIONAL JOINTS MAY BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

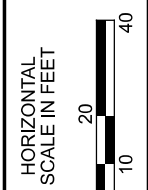
SURVEY CONTROL TABLE					
STATION	OFFSET	NORTHING	EASTING	ELEV.	REMARKS
S.R. 149 ~123+84.35	69.04	753495.966	2373749.998	1196.116	ODOT CAP LEVELED
S.R. 149 ~ 127+46.75	26.46	753171.408	2373918.287	1197.062	ODOT CAP LEVELED
S.R. 149 ~ 124+21.70	-36.63	753169.360	2373806.228	1192.234	ODOT CAP LEVELED
S.R. 149 ~ 118+95.50	-32.98	752677.811	2373994.069	1186.148	ODOT CAP LEVELED
S.R. 149 ~ 96+89.29	CL	750623.088	2374798.154	N/A	POT
S.R. 149 ~ 126+25.54	CL	753373.108	2373769.099	N/A	PC
S.R. 149 ~ 134+77.21	CL	754145.681	2373412.543	N/A	PT
RAMP A ~ 10+50.09	CL	753180.767	2373254.071	N/A	ST
RAMP A/RAMP B ~ 16+10.15 / 0+00	CL	753273.413	2373806.406	N/A	POT
RAMP B ~ 1+43.11	CL	753362.544	2373918.371	N/A	PC





P.I. = Sta. 130+52.16
 $\Delta = 08^{\circ}31'00''$ LT
 $D_c = 01^{\circ}00'00''$
 $R = 5,729.58'$
 $T = 426.62'$
 $L = 851.67'$
 $E = 15.86'$

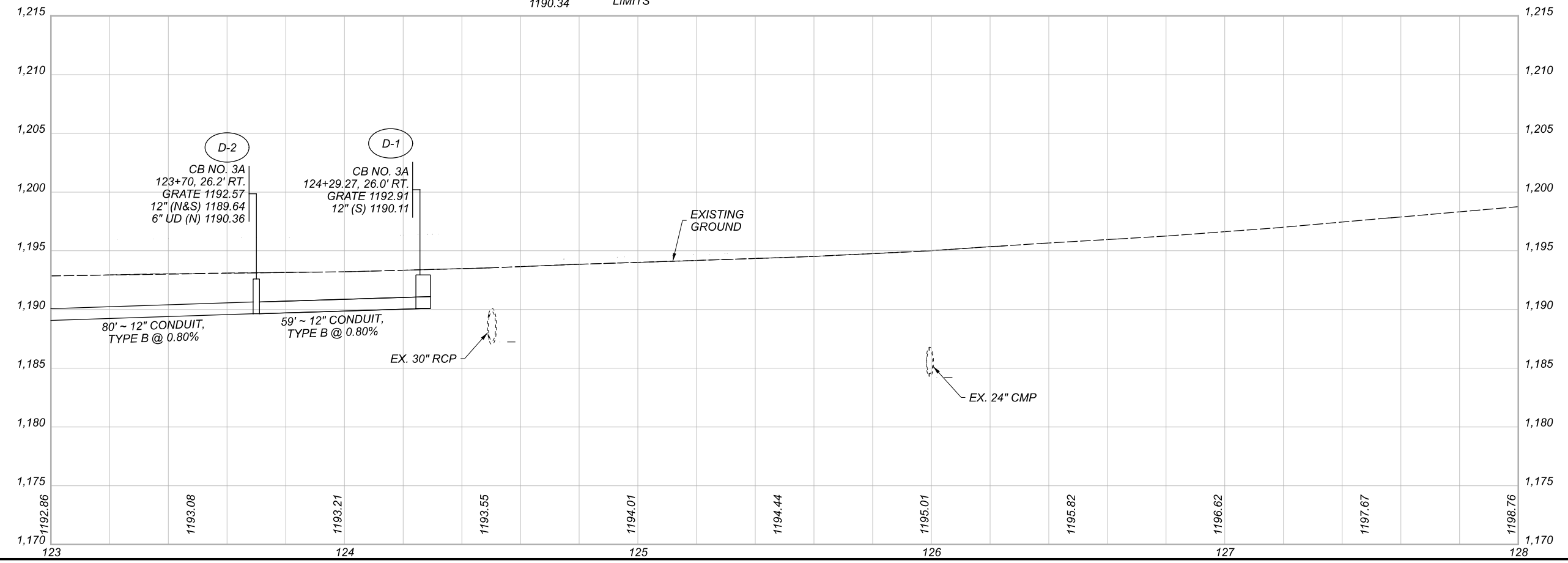
END WORK
 STA. 139+53
 SEE SIGNAL PLAN, SHEET 72.



FENCE TABLE			
	S.R. 149 STA.	OFFSET	DESCRIPTION
A	124+36	50'	END POST ASSEMBLY
B	124+36	58'	CORNER POST ASSEMBLY
C	124+55.9	58'	CORNER POST ASSEMBLY
D	124+59.4	67'	LINE POST W/SPLICE

FOR INTERSECTION DETAIL, SEE SHEET 51.
 FOR TAPER DETAIL, SEE SHEET 52 - 53.
 FOR DRIVE DETAIL, SEE SHEET 55.
 FOR SIGNAL PLAN, SEE SHEET 72.
 FOR RAMP A PLAN AND PROFILE, SEE SHEET 39.
 FOR RAMP B CROSS SECTIONS, SEE SHEET 47 - 50.
 FOR LIGHTING PLAN, SEE SHEET 81.
 FOR CULVERT PLAN, SEE SHEET 56.

CALCULATIONS
 E-1 $58' \times 11' / 9 = 71$ SQ. YD.



PLAN AND PROFILE SHEET
 S.R. 149 - STA. 123+00 TO STA. 128+00

DESIGN AGENCY



DESIGNER
 SAH
 REVIEWER
 DAH 11-15-21
 PROJECT ID
 106789
 SHEET TOTAL
 P.27 88