

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

HAM-US 52-36.85

ANDERSON TOWNSHIP
HAMILTON COUNTY

FEDERAL PROJECT NUMBER

E240804

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

EROSION OF THE EMBANKMENT TOE BY THE OHIO RIVER HAS CAUSED DISTRESS TO GUARDRAIL AND PAVEMENT SHOULDER ON THE SOUTH SIDE OF US 52 AT TWO LOCATIONS. PROJECT WILL INSTALL TWO DRILLED SHAFT WALLS TO RE-ESTABLISH THE ROADWAY.

EARTH DISTURBED AREAS

HAM-52-36.85

PROJECT EARTH DISTURBED AREA: 0.26 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.26 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)
* ROUTINE MAINTENANCE PROJECT

HAM-52-37.65

PROJECT EARTH DISTURBED AREA: 0.20 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.26 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)
* ROUTINE MAINTENANCE PROJECT

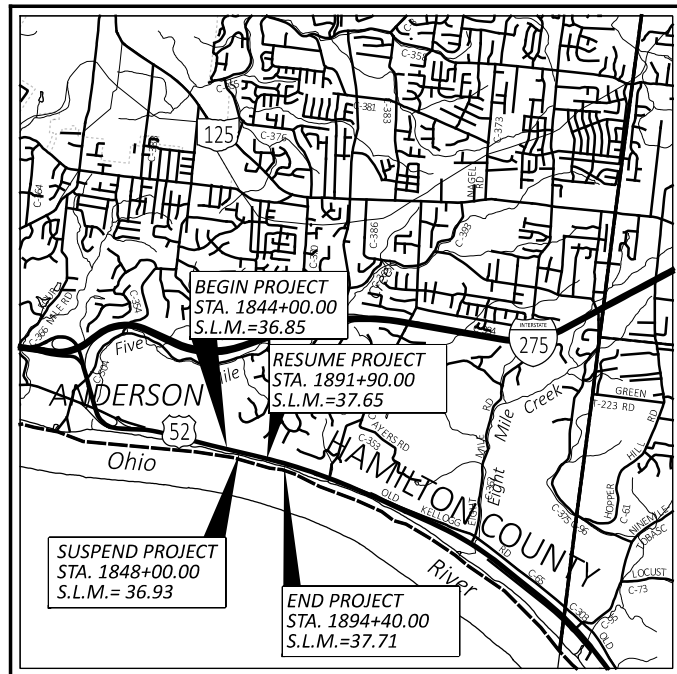
2023 SPECIFICATIONS

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 PART TIME CLOSING OF THE HIGHWAY TO TRAFFIC, AS NOTED ON SHEET P.5. DURING WHICH TIME DETOURS WILL BE PROVIDED AS SHOWN HEREIN. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Tammy K. Campbell
Tammy K. Campbell, P.E.
District 08 Deputy Director

Pamela Boratyn
Pamela Boratyn
Director, Department of Transportation



LOCATION MAP

LATITUDE: 39°02'33" LONGITUDE: -84°22'34"



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

DESIGN DESIGNATION

CURRENT ADT (2025)	14,000
DESIGN YEAR ADT (2045)	15,000
DESIGN HOURLY VOLUME (2045)	2,000
DIRECTIONAL DISTRIBUTION	70%
TRUCKS (24 HOUR B&C)	2%
DESIGN SPEED	65 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
03 PRINCIPAL ARTERIAL (URBAN)	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

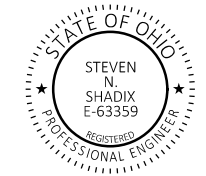
OHIO811.org
Before You Dig

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

PLAN PREPARED BY:

10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

ENGINEER'S SEAL:



ENGINEER'S SEAL:



SHEET P.32 TO P.39

INDEX OF SHEETS:

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STANDARD CONSTRUCTION DRAWINGS

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/19/24	TC-41.20	10/18/13	800-2023 7/19/24	
BP-5.1	7/15/22	TC-42.20	10/18/13	832 7/19/24	
		TC-52.20	1/15/21	821 4/20/12	
DM-1.1	7/17/20	TC-61.30	7/19/24	878 1/21/22	
DM-1.2	7/16/21	TC-65.10	1/17/14	921 7/19/24	
DM-4.3	1/15/16	TC-65.11	1/19/24		
DM-4.4	1/15/16	TC-71.10	4/21/23		
MGS-1.1	7/16/21	RM-4.2	7/19/24		
MGS-2.1	1/19/18				
MGS-4.3	1/18/13				
MT-95.40	7/21/23				
MT-101.70	7/19/24				
MT-101.75	7/21/23				

HAM-52-36.85

MODEL: Sheet PAPER: 17x11 (in.) DATE: 12/12/2024 TIME: 3:36:07 PM USER: sparker pwc:\ohio\dot-pw-bentley.com\shadix\pww-02\Documents\01 Active Projects\District 08\Hamilton\116046\401-Engineering\Stantec\Roadway\Sheets\116046_GT001.dgn

TITLE SHEET

DESIGN AGENCY



Stantec

1500 LAKE SHORE DRIVE,
SUITE 100
COLUMBUS, OH 43204
(614) 486-4383

DESIGNER

ZTM

REVIEWER

TCM 09/13/24

PROJECT ID

116046

SHEET TOTAL

P.1 60

ITEM 614 - MAINTAINING TRAFFIC

MAINTAIN A MINIMUM OF 1-12' LANE OF TRAFFIC AT ALL TIMES, EXCEPT RAMP AND LANE CLOSURES MAY BE PERFORMED IN ACCORDANCE WITH THE LANE VALUE CONTRACT TABLE, BY USE OF THE EXISTING AND COMPLETED PAVEMENT.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR SPECIAL EVENTS:

- MEMORIAL DAY
- FOURTH OF JULY (OBSERVED)
- LABOR DAY

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR SPECIAL EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

ITEM 614 - MAINTAINING TRAFFIC (CONTINUED)

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
ROAD CLOSURES	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL) _____ 15 EACH

ITEM 614 - OBJECT MARKER, ONE-WAY _____ 15 EACH

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

EXISTING TRAFFIC CONTROL

EXISTING SHOULDER CLOSURE SIGNS, PORTABLE CONCRETE BARRIER AND ATTENUATORS ARE ODOT OWNED AND WILL BECOME THE RESPONSIBILITY AND PROPERTY OF THE CONTRACTOR WHEN THE CONTRACT IS SIGNED, UNLESS STATED OTHERWISE IN THIS NOTE.

WITHIN 30 CALENDER DAYS OF THE SIGNED CONTRACT, THE PROPOSED MOT SIGNS SHOWN ON SHEET P.6 TO P.11 AND THE EXISTING SHOULDER CLOSURE SIGNS INCLUDING SUPPORTS SHALL BE REMOVED. SIGNS FURNISHED BY CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY SIGNS BROUGHT ON THE PROJECT, WHICH HAVE BEEN PREVIOUSLY USED ELSEWHERE, WILL NOT BE ACCEPTED. THE EXISTING SHOULDER CLOSURE SIGNS ARE NOT PERMITTED TO BE REUSED.

WITHIN 30 CALENDER DAYS OF THE SIGNED CONTRACT, INSTALL THE LONG-TERM LANE CLOSURE INCLUDING PORTABLE BARRIER NECESSARY TO PERFORM THE SLIDE REPAIR WORK DETAILED IN THESE PLANS. THE EXISTING PORTABLE CONCRETE BARRIER MAY BE REUSED IF IT IS IN ACCEPTABLE CONDITION. MARGINAL AND UNACCEPTABLE BARRIER SHALL BE REMOVED.

WITHIN 7 CALENDAR DAYS OF THE SIGNED CONTRACT, INSTALL 2 WORK ZONE IMPACT ATTENUATORS TO REPLACE THE EXISTING IMPACT ATTENUATORS LOCATED AT EACH SHOULDER CLOSURE. COORDINATE THIS WORK WITH THE PROJECT ENGINEER/ODOT-HAMILTON COUNTY. ODOT FORCES WILL REMOVE THE EXISTING ATTENUATOR WITHIN THE CONTRACTOR'S SHORT TERM LANE CLOSURE USED FOR INSTALLATION.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK:

ITEM 614 - WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL) _____ 2 EACH

ITEM 614 - DETOUR SIGNING _____

A LUMP SUM QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO INCLUDE FURNISHING, INSTALLING, AND REMOVING THE DETOUR SIGNING AND ASSOCIATED SIGN SUPPORTS.

ITEM 614 - DETOUR SIGNING _____ LUMP SUM



DESIGN AGENCY
Stantec
1500 LAKE SHORE DRIVE,
SUITE 100
COLUMBUS, OH 43204
(614) 486-4383

DESIGNER
ZTM

REVIEWER
TCM 09/13/24

PROJECT ID
116046

SHEET TOTAL
P.5 | 60

SHEET NUM.										PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
4	5	6	15	16	35	37	38	39		01/STR01	EXT	TOTAL				
ROADWAY																
LS										LS	201	11000	LS		CLEARING AND GRUBBING	
				504						504	202	23000	504	SY	PAVEMENT REMOVED	
			775							775	203	38000	775	FT	GUARDRAIL REMOVED	
			121							121	203	10000	121	CY	EXCAVATION	
			87							87	203	20000	87	CY	EMBANKMENT	
				708						708	204	10000	708	SY	SUBGRADE COMPACTION	
				1						1	204	45000	1	HOUR	PROOF ROLLING	
			50							50	606	15150	50	FT	GUARDRAIL, TYPE MGS HALF POST SPACING	
			725							725	606	15150	725	FT	GUARDRAIL, TYPE MGS QUARTER POST SPACING	
										LS	878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
EROSION CONTROL																
			25							25	601	21050	25	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
			1,080							1,080	659	10000	1,080	SY	SEEDING AND MULCHING	
0.14										0.14	659	20000	0.14	TON	COMMERCIAL FERTILIZER	
0.21										0.21	659	31000	0.21	ACRE	LIME	
6										6	659	35000	6	MGAL	WATER	
										10,000	832	30000	10,000	EACH	EROSION CONTROL	
DRAINAGE																
			668							668	605	11100	668	FT	6" SHALLOW PIPE UNDERDRAINS	
			668							668	605	14000	668	FT	6" BASE PIPE UNDERDRAINS	
			62							62	611	00510	62	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
			2							2	611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	
PAVEMENT																
			7,316							7,316	254	01000	7,316	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	
			130							130	304	20000	130	CY	ASPHALT CONCRETE BASE, PG64-22, (449), 8"	
			139							139	304	20000	139	CY	AGGREGATE BASE, 7"	
			719							719	407	30000	719	MGAL	NON-TRACKING TACK COAT	
			354							354	441	50000	354	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
				250						250	609	12000	250	FT	COMBINATION CURB AND GUTTER, TYPE 2	
TRAFFIC CONTROL																
			45							45	621	00100	45	EACH	RPM	
			45							45	621	54000	45	EACH	RAISED PAVEMENT MARKER REMOVED	
			8							8	626	00110	8	EACH	BARRIER REFLECTOR, TYPE 2 (UNIDIRECTIONAL)	
			28.5							28.5	630	03100	28.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
			12							12	630	80100	12	SF	SIGN, FLAT SHEET	
			1							1	630	84900	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
			1							1	630	86002	1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
			0.7							0.7	644	00104	0.7	MILE	EDGE LINE, 6"	
			0.67							0.67	644	00204	0.67	MILE	LANE LINE, 6"	
			1,290							1,290	644	00700	1,290	FT	TRANSVERSE/DIAGONAL LINE	
			3							3	644	01630	3	EACH	BIKE LANE SYMBOL MARKING	
			1,456							1,456	644	60000	1,456	SF	GREEN COLORED PAVEMENT FOR BIKE LANES	
RETAINING WALLS (001 & 002)																
					2,400					2,400	507	00400	2,400	FT	STEEL PILES, MISC.: SOLDIER PILES W24x162	32
						1,424				1,424	507	00400	1,424	FT	STEEL PILES, MISC.: SOLDIER PILES W27x129	32
LS										LS	511	81200	LS		CONCRETE, MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTING	4
										249	511	13000	249	EACH	CONCRETE, MISC.: PRECAST CONCRETE PANEL	39
					1,501					2,253	524	94703	2,253	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	32
										640	524	14700	640	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK, AS PER PLAN	32
					1,113					1,626	524	95000	1,626	FT	DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED	32
					3					3	524	95000	3	FT	DRILLED SHAFTS, MISC.: EXTENSION	32
										277	518	20000	277	SY	PREFABRICATED GEOCOMPOSITE DRAIN	32
										56	518	21200	56	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	32
										600	518	40000	600	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	32
										40	518	40010	40	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	32

GENERAL SUMMARY

DESIGN AGENCY

Stantec
 1500 LAKE SHORE DRIVE.
 SUITE 100
 COLUMBUS, OH 43204
 (614) 486-4383
 DESIGNER
ZTM
 REVIEWER
TCM 09/13/24
 PROJECT ID
116046
 SHEET TOTAL
P.13 | 60

HAM-52-36.85

MODEL: Sheet PAPER: 17x11 (in.) DATE: 12/19/2024 TIME: 1:38:42 PM USER: znorman
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SHEET NUM.										PART	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
4	5	6	15	16	35	37	38	39		01/STR01		EXT	TOTAL			
		40								40	614	11110	40	HOUR	MAINTENANCE OF TRAFFIC LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	2			4						6	614	12384	6	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)	
	15									15	614	13310	15	EACH	BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL)	
										15	614	13350	15	EACH	OBJECT MARKER, ONE WAY	
				0.67						0.67	614	22210	0.67	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I	
				1,221						1,221	614	24402	1,221	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 740.06, TYPE I	
				1,490						1,490	622	41100	1,490	FT	PORTABLE BARRIER, UNANCHORED	
										LS	614	11000	LS		INCIDENTALS MAINTAINING TRAFFIC	
										LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
										LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY



Stantec
 1500 LAKE SHORE DRIVE,
 SUITE 100
 COLUMBUS, OH 43204
 (614) 486-4383

DESIGNER
 ZTM

REVIEWER
 TCM 09/13/24

PROJECT ID
 116046

SHEET TOTAL
 P.14 | 60

ROADWAY AND DRAINAGE SUBSUMMARY															
SHEET NO.	REF NO.	STATION		SIDE	202		601		605		606		611		626
					GUARDRAIL REMOVED	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	6" SHALLOW PIPE UNDERDRAIN	6" BASE PIPE UNDERDRAIN	GUARDRAIL, TYPE MGS QUARTER POST SPACING	GUARDRAIL, TYPE MGS HALF POST SPACING	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	PRECAST REINFORCED CONCRETE OUTLET	BARRIER REFLECTOR, TYPE 2, UNIDIRECTIONAL		
		FROM	TO		FT	SY	FT	FT	FT	FT	FT	FT	FT	EACH	EACH
17	R-1	1843+75.00	1848+25.00	RT	450.0										
18	R-2	1891+40.00	1894+65.00	RT	325.0										
17	GR-1	1843+75.00	1848+25.00	RT					425.0	25.0					5
18	GR-2	1891+40.00	1894+65.00	RT					300.0	25.0					3
17	D-1	1848+00.00		RT		1.8									
18	D-2	1891+90.00		RT		23.2									
17	UD-1	1844+00.00	1848+17.75	RT				418							
17	UD-2	1844+00.00	1848+17.75	RT			418				22	1			
18	UD-3	1891+90.00	1894+40.00	RT			250								
18	UD-4	1891+90.00	1894+40.00	RT			250				40	1			
TOTALS CARRIED TO GENERAL SUMMARY					775.0	25	668	668	725.0	50.0	62	2	8		

EARTHWORK AND SEEDING TABLE					
STATION	FROM	TO	203	203	659
			EXCAVATION	EMBANKMENT	SEEDING AND MULCHING
			CY	CY	SY
S.R. - 36.85					
	1844+00.00	1844+50.00	8	2	51
	1844+50.00	1845+00.00	9	5	95
	1845+00.00	1845+50.00	9	9	111
	1845+50.00	1846+00.00	9	11	108
	1846+00.00	1846+50.00	10	10	109
	1846+50.00	1847+00.00	10	6	105
	1847+00.00	1847+50.00	8	3	98
	1847+50.00	1848+00.00	9	2	92
S.R. - 37.65					
	1891+90.00	1892+00.00	2	1	9
	1892+00.00	1892+50.00	12	6	62
	1892+50.00	1893+00.00	12	6	67
	1893+00.00	1893+50.00	8	10	71
	1893+50.00	1894+00.00	8	12	67
	1894+00.00	1894+40.00	7	4	35
TOTALS CARRIED TO GENERAL SUMMARY			121	87	1080

CALCULATIONS

TRAFFIC CONTROL QUANTITIES										
SHEET NO.	REF NO.	STATION		621		644				
				RPM, TWO-WAY WHITE/RED	RAISED PAVEMENT MARKER REMOVED	EDGE LINE, 6"	TRANSVERSE / DIAGONAL LINE	BIKE LANE SYMBOL MARKING	LANE LINE, 6"	GREEN COLORED PAVEMENT FOR BIKE LANES
		FROM	TO	EACH	EACH	MI	FT	EACH	MI	SF
28-29	EL-1	1830+28.00	1848+40.00			0.34				
28-29	EL-2	1877+60.00	1894+80.00			0.33				
28-29	LL-1	1830+28.00	1848+40.00	23	23				0.34	
28-29	LL-2	1877+60.00	1894+80.00	22	22				0.33	
28-29	TW-1	1830+28.00	1843+18.00				1290			
28	BA-1	1830+68.00						1		
28	BA-2	1836+23.00						1		
28	BA-3	1839+36.00						1		
29	BL-1	1841+36.00	1843+18.00							1456
29	BL-2	1843+18.00	1844+90.00			0.03				
TOTALS CARRIED TO GENERAL SUMMARY				45	45	0.70	1290	3	0.67	1456

SIGNING SUBSUMMARY									
SHEET NO.	REF NO.	STATION	SIDE	CODE	SIZE (INCHES)	630			
						GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
						FOOT	SF	EACH	EACH
29	R-1	1845+90.00	RT					1	1
29	S-1	1848+10.00	RT	R2-1-48	36x48	14.0 / 14.5	12		
TOTALS CARRIED TO GENERAL SUMMARY						28.5	12	1	1

GENERAL NOTES

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE LAGGING)
CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI
(DRILLED SHAFT)
STRUCTURAL STEEL - ASTM A572 GRADE 50
YIELD STRENGTH - 50 KSI
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60
MIN. YIELD STRENGTH - 60 KSI

ITEM 507, STEEL PILES, MISC.: SOLDIER PILES W24x162
ITEM 507, STEEL PILES, MISC.: SOLDIER PILES W27x129

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50. DO NOT FIELD WELD OR SPLICE THOSE PARTS OF THE STEEL SOLDIER PILES THAT WILL BE ABOVE GROUND.

THE INDIVIDUAL LENGTHS SHOWN IN THE DRILLED SHAFT SUMMARY TABLES AND THE TOTAL LENGTHS SHOWN IN THE ESTIMATED QUANTITIES ARE CALCULATED FROM THE ESTIMATED TOP OF ROCK ELEVATIONS AND THE ACTUAL LENGTH OF EACH STEEL BEAM MAY VARY. THE CONTRACTOR SHOULD ANTICIPATE THAT THE STEEL BEAMS WILL NEED TO BE TRIMMED OR SPLICED TO THE ACTUAL TOP OF THE ROCK. THE CONTRACTOR MAY WANT TO ORDER ADDITIONAL LENGTH OF EACH TYPE OF STEEL BEAM FOR SPLICING.

MEASUREMENT FOR PAYMENT WILL BE LIMITED TO THE DISTANCE BETWEEN THE TOP OF WALL ELEVATION AND THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE STATE WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W24x162 OR STEEL PILES, MISC.: SOLDIER PILES W27x129.

ITEM 524, DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN
ITEM 524, DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE AND LAGGING WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFTS WITHIN 3 INCHES OF THE PLAN LOCATION IN THE HORIZONTAL PLANE. IF FIELD CONDITIONS INDICATE GREATER DEPTHS, NOTIFY THE ENGINEER FOR FURTHER EVALUATION.

PLACE THE SOLDIER PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN 1" BETWEEN THE TOP AND BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF CONSTRUCTION. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC5 CONCRETE ACCORDING TO CMS 511. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

DO NOT DISPOSE OF DRILLED SHAFT SPOILS OR DRILLING FLUIDS DOWN SLOPE OR STORE ON THE ROADWAY. DRILLING SPOILS SHALL BE REMOVED FROM THE SITE THE SAME DAY THEY ARE EXCAVATED.

PLACE PRECAST LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING.

THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE. CASING MAY BE REQUIRED FOR THE CONSTRUCTION OF THE DRILLED SHAFTS.

CARE SHALL BE EXERCISED AS TO COVERING UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACE CONCRETE PANELS. ANY TEMPORARY GRADING, EXCAVATION, EMBANKMENT, AGGREGATE, DRAINAGE, CASING, SHEETING, ETC. NEEDED TO COMPLETE THE WORK AREA SHALL BE INCLUDED IN THE BID PRICE FOR THE DRILLED SHAFTS. THE COST OF ANY EXCAVATION AND SUBSEQUENT REPLACEMENT OF EMBANKMENT (PER ITEM 203 EMBANKMENT) SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND CONCRETE PANELS. NO SEPARATE PAYMENT WILL BE MADE.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND ITEM 613 LSM BACKFILL FROM TOP OF THE CONCRETE TO THE EXISTING GROUND SURFACE AT THE C/L OF THE PILE AND REMOVAL OF CONCRETE AND LSM FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE PRECAST LAGGING.

METHOD OF MEASUREMENT: DRILLED SHAFTS ABOVE BEDROCK WILL BE MEASURED AS THE ACTUAL DRILLED LENGTH OF THE DRILLED SHAFT FROM THE DRILLING PLATFORM ELEVATION TO THE TOP OF INTERBEDDED GRAY SHALE AND LIMESTONE, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL NOT CONSIDER COMPENSATION FOR DRILLED SHAFTS ABOVE BEDROCK WHEN THE DRILLING PLATFORM EXTENDS BELOW THE EXISTING GROUNDLINE. DRILLED SHAFT LENGTH INTO BEDROCK WILL BE MEASURED FROM THE TOP OF INTERBEDDED GRAY SHALE AND LIMESTONE IN EACH SHAFT TO THE FINAL TIP ELEVATION, AS DETERMINED BY THE ENGINEER.

ITEM 511, CONCRETE, MISC.: PRECAST CONCRETE PANEL

THIS WORK CONSISTS OF FURNISHING AND PLACING PRECAST REINFORCED CONCRETE PANELS BETWEEN THE SOLDIER PILES TO FUNCTION AS LAGGING FOR THE RETAINING WALL. PROVIDE PRECAST CONCRETE LAGGING FROM A PRECAST CONCRETE MANUFACTURER CERTIFIED UNDER SUPPLEMENT 1073. PROVIDE CONCRETE WITH A 28-DAY DESIGN STRENGTH OF AT LEAST 4000 PSI ACCORDING TO CMS 499. PROVIDE EPOXY COATED REINFORCING STEEL ACCORDING TO CMS 709.00. IN LIEU OF EPOXY COATING, A CORROSION INHIBITING CONCRETE ADMIXTURE MAY BE USED AT THE SPECIFIED DOSAGE RATE. A QUALIFIED PRODUCT LIST OF CORROSION INHIBITING ADMIXTURES IS ON FILE AT THE LABORATORY. MANUFACTURERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR MAY AFFECT THE STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE MANUFACTURER'S CHOICE TO USE ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING ALL DESIGN REQUIREMENTS. DO NOT ALLOW THE DIMENSIONS OF THE REINFORCING STEEL TO VARY BY MORE THAN 1/8 INCH. PERMANENTLY MARK EACH PANEL TO INDICATE THE FACE TO BE PLACED AGAINST THE SOIL. PLACE THE PANEL BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL.

SEAL EACH PANEL PER ITEM 512 WITH EPOXY URETHANE SEALER TO THE LIMITS INDICATED IN THE PLANS. SEAL PANELS PRIOR TO DELIVERY TO THE SITE. PAYMENT FOR SEALER TO BE INCLUDED IN COST FOR PRECAST CONCRETE PANELS.

THE DEPARTMENT WILL PAY FOR PRECAST LAGGING AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 511, CONCRETE, MISC.: PRECAST CONCRETE PANEL.

FINAL GRADING

CONTRACTOR SHALL GRADE AS NECESSARY IN FRONT OF THE DRILLED SHAFT WALL TO ENSURE POSITIVE DRAINAGE AWAY FROM THE FACE OF THE WALL. NO DEPRESSIONS WHICH MAY HOLD WATER SHALL BE PERMITTED TO REMAIN.

ALL FINAL GRADING, EXCAVATION, EMBANKMENT, AND SEEDING AND MULCHING, UNLESS OTHERWISE NOTED IN THE PLANS, SHALL BE INCLUDED IN VARIOUS BID ITEMS FOR THE DRILLED SHAFTS AND CONCRETE PANELS.

ITEM 524, DRILLED SHAFTS, MISC.: EXTENSION

THIS WORK CONSISTS OF FURNISHING AND PLACING UNREINFORCED CONCRETE WITHIN THE DRILLED SHAFT ABOVE THE TOP OF DRILLED SHAFT ELEVATION AS REQUIRED TO SUPPORT THE PRECAST CONCRETE PANELS.

PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE THE WORK.

ITEM 524, DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED

THE SHAFTS ARE TO BE UNREINFORCED NON-STRUCTURAL "PLUG PILES" SERVING THE PURPOSE OF LAGGING.

THIS WORK SHALL BE AS PER ITEM 524 EXCEPT A REINFORCING CAGE WILL NOT BE USED IN THE SHAFT. EACH PLUG PILE SHALL BE CENTERED BETWEEN EACH REINFORCED 36" DIAMETER DRILLED SHAFT AND DRILLED TO THE ELEVATION SHOWN AND BACKFILLED WITH UNREINFORCED CLASS QC5 CONCRETE.

CASING MAY BE REQUIRED FOR THE CONSTRUCTION OF THE PLUG PILES. ADJACENT PLUG PILES SHALL NOT BE OPEN SIMULTANEOUSLY. PLUG PILES SHALL NOT BE DRILLED UNTIL THE CONCRETE IN ADJACENT PLUG PILES OR DRILLED SHAFTS HAS CURED 48 HOURS.

PAYMENT FOR LABOR, EQUIPMENT AND MATERIALS FOR THE ABOVE SHALL BE INCLUDED IN THE PER FOOT CONTRACT PRICE FOR ITEM 524, DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED, AS PER PLAN

DESIGN AGENCY



10200 Alliance Road,
Suite 300
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(513) 842-6200

DESIGNER
MRS

REVIEWER
EDA 09/13/24

PROJECT ID
116046

SHEET TOTAL
P.32 | 60

SHAFT NO.	STATION	OFFSET FROM SAWCUT LINE RIGHT	TOP OF DRILLED SHAFT ELEVATION	APPROX. BOTTOM OF DRILLED SHAFT ELEVATION	TOP OF STEEL BEAM ELEVATION	ESTIMATED TOP OF ROCK ELVATION	ITEM 524				ITEM 507
							DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK AS PER PLAN	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK AS PER PLAN	DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED	DRILLED SHAFTS, MISC.: EXTENSION	STEEL PILES, MISC.: SOLDIER PILES W27x129
		FT.					FT.	FT.	FT.	FT.	FT.
1	1891+98.00	14.50	494.00	464.30	500.00	474.30	19.70	10.00	--	0.00	35.70
2	1892+00.90	13.65	494.00	482.25	--	--	--	--	11.75	--	--
3	1892+03.76	14.50	494.00	464.44	500.00	474.44	19.56	10.00	--	0.00	35.56
4	1892+06.67	13.65	494.00	482.25	--	--	--	--	11.75	--	--
5	1892+09.52	14.50	494.00	464.58	500.00	474.58	19.42	10.00	--	0.00	35.42
6	1892+12.41	13.65	494.00	482.25	--	--	--	--	11.75	--	--
7	1892+15.29	14.50	494.00	464.71	500.00	474.71	19.29	10.00	--	0.00	35.29
8	1892+18.17	13.65	494.00	482.25	--	--	--	--	11.75	--	--
9	1892+21.05	14.50	494.00	464.85	500.00	474.85	19.15	10.00	--	0.00	35.15
10	1892+23.93	13.65	494.00	482.25	--	--	--	--	11.75	--	--
11	1892+26.81	14.50	494.00	464.99	500.00	474.99	19.01	10.00	--	0.00	35.01
12	1892+29.70	13.65	494.00	482.25	--	--	--	--	11.75	--	--
13	1892+32.57	14.50	494.00	465.13	500.00	475.13	18.87	10.00	--	0.00	34.87
14	1892+35.46	13.65	494.00	482.25	--	--	--	--	11.75	--	--
15	1892+38.34	14.50	494.00	465.27	500.00	475.27	18.73	10.00	--	0.00	34.73
16	1892+41.22	13.65	494.00	482.25	--	--	--	--	11.75	--	--
17	1892+44.10	14.50	494.00	465.40	500.00	475.40	18.60	10.00	--	0.00	34.60
18	1892+46.99	13.65	494.00	482.25	--	--	--	--	11.75	--	--
19	1892+49.86	14.50	494.00	465.54	500.00	475.54	18.46	10.00	--	0.00	34.46
20	1892+52.75	13.65	494.00	482.25	--	--	--	--	11.75	--	--
21	1892+55.63	14.50	494.00	465.67	500.00	475.67	18.33	10.00	--	0.00	34.33
22	1892+58.51	13.65	494.00	482.25	--	--	--	--	11.75	--	--
23	1892+61.39	14.50	494.00	465.80	500.00	475.80	18.21	10.00	--	0.00	34.21
24	1892+64.27	13.65	494.00	482.25	--	--	--	--	11.75	--	--
25	1892+67.15	14.50	494.00	465.92	500.00	475.92	18.08	10.00	--	0.00	34.08
26	1892+70.04	13.65	494.00	482.25	--	--	--	--	11.75	--	--
27	1892+72.91	14.50	494.00	466.05	500.00	476.05	17.95	10.00	--	0.00	33.95
28	1892+75.80	13.65	494.00	482.25	--	--	--	--	11.75	--	--
29	1892+78.68	14.50	494.00	466.17	500.00	476.17	17.83	10.00	--	0.00	33.83
30	1892+81.56	13.65	494.00	482.25	--	--	--	--	11.75	--	--
31	1892+84.44	14.50	494.00	466.30	500.00	476.30	17.70	10.00	--	0.00	33.70
32	1892+87.33	13.65	494.00	482.25	--	--	--	--	11.75	--	--
33	1892+90.20	14.50	494.00	466.43	500.00	476.43	17.57	10.00	--	0.00	33.57
34	1892+93.09	13.65	494.00	482.25	--	--	--	--	11.75	--	--
35	1892+95.97	14.50	494.00	466.55	500.00	476.55	17.45	10.00	--	0.00	33.45
36	1892+98.38	13.65	494.00	482.25	--	--	--	--	11.75	--	--
37	1893+01.73	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
38	1893+04.61	13.65	494.00	482.05	--	--	--	--	11.95	--	--
39	1893+07.49	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
40	1893+10.38	13.65	494.00	481.85	--	--	--	--	12.15	--	--
41	1893+13.26	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
42	1893+16.14	13.65	494.00	481.65	--	--	--	--	12.35	--	--
43	1893+19.02	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
44	1893+21.90	13.65	494.00	481.45	--	--	--	--	12.55	--	--
45	1893+24.78	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
46	1893+27.67	13.65	494.00	481.25	--	--	--	--	12.75	--	--
47	1893+30.54	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
48	1893+33.43	13.65	494.00	481.05	--	--	--	--	12.95	--	--
49	1893+36.31	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
50	1893+39.19	13.65	494.00	480.85	--	--	--	--	13.15	--	--
SUBTOTAL SHAFTS 1-50							455.70	250.00	299.35	0.00	855.70

SHAFT NO.	STATION	OFFSET FROM SAWCUT LINE RIGHT	TOP OF DRILLED SHAFT ELEVATION	APPROX. BOTTOM OF DRILLED SHAFT ELEVATION	TOP OF STEEL BEAM ELEVATION	ESTIMATED TOP OF ROCK ELVATION	ITEM 524				ITEM 507
							DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK AS PER PLAN	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK AS PER PLAN	DRILLED SHAFTS, MISC.: PLUG PILE, 36" DIAMETER, UNREINFORCED	DRILLED SHAFTS, MISC.: EXTENSION	STEEL PILES, MISC.: SOLDIER PILES W27x129
		FT.					FT.	FT.	FT.	FT.	FT.
51	1893+42.07	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
52	1893+44.95	13.65	494.00	480.65	--	--	--	--	13.35	--	--
53	1893+47.83	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
54	1893+50.72	13.65	494.00	480.65	--	--	--	--	13.35	--	--
55	1893+53.60	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
56	1893+56.48	13.65	494.00	480.65	--	--	--	--	13.35	--	--
57	1893+59.36	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
58	1893+62.24	13.65	494.00	480.65	--	--	--	--	13.35	--	--
59	1893+65.12	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
60	1893+68.01	13.65	494.00	480.65	--	--	--	--	13.35	--	--
61	1893+70.89	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
62	1893+73.77	13.65	494.00	480.65	--	--	--	--	13.35	--	--
63	1893+76.65	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
64	1893+79.53	13.65	494.00	480.65	--	--	--	--	13.35	--	--
65	1893+82.41	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
66	1893+85.30	13.65	494.00	480.65	--	--	--	--	13.35	--	--
67	1893+88.18	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
68	1893+91.06	13.65	494.00	480.65	--	--	--	--	13.35	--	--
69	1893+93.94	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
70	1893+96.82	13.65	494.00	480.65	--	--	--	--	13.35	--	--
71	1893+99.70	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
72	1894+02.59	13.65	494.00	480.65	--	--	--	--	13.35	--	--
73	1894+05.46	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
74	1894+08.35	13.65	494.00	480.65	--	--	--	--	13.35	--	--
75	1894+11.23	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
76	1894+14.11	13.65	494.00	480.65	--	--	--	--	13.35	--	--
77	1894+16.99	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
78	1894+19.88	13.65	494.00	480.65	--	--	--	--	13.35	--	--
79	1894+22.75	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
80	1894+25.65	13.65	494.00	480.65	--	--	--	--	13.35	--	--
81	1894+28.52	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
82	1894+31.40	13.65	494.00	480.65	--	--	--	--	13.35	--	--
83	1894+34.28	14.50	494.00	466.60	500.00	476.60	17.40	10.00	--	0.00	33.40
SUBTOTAL SHAFTS 51-83							295.80	170.00	213.60	0.00	567.80
SUBTOTAL SHAFTS 1-50							455.70	250.00	299.35	0.00	855.70
TOTAL CARRIED TO GENERAL SUMMARY							752	420	513	0	1424

WALL 2 DRILLED SHAFT ELEVATIONS
 STA. 1891+98.00 TO STA. 1894+34.28

DESIGN AGENCY

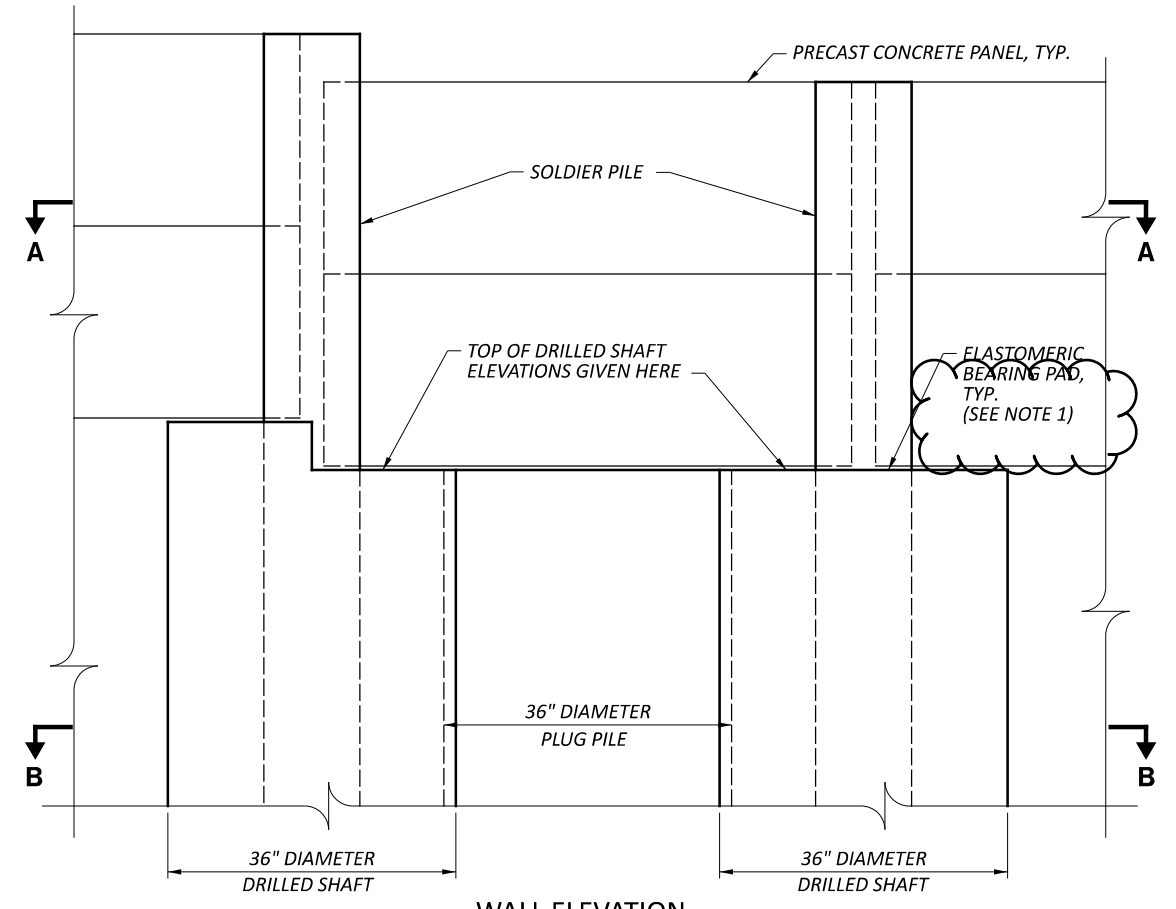
 10220 Alliance Road,
 Suite 900
 Cincinnati, OH 45242
 (513) 642-6200

DESIGNER
 MRS

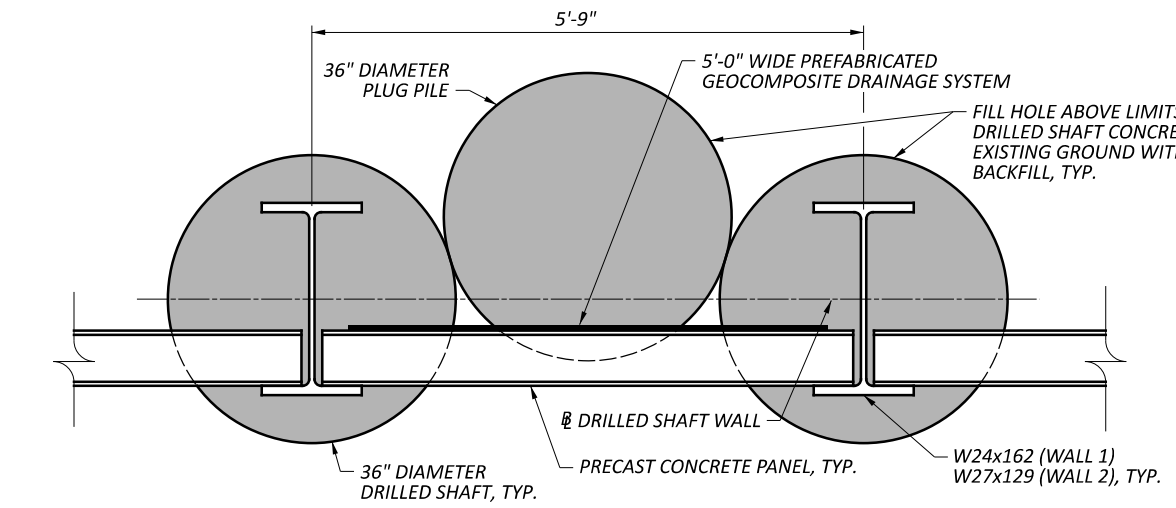
REVIEWER
 EDA 09/13/24

PROJECT ID
 116046

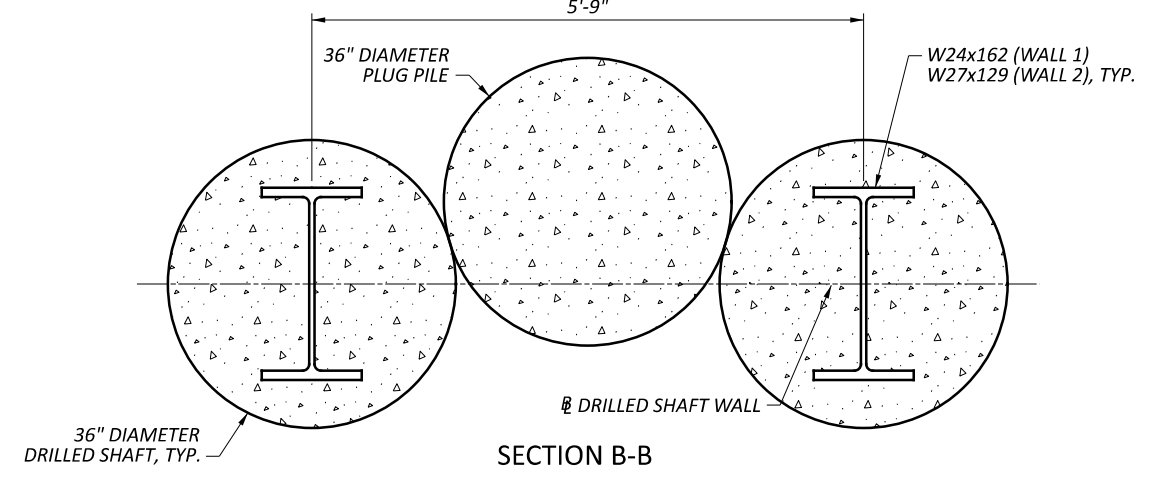
SHEET TOTAL
 P.37 60



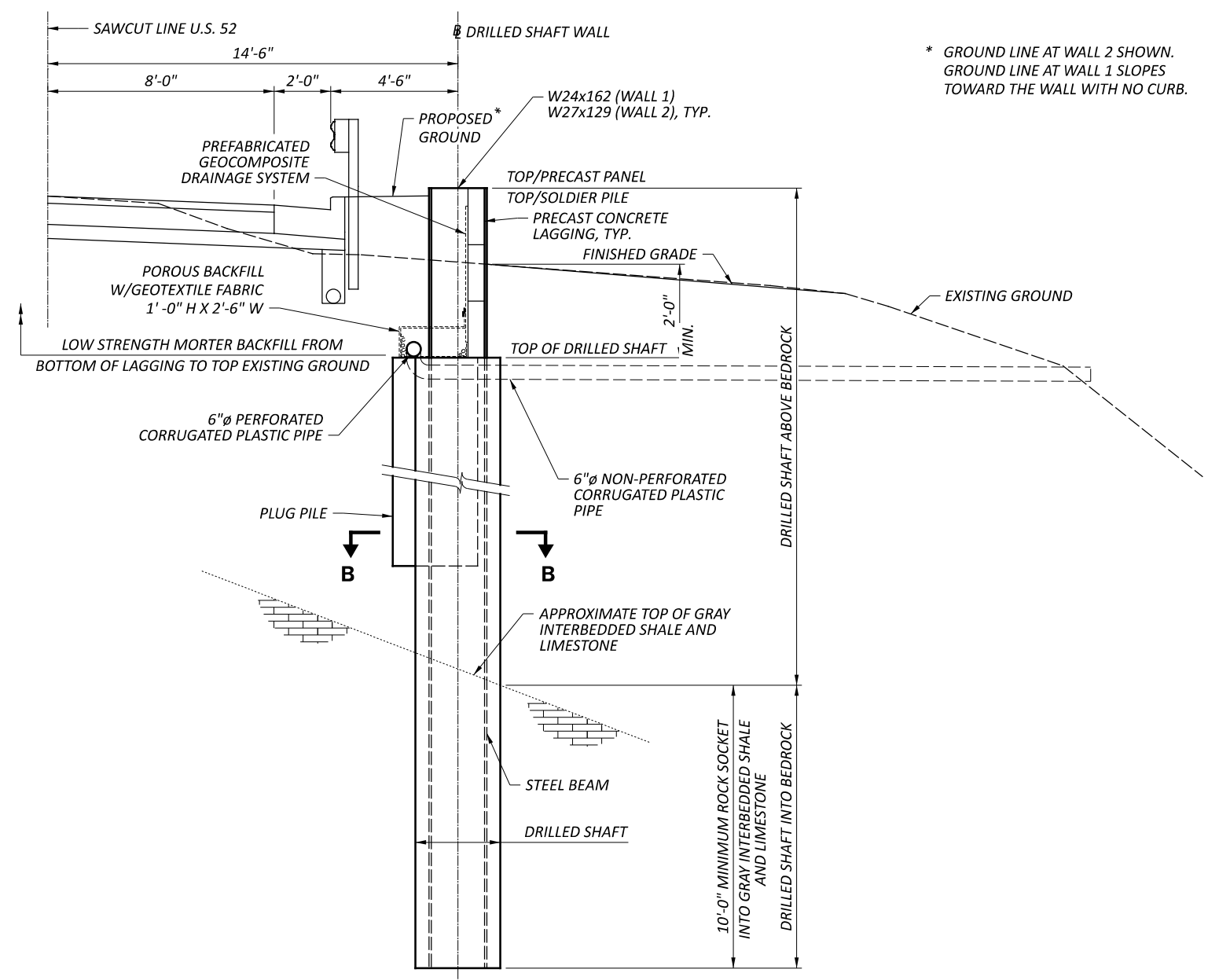
WALL ELEVATION



SECTION A-A



SECTION B-B



DRILLED SHAFT WALL SECTION

* GROUND LINE AT WALL 2 SHOWN. GROUND LINE AT WALL 1 SLOPES TOWARD THE WALL WITH NO CURB.

PREFABRICATED GEOCOMPOSITE DRAIN:

WALL 1 - 5 FT X 4 FT X 63 PANELS / 9 SF/SY = 140 SY	
WALL 2 - 5 FT X 6 FT X 41 PANELS / 9 SF/SY = 137 SY	
TOTAL	277 SY

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WALL 1 - 5.75 FT X 63 SPACES + 1 = 363 FT	WALL 1 - 35 FT
WALL 2 - 5.75 FT X 41 SPACES + 1 = 237 FT	WALL 2 - 15 FT
TOTAL	600 FT

POROUS BACKFILL WITH GEOTEXTILE FABRIC

WALL 1 - 5.75 FT X 63 SPACES X 1.00 FT X 2.50 FT / 27 CF/CY = 34 CY	
WALL 2 - 5.75 FT X 41 SPACES X 1.00 FT X 2.50 FT / 27 CF/CY = 22 CY	
TOTAL	56 CY

ESTIMATED QUANTITIES ABOVE CARRIED TO GENERAL SUMMARY

- NOTES:**
- ELASTOMERIC BEARINGS SHALL BE 1/2" X 6" X 6", 70 DUROMETER PER CMS 711.21 TYPE PEP AND ARE INCLUDED WITH ITEM 610, RETAINING WALL, MISC.: PRECAST CONCRETE PANEL FOR PAYMENT.
 - SECURE PRECAST CONCRETE PANELS AGAINST PILE FLANGE UNTIL VOID IS FILLED WITH POROUS BACKFILL.
 - FOR PRECAST CONCRETE PANEL DETAILS, SEE SHEET 39/60.
 - FOR DRILLED SHAFT AND PLUG PILE ELEVATIONS, SEE SHEETS 34/60, 35/60 AND 37/60.

DESIGN AGENCY

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DESIGNER
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REVIEWER
 EDA 09/13/24

PROJECT ID
 116046

SHEET TOTAL
 P.38 60