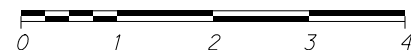


LOCATION MAP

LATITUDE: 41°10'6" LONGITUDE: 81°36'27"

SCALE IN MILES



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

DESIGN DESIGNATION WEST BATH ROAD

CURRENT ADT (2021)	974
DESIGN YEAR ADT (2041)	1,070
DESIGN HOURLY VOLUME (2041)	110
DIRECTIONAL DISTRIBUTION	60%
TRUCKS (24 HOUR B&C)	1%
DESIGN SPEED	45 MPH
LEGAL SPEED	40 MPH
POSTED SPEED LIMIT (FOR HILL)	25 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN LOCAL
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:

Mannik Smith GROUP
TECHNICAL SKILL. CREATIVE SPIRIT.
www.MannikSmithGroup.com

20600 CHAGRIN BLVD., SUITE 500, SHAKER HEIGHTS, OHIO 44122 (216) 378-1490

SUM-WEST BATH ROAD LANDSLIDE REPAIR

**BATH TOWNSHIP
SUMMIT COUNTY, OHIO**

END PROJECT STA. 16+60

BEGIN PROJECT STA. 10+14

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN AND MONUMENTATION	2-3
TYPICAL SECTIONS	4-6
GENERAL NOTES	7-9
GENERAL SUMMARY	10
SUBSUMMARIES	11-12
PLAN AND PROFILE	13-14
CROSS SECTIONS	15-24
RETAINING WALL DETAILS	25-29
RIGHT OF WAY PLANS	1-9

	STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS
ENGINEERS SEAL:	BP-2.2	7/18/08			840 1/18/19
	BP-3.1	7/18/14			
	BP-5.1	1/18/19			
	CB-2.2	7/20/18			
	MGS-1.1	1/19/18			
	MGS-2.1	1/19/18			
	MGS-4.3	1/18/13			
	MGS-5.3	7/15/16			
	RM-1.1	7/18/14			SPECIAL PROVISIONS
SIGNED: _____	MT-101.60	1/20/17			SIERRASCAPE WALL
DATE: _____					
ENGINEERS SEAL:					

PROJECT DESCRIPTION

THE PROJECT INVOLVES A LANDSLIDE REPAIR LOCATED APPROXIMATELY 250 TO 400 FEET EAST OF INTERSECTION OF NORTH REVERE RUN. SLOPE REPAIR WILL BE PERFORMED USING SRT PILE SYSTEM ALONG EXISTING DOWNWARD SLOPE AND A SIERRASCAPE RETAINING WALL ALONG UPWARD SLOPE. THE REPAIR ALSO INCLUDES RECONSTRUCTION OF APPROXIMATELY 600 FEET OF WEST BATH ROAD WITH A PROPOSED LOWER PROFILE, NEW PAVED GUTTER AND GUARDRAILS.

PROJECT EARTH DISTURBED AREA: 0.70 ACRES

ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.13 ACRES

NOTICE OF INTENT EARTH DISTURBED AREA: N/A (NOI NOT REQUIRED)

2019 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 REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 7, NOTE FOR ITEM 614 - MAINTAINING TRAFFIC.

REVIEWED BY _____
DATE _____ DEPUTY DIRECTOR OF ENGINEERING SERVICES

APPROVED _____
DATE _____ SUMMIT COUNTY ENGINEER

FEDERAL PROJECT NO.

N/A

PID NO.

N/A

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

NONE

SUM-WEST BATH ROAD LANDSLIDE REPAIR



BEGIN PROJECT
STA. 10+14.00

BEGIN WORK
STA. 10+12.64

CONST. WEST BATH RD
STA. 10+00.00, 0' RT =
R/W STA. 0+23.24, 13.38' LT

C-2 CONST. WEST BATH RD.
P.I. Sta. 12+54.97
 $\Delta = 28^\circ 48' 37''$ (LT)
 $D_c = 21^\circ 37' 16''$
 $R = 265.00'$
 $T = 68.07'$
 $L = 133.25'$
 $E = 8.60'$
 $C = 131.85'$
C.B. = $N 54^\circ 26' 47'' E$



CALCULATED LMH
CHECKED JMW

SCHEMATIC PLAN
WEST BATH ROAD STA. 10+00 TO STA. 17+00

C-1 CONST. WEST BATH RD.
P.I. Sta. 10+58.69
 $\Delta = 5^\circ 43' 41''$ (RT)
 $D_c = 6^\circ 44' 26''$
 $R = 850.00'$
 $T = 42.52'$
 $L = 84.98'$
 $E = 1.06'$
 $C = 84.94'$
C.B. = $N 65^\circ 59' 15'' E$

EXIST. R/W
P.I. Sta. 2+15.83
 $\Delta = 42^\circ 19' 16''$ (LT)
 $D_c = 29^\circ 59' 52''$
 $R = 191.00'$
 $T = 73.93'$
 $L = 141.08'$
 $E = 13.81'$
 $C = 137.90'$
C.B. = $N 62^\circ 48' 13'' E$

C-3 WEST BATH RD.
P.I. Sta. 15+86.17
 $\Delta = 45^\circ 18' 40''$ (RT)
 $D_c = 15^\circ 04' 40''$
 $R = 380.00'$
 $T = 158.61'$
 $L = 300.51'$
 $E = 31.77'$
 $C = 292.74'$
C.B. = $N 62^\circ 41' 48'' E$

EXIST. R/W
P.I. Sta. 5+22.45
 $\Delta = 27^\circ 00' 17''$ (RT)
 $D_c = 9^\circ 59' 57''$
 $R = 573.00'$
 $T = 137.59'$
 $L = 270.07'$
 $E = 16.29'$
 $C = 267.57'$
C.B. = $N 55^\circ 08' 45'' E$

CONST. WEST BATH RD.
STA. 17+49.01, 0' RT =
R/W STA. 7+74.94, 2.99' RT

END PROJECT
END WORK
STA. 16+60.00

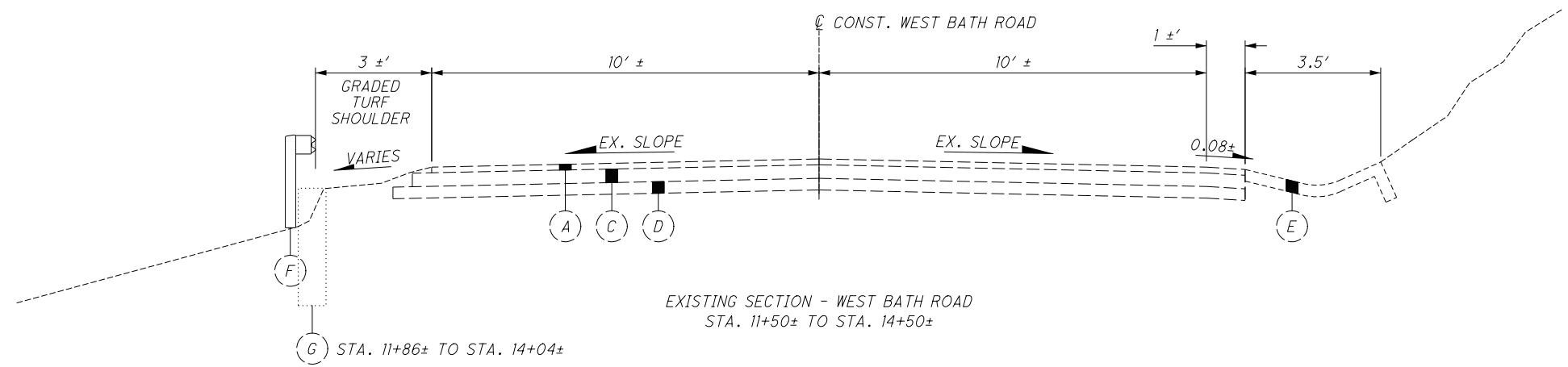
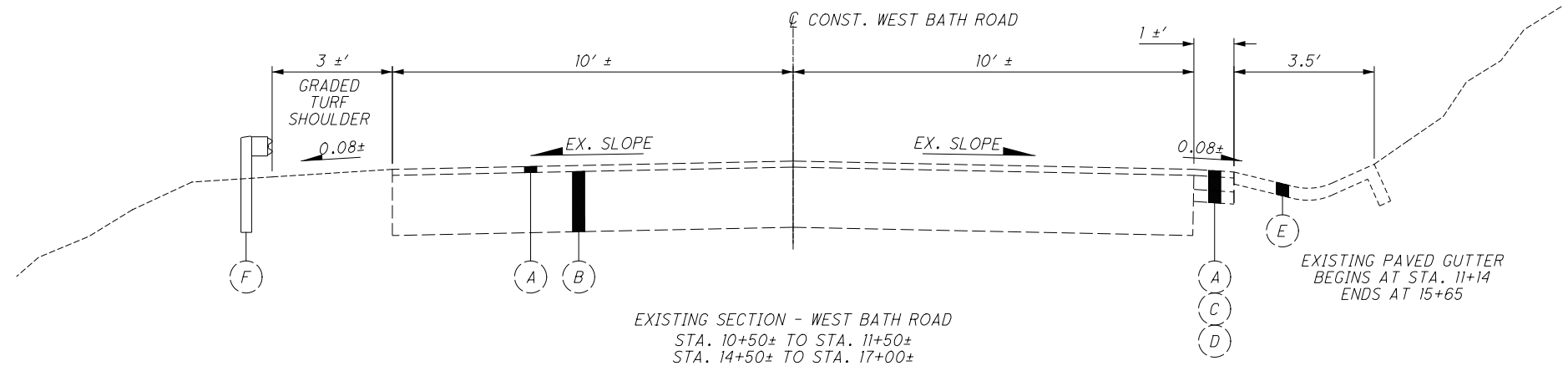
FOR BENCHMARK AND
MONUMENTATION INFORMATION
SEE SHEET 3.

SUM-WEST BATH ROAD
LANDSLIDE REPAIR

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POINT #	STA.	OFFSET	GROUND COORDINATES		STATE PLANE GRID COORDINATES		MONUMENTATION DESCRIPTION
			NORTHING	EASTING	NORTHING	EASTING	
1	OUT OF STATION RANGE		548022.79	2214319.08	548022.93	2214319.07	1" IRON REBAR IN A MONUMENT BOX ON THE CENTERLINE OF N. REVERE ROAD
2	OUT OF STATION RANGE		548474.08	2213903.49	548474.08	2213903.52	1" IRON REBAR IN A MONUMENT BOX ON THE CENTERLINE OF N. REVERE ROAD
3	0+00.00	0.00' RT	548286.65	2213994.793	548286.68	2213994.83	1" IRON REBAR IN A MONUMENT BOX ON THE CENTERLINE OF W. BATH ROAD
4	0+09.71	0.03' RT.	548294.62	2214000.34	548294.65	2214000.38	1" IRON REBAR IN A MONUMENT BOX ON THE CENTERLINE INTERSECTION OF W. BATH ROAD & N. REVERE ROAD
8	0+58.33	6.33' LT.	548338.23	2214022.76	548338.25	2214022.8	MAG NAIL FD. ON P.C. OF PROPERTY LINE
9	0+77.61	0.00' RT.	548350.48	2214038.93	548350.51	2214038.97	3/4" IRON REBAR AT P.I OF W. BATH ROAD
12	1+35.55	2.88' LT.	548359.44	2214096.25	548359.46	2214096.28	MAG NAIL FD. ON P.T. OF PROPERTY LINE
13	1+38.07	2.74' LT.	548359.56	2214098.77	548359.59	2214098.8	MAG NAIL FD. ON P.C. OF PROPERTY LINE
15	2+12.44	13.81' RT.	548365.02	2214176.39	548365.04	2214176.41	1" IRON REBAR AT P.I. OF W. BATH ROAD
18	2+82.98	0.00' RT.	548420.27	2214225.52	548420.28	2214225.53	1" IRON REBAR IN A MONUMENT BOX AT P.T. OF CENTERLINE OF W. BATH ROAD
23	5+19.89	16.29' LT.	548599.23	2214384.64	548599.23	2214384.64	1" IRON REBAR IN MONUMENT BOX AT P.I. OF CENTERLINE OF W. BATH ROAD
26	7+48.58	0.00' RT.	548683.42	2214600.01	548683.41	2214599.99	1" IRON REBAR IN MONUMENT BOX AT P.I. OF CENTERLINE OF W. BATH ROAD
29	9+77.81	0.00' RT.	548689.08	2214829.17	548689.07	2214829.13	1" IRON REBAR IN MONUMENT BOX ON CENTERLINE OF W. BATH ROAD
30	19+23.13	0.00' RT.	548712.08	2215774.22	548712.07	2215774.08	1" IRON REBAR IN MONUMENT BOX ON CENTERLINE OF W. BATH ROAD

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EXISTING LEGEND

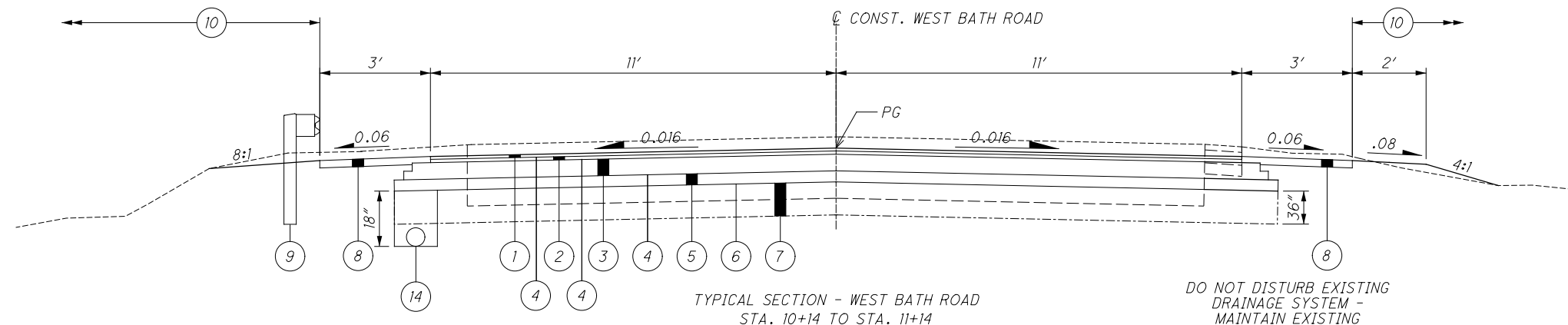
- (A) 3" ± ASPHALT CONCRETE
- (B) 16" TO 30" ± ASPHALT BASE COURSE
- (C) 7" ± BITUMINOUS AGGREGATE BASE COURSE
- (D) 6" ± AGGREGATE BASE COURSE
- (E) EXISTING PAVED GUTTER, TYPE 4
- (F) EXISTING GUARDRAIL
- (G) EXISTING RETAINING WALL (TO BE REMOVED)

TYPICAL SECTIONS

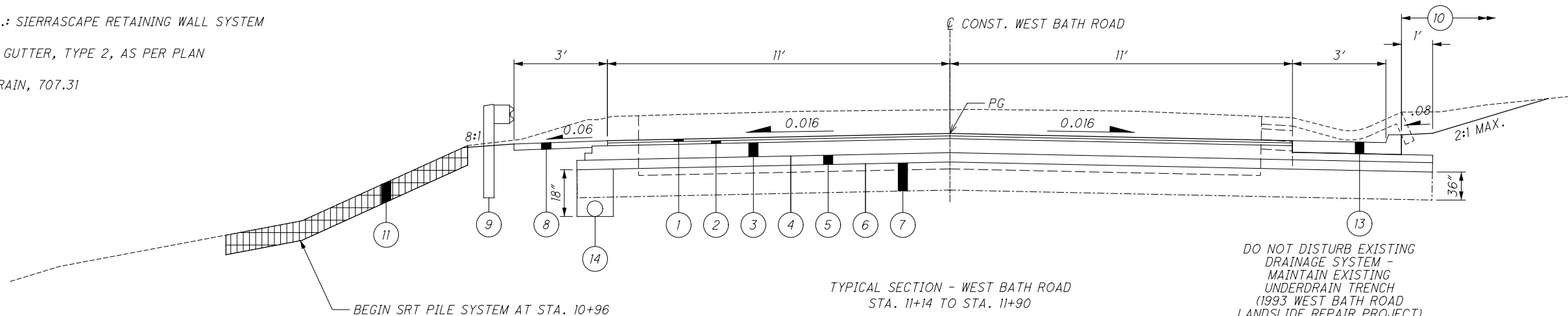
SUM-WEST BATH ROAD
LANDSLIDE REPAIR

LEGEND

- ① ITEM 441 - 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
- ② ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
- ③ ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22
- ④ ITEM 407 - TACK COAT
- ⑤ ITEM 304 - 6" AGGREGATE BASE
- ⑥ ITEM 204 - SUBGRADE COMPACTION
- ⑦ ITEM 204 - EXCAVATION OF SUBGRADE (UNDERCUT) / GRANULAR MATERIAL, TYPE C (BACKFILL)
- ⑧ ITEM 411 - 6" STABILIZED CRUSHED AGGREGATE SHOULDER
- ⑨ ITEM 606 - GUARDRAIL, TYPE MGS (LONG POST)
- ⑩ ITEM 659 - SEEDING AND MULCHING
- ⑪ ITEM 863 - REINFORCED EMBANKMENT (GEOPIER SRT SYSTEM)
- ⑫ ITEM 610 - RETAINING WALL, MISC.: SIERRASCAPE RETAINING WALL SYSTEM
- ⑬ ITEM 609 - COMBINATION CURB & GUTTER, TYPE 2, AS PER PLAN
- ⑭ ITEM 605 - 6" BASE PIPE UNDERDRAIN, 707.31



TYPICAL SECTION - WEST BATH ROAD
STA. 10+14 TO STA. 11+14



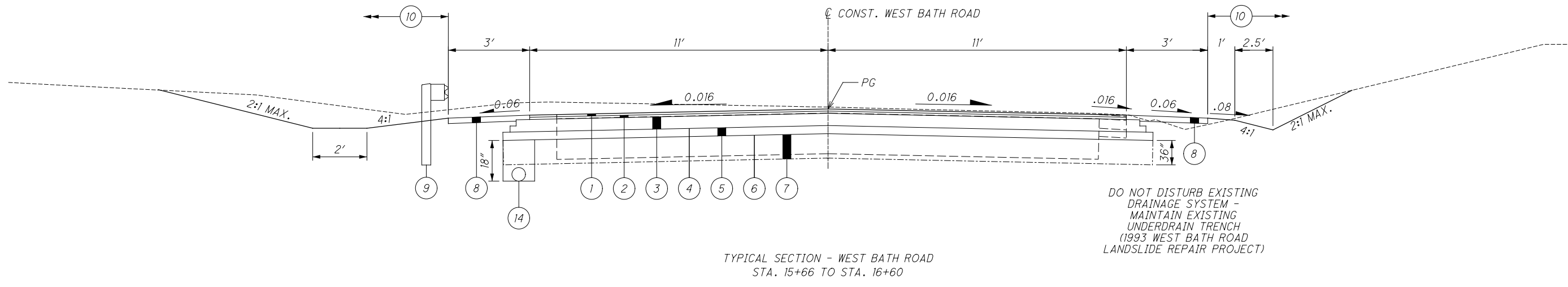
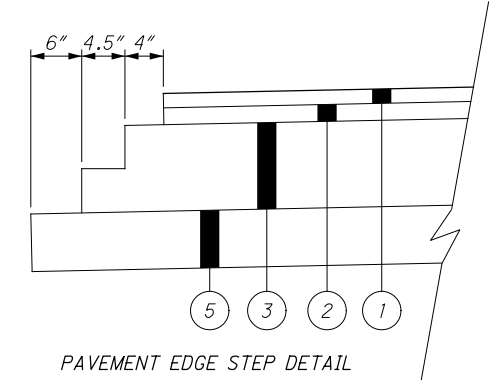
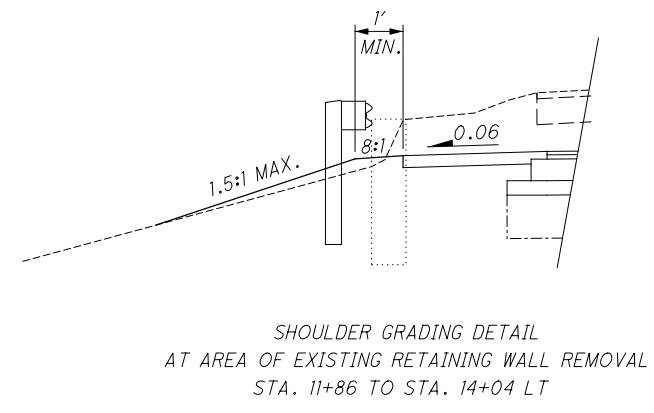
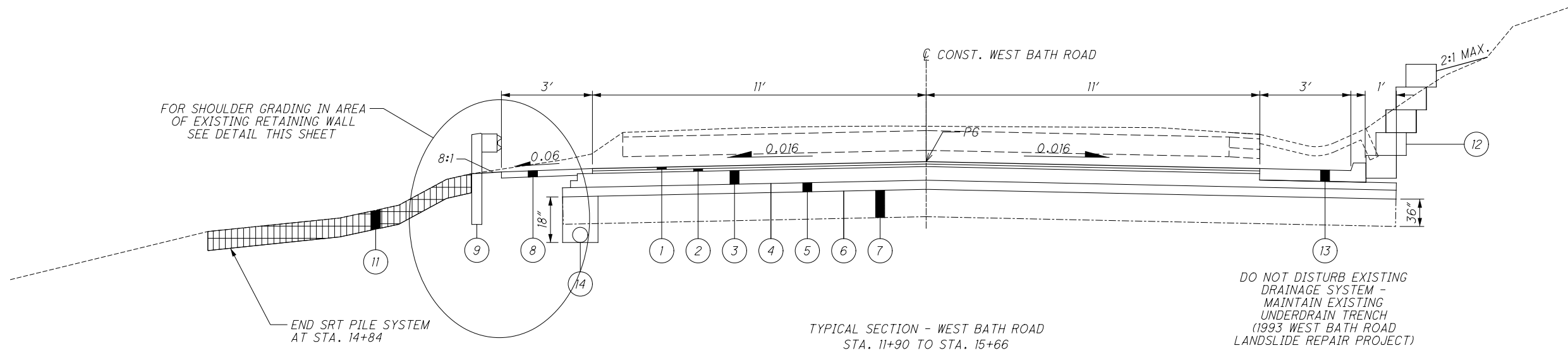
TYPICAL SECTION - WEST BATH ROAD
STA. 11+14 TO STA. 11+90

TYPICAL SECTIONS

**SUM-WEST BATH ROAD
LANDSLIDE REPAIR**

FOR EXISTING LEGEND SEE SHEET 4

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FOR EXISTING LEGEND SEE SHEET 4
FOR PROPOSED LEGEND SEE SHEET 5

TYPICAL SECTIONS

SUM-WEST BATH ROAD
LANDSLIDE REPAIR

ROUNDING

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

UTILITIES

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

ELECTRIC OHIO EDISON
1910 W. MARKET ST.
BUILDING NO. 1
AKRON, OH 44313-6912
ATTN: DAN KNUPP
(330) 740-7733
EMAIL: knuppd@firstenergycorp.com

TELEPHONE FRONTIER NORTH
6223 NORWALK ROAD
MEDINA, OH 44256
ATTN: RANDY HOWARD
EMAIL : j.howard@ftr.com

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. A TREE RETENTION PLAN SHALL BE REQUIRED.

TREE RETENTION PLAN

PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT TO THE SUMMIT COUNTY ENGINEER A TREE RETENTION PLAN FOR REVIEW AND APPROVAL. THE TREE RETENTION PLAN WILL IDENTIFY ALL TREES GREATER THAN 5 INCH DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE AND A MINIMUM HEIGHT OF 13 FEET AND INDICATE WHICH TREES WILL BE RETAINED OR REMOVED. THE CONTRACTOR SHALL RETAIN AS MANY TREES AS POSSIBLE. THE CONTRACTOR SHALL DEMARCAT IN THE FIELD WHICH TREES ARE TO BE AVOIDED AND WHICH TREES ARE TO BE REMOVED.

THE LUMP SUM PRICE BID FOR THIS ITEM INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT TO CONSTRUCT THE GEOPIER SRT SYSTEM AS SET FORTH IN THESE PLANS.

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.

ITEM 630, REMOVAL OF GROUND MOUNTED SIGN AND REERECTION

THIS ITEM INCLUDES REMOVAL AND REERECTION OF EXISTING SIGNS AND SUPPORTS LOCATED WITHIN PROJECT LIMITS. SIGNS SHALL BE RE-ERECTED AT SAME LOCATION OR AT A LOCATION DESIGNATED BY ENGINEER. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN ITEM 630, REMOVAL OF GROUND MOUNTED SIGN AND REERECTIONS, EACH.

SURVEYING PARAMETERS

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

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS 80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE - NORTH ZONE
COMBINED SCALE FACTOR: 1.0000984853
ORIGIN OF COORDINATE SYSTEM 0,0,0
UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

ITEM 623, MONUMENT ASSEMBLY, AS PER PLAN

AN ADJUSTABLE MONUMENT BOX ASSEMBLY BUILT TO THE SPECIFICATIONS SHOWN ON THE ODOT STANDARD DRAWING ROADWAY MONUMENTS (RM-1.1) LATEST REVISION, SHALL BE INSTALLED AT ALL LOCATIONS CALLED FOR IN THE CONSTRUCTION PLANS ON SHEET 2 OR THE CENTERLINE SURVEY PLAT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE MONUMENT BOX ASSEMBLY TO SAID ODOT (RM-1.1) SPECIFICATIONS. THE CONTRACTOR SHALL PROCURE THE SERVICES OF A SURVEYOR REGISTERED IN THE STATE OF OHIO TO BE RESPONSIBLE FOR ESTABLISHING THE POSITION OF EACH MONUMENT BOX ASSEMBLY FOR THE CONTRACTOR AND SETTING A 1" BAR WITH THE SURVEYOR S IDENTIFICATION CAP INSIDE SAID ODOT RM-1.1. THE LOCATION AND TYPE OF ALL SURVEY MONUMENTATION SET SHALL BE SUBJECT TO APPROVAL BY THE SUMMIT COUNTY ENGINEER, ANY ALTERATIONS SHALL BE APPROVED BY THE SUMMIT COUNTY ENGINEER PRIOR TO INSTALLATION. ALL ALTERATIONS SHALL BE DOCUMENTED AND SUBMITTED TO THE SUMMIT COUNTY ENGINEER IMMEDIATELY AFTER INSTALLATION.

THE ABOVE REQUIREMENTS SHALL NOT BE CONSTRUED TO REPLACE ANY REQUIREMENTS AS STATED IN THE CURRENT PUBLICATION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION MANUAL SPECIFICATIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE UNDER ODOT ITEM 623, MONUMENT ASSEMBLY, AS PER PLAN.

ITEM 690 - SPECIAL - IRON PIN RESET

AS IDENTIFIED IN THE PLANS EXISTING PINS SHALL BE RESET ACCORDING TO LOCATIONS CALLED FOR IN THE CONSTRUCTION PLAN ON SHEET 2 OR THE CENTERLINE SURVEY PLAT.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE UNDER ODOT ITEM 690 - SPECIAL - IRON PIN RESET.

SURVEY STAKING AND SURVEY MONUMENTATION REPLACEMENT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AS PER PLAN.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROCURE THE SERVICES OF A SURVEYOR REGISTERED IN THE STATE OF OHIO FOR ALL CONSTRUCTION STAKING AND ALSO TO RESET DISTURBED SURVEY MONUMENTATION, INCLUDING MONUMENT BOXES.

PRIOR TO THE BEGINNING OF CONSTRUCTION, THE POSITION OF ALL EXISTING SURVEY MONUMENTATION, INCLUDING PROPERTY PINS, IN DANGER OF BEING DISTURBED BY CONSTRUCTION, SHALL BE ACCURATELY REFERENCED BY SURVEY METHODS IN COMPLIANCE WITH OAC 4733-37 MINIMUM SURVEY STANDARDS, TO RE-ESTABLISH THEIR POSITION AND REPLACE THE MONUMENTATION AS NECESSARY.

A COPY OF THE FIELD NOTES AND COORDINATE LIST IN A STANDARD ASCII FORMAT FOR THE ABOVE MONUMENTATION WILL BE PROVIDED ON A DISK TO THE SUMMIT COUNTY ENGINEER'S SURVEY DEPARTMENT BEFORE CONSTRUCTION BEGINS.

ANY SURVEY MONUMENTATION THAT IS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED TO ITS ORIGINAL POSITION. EXEMPTION FROM THE REQUIREMENT TO RESET A SURVEY MONUMENT SHALL REQUIRE THE APPROVAL OF THE SUMMIT COUNTY ENGINEER.

ALL SURVEY FIELD WORK TO REPLACE SURVEY MONUMENTATION WILL BE DOCUMENTED IN A FIELD BOOK AND/OR ELECTRONIC FILE TO BE SUBMITTED TO THE SUMMIT COUNTY ENGINEER AND WILL REMAIN THE PROPERTY OF SAID ENGINEER. ELECTRONIC FILES SHALL BE CONVERTED TO A STANDARD COMMA DELIMITED ASCII FILE PRIOR TO SUBMITTAL TO THE ENGINEER.

THE ABOVE REQUIREMENTS SHALL NOT BE CONSTRUED TO REPLACE ANY REQUIREMENTS AS STATED IN THE CURRENT PUBLICATION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION MANUAL SPECIFICATIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE UNDER ODOT ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN.

SEEDING AND MULCHING

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

659, TOPSOIL	141 CU. YD.
659, SEEDING AND MULCHING	1267 SQ. YD.
659, REPAIR SEEDING AND MULCHING	64 SQ. YD
659, INTER-SEEDING	64 SQ. YD.
659, COMMERCIAL FERTILIZER	0.18 TON
659, LIME	0.27 ACRES
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.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

ITEM 614, MAINTAINING TRAFFIC

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE AS DIRECTED BY THE SUMMIT COUNTY ENGINEERS OFFICE. WEST BATH ROAD SHALL BE CLOSED WITH A SIGNED DETOUR DIRECTING TRAFFIC TO UTILIZE REVERE ROAD AND SHADE ROAD AS THE DETOUR ROUTE. 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.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ITEM 609 - COMBINATION CURB & GUTTER, TYPE 2, A.P.P.

INSTALL ITEM 609, COMBINATION CURB AND GUTTER, AS PER PLAN AS PER SCD BP-5.1 EXCEPT USE GUTTER PLATE WIDTH OF 3 FEET AS INDICATED IN PLANS.

ITEM 611 - CATCH BASIN, NO. 3A, AS PER PLAN

THIS ITEM SHALL ADHERE TO ODOT STANDARD CONSTRUCTION DRAWING (SCD) CB-2.2 WHERE APPROPRIATE. REMOVE THE EXISTING CATCH BASIN FRAME AND GRATE AND MAINTAIN THE EXISTING DROP BASIN TO AN ELEVATION AS APPROPRIATE TO ACCOMMODATE THE ADDITION OF A NEW CASTING AND GRATE TO THE ELEVATION OF THE PERMISSIBLE CONSTRUCTION JOINT AS SHOWN IN THE SCD.

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CALCULATED
LMH
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JMW

GENERAL NOTES

**SUM-WEST BATH ROAD
LANDSLIDE REPAIR**

RETAINING WALL, MISC.: GEOPIER SRT SYSTEM
GEOPIER SRT(TM) PLATE PILE REINFORCEMENT CONSTRUCTION NOTES

THE GENERAL INTENT IS TO STABILIZE THE SLOPE BETWEEN WEST BATH ROAD AND A YELLOW CREEK TRIBUTARY, WHICH BATH TOWNSHIP HAS IDENTIFIED THE NAME REVERE RUN NORTH, FOR THE AREA SHOWN ON THE BID DOCUMENTS WITH MINIMAL NEGATIVE IMPACT TO THE PRISTINE YELLOW CREEK WATERSHED.

GEOTECHNICAL AND ENVIRONMENTAL EVALUATION HAS DETERMINED THAT THE USE OF PROPRIETARY GEOPIER SRT SYSTEM IS NECESSARY TO MEET THE PURPOSE AND NEED OF THIS PROJECT. GEOPIER SRT SYSTEM USE WAS SELECTED TO STABILIZE THE SLOPE WITH MINIMAL LAND DISTURBANCE AND MAXIMUM RETENTION OF EXISTING TREES.

1. THE GEOPIER SRT SYSTEM IS A PROPRIETARY SYSTEM PROTECTED UNDER US PATENT NO. 7,090,440 B1. PLATE PILES AND SIMILAR REINFORCING ELEMENTS ARE PROTECTED UNDER US PATENT NO. US 7,811,032 B2.

2. REFERENCE DESIGN STANDARDS: "PLATE PILE SLOPE STABILIZATION DESIGN GUIDELINES - THIRD EDITION." BY M. SMITH, R. SHORT AND Y. PRASHAR, GEOPIER FOUNDATION COMPANY, MAY 2017.

3. PLATE PILES (DETAIL 1) SHALL BE PROVIDED BY FABRICATORS APPROVED BY GEOPIER FOUNDATION COMPANY.

A. ALL PLATE PILE MATERIALS SHALL BE A40 FY STEEL. ASTM A992.

B. FILLET WELDS (IF USED) SHALL BE IN ACCORDANCE WITH AWS D1.1.

C. THE CONNECTION BETWEEN STEEL PLATE AND THE STEEL PILE IS NOT A STRUCTURAL CONNECTION AND DOES NOT REQUIRE A SPECIAL INSPECTION.

D. PLATES SHOULD BE A MINIMUM OF 1/4 IN. THICK.

E. FOR PLATE PILES IN CORROSIVE SOIL WITH A DESIGN LIFE OF 50 YEARS, THE PILE SECTION AND THE PLATE THICKNESS ARE INCREASED BY 1/8 IN. (0.125 IN.) TO ACCOUNT FOR CROSS-SECTIONAL LOSS DUE TO CORROSION OVER ITS DESIGN LIFE.

4. PLATE PILES SHALL BE INSPECTED BY THE INSTALLER TO CONFIRM PLATE PILES MEET THE GEOPIER SRT DESIGNER CURRENT RECOMMENDATIONS SHOWN IN DETAIL 1 OF A PILE LENGTH OF 12 FEET AND PLATE DIMENSIONS OF 48 INCHES BY 12 INCHES BY 1/4 INCH OR AS SHOWN IN THE FINAL DESIGN DOCUMENTS IF THE SLIDE LIMITS ENLARGE PRIOR TO INSTALLATION. INSTALLER SHOULD INSPECT PLATE PILES TO ENSURE CORRECT DIMENSIONS AND PROPER WELDS. NOTE THAT WELDS ARE NOT STRUCTURAL WELDS AND SPECIAL INSPECTION IS NOT REQUIRED.

5. PRIOR TO PLATE PILE INSTALLATION, THE SLOPE SHALL BE TRACK ROLLED TO CONFORM TO APPROXIMATE PRE-SLIDE CONFIGURATION. IF REQUIRED, MOISTURE CONDITION THE EXCAVATED SLIDE DEBRIS AND RECOMPACT ON THE SLOPE BY TRACK ROLLING.

6. THE HORIZONTAL SPACING OF ALL PLATE PILES SHALL NOT EXCEED 4 FT CENTER TO CENTER. SUCCESSIVE ROWS SHALL BE STAGGERED SO THAT INDIVIDUAL PLATE PILES SHALL BE CENTERED BETWEEN ADJACENT PLATE PILES LOCATED IN UPHILL AND DOWNHILL ROWS (DETAIL 2). SPACING BETWEEN ROWS SHALL BE SHOWN ON THE PLANS AND AS MEASURED ON THE SLOPE SURFACE (DETAIL 3). PLATE PILES SHALL BE LOCATED WITHIN A TOLERANCE OF 6-INCHES OF DESIGN LOCATION.

7. THE TOP OF PLATE PILES SHALL BE EMBEDDED 8 TO 12 INCHES BELOW EXISTING GRADE AT THE LOCATIONS SHOWN ON THE PLAN.

8. PLATE PILES SHALL BE DRIVEN AT AN INCLINATION OF 3 TO 5 DEGREES OFF VERTICAL IN THE UPSLOPE DIRECTION. THE

RETAINING WALL, MISC.: GEOPIER SRT SYSTEM
GEOPIER SRT(TM) PLATE PILE REINFORCEMENT CONSTRUCTION NOTES (CONT.)

PLATE PILE SHALL BE INSTALLED SUCH THAT THE PLATE IS ALWAYS ON THE UPHILL SIDE (DETAIL 4).

9. IF A PLATE PILE IS BENT OR DAMAGED DURING THE INSTALLATION PROCESS, THE PLATE PILE SHOULD BE REMOVED AND REPLACED. IF THE DAMAGED PLATE PILE HAS BEEN INSTALLED 6 OR MORE FEET BENEATH THE GROUND SURFACE, WE RECOMMEND CUTTING THE PLATE PILE AT THE SURFACE AND LEAVING THE INSTALLED PORTION IN PLACE, AND A NEW PLATE PILE SHALL BE INSTALLED WITHIN 12-INCHES UPSLOPE OF THE CUT/DAMAGED PLATE PILE.

A. IT IS ACCEPTABLE IF SOME WELDS BREAK DURING INSTALLATION PROCESS. TENSION ON THE WELDS CAN BE MINIMIZED BY ENSURING THE PLATE PILES ARE INSTALLED IN ALIGNMENT WITH THE HAMMER.

B. IF ALL OF THE WELDS BREAK AND THE PLATE IS NO LONGER ATTACHED TO THE STEM, THE PLATE PILE SHOULD BE DISCARDED AND REPLACED WITH A NEW PLATE PILE.

10. AFTER THE COMPLETION OF PLATE PILE INSTALLATION, THE SLOPE SURFACE SHALL BE TRACK ROLLED TO REMOVE SURFACE DISTURBANCE REMAINING FROM INSTALLATION OPERATIONS.

11. THE DEPTH AND AREAL EXTENT OF THE SLIDE SHALL BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER OR GEO-PROFESSIONAL PRIOR TO INSTALLATION OF THE PLATE PILES.

12. WE RECOMMEND THAT GEOPIER FOUNDATION COMPANY REVIEW PROJECTS FOR WHICH SLIDES OR UNSTABLE ZONES ARE DEEPER THAN 10 FEET.

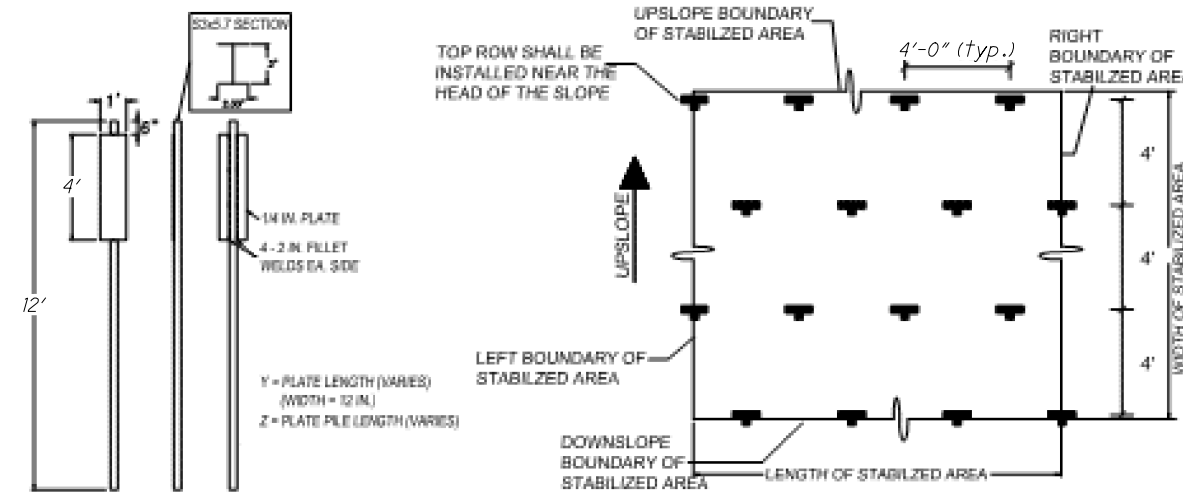
13. GEOPIER FOUNDATION COMPANY IS NOT RESPONSIBLE FOR SLIDES OCCURRING IN AREAS THAT ARE OUTSIDE OF THE PLATE PILE ARRAY.

14. THE GEOPIER SRT METHOD IS NOT INTENDED TO PREVENT EROSION CAUSED BY RAINFALL RUNOFF OR FROM UNCONTROLLED IRRIGATION WATER FROM NEARBY SITES. FOLLOWING INSTALLATION OF THE PLATE PILES, ADEQUATE DRAINAGE AND EROSION CONTROL MUST BE PROVIDED BY OTHERS TO ENSURE A FULLY FUNCTIONING SLOPE STABILIZATION SYSTEM. A DRAINAGE CONTROL SYSTEM SHOULD BE INSTALLED TO DIVERT SURFACE WATER AWAY FROM THE SLOPE. ALL EARTHWORK SHOULD BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

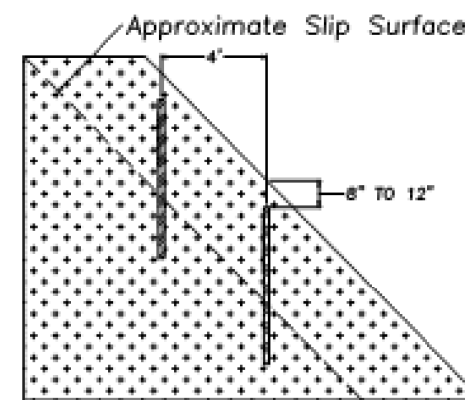
THE LUMP SUM PRICE BID FOR THIS ITEM INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT TO CONSTRUCT THE GEOPIER SRT SYSTEM AS SET FORTH IN THESE PLANS.

GEOPIER SRT DESIGNER CONTACT INFORMATION:

STEVE WERLING, P.E. (OHIO P.E.)
GEOPIER FOUNDATION COMPANY
525 E. MICHIGAN AVE. #184
SALINE, MICHIGAN 48176
PHONE: 734-474-3391
E-MAIL: swerling@geopier.com

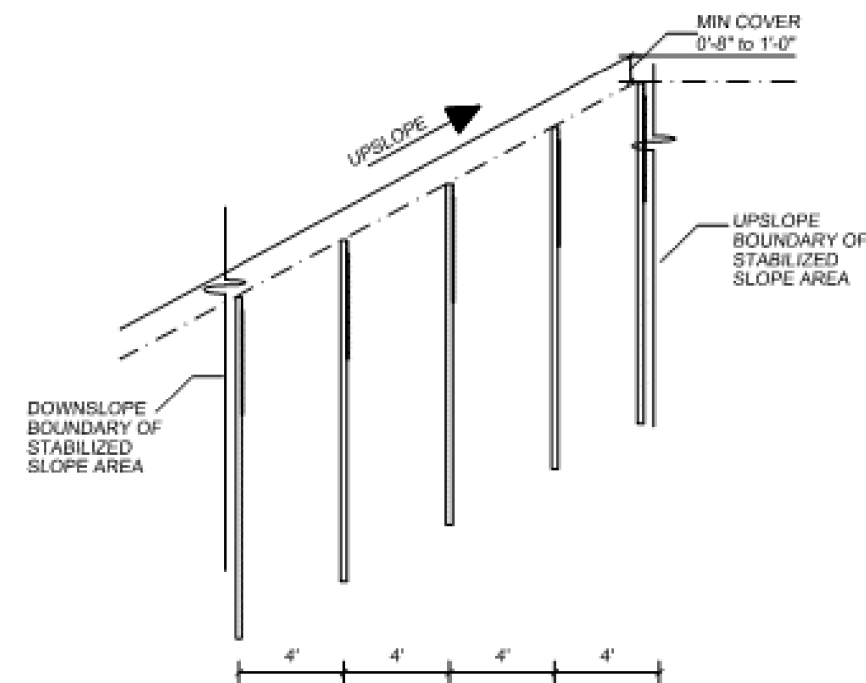


1 TYPICAL PLATE PILE DETAIL
NOT TO SCALE



2 TYPICAL ARRAY SPACING
NOT TO SCALE

3 PLATE PILE DETAIL
NOT TO SCALE



4 TYPICAL VERTICAL SPACING
NOT TO SCALE

CALCULATED
LMH
CHECKED
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GENERAL NOTES

SUM-WEST BATH ROAD
LANDSLIDE REPAIR

8
29

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05.

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

3. COMPACT THE SUBGRADE ACCORDING TO 204.03.
4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.

7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204 EXCAVATION OF SUBGRADE.

SIERRASCAPE WALL

A SIERRASCAPE WALL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND SPECIAL PROVISIONS INCLUDED IN THESE PLANS AND THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL HAVE THE ENGINEERS APPROVAL PRIOR TO STARTING ANY WORK ON THIS ITEM.

THE LUMP SUM BID PRICE FOR THIS ITEM INCLUDES ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT TO CONSTRUCT THE SIERRASCAPE WALL SYSTEM AS SET FORTH IN THESE PLANS AND DOCUMENTS.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

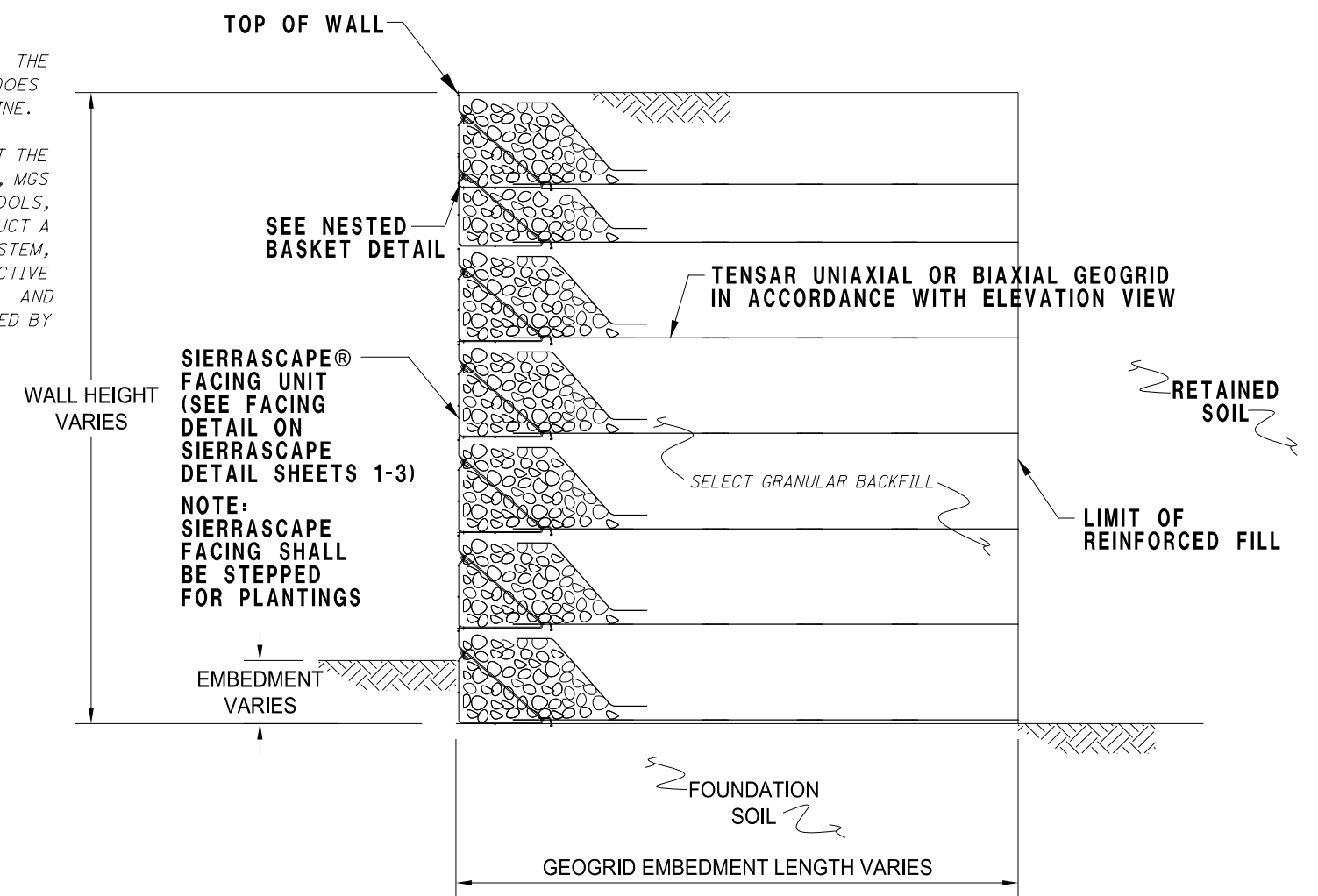
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE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

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

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

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

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



SIERRASCAPE TYPICAL CROSS-SECTION

TYPICAL CROSS-SECTION

S1150003_GN003.DGN

BACKFILL FOR THE SIERRASCAPE WALL SHALL BE PLACED ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION SECTION 840.06.1. BACKFILL MATERIAL SHALL BE ODOT SELECT GRANULAR BACKFILL - ITEM 840.

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GENERAL NOTES

**SUM - WEST BATH ROAD
LANDSLIDE REPAIR**

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SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE
7	11	12	24									EXT	TOTAL			SHEET	
ROADWAY																	
	586											202	38000	586	FT	GUARDRAIL REMOVED	
	1											202	42206	1	EACH	ANCHOR ASSEMBLY REMOVED	
	5											202	58100	5	EACH	CATCH BASIN REMOVED	
			2,907									203	10000	2,907	CY	EXCAVATION	
			34									203	20000	34	CY	EMBANKMENT	
			1,765									204	13000	1,765	CY	EXCAVATION OF SUBGRADE	
			1,767									204	30020	1,767	CY	GRANULAR MATERIAL, TYPE C	
	589											606	15100	589	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
	1											606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
	2											623	38501	2	EACH	MONUMENT ASSEMBLY, AS PER PLAN	
	2											SPECIAL	69011500	2	EACH	IRON PIN RESET	
EROSION CONTROL																	
	141											659	00300	141	CY	TOPSOIL	
	1,267											659	10000	1,267	SY	SEEDING AND MULCHING	
	64											659	14000	64	SY	REPAIR SEEDING AND MULCHING	
	64											659	15000	64	SY	INTER-SEEDING	
	0.18											659	20000	0.18	TON	COMMERCIAL FERTILIZER	
	0.27											659	31000	0.27	ACRE	LIME	
	8											659	35000	8	MGAL	WATER	
												832	30000	16,000	EACH	EROSION CONTROL	
DRAINAGE																	
	49											611	04400	49	FT	12" CONDUIT, TYPE B	
	4											611	98181	4	EACH	CATCH BASIN, NO. 3A, AS PER PLAN	
	1											611	98470	1	EACH	CATCH BASIN, NO. 2-2B	
PAVEMENT																	
	415											301	46000	415	CY	ASPHALT CONCRETE BASE, PG64-22	
	329											304	20000	329	CY	AGGREGATE BASE	
	306											407	10000	306	GAL	TACK COAT	
	48											411	10000	48	CY	STABILIZED CRUSHED AGGREGATE	
	69											441	50000	69	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
	80											441	50300	80	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
	453											609	12001	453	FT	COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN	
TRAFFIC CONTROL																	
		10										630	85100	10	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
		0.24										642	00094	0.24	MILE	EDGE LINE, 6"	
		0.12										642	00290	0.12	MILE	CENTER LINE	
		10										642	00490	10	FT	STOP LINE	
RETAINING WALLS (SIERRASCAPE WALL)																	
												610	60000	LS		RETAINING WALL, MISC.:SIERRASCAPE WALL	
												610	60000	LS		RETAINING WALL, MISC.:GEOPIER SRT SYSTEM	
INCIDENTALS																	
												614	11000	LS		MAINTAINING TRAFFIC	
												619	16010	7	MNTH	FIELD OFFICE, TYPE B	
												623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	
												624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

**SUM- WEST BATH ROAD
LANDSLIDE REPAIR**

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REF. NO.	SHEET NO.	STATION		SIDE	202	202	606	606	609	623	690
		FROM	TO		GUARDRAIL REMOVED FT	ANCHOR ASSEMBLY REMOVED EACH	GUARDRAIL, TYPE MGS WITH LONG POSTS FT	ANCHOR ASSEMBLY, MGS TYPE E EA	COMBINATION CURB & GUTTER, TYPE 2, AS PER PLAN FT	MONUMENT ASSEMBLY, AS PER PLAN EA	SPECIAL - IRON PIN RESET EA
		WEST BATH ROAD									
R6	13	10+14	14+00	LT	400						
R7	14	14+00	15+86	LT	186						
R8	14	15+39	15+88	LT		1					
C1	13	11+14	14+00	RT				291			
C2	14	14+00	15+66	RT				162			
G1	13	11+14	14+00	LT			396				
G2	14	14+00	15+66	LT			194	1			
PN1	13	10+75		LT							1
PN2	13	11+86		RT							1
MN1	13	12+53		LT						1	
MN2	14	14+93		LT						1	
TOTALS CARRIED TO GENERAL SUMMARY					586	1	589	1	453	2	2

SHEET NUMBER	REFERENCE NUMBER	STATION		SIDE	202	611	611	611
		FROM	TO		CATCH BASIN REMOVED EACH	12" CONDUIT, TYPE B FT	CATCH BASIN, NO. 3A, AS PER PLAN EACH	CATCH BASIN, NO. 2-2B EACH
WEST BATH ROAD								
13	D1	11+16.00	11+16.00	RT		2	1	
13	R1	11+16.50	11+16.50	RT	1			
13	R2	12+24.94	12+24.94	RT	1			
13	D2	12+25.00	12+25.00	RT		2	1	
13	D3	13+20.00	13+20.00	RT		2	1	
13	R3	13+20.29	13+20.29	RT	1			
14	D4	14+30.00	14+30.00	RT		2	1	
14	R4	14+30.56	14+30.56	RT	1			
14	R5	15+69.32	15+69.32	RT	1			
14	D5	15+37.00	15+70.00	L/R		41		1
DRAINAGE TOTALS CARRIED TO GENERAL SUMMARY					5	49	4	1

STATION		LENGTH FT	PAVEMENT WIDTH	PAVEMENT T WIDTH			301	304	407	411	441	
FROM	TO		SOUTHBOUND (FULL DEPTH)	NORTHBOUND (FULL DEPTH)	SOUTHBOUND (FULL DEPTH)	NORTHBOUND (FULL DEPTH)	ASPHALT CONCRETE BASE, PG64-22 CU YD	AGGREGATE BASE CU YD	TACK COAT GAL	6" STABILIZED AGGREGATE SHOULDER CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448) CU YD
10+14.00	11+14.00	100.00	Varies	Varies	1322.48	1419.69	79.60	56	57.08	12.13	12.70	14.81
11+14.00	11+90.00	76.00	11.00	11.00	836.00	836.00	50.97	39	36.44	4	7.74	9.03
11+90.00	15+66.00	376.00	11.00	11.00	4136.00	4136.00	238.65	192	168.99	21	38.30	44.68
15+66.00	16+60.00	94.00	11.00	11.00	1034.00	1034.00	45.31	42	43.14	10.44	9.57	11.17
TOTALS CARRIED TO GENERAL SUMMARY							415	329	306	48	69	80

REF. NO.	SHEET NO.	STATION		SIDE	630	642	642	642
					REMOVAL OF GROUND MOUNTED SIGN AND REELECTION	EDGE LINE, 6"	CENTER LINE	STOP LINE
		FROM	TO		EACH	MILE	MILE	FT
		WEST BATH ROAD						
P1	13	10+14	14+00	LT		0.07		
P2	13	10+14	14+00	RT		0.07		
P3	13	10+46	14+00	CL			0.07	
P4	13	10+46	10+46	LT				10
P5	14	14+00	16+60	LT		0.05		
P6	14	14+00	16+60	RT		0.05		
P7	14	14+00	16+60	CL			0.05	
S1	13	10+36	10+36	LT	1			
S2	13	10+53	10+53	RT	1			
S3	13	11+15	11+15	RT	1			
S4	13	11+79	11+79	RT	1			
S5	13	12+37	12+37	RT	1			
S6	13	12+59	12+59	RT	1			
S7	14	14+56	14+56	LT	1			
S8	14	15+60	15+60	LT	1			
S9	14	15+89	15+89	LT	1			
S10	14	16+60	16+60	LT	1			
TOTALS CARRIED TO GENERAL SUMMARY					10	0.24	0.12	10

SUBSUMMARIES

**SUM- WEST BATH ROAD
LANDSLIDE REPAIR**


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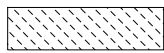
- C-1 @ CONST. WEST BATH RD.
 P.I. Sta. 10+58.69
 $\Delta = 5^\circ 43' 41''$ (RT)
 $D_c = 6^\circ 44' 26''$
 $R = 850.00'$
 $T = 42.52'$
 $L = 84.98'$
 $E = 1.06'$
 $C = 84.94'$
 $C.B. = N 65^\circ 59' 15'' E$
- C-2 @ CONST. WEST BATH RD.
 P.I. Sta. 12+54.97
 $\Delta = 28^\circ 48' 37''$ (LT)
 $D_c = 21^\circ 37' 16''$
 $R = 265.00'$
 $T = 68.07'$
 $L = 133.25'$
 $E = 8.60'$
 $C = 131.85'$
 $C.B. = N 54^\circ 26' 47'' E$

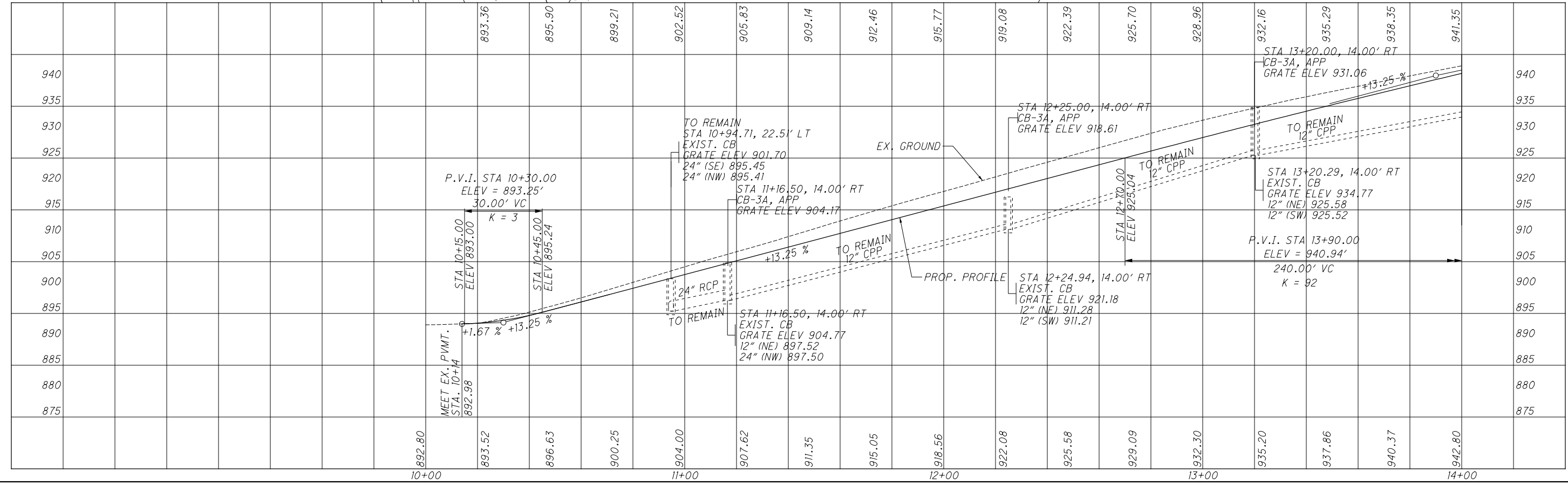
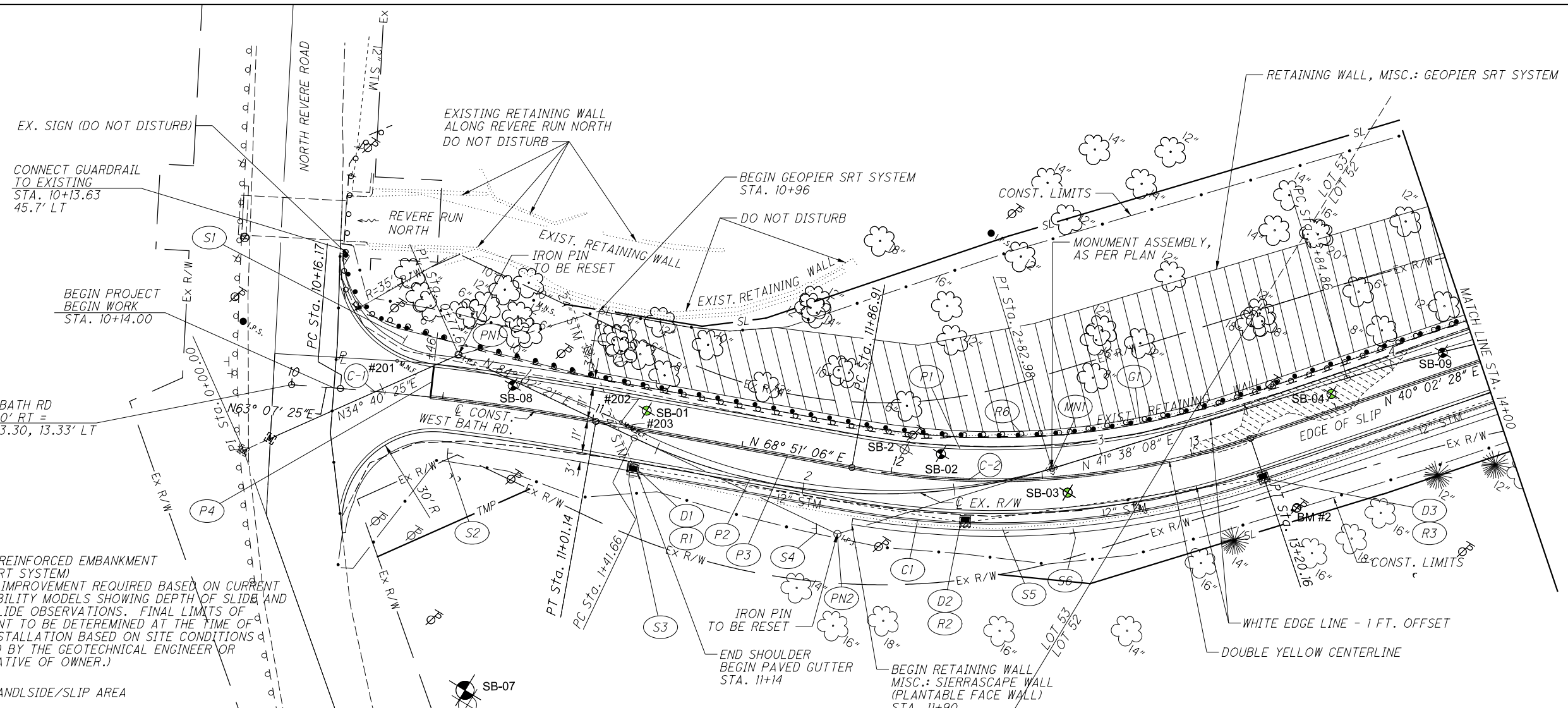
EX. SIGN (DO NOT DISTURB)
 CONNECT GUARDRAIL TO EXISTING
 STA. 10+13.63
 45.7' LT

BEGIN PROJECT
 BEGIN WORK
 STA. 10+14.00

@ CONST. WEST BATH RD
 STA. 10+00.00, 0' RT =
 @ R/W STA. 0+23.30, 13.33' LT

 PROPOSED REINFORCED EMBANKMENT (GEOPIER SRT SYSTEM) (LIMITS OF IMPROVEMENT REQUIRED BASED ON CURRENT SLOPE STABILITY MODELS SHOWING DEPTH OF SLIDE AND EXISTING SLIDE OBSERVATIONS. FINAL LIMITS OF IMPROVEMENT TO BE DETERMINED AT THE TIME OF BIDDING/INSTALLATION BASED ON SITE CONDITIONS DETERMINED BY THE GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF OWNER.)

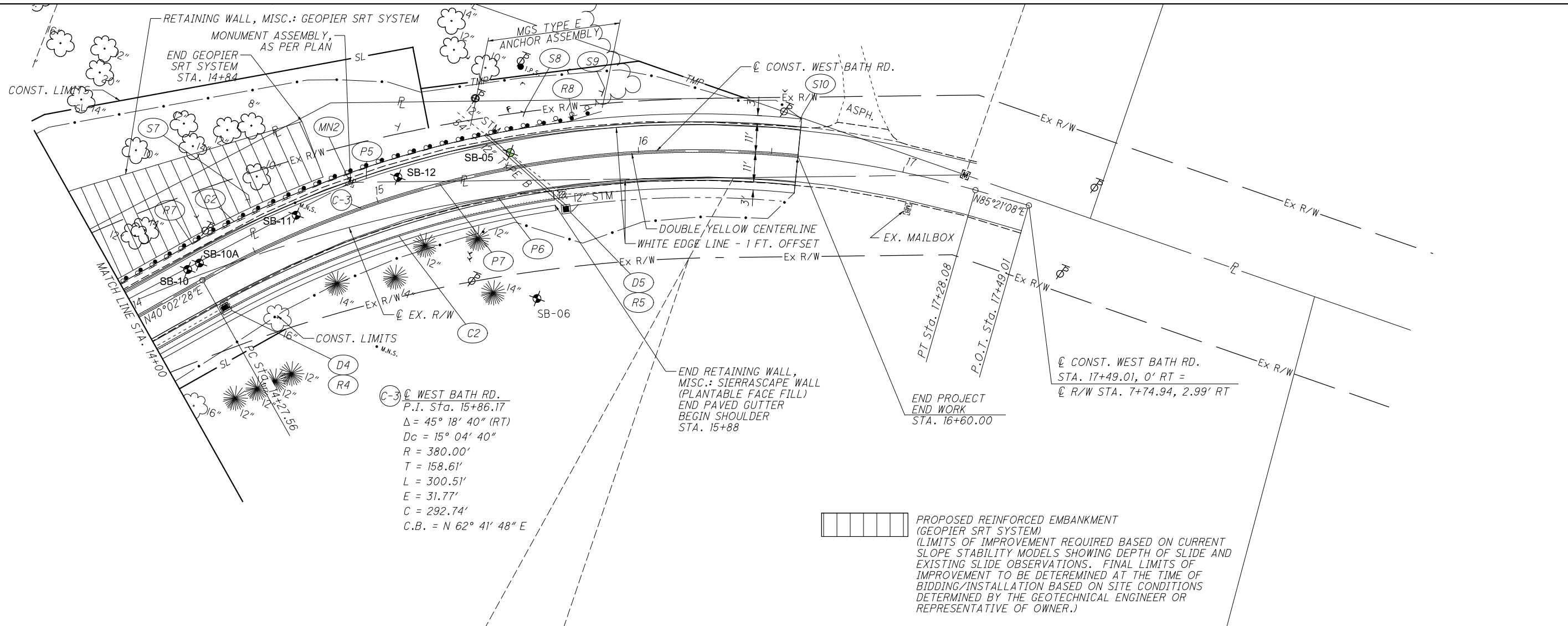
 EXISTING LANDSLIDE/SLIP AREA



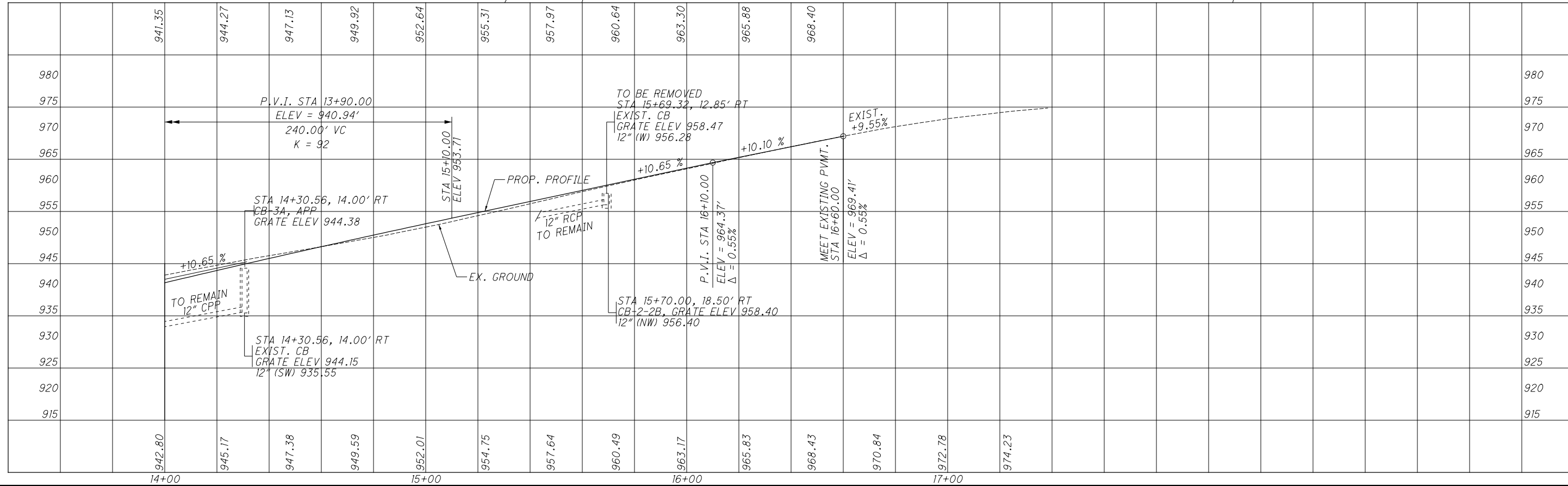
**PLAN AND PROFILE
 STA. 10+00 TO 14+00**

**SUM - WEST BATH ROAD
 LANDSLIDE REPAIR**

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PROPOSED REINFORCED EMBANKMENT (GEOPIER SRT SYSTEM)
 (LIMITS OF IMPROVEMENT REQUIRED BASED ON CURRENT SLOPE STABILITY MODELS SHOWING DEPTH OF SLIDE AND EXISTING SLIDE OBSERVATIONS. FINAL LIMITS OF IMPROVEMENT TO BE DETERMINED AT THE TIME OF BIDDING/INSTALLATION BASED ON SITE CONDITIONS DETERMINED BY THE GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF OWNER.)



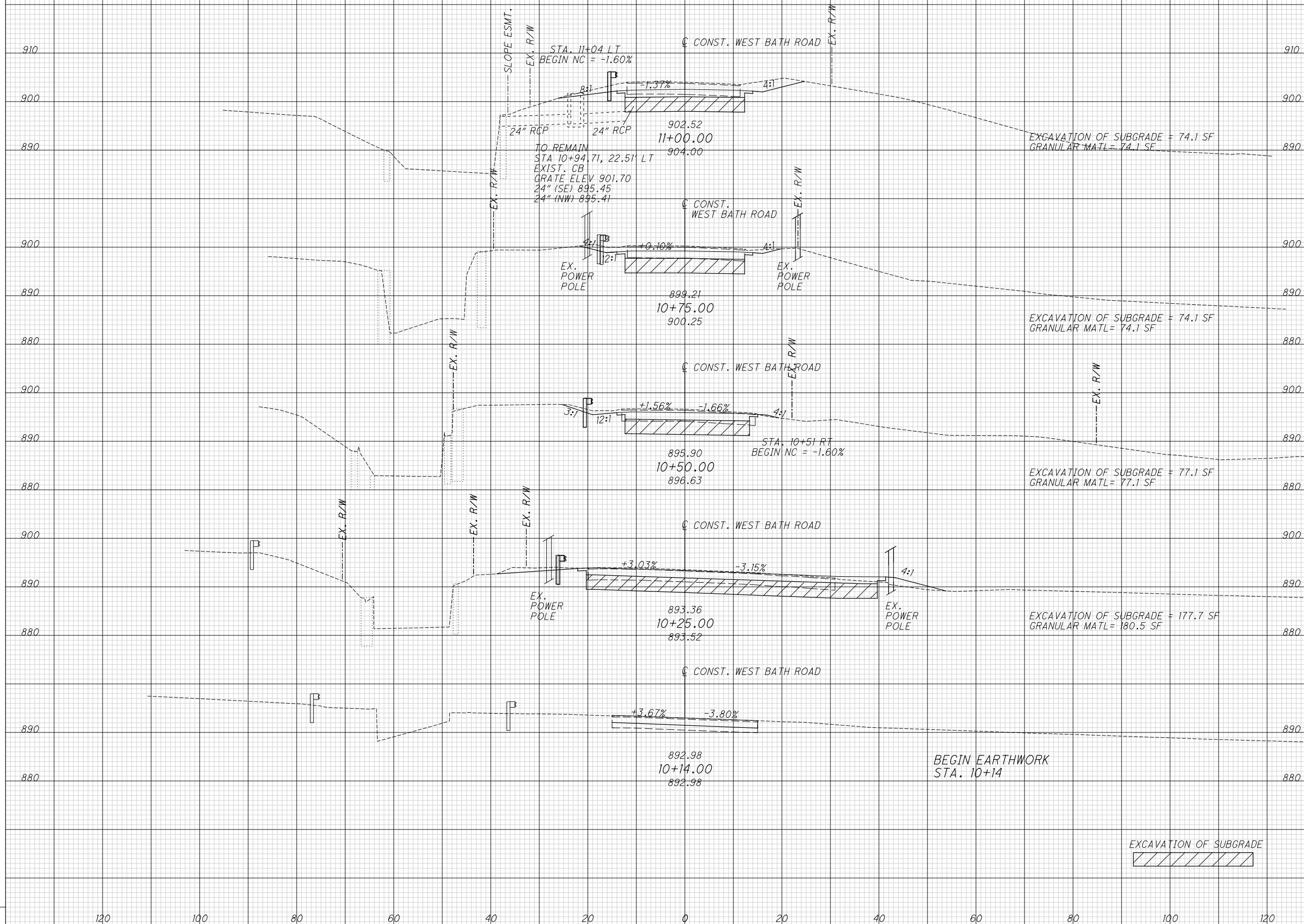
SEEDING
END SO.
WIDTH YDS.

END AREA		VOLUME		CALCULATED	LMH	CHECKED	JMW
CUT	FILL	CUT	FILL				
106.4	0	89	0				
86.4	0	75	0				
75.5	0.5	77	12				
90.2	26.1	27	5				
44.5	0						
		268	17				

CROSS SECTIONS WEST BATH ROAD
STA. 10+14.00 TO STA. 11+00.00

SUM-WEST BATH ROAD
LANDSLIDE REPAIR

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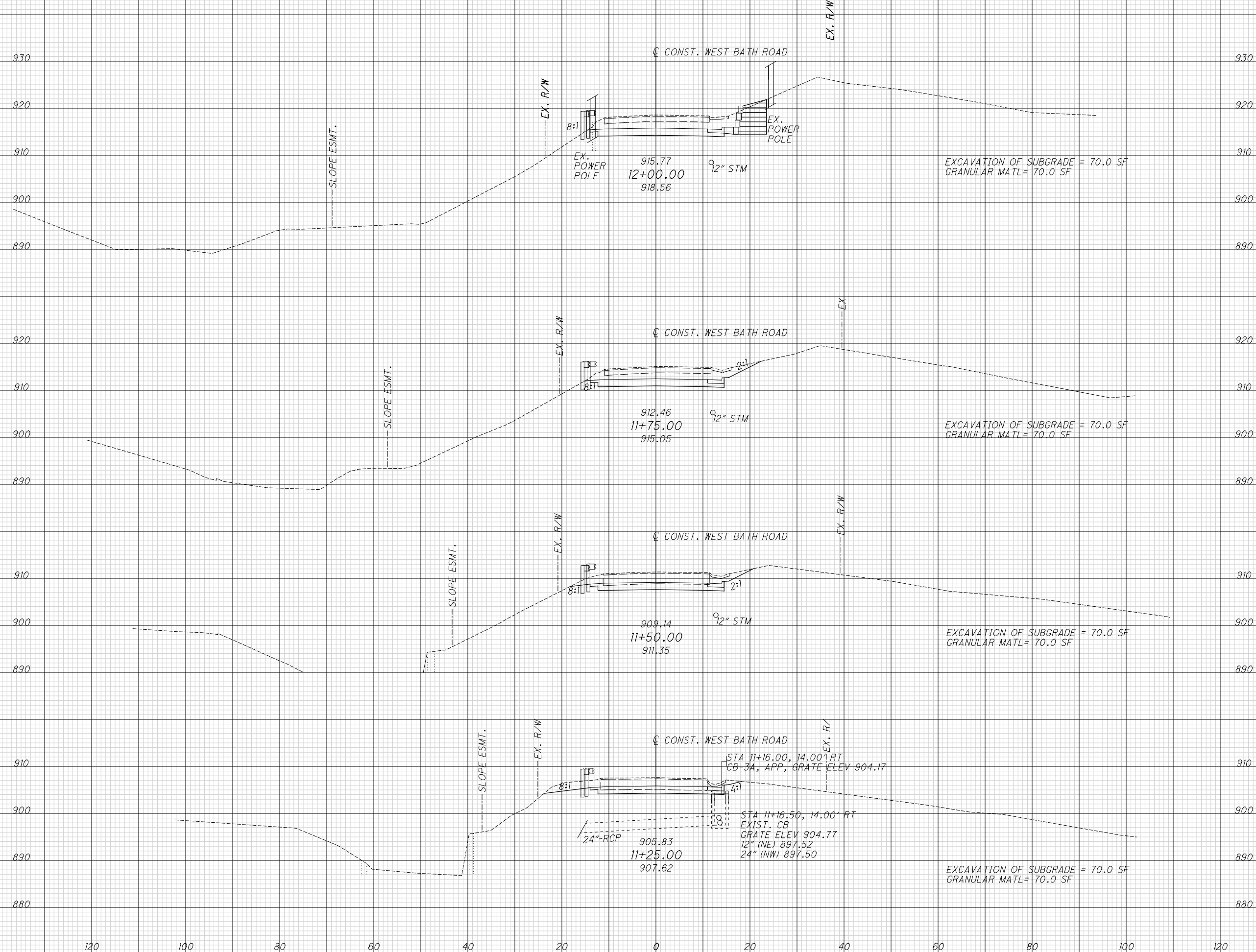
120 100 80 60 40 20 0 20 40 60 80 100 120

EXCAVATION OF SUBGRADE

W:\Projects\Projects P-T\SI150003\CAD\SHEET\roadway\sheet\SI150003_XS001.dgn 12/5/2019 2:58:56 PM

SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL	LMH	JMW



163.5	0	131	0		
118.4	0	106	0		
109.9	0	99	0		
104.7	0	98	0		
		434	0		

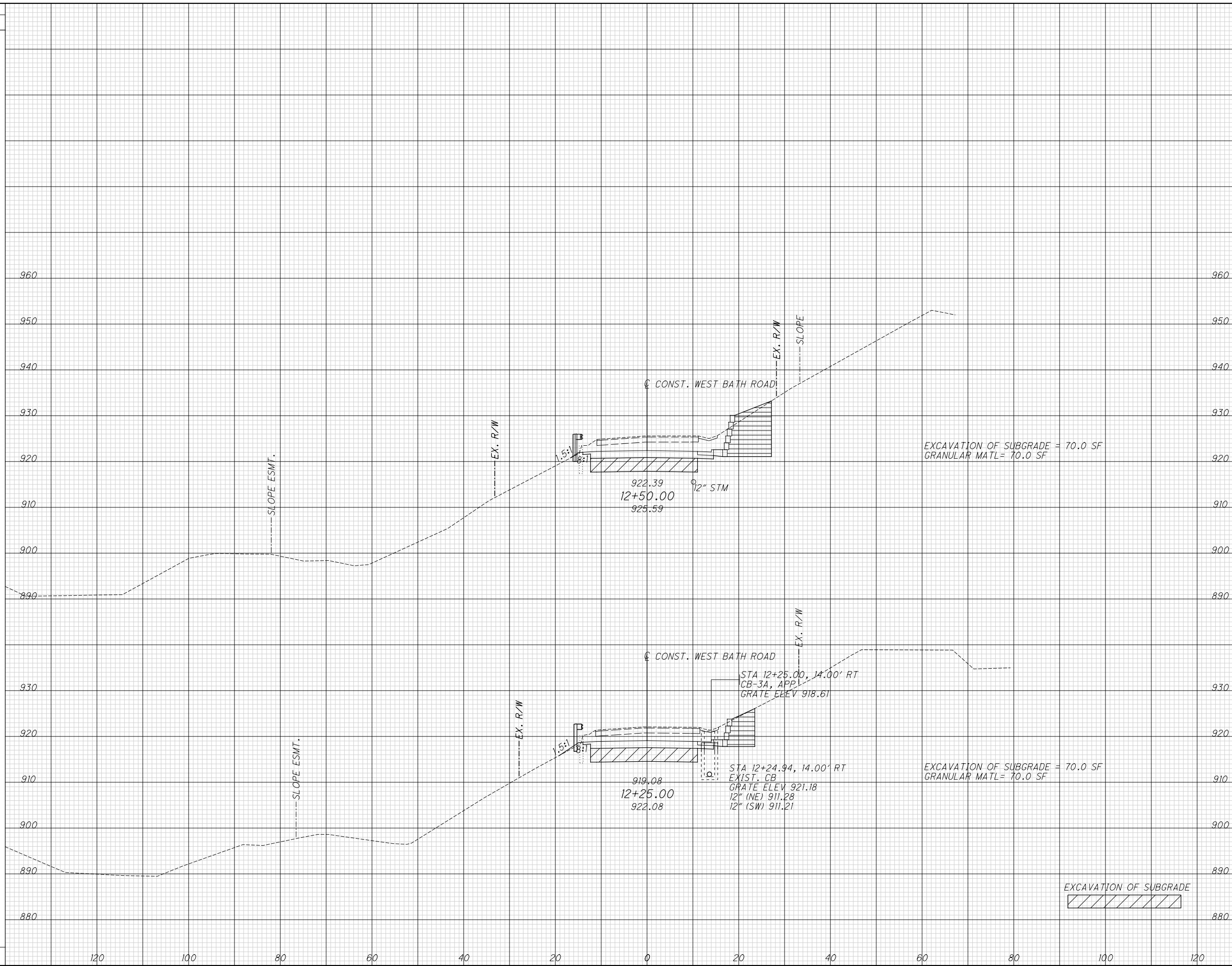
**CROSS SECTIONS WEST BATH ROAD
STA. 11+25.00 TO STA. 12+00.00**

**SUM-WEST BATH ROAD
LANDSLIDE REPAIR**

W:\Projects\Projects P-T\SI150003\CAD\SHEET\roadway\sheet\SI150003_XS001.dgn 12/5/2019 2:58:56 PM

SEEDING
END SO.
WIDTH YDS.

END AREA
CUT FILL
VOLUME
CUT FILL
CALCULATED
LMH
CHECKED
JMW



END AREA	VOLUME	CALCULATED	CHECKED
CUT	FILL	LMH	JMW
228.9	0.2		
187	1		
174.8	1.3		
157	1		
344	2		

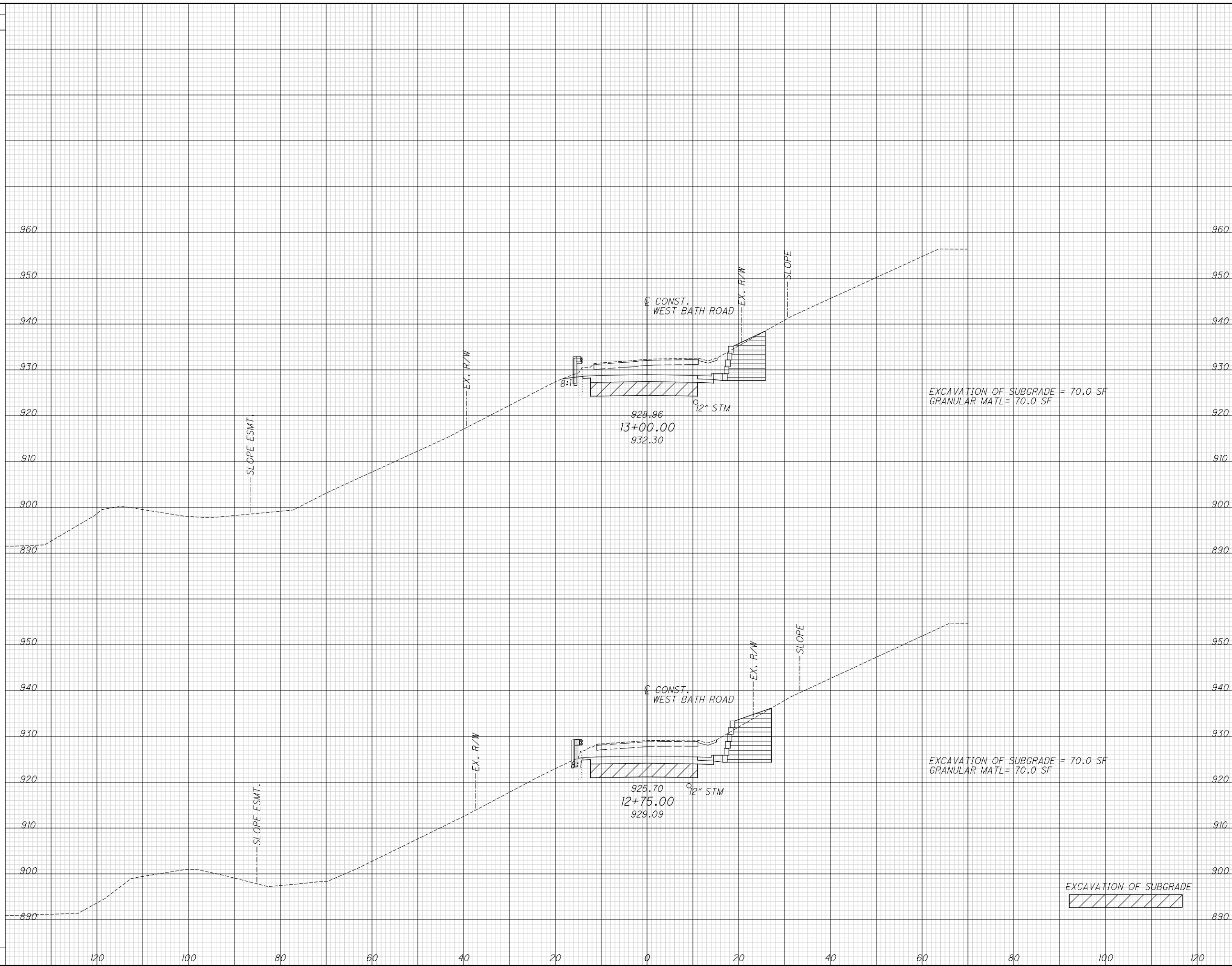
**CROSS SECTIONS WEST BATH ROAD
STA. 12+25.00 TO STA. 12+50.00**

**SUM-WEST BATH ROAD
LANDSLIDE REPAIR**

W:\Projects\Projects P-T\SI150003\CAD\SHEET\roadway\sheet\SI150003_XS001.dgn 12/5/2019 2:58:57 PM

SEEDING
END SO.
WIDTH YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
LHM
CHECKED
JMW



END AREA	VOLUME	CALCULATED	CHECKED
CUT	FILL	LHM	JMW
221.9	0		
236.2	0		
215	0		
427	0		

CROSS SECTIONS WEST BATH ROAD
STA. 12+75.00 TO STA. 13+00.00

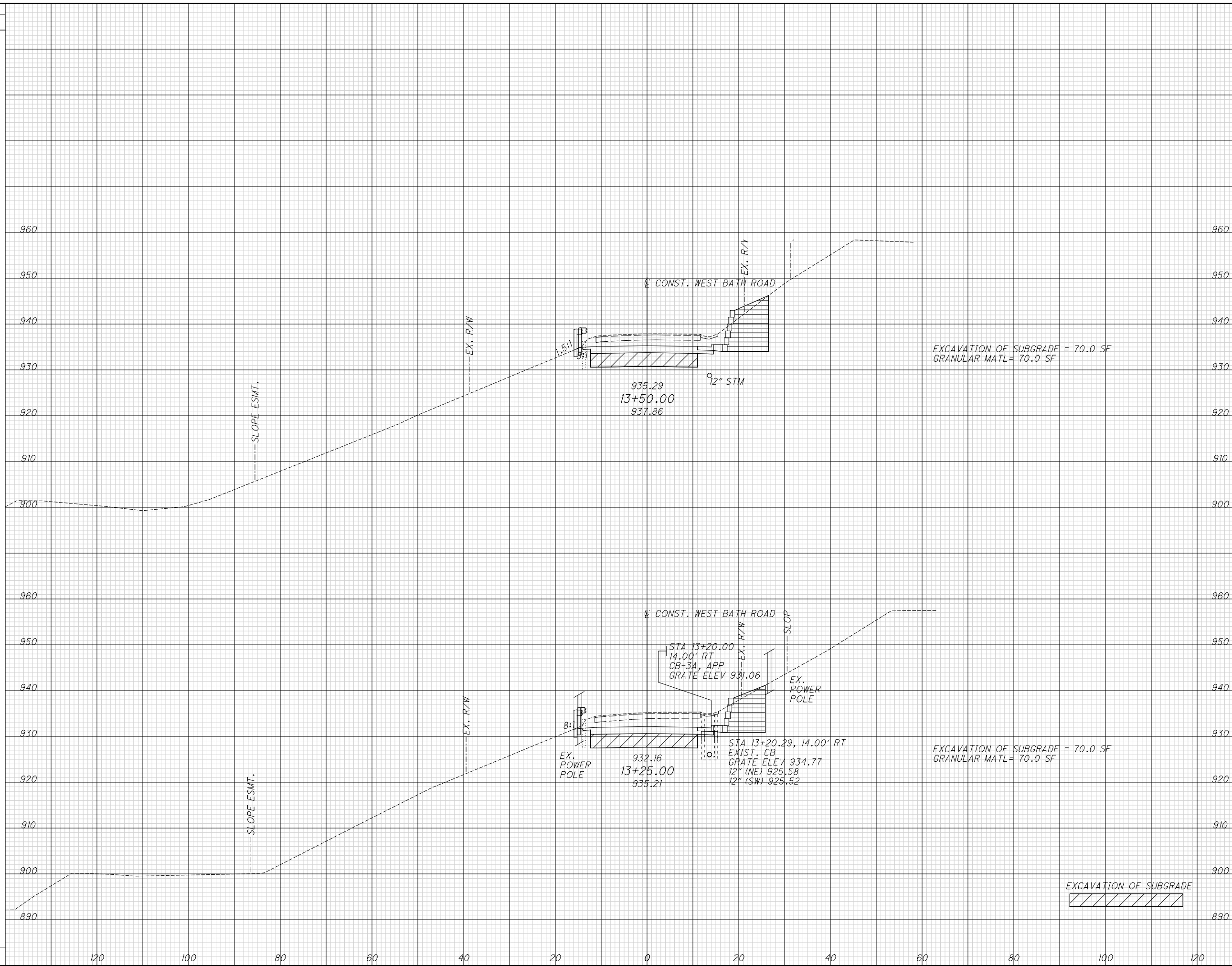
SUM-WEST BATH ROAD
LANDSLIDE REPAIR

18
29

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SEEDING
END SO.
WIDTH YDS.

END AREA VOLUME
CUT FILL CUT FILL
CALCULATED
LMH CHECKED
JMW



EXCAVATION OF SUBGRADE = 70.0 SF
GRANULAR MATL = 70.0 SF

EXCAVATION OF SUBGRADE = 70.0 SF
GRANULAR MATL = 70.0 SF

EXCAVATION OF SUBGRADE

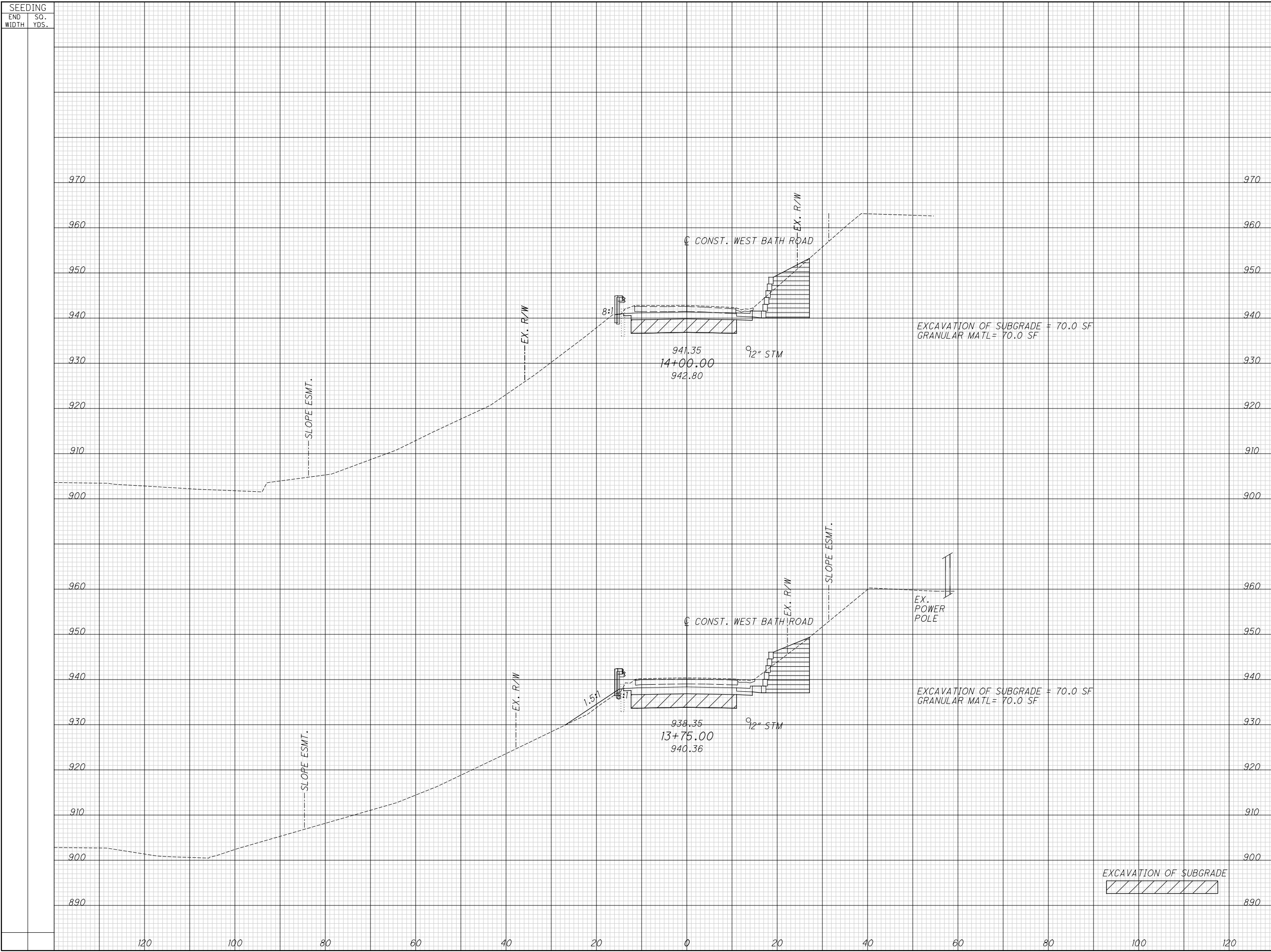
END AREA	VOLUME	CALCULATED	CHECKED
CUT	FILL	CUT	FILL
203.6	0		
189	0		
205.7	0		
198	0		
387	0		

**CROSS SECTIONS WEST BATH ROAD
STA. 13+25.00 TO STA. 13+50.00**

**SUM-WEST BATH ROAD
LANDSLIDE REPAIR**

19
29

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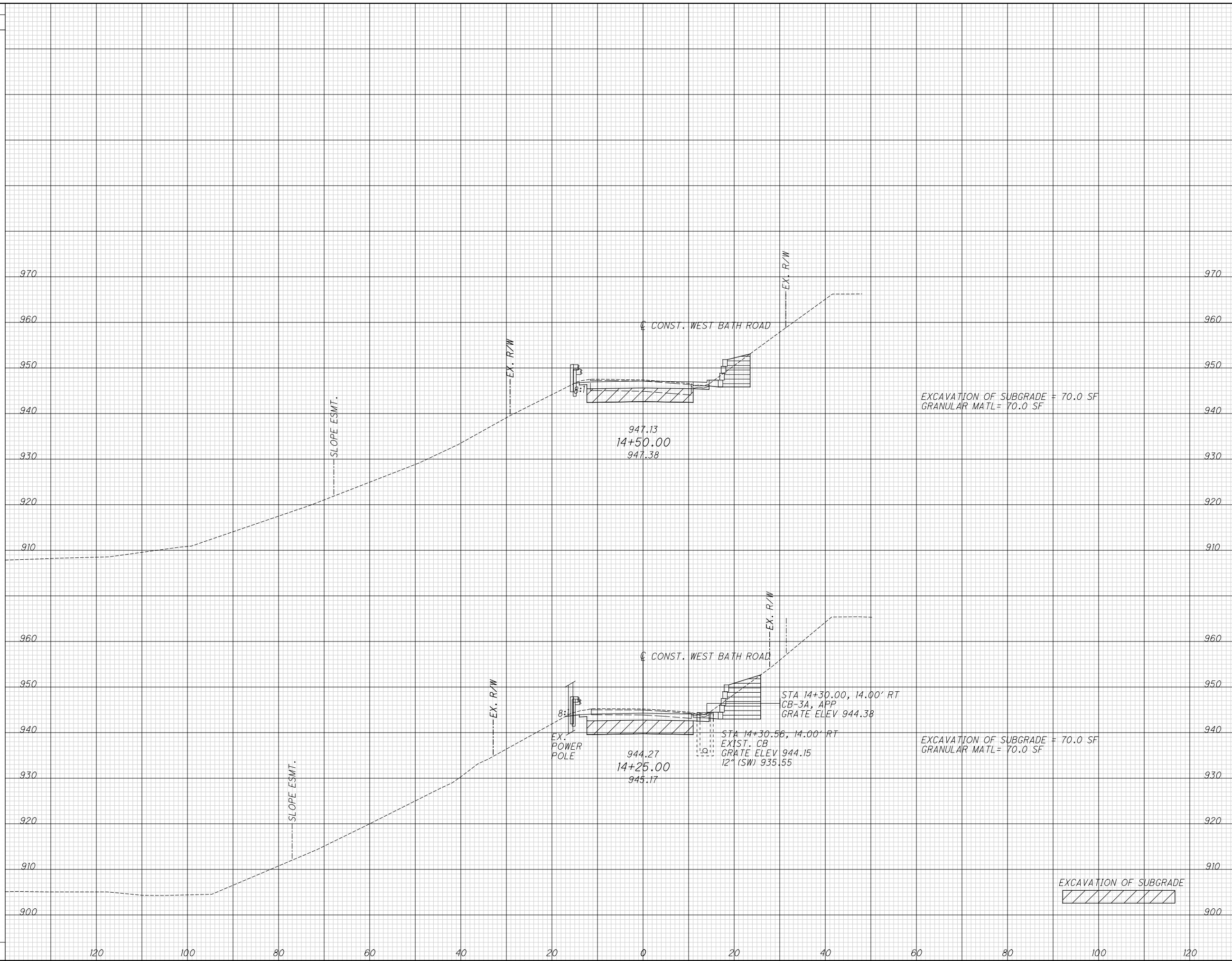
END STA.	END AREA		VOLUME		CALCULATED LMH	CHECKED JMW
	CUT	FILL	CUT	FILL		
14+00.00	176.6	0				
13+75.00	190.1	7.6				
	352	8				

CROSS SECTIONS WEST BATH ROAD
STA. 13+75.00 TO STA. 14+00.00
SUM-WEST BATH ROAD
LANDSLIDE REPAIR

20
29

W:\Projects\Projects P-T\SI150003\CAD\SHEET\roadway\sheet\SI150003_XS001.dgn 12/5/2019 2:59:00 PM

SEEDING	
END WIDTH	SO. YDS.



END AREA	VOLUME	CALCULATED	CHECKED		
				CUT	FILL
80.3	0				
96	0				
127.9	0				
141	0				
237	0				

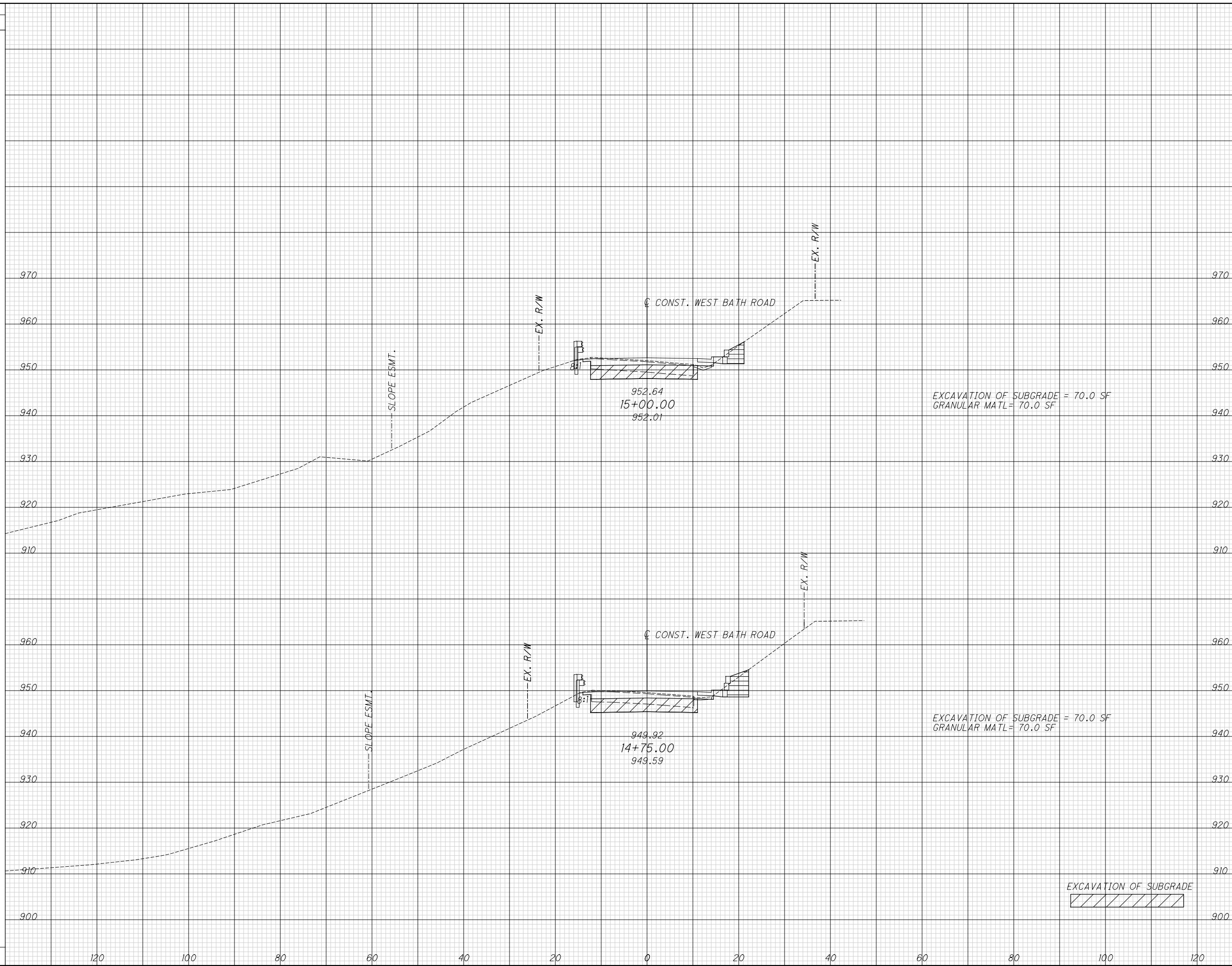
SUM-WEST BATH ROAD
LANDSLIDE REPAIR
CROSS SECTIONS WEST BATH ROAD
STA. 14+25.00 TO STA. 14+50.00

21
29

W:\Projects\Projects P-T\SI150003\CAD\SHEET\roadway\sheet\SI150003_XS001.dgn 12/5/2019 2:59:02 PM

SEEDING	
END WIDTH	SO. YDS.

END AREA		VOLUME		CALCULATED	
CUT	FILL	CUT	FILL	LMH	CHECKED
					JMW



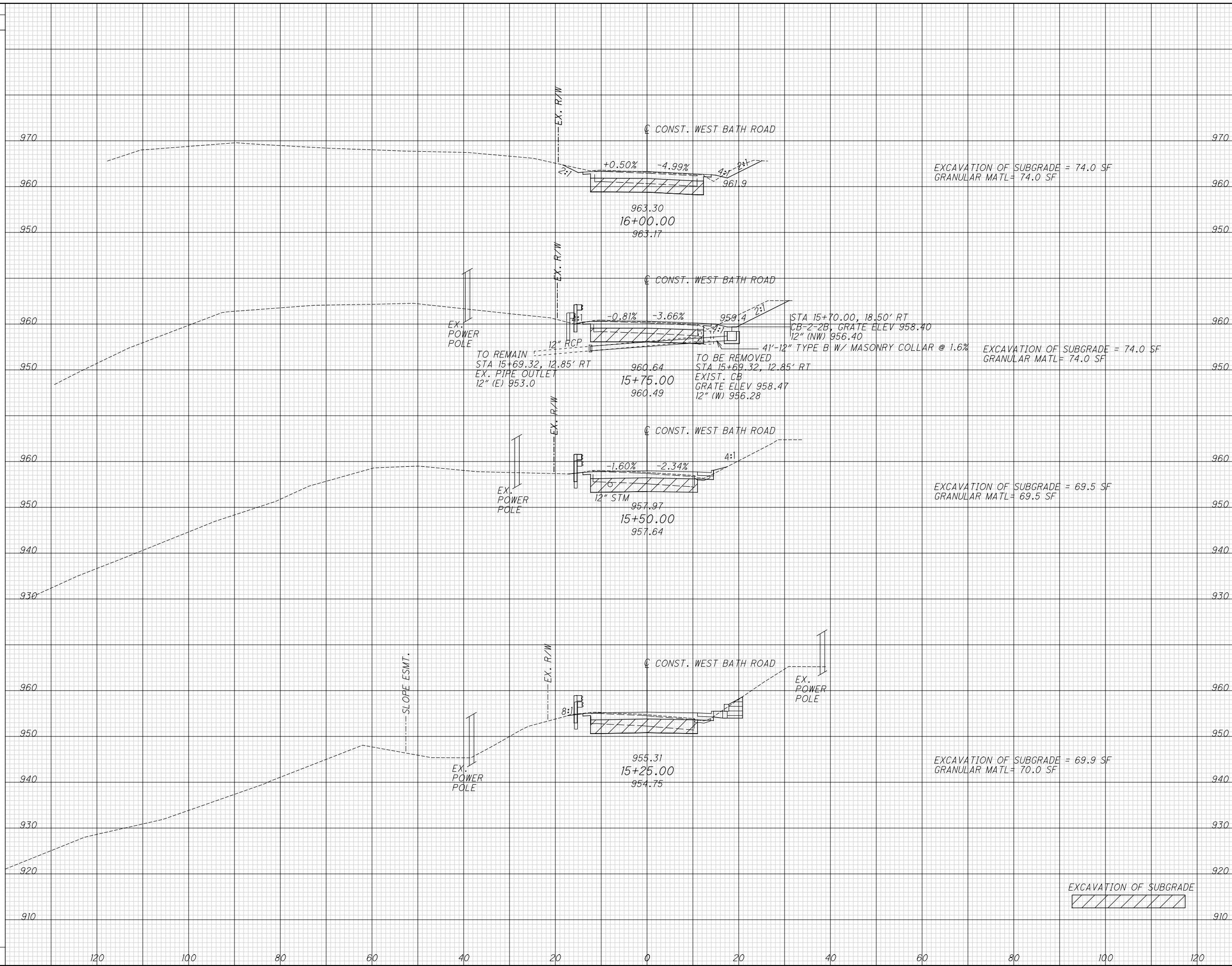
970	970				
960	960	39.8	0.6		
950	950				
940	940				
930	930				
920	920				
910	910				
960	960			44	0
950	950				
940	940	54.5	0		
930	930				
920	920				
910	910				
900	900			62	0
		106	0		

**CROSS SECTIONS WEST BATH ROAD
STA. 14+75.00 TO STA. 15+00.00**

**SUM-WEST BATH ROAD
LANDSLIDE REPAIR**

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SEEDING
END SO.
WIDTH YDS.



END STA.	AREA		VOLUME		CALCULATED LMH	CHECKED JMW
	CUT	FILL	CUT	FILL		
16+00.00	65.8	2.2				
15+75.00	78.9	1.8				
15+50.00	36.2	1.1				
15+25.00	40.5	0.2				
TOTAL	221.4	5.3				

CROSS SECTIONS WEST BATH ROAD
STA. 15+25.00 TO STA. 16+00.00
SUM-WEST BATH ROAD
LANDSLIDE REPAIR

23
29

SEEDING
END SO.
WIDTH YDS.

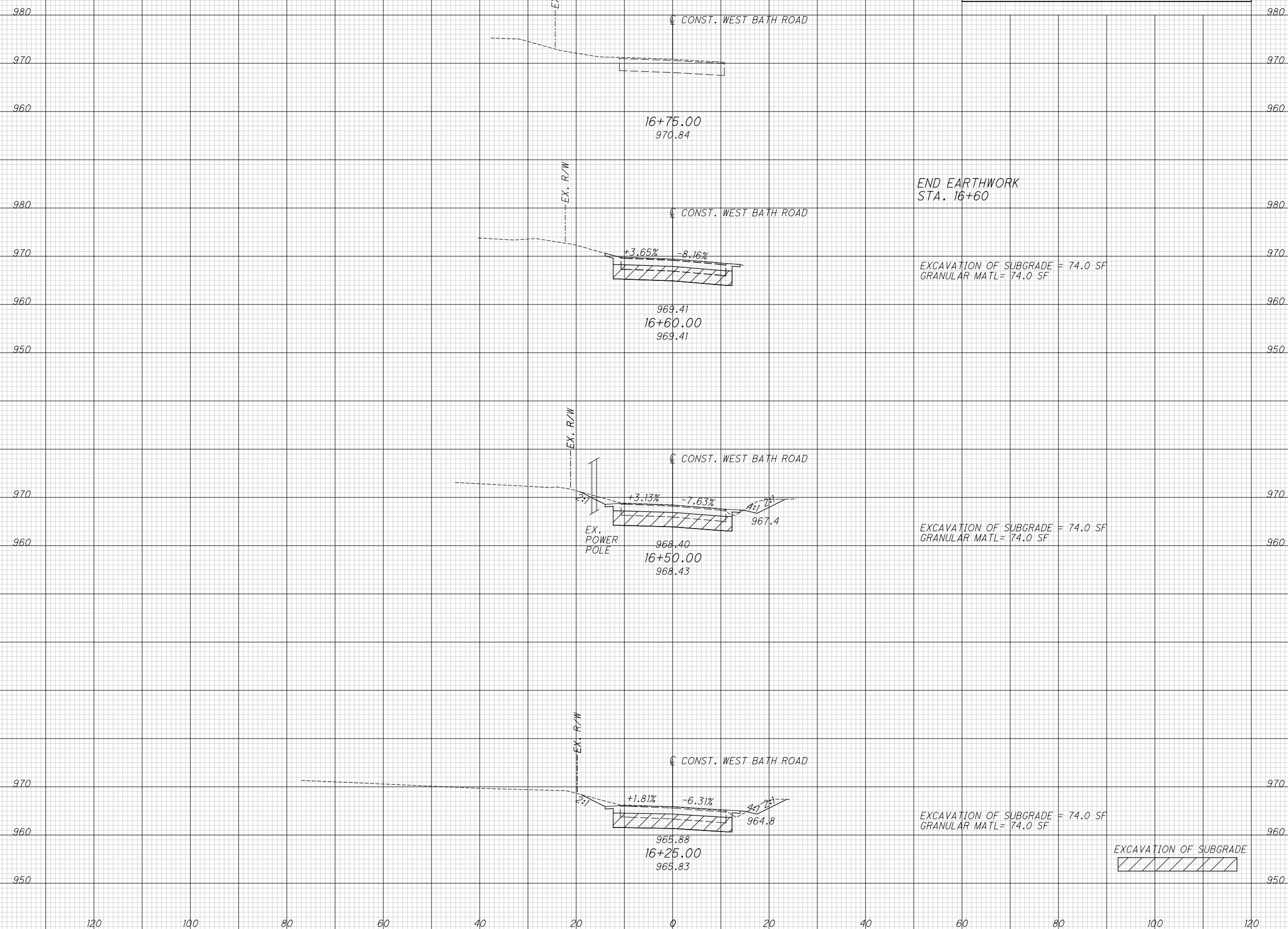
EARTHWORK QUANTITIES	
ITEM 203 EXCAVATION	2907 CY
ITEM 203 EMBANKMENT	34 CY
ITEM 204 EXCAVATION OF SUBGRADE	1765 CY
ITEM 204 GRANULAR MATERIAL, TYPE C	1767 CY

END AREA	VOLUME	CALCULATED	CHECKED
980			
970			
960			
980			
970			
960	39.7	0	
950			
970		18	0
960	57.8	0.9	
950			
970		69	1
960	90.6	1.8	
950			
	72	2	
	157	1	

SUM-WEST BATH ROAD
LANDSLIDE REPAIR

24
29

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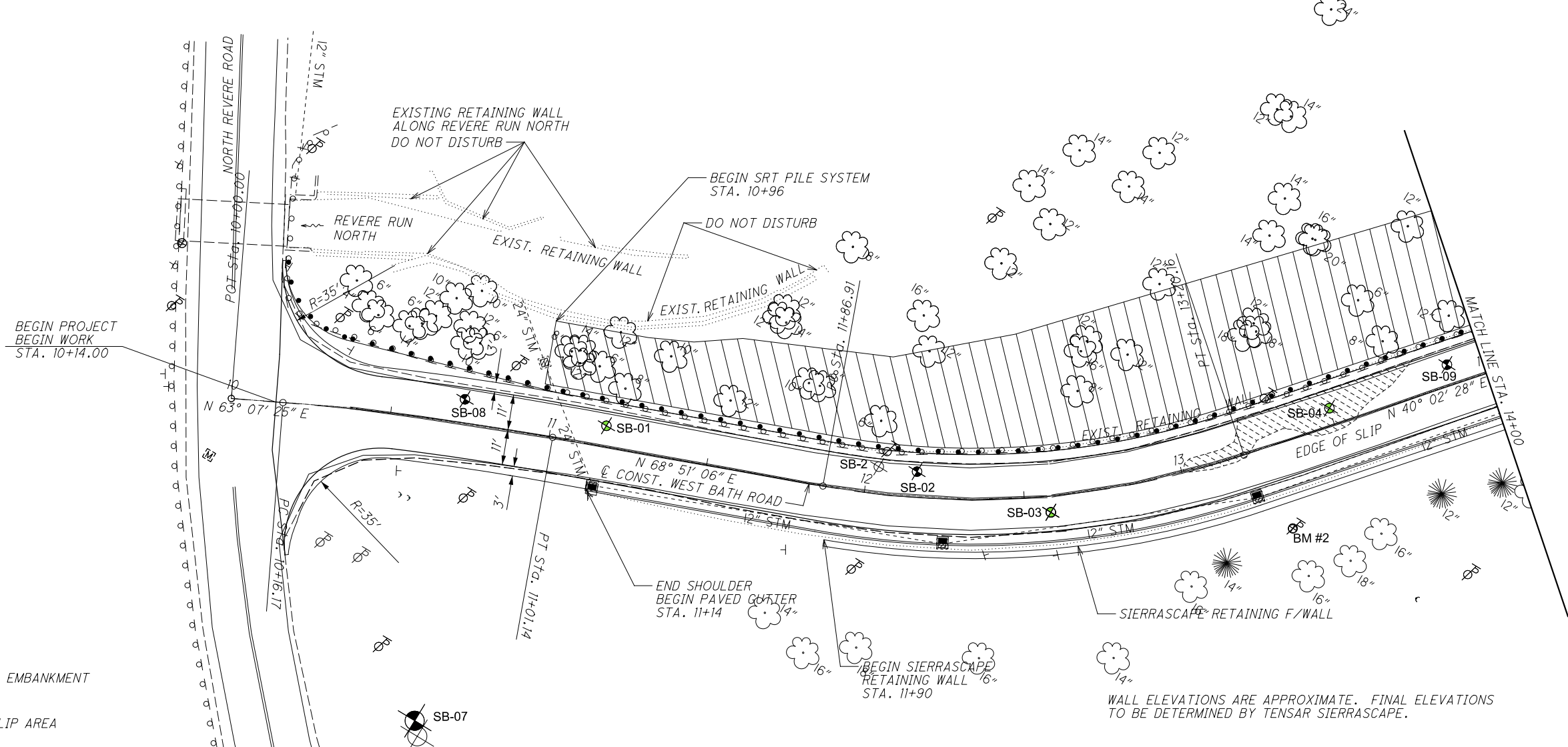






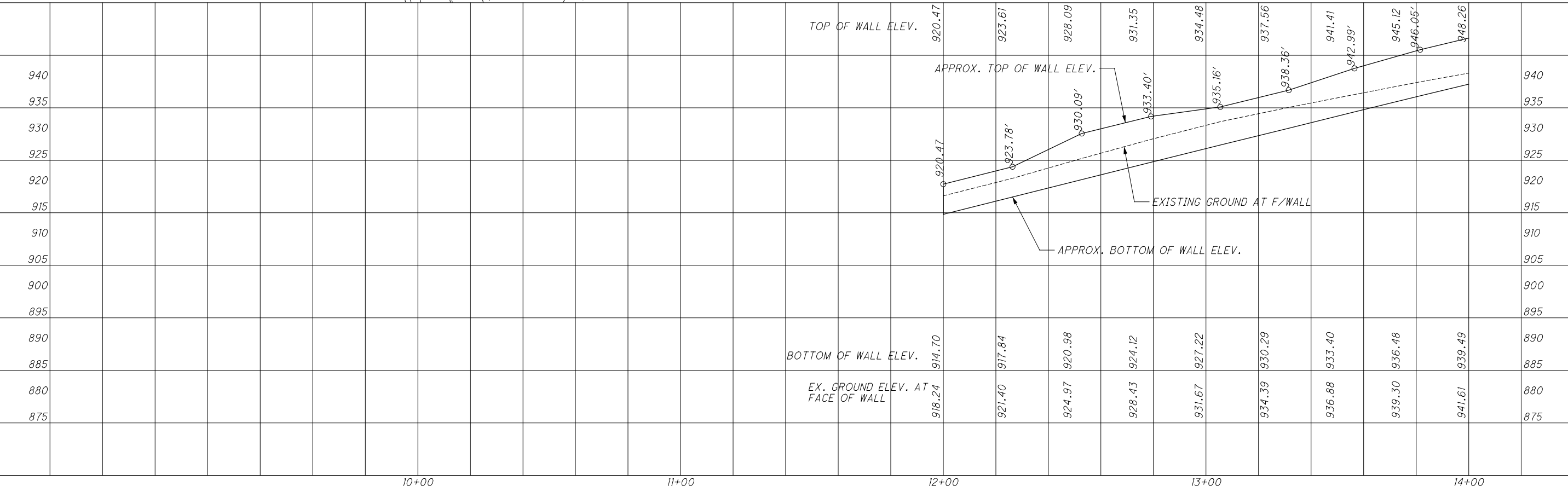
CALCULATED	LJH
CHECKED	JMW

PLAN AND WALL ELEVATION PROFILE
STA. 10+00 TO 14+00

SUM-WEST BATH ROAD
LANDSLIDE REPAIR



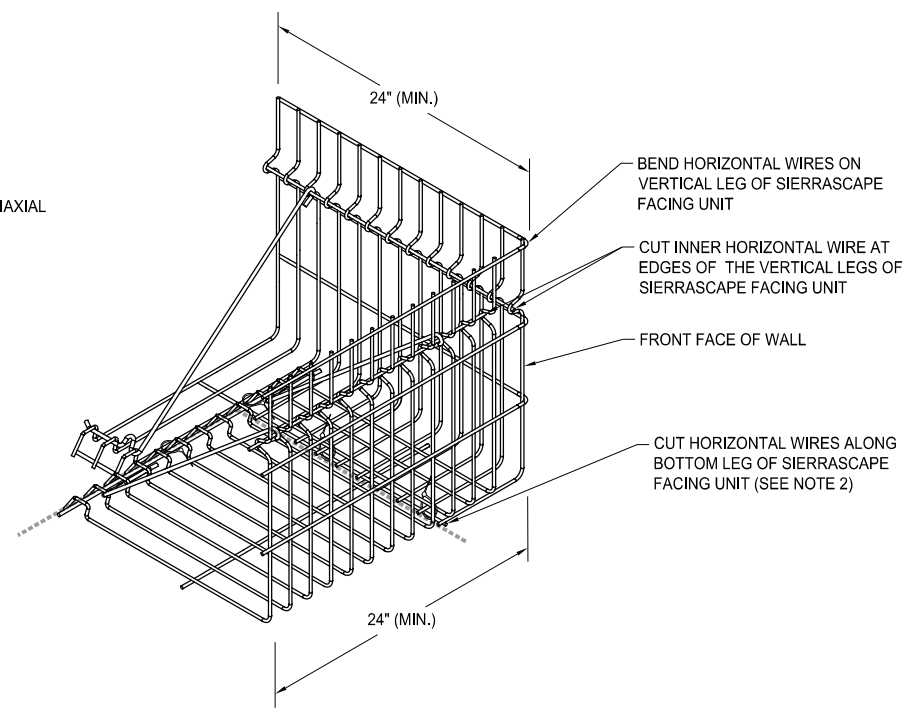
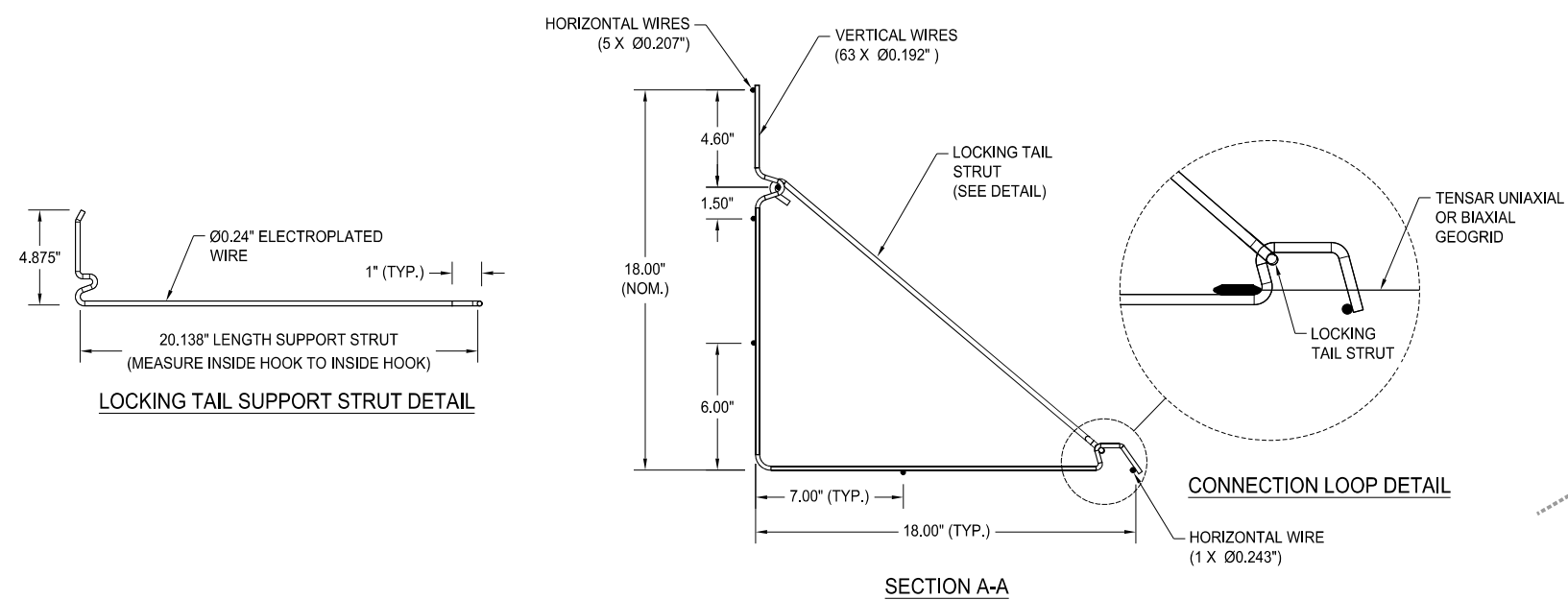
	PROPOSED REINFORCED EMBANKMENT (GEOPIER SRT SYSTEM)
	EXISTING LANDSLIDE/SLIP AREA



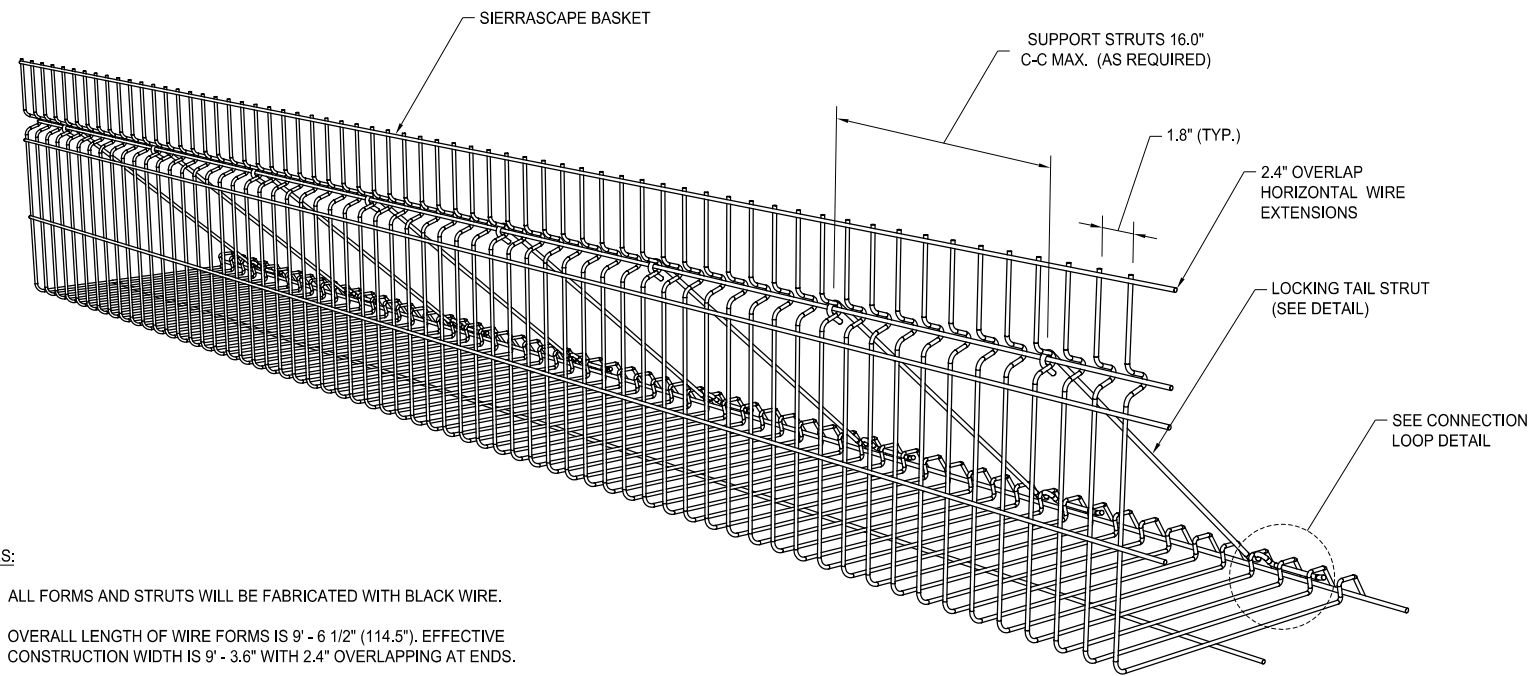
WALL ELEVATIONS ARE APPROXIMATE. FINAL ELEVATIONS TO BE DETERMINED BY TENSAR SIERRASCAPE.

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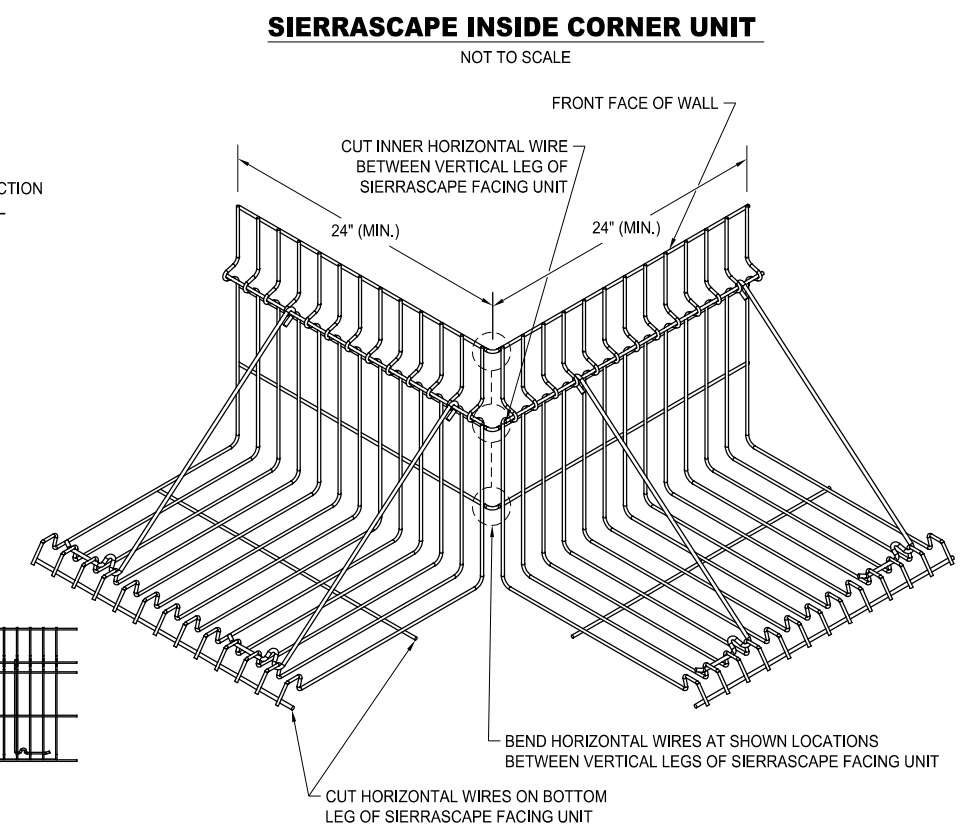
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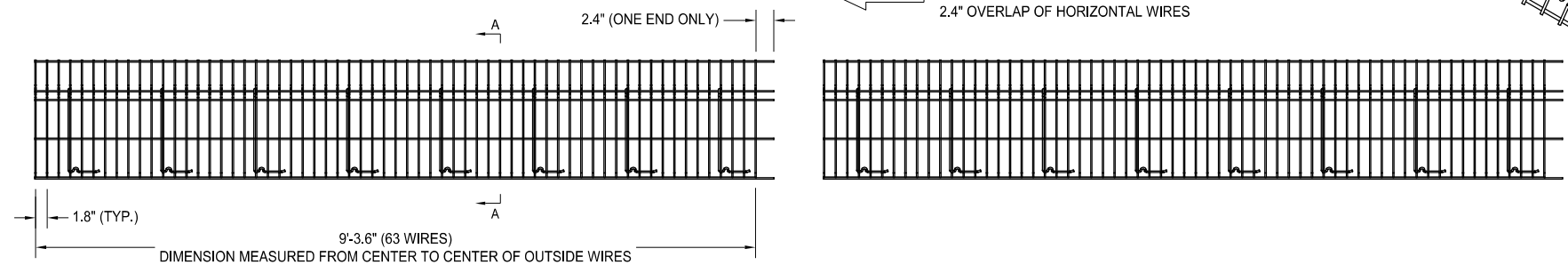
- NOTE:**
- SEE SIERRASCAPE FACING UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS.
 - CUT BOTTOM LEG FROM CONNECTION LOOPS TO SECOND HORIZONTAL WIRE TO ALLOW UNCUT LEG TO OVERLAP WHEN BENDING. SECURE WITH HOG WIRE OR ZIP TIE.



- NOTES:**
- ALL FORMS AND STRUTS WILL BE FABRICATED WITH BLACK WIRE.
 - OVERALL LENGTH OF WIRE FORMS IS 9' - 6 1/2" (114.5"). EFFECTIVE CONSTRUCTION WIDTH IS 9' - 3.6" WITH 2.4" OVERLAPPING AT ENDS.



NOTE: SEE SIERRASCAPE FACING UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS



SIERRASCAPE FACING UNIT
 NOT TO SCALE

SIERRASCAPE INSIDE CORNER UNIT
 NOT TO SCALE

TIC STANDARD DETAILS

PROJECT NAME AND LOCATION	----	
OWNER	----	
OWNER PROJECT No.	----	
CLIENT	----	
TIC PROJECT No.	----	
DRAWN BY:	O. MARTINEZ	
DESIGNED BY:	----	
CHECKED BY:	R. JOHNSON	
ENGINEER OF RECORD (MSE STRUCTURE ONLY):	----	

NO.	DATE	DESCRIPTION	BY
0	8/20/18	ISSUED FOR REVIEW	RJ

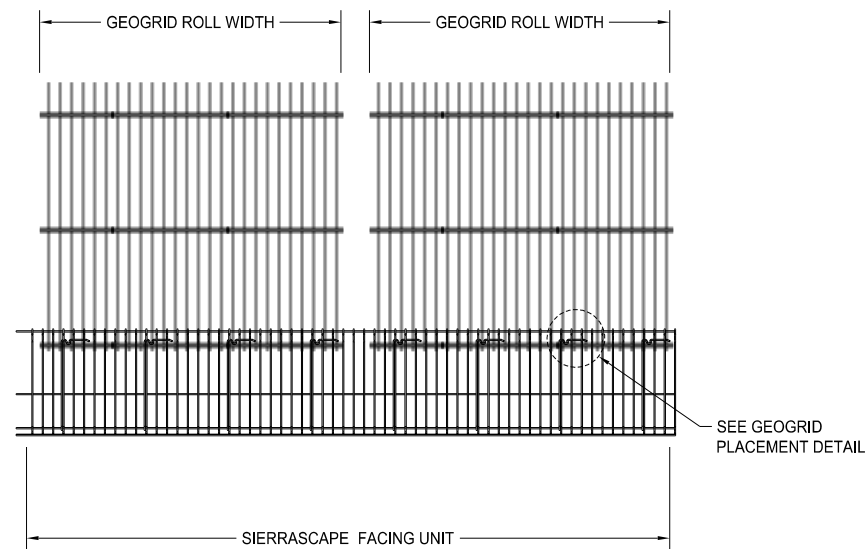
SIERRASCAPE STANDARD DETAILS

SCALE: AS SHOWN
 SHEET 1 OF 3

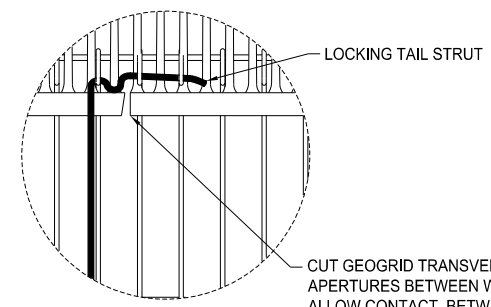
Plotted on: December 12, 2018
 V:\PROJECTS\PROJECTS - T\15150003\CAD\SHETS\ROADWAY\SHETS\15150003_VD001.DGN

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PLAN VIEW

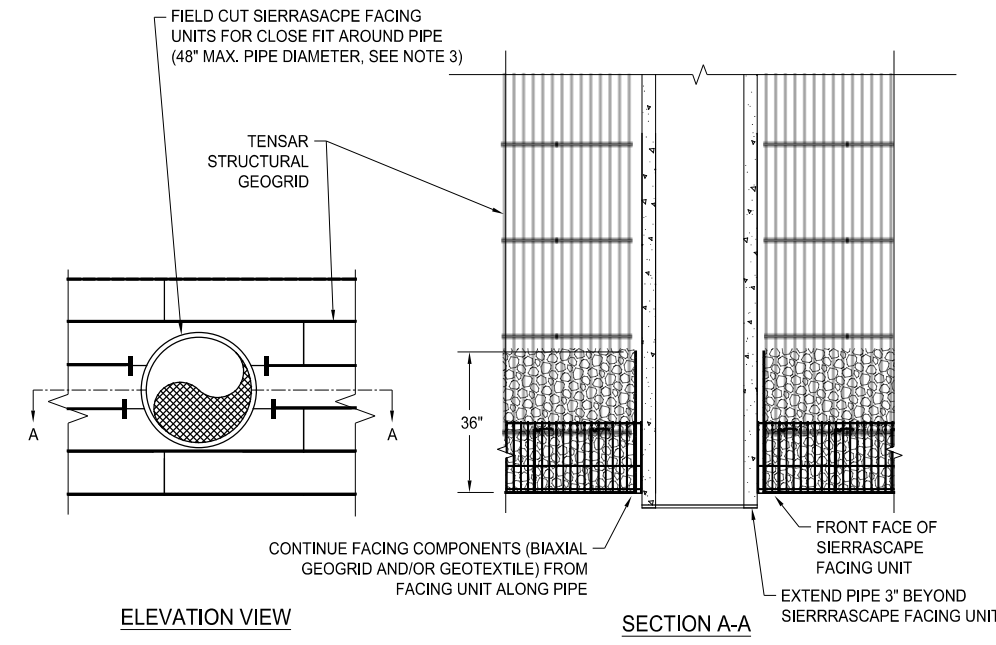


NOTES:

1. SEE SIERRASCAPE FACING UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS.
2. TWO ROLLS OF UNIAXIAL GEOGRID SHALL BE PLACED ON EACH SIERRASCAPE FACING UNIT WITH TWO GEOGRID RIBS BETWEEN EACH PAIR OF WIRE CONNECTION LOOPS.
3. DURING INSTALLATION BUTT VERTICAL WIRE OF ADJACENT FACING UNITS TO PROVIDE 2.4" OVERLAP OF HORIZONTAL WIRES.

TYPICAL SIERRASCAPE GEOGRID COVERAGE

NOT TO SCALE



ELEVATION VIEW

SECTION A-A

NOTES:

1. SEE SIERRASCAPE FACING UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS.
2. SEE ELEVATION VIEW FOR GEOGRID TYPE, LOCATION, AND DIMENSIONS.
3. TERMINATE GEOGRIDS NO MORE THAN 3" FROM PIPE.
4. CONTRACTOR RESPONSIBLE TO INSTALL PIPE WITH LEAK-PROOF JOINTS.

PIPE PENETRATION DETAIL AT SIERRASCAPE WALL FACE

NOT TO SCALE

PROJECT NAME AND LOCATION

TIC STANDARD DETAILS

OWNER

OWNER PROJECT No.

CLIENT

TIC PROJECT No.

DRAWN BY: O. MARTINEZ

DESIGNED BY:

CHECKED BY: R. JOHNSON

ENGINEER OF RECORD (MSE STRUCTURE ONLY):

NO.	DATE	DESCRIPTION	BY
0	8/20/18	ISSUED FOR REVIEW	RJ

REVISION / ISSUE

SHEET TITLE

SIERRASCAPE STANDARD DETAILS

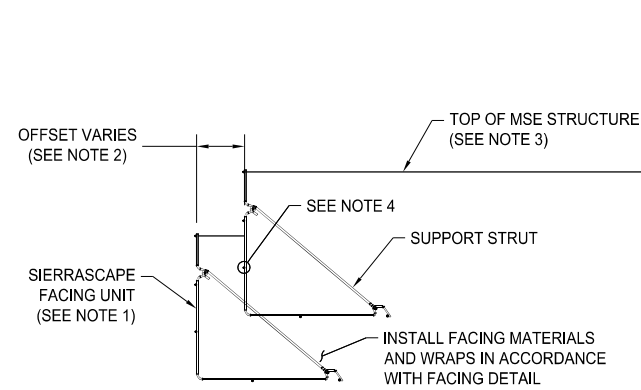
SCALE: AS SHOWN

28
29

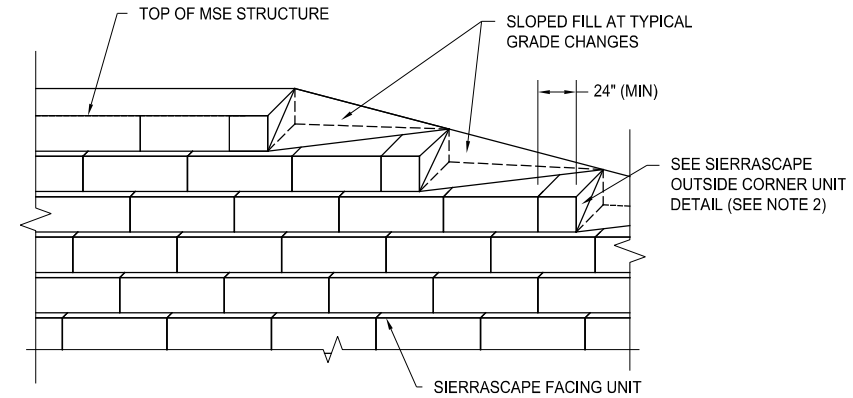
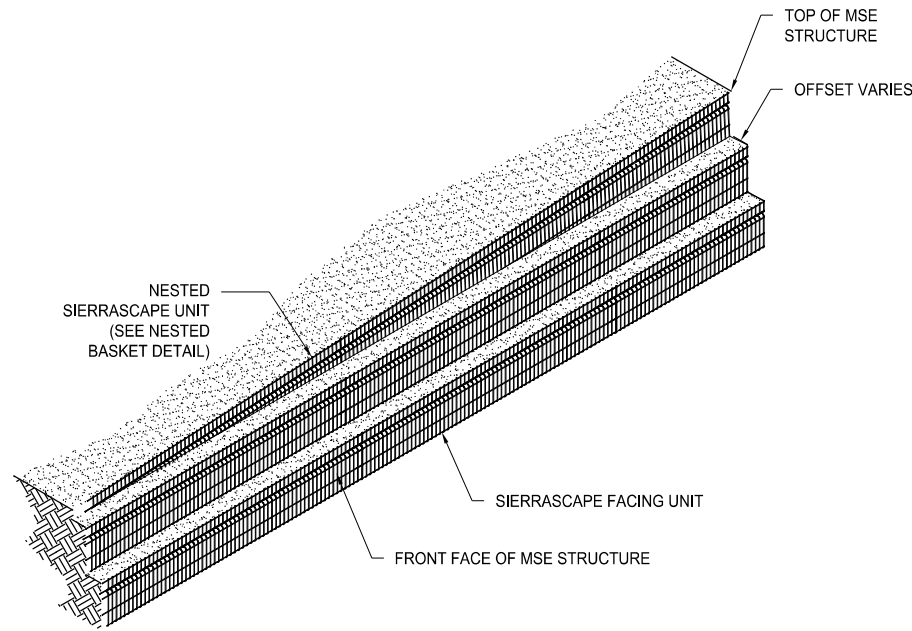
Plotted on: December 12, 2018
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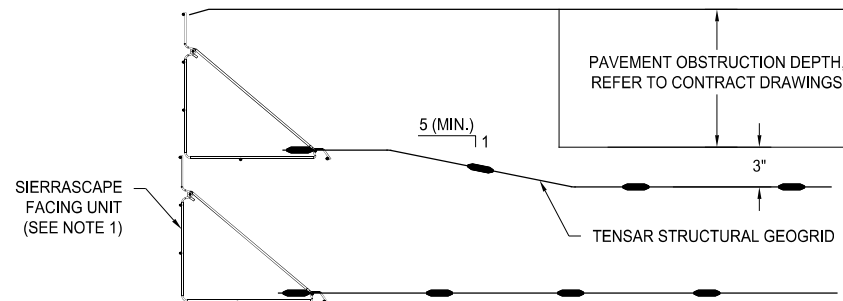
- NOTES:**
- SEE SIERRASCAPE FACING DETAIL FOR FACING MATERIALS AND DIMENSIONS.
 - OFFSET AS NEEDED TO ACHIEVE OVERALL BATTER AS SHOWN IN THE CROSS-SECTIONS.
 - SET TOPMOST SIERRASCAPE FACING UNIT INSIDE SIERRASCAPE FACING UNIT BELOW TO FOLLOW GRADE.
 - HORIZONTAL WIRES OF TOPMOST SIERRASCAPE FACING UNIT MAY BE CUT TO ALLOW INSTALLATION OVER STRUTS OF SIERRASCAPE FACING UNIT BELOW.



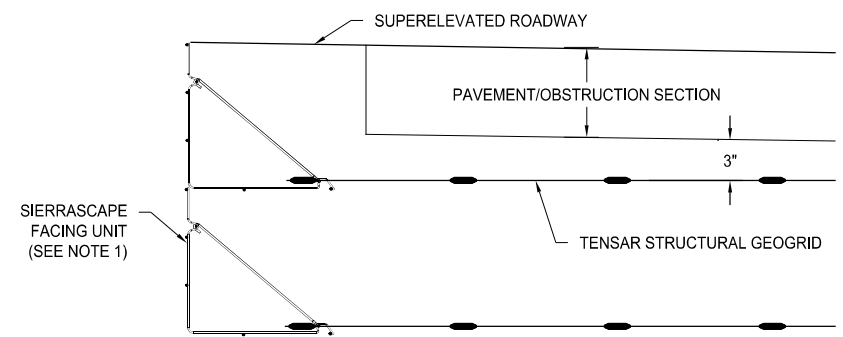
- NOTES:**
- SEE SIERRASCAPE FACING DETAIL AND SIERRASCAPE OUTSIDE CORNER UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS.
 - BEND BASKET 90° PER OUTSIDE CORNER UNIT DETAIL AT STEPS TO ENSURE REINFORCED FILL IS CONTAINED.

NESTED BASKET DETAIL (OFFSET)

NOT TO SCALE



HORIZONTAL PAVEMENT/OBSTRUCTION STRUCTURE



SUPERELEVATED PAVEMENT/OBSTRUCTION STRUCTURE

- NOTES:**
- SEE SIERRASCAPE FACING UNIT DETAIL FOR FACING MATERIALS AND DIMENSIONS.
 - CONTRACTOR IS RESPONSIBLE TO COORDINATE THE PLACEMENT OF THE GEOGRID TO AVOID CONFLICT WITH THE CONTRACT PAVEMENT/OBSTRUCTION SECTION. GEOGRID MUST BE SEPARATED FROM THE PAVEMENT/OBSTRUCTION SECTION BY A MINIMUM OF 3".

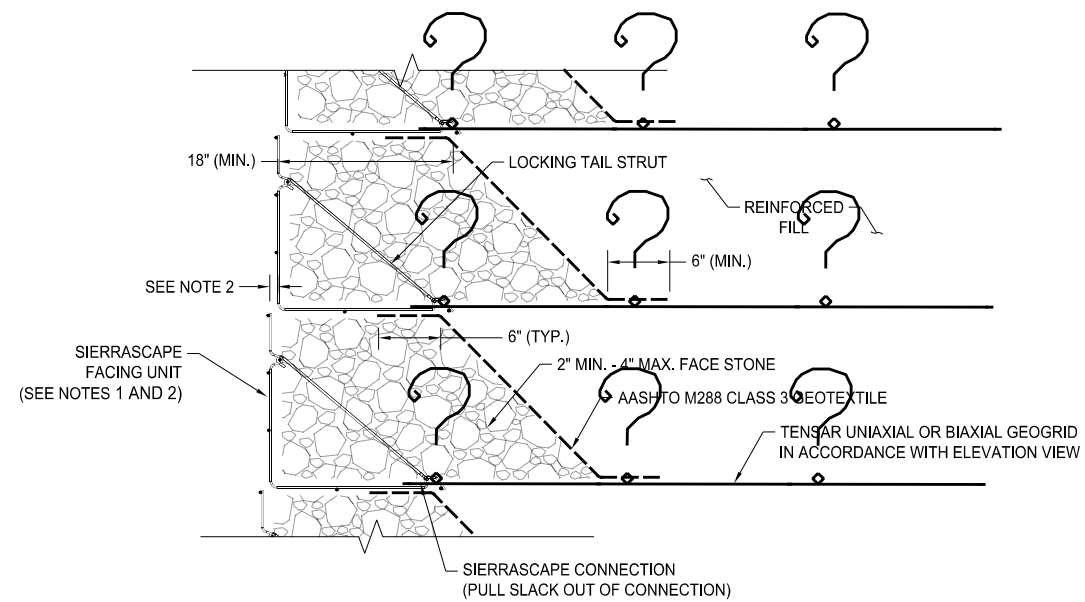
GEOGRID PLACEMENT AT PAVEMENT/OBSTRUCTION SECTION

ISOMETRIC VIEW - NESTED BASKET AT TOP OF MSE STRUCTURE DETAIL (OFFSET)

NOT TO SCALE

TOP OF MSE STRUCTURE FINISHING DETAIL (OFFSET)

NOT TO SCALE



- NOTES:**
- SEE SIERRASCAPE FACING UNIT DETAIL FOR FACING MATERIAL AND DIMENSIONS.
 - OFFSET AS NEEDED TO ACHIEVE OVERALL BATTER AS SHOWN IN THE CROSS-SECTIONS.

PROJECT NAME AND LOCATION

TIC STANDARD DETAILS

OWNER: _____
OWNER PROJECT No.: _____
CLIENT: _____
TIC PROJECT No.: _____

DRAWN BY: O. MARTINEZ
DESIGNED BY: _____
CHECKED BY: R. JOHNSON
ENGINEER OF RECORD (MSE STRUCTURE ONLY): _____

NO.	DATE	ISSUED FOR REVIEW	DESCRIPTION	RJ	BY
0	8/20/18	ISSUED FOR REVIEW		RJ	

REVISION / ISSUE

SIERRASCAPE STANDARD DETAILS

SCALE: AS SHOWN

SHEET 3 OF 3