

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-271-7.56 / 9.30

NORTHFIELD CENTER AND BOSTON TOWNSHIPS
SUMMIT COUNTY

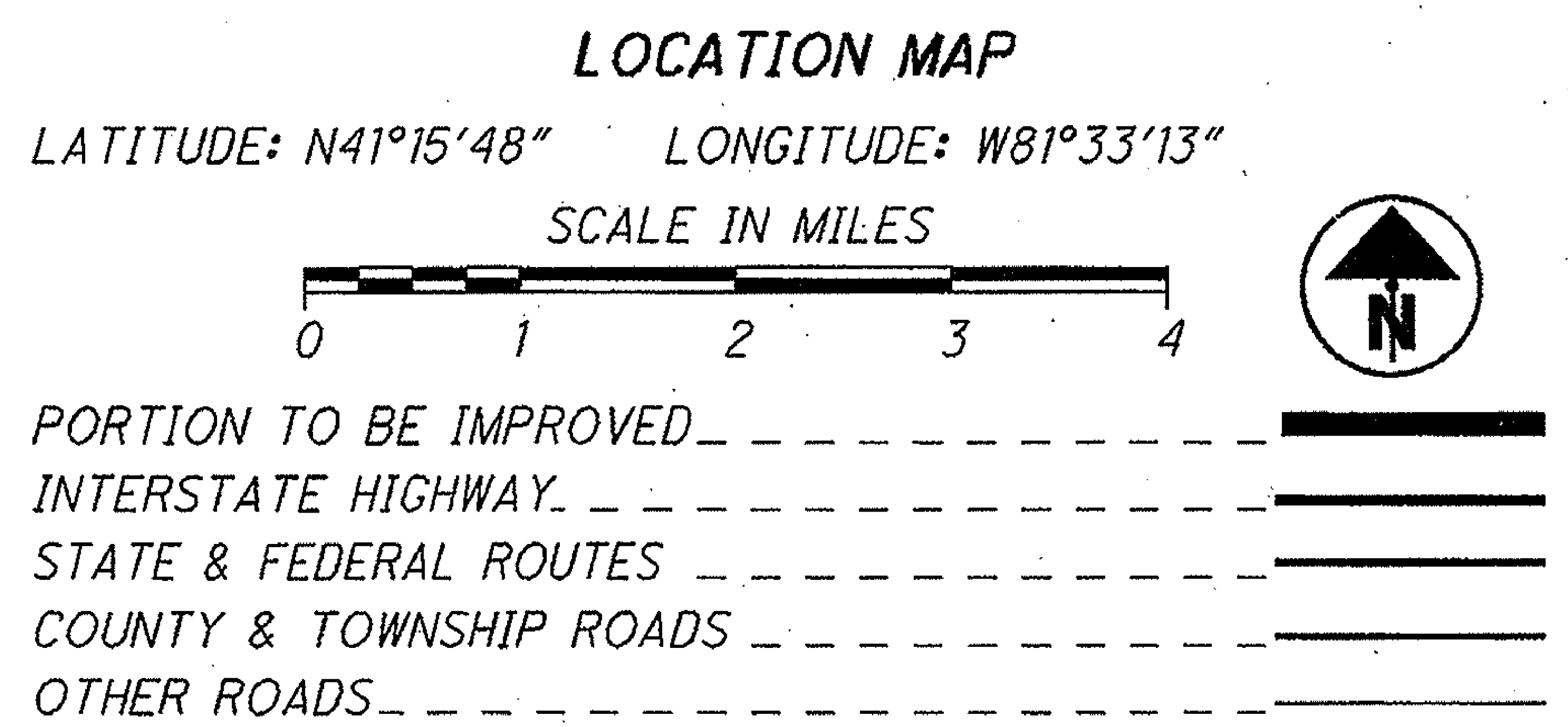
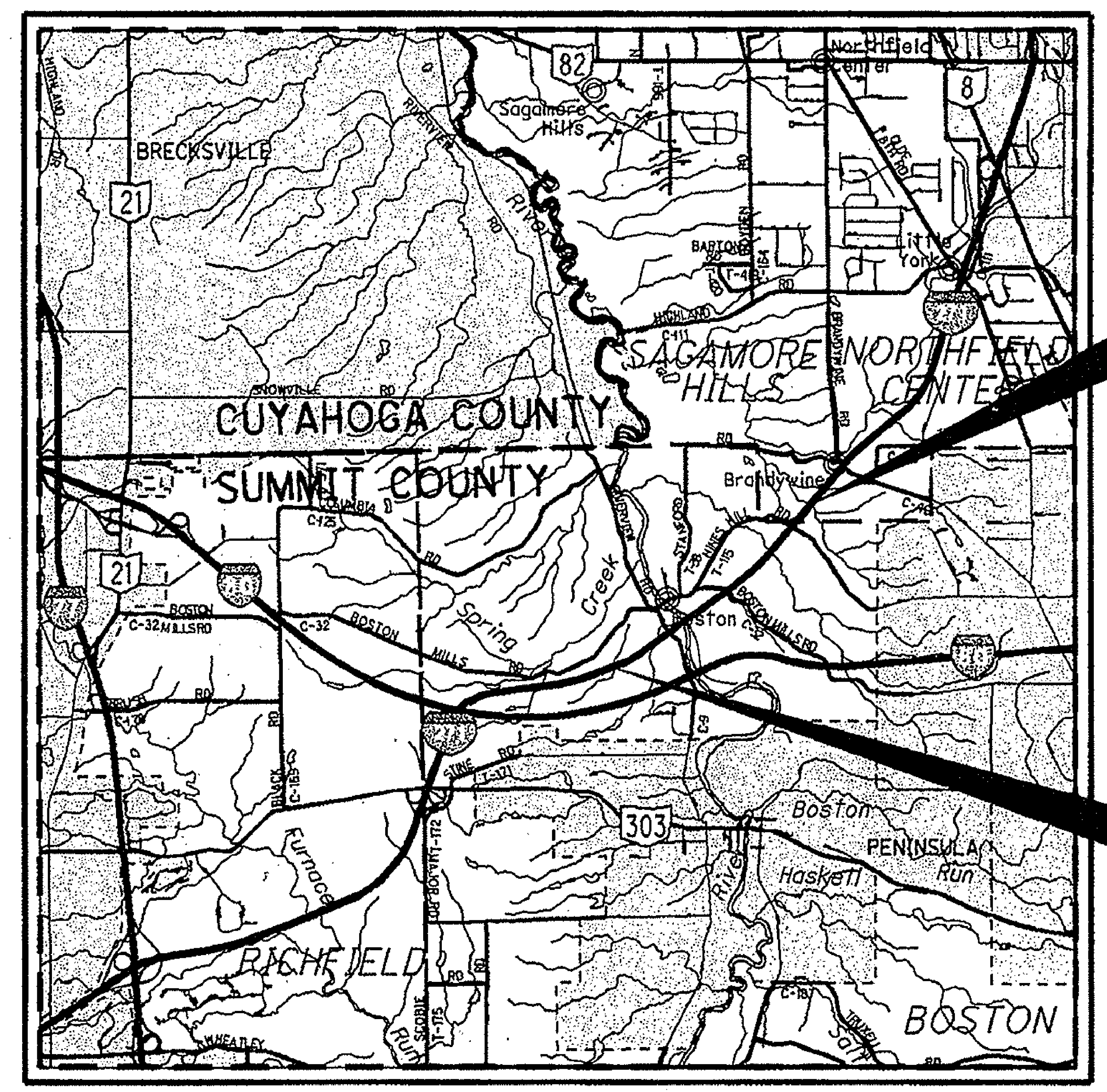
PROJECT DESCRIPTION
SLOPE REPAIR AND RECONSTRUCTION AT SLM 7.56 AND SLM 9.30 ON IR-271 IN NORTHFIELD CENTER AND BOSTON TOWNSHIPS, SUMMIT COUNTY. WORK INCLUDES DRAINAGE IMPROVEMENTS AND GUARDRAIL REPLACEMENT.

PROJECT EARTH DISTURBED AREA: 2.11 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

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.

2008 SPECIFICATIONS
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS 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 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.



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DESIGN DESIGNATION

DESIGN SPEED: 70 MPH

LEGAL SPEED: 65 MPH

DESIGN FUNCTIONAL CLASSIFICATION:
PRINCIPAL ARTERIAL - INTERSTATE (RURAL)

NHS PROJECT: YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF PRODUCTION
2088 SOUTH ARLINGTON ROAD
AKRON, OHIO 44306

ENGINEERS SEAL:

STATE OF OHIO
THOMAS
POWELL
E-61151
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: [Signature]
DATE: 01-21-09

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS
BP-3.1	10/19/07	RM-4.2	10/19/07			800-2008 4/17/09
						802 4/15/08
						832 4/25/06
CB-3.2	7/15/05	PCB-91	7/19/02			
DM-1.1	4/21/06	MT-35.10	4/20/01			
DM-1.2	10/21/05	MT-95.30	9/05/06			
DM-1.4	4/21/06	MT-95.40	10/20/06			
DM-4.3	7/19/02	MT-101.70	10/18/02			
DM-4.4	7/19/02	MT-105.10	10/18/02			
		MT-105.11	10/18/02			
GR-1.1	7/16/04					
GR-2.1	1/16/04	TC-41.20	1/19/01			
GR-4.2	1/19/07	TC-42.20	7/16/04			
GR-4.5	4/18/03	TC-52.10	1/19/07			
		TC-52.20	1/19/07			
RM-4.1	10/20/06					

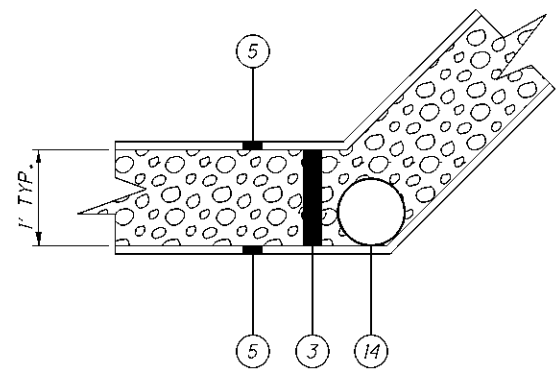
APPROVED: [Signature]
DATE: 1-21-09 DISTRICT DEPUTY DIRECTOR

APPROVED: [Signature]
DATE: 4-23-09 DIRECTOR, DEPARTMENT OF TRANSPORTATION

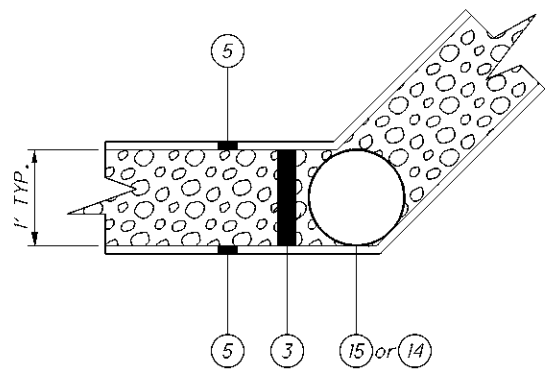
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SUM - IR-271-7.56/9.30
091018 PID - 81149
Dist 4 5/20/2009

FEDERAL PROJECT NO. E071(111)
PID NO. 81149
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
SUM-271-7.56 / 9.30
1
19

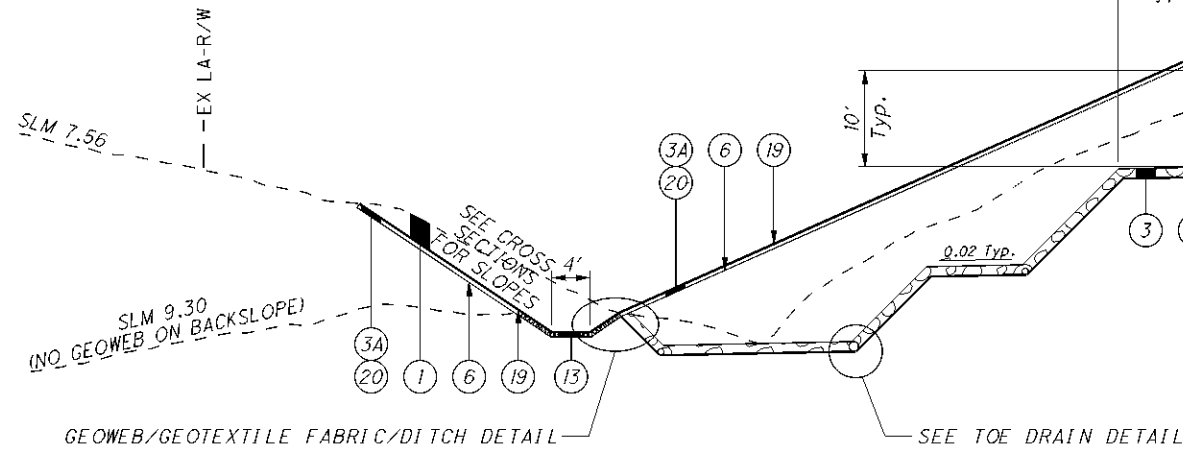
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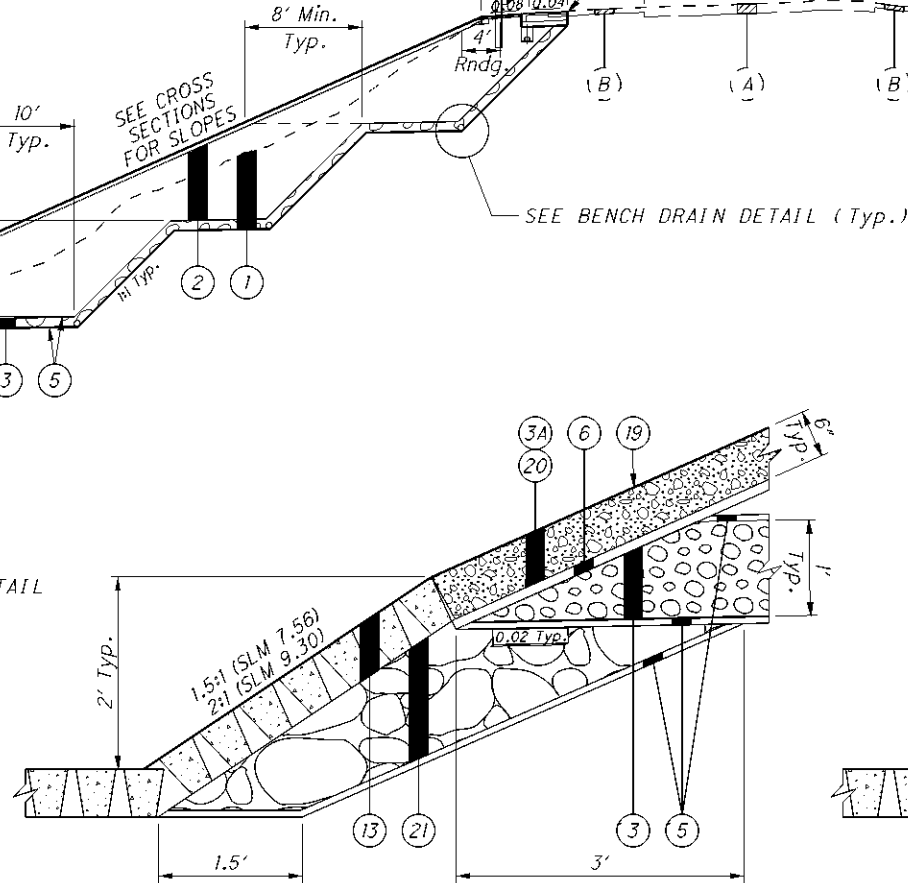
BENCH DRAIN DETAIL (TYP.)



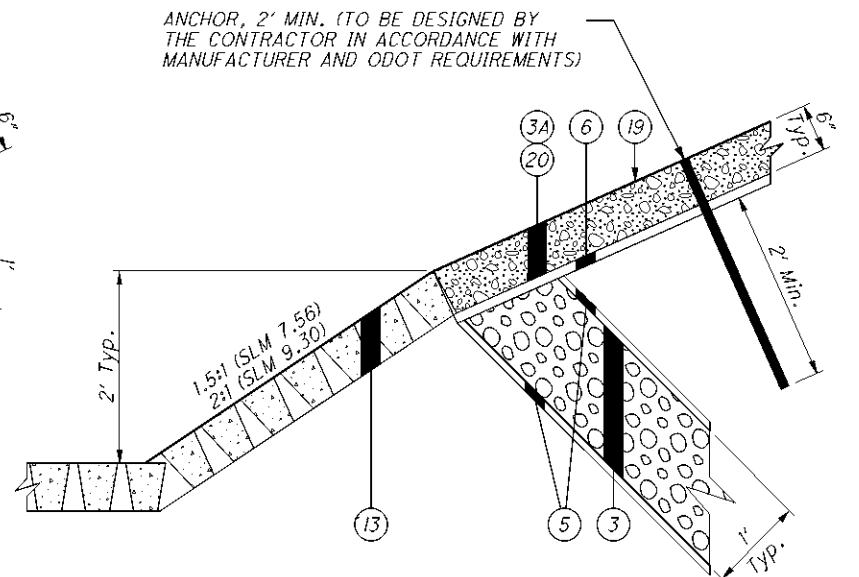
TOE DRAIN DETAIL



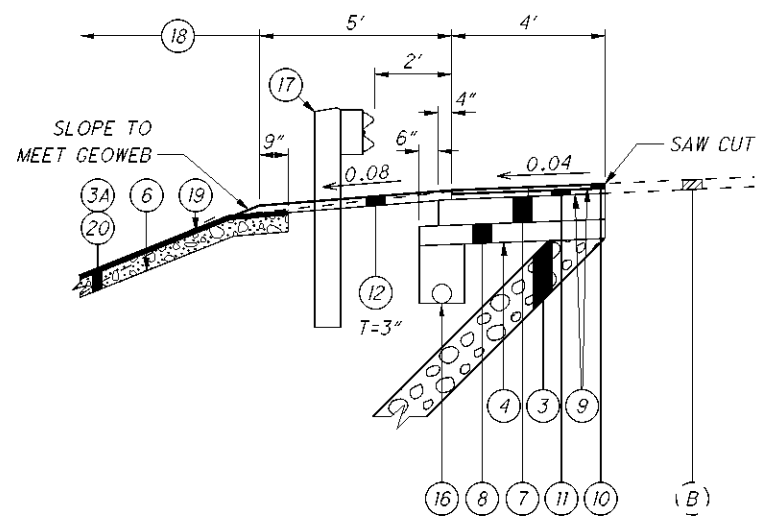
GEOWEB/GEOTEXTILE FABRIC/DITCH DETAIL



TYPICAL SECTION - I.R. 271
STA. 401+00, LT TO STA. 405+00, LT = 400'
STA. 489+00, LT TO STA. 490+71.87, LT = 171.87'
TOTAL = 571.87'



GEOWEB/GEOTEXTILE FABRIC/DITCH DETAIL



PAVED SHOULDER DETAIL

LEGEND

- | | |
|--|---|
| (1) 203, EXCAVATION, AS PER PLAN | (12) 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN |
| (2) 203, EMBANKMENT | (13) 601, TIED CONCRETE BLOCK MAT, TYPE 2 |
| (3) 203, GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1 | (14) 603, 8" CONDUIT, TYPE F, 707.41 (PERFORATED) |
| (3A) 203, GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 2 | (15) 603, 12" CONDUIT, TYPE F, 707.42 (PERFORATED) (SLM 7.56) |
| (4) 204, SUBGRADE COMPACTION | (16) 605, 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP |
| (5) 204, GEOTEXTILE FABRIC, TYPE A, 712.09 | (17) 606, GUARDRAIL, TYPE 5 |
| (6) 204, GEOTEXTILE FABRIC, TYPE D, NONWOVEN | (18) 659, SEEDING AND MULCHING |
| (7) 301, 8" ASPHALT CONCRETE BASE, PG64-22 | (19) 670, SLOPE EROSION PROTECTION MAT, TYPE E |
| (8) 304, 6" AGGREGATE BASE, AS PER PLAN | (20) SPECIAL, MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6) |
| (9) 407, TACK COAT FOR INTERMEDIATE COURSE | (21) 601, ROCK CHANNEL PROTECTION, TYPE D WITHOUT FILTER |
| (10) 448, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 | (A) EXISTING REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT WITH ASPHALT OVERLAY |
| (11) 448, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 | (B) EXISTING BITUMINOUS AGGREGATE BASE |

UTILITIES

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEAD-QUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION IN ALL AREAS.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-3145 KEN GREENE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

ROUNDING

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

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.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM, NAVD 88 BASED ON GPS ORTHO HEIGHTS.

BENCHMARKS AND CENTERLINE REFERENCE TIES

BENCHMARKS AND CENTERLINE REFERENCE TIES FOR THIS PROJECT SHALL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES, LOGS 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.

SOIL EROSION AND SEDIMENT CONTROL

WORK SHALL BE DONE IN ACCORDANCE WITH ODOT SUPPLEMENTAL SPECIFICATION 832, AS WELL AS PROPOSAL NOTE 205 AND OHIO EPA/NPDES REQUIREMENTS.

ADDITIONALLY, THESE ITEMS SHALL MEET THE REQUIREMENTS OF ODOT CMS 108.04. ALL PLANS SHALL BE SUBMITTED TO THE OHIO EPA AND SUMMIT COUNTY SOIL AND WATER CONSERVATION DISTRICT.

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 RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

ITEM 203 - EXCAVATION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OFF SITE OF ALL EXCAVATED MATERIALS, AS SHOWN ON THE CROSS SECTION SHEETS, ACCORDING TO CMS 105.16 AND 105.17. ADDITIONALLY, 6 INCLINOMETERS SHALL BE REMOVED AND DISPOSED OF EXCEPT FOR THE METAL COVERS WHICH SHALL BE SALVAGED AND STORED ON SITE FOR PICK UP BY THE ODOT DISTRICT GEOTECHNICAL ENGINEER.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES

ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED IN THE PLAN SHALL BE IN PLACE PRIOR TO ANY CLEARING AND GRUBBING, EXCAVATION, GRADING OR FILLING OPERATIONS, AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER.

ITEM 304 AGGREGATE BASE, AS PER PLAN

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

ITEM 203 - GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1
No. 57 STONE SHALL BE USED.

ITEM 203 - GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 2
THIS ITEM WILL CONSIST OF A MIXTURE OF GRANULAR MATERIAL, TYPE E, No. 57 STONE AND TOPSOIL (CMS SECTION 659) ACCORDING TO THE FOLLOWING PERCENTAGES BY VOLUME:

GRANULAR MATERIAL TYPE E, No. 57 STONE	45%-55%
TOPSOIL	45%-55%

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING, AND PAVING UNDER THE GUARDRAIL USING 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, SHALL CONSIST OF EXCAVATING EXISTING MATERIAL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS, ASPHALT AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE EPA APPROVED FOR PAVING UNDER GUARDRAIL. IT SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY.

HERBICIDE LABEL, MATERIAL SAFETY DATA SHEET AND COPY OF APPLICATORS LICENSES SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION PRIOR TO COMMENCING WORK.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED. PAVING MAY BE PLACED UNDER EXISTING OR PROPOSED GUARDRAIL USING ONE OF THE FOLLOWING METHODS:

METHOD A
1) SET GUARDRAIL POSTS
[OMIT IF EXISTING GUARDRAIL IS TO REMAIN]
2) PLACE ITEM 448

METHOD B
1) PLACE ITEM 448
2) BORE ASPHALT AT POST LOCATIONS
(MAY BE OMITTED IF STEEL POSTS ARE USED)
3) SET GUARDRAIL POSTS
4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ENDANGERED SPECIES HABITAT

THIS PROJECT IS WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT SUMMER ROOSTING HABITAT FOR THIS SPECIES. THE SUMMER ROOSTING HABITAT FOR THE INDIANA BAT CONSISTS OF LIVING OR DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES. THEREFORE, ANY UNAVOIDABLE CUTTING OF SUCH TREES WILL BE PERFORMED ONLY AFTER SEPTEMBER 15 AND BEFORE APRIL 15.

THE UNDERSIDE OF ALL BRIDGES SHALL BE CHECKED FOR THE PRESENCE OF BATS PRIOR TO CONSTRUCTION BY THE ENGINEER. IF BATS ARE FOUND, THE DISTRICT 4 ENVIRONMENTAL SECTION SHALL BE CONTACTED FOR FURTHER DIRECTION.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

SUM-271-7.56		
659, TOPSOIL	68 CU. YD.	
659, SEEDING AND MULCHING	5487 SQ. YD.	
659, REPAIR SEEDING AND MULCHING	274 SQ. YD.	
659, COMMERCIAL FERTILIZER	0.74 TON	
659, LIME	1.13 ACRE	
659, WATER	30 M. GAL.	
SUM-271-9.30		
659, TOPSOIL	52 CU. YD.	
659, SEEDING AND MULCHING	1434 SQ. YD.	
659, REPAIR SEEDING AND MULCHING	72 SQ. YD.	
659, COMMERCIAL FERTILIZER	0.19 TON	
659, LIME	0.3 ACRE	
659, WATER	8 M. GAL.	

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

204, EXCAVATION OF SUBGRADE
204, GRANULAR MATERIAL, TYPE D
204, GEOTEXTILE FABRIC

ITEMS 204, EXCAVATION OF SUBGRADE, GRANULAR MATERIAL, TYPE D AND GEOTEXTILE FABRIC ARE PROVIDED IN THE PLANS FOR REMOVAL OF UNSUITABLE MATERIAL. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

204, EXCAVATION OF SUBGRADE	500 CU. YD.
204, GRANULAR MATERIAL, TYPE D	500 CU. YD.
204, GEOTEXTILE FABRIC	600 SQ. YD.

EARTHWORK CALCULATIONS - S.L.M. 7.56						
STATION	END AREA			VOLUME		
	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203
	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1
	SQ FT	SQ FT	SQ FT	CU YD	CU YD	CU YD
401+00.00	8.3	0	0			
401+50.00 BACK	7.5	39.7	0	15	37	0
401+50.00 AHEAD	392.9	332	66.5	0	0	0
402+00.00	695.6	818.7	116.4	1008	1066	170
402+50.00	799.8	916.4	133.6	1385	1607	232
403+00.00	943.6	1078.4	149	1615	1848	262
403+50.00	916	1197.1	161.4	1722	2107	288
404+00.00	961.9	1204.7	161.9	1739	2224	300
404+50.00 BACK	1416.5	1166	178.7	2203	2196	316
404+50.00 AHEAD	106.2	89.2	0	0	0	0
405+00.00	0	0	0	99	83	0
TOTALS CARRIED TO GENERAL SUMMARY				9786	11168	1568

EARTHWORK CALCULATIONS - S.L.M. 9.30						
STATION	END AREA			VOLUME		
	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203	ITEM 203
	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1	EXCAVATION, AS PER PLAN	EMBANKMENT	GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 1
	SQ FT	SQ FT	SQ FT	CU YD	CU YD	CU YD
488+85.00	7.9	0.0	0.0			
489+00.00	36.6	83.5	0.0	13	24	0
489+30.00 BACK	22.4	235.6	0.0	33	178	0
489+30.00 AHEAD	429.0	509.7	93.3	0	0	0
489+60.00	733.1	784.8	134.6	646	720	127
489+90.00	1161.8	1274.1	178.7	1053	1144	175
490+05.00 BACK	1669.0	1758.2	204.8	787	843	107
490+05.00 AHEAD	149.3	537.2	0.0	0	0	0
490+20.00	208.4	0.0	0.0	100	150	0
490+30.00	0.0	0.0	0.0	39	0	0
TOTALS CARRIED TO GENERAL SUMMARY				2671	3059	409

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MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT DURING CONSTRUCTION OF THE WORK.
2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.
3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE ADDITIONAL NOTE HEREIN.
4. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

LANE CLOSURES

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:
<http://plcm.dot.state.oh.us>

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF \$1000.00 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

WEIGHTED CHANNELIZERS

THE WEIGHTED CHANNELIZER SHALL BE PREDOMINATELY ORANGE IN COLOR AND SHALL BE MADE OF A LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A "HANDLE" OR LIFTING DEVICE WHICH EXTENDS ABOVE THE 42 INCH MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

ON FREEWAYS AND MULTILANE HIGHWAYS:
USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION, GENERALLY TWELVE HOURS OR LESS, FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK WITHIN THE ABOVE NOTED TIME PERIOD, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS.

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA". THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS.

ON OTHER HIGHWAYS:
THERE ARE NO DURATIONS OF WORK RESTRICTIONS FOR USE OF WEIGHTED CHANNELIZERS ON ALL OTHER TYPES OF HIGHWAYS, DAY OR NIGHT. ON THESE ROADWAYS THE WEIGHTED CHANNELIZER MAY BE USED IN THE TRANSITION TAPERS AS WELL AS IN THE TANGENT AREAS, DAY OR NIGHT.

MAXIMUM SPACING OF THE WEIGHTED CHANNELIZER SHALL BE 40 FEET.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNELIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE INADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

HOLIDAY LANE CLOSURES

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPENED TO TRAFFIC AND ALL SIGNALS IN OPERATION DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS
MEMORIAL DAY	FOURTH OF JULY
LABOR DAY	THANKSGIVING

DAY OF THE WEEK	TIMES ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

THERE SHALL NOT BE ANY EXTENSIONS DUE TO WEATHER OR MATERIAL DELAYS WHATSOEVER.

SHALL THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, DISINCENTIVES OF \$1300.00 SHALL BE ASSESSED TO THE CONTRACTOR FOR EACH CALENDAR DAY THAT THE LANES REMAIN CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

ITEM 614 - MODIFIED AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) SIGN, FREEWAY/EXPRESSWAY

THIS ITEM SHALL CONSIST OF THE FURNISHING AND INSTALLING, AND SUBSEQUENT REMOVAL, OF MODIFIED AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) SIGNS ON YIELDING POST SUPPORTS.

INSTALL ONE ARRA SIGN NEAR THE BEGINNING OF THE PROJECT IN EACH ROUTE DIRECTION IN A LOCATION AS APPROVED BY THE ENGINEER. THE ARRA SIGN CONSISTS OF ONE 120" X 84" WHITE ON GREEN EXTRUSHEET SIGN WITH PICTOGRAPHS, ONE 120" X 24" BLACK ON ORANGE EXTRUSHEET SIGN, AND ONE 24" X 24" DIAMOND FLAT SHEET SIGN. THE SIGN FABRICATION DETAILS ARE FOUND AT:

[HTTP://WWW.DOT.STATE.OH.US/DIVISIONS/HIGHWAYOPS/TRAFFIC/PAGES/OTEHOMEPAGE.ASPX](http://www.dot.state.oh.us/divisions/highwayops/traffic/PAGES/OTEHOMEPAGE.ASPX)

INSTALL THE SIGN ON THREE NO. 3 YIELDING POSTS AS PER STANDARD DRAWING TC-41.20, WITH ONE POST ON SIGN CENTERLINE AND ONE POST 12" FROM EACH END. SIGNS IN PROTECTED LOCATIONS MAY BE INSTALLED ON OTHER SUPPORTS AS APPROVED BY THE ENGINEER. USED SIGNS ARE ALLOWED PROVIDED THEY ARE IN A CONDITION ACCEPTABLE TO THE ENGINEER. REMOVE THE ARRA SIGNS AND SUPPORTS AT THE END OF THE PROJECT. REMOVED ARRA SIGNS AND SUPPORTS ARE THE PROPERTY OF THE CONTRACTOR.

PAYMENT SHALL BE INCLUDED IN THE CONTRACT LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS (INCLUDING SUPPORTS), TOOLS AND OTHER INCIDENTALS TO PROVIDE FOR A COMPLETE AND ACCEPTED ITEM OF WORK.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS WILL NOT GENERALLY BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORISTS ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LIST OF THE APPROPRIATE LAW ENFORCEMENT AGENCY(S), INCLUDING ADDRESS AND TELEPHONE NUMBER.

THE LEO SHOULD REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING THE SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF THE SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHOULD NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF THE SHIFT.

LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 64 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR.

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

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: OSCZCVR-T4
DRAWING NAME: QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES
REVISION DATE: 5/13/99 REV. J
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-10
DRAWING NAME: QUADGUARD SYSTEM CONCRETE PAD, CZ, OG
REVISION DATE: 11/19/97 REV. D
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-16
DRAWING NAME: QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, OG
REVISION DATE: 7/30/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 354051Z
DRAWING NAME: QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, OG, 24, 30, 36
REVISION DATE: 5/17/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35-40-18
DRAWING NAME: TRANSITION ASSEMBLY, 4 OFFSET, OG
REVISION DATE: 6/25/99 REV. F
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: 35400260
DRAWING NAME: QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY
REVISION DATE: 11/19/97 REV. C
ODOT APPROVAL DATE: 8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: SS450
DRAWING NAME: CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS
REVISION DATE: 3/12/99 REV. I
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS455
DRAWING NAME: TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS
REVISION DATE: 2/18/99
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS461
DRAWING NAME: TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS
REVISION DATE: 6/30/99 REV. I
ODOT APPROVAL DATE: 8/27/99

DRAWING NUMBER: SS462
DRAWING NAME: TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS
REVISION DATE: 6/30/99
ODOT APPROVAL DATE: 8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291)

THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT (24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DRAWING NUMBER: A040416
DRAWING NAME: UNIVERSAL TAU-II PARTS LIST
REVISION DATE: 4/22/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040420
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP
REVISION DATE: 4/28/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: A040105
DRAWING NAME: UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)
REVISION DATE: 1/07/04
ODOT APPROVAL DATE: 10/16/04

DRAWING NUMBER: B040239
DRAWING NAME: APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)
REVISION DATE: 4/21/04
ODOT APPROVAL DATE: 10/16/04

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY ONE TO SIX UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, FIVE INSTALLED UNITS REQUIRE ONE SPARE PARTS PACKAGE AND SEVEN INSTALLED UNITS REQUIRE TWO SPARE PARTS PACKAGES.

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

SHOULDER CLOSURE USING PORTABLE CONCRETE BARRIER

THE SHOULDER SHALL BE CLOSED IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-5 (TA-5) USING PORTABLE CONCRETE BARRIER (PCB) AND A WORK ZONE IMPACT ATTENUATOR.

DIMENSIONS FOR FIGURE 6H-5 ARE AS FOLLOWS:
A = 1000 FT
B = 1500 FT
1/3 L = 220 FT MINIMUM OR A DRUM TAPER RATE OF 22:1, WHICHEVER IS LONGER
PCB TAPER RATE = 19:1

THE BARRIER SHALL BE OFFSET 2 FT MINIMUM FROM THE EDGE LINE ONTO THE SHOULDER UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:
614, WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), 2 EACH
622, PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED, 1600 FT

NOTE: THE PCB MAY BE UNANCHORED.

ADDITIONAL LANE CLOSURE AND TRUCKING RESTRICTIONS

A LANE CLOSURE WILL BE REQUIRED FOR ALL TRUCKING OPERATIONS. ALL LANE CLOSURES MUST BE APPROVED BY THE PROJECT ENGINEER AT LEAST ONE WEEK BEFORE THE START OF WORK.

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 32 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 32 EACH OF ITEM 614 OBJECT MARKER, ONE-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 200 M. GAL

GENERAL SUMMARY

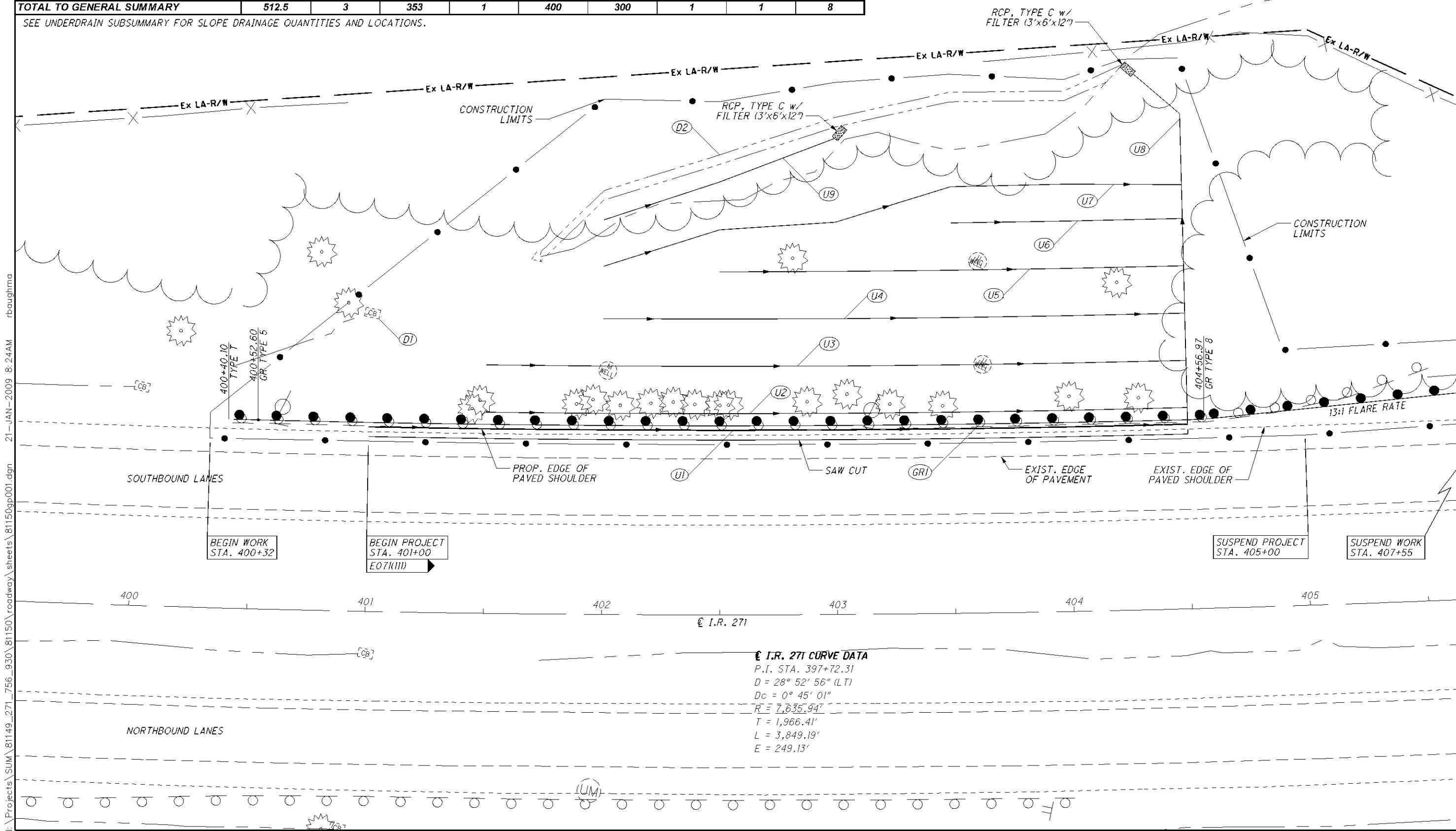
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ESTIMATED QUANTITIES												
REF. NO.	STATION TO STATION		SIDE	202	203	601	604	606	606	606	606	626
				GUARDRAIL REMOVED	BORROW	TIED CONCRETE BLOCK MAT, TYPE 2	DRAINAGE STRUCTURE MISC.: CONCRETE APRON	GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 8	POST END ANCHOR (OR CONCRETE BLOCK END ANCHOR)	ANCHOR ASSEMBLY, TYPE T	BARRIER REFLECTOR (TYPE A)
				FT	CU YD	SQ YD	EACH	FT	FT	EACH	EACH	EACH
GR1	400+40.10	407+59.33	LT	512.5				400	300	1	1	8
D1	401+00.00		LT		3		1					
D2	401+70.00	404+27.00	LT			353						
TOTAL TO GENERAL SUMMARY				512.5	3	353	1	400	300	1	1	8

SEE UNDERDRAIN SUBSUMMARY FOR SLOPE DRAINAGE QUANTITIES AND LOCATIONS.



ITEM 604 - DRAINAGE STRUCTURE, MISC.: CONCRETE APRON
THIS WORK SHALL CONSIST OF REMOVING THE EXISTING CONCRETE APRON WITHOUT DAMAGING THE EXISTING PIPES OR CATCH BASIN TO REMAIN. THE AREA SHALL BE GRADED AND A NEW CONCRETE APRON CONSTRUCTED AS PER SCD CB-3.2.

THE ABOVE NOTED WORK SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 604 - DRAINAGE STRUCTURE, MISC.: CONCRETE APRON, EACH. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK EXCEPT THAT BORROW FOR GRADING SHALL BE PAID FOR SEPARATELY.

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED RCB CHECKED TJP

PLAN SHEET - SLM 7.56
STA. 400+00 TO STA. 405+00

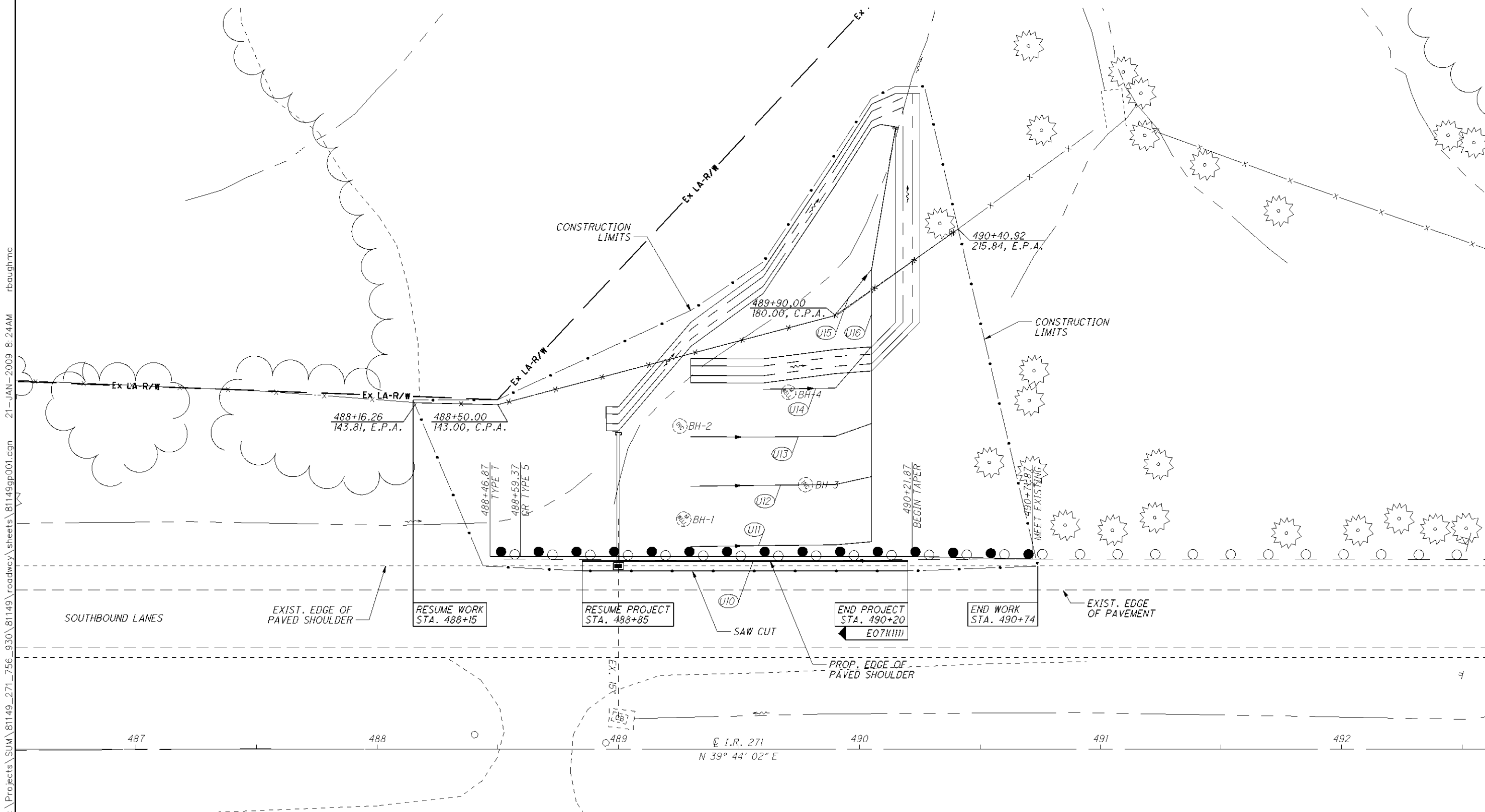
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ESTIMATED QUANTITIES																
REF. NO.	STATION TO STATION		SIDE	202	202	202	601	602	603	603	603	604	606	606	607	626
				PIPE REMOVED, 24" AND UNDER	GUARDRAIL REMOVED	FENCE REMOVED	TIED CONCRETE BLOCK MAT, TYPE 2	CONCRETE MASONRY	15" CONDUIT, TYPE B	15" CONDUIT, TYPE C	15" CONDUIT, TYPE F	CATCH BASIN, NO. 6	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE T	FENCE, TYPE 47	BARRIER REFLECTOR (TYPE A)
				FT	FT	FT	SQ YD	CU YD	FT	FT	FT	EACH	FT	EACH	FT	EACH
GR1	488+46.87	490+71.87	LT		225								212.5	1		3
D1	489+00.00		LT	20				0.27	11	9	39	1				
D2	489+95.00	490+15.00	LT				470									
F1	488+16.26	490+40.96	LT			62									242	
TOTAL TO GENERAL SUMMARY				20	225	62	470	0.27	11	9	39	1	212.5	1	242	3

SEE UNDERDRAIN SUBSUMMARY FOR SLOPE DRAINAGE QUANTITIES AND LOCATIONS.



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HORIZONTAL SCALE IN FEET

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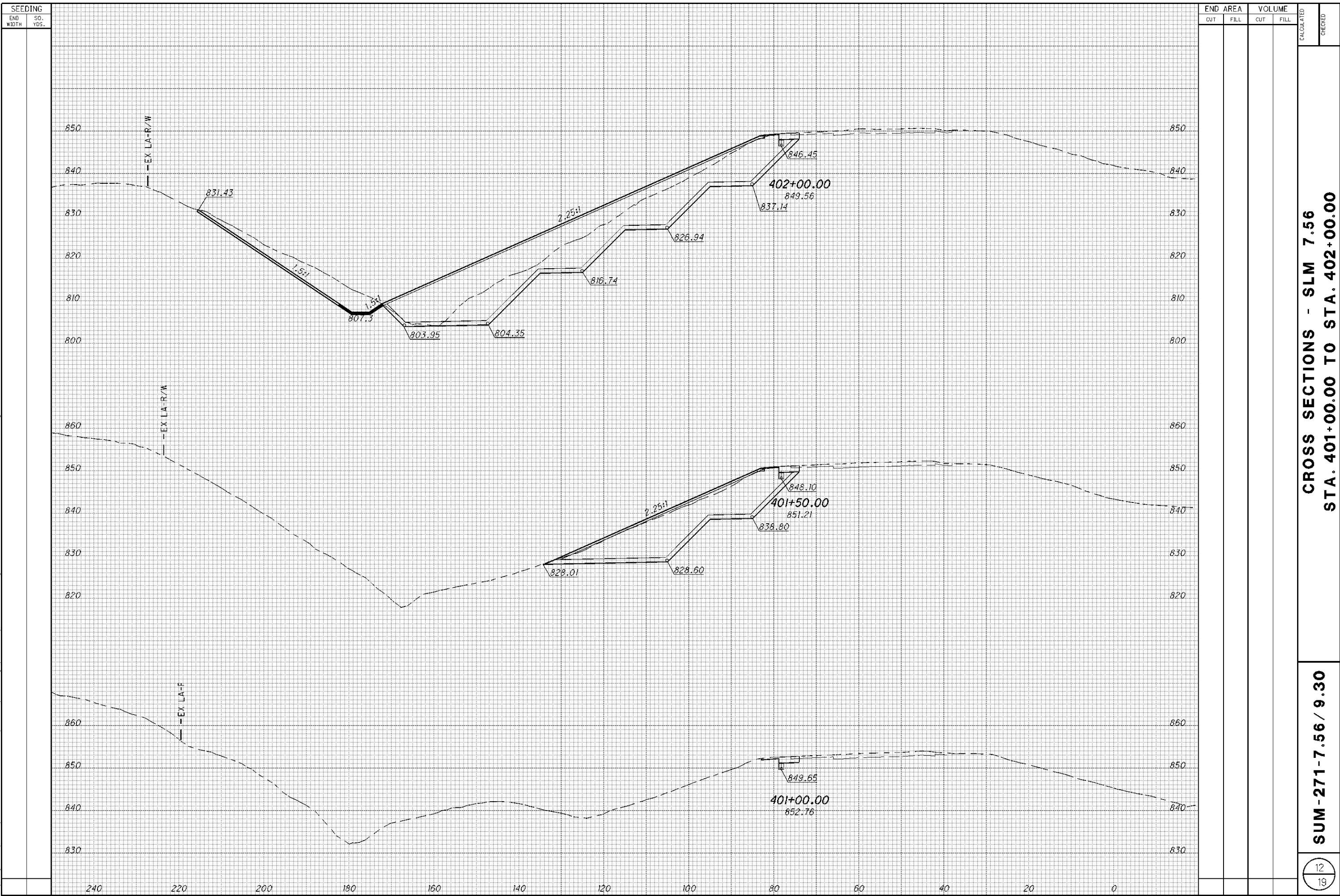
PLAN SHEET - SLM 9.30
STA. 486+50 TO STA. 492+50

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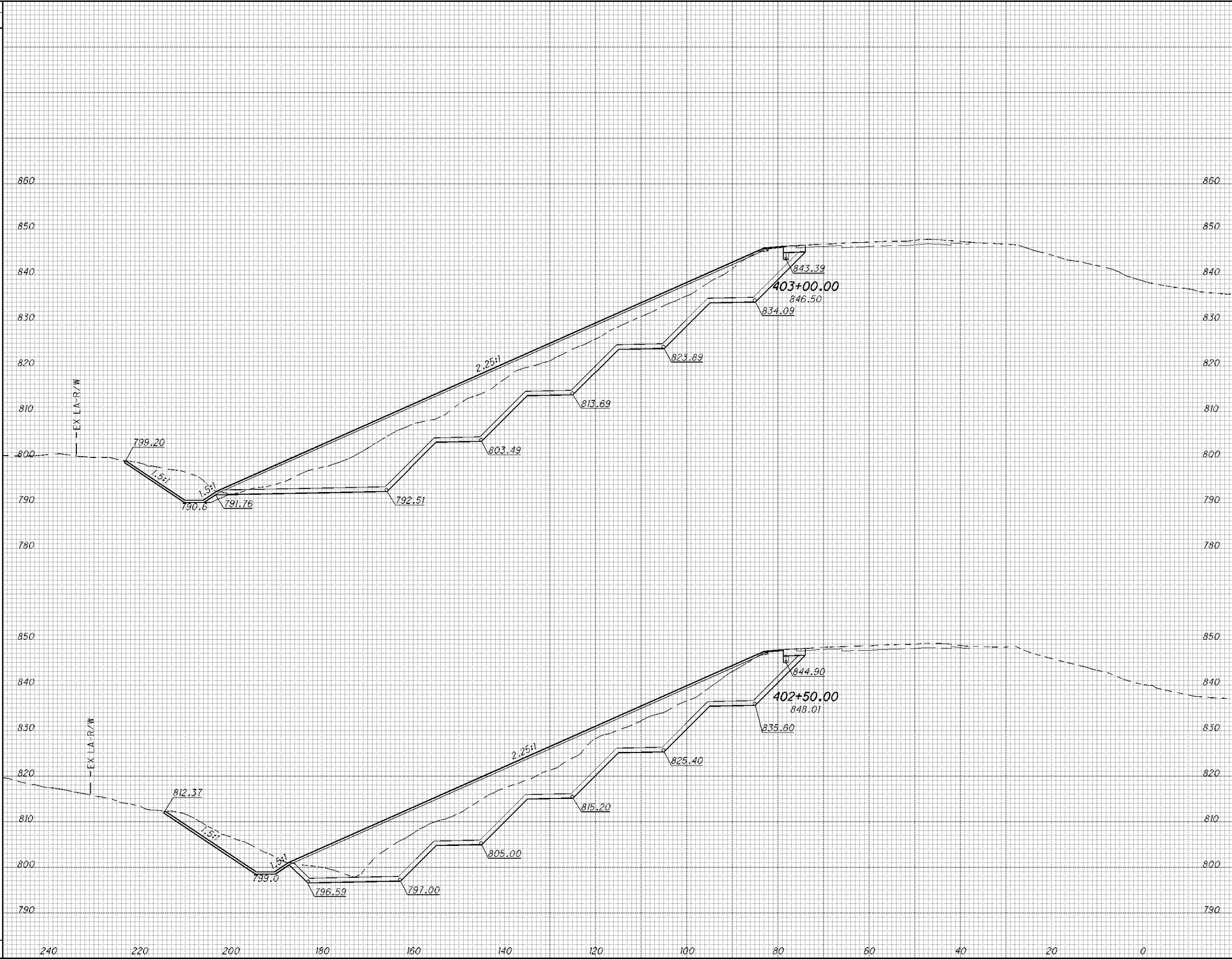
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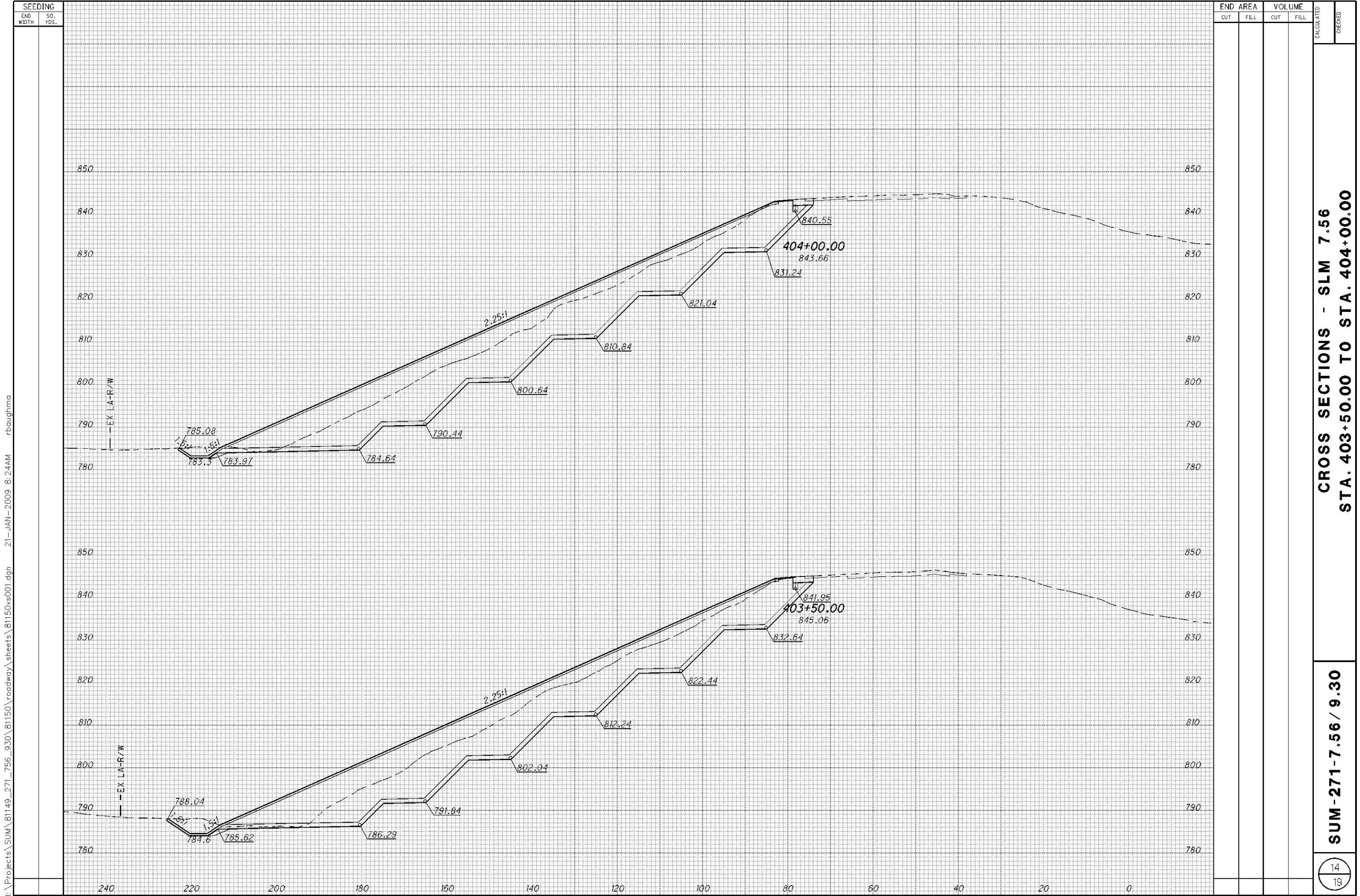


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SEEDING	
END WIDTH	SO. YDS.

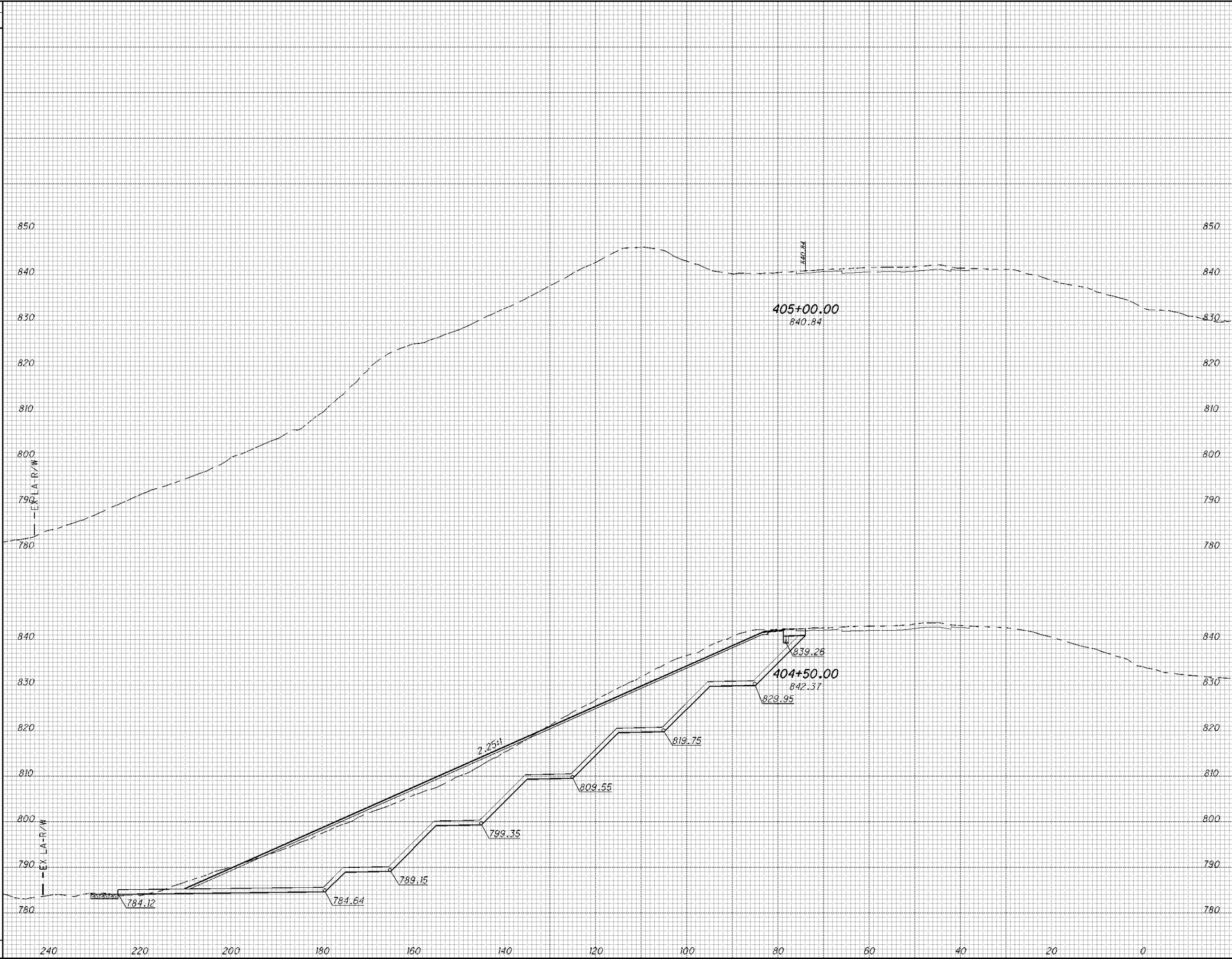


END AREA		VOLUME	
CUT	FILL	CUT	FILL
CROSS SECTIONS - SLM 7.56 STA. 402+50.00 TO STA. 403+00.00			
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13 19			



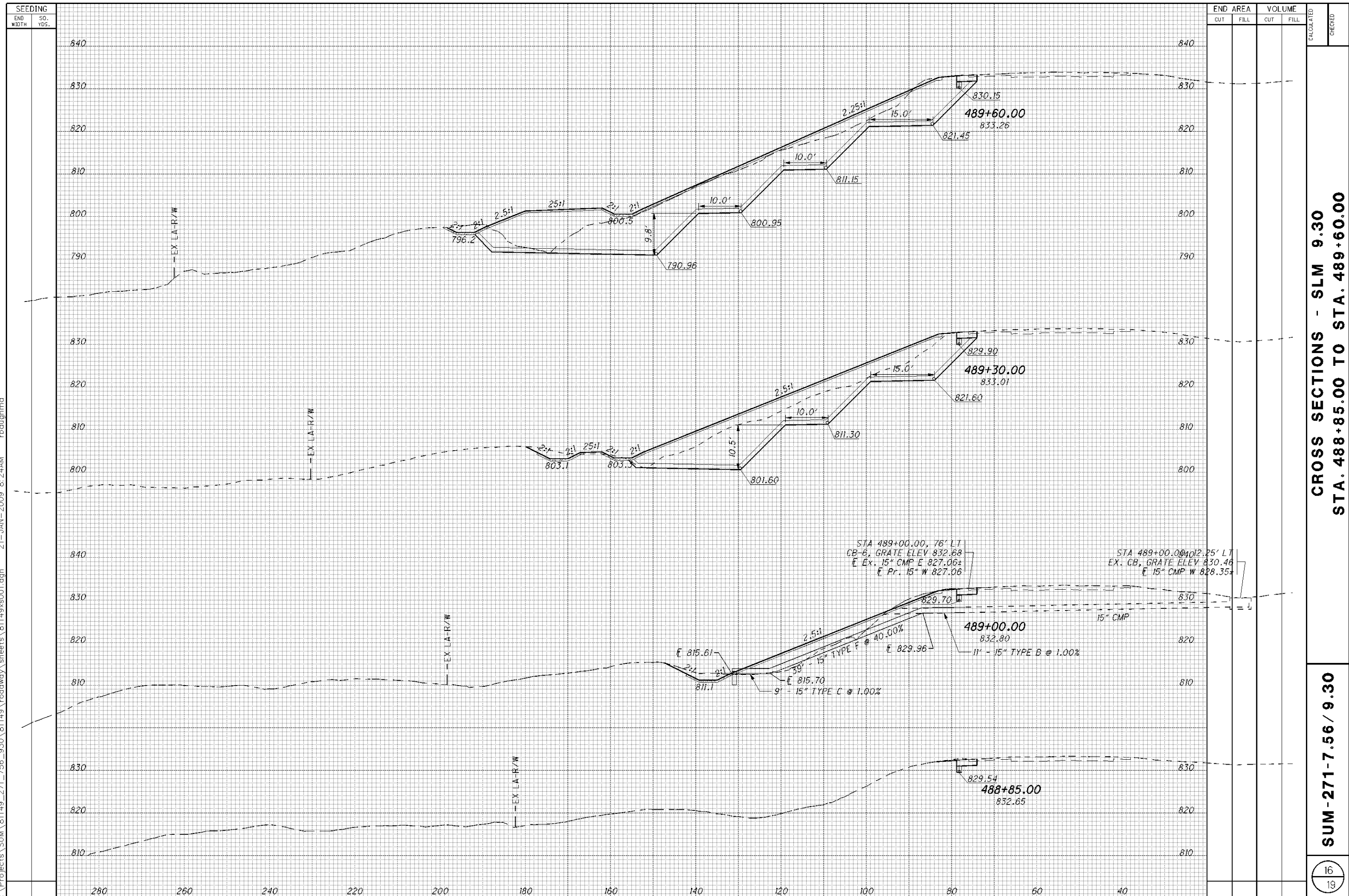
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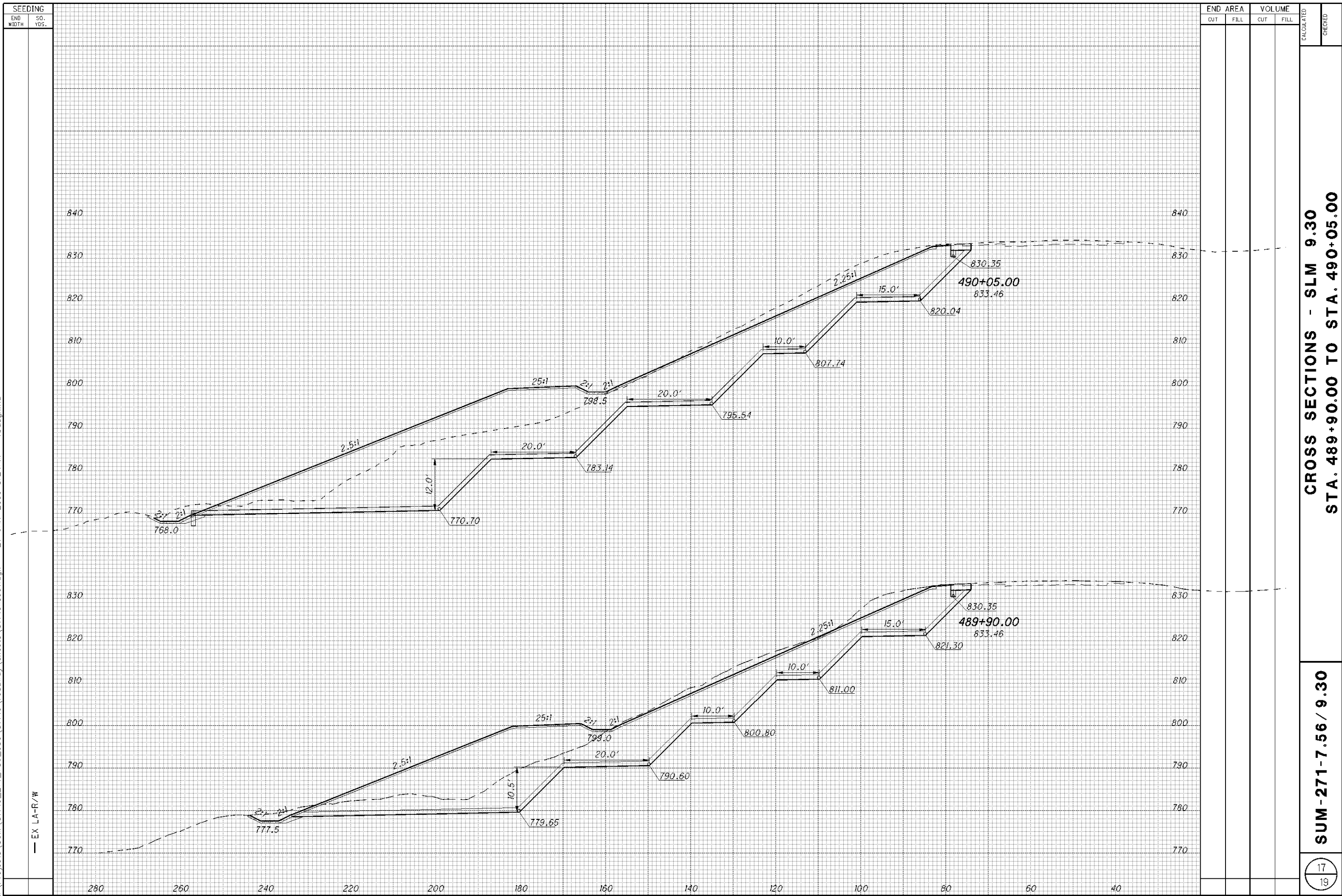


END AREA		VOLUME	
CUT	FILL	CUT	FILL
CROSS SECTIONS - SLM 7.56 STA. 404+50.00 TO STA. 405+00.00			
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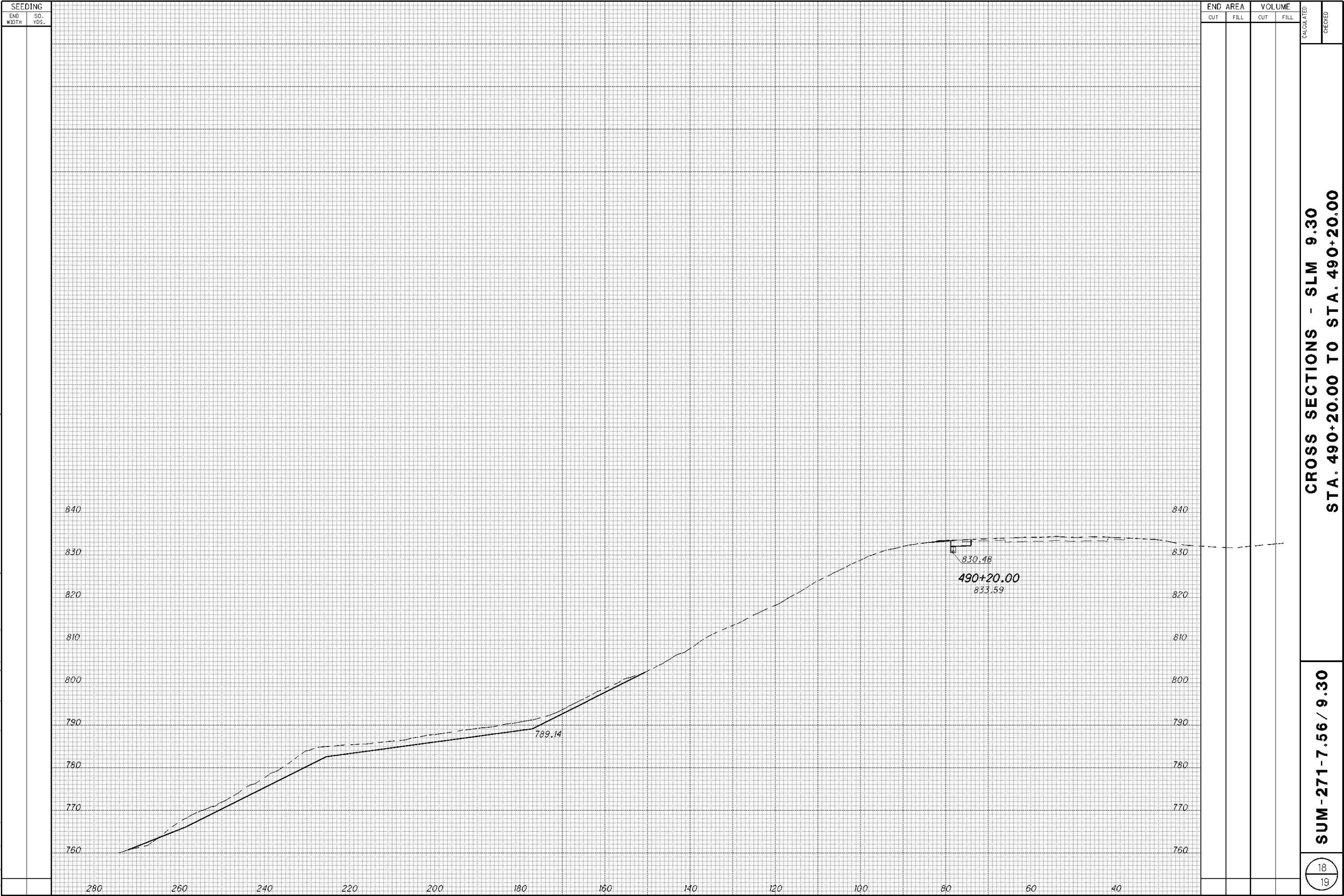
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CROSS SECTIONS - SLM 9.30
STA. 489+90.00 TO STA. 490+05.00

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SLOPE PROTECTION SYSTEM
THE SLOPE PROTECTION SYSTEM IS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND BASED ON MANUFACTURER-PROVIDED DESIGN.

THE FOLLOWING ITEMS SHALL BE USED TO INSTALL THE SLOPE PROTECTION SYSTEM ACCORDING TO THE DETAILS AS SHOWN ON THIS SHEET. THE SLOPE PROTECTION SYSTEM SHALL BE INSTALLED ON THE SLOPES IDENTIFIED ON THE CROSS SECTIONS.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE PERTINENT ITEM. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

S.I.M. 7.56
203, GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 2 746 CU YD
204, GEOTEXTILE FABRIC, TYPE D, NONWOVEN 4511 SQ YD
SPECIAL, MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6) 4511 SQ YD
670, SLOPE EROSION PROTECTION MAT, TYPE E 4511 SQ YD

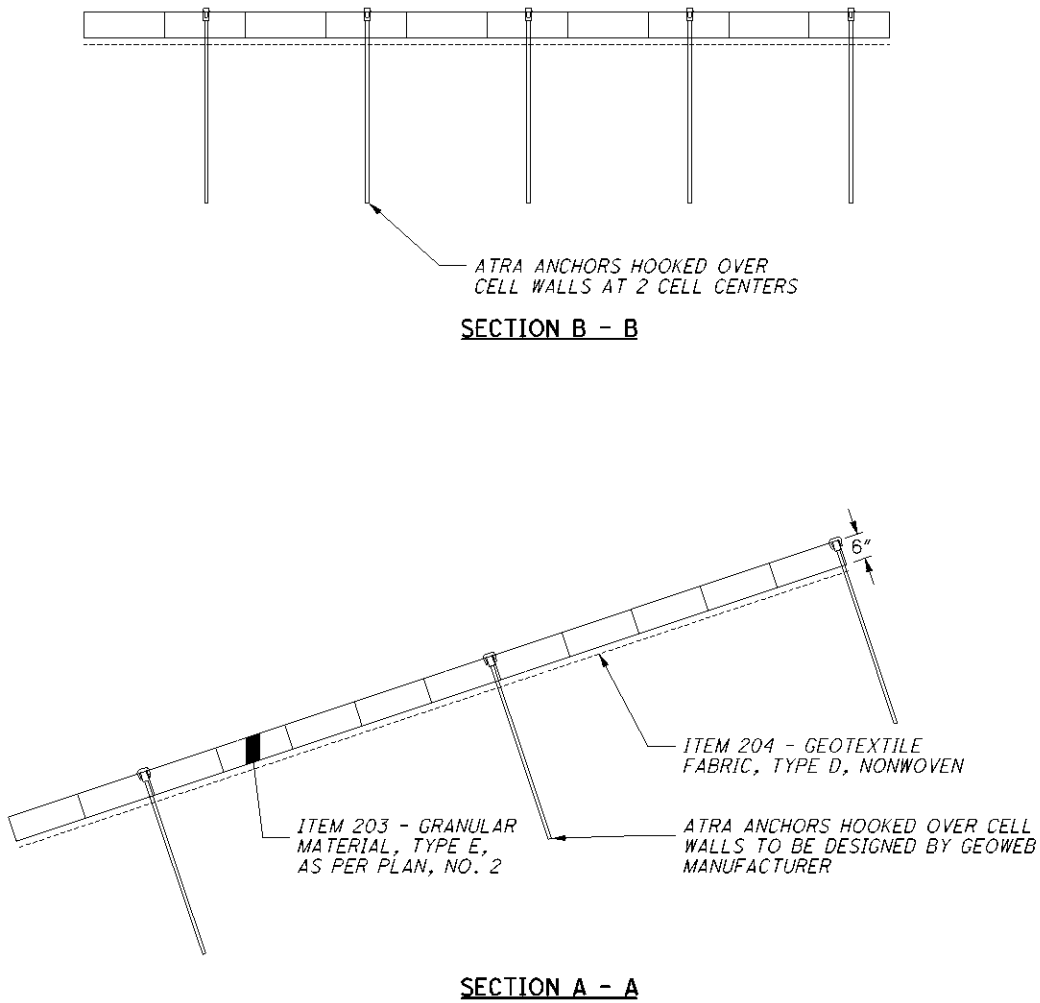
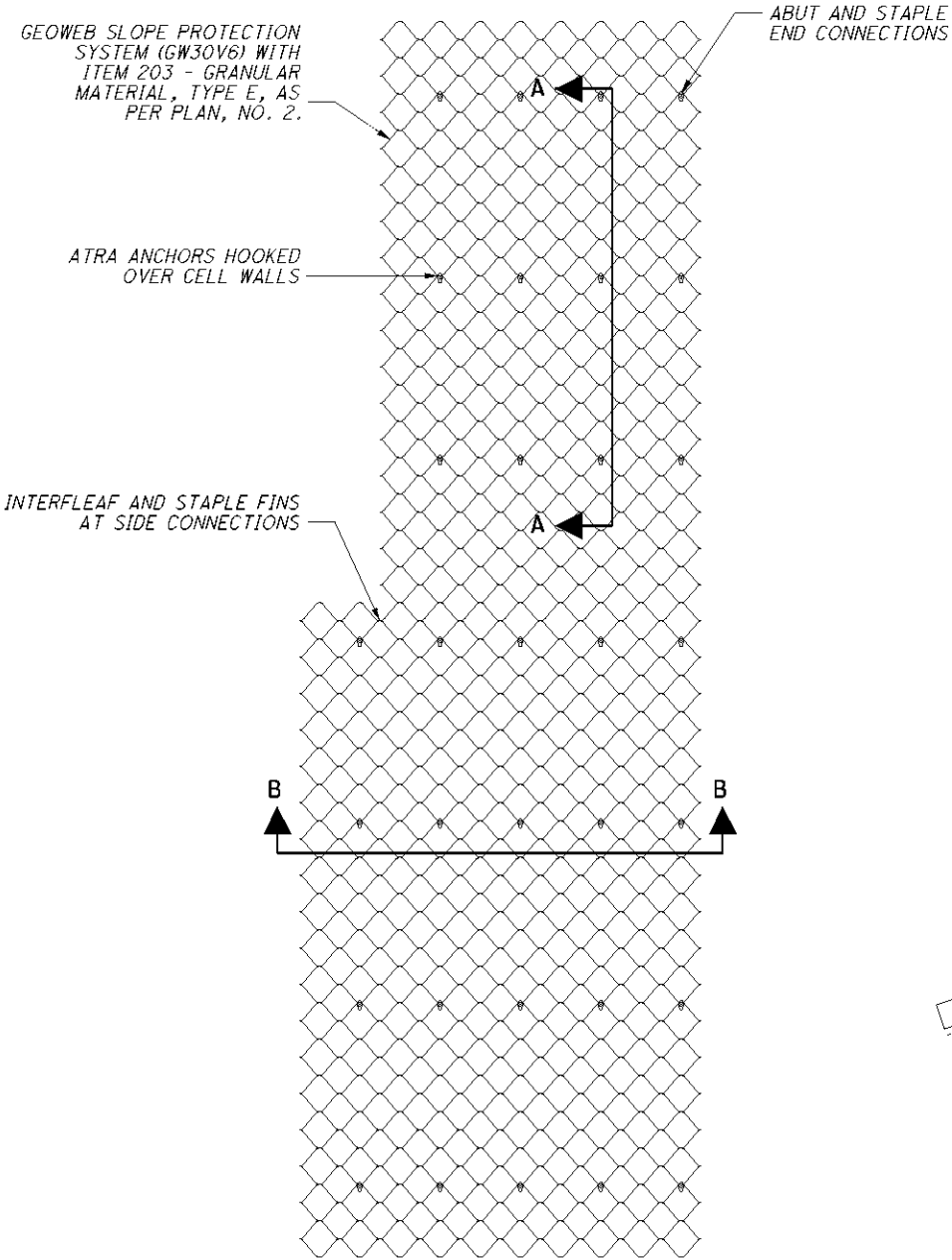
S.I.M. 9.30
203, GRANULAR MATERIAL, TYPE E, AS PER PLAN, NO. 2 212 CU YD
204, GEOTEXTILE FABRIC, TYPE D, NONWOVEN 521 SQ YD
SPECIAL, MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6) 521 SQ YD
670, SLOPE EROSION PROTECTION MAT, TYPE E 521 SQ YD

ITEM SPECIAL - MISC.: GEOWEB SLOPE PROTECTION SYSTEM (GW30V6)
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING THE GEOWEB SLOPE PROTECTION SYSTEM (GW30V6) MANUFACTURED BY PRESTO PRODUCTS COMPANY, PO BOX 2399, APPLETON, WI, 54912-2399, 800-558-3525. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS INCLUDING, BUT NOT LIMITED TO ATRA ANCHORS.

ODOT WILL ACCEPT AN ALTERNATIVE IF THE FOLLOWING CONDITIONS ARE MET:

1. THE SYSTEM IS SIMILAR TO THE BASIC GEOMETRY, MATERIAL, AND COMPONENTS OF GEOWEB (I.E. DESIGNED TO CONFINE GRANULAR MATERIAL IN CELLS, SAME HEIGHT, ANCHORAGE SYSTEM, DRAINAGE CHARACTERICS, ETC).
2. GEOTEXTILE FABRIC UNDER THE SLOPE PROTECTION IS REQUIRED.
3. A SAMPLE OF THE MATERIAL IS SUBMITTED FOR ODOT REVIEW, MINIMUM SIZE 3'x3'.
4. THE INFILL VOLUME OF THE GRANUALR MATERIAL IS WITHIN 5% OF THE SPECIFICATIONS OF THE GEOWEB.
5. MANUFACTURER'S SPECIFICATIONS ARE SUBMITTED.
6. DOCUMENTATION (PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER) STATING THAT THE SYSTEM IS EQUIVALENT TO OR EXCEEDS THE SPECIFICATIONS OF THE GEOWEB.
7. CALCULATIONS AND A TYPICAL CROSS SECTION OF THE DESIGN OF THE ANCHORAGE SYSTEM FOR THE SLOPE PROTECTION MUST BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER AND STAMPED. CALCULATIONS MUST BE SUBMITTED.

THE ODOT PROJECT ENGINEER WILL REVIEW ALL OF THE SUPPLIED INFORMATION AND MAKE A DETERMINATION IF THE MATERIAL IS EQUIVALENT OR EXCEEDS THE GEOWEB. IF IT DOES THEN THE PROJECT ENGINEER WILL APPROVE THE USE OF THE ALTERNATIVE.



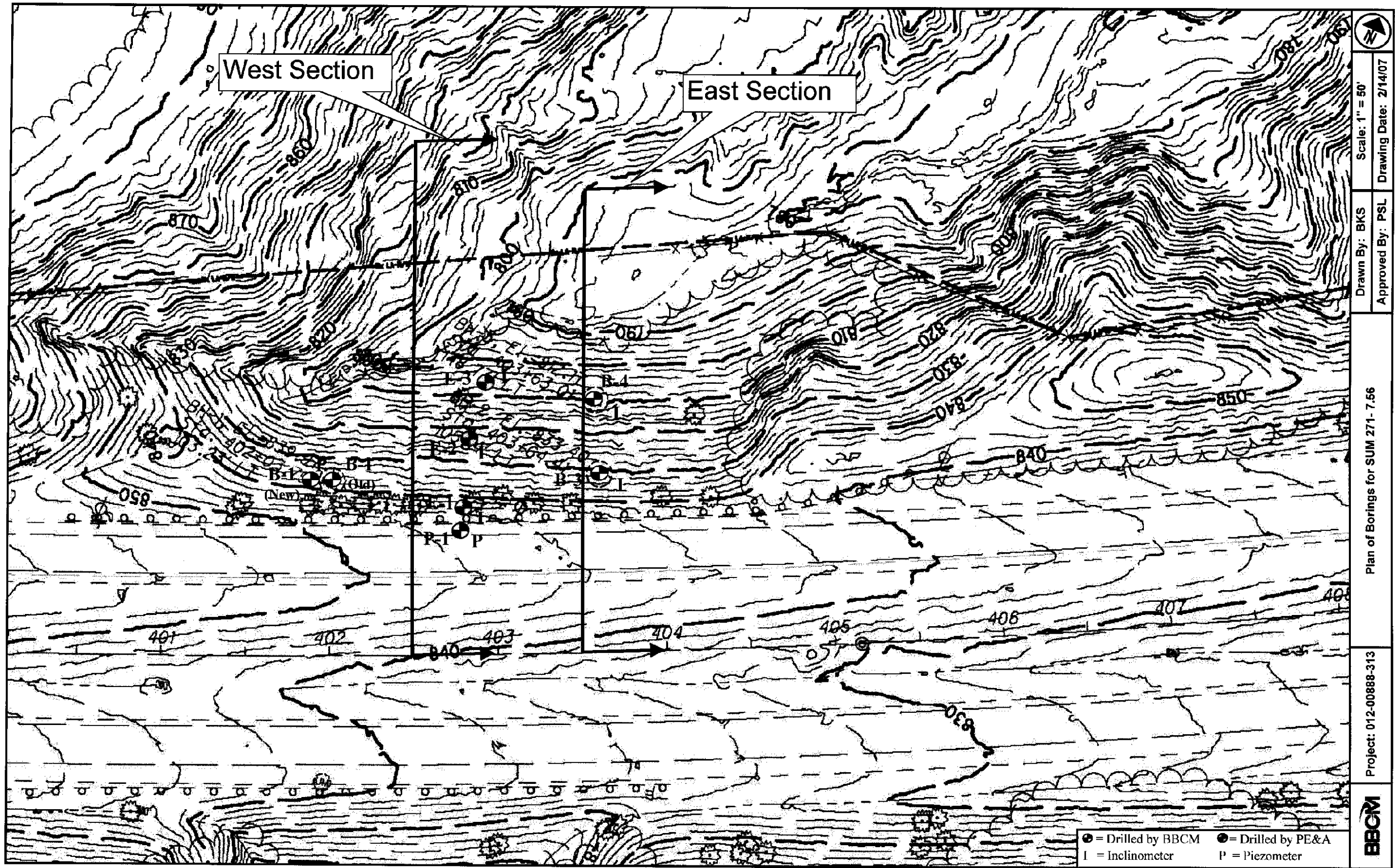
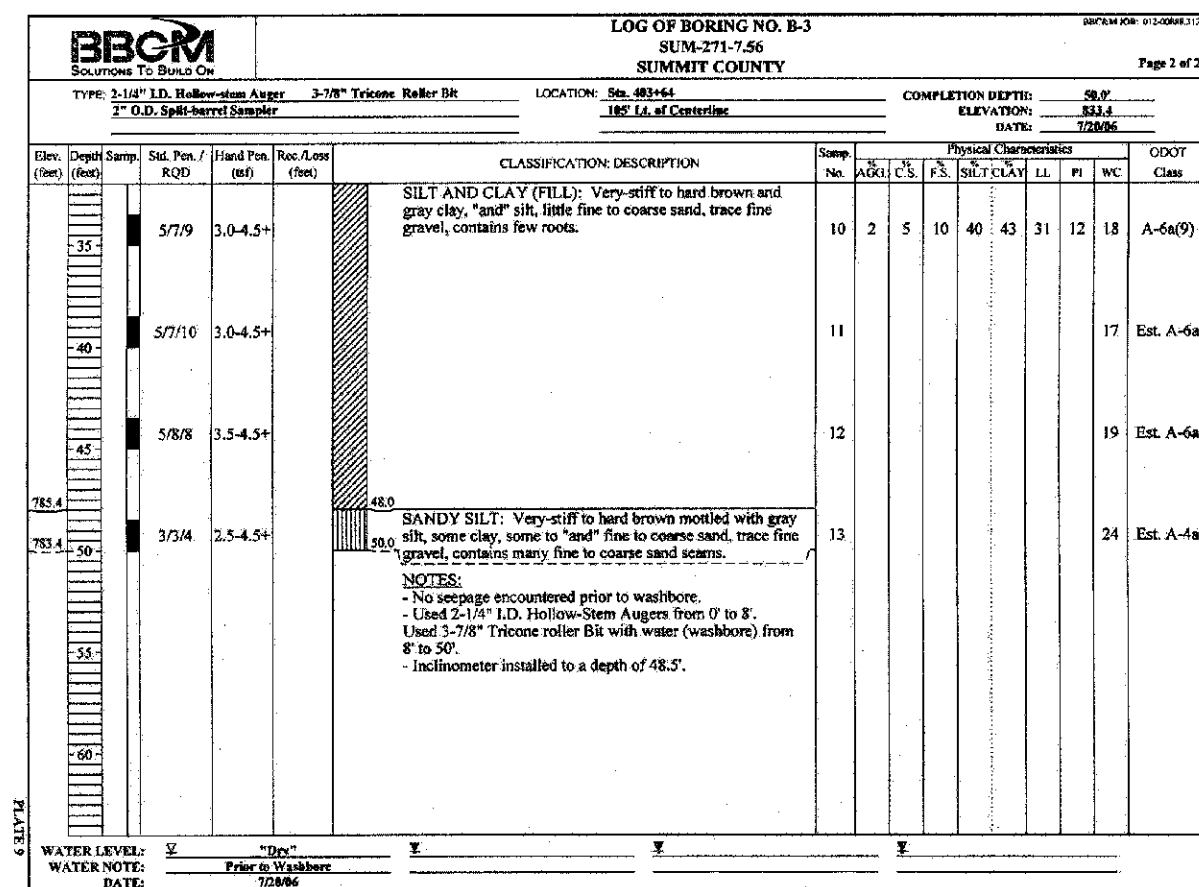
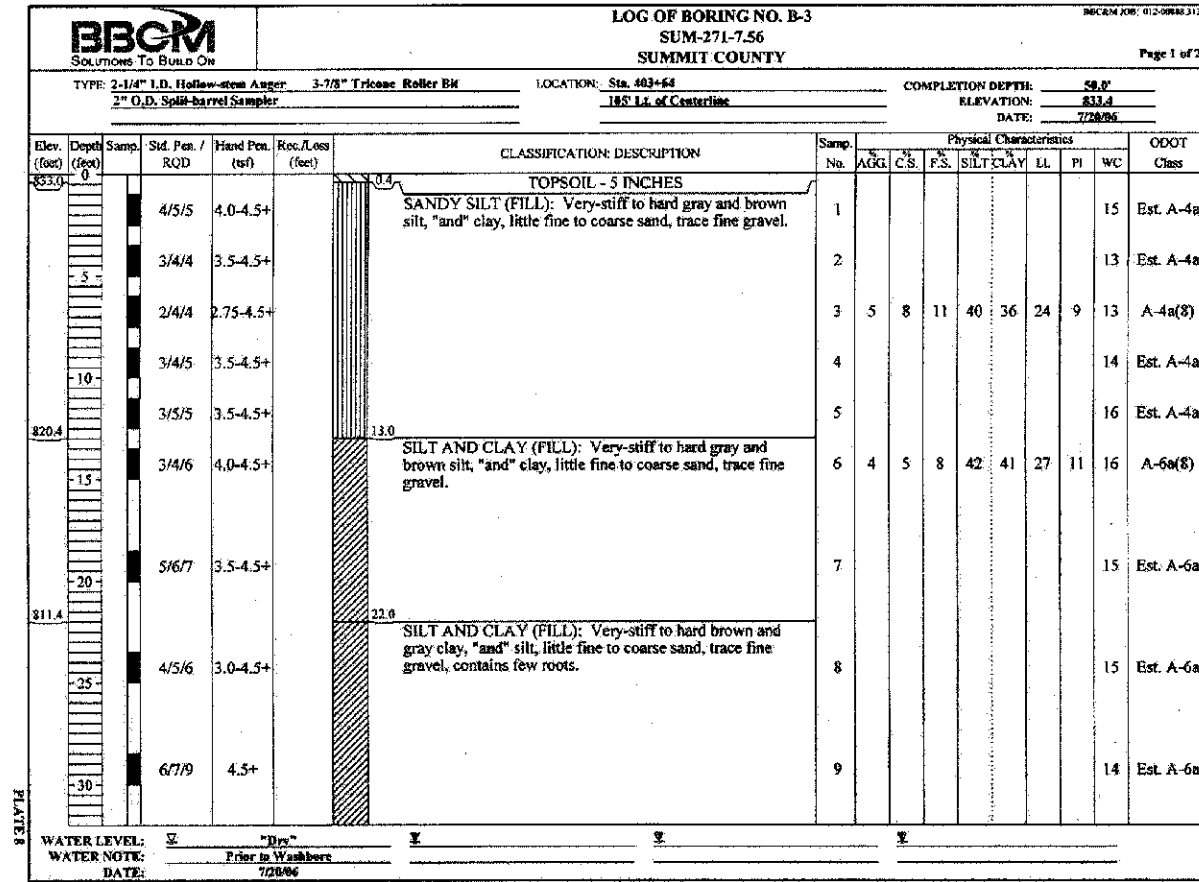
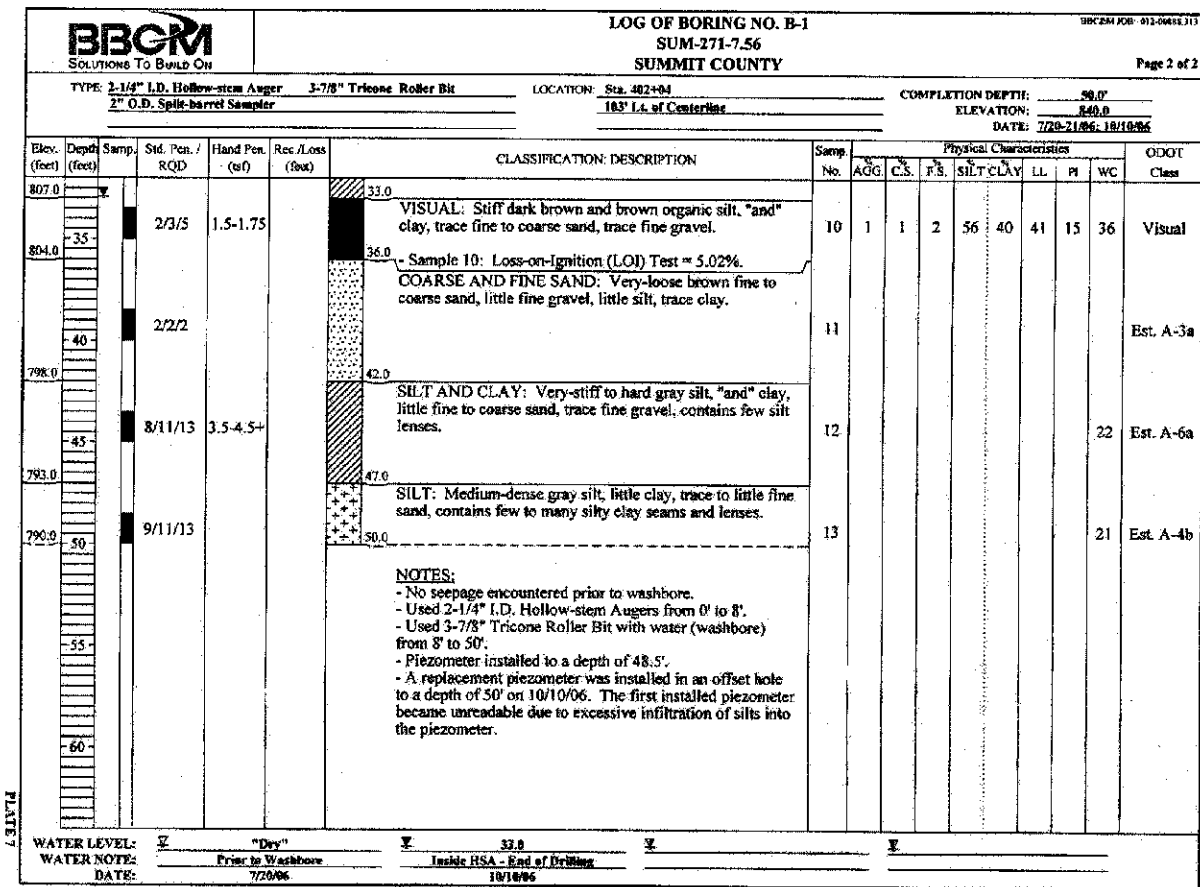
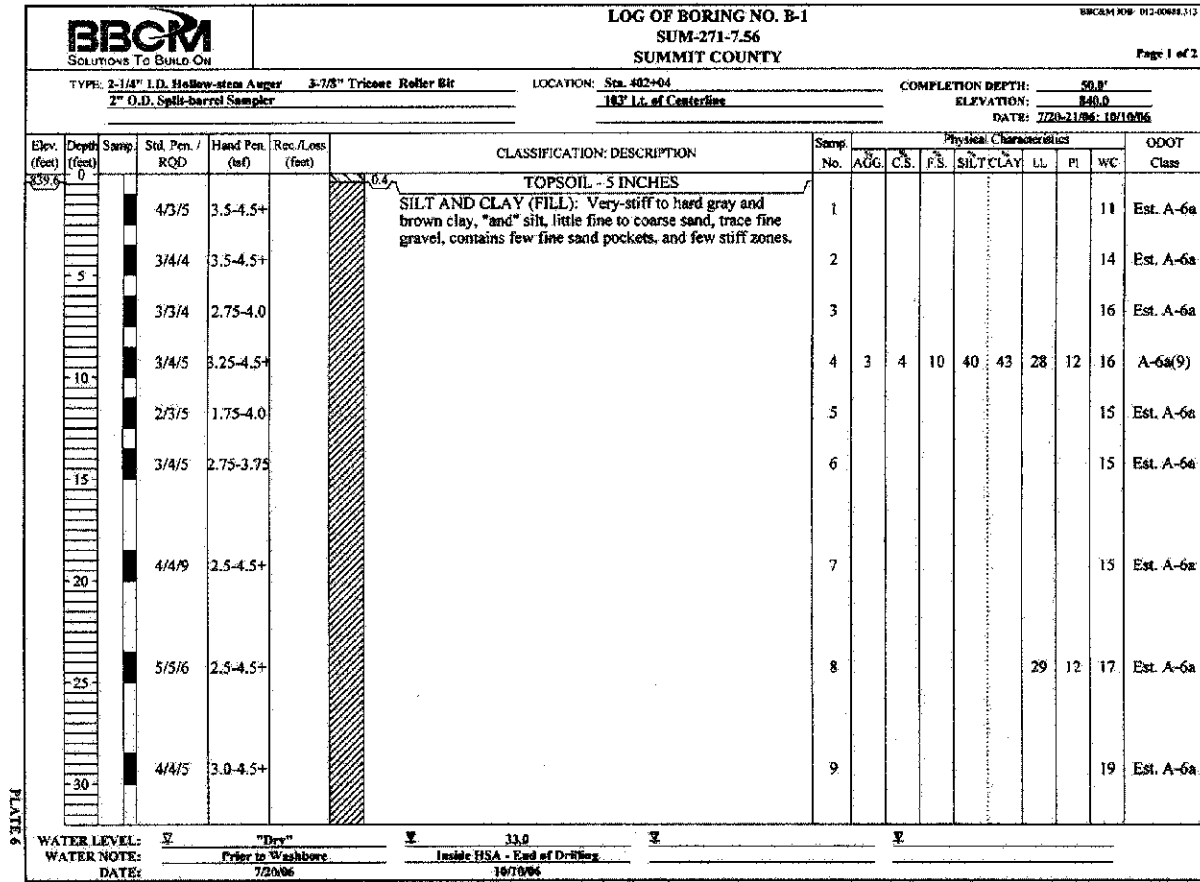
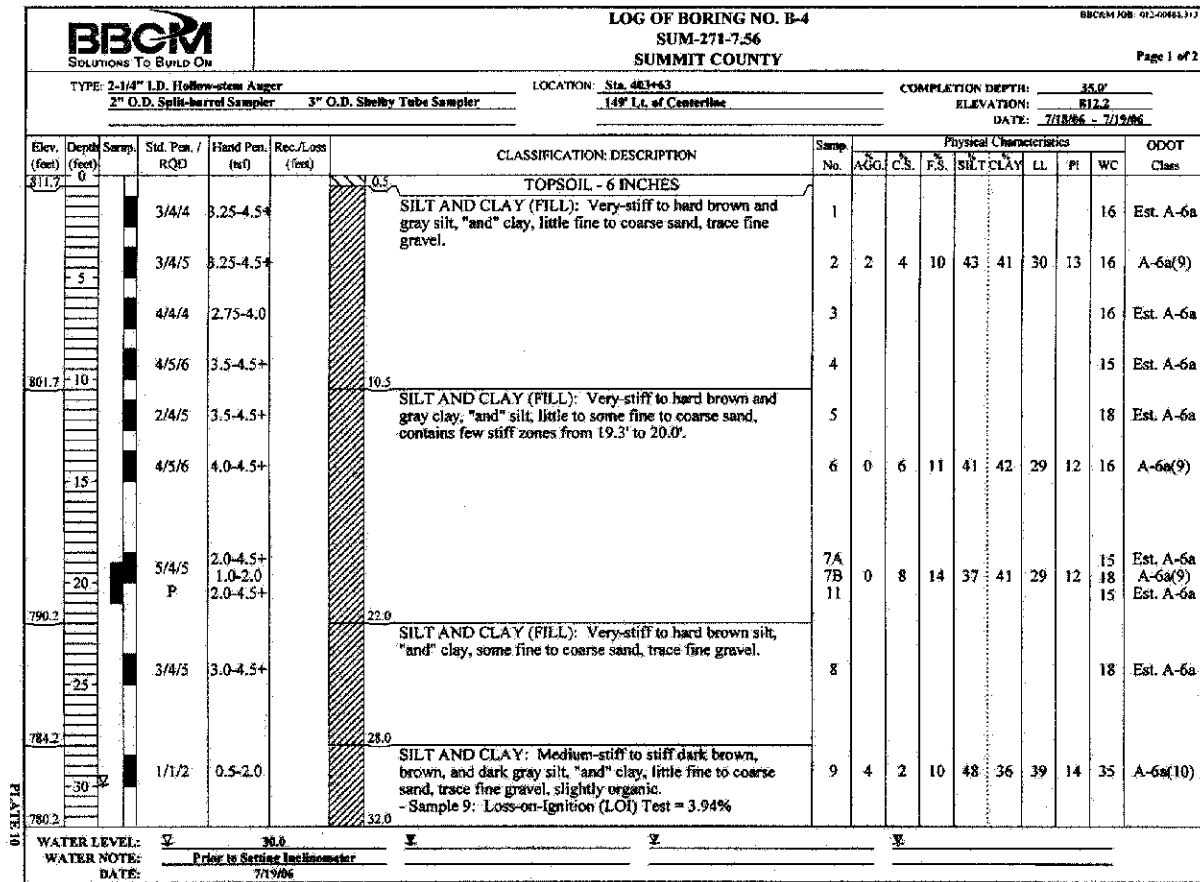


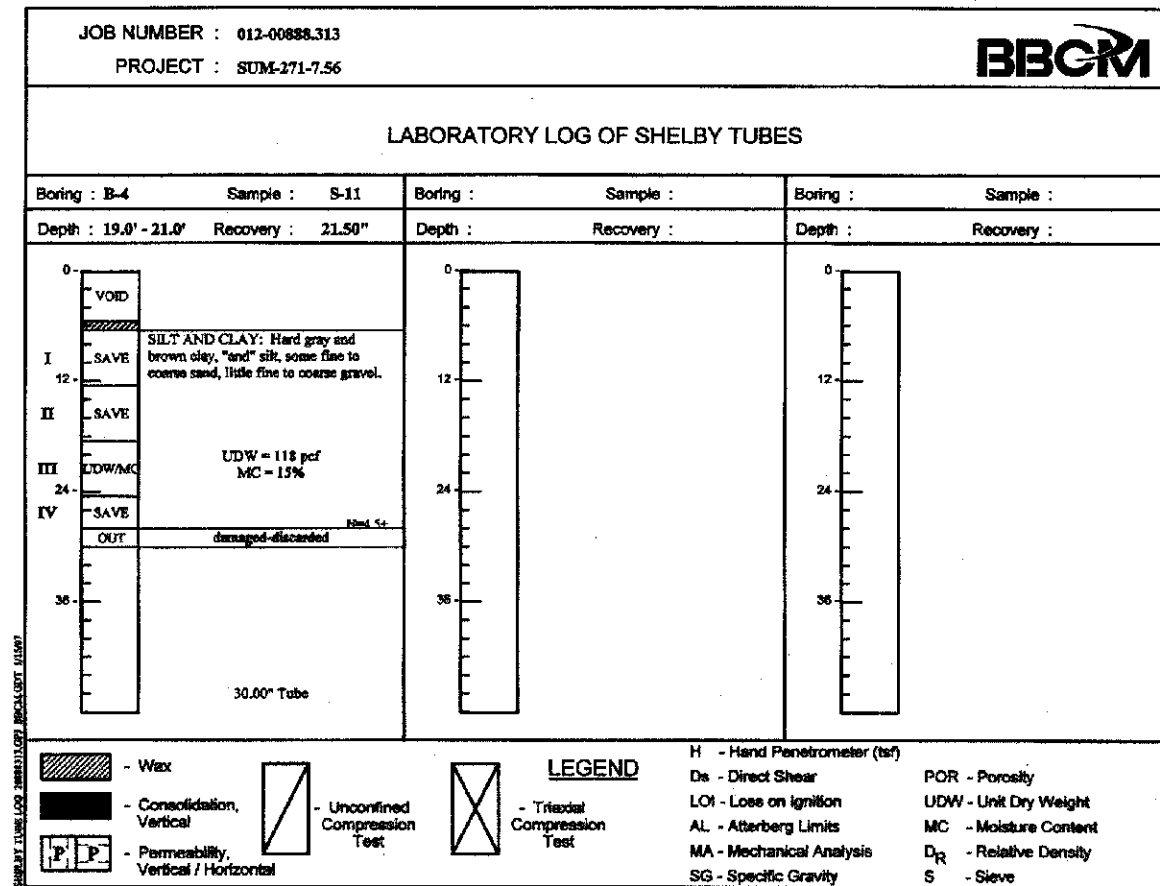
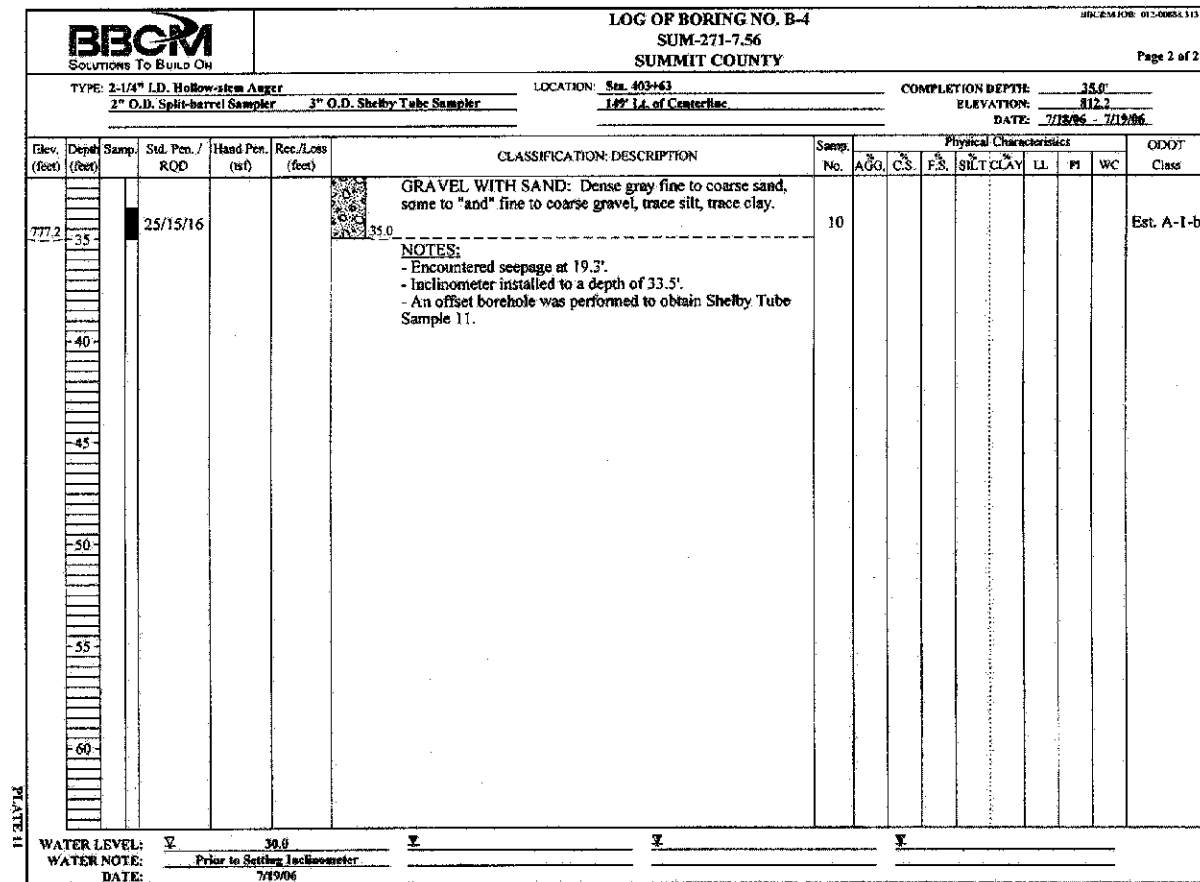
PLATE 2

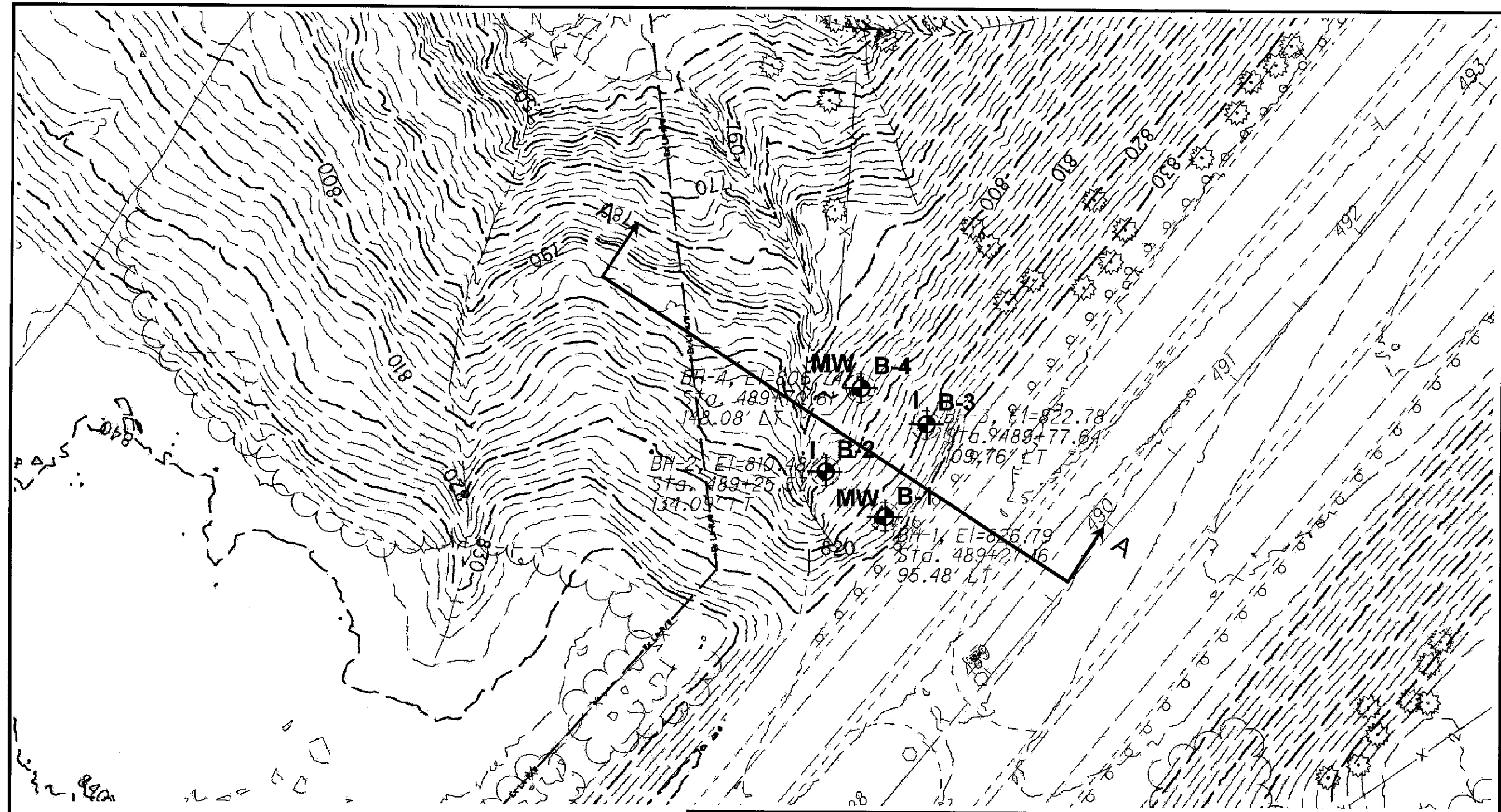
	Project: 012-00888-313	Plan of Borings for SUM 271-7.56	Drawn By: BKS Approved By: PSL	Scale: 1" = 50' Drawing Date: 2/14/07





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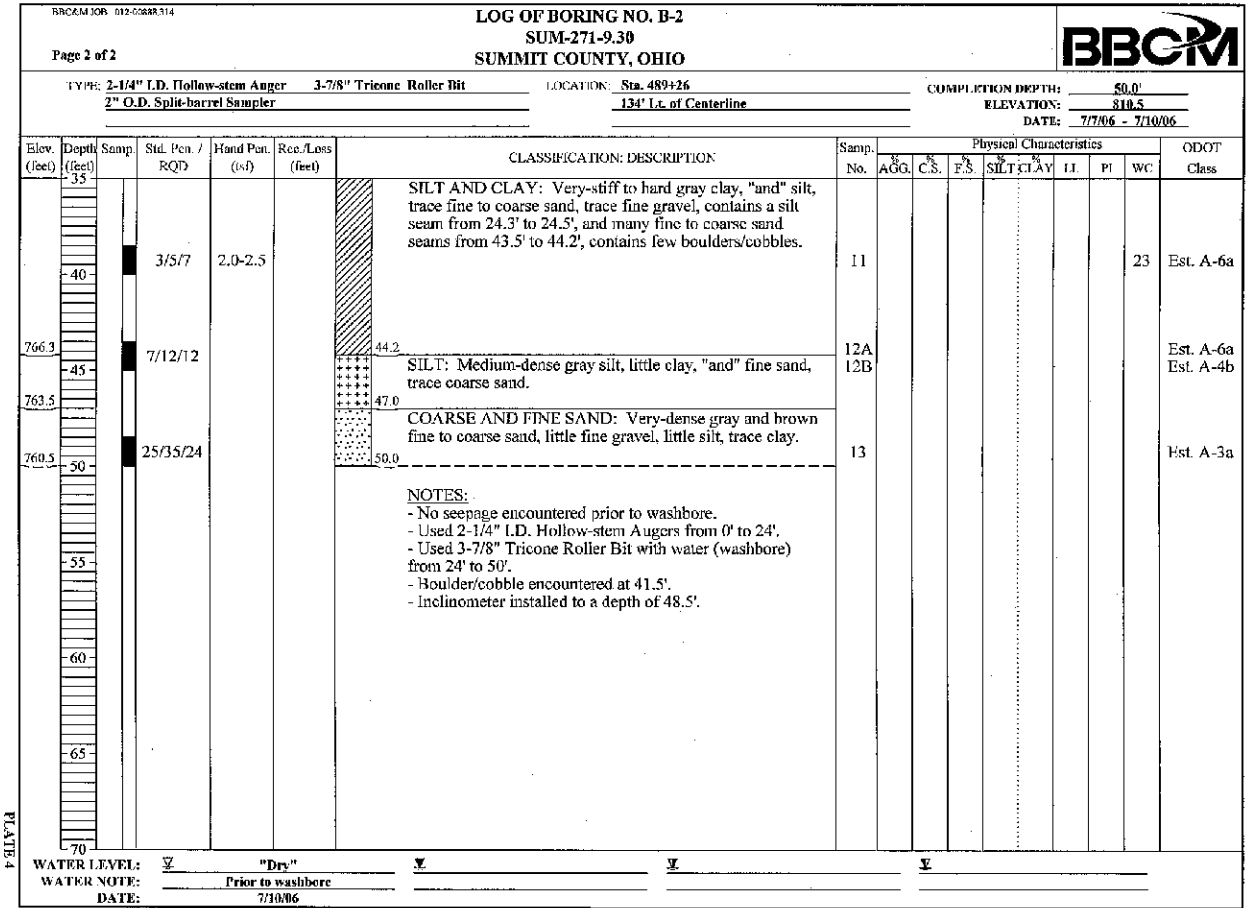
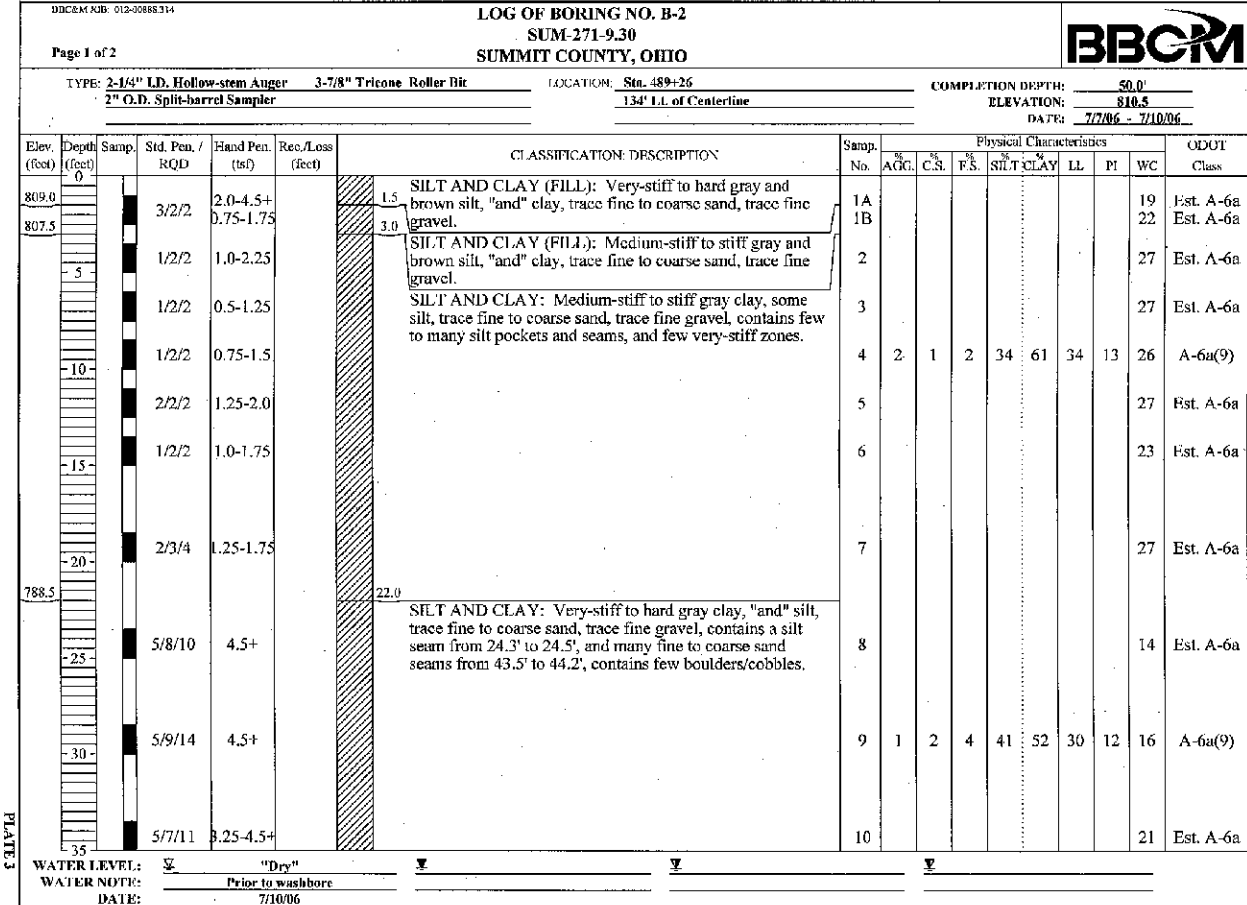
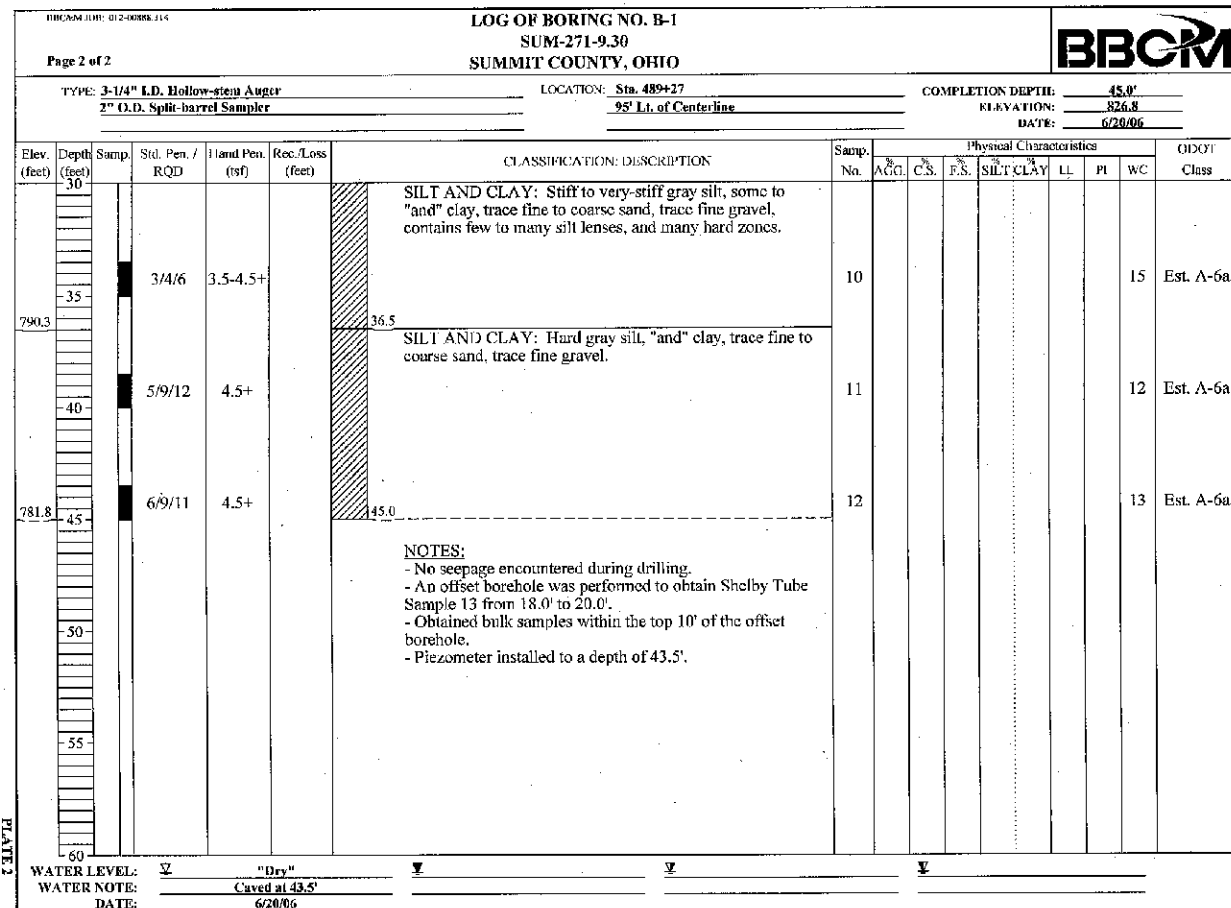
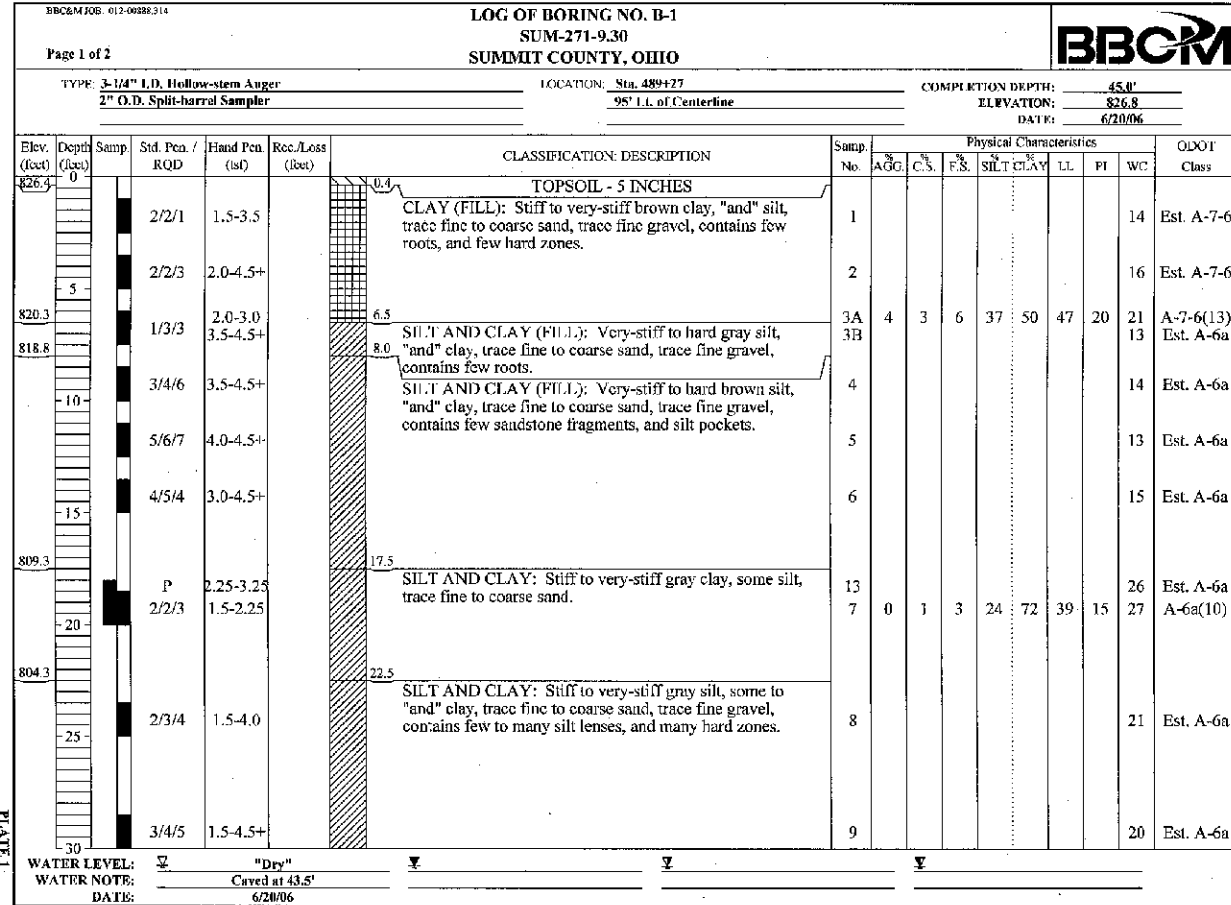


LEGEND

= Boring Location = Inclinometer Installed
B-1 = Boring ID **MW** = Monitoring Well Installed

PLAN OF BORINGS	
SUM-271-9.30 SUMMIT COUNTY, OHIO	
Project: 012-00888.314	Drawn By: JLS/BKS
Drawing Date: 8/21/06	Approved By: PSL
Revision Date: 3/19/07	Scale: 1" = 50'

BBCM
SOLUTIONS TO BUILD ON
Columbus (614) 793-2226
Cleveland (216) 901-1000
Cincinnati (513) 771-8471
Dayton (937) 424-1011



~~CONTINUED~~

PLATE 7

PLATE 6