				SHEE	T NUM.	 	 		RT.	ITEM	ITEM	GRAND	UNIT	
7	27	34	35					01/STR/BR	02/STR/CV		EXT	TOTAL		
		3	4					4	3	621	00100	7	EACH	RPM
		3	4					4	3	621	54000	7	EACH	RAISED PAVEMENT MARKER REMOVED
11								8	3	626	00112	11	EACH	BARRIER REFLECTOR, TYPE 3, BI-DIRECTION
			10					10		630	03100	10	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
			1					1		630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND RE
			1					1		630	86002	1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPO
		0.08	0.1					0.1	0.08	642	00094	0.18	MILE	EDGE LINE, 6"
		0.04	0.05					0.05	0.04	642	00290	0.09	MILE	CENTER LINE
			0.06					0.06		646	10010	0.06	MILE	EDGE LINE, 6"
			0.03					0.03		646	10200	0.03	MILE	CENTER LINE
	LS								LS	202	11000	LS		STRUCTURE REMOVED
	1,395								1,395	203	20001	1,395	CY	EMBANKMENT, AS PER PLAN
	537								537	203	35001	537	CY	GRANULAR EMBANKMENT, AS PER PLAN
	LS						 	 	LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING
	LS								LS	503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN
	744								744	507	00400	744	FT	STEEL PILES, MISC.: SOLDIER PILES
	8,096								8,096	509	10000	8,096	LB	EPOXY COATED REINFORCING STEEL
	47								47	511	46010	47	СҮ	CLASS QCI CONCRETE, RETAINING/WINGWALL
	101								101	512	10100	101	SY	SEALING OF CONCRETE SURFACES (EPOXY-U
	24								24	512	33001	24	SY	TYPE 2 WATERPROOFING, AS PER PLAN
	<u>10</u> 5								10 5	516 518	13600 21200	10 5	SF CY	1" PREFORMED EXPANSION JOINT FILLER POROUS BACKFILL WITH GEOTEXTILE FABRIC
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	133								133	518 518	39800	133 7	FT	4" PERFORATED CORRUGATED PLASTIC PIPE
	7 552								7 552	578	39900 94801	552	FT FT	4" NON-PERFORATED CORRUGATED PLASTIC . DRILLED SHAFTS, 42" DIAMETER, AS PER LA
	1,179								1,179	610	50010	1,179	SF	RETAINING WALL, MISC.: TIMBER LAGGING
	723								723	610	50010	723	SF SF	RETAINING WALL, MISC.: FIMDER EAGONG
	1								1	611	99710	1	EACH	PRECAST REINFORCED CONCRETE OUTLET
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DESCRIPTION	SEE SHEET NO.	CALCULATED CAG CHECKED MS
TRAFFIC CONTROL		
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RETAINING WALLS (13.90)		AF
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PROPOSED WORK

THE PROPOSED WORK CONSISTS OF BUILDING A SOLDIER PILE WITH LAGGING RETAINING WALL (UNANCHORED) ALONG SR 303 (CENTER ROAD).

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "THE LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 8TH EDITION, INCLUDING 2018 ERRATA DATED 1/19/18, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI STRUCTURAL STEEL FOR SOLDIER PILES - ASTM A709 GRADE 50 YIELD STRENGTH 50,000 PSI

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

ALL EXCAVATION REQUIRED TO CONSTRUCT THE PROPOSED RETAINING WALL, STORM SEWER SYSTEM, AND ACCESS DRIVE WITHIN THE LIMITS OF THE ANTICIPATED LAY BACK AREA SHALL BE INCLUDED WITH ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN, FOR PAYMENT.

LAYING BACK OF THE ROADWAY EMBANKMENT FOR CONSTRUCTION PURPOSES FROM THE BEGINNING OF THE PROJECT TO STATION 52+60 AND FROM STATION 53+03 TO END OF THE PROJECT SHALL BE AT A 1.5 HORIZONTAL TO 1.0 VERTICAL AND AT A 2.0 HORIZONTAL TO A 1.0 VERTICAL BETWEEN STATIONS 52+60 AND 53+03 AS PER THE GEOTECHNICAL ENGINEERS RECOMMENDATIONS.

MAINTENANCE OF TRAFFIC

FOR MAINTENANCE OF TRAFFIC DETAILS, SEE THE ROADWAY PLANS.

ITEM 507 - STEEL PILES, MISC .: SOLDIER PILES

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES AS WELL AS MONITORING PLUMBNESS, FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM AT09, GRADE 50. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

MEASUREMENT FOR PAYMENT WILL BE THE DISTANCE BETWEEN THE ENDS OF THE SOLDIER PILE. PAYMENT IS FULL COMPENSATION FOR FURNISHING AND PLACING THE SOLDIER PILES INCLUDING WELDED STUD SHEAR CONNECTORS, AND MONITORING THEIR PLUMBNESS UNTIL THE PLACEMENT OF THE CONCRETE FACING HAS BEGUN.

WELD HEADED STEEL STUDS TO THE FLANGES OF THE SOLDIER PILE IN ORDER TO CONNECT THE CONCRETE WALL FACING TO THE SOLDIER PILE. ATTACH HEADED STUDS ACCORDING TO C&MS 513.22 AND AS SHOWN IN THE PLANS. THE CONTRACTOR MAY ATTACH THE STUDS EITHER BEFORE PLACING THE SOLDIER PILE IN THE DRILLED HOLE OR AFTER EXCAVATING IN FRONT OF THE WALL. PROTECT THE HEADED STUDS FROM DAMAGE UNTIL THE CONCRETE WALL FACING IS POURED. REPAIR OR REPLACE DAMAGED HEADED STUDS AT NO EXPENSE TO THE DEPARTMENT.

THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTACT UNIT PRICE BID PER FOOT FOR ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES.

ITEM 512 - TYPE 2 WATERPROOFING, AS PER PLAN

TYPE 2 WATERPROOFING SHALL BE ATTACHED TO THE WOOD LAGGING, 3 FEET WIDE FULL HEIGHT CENTERED AT ALL CONCRETE PANEL JOINTS.

ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, 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 THE DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION. THE DESIGN IS BASED ON A BEDROCK ELEVATION AS NOTED ON SHEET 5/8. ALL DRILLED SHAFTS WITH THE STEEL SECTIONS SHALL HAVE A MINIMUM ROCK SOCKET DEPTH OF 5'-6". STEEL SECTIONS SHALL BE TRIMMED TO THE REQUIRED LENGTH IF THE ROCK IS ENCOUNTERED AT A HIGHER ELEVATION THAN THE ESTIMATED TOP OF ROCK ELEVATION OF 1117.00 FT. IF ROCK IS ENCOUNTERED AT AN ELEVATION LOWER THAN THE ESTIMATED TOP OF ROCK ELEVATION OF 1117.00 FT. NOTIFY THE DISTRICT GEOTECHNICAL ENGINEER IMMEDIATELY.

ALIGN THE SOLDIER PILE VERTICALLY WITHIN THE HOLE. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS AND THE TOP IS AT THE PLAN ELEVATION. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SOLDIER PILE TO VARY BY MORE THAN '4" PER FOOT OF DEPTH. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES.

USE CLASS QCI CONCRETE ACCORDING TO CMS 511. PLACE CONCRETE TO THE ELEVATION OF THE BOTTOM OF THE LAGGING. 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.

FILL THE HOLE ABOVE THE BOTTOM OF THE LAGGING TO THE EXISTING GROUND SURFACE WITH LOW STRENGTH MORTAR BACKFILL (LSM) PER ITEM 613. REMOVE CONCRETE AND LSM AS EVEN WITH THE FRONT FACE OF THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING.

MEASUREMENT FOR PAYMENT FOR DRILLED SHAFTS, AS PER PLAN WILL BE LIMITED TO THE ACTUAL DRILLED DISTANCE BETWEEN THE GROUND SURFACE AND THE MINIMUM TIP ELEVATION, AS DETERMINED BY THE ENGINEER. PAYMENT IS FULL COMPENSATION FOR DRILLING THE HOLES, CONSTRUCTING THE DRILLED SHAFTS, SUPPORTING THE SOLDIER PILES, FURNISHING AND PLACING CONCRETE AND LSM, AND REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILE AS NECESSARY TO PLACE LAGGING. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID PER FOOT FOR ITEM 524 -DRILLED SHAFTS, 42" DIAMETER, AS PER PLAN.

ITEM 203 - EMBANKMENT, AS PER PLAN

ESTIMATED EMBANKMENT QUANTITIES PROVIDED ARE ASSOCIATED WITH THE LAYBACK SOLUTION SHOWN IN THE PLANS. THE EXACT QUANTITY WILL BE DEPENDENT ON THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION. NO ADDITIONAL PAYMENT SHALL BE MADE FOR QUANTITIES THAT EXCEED THE PLAN VALUES DUE TO CONTRACTOR'S MEANS AND METHODS THAT RESULT IN ADDITIONAL EXCAVATION AND EMBANKMENT. THE CONTRACTOR SHALL SUBMIT TEMPORARY LAYBACK AND BENCHING PLANS FOR APPROVAL PRIOR TO CONSTRUCTION.

ITEM SPECIAL - RETAINING WALL, MISC.: TIMBER LAGGING

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING UNTREATED HARDWOOD LAGGING TO SERVE AS TEMPORARY LAGGING FOR THE SOLDIER PILE WALL. THE LAGGING SHALL CONSIST OF SOUTHERN PINE NO. 2 OR BETTER, WITH NOMINAL 4"X8" DIMENSIONS. LAGGING SHALL BE PLACED AS EXCAVATION OR EMBANKMENT PLACEMENT PROGRESSES. AT NO TIME SHOULD MORE THAN 3 FEET OF UNSUPPORTED EXCAVATION BE PERMITTED. REDUCE THE UNSUPPORTED HEIGHT AS NECESSARY TO PREVENT CAVING AND SLOUGHING OF THE SOILS BETWEEN THE SOLDIER PILES. PROVIDE '/4" TO '/4" HORIZONTAL JOINT SPACING BETWEEN THE LAGGING BOARDS TO PERMIT DRAINAGE.

THE DEPARTMENT WILL MEASURE THE TEMPORARY SOUTHERN PINE NO. 2 LAGGING BY THE NUMBER OF SQUARE FEET AND WILL DETERMINE THE AREA FROM PLAN DIMENSIONS USING A LENGTH MEASURED ALONG A HORIZONTAL LINE ALONG THE CENTERLINE OF THE SOLDIER PILES AND A HEIGHT FROM THE BOTTOM OF THE LAGGING TO THE TOP. PAYMENT IS FULL COMPENSATION FOR FURNISHING AND PLACING ALL MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID PER SQUARE FOOT FOR ITEM SPECIAL - RETAINING WALL, MISC.: TIMBER LAGGING.

ITEM SPECIAL - RETAINING WALL, MISC.: GEOCOMPOSITE DRAIN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREFABRICATED GEOCOMPOSITE DRAIN (PGD) VERTICALLY AND CENTERED IN EACH SOLDIER PILE BAY. THE PGD SHALL BE THE WIDTH AS SHOWN ON THESE PLANS WITHIN EACH SOLDIER PILE BAY. THE CONTRACTOR SHALL USE ONE OF THE FOLLOWING OR AN EQUAL PGD APPROVED BY THE ENGINEER.

AMERIDRAIN 200 AMERICAN WICK DRAIN CORPORATION, INC. 1209 AIRPORT ROAD MONROE, NC 28110-7389 PHONE:1-800-242-9425 OR 704-238-9200

TENCATE GIOON TENCATE GEOSYNTHETICS NORTH AMERICA 365 SOUTH HOLLAND DRIVE PENDERGRASS, GA 30567 PHONE: 1-800-685-9900 OR 706-693-2226

J-DRAIN 200 JDR ENTERPRISES, INC. 292 SOUTH MAIN STREET. SUITE 200 ALPHARETTA, GA 30009 PHONE: 1-800-843-7569 OR 770-442-1467

ITEM 203 - GRANULAR EMBANKMENT, AS PER PLAN

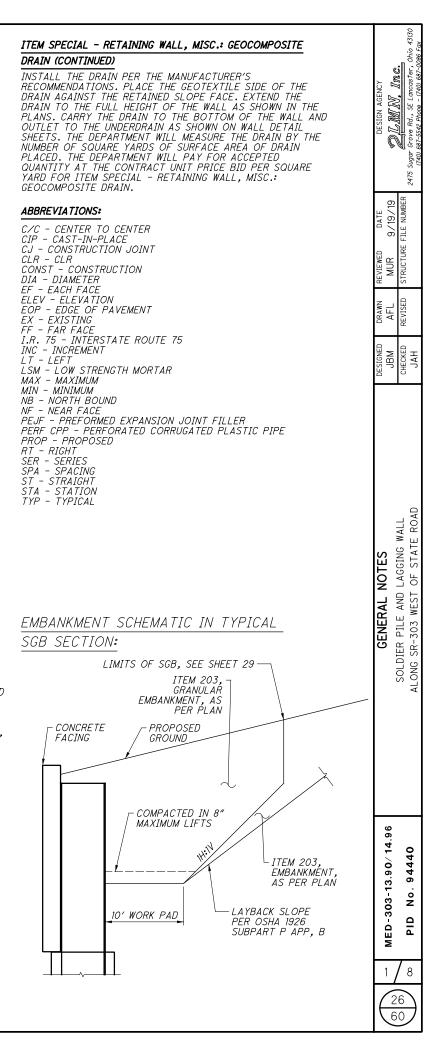
THE BACKFILL SHALL CONSIST OF ITEM 203 EMBANKMENT EXCEPT WHERE IT IS NOTED THAT ITEM 203 GRANULAR EMBANKMENT, AS PER PLAN, SHALL BE USED. THE ITEM 203 GRANULAR EMBANKMENT, AS PER PLAN, SHALL BE A SELECT GRANULAR BACKFILL SHALL CONFORM TO ODOT CMS ITEM 703.11 STRUCTURAL BACKFILL TYPE 2. THE SELECT GRANULAR BACKFILL SHALL BE PLACED BEHIND THE WALL EXTENDING A PERPENDICULAR DISTANCE FROM THE BACKFACE OF THE WALL TO A POINT WHERE A 1H:1V LINE INTERSECTS WITH THE PROPOSED BACK OF WALL GRADE STARTING FROM THE BACKFACE OF THE WALL AT THE "WORK PAD" ELEVATION, AS PER THE GEOTECHNICAL ENGINEERS RECOMMENDATIONS.

OTHER MATERIAL MEETING THE REQUIREMENTS OF ODOT'S ITEM 203 EMBANKMENT CAN BE USED BEYOND THE INDICATED SBG LIMITS. SGB MUST BE SPREAD IN UNIFORM, THIN (8 INCHES OR LESS) LOOSE LIFTS, WITH EACH LIFT COMPACTED TO ACHEVE A DRY UNIT WEIGHT OF AT LEAST 98 PERCENT OF THE MAXIMUM DRY UNIT WEIGHT, AS DETERMINED IN THE LABORATORY BY THE "STANDARD METHOD OF TEST FOR MOISTUREDENSITY RELATIONS OF SOILS USING A 5.5-LB RAMMER AND A 12-IN. DROP" (ASHTO T 99 METHOD C). SGB SHOULD BE MOISTURE CONDITIONED (AS NEEDED) TO MAINTAIN THE MOISTURE CONTENT OF THE FILL MATERIAL WITHIN 2 PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT. WITHIN 3 FEET OF THE FACING PANELS (TIMBER LAGGING) COMPACT THE SGB WITH AT LEAST SIX PASSES OF A LIGHT MECHANICAL TAMPER WEIGHTING BETWEEN 1/2 TO 2 TONS.

ESTIMATED EMBANKMENT QUANTITIES PROVIDED ARE ASSOCIATED WITH THE LAYBACK SOLUTION SHOWN IN THE PLANS. THE EXACT QUANTITY WILL BE DEPENDENT ON THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION. NO ADDITIONAL PAYMENT SHALL BE MADE FOR QUANTITIES THAT EXCEED THE PLAN VALUES DUE TO CONTRACTOR'S MEANS AND METHODS THAT RESULT IN ADDITIONAL EXCAVATION AND EMBANKMENT. THE CONTRACTOR SHALL SUBMIT TEMPORARY LAYBACK AND BENCHING PLANS FOR APPROVAL PRIOR TO CONSTRUCTION.

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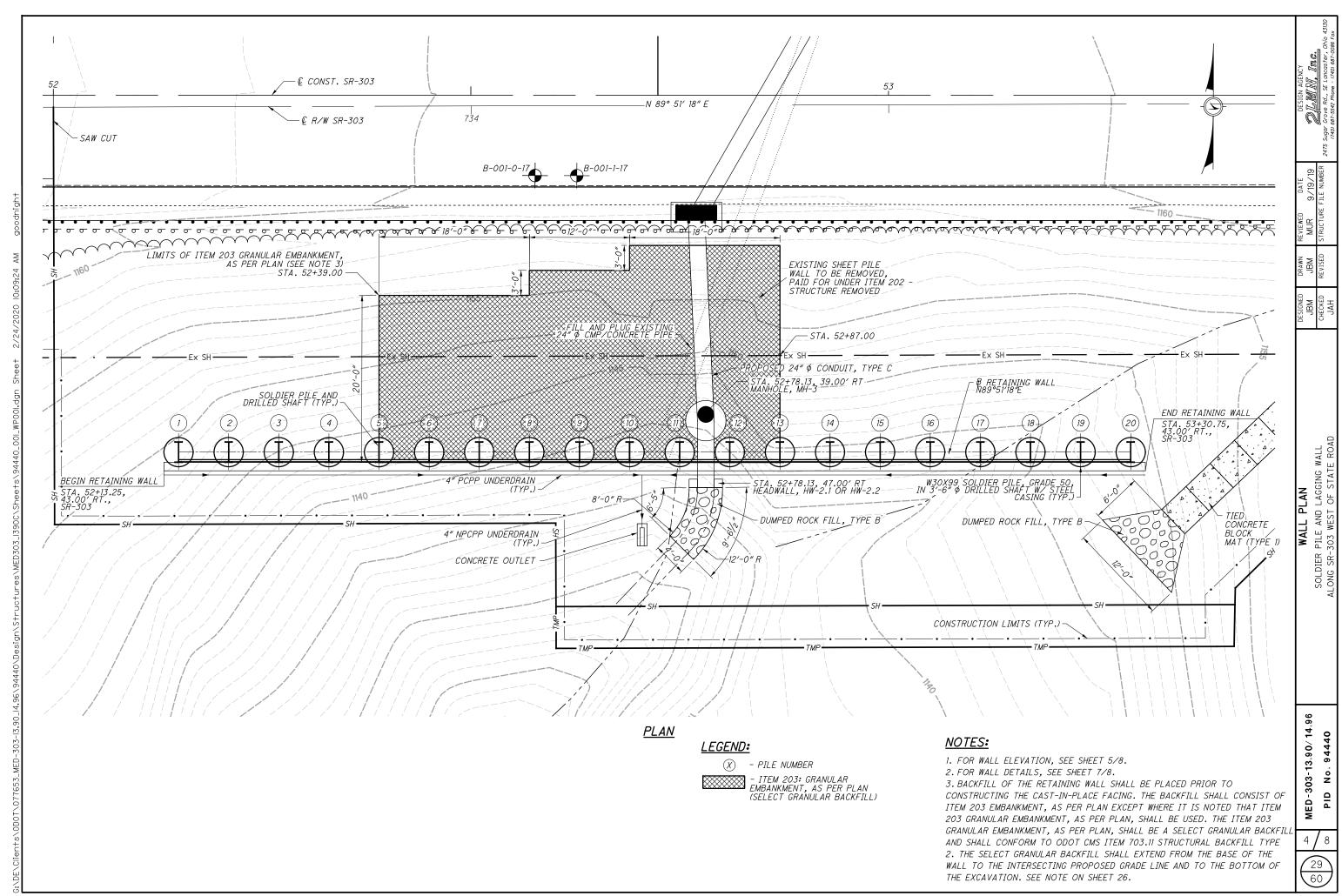
				ESTIMATED QUANTITIES
ITEM	EXT.	QUANTITY O2/STR/CV	UNIT	DESCRIPTION
202	11000	LS		STRUCTURE REMOVED
203	20001	1,395	CY	EMBANKMENT, AS PER PLAN
203	35001	537	СҮ	GRANULAR EMBANKMENT, AS PER PLAN
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING
503	21301	LS		UNCLASSIFIED EXCAVATION, AS PER PLAN
	21301			
507	00400	744	FT	STEEL PILES, MISC.: SOLDIER PILES
509	10000	8,096	LB	EPOXY COATED REINFORCING STEEL
C 11	40.010	47	01/	
511	46010	47	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING
512	10100	101	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33001	24	SY	TYPE 2 WATERPROOFING, AS PER PLAN
516	13600	10	SF	1" PREFORMED EXPANSION JOINT FILLER
	01000		01/	
518	21200	5	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
518	39800	133	FT	4" PERFORATED CORRUGATED PLASTIC PIPE
518	39900	7	FT	4" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS
524	94801	552	FT	DRILLED SHAFTS, 42" DIAMETER, AS PER PLAN
611	99710	1	EACH	PRECAST REINFORCED CONCRETE OUTLET
SPECIAL	610E50010	723	SF	RETAINING WALL, MISC.: GEOCOMPOSITE DRAIN
SPECIAL	610E50010	1,179	SF	RETAINING WALL, MISC.: TIMBER LAGGING

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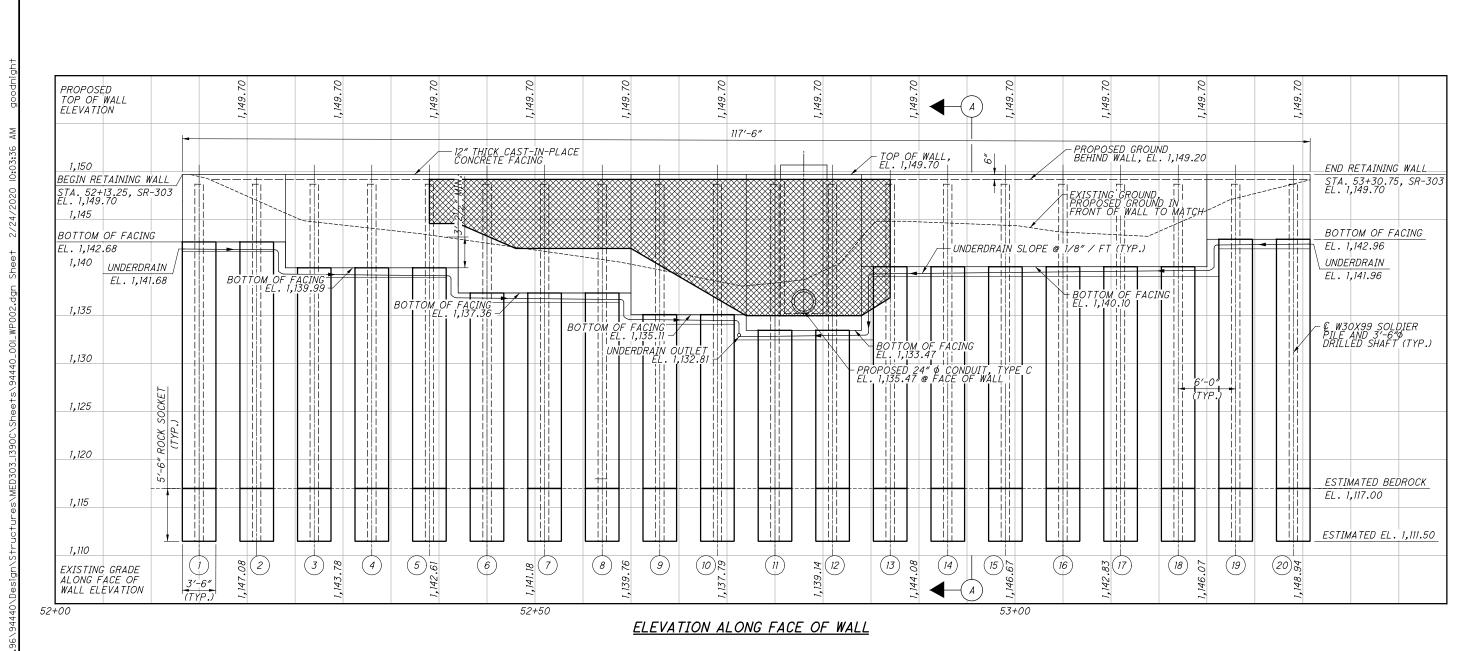
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7	7	SOLDIER FILE AND LAGGING WALL	CHECKED	REVISED	STRUCTURE FILE NUMBER	2075 Summer Draws Bd SE Landator Objo 43130
)	8 PID No. 94440	ALONG SR-303 WEST OF STATE ROAD	LAW			2710 0090 01070 110, JL LUNCOSIDI, VINO 70100 (740) 687-5542 Phone - (740) 687-0086 Fax



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LEGEND: (x)PILE NUMBER - ITEM 203: GRANULAR EMBANKMENT, AS PER PLAN (SELECT GRANULAR BACKFILL)

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FOR WALL PLAN, SEE SHEET 4/8. 2. FOR SECTION A-A, SEE SHEET 7/8.

NOTES:

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DESIGN AGENCY <u>DLMIN, Imc.</u> P. Groug Bd. SE I annotan D

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EVIEWEI MUR

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SIGNED

WALL ELEVATION SOLDIER PILE AND LAGGING WALL -ONG SR-303 WEST OF STATE ROAD

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