

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

# BRO-32-4.16

## VILLAGE OF MT. ORAB STERLING & GREEN TOWNSHIPS BROWN COUNTY

**PROJECT DESCRIPTION**

IMPROVEMENT OF SR 32 BY INTRODUCING A NEW DIAMOND INTERCHANGE AT PROPOSED BRUCE LUNSFORD WAY WEST OF BROOKS-MALOTT ROAD IN BROWN COUNTY. CONSTRUCTION OF NEW INTERCHANGE, 0.5 MILES OF NEW ALIGNMENT BRUCE LUNSFORD WAY, 1.2 MILES OF NEW ALIGNMENT HOMAN WAY, AND 0.2 MILES OF RE-ALIGNMENT MERCY BOULEVARD. ELIMINATION OF PUBLIC ACCESS ALONG SR 32 AT BODMAN ROAD AND BROOKS-MALOTT ROAD. PROJECT ALSO INCLUDES RESURFACING AND MINOR PAVEMENT REPAIR OF SR-32 FROM SLM 2.47 TO SLM 4.54.

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA: 61.06 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 1.0 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: 62.06

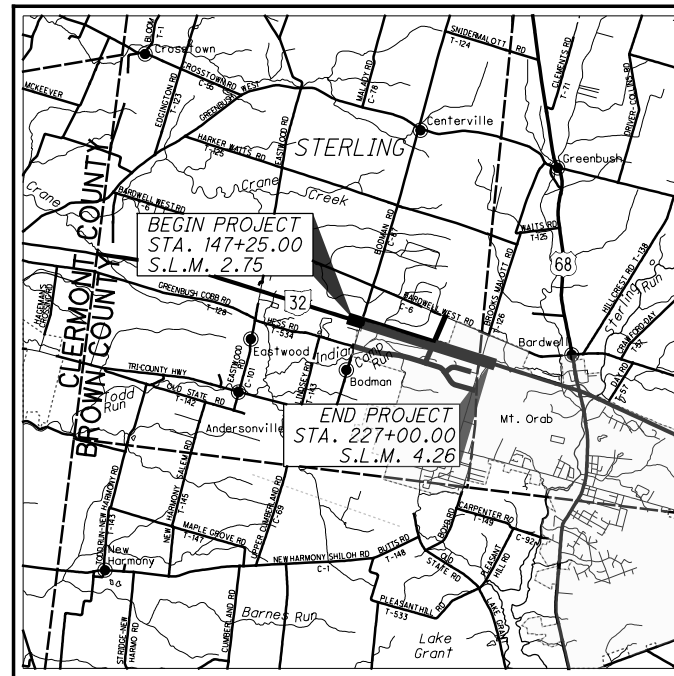
**LIMITED ACCESS**

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.

**2019 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES 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 EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEET 26 AND THAT PROVISIONS FOR THE MAINTANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATES.



**LOCATION MAP**

LATITUDE: 39°02'43" LONGITUDE: 83°56'59"



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

**DESIGN DESIGNATION**

SEE SHEET 4 FOR DESIGN DESIGNATION INFORMATION

**DESIGN EXCEPTIONS**

NONE REQUIRED

**ADA DESIGN WAIVER**

NONE REQUIRED

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<p>ENGINEERS SEAL:</p> <p>SIGNED: <i>B. Toombs</i> DATE: 12/23/2022</p>	<p>ENGINEERS SEAL:</p> <p>SIGNED: <i>John Crawford Shanks, Jr.</i> DATE: 12/23/2022</p>	<p>ENGINEERS SEAL:</p> <p>SIGNED: <i>Julia A. Hart</i> DATE: 12/26/2022</p>
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PLAN PREPARED BY:

**BURGESS & NIPLÉ**  
Engineers ■ Architects ■ Planners

5085 REED ROAD  
COLUMBUS, OHIO 43219

ENGINEERS SEAL:

SIGNED: *Michael R. Sturdevant*  
DATE: 12/26/2022

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-2.1	1/21/22	RM-1.1	1/15/21	HL-10.11	7/15/22	MT-95.30	7/19/19	MT-104.10	10/16/15	800	10/21/22	WATER PERMIT	
BP-2.2	1/15/21	RM-3.1	7/20/18	HL-10.12	1/20/17	MT-95.40	1/17/20	MT-105.10	1/17/20	807	1/21/22	CONDITIONS	
BP-3.1	1/21/22	RM-4.2	4/17/20	HL-10.13	4/17/20	MT-95.45	1/17/20			808	1/18/19	1/25/23	
BP-3.2	1/18/19	RM-7.1	7/18/14	HL-20.11	10/21/22	MT-95.50	7/21/17	TC-41.10	7/19/13	813	10/19/18		
BP-4.1	7/19/13			HL-30.11	1/15/21	MT-96.11	4/16/21	TC-41.20	10/18/13	821	4/20/12		
BP-5.1	7/15/22	CB-2-2A, 2B, 2-2C	7/15/22	HL-30.21	4/17/20	MT-96.20	7/15/16	TC-41.30	10/18/13	825	1/17/20		
BP-9.1	1/18/19			HL-30.22	1/15/21	MT-96.26	1/18/19	TC-41.50	10/18/13	832	7/15/22		
		CB-2-3, 2-4	7/16/21	HL-40.20	7/15/22	MT-97.12	1/20/17	TC-42.10	10/18/13	840	4/15/22		
MGS-1.1	7/16/21	CB-3	7/16/21	HL-50.11	1/16/15	MT-98.10	1/17/20	TC-42.20	10/18/13	846	4/17/15		
MGS-2.1	1/19/18	CB-3A	7/16/21	HL-60.11	7/21/17	MT-98.11	1/17/20	TC-51.11	1/15/16	850	4/15/22		
MGS-3.1	1/19/18	CB-4	7/16/21	HL-60.12	7/16/21	MT-98.20	4/19/19	TC-51.12	1/15/16	875	1/18/19		
MGS-3.2	1/18/13	DM-1.1	7/17/20	HL-60.31	1/17/20	MT-98.30	7/16/21	TC-52.20	1/15/21	876	4/15/22		
MGS-4.2	7/19/13	DM-1.2	7/16/21			MT-99.20	4/19/19	TC-64.10	7/16/21	878	1/21/22		
MGS-5.3	7/15/16	DM-4.1	7/17/20			MT-99.30	1/17/20	TC-65.10	1/17/14	905	4/17/20		
MGS-6.2	7/19/19	DM-4.2	7/20/12			MT-99.60	7/15/16	TC-71.10	7/15/22	908	10/20/17		
		DM-4.3	1/15/16			MT-101.60	1/17/20	TC-72.20	7/20/18	913	4/16/21		
F-1.1	7/19/13	DM-4.4	1/15/16			MT-101.70	1/17/20	TC-73.20	1/17/20	921	4/20/12		
F-2.1	7/20/18					MT-101.75	1/17/20			940	4/17/15		
F-3.3	7/19/13	HW-2.1	7/20/18			MT-101.90	7/17/20						
F-3.4	7/19/13	HW-2.2	7/20/18			MT-102.10	1/17/20						
						MT-102.30	10/16/15						

**UNDERGROUND UTILITIES**

Contact Two Working Days Before You Dig

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

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DISTRICT DEPUTY DIRECTOR

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E190659  
CONSTRUCTION PROJECT NO. 110478  
RAILROAD INVOLVEMENT NONE  
BRO-32-4.16  
1/610

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**ROADWAY NOTES**

**ROUNDING**

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

**EXISTING UTILITIES AND SUBGRADE TREATMENT**

THE CONTRACTOR SHALL VERIFY THE DEPTH OF ALL EXISTING UNDERGROUND UTILITIES AND SEWERS WITHIN THE PROPOSED PAVEMENT LIMITS TO ENSURE NO UTILITIES OR SEWERS ARE IMPACTED OR DAMAGED DURING CEMENT STABILIZATION AND/OR UNDERCUT ACTIVITIES. THE CONTRACTOR SHALL LOCATE AND TAKE CARE TO FLAG ALL EXISTING UTILITIES WITHIN THE PROPOSED PAVEMENT LIMITS PRIOR TO PERFORMING CEMENT STABILIZATION OR UNDERCUT, AS DESIGNATED IN THE PLANS. SHOULD THE CONTRACTOR ENCOUNTER A POTENTIAL UTILITY CONFLICT, THE CONTRACTOR SHALL NOTIFY PROJECT ENGINEER AND STOP CEMENT STABILIZATION/UNDERCUT ACTIVITIES AT THE CONFLICT LOCATION IMMEDIATELY.

**CLEARING AND GRUBBING**

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED, HOWEVER THERE MAY BE ADDITIONAL TREES OF THESE SIZES WITHIN HEAVILY WOODED AREAS. UNLESS SPECIFICALLY MARKED IN THE PLANS AS DO NOT DISTURB OR TO REMAIN, ALL VEGETATION AND TREES WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED AND PAID FOR UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING.

SIZES	NO. TREES
18"	15
30"	12

SOME TREES HAVE BEEN CUT ALREADY WITHIN THE PROJECT AREA. AN OUTLINE OF THE AREA WITHIN THE PROJECT WHERE THE TREES HAVE BEEN CUT IS SHOWN ON SHEET 2. FOR THE TREES THAT HAVE BEEN CUT, ONLY THE TOPS WERE CUT. BOTH THE REMAINING TOPS AND STUMPS SHALL BE REMOVED AND PAID FOR UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING.

**UNSUITABLE SUBGRADES**

ALTHOUGH GLOBAL LIME STABILIZATION IS PROPOSED FOR THE PROJECT, THERE ARE LOCATIONS THAT MAY FAIL THE PROOF ROLL DUE TO THE LIME NOT BEING COMPATIBLE WITH A-4b (SILT) SOIL, AND THEREFORE NOT PROVIDE ADEQUATE STABILIZATION. THE FOLLOWING AREAS HAVE BEEN IDENTIFIED AS HAVING A HIGHER PROBABILITY OF THIS OCCURRING:

RAMP NE - STA. 612+00 TO STA. 615+00  
RAMP SE - STA. 811+00 TO STA. 814+00  
HOMAN WAY - STA. 331+00 TO 337+00

IF THE PROOF ROLL DOES FAIL, THE LIMITS OF THE FAILED PROOF ROLL SHALL BE UNDERCUT TO A DEPTH OF 36 INCHES WITH ITEM 204 GEOTEXTILE FABRIC PLACED AT THE BASE OF THE EXCAVATION AND BACK FILLED WITH ITEM 204 GRANULAR MATERIAL TYPE B OR C. THE FAILED PROOF ROLL AND FINAL LIMITS OF UNDERCUT SHALL BE APPROVED BY THE ENGINEER. THE FOLLOWING QUANTITIES ARE PROVIDED AS A CONTINGENCY SHOULD THIS OCCUR:

ITEM 204 - EXCAVATION OF SUBGRADE	2,500 CY
ITEM 204 - GRANULAR EMBANKMENT, AS PER PLAN	2,500 CY
ITEM 204 - GEOTEXTILE FABRIC	3,500 SY

**ITEM 203 EMBANKMENT, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF CMS SECTION 203, EMBANKMENT AT BRIDGE APPROACHES SHALL BE PLACED AND COMPACTED IN 6" LIFTS. THIS REQUIREMENT PERTAINS TO THE FOLLOWING LIMITS:

BRUCE LUNSFORD WAY STA. 411+87.40 TO STA. 412+33.53  
BRUCE LUNSFORD WAY STA. 414+01.93 TO STA. 414+48.07

PAYMENT FOR PLACING THE EMBANKMENT AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 203- EMBANKMENT, AS PER PLAN

**FENCE LENGTHS**

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

**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.

**ITEM 617 - COMPACTED AGGREGATE**

THE FOLLOWING ESTIMATED QUANTITY OF ITEM 617 - COMPACTED AGGREGATE HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE TO FILL ANY LOW BERM AREAS AS DESIGNATED BY THE ENGINEER.

ITEM 617 - COMPACTED AGGREGATE	150 CY
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**ITEM 204 - PROOF ROLLING**

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING	21 HOURS
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**SHEETING & BRACING**

ANY SHEETING AND BRACING USED BY THE CONTRACTOR AND NOT OTHERWISE CALLED FOR IN THE PLANS SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. NO SEPARATE PAYMENT SHALL BE MADE FOR SHEETING AND BRACING. AT ALL TIMES THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE IN A MANNER THAT IS SAFE TO ALL WORKERS AND THE GENERAL TRAVELING PUBLIC. ALL OSHA REQUIREMENTS SHALL BE UPHOLD AND SOUND SAFETY PRACTICES SHALL BE EXERCISED AT ALL TIMES. REMOVAL OF SHEETING AND BRACING ITEMS UPON COMPLETION OF WORK WILL BE REQUIRED AS DIRECTED BY ODOT REPRESENTATIVES.

**EXISTING STRUCTURE REMOVED**

THE EXISTING STRUCTURE TO BE REMOVED ALONG HOMAN WAY NEAR THE PROPOSED 20x4 BOX CULVERT (STA. 308+90 LT) IS A 15-FOOT SPAN x 10-FOOT WIDE CONCRETE SLAB WITH ABUTMENTS. ENTIRE STRUCTURE SHALL BE REMOVED AND DISPOSED OF UNDER THE LUMP SUM BID PRICE OF ITEM 202 - STRUCTURE REMOVED AND INCLUDE ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED.

**ITEM SPECIAL - MAILBOX SUPPORT**

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES I.D., AND CONFORM TO AASHTO M 181.

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, (SINGLE) (DOUBLE).

**ITEM 202 - REMOVAL MISC.: BILLBOARD REMOVED**

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF EXISTING BILLBOARDS, ALONG WITH ANY ASSOCIATED ELECTRICAL FACILITIES AND FOUNDATIONS WITHIN THE CONSTRUCTION LIMITS TO A MINIMUM OF 3 FEET BELOW THE EXISTING GROUND.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH ITEM 202 REMOVAL MISC.: BILLBOARD REMOVED AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM AS NOTED.

**ITEM 202 - REMOVAL MISC.: PRIVATE SIGN REMOVED**

THIS ITEM SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF EXISTING PRIVATE SIGNS, ALONG WITH ANY ASSOCIATED ELECTRICAL FACILITIES AND FOUNDATIONS WITHIN THE CONSTRUCTION LIMITS TO A MINIMUM OF 3 FEET BELOW THE EXISTING GROUND.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH ITEM 202 REMOVAL MISC.: PRIVATE SIGN REMOVED AND SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM AS NOTED.

**BENCHING OF FOUNDATION SLOPES**

ALTHOUGH CROSS-SECTIONS DO NOT 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

**PAVEMENT NOTES**

**CONTRACTION AND/OR EXPANSION JOINTS**

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

**CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING**

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, PROVIDE CONTRACTION JOINTS IN THE NEW CONCRETE TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE. THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE ARE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2, IF NECESSARY, ADDITIONAL JOINTS MAY BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

**BUTT JOINTS**

AT THE START OR END OF ALL FULL-DEPTH PAVEMENT SECTIONS SHOWN IN THE PLANS, CONTRACTOR SHALL PROVIDE A BUTT JOINT PER SCD BP-3.1.

**UNDERDRAIN CONNECTIONS AT SAWCUTS**

AT THE START, END OR WIDENING OF ALL FULL-DEPTH PAVEMENT SECTIONS SHOWN IN THE PLANS, CONTRACTOR SHALL CONNECT PROPOSED UNDERDRAINS TO EXISTING AND ENSURE POSITIVE DRAINAGE IS MAINTAINED.

**ITEM 442 - ANTI-SEGREGATION EQUIPMENT**

PROVIDE ANTI-SEGREGATION EQUIPMENT FOR ALL COURSES OF UNIFORM THICKNESS IN ACCORDANCE WITH CMS 401.12. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 441 - ANTI-SEGREGATION EQUIPMENT	1,117 CY
ITEM 442 - ANTI-SEGREGATION EQUIPMENT	3,196 CY

**ITEM 897 - PATCHING PLANED SURFACE**

THE FOLLOWING ESTIMATED QUANTITY OF 20% OF THE PLANED SURFACE HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR PATCHING PLANED SURFACE AS DESIGNATED BY THE ENGINEER.

ITEM 254 - PATCHING PLANED SURFACE	15,000SY
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**PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS**

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 302 - ASPHALT CONCRETE BASE, PG64-22	8 CY
ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	1 CY
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (447)	5 CY

THE ABOVE QUANTITIES ARE BASED ON A 302 THICKNESS OF 6 INCHES FOR LOCAL ROADS AND 9 INCHES FOR SR-32; MATCH THE EXISTING WEARING COURSE DEPTH. PAVEMENT RESTORATION WIDTH SHALL INCLUDE THE MINIMUM REQUIRED TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH. PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

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CALCULATED GJG CHECKED DSS  
GENERAL NOTES  
BRO -32 -4.16  
16  
610







CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2 - 4	SCHEMATIC PLAN
6 - 13	TYPICAL SECTIONS
83 - 85	GENERAL SUMMARY
170 - 222	CROSS SECTIONS
349 - 356	RAMP TERMINAL DETAILS
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392 - 397	DRAINAGE QUANTITIES
410 - 420	TRAFFIC CONTROL
459 - 464	LIGHTING PLANS
472 - 503	BRIDGE PLANS

**LEGEND**

- BIORETENTION CELL
- PAVEMENT PLANING AND RESURFACING

- STA. 182+10.00, 53.00' LT END FULL DEPTH PVMT.
- STA. 182+65.00, 53.00' RT END FULL DEPTH PVMT.
- STA. 189+72.00, 10.0' RT BEGIN MGS RUN
- STA. 191+22.50, 10.0' LT BEGIN MGS RUN
- STA. 191+87.50, 10.0' RT END MGS RUN
- STA. 193+50.50, 10.0' LT END MGS RUN
- STA. 182+06.11, 72.99' RT EX. CL SR-32 = STA. 707+69.46, 19.00' LT CONST. RAMP SW

NOTE:  
FOR FULL DEPTH PAVEMENT DETAILS,  
SEE RAMP TERMINAL DETAIL AND RAMP  
PLAN AND PROFILE SHEETS.



HORIZONTAL SCALE IN FEET

CALCULATED  
 DSS  
 CHECKED  
 MAH

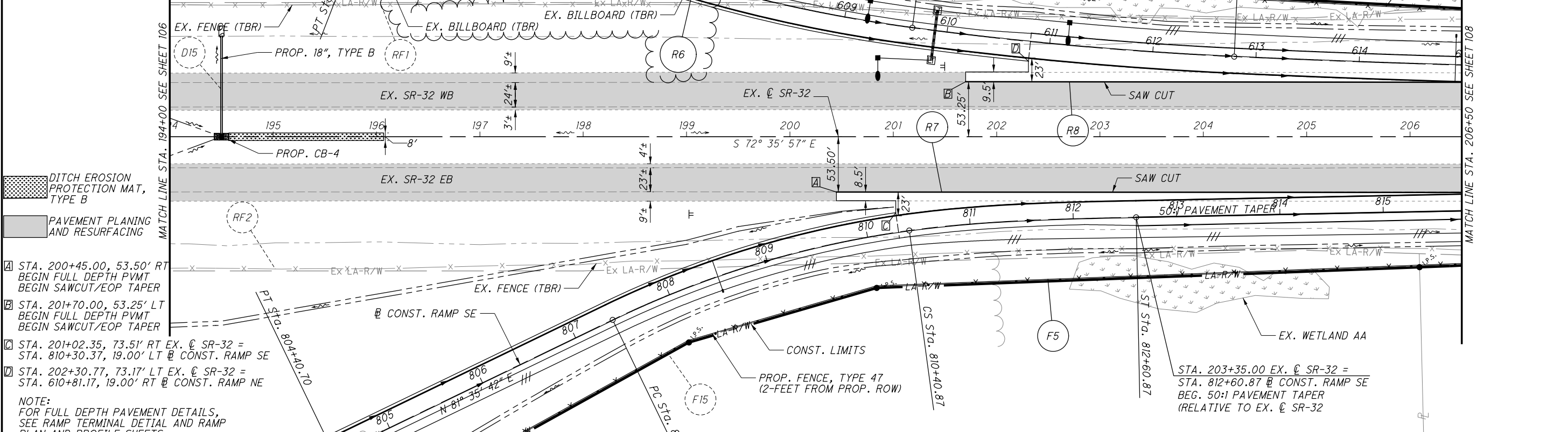
**PLAN AND PROFILE - SR 32  
STA. 181+50.00 TO STA. 194+00.00**

**BRO-32-4.16**

106  
610

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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2 - 4	SCHEMATIC PLAN
6 - 13	TYPICAL SECTIONS
83 - 85	GENERAL SUMMARY
170 - 222	CROSS SECTIONS
349 - 356	RAMP TERMINAL DETAILS
361 - 371	INTERSECTION DETAILS
376 - 387	CULVERT DETAILS
392 - 397	DRAINAGE QUANTITIES
410 - 420	TRAFFIC CONTROL
459 - 464	LIGHTING PLANS
472 - 503	BRIDGE PLANS



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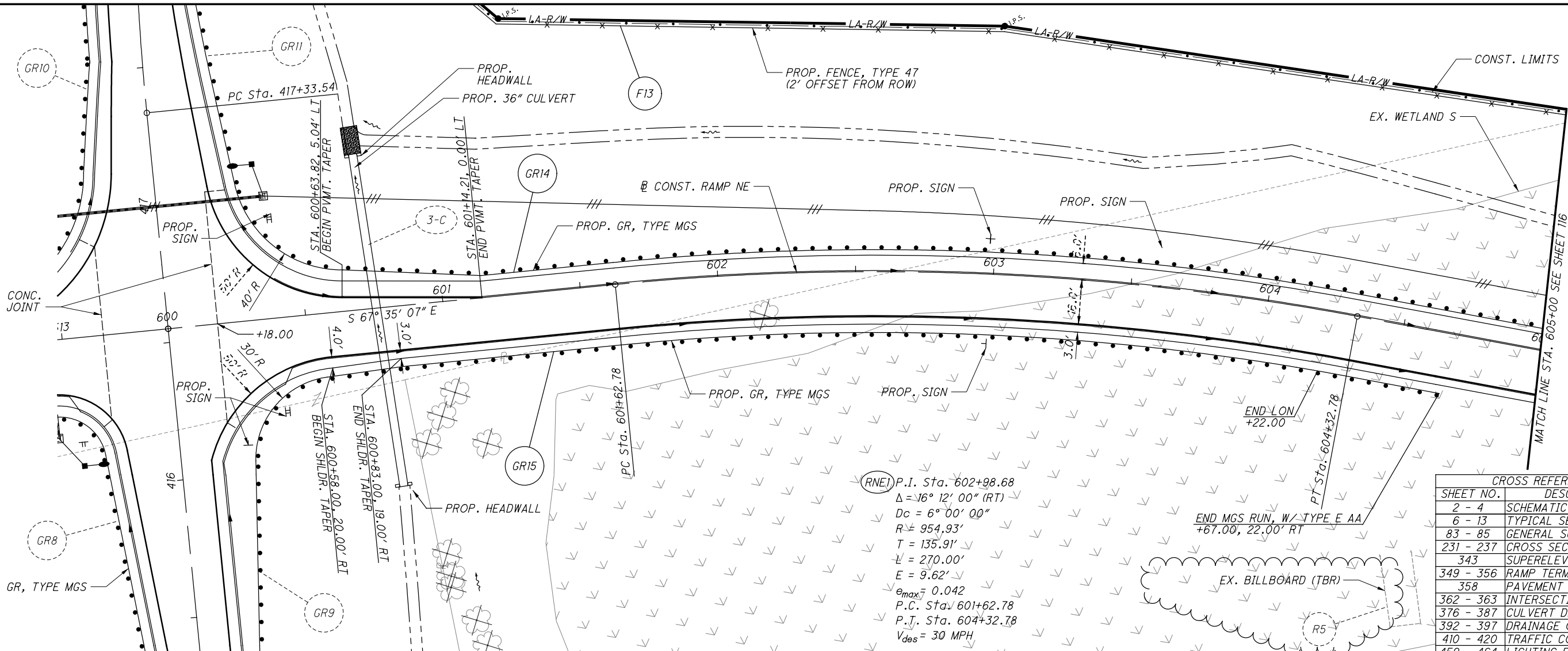
CALCULATED DSS CHECKED MAH  
 HORIZONTAL SCALE IN FEET  
 0 25 50 100

**PLAN AND PROFILE - SR 32**  
**STA. 194+00.00 TO STA. 206+50.00**

**BRO-32-4.16**

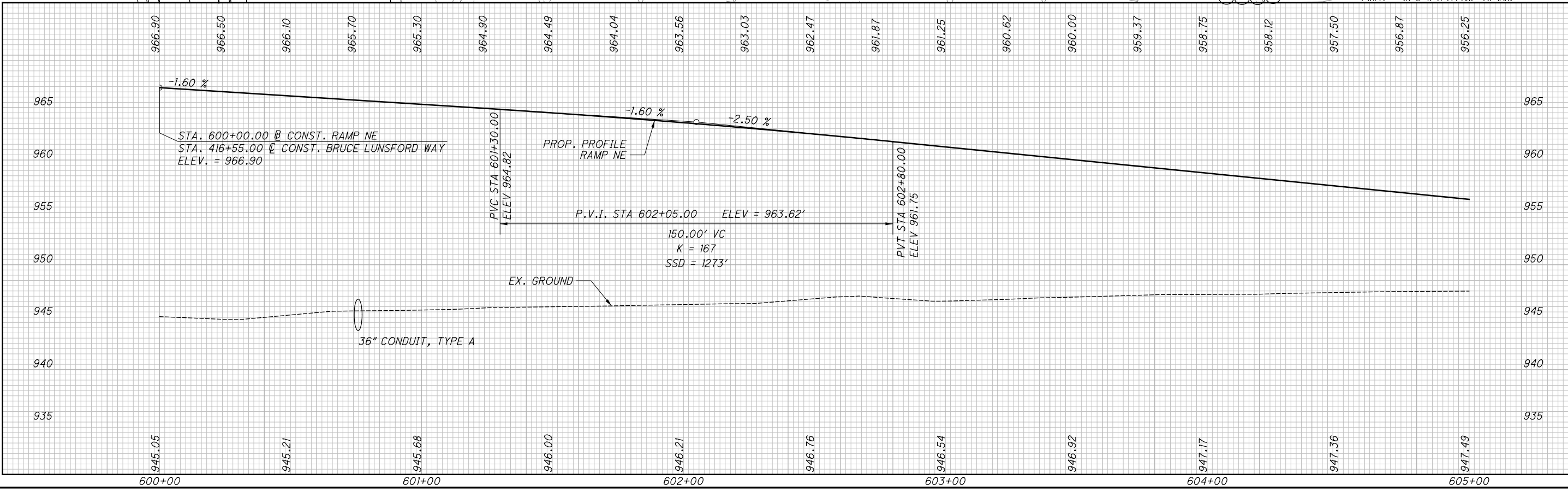
107  
 610

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(RNE) P.I. Sta. 602+98.68  
 $\Delta = 16^\circ 12' 00''$  (RT)  
 $D_c = 6^\circ 00' 00''$   
 $R = 954.93'$   
 $T = 135.91'$   
 $L = 270.00'$   
 $E = 9.62'$   
 $e_{max} = 0.042$   
 P.C. Sta. 601+62.78  
 P.T. Sta. 604+32.78  
 $V_{des} = 30$  MPH

CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2 - 4	SCHEMATIC PLAN
6 - 13	TYPICAL SECTIONS
83 - 85	GENERAL SUMMARY
231 - 237	CROSS SECTIONS
343	SUPERELEVATION TABLES
349 - 356	RAMP TERMINAL DETAILS
358	PAVEMENT JOINT DETAILS
362 - 363	INTERSECTION DETAILS
376 - 387	CULVERT DETAILS
392 - 397	DRAINAGE QUANTITIES
410 - 420	TRAFFIC CONTROL
450 - 464	LIGHTING PLANS



**PLAN AND PROFILE - RAMP NE**  
**STA. 600+00.00 TO STA. 605+00.00**

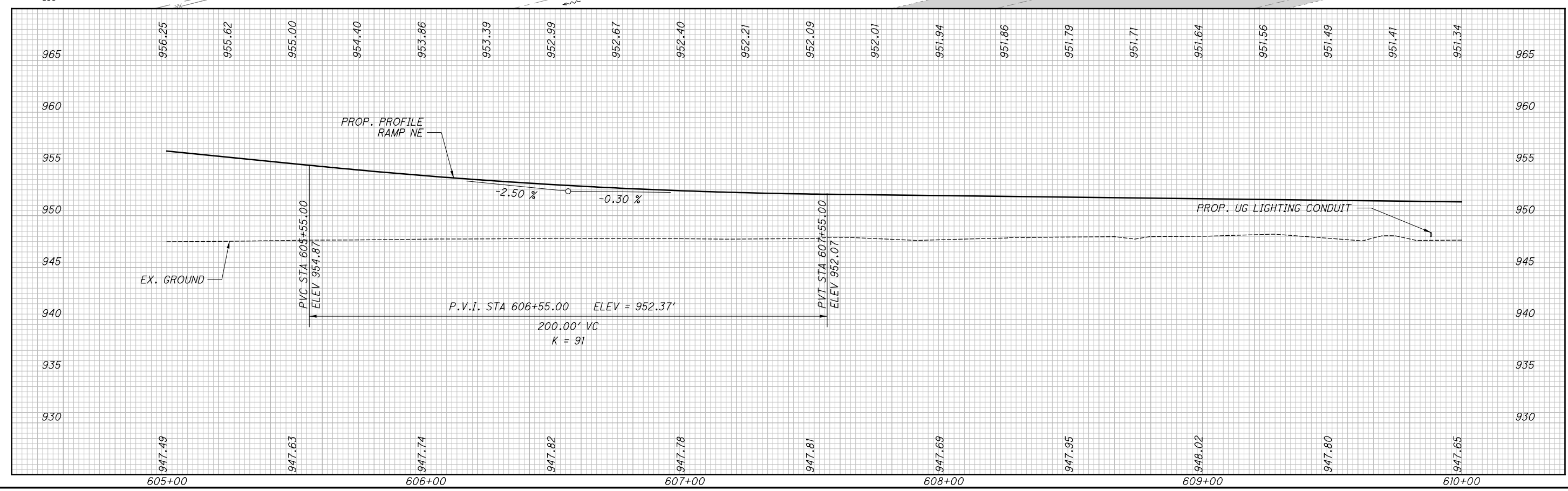
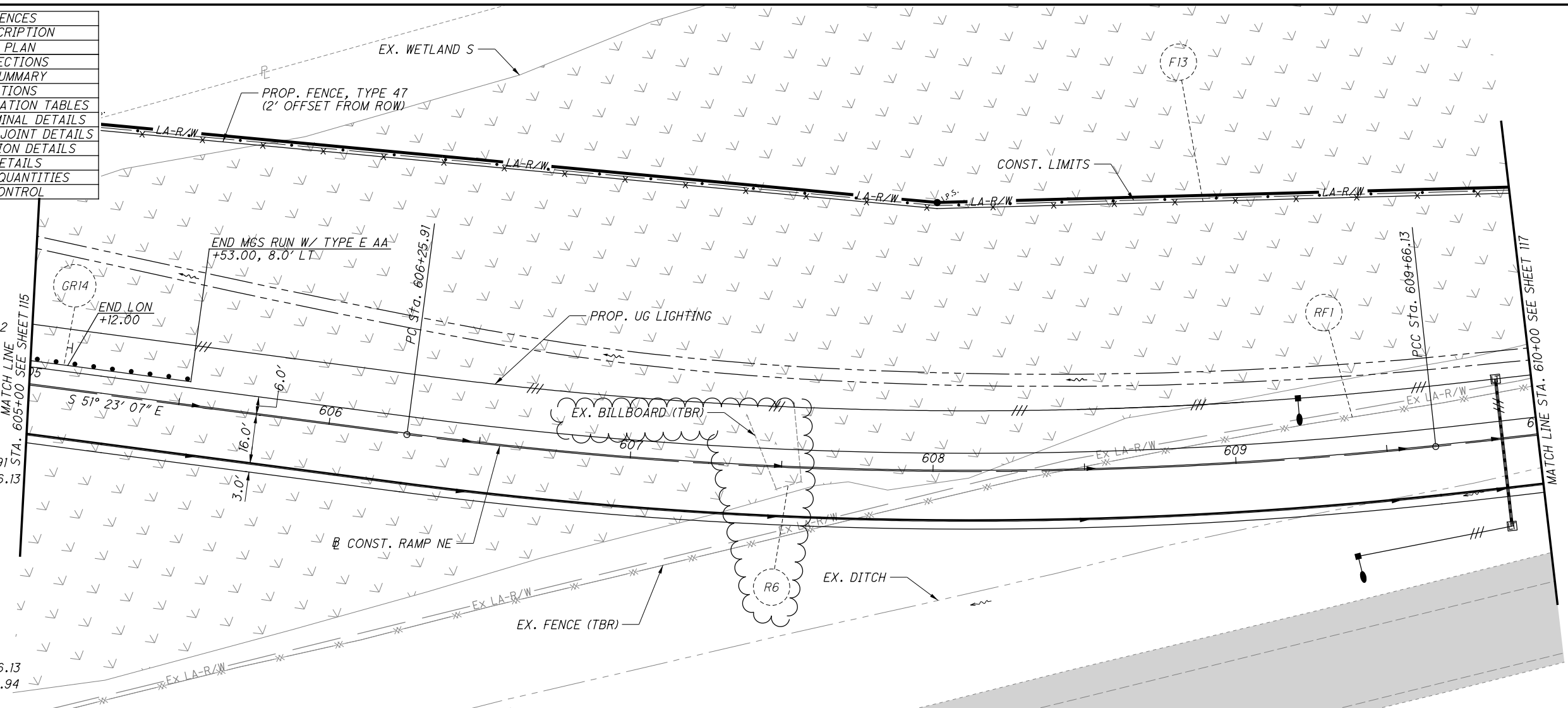
**BRO-32-4.16**



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2 - 4	SCHEMATIC PLAN
6 - 13	TYPICAL SECTIONS
83 - 85	GENERAL SUMMARY
231 - 237	CROSS SECTIONS
343	SUPERELEVATION TABLES
349 - 356	RAMP TERMINAL DETAILS
358	PAVEMENT JOINT DETAILS
362 - 363	INTERSECTION DETAILS
376 - 387	CULVERT DETAILS
392 - 397	DRAINAGE QUANTITIES
410 - 420	TRAFFIC CONTROL

**RNE2** P.I. Sta. 607+96.82  
 $\Delta = 13^\circ 36' 31''$  (LT)  
 $D_c = 4^\circ 00' 00''$   
 $R = 1,432.39'$   
 $T = 170.91'$   
 $L = 340.22'$   
 $E = 10.16'$   
 $e_{max} = 0.055$   
P.C. Sta. 606+25.91  
P.C.C. Sta. 609+66.13  
 $V_{des} = 45$  MPH

**RNE3** P.I. Sta. 611+22.63  
 $\Delta = 4^\circ 57' 10''$  (LT)  
 $D_c = 1^\circ 35' 00''$   
 $R = 3,618.68'$   
 $T = 156.50'$   
 $L = 312.81'$   
 $E = 3.38'$   
 $e_{max} = 0.048$   
P.C. Sta. 609+66.13  
P.C.C. Sta. 612+78.94  
 $V_{des} = 65$  MPH



CALCULATED DSS  
 CHECKED MAH

**PLAN AND PROFILE - RAMP NE**  
**STA. 605+00.00 TO STA. 610+00.00**

**BRO -32-4.16**

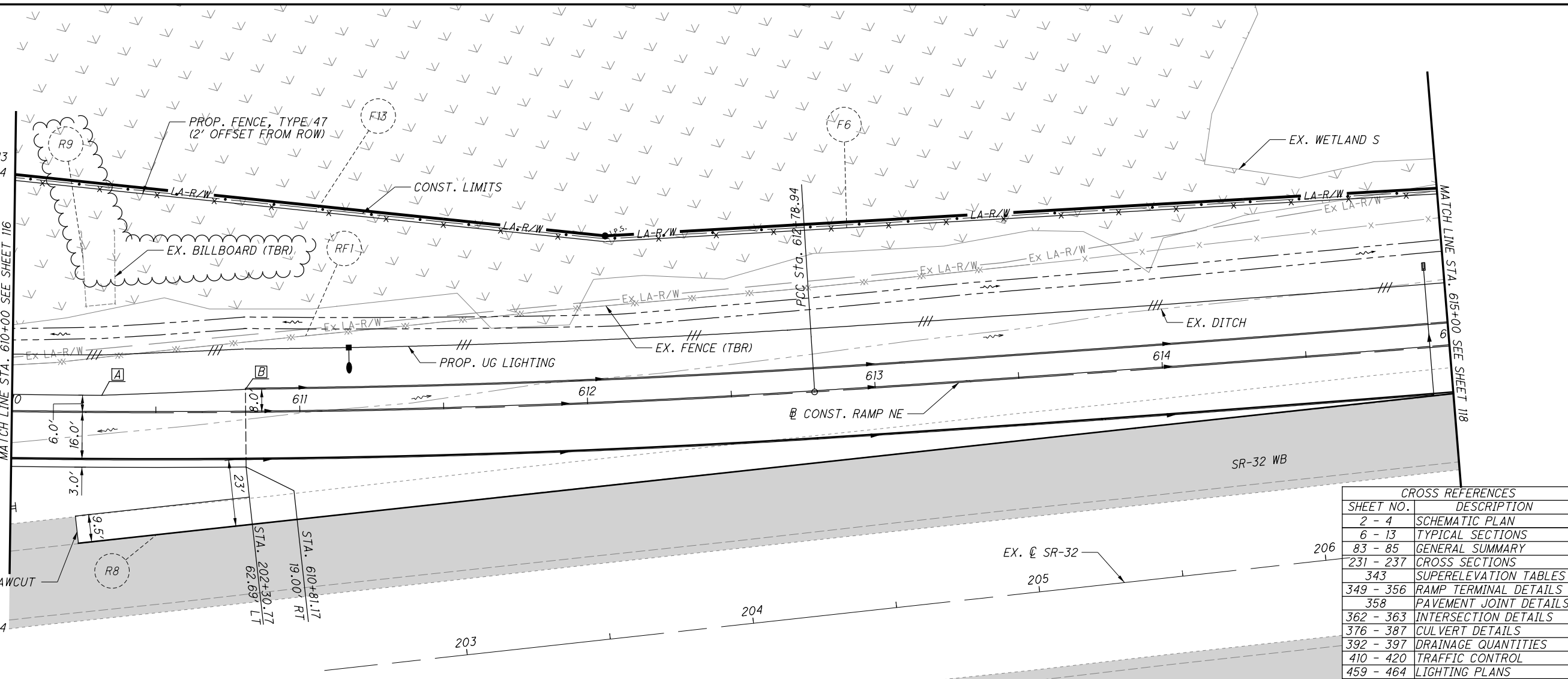
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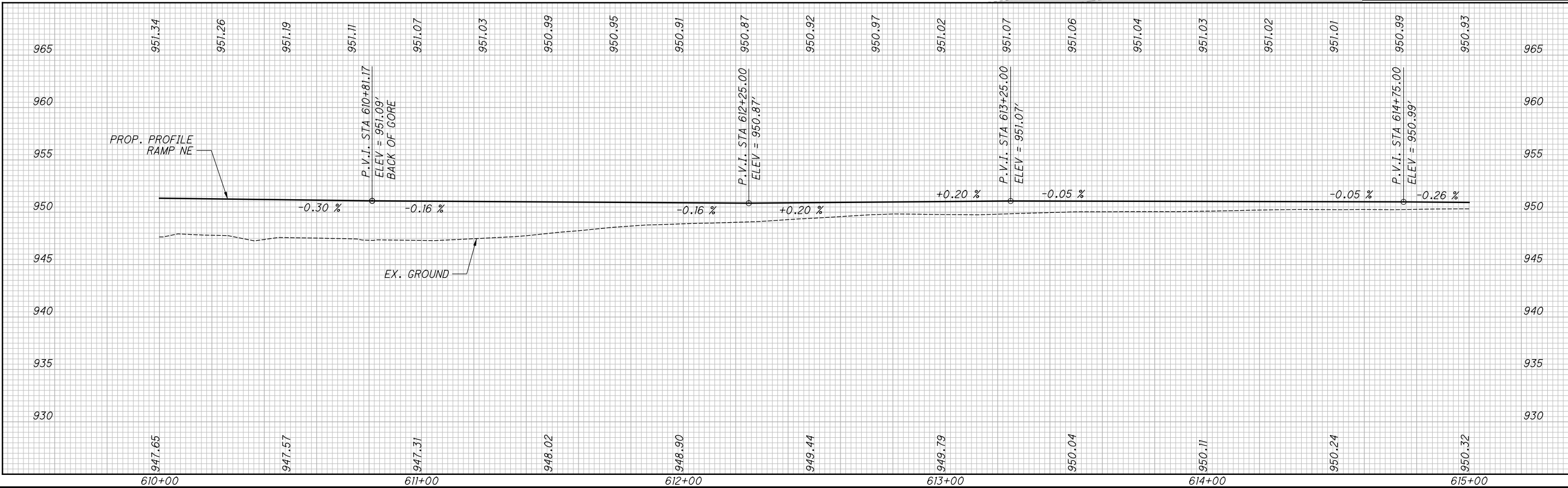
**RNE3** P.I. Sta. 611+22.63  
 $\Delta = 4^\circ 57' 10''$  (LT)  
 $D_c = 1^\circ 35' 00''$   
 $R = 3,618.68'$   
 $T = 156.50'$   
 $L = 312.81'$   
 $E = 3.38'$   
 $e_{max} = 0.048$   
 P.C.C. Sta. 609+66.13  
 P.C.C. Sta. 612+78.94  
 $V_{des} = 65$  MPH

**A** BEG. SHLDR. TAPER  
 STA. 610+31.17, 6.0' LT  
**B** END SHLDR. TAPER  
 STA. 610+81.17, 8.0' LT

**RNE4** P.I. Sta. 615+56.64  
 $\Delta = 2^\circ 35' 29''$  (LT)  
 $D_c = 0^\circ 28' 00''$   
 $R = 12,277.67'$   
 $T = 277.70'$   
 $L = 555.31'$   
 $E = 3.14'$   
 $e_{max} = NC$   
 P.C.C. Sta. 612+78.94  
 P.T. Sta. 618+34.24  
 $V_{des} = 65$  MPH



CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2 - 4	SCHEMATIC PLAN
6 - 13	TYPICAL SECTIONS
83 - 85	GENERAL SUMMARY
231 - 237	CROSS SECTIONS
343	SUPERELEVATION TABLES
349 - 356	RAMP TERMINAL DETAILS
358	PAVEMENT JOINT DETAILS
362 - 363	INTERSECTION DETAILS
376 - 387	CULVERT DETAILS
392 - 397	DRAINAGE QUANTITIES
410 - 420	TRAFFIC CONTROL
459 - 464	LIGHTING PLANS



**PLAN AND PROFILE - RAMP NE**  
**STA. 610+00.00 TO STA. 615+00.00**

**BRO-32-4.16**

- A BEGIN APPROACH SLAB  
STA. 414+09.00
- B END APPROACH SLAB  
STA. 414+39.00
- C STA. 416+55.00, @ CONST. BRUCE LUNSFORD WAY =  
STA. 513+38.59, @ CONST. RAMP NW =  
STA. 600+00.00, @ CONST. RAMP NE
- D STA. 417+04.82, 19.04' RT  
BEGIN PAVEMENT TAPER  
BEGIN SHOULDER TAPER
- E STA. 417+85.22, 11.00' RT  
END PAVEMENT TAPER  
END SHOULDER TAPER

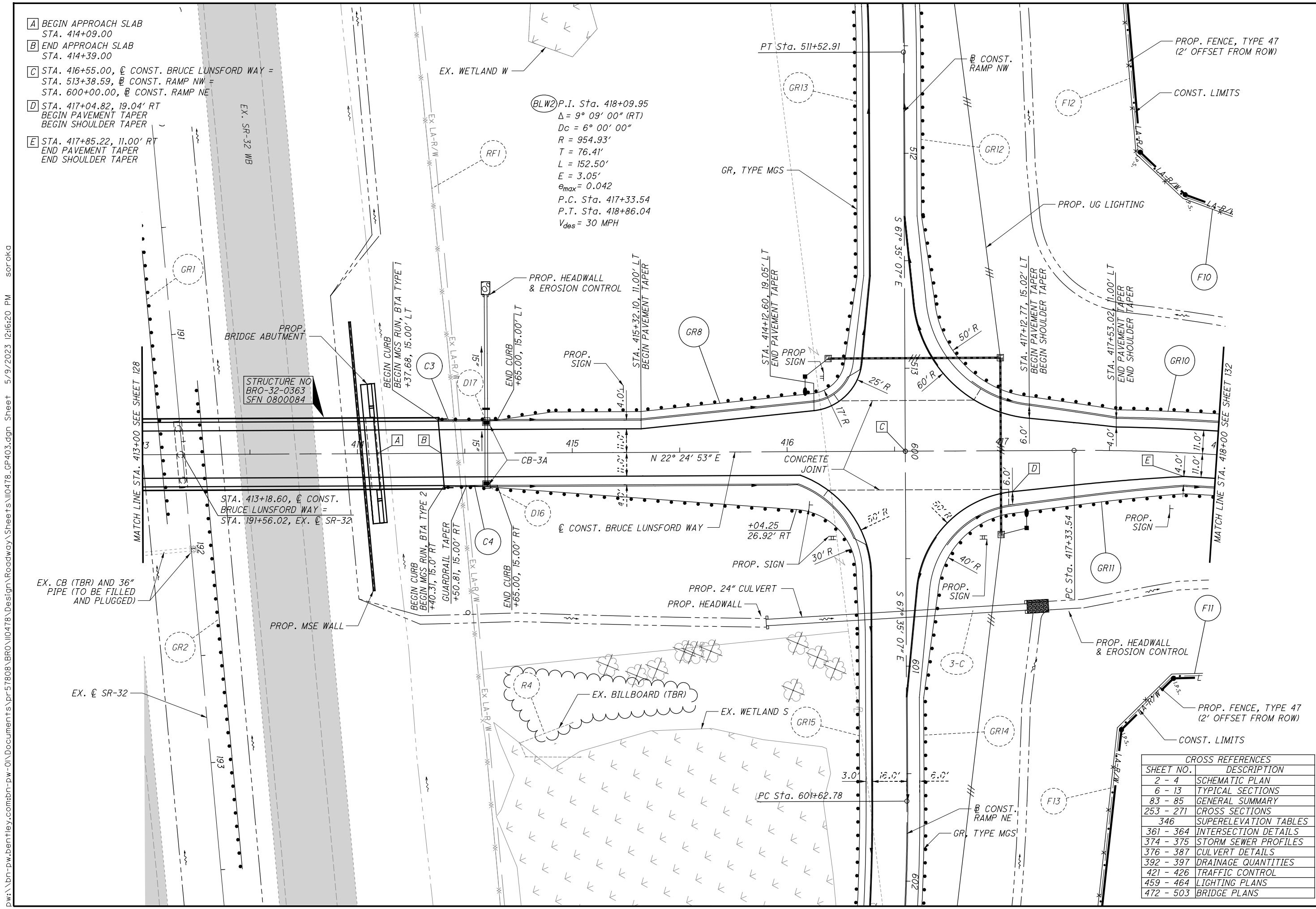
(BLW2) P.I. Sta. 418+09.95  
 $\Delta = 9^\circ 09' 00''$  (RT)  
 $D_c = 6^\circ 00' 00''$   
 $R = 954.93'$   
 $T = 76.41'$   
 $L = 152.50'$   
 $E = 3.05'$   
 $e_{max} = 0.042$   
 P.C. Sta. 417+33.54  
 P.T. Sta. 418+86.04  
 $V_{des} = 30$  MPH

CALCULATED DSS CHECKED MAH

0 20 40  
 10 HORIZONTAL SCALE IN FEET

PLAN - BRUCE LUNSFORD WAY  
 STA. 413+00.00 TO STA. 418+00.00

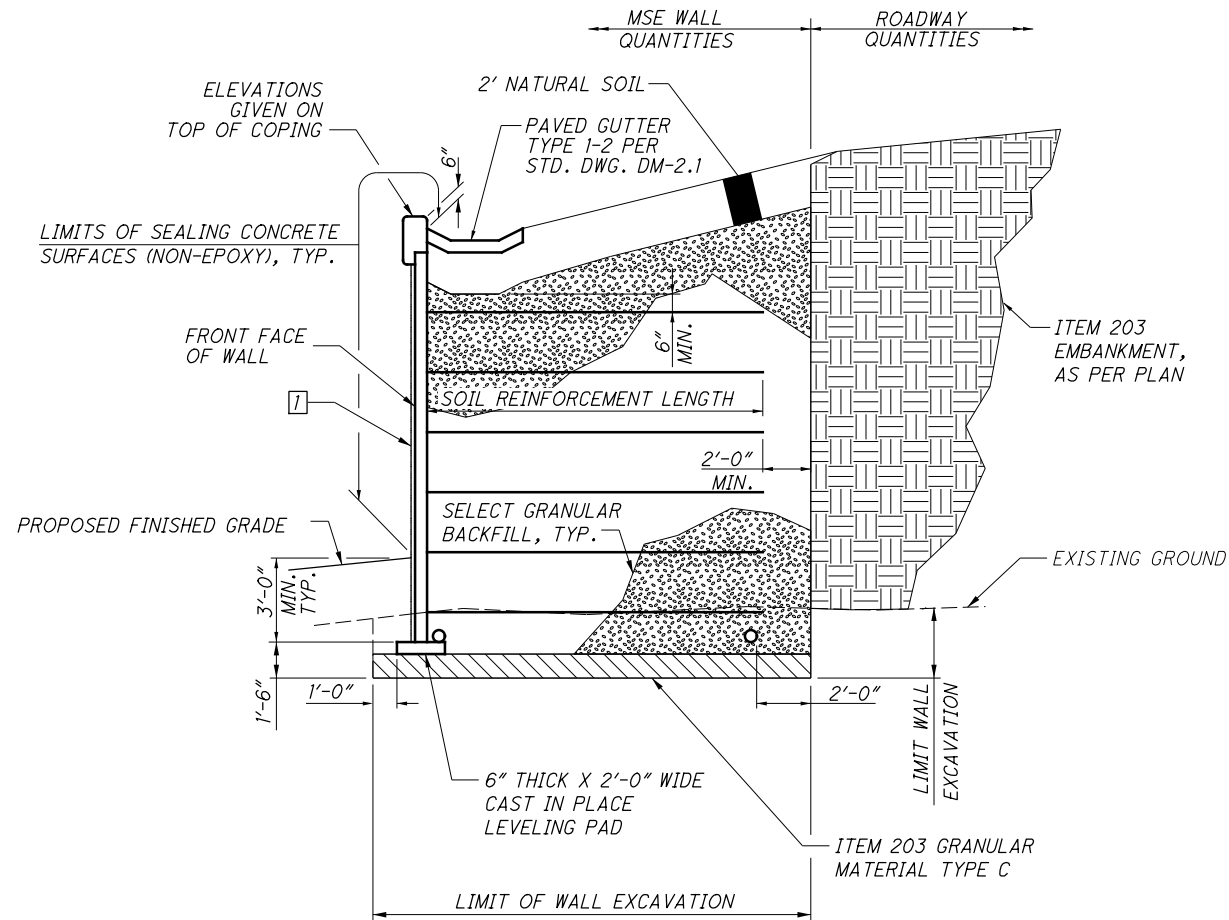
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CROSS REFERENCES	
SHEET NO.	DESCRIPTION
2 - 4	SCHEMATIC PLAN
6 - 13	TYPICAL SECTIONS
83 - 85	GENERAL SUMMARY
253 - 271	CROSS SECTIONS
346	SUPERELEVATION TABLES
361 - 364	INTERSECTION DETAILS
374 - 375	STORM SEWER PROFILES
376 - 387	CULVERT DETAILS
392 - 397	DRAINAGE QUANTITIES
421 - 426	TRAFFIC CONTROL
459 - 464	LIGHTING PLANS
472 - 503	BRIDGE PLANS

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**SECTION C-C**

1 MINIMUM 5 1/2" FACING PANEL THICKNESS, CENTERED ON LEVELING PAD. PROVIDE ADDITIONAL THICKNESS AS REQUIRED FOR AESTHETIC SURFACE TREATMENT.

FACING PANEL AESTHETIC SURFACE TREATMENT SHALL BE SPLIT FACED RUNNING BLOCK, PATTERN 16971 FROM FITZGERALD FORMLINERS OR APPROVED EQUAL.

**MSE WALL NOTES:**

- MSE WALLS SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 840.
- CONCRETE FACING PANELS SHALL NOT BE INSTALLED UNTIL BACKFILL MATERIAL HAS UNDERGONE THE SPECIFIED WAITING PERIOD TO ACCOMMODATE ANTICIPATED SETTLEMENT (SEE SETTLEMENT PLATFORM NOTES, SHEET 31/32).

A TEMPORARY FACING SHALL BE CONSTRUCTED PER SS 867. LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO INSTALL THE TEMPORARY WIRE FACING, SOIL RETENTION FABRIC, AND THE PANEL CONNECTION DEVICES SHALL BE INCLUDED FOR PAYMENT WITH ITEM 867, TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN. REMAINDER OF MSE WALL SHALL BE INCLUDED WITH THE VARIOUS PAY ITEMS SHOWN.

- FOR ITEM 203 - EMBANKMENT, AS PER PLAN, SEE ROADWAY GENERAL NOTES FOR DETAILS.

ESTIMATED QUANTITIES - WALL 1					
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	SHEET #
203	20001	387	CY	EMBANKMENT, AS PER PLAN	32
203	35110	194	CY	GRANULAR MATERIAL, TYPE B	
203	65000	2	EA	SPECIAL - SETTLEMENT PLATFORM	31
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING	
512	10050	164	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
601	37501	129	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	30
840	20000	1702	SF	MECHANICALLY STABILIZED EARTH WALL	
840	21000	164	CY	WALL EXCAVATION	
840	22000	394	SY	FOUNDATION PREPARATION	
840	23000	2008	CY	SELECT GRANULAR BACKFILL	
840	23050	135	CY	NATURAL SOIL	
840	25010	309	FT	6" DRAINAGE PIPE, PERFORATED	
840	25020	125	FT	6" DRAINAGE PIPE, NON-PERFORATED	
840	26000	127	FT	CONCRETE COPING	
840	26050	1702	SF	AESTHETIC SURFACE TREATMENT	
840	27000	2.5	DAY	ON-SITE ASSISTANCE	
867	00101	LUMP	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	32

ESTIMATED QUANTITIES - WALL 2					
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	SHEET #
203	20001	382	CY	EMBANKMENT, AS PER PLAN	32
203	35110	194	CY	GRANULAR MATERIAL, TYPE B	
203	65000	2	EA	SPECIAL - SETTLEMENT PLATFORM	31
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING	
512	10050	182	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
601	37501	132	FT	PAVED GUTTER, TYPE 1-2, AS PER PLAN	30
840	20000	1890	SF	MECHANICALLY STABILIZED EARTH WALL	
840	21000	393	CY	WALL EXCAVATION	
840	22000	411	SY	FOUNDATION PREPARATION	
840	23000	2204	CY	SELECT GRANULAR BACKFILL	
840	23050	164	CY	NATURAL SOIL	
840	25010	312	FT	6" DRAINAGE PIPE, PERFORATED	
840	25020	128	FT	6" DRAINAGE PIPE, NON-PERFORATED	
840	26000	132	FT	CONCRETE COPING	
840	26050	1890	SF	AESTHETIC SURFACE TREATMENT	
840	27000	2.5	DAY	ON-SITE ASSISTANCE	
867	00101	LUMP	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	32