

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

D08 BRIDGE/WALL REPAIRS

CLERMONT, HAMILTON &
WARREN COUNTIES

FEDERAL PROJECT NUMBER

E220337

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

RETAINING WALL REPAIR PROJECT INCLUDING, MSE WALL REHABILITATION, SOLDIER PILE WALL CONSTRUCTION, AND CIP WALL EXTENSION ON VARIOUS RETAINING WALLS IN THE DISTRICT.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
NOTICE OF INTENT EARTH DISTURBED AREA: N/A

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.

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.



LOCATION MAP

LATITUDE: ° ' " LONGITUDE: ° ' "



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

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HAM-71-0.126R/0.125S	12
CLE-749-2.23	13-28
BORING LOGS	29-31



SHEET TITLE

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:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8 - ENGINEERING DEPARTMENT
505 S. SR 741 LEBANON, OHIO 45036

ENGINEER'S SEAL

RETAINING WALLS
CLE-749

ENGINEER'S SEAL

ROADWAY
CLE-749

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
DM-1.1	7/17/20			800-2023	10/20/23	WATERWAY
DM-1.2	7/16/21			809	10/20/23	PERMITS
				832	7/21/23	CONDITIONS
				909	10/20/23	08/24/23
MGS-1.1	7/16/21					
MGS-2.1	1/19/18					
MT-95.30	7/19/19					
MT-95.40	7/21/23					
MT-95.41	7/21/23					
MT-95.45	7/21/23					
MT-95.50	7/21/17					
MT-98.29	1/17/20					

District Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

I HEARBY 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 5.

ENGINEER'S SEAL

ALL OTHER LOCATIONS

D08 BRIDGE/WALL REPAIRS

MODEL: Sheet PAPER: 17x11 (in.) DATE: 4/10/2024 TIME: 3:20:01 PM USER: asadowsk pwc:\ohio\dot-pw\benley.com\shahid-cpw-02\Documents\01 Active Projects\District 08\Hamilton\112972\400-Engineering\Roadway\Sheets\112972_GT001.dgn

DESIGN AGENCY	
DESIGNER	AWS
REVIEWER	JAS 01-12-24
PROJECT ID	112972
SHEET	P.1
TOTAL	31

UTILITIES

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

ODOT ITS LAB
1606 WEST BROAD STREET
COLUMBUS, OHIO 43223
614-387-4113
CEN.ITS.LAB@ODOT.OHIO.GOV

DUKE ELECTRIC - DISTRIBUTION
ATTN: SHANE ERHART
139 EAST 4TH STREET
CINCINNATI, OHIO 45202
513-508-9609
SHANE.ERHART@DUKE-ENERGY.COM

CHARTER COMMUNICATIONS
ATTN: JOSEPH ANGEL
11315 REED HARTMAN HWY
BLUE ASH, OHIO 45241
513-233-5705
JOSEPH.ANGEL@CHARTER.COM

ALTA FIBER TELEPHONE - AERIAL
ATTN: DAVID SMILEY
221 E 4TH ST
CINCINNATI, OHIO 45202
513-614-1399
DAVID.SMILEY@ALTAFIBER.COM

TATE MONROE WATER
ATTN: JEFF SMITH
2599 OH-232
NEW RICHMOND, OHIO 45157
513-658-0033

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.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

SPILL PROTECTION

THIS PROJECT IS LOCATED WITHIN THE OHIO RIVER-ZONE OF CRITICAL CONCERN. IN ORDER TO MINIMIZE THE POTENTIAL FOR CONTAMINATION, THE CONTRACTOR SHALL UTILIZE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS. FUELS, TOXIC/HAZARDOUS MATERIALS, AND CHEMICALS SHALL NOT BE STORED NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. A SPILL KIT IS TO BE MAINTAINED- ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR, CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. ANY SUCH SPILL OR EVENT SHALL BE REPORTED IMMEDIATELY TO THE CINCINNATI PUBLIC WATER SYSTEM 513-591-7970. IF THE SPILL IS A REPORTABLE AMOUNT (PER OHIO EPA'S RELEASE REPORTING REQUIREMENTS), THE CONTRACTOR SHALL CONTACT PIERCE TOWNSHIP FIRE DEPARTMENT AT 513-752-6273 OR THE OHIO EPA'S SPILL HOTLINE 1-800-9378 FOR CLEAN-UP OF THE SPILL.

ENDANGERED BAT HABITAT REMOVAL

THIS 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 (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

EXISTING PLANS

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 8 OFFICE IN 505 S. SR 741, LEBANON, OHIO 45036.

ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CONSTRUCTION AND MATERIAL SPECIFICATIONS 455.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S) AND EQUIPMENT AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIANS SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TESTS AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTORS

DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR. THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND,

THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

UPON APPROVAL OF CONSULTANT 20%
PROGRESSIVE EQUIVALENT PAYMENTS 50%
UPON SUBMISSION OF FINAL REPORT 30%

THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.

GENERAL NOTES

DESIGN AGENCY



DESIGNER
AWS

REVIEWER
JAS 01-12-24

PROJECT ID
112972

SHEET TOTAL
P.3 | 31

D08 BRIDGE/WALL REPAIRS

MODEL: Sheet PAPER: 34x22 (in.) DATE: 4/10/2024 TIME: 3:59:12 PM USER: asadowsk
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SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
11	12	14	21	22	25	26	28			01/IMS/04	02/NHS/04	03/STR/04							
ROADWAY																			
LS										LS	LS	LS	201	11000	LS		CLEARING AND GRUBBING	11	
											LS		202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN		
		342											342	23000	342	SY	PAVEMENT REMOVED		
		312.5											312.5	38000	312.5	FT	GUARDRAIL REMOVED		
		60											60	10000	60	CY	EXCAVATION		
		80											80	20000	80	CY	EMBANKMENT		
		312.5											312.5	606	13050	312.5	FT		GUARDRAIL, TYPE 5A
EROSION CONTROL																			
		2											2	659	00100	2	EACH	SOIL ANALYSIS TEST	
		23											23	659	00300	23	CY	TOPSOIL	
		200											200	659	10000	200	SY	SEEDING AND MULCHING	
		0.03											0.03	659	20000	0.03	TON	COMMERCIAL FERTILIZER	
		0.05											0.05	659	31000	0.05	ACRE	LIME	
		2											2	659	35000	2	MGAL	WATER	
										5,000	5,000	10,000	832	30000	20,000	EACH	EROSION CONTROL		
DRAINAGE																			
		2											2	601	32104	2	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC	
		0.63											0.63	602	20000	0.63	CY	CONCRETE MASONRY	
		272											272	605	06000	272	FT	4" BASE PIPE UNDERDRAINS	
		5											5	611	00410	5	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
		1											1	611	99710	1	EACH	PRECAST REINFORCED CONCRETE OUTLET	
		5											5	611	10600	5	FT	24" CONDUIT, TYPE C, 706.02	
PAVEMENT																			
		411											411	204	10000	411	SY	SUBGRADE COMPACTION	
		45											45	254	01000	45	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 3" DEEP	
		63											63	301	56000	63	CY	ASPHALT CONCRETE BASE, PG64-22, (449)	
		66											66	304	20000	66	CY	AGGREGATE BASE	
		47											47	407	10000	47	GAL	TACK COAT	
		15											15	441	70000	15	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22	
		20											20	441	70300	20	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)	
TRAFFIC CONTROL																			
							7						7	621	00100	7	EACH	RPM	
							0.06						0.06	644	00100	0.06	MILE	EDGE LINE, 4"	
							0.06						0.06	644	00300	0.06	MILE	CENTER LINE	
RETAINING WALLS																			
													LS	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	
					690								690	507	00400	690	FT	STEEL PILES, MISC.:W24X84	
													LS	503	21300	LS		UNCLASSIFIED EXCAVATION	
6			16,290								6		16,290	509	10000	16,290	LB	EPOXY COATED REINFORCING STEEL	
														510	09950	6	EACH	DOWEL HOLES WITH CEMENT GROUT	
1			73								1		73	511	46010	74	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
			70										70	511	46510	70	CY	CLASS QC1 CONCRETE, FOOTING	
						105							105	511	81300	105	EACH	CONCRETE, MISC.: CONCRETE LAGGING PANEL 1	
						28							28	511	81300	28	EACH	CONCRETE, MISC.: CONCRETE LAGGING PANEL 2	
						3							3	511	81300	3	EACH	CONCRETE, MISC.: CONCRETE LAGGING PANEL 3	
						1							1	511	81300	1	EACH	CONCRETE, MISC.: CONCRETE LAGGING PANEL 4	
						1							1	511	81300	1	EACH	CONCRETE, MISC.: CONCRETE LAGGING PANEL 5	
						295							352	512	10100	352	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
		57											18	512	33000	18	SY	TYPE 2 WATERPROOFING	
		18											52	516	13600	52	SF	1" PREFORMED EXPANSION JOINT FILLER	
		52																	
													60	518	21101	60	CY	POROUS BACKFILL, AS PER PLAN	
													251	518	20000	251	SY	PREFABRICATED GEOCOMPOSITE DRAIN	
130			251							130				520	10001	130	SF	PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN	
													82	524	94703	82	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN	
													330	524	94705	330	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK, AS PER PLAN	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER

AWS

REVIEWER

JAS 01-12-24

PROJECT ID

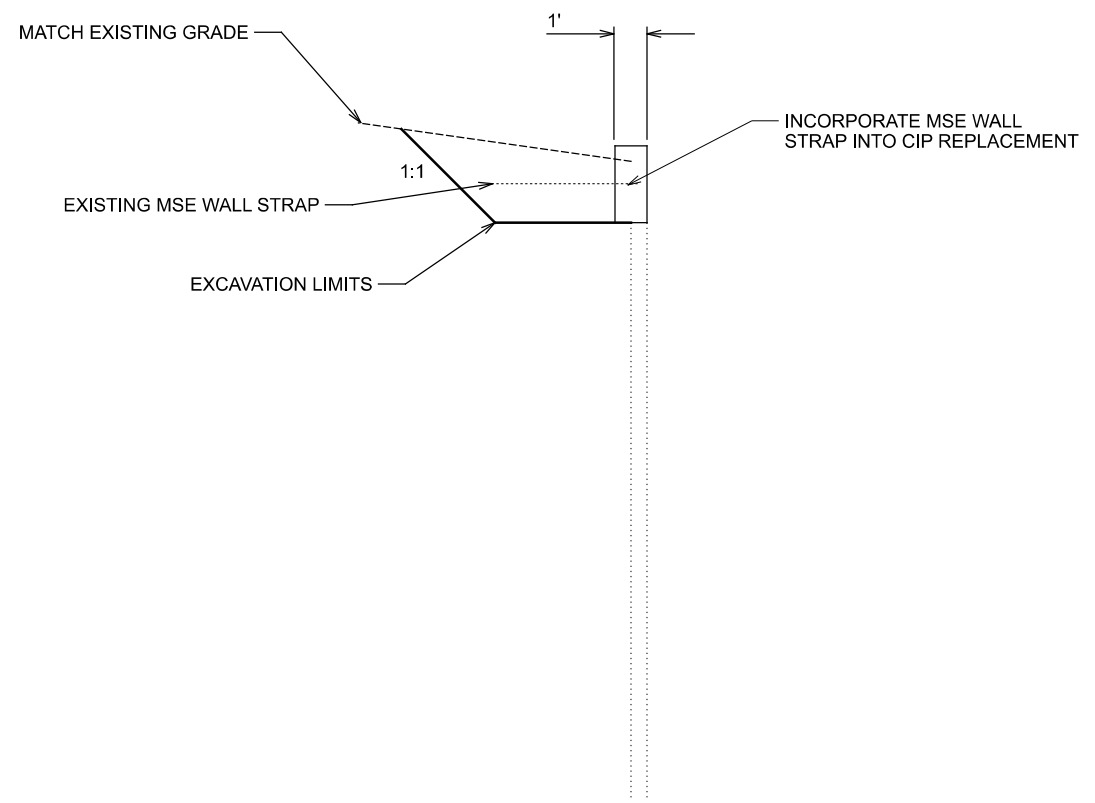
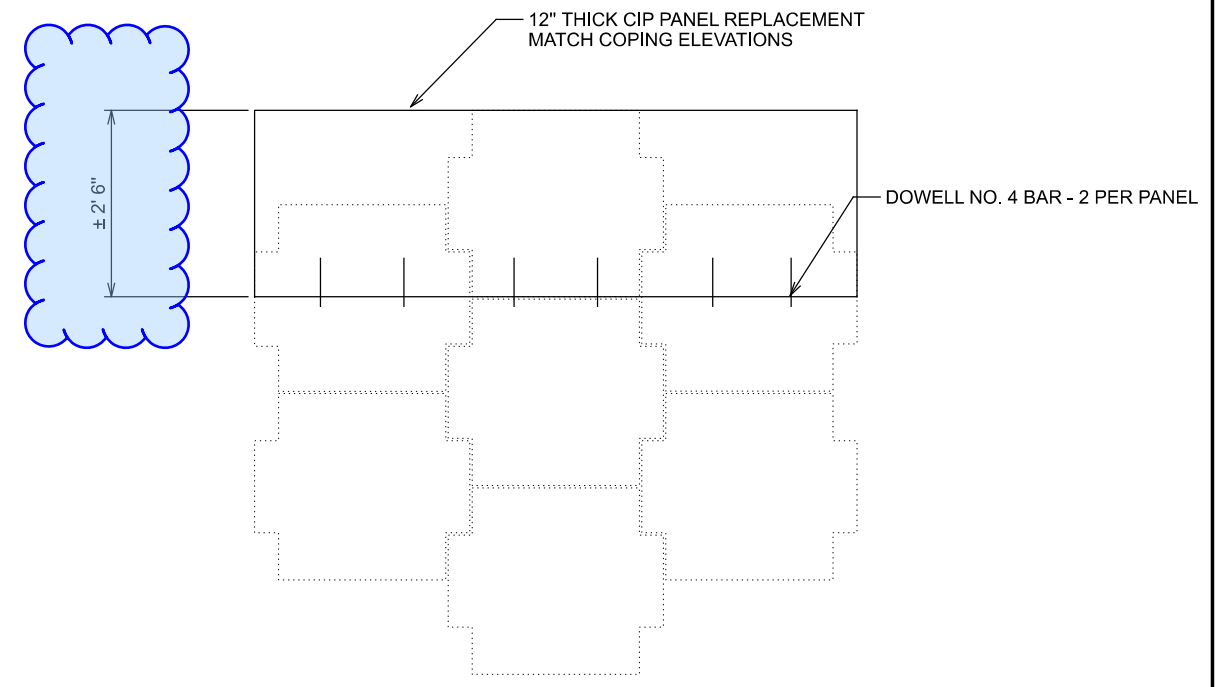
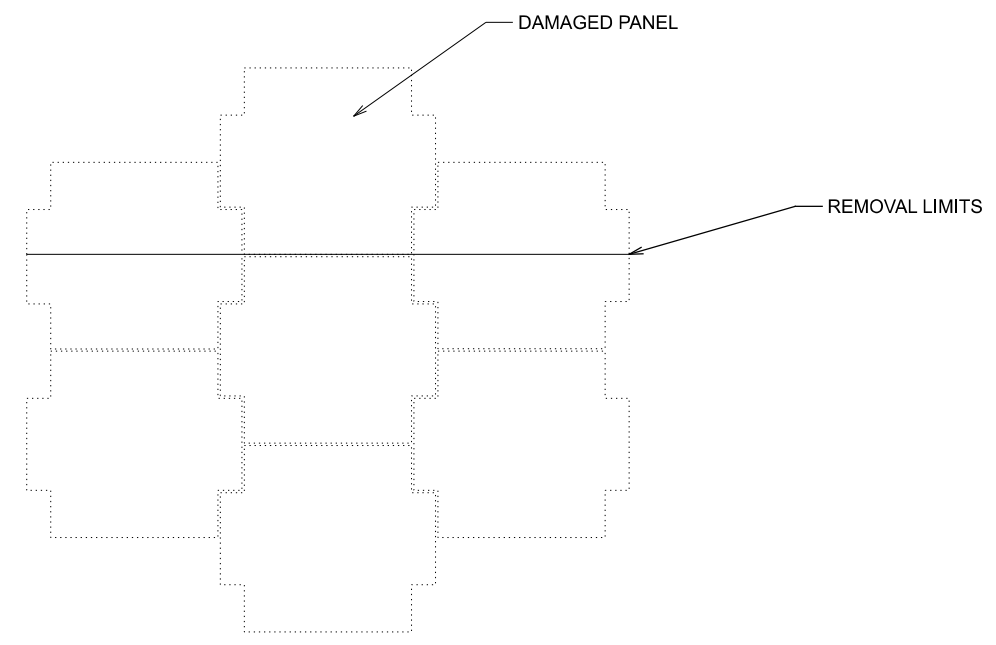
112972

SHEET

P.6

TOTAL

31



ITEM 202 - PORTIONS OF STRUCTURE REMOVED, APP

THIS ITEM CONSISTS OF THE REMOVAL OF THE DAMAGED MSE PANEL, PORTIONS OF THE TWO ADJACENT PANELS AND THE COPING. ADJACENT PANELS ARE TO BE SAWCUT TO THE LINES SHOWN ON THE PLANS. MSE WALL STRAPS ARE TO BE REUSED AND THE CONTRACTOR IS TO BE RESPONSIBLE FOR ANY DAMAGE TO THE STRAPS IN THE REMOVAL PROCESS.

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION
202	11201	LUMP	-	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
510	09950	6	EACH	DOWEL HOLES WITH CEMENT GROUT
511	46010	1	CY	CLASS QC1 CONCRETE, RETAINING WALL/WINGWALL NOT INCLUDING FOOTING

SFN	0
DESIGN AGENCY	
DESIGNER	CHECKER
AWS	JAS
REVIEWER	
JAS 01-12-24	
PROJECT ID	
112972	
SUBSET	TOTAL
5	5
SHEET	TOTAL
P.11	31

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

STEEL SHEAR CONNECTORS, NUTS, PLATES - ASTM A572, GRADE 36 YIELD STRENGTH - 36 KSI

ITEM 507, STEEL PILES, MISC.: SOLDIER PILES W24x84

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 COUNTY WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES W24x84

ITEM 518, POROUS BACK FILL, AS PER PLAN

THE POROUS BACKFILL USED TO FILL BETWEEN THE OPTIONAL HARD WOOD LAGGING AND THE CONCRETE LAGGING PANNELS ALONG WITH ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL IT IN PLACE IS PAID FOR UNDER ITEM 518 POROUS BACKFILL, AS PER PLAN

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.

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 FRO 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 EXSISTING GROUND SURFACE AT THE C/L OF THE PILE AND REMOVAL OF CONCRETE FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE PRECAST LAGGING. PAYMENT FOR SOIL OVERBURDEN DRILLING, WHICH IS GROUND LEVEL TO THE TOP OF THE SHAFT, SHALL BE INCLUSIVE OF ITEM 524 DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK, AS PER PLAN

MEASUREMENT FOR PAYMENT FOR DRILLED SHAFTS ABOVE BEDROCK, AS PER PLAN, WILL BE MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE TOP OF THE SHAFT TO THE TOP OF BEDROCK, AS DETERMINED BY THE ENGINEER. MEASUREMENT FOR PAYMENT FOR DRILLED SHAFTS INTO BEDROCK, AS PER PLAN, WILL BE LIMITED TO THE DISTANCE BETWEEN THE TOP OF BEDROCK AND THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER.

- ITEM 511, CONCRETE, MISC.: PRECAST CONCRETE PANEL 1
- ITEM 511, CONCRETE, MISC.: PRECAST CONCRETE PANEL 2
- ITEM 511, CONCRETE, MISC.: PRECAST CONCRETE PANEL 3
- ITEM 511, CONCRETE, MISC.: PRECAST CONCRETE PANEL 4
- ITEM 511, CONCRETE, MISC.: PRECAST CONCRETE PANEL 5

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.

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

ITEM 530, RETAINING WALL, MISC.: TEMPORARY HARDWOOD LAGGING (OPTIONAL)

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING UNTREATED HARDWOOD LAGGING, AT THE CONTRACTORS OPTION, TO SERVE AS TEMPORARY LAGGING FOR THE SOLDIER PILE WALL. THE LAGGING SHALL CONSIST OF HARDWOOD WITH NOMINAL 3"x8" DIMENSIONS. PAYMENT FOR THE HARDWOOD LAGGING INCLUDES MATERIAL SUPPLY, NON- DEGRADABLE SPACERS BETWEEN THE LAGGING BOARDS AND INSTALLATION AS INDICATED IN THE PROJECT PLANS. LAGGING SHALL BE PLACED IN A TOP-DOWN MANNER SUCH THAT NO MORE THAN 3 FEET OF UNSUPPORTED EXCAVATION IS EXPOSED. EXCAVATION FOR PLACEMENT OF THE LAGGING SHALL BE PERFORMED IN SUCH A MANNER THAT THE LAGGING IS TIGHT AGAINST THE EXCAVATED FACE. ANY VOIDS BEHIND THE LAGGING SHALL BE BACKFILLED WITH NO. 57 CRUSHED CARBONATE STONE AS DIRECTED BY THE ENGINEER. REDUCE UNSUPPORTED HEIGHT AS NECESSARY TO PREVENT CAVING AND SLOUGHING OF THE SOILS BETWEEN THE SOLDIER PILES. PROVIDE 1/4" TO 3/8" HORIZONTAL JOINT SPACING BETWEEN THE LAGGING BOARDS TO PERMIT DRAINAGE. CONNECT THE LAGGING TO THE SOLDIER PILES USING THREADED SHEAR CONNECTORS, LAGGING WASHERS AND NUTS PROVIDED AND INSTALLED PER CMS 513. LAGGING PLATES AND NUTS SHALL BE ASTM A 709 GRADE 36, YIELD STRENGTH 36,000 PSI OR GREATER.

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.




DESIGNER	MRS
REVIEWER	EDA 4/13/23
PROJECT ID	112972
SUBSET	TOTAL
1	8
SHEET	TOTAL
P.20	31

PROJECT: CLE-749-02.23	DRILLING FIRM / OPERATOR: STANTEC / GT	DRILL RIG: CME 45C#3 (812)	STATION / OFFSET: 119+48, 7' RT.	EXPLORATION ID: B-001-0-23
TYPE: GEOHAZARD EXPLORATION	SAMPLING FIRM / LOGGER: STANTEC / JS	HAMMER: CME AUTOMATIC	ALIGNMENT: SR 749	
PID: 112972 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 4/24/18	ELEVATION: 549.8 (MSL) EOB: 25.5 ft.	PAGE: 1 OF 1
START: 3/8/23 END: 3/8/23	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 88.4	LAT / LONG: 39.009452, -84.263076	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	HOLE SEALED
								GR	CS	FS	SI	CL	LL	PL	PI			
BLACK, ASPHALT	549.8																	
LIGHT BROWN, GRANULAR BASE	549.1	1																
VERY STIFF, DARK BROWN TO BROWN, CLAY, LITTLE GRAVEL, LITTLE SAND, SOME SILT, DAMP	548.8	2																
		3	4	4	16	44	SS-1	2.50	18	5	6	25	46	47	26	21	22	A-7-6 (13)
		4		7														
		5		9	5	16	33	SS-2	2.50	18	5	6	25	46	47	26	21	22
MEDIUM DENSE TO DENSE, BROWN, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY, DAMP TO MOIST	542.8	7																
		8	7	7	16	17	SS-3	-	-	-	-	-	-	-	-	-	16	A-2-6 (V)
		9		4														
		10		2	6	37	6	SS-4	-	-	-	-	-	-	-	-	11	A-2-6 (V)
		11			19													
INTERBEDDED SHALE (60%) AND LIMESTONE (40%), RQD 21%, REC. 100%; SHALE, DARK GRAY TO GRAY, HIGHLY TO MODERATELY WEATHERED, VERY WEAK TO WEAK, VERY FINE GRAINED, LAMINATED TO VERY THIN BEDDED, ARGILLACEOUS, HIGHLY TO MODERATELY FRACTURED; LIMESTONE, LIGHT GRAY, MODERATELY WEATHERED, SLIGHTLY TO MODERATELY STRONG, FINE GRAINED, THIN BEDDED, ARENACEOUS, MODERATELY FRACTURED TO FRACTURED.	537.3	12																
		13	33	33	96	17	SS-5	-	-	-	-	-	-	-	-	1	Rock (V)	
		14			32													
		15		28		100		SS-6	-	-	-	-	-	-	-	5	Rock (V)	
		16			50/0"													
		17			39			NQ2-1										CORE
		18																
		19																
FROM 20.9 FT. TO 21.5 FT., UCR = 7,300 PSI		20																
FROM 22.1 FT. TO 22.5 FT., UCR = 9,570 PSI		21																
		22																
		23																
		24																
		25																
	524.3	EOB																

NOTES: GROUND WATER NOT ENCOUNTERED WHILE DRILLING.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

DESIGN AGENCY




DESIGNER: AWS
 REVIEWER: JAS 01-12-24
 PROJECT ID: 112972
 SUBSET TOTAL: 1 3
 SHEET TOTAL: P.29 31

PROJECT: CLE-749-02.23	DRILLING FIRM / OPERATOR: STANTEC / GT	DRILL RIG: CME 45C#3 (812)	STATION / OFFSET: 120+45, 6' RT.	EXPLORATION ID: B-002-0-23
TYPE: GEOHAZARD EXPLORATION	SAMPLING FIRM / LOGGER: STANTEC / JS	HAMMER: CME AUTOMATIC	ALIGNMENT: SR 749	
PID: 112972 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 4/24/18	ELEVATION: 550.9 (MSL) EOB: 18.4 ft.	PAGE: 1 OF 1
START: 3/7/23 END: 3/7/23	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 88.4	LAT / LONG: 39.009430, -84.262732	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	HOLE SEALED
								GR	CS	FS	SI	CL	LL	PL	PI			
BLACK, ASPHALT	550.9																	
LIGHT BROWN, GRANULAR BASE	549.4	1																
STIFF, DARK BROWN TO BROWN, SILT AND CLAY, SOME GRAVEL, SOME SAND, MOIST		2																
		3	4	4	13	67	SS-1	1.50	26	17	11	26	20	33	19	14	20	A-6a (3)
	546.4	4		5														
MEDIUM DENSE, BROWN, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY, DAMP		5																
		6		7	16	67	SS-2	-	42	20	8	17	13	31	19	12	8	A-2-6 (0)
		7																
	542.9	8	13	50/3"	-	100	SS-3	2.75	-	-	-	-	-	-	-	-	13	Rock (V)
INTERBEDDED SHALE (70%) AND LIMESTONE (30%), RQD 26%, REC. 88%; SHALE, LIGHT BROWN TO GRAY, HIGHLY TO MODERATELY WEATHERED, VERY WEAK TO WEAK, VERY FINE GRAINED, LAMINATED TO THIN BEDDED, ARGILLACEOUS, HIGHLY TO MODERATELY FRACTURED; LIMESTONE, GRAY, MODERATELY WEATHERED, SLIGHTLY STRONG, FINE GRAINED, THIN BEDDED, ARENACEOUS, MODERATELY FRACTURED TO FRACTURED.		9																
		10																
		11																
		12																
		13																
FROM 15.6 FT. TO 16.1 FT., UCR = 102 PSI		14																
		15																
		16																
FROM 17.6 FT. TO 18.0 FT., UCR = 48 PSI		17																
		18																
	532.5	EOB																

NOTES: GROUND WATER NOT ENCOUNTERED WHILE DRILLING.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

DESIGN AGENCY



DESIGNER: AWS
 REVIEWER: JAS 01-12-24
 PROJECT ID: 112972
 SUBSET TOTAL: 2 3
 SHEET TOTAL: P.30 31

PROJECT: CLE-749-02.23	DRILLING FIRM / OPERATOR: STANTEC / GT	DRILL RIG: CME 45C#3 (812)	STATION / OFFSET: 121+49, 8' RT.	EXPLORATION ID: B-003-0-23
TYPE: GEOHAZARD EXPLORATION	SAMPLING FIRM / LOGGER: STANTEC / JS	HAMMER: CME AUTOMATIC	ALIGNMENT: SR 749	PAGE: 1 OF 1
PID: 112972 SFN: N/A	DRILLING METHOD: 3.25" HSA / NQ2	CALIBRATION DATE: 4/24/18	ELEVATION: 551.2 (MSL) EOB: 22.1 ft.	
START: 3/7/23 END: 3/7/23	SAMPLING METHOD: SPT / NQ2	ENERGY RATIO (%): 88.4	LAT / LONG: 39.009429, -84.262366	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	HOLE SEALED	
								GR	CS	FS	SI	CL	LL	PL	PI				
BLACK, ASPHALT	551.2																		
LIGHT BROWN, GRANULAR BASE	550.4	1																	
STIFF, LIGHT BROWN MOTTLED WITH GRAY, CLAY, SOME GRAVEL, TRACE TO LITTLE SAND, SOME SILT, DAMP	549.7	2																	
		3	2	3	9	28	SS-1	2.00	27	10	4	24	35	43	23	20	16	A-7-6 (9)	
		4																	
		5																	
		6		3	3	9	39	SS-2	2.25	27	10	4	24	35	43	23	20	14	A-7-6 (9)
		7																	
		8		3	4	10	50	SS-3	1.00	22	6	3	29	40	46	26	20	20	A-7-6 (12)
		9																	
		540.9	10	9	30														
	INTERBEDDED SHALE (60%) AND LIMESTONE (40%), RQD 56%, REC. 94%; SHALE, DARK GRAY TO GRAY, HIGHLY TO MODERATELY WEATHERED, VERY WEAK TO WEAK, VERY FINE GRAINED, VERY THIN TO LAMINATED, ARGILLACEOUS, HIGHLY TO MODERATELY FRACTURED; LIMESTONE, LIGHT GRAY, MODERATELY WEATHERED, SLIGHTLY STRONG, FINE GRAINED, THIN BEDDED, ARENACEOUS, MODERATELY FRACTURED.		11	30	50/3"	-	100	SS-4	-	-	-	-	-	-	-	-	-	6	Rock (V)
		12	0			36	NQ2-1											CORE	
		13																	
		14		72			98	NQ2-2											CORE
FROM 18.1 FT. TO 18.5 FT., UCR = 6,770 PSI		15																	
		16																	
		17																	
		18																	
		19																	
		20		50			100	NQ2-3											CORE
FROM 21.0 FT. TO 21.8 FT., UCR = 7,790 PSI		21																	
	529.1	22																	
		EOB																	

NOTES: GROUND WATER NOT ENCOUNTERED WHILE DRILLING.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; AUGER CUTTINGS MIXED WITH BENTONITE CHIPS

DESIGN AGENCY



DESIGNER: AWS
 REVIEWER: JAS
 PROJECT ID: 112972
 SUBSET TOTAL: 3 3
 SHEET TOTAL: P.31 31