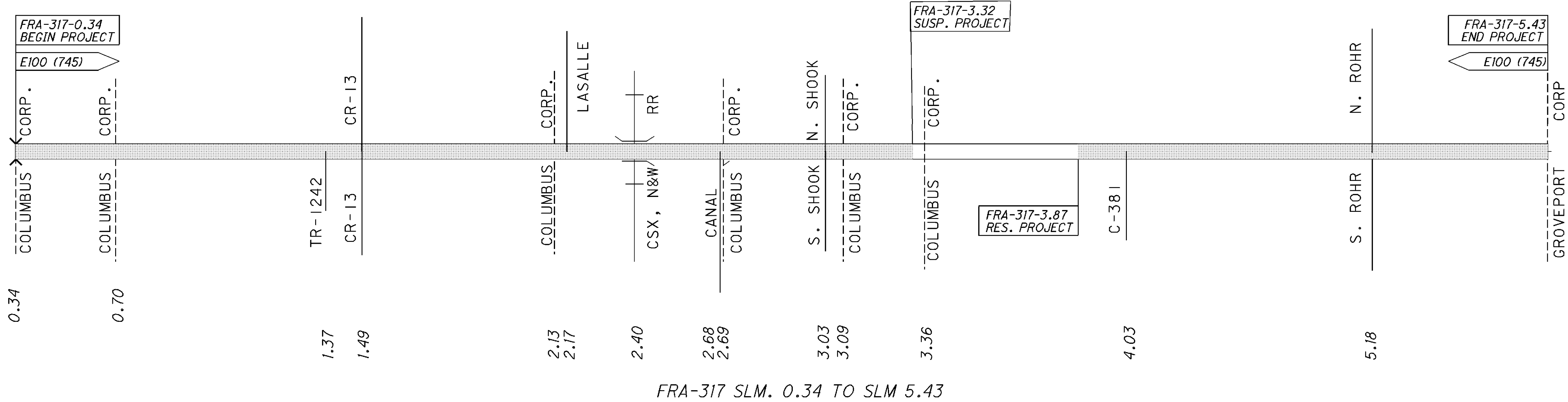
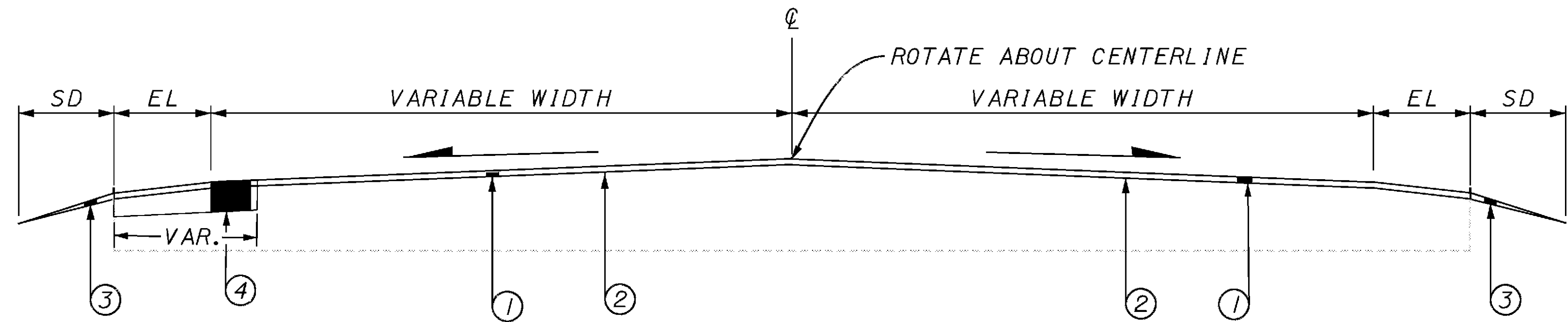


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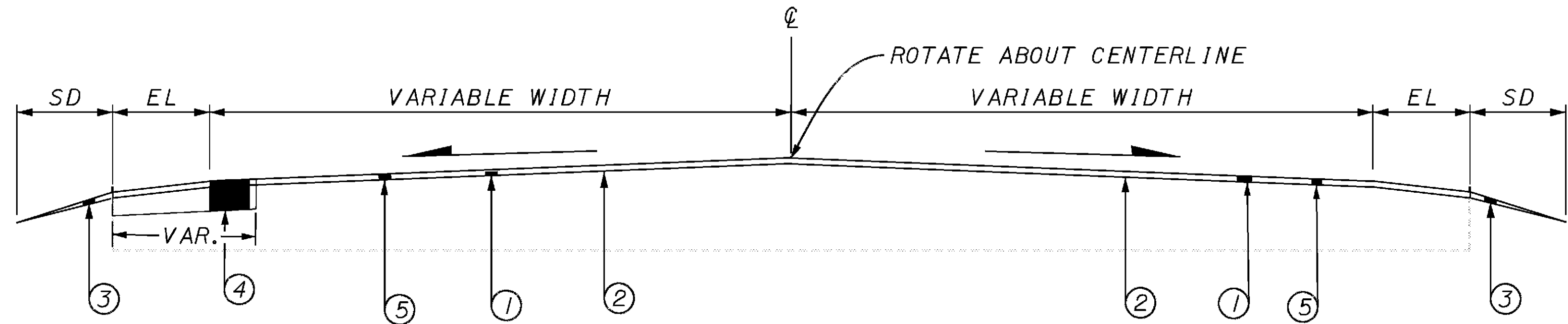
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TYPICAL #1
FRA-317 SLM 0.34 TO SLM 2.86
FRA-317 SLM 3.87 TO SLM 5.43

TYPICAL LEGEND

- ① ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A
- ② ITEM 407 - TACK COAT @ 0.075 PER SY. YD.
- ③ ITEM 617 - SHOULDER RECONDITION
- ④ ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN



TYPICAL #2
FRA-317 SLM 2.86 TO SLM 3.32

TYPICAL LEGEND

- ① ITEM 442 - 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A
- ② ITEM 407 - TACK COAT @ 0.075 PER SY. YD.
- ③ ITEM 617 - SHOULDER RECONDITION
- ④ ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN
- ⑤ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

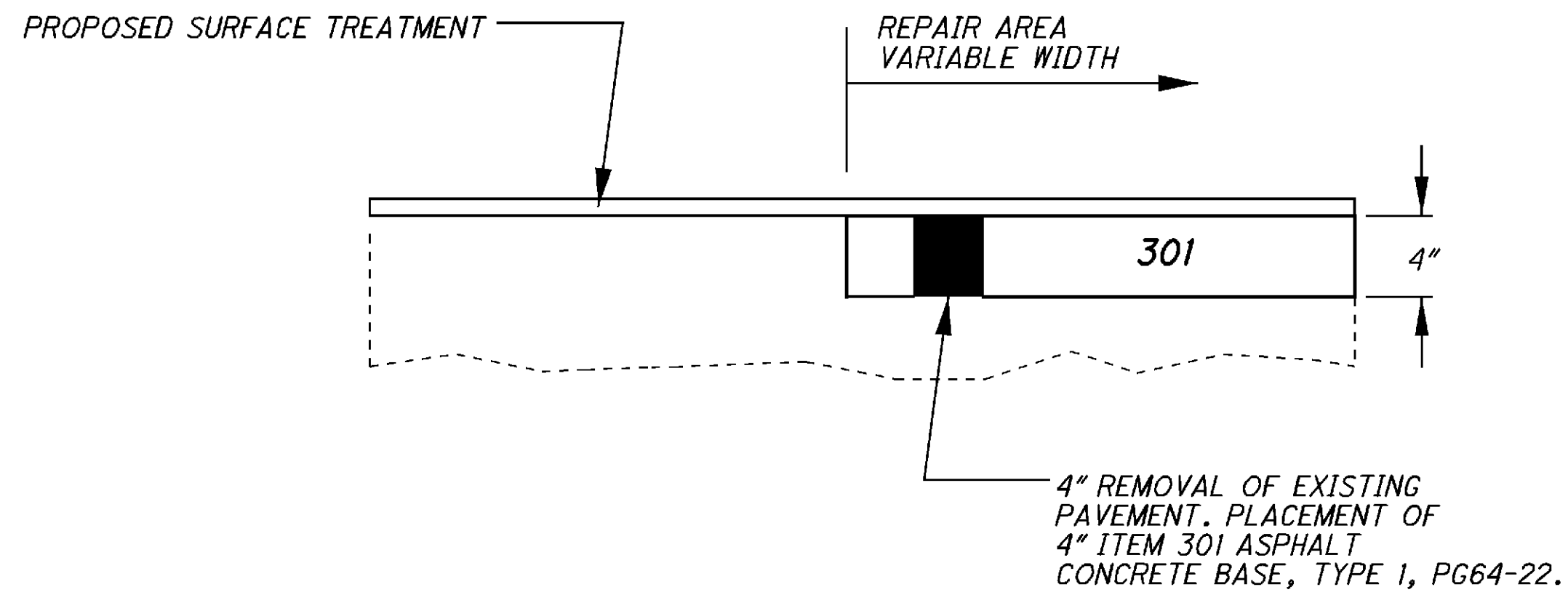
TYPICAL NOTES

SD = SEE SHOULDER DETAIL ON PLAN SHEET 4/60.
EL = EDGE LINE AND SHOULDER AREA.
FOR ADDITIONAL INFORMATION ON PARTIAL DEPTH PAVEMENT REPAIRS, PAVEMENT REPAIR,
AND SHOULDER DETAIL SEE PLAN SHEET 4/60.

NOTES:

NOTE 1: MAINTAIN EXISTING PAVEMENT CROSS SLOPE

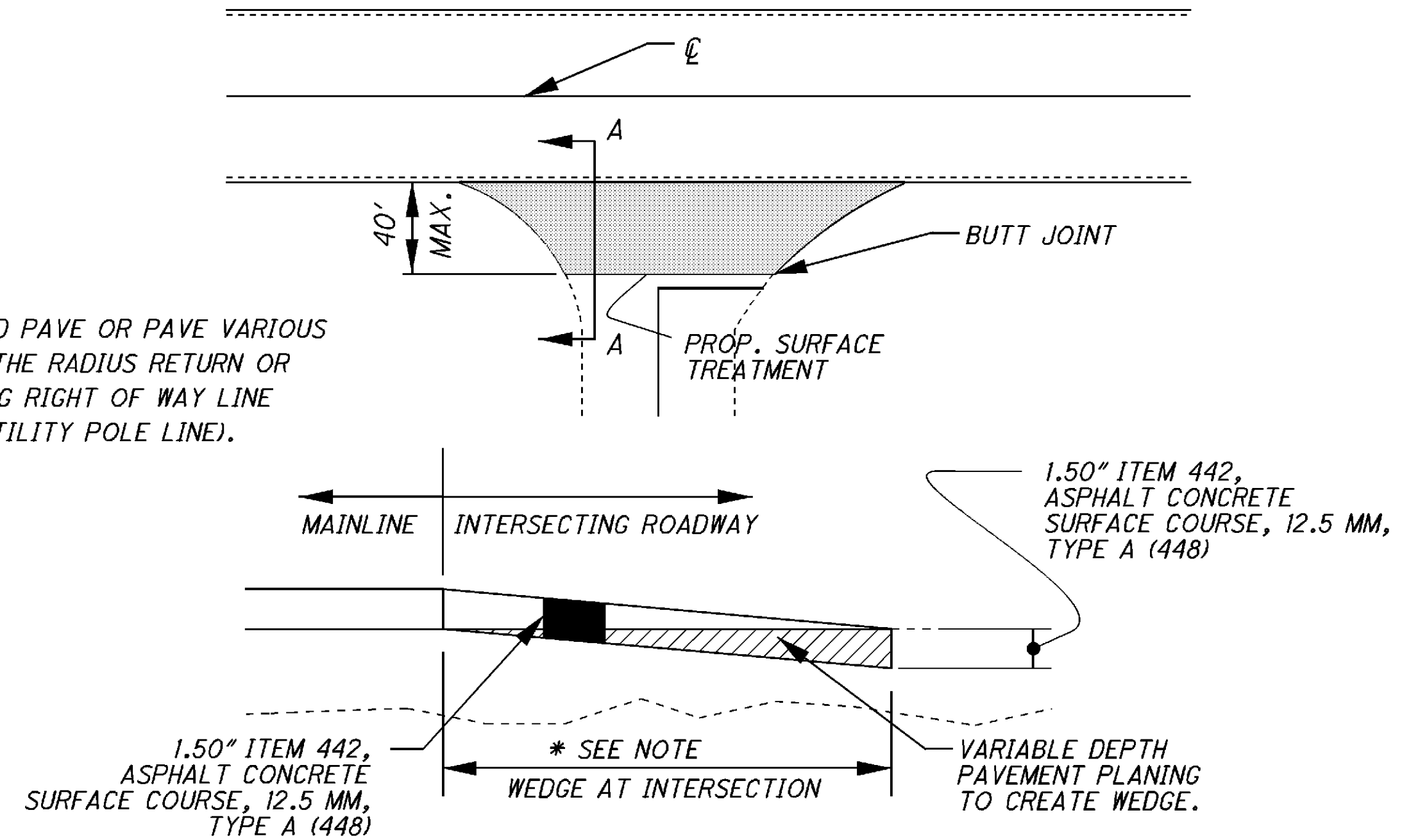
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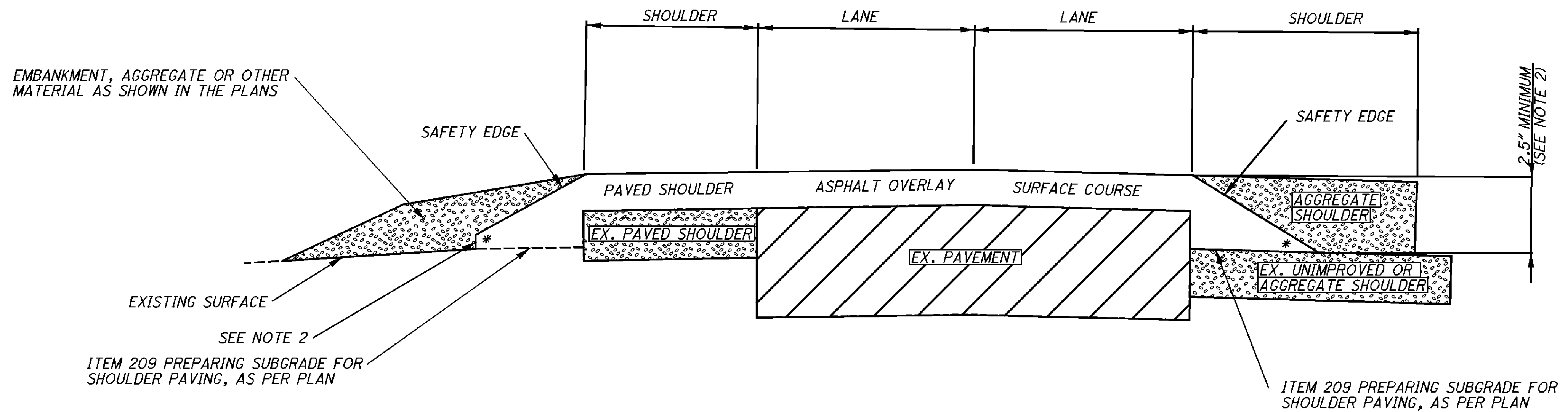
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN DETAIL

SEE GENERAL NOTES SHEET / FOR MORE INFORMATION REGARDING ITEM 251-PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN.

* PLANE AND PAVE OR PAVE VARIOUS WIDTHS TO THE RADIUS RETURN OR THE EXISTING RIGHT OF WAY LINE (EXISTING UTILITY POLE LINE).



SECTION A-A
TYPICAL INTERSECTION DETAIL



**HALF SECTION
PAVED SHOULDER**

SAFETY EDGE DETAIL
N.T.S.

**HALF SECTION
AGGREGATE SHOULDER**

NOTES:

- 1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).
- 2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" (63MM) WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6" (150MM). CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6" (150MM).
- 3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETYEDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.

* 40° MAX.

FOR MORE INFORMATION, SEE GENERAL NOTE SHEET 7/60.

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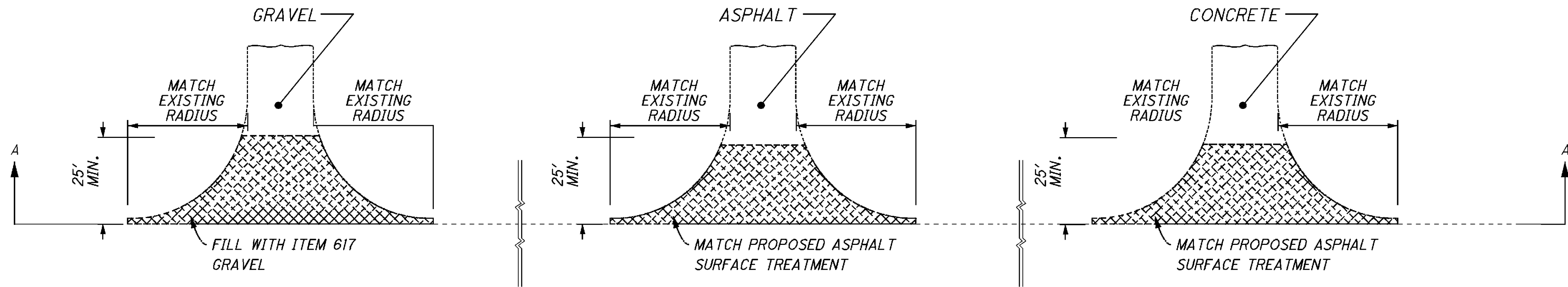
TYPICAL DETAILS

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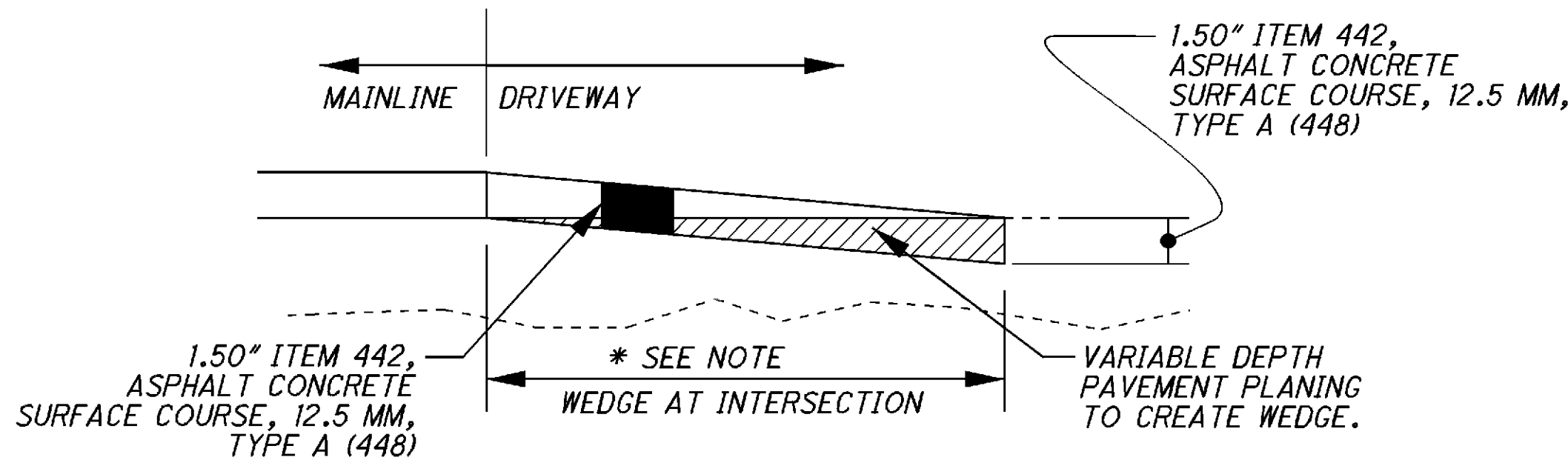
FOR ADDITIONAL INFORMATION ON PARTIAL DEPTH PAVEMENT REPAIRS, PAVEMENT REPAIR,
AND SHOULDER DETAIL SEE PLAN SHEETS 4/60 AND 6/60.



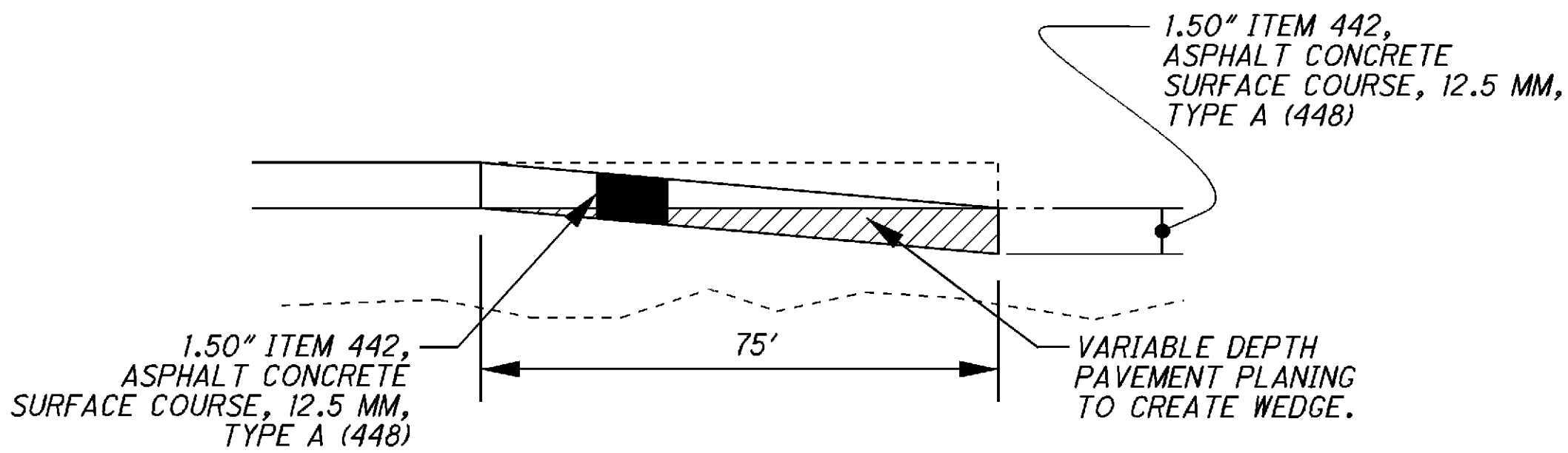
TYPICAL DRIVEWAY APPROACH DETAILS

FOR MORE INFORMATION INVOLVING TAPERS AND FEATHERING REFER TO
STANDARD DRAWING BP-3.1.

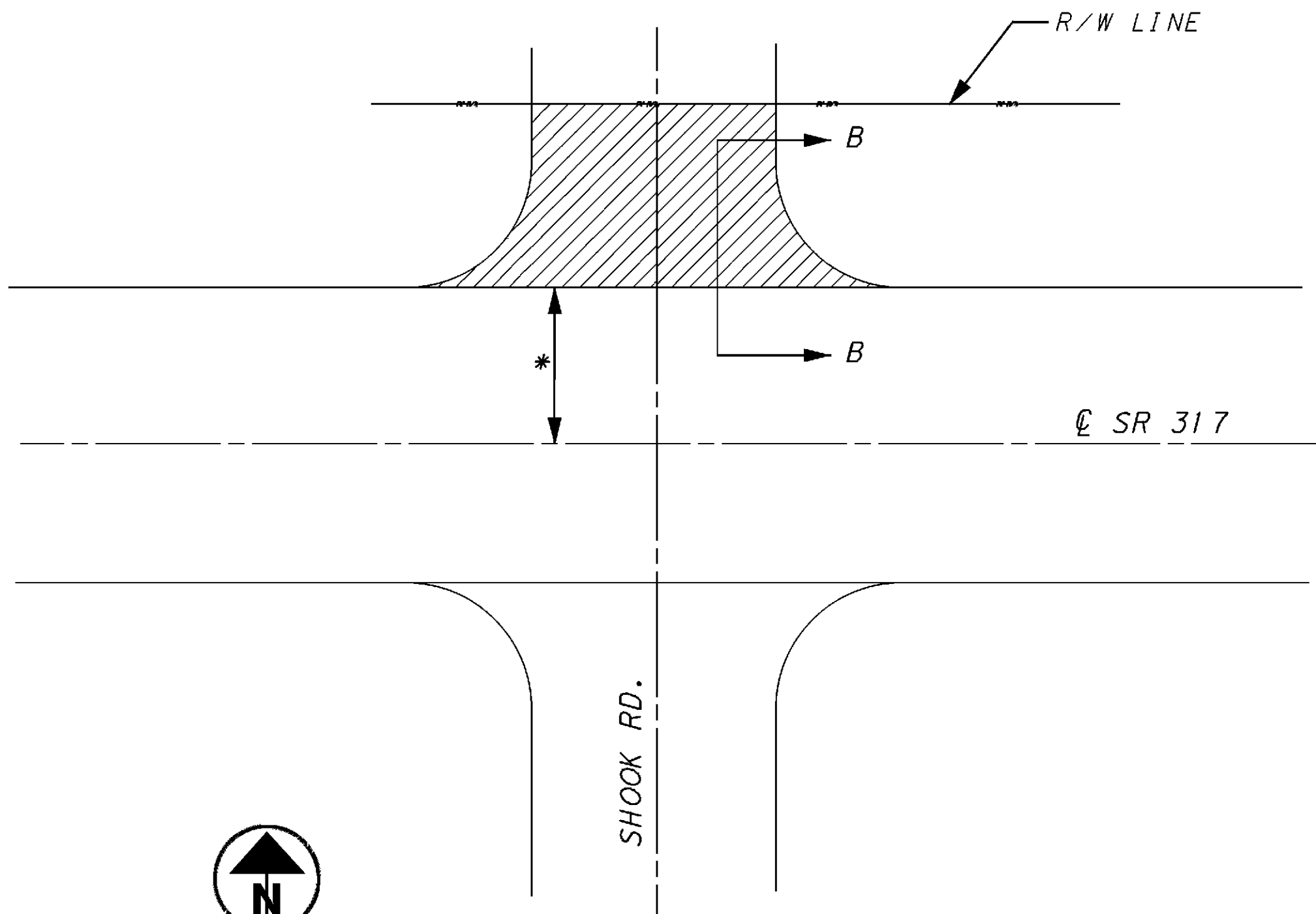
* PLANE AND PAVE OR PAVE VARIOUS
WIDTHS TO THE RADIUS RETURN OR
MINIMUM 25', WHICHEVER IS FARTHER.



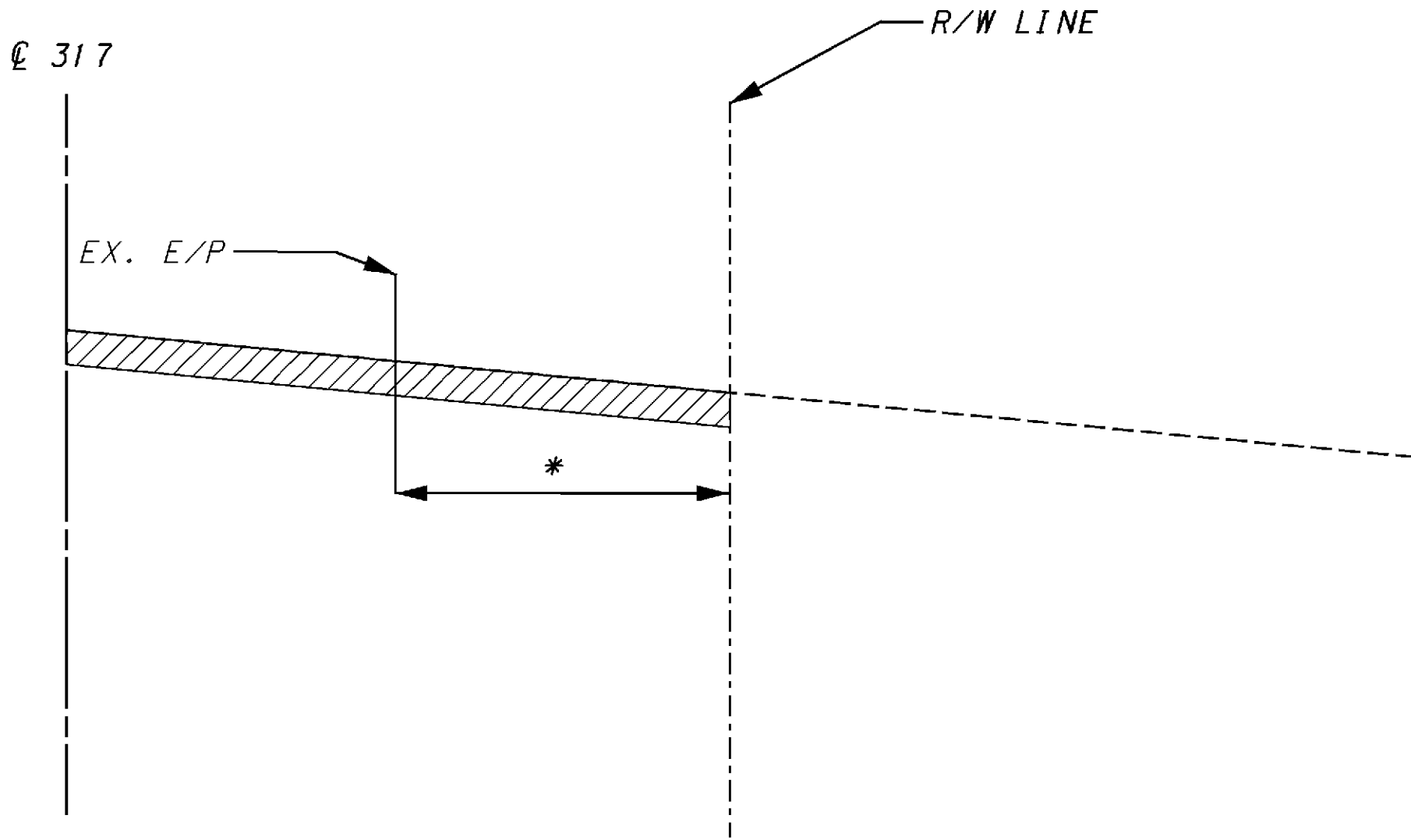
SECTION A-A
TYPICAL DRIVEWAY DETAIL



SECTION A-A
TYPICAL BUTT JOINT



SHOOK ROAD INTERSECTION



SECTION B-B

FOR DRIVEWAY QUANTITIES, SEE SHEET 4/61.

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TYPICAL DETAILS

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GENERAL:

THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER (SEE CMS 108.02) AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALIGNMENT AND PROFILE:

THE WORK PROPOSED BY THIS PROJECT IS FOR THE RESURFACING OF THE EXISTING PAVEMENT. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED, AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT EXCEPT THAT IT MAY BE RAISED AN AMOUNT EQUAL TO THE THICKNESS OF THE RESURFACING COURSE SPECIFIED IN THESE PLANS.

CONTRACTORS EQUIPMENT OPERATION AND STORAGE:

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC WHERE PRACTICAL. EQUIPMENT SHALL HAVE AT LEAST ONE AMBER FLASHING LIGHT. WHEN PARKED ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE LOCATED EITHER A MINIMUM OF THIRTY FEET FROM THE EDGE OF PAVEMENT OR SIX FEET BEHIND GUARDRAIL WITH A MINIMUM OF 125 FEET OF GUARDRAIL PRECEDING THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT AN APPROVED CONTRACTOR'S STORAGE AREA.

CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN:

THIS CONTINGENCY QUANTITY SHALL BE USED WHERE DIRECTED. REPAIRS SHALL BE LOCATED BY THE ENGINEER AND PERFORMED PRIOR TO PAVING THE PAVEMENT. REPAIR AREAS SHALL BE A MINIMUM OF 3 FEET LONG AND THE WIDTH OF THE EXISTING PAVEMENT. THE REPAIR SHALL CONSIST OF REMOVING 4" OF PAVEMENT AND PLACING 4" OF ITEM 301 - ASPHALT CONCRETE BASE, PG64-22. SEE THE DETAIL ON SHEET 4/61.

THE TOTAL IS CARRIED TO THE GENERAL SUMMARY:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN = 400 SY

ITEM 253 - PAVEMENT REPAIR:

ALL AREAS TO BE REPAIRED SHALL BE LOCATED BY THE ENGINEER. THE REPAIR AREAS SHALL BE OF VARYING LENGTH AND HAVE AN AVERAGE WIDTH OF NOT LESS THAN 4 FEET. THE EDGES OF THE PAVEMENT REMOVAL AREA SHALL BE SAWED FULL DEPTH WITH A DIAMOND SAW PRIOR TO REMOVAL. THE PAVEMENT SHALL BE REPLACED WITH THE FOLLOWING: 9 INCHES OF ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 AND ITEM 407 TACK COAT @0.075 GALLONS PER SQ. YD. GREAT CARE SHALL BE TAKEN TO MAINTAIN THE EXISTING PAVEMENT CROSS-SLOPE (CROWN), INTERSECTION CROSS-SLOPES (CROWN) AS WELL AS ALL LONGITUDINAL SLOPES. NO MORE PAVEMENT REPAIR SHALL BE STARTED AND PERFORMED THAN CAN BE COMPLETED IN THE SAME WORKING DAY. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 253 - PAVEMENT REPAIR 50 CY

ITEM 407 - TACK COAT:

THE TACK COAT OPERATION SHALL BE AS DETERMINED AT A PRE-CONSTRUCTION CONFERENCE AS PER 407.05 AND APPLICATION RATES OF 0.075 GALLON PER SQ. YARD. A COVER AGGREGATE SHALL BE USED IF HEAVY TRACKING OF THE TACK COAT ON TO THE EXISTING PAVEMENT SHOULD OCCUR DURING THE PAVING OPERATIONS. THE COST OF THE COVER AGGREGATE SHALL BE INCLUDED IN THE COST OF THIS ITEM.

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN:

THIS ITEM SHALL CONSIST OF STATIONING USING 3 FT LATH STAKES. THE STAKES SHALL BE SPACED AT 100 FT INTERVALS AND SHALL EXTEND THROUGHOUT THE LENGTH OF THE PROJECT. PLACEMENT OF THE STAKES SHALL BE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED OR MISSING STAKES.

CONSTRUCTION LAYOUT STAKES, AS PER PLAN WILL BE PAID FOR AT THE CONTRACT LUMP SUM BID, WHICH PRICE SHALL BE FULL COMPENSATION FOR ALL SERVICES, MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS, INCLUDING THE REMOVAL, NECESSARY TO COMPLETE THIS ITEM.

PAVEMENT MARKING:

QUANTITIES FOR THERMOPLASTIC (ITEM-644) PAVEMENT MARKINGS ARE INCLUDED IN THIS PLAN. ALL PROPOSED CENTERLINE PAVEMENT MARKINGS ARE TO BE REPLACED AS THEY ARE SHOWN ON SHEETS 57/61 - 61/61. THE AUXILIARY MARKINGS ARE TO BE REPLACED AS EXISTING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND SHAPE OF THESE AUXILIARY MARKINGS BEFORE THE PAVING OPERATION OBLITERATES THE EXISTING AUXILIARY MARKINGS.

THE EXISTING SCHOOL MARKINGS (2) NEAR SHOOK ROAD AND THE WORD 'ONLY' IN THE PROJECT LIMITS ARE NOT TO BE REAPPLIED EXCEPT IN THE LOCATIONS AS SHOWN ON SHEET 6/61. WORDS ARE TO BE PLACED AS PER CITY OF COLUMBUS STANDARDS.

THE EQUIVALENT LENGTH OF SOLID LINE ON THIS PROJECT IS 5.648 MILES. THIS IS FOR INFORMATION ONLY.

THE ALLOWABLE DURATION FROM THE TIME THE EXISTING PAVEMENT MARKING HAS BEEN OBLITERATED UNTIL THE PERMANENT MARKINGS ARE TO BE APPLIED IS AS FOLLOWS:

MARKING TYPE	CALENDAR DAYS
CENTER LINE	3
EDGE LINE	14

ITEM 644 - THERMOPLASTIC PAVEMENT MARKING:

THE AUXILIARY MARKINGS ARE TO BE THERMOPLASTIC. THE CONTRACTOR IS TO CONTINUE THE THERMOPLASTIC MARKINGS OVER THE CONCRETE BRIDGE DECKS AND APPROACH SLABS AS NEEDED.

ITEM 617 - WATER:

A QUANTITY OF 5 M GALLONS OF WATER HAS BEEN ADDED FOR USE IN HELPING WITH THE COMPACTION OF ITEM - 617 COMPACTED AGGREGATE, 2 IN. AVG.

THE TOTAL IS CARRIED TO THE GENERAL SUMMARY:

ITEM 617 - WATER 5 M GALLONS

WATER QUALITY PROTECTION:

NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, SOLVENTS, CLEANING AGENTS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO ANY STREAMS, DRAINAGE COURSES, OR BODIES OF WATER. NO DEBRIS SHALL BE PLACED WITHIN THE 100-YEAR FLOODPLAIN BOUNDARY OF ANY WATERCOURSE.

WATER QUALITY PROTECTION (CONT.):

THE CONTRACTOR SHALL TAKE GREAT CARE TO MINIMIZE THE POTENTIAL TO CONTAMINATE THE PUBLIC DRINKING WATER SUPPLY. ALL PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL BE PERFORMED IN AN ENVIRONMENTALLY RESPONSIBLE MANNER.

THE CONTRACTOR SHALL TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE AND WILL BE HELD RESPONSIBLE FOR THE CLEAN UP AND REMEDIATION OF ANY AND ALL SPILLS.

SURVEYING PARAMETERS:

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

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD 1988
GEOID: GEOID 03
HORIZONTAL POSITIONING
REFERENCE FRAME: NAD 83 (CORS 96)
ELLIPSOID: WGS84
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLAN (SOUTH)
COMBINED SCALE FACTOR: 1.000057560

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

WORK LIMITS:

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

UNDERGROUND UTILITIES:

OHIO UTILITY PROTECTION SERVICE 1-800-362-2764
NON-MEMBERS MUST BE CALLED DIRECTLY
IN ADDITION TO O.U.P.S. A LIST OF UTILITY CONTACTS ARE PROVIDED ON SHEET 8/61.

SAFETY EDGE PLAN NOTE:

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

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SAFETY EDGE PLAN NOTE (CONT.):

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETSIOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TRANSTECH SYSTEMS, INC. 1594 STATE STREET SCHENECTADY, NY 12304 1-800-724-6306 WWW.TRANSTECHSYS.COM	ADVANT-EDGE PAVING EQUIPMENT, LLC. P.O. BOX 9163 NISKAYUNA, NY 12309-0163 518-280-6090 WWW.ADVANTEDGEPAVING.COM
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CARLSON SAFETY EDGE END GATE 18425 50 TH AVENUE EAST TACOMA, WA 98446 253-875-8000	TROXLER ELECTRONIC LABORATORIES, INC. 3008 E. CORNWALLIS RD. RESEARCH TRIANGLE PARK, NC 27709 1-877-TROXLER WWW.TROXLERLABS.COM
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IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES (200 TO 300 MM) AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN.

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05, OR AS DIRECTED BY THE ENGINEER.

A QUANTITY OF 8.56 MILES HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN.

ITEM 630 - SIGN, FLAT SHEET:
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST:

THESE ITEMS SHALL BE USED TO PLACE NEW STRUCTURE IDENTIFICATION SIGNS AT THE FOLLOWING STRUCTURES:

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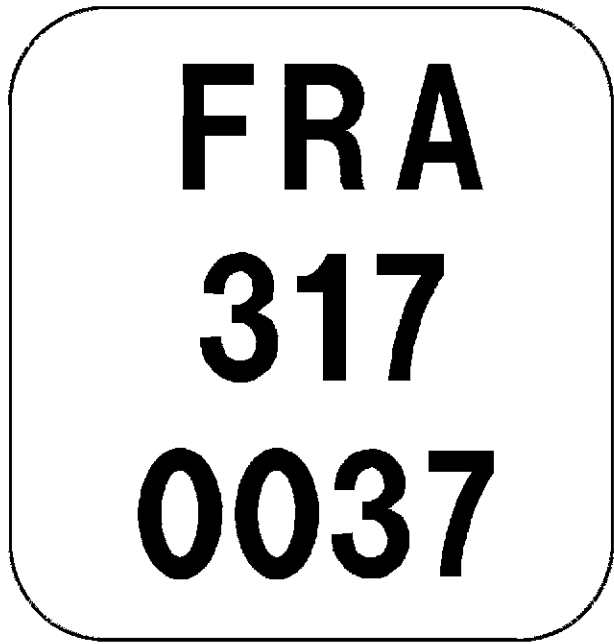
EACH SIGN SHALL BE ATTACHED TO THE CONCRETE PARAPET WITH CONCRETE ANCHORS AT THE RIGHT REAR LOCATION. IF THE BRIDGE

DOES NOT HAVE A CONCRETE PARAPET, THE SIGN SHALL BE POST MOUNTED TO ONE NEW NO. 2 POST AS PER STANDARD CONSTRUCTION DRAWING TC-41.20 (MOST CURRENT REVISION) USING TWO 5/16" ALUMINUM BOLTS 2 1/2" IN LENGTH. THE POST SHALL BE 7'-0" LONG.

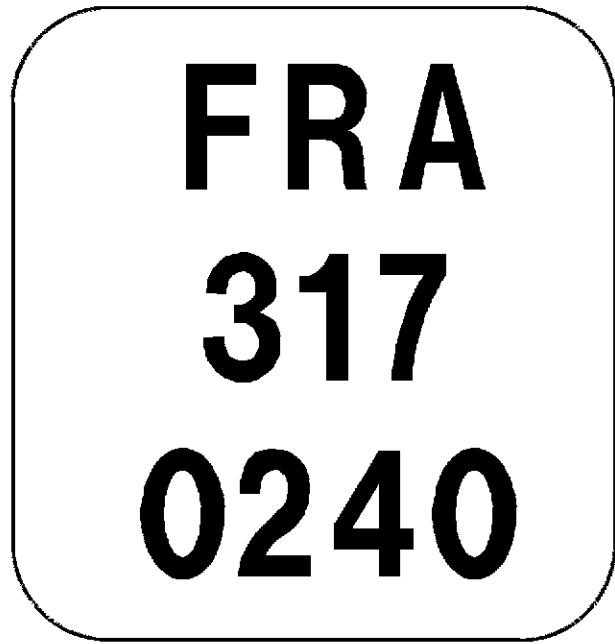
SIGNS SHALL BE SIZED AS PER SIGN I-H25a AS GIVEN IN THE ODOT

ITEM 630 - SIGN, FLAT SHEET (CONT.):
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST (CONT.):

SIGN DESIGN MANUAL (MOST CURRENT VERSION). ALL INCIDENTALS WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 630 - SIGN, FLAT SHEET.



BRIDGE ID SIGN
SIGN CODE I-H25a



BRIDGE ID SIGN
SIGN CODE I-H25a

THE FOLLOWING ITEMS HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 630 - SIGN, FLAT SHEET	= 2.0 SQ FT
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST	= 23 FT

CONSTRUCTION SEQUENCE:

THE ITEMS 625-BRACKET ARM, 633-ADVANCE/DILEMMA ZONE DETECTION SYSTEM, AND 633-STOP BAR DETECTION RADAR SHALL BE INSTALLED AND FULLY FUNCTIONAL BEFORE ANY OF THE MILLING OF THE PAVEMENT IS PERFORMED OR EXISTING LOOP DETECTORS ARE DAMAGED. SEE THE TRAFFIC CONTROL GENERAL NOTES ON SHEET 50/61 FOR FURTHER EXPLANATION OF THESE ITEMS.

ITEM 644 - PAVEMENT MARKING, MISC.: CHANNELIZING LINE 10"

THIS ITEM SHALL BE 10" IN WIDTH INSTEAD OF THE ODOT STANDARD 8".

ITEM 644 - PAVEMENT MARKING, MSSC.: EDGE LINE 5"

THIS ITEM SHALL BE 5" IN WIDTH INSTEAD OF THE ODOT STANDARD 4".

ITEM 644 - CENTERLINE, AS PER PLAN

THIS ITEM SHALL BE 5" IN WIDTH INSTEAD OF THE ODOT STANDARD 4".

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UTILITIES:

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

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ANY UNDERGROUND UTILITIES MARKED.

OHIO UTILITY PROTECTION SERVICE 1-800-362-2764

NON-MEMBERS MUST BE CALLED DIRECTLY.

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 6
400 EAST WILLIAM STREET
DELAWARE, OH 43015
740.833.8332

AEP
850 TECH CENTER DRIVE
GAHANNA, OH 43230-6605
614.883.6831

AEP
700 MORRISON ROAD
GAHANNA, OH 43230
614.552.1801

TIME WARNER CABLE
3760 INTERCHANGE DRIVE
COLUMBUS, OH 43204
614.481.5262/614.348.2979

COLUMBIA GAS TRANSMISSION CORPORATION
301 MAPLE STREET
P.O. BOX 330
SUGAR GROVE, OH 43155
740.746.2234

COLUMBIA GAS OF OHIO
3550 JOHNNY APPLESEED COURT
COLUMBUS, OH 43231
614.818.2133

TIME WARNER CABLE (INSIGHT)
3770 EAST LIVINGSTON AVENUE
COLUMBUS, OH 43227
614.338.7069

CITY OF COLUMBUS - UTILITIES
910 DUBLIN ROAD
COLUMBUS, OH 43215
614.645.8276

CITY OF GROVEPORT - UTILITIES
665 BLACKLICK STREET
GROVEPORT, OH 43125
614.836.5301

AT&T
111 NORTH FOURTH STREET - 8TH FLOOR
COLUMBUS, OH 43215
614.223.7162

SOUTH CENTRAL POWER COMPANY
2780 COONPATH ROAD
LANCASTER, OH 43130
740.689.6237

COLUMBUS REGIONAL AIRPORT AUTHORITY
4600 INTERNATIONAL GATEWAY
COLUMBUS, OH 43219
614-239-400

FRANKLIN COUNTY ENGINEERS OFFICE
970 DUBLIN ROAD
COLUMBUS, OH 43215-1169
614-525-3030

TIME WARNER CABLE
3760 INTERCHANGE DRIVE
P.O. BOX 2553
COLUMBUS, OH 43216-2553
614.481.5262/614.348.2979

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CONSTRUCTION INITIATION:

AT LEAST 14 DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT d06.pio@dot.state.oh.us AND THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT d06.mot@dot.state.oh.us OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES, INCLUDING, BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

ITEM 614 - MAINTAINING TRAFFIC:

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING AND COMPLETED PAVEMENT. WORK ZONES SHALL BE LIMITED IN LENGTH TO THE AMOUNT OF WORK THAT CAN BE PERFORMED THAT DAY.

ITEM 614, WORK ZONE MARKING SIGN:

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED:

R4-1-36 "DO NOT PASS"	= 13 EACH
R4-2-36 "PASS WITH CARE"	= 13 EACH
W8-H12a "NO EDGE LINES"	= 6 EACH
TOTAL CARRIED TO THE GENERAL SUMMARY:	
ITEM 614 - WORK ZONE MARKING SIGN	= 32 EACH

ITEM 614, MAINTAINING TRAFFIC (LANE CLOSURE/REDUCTION REQUIRED):

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC.

ITEM 614, MAINTAINING TRAFFIC (LANE CLOSURE/REDUCTION REQUIRED) (CONT.):

LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL EXISTING LANES MUST BE OPEN FROM 6AM - 8AM AND 4PM TO 6PM

ITEM 614, MAINTAINING TRAFFIC:

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. 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.

NOTIFICATION OF TRAFFIC RESTRICTIONS:

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE

NOTIFICATION OF TRAFFIC RESTRICTIONS (CONT.):

BELOW. THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE BUT IS NOT LIMITED TO ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHOULD LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME FRAME TABLE		
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO DISTRICT COMMUNICATIONS OFFICE
RAMP AND ROAD CLOSURES	>= 2 WEEKS	14 BUSINESS DAYS PRIOR TO CLOSURE
	> 12 HOURS AND < 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES/RESTRICTIONS	>= 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS EQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME FRAME TABLE.

FLOOD LIGHTING:

FLOODLIGHTING FOR THE WORK SITE FOR OPERATIONS DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IN IS PLACE AND OPERATIVE AND PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDS SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, TO THE DISTRICT SIX MAINTENANCE OF TRAFFIC COORDINATOR, THE CONTRACTOR'S MAINTENANCE OF TRAFFIC PLAN WITH CONSTRUCTION PHASING DESCRIPTIONS, PRIOR TO BEGINNING WORK.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN:

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE WHEN NO LONGER NEEDED, CHANGEABLE MESSAGE SIGNS, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. ONLY CLASS I OR II SIGNS WILL BE PERMITTED.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TEMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLE SHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

ONE PCMS SHALL BE PLACED ON US-23 ON EITHER SIDE OF US-23 AT BOTH ENDS OF THE PROJECT. THE EXACT PLACEMENT OF THE SIGNS SHALL BE AS DIRECTED BY THE ENGINEER. THE MESSAGES SHALL ALSO BE AS DIRECTED BY THE ENGINEER.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (CONT.):

PLACEMENT, OPERATION, MAINTENANCE, AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9" BY 15" MINIMUM, FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLE SHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NEEDED.

THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHOULD BE SUPPORTED, BUT NORMALLY, NOT MORE THAT TWO MESSAGE PHASES SHOULD BE EMPLOYED, ALTHOUGH THREE PHASES MAY BE USED IN UNUSUAL CONDITIONS. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC, WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED, OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES FOR DIFFERENT DAYS OF THE WEEK.

THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03 SHALL MAINTAIN THE PCMS UNIT IN GOOD WORKING ORDER. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF A FAILURE. ANY FAILURE SHALL NOT RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON THE CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATIONS AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN, AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITIES AS OUTLINED IN 104.04.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT BID PRICE PER MONTH FOR EACH ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

TOTAL CARRIED TO THE GENERAL SUMMARY:
ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN:
2 PCMS @ 60 DAYS = 120 DAYS

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS:

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE ODOT INTENDS THAT FLAGGERS BE USED.

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS: (CONT.)

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) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

WORK WITHIN SIGNALIZED INTERSECTIONS WITHIN THE CITY OF COLUMBUS

IN ADDITION TO THE REQUIREMENT 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 THE FOLLOWING TRAFFIC CONTROL TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

THE OHIO HIGHWAY PATROL
614-466-2660

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S 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 WITH THE APPROPRIATE AGENCIES 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 LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL 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 HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY)

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS: (CONT.)

BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

THE HOURS PAID SHALL INCLUDE ANY 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 FOR ASSISTANCE. = 140 HR

ITEM 614 - WORK ZONE CENTER LINE CLASS II, 740.06, TYPE I:

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR FRA-317-0.37:

SLM 0.34 - 3.32 = 2.52 MI X 1 APPLICATIONS = 2.98 MI
SLM 3.87 - 5.43 = 1.56 MI X 1 APPLICATIONS = 1.56 MI
4.54 MI

TOTAL CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - WORK ZONE CENTER LINE CLASS II, 740.06, TYPE I = 4.54 MI

ITEM 614 - WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I:

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR FRA-317-0.37

ITEM 614 - WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I = 322 FT.

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B

THE QUANTITY OF 100 SQ. YD. HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614 - WORK ZONE EDGE LINE CLASS I, 740.06, TYPE I:

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR FRA-317-0.37

SHEET 12/61

LEFT STA. 125+10 TO STA. 133+91 = 831 LF
RIGHT STA. 125+35 TO STA. 133+17 = 831 LF
= 1,662 LF

SHEET 13/61

LEFT STA. 125+73 TO STA. 133+83 = 861 LF
RIGHT STA. 125+75 TO STA. 133+81 = 806 LF
= 1,667 LF
= 0.63 MI

TOTAL CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - WORK ZONE EDGE LINE CLASS I, 740.06, TYPE I = 0.63 MI

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL):

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL) (CONT.):

OFFICE OF ROADWAY ENGINEERING WEBSITE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

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

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

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 AND MAINTAIN 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.

FULLY-ACTUATED OPERATION OF WORK ZONE TRAFFIC SIGNAL:

THE WORK ZONE SIGNAL CONTROL REQUIRED FOR THIS PROJECT AND SHOWN ON SHEETS 11/61 AND 12/61 AND SCDS MT-96.11, 96.20 AND 96.26 SHALL BE FULLY TRAFFIC-ACTUATED AND OPERATE IN A MANNER SIMILAR TO THAT DESCRIBED IN SECTION 733.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. PHASING SHALL BE ADJUSTED AS NEEDED TO HANDLE THE OF TRUCK TRAFFIC ON SR 317.

THE INITIAL CONTROLLER TIMING SHALL BE AS FOLLOWS:

	PHASE *			
	1	2	3	4
	(All Red)	Mainline	(All Red)	Mainline
	(direction)		(Direction)	
MIN. GREEN	Tlc1-6+/-	10	Tlc3-6+/-	10
EXTENSION	N/A	4	N/A	4
MAX. GREEN	Tlc1-5+/-	30	Tlc2-5+/-	30
YELLOW	3	3.5	3	3.5
ALL RED	2	2	2	2
RECALL	MAX.	MIN.	MAX.	MIN.

*PHASES AS SHOWN ON SCD MT-96.20 FOR ACTUATED CONTROL +/- PROVIDE TIMING FOR THE SIGNAL LOCATION UNDER CONSIDERATION. Tlc1 IS THE DESIRED INTERNAL CLEARANCE TIME FOR PHASE 1. Tlc3 IS THE DESIRED INTERNAL CLEARANCE TIME FOR PHASE 3. USUALLY, Tlc1=Tlc3.
1 INDICATE DIRECTION OF GREEN.

THE CONTRACTOR SHALL ALSO DESIGN, FURNISH, INSTALL AND MAINTAIN A TRAFFIC DETECTOR ON EACH TRAFFIC APPROACH WHICH WILL RELIABLY DETECT ALL LEGAL TRAFFIC APPROACHING (BUT NOT LEAVING) THE SIGNAL AS IT PASSES OR WAITS IN THE DESIGNATED DETECTOR ZONE SHOWN IN THE PLANS. DETECTOR DESIGNS WHICH DO NOT PROVIDE RELIABLE DETECTION, FREE FROM FALSE CALLS, SHALL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.

BARRIER REFLECTORS AND OBJECT MARKERS:

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL WITHIN THE RIGHT-OF-WAY. BARRIER REFLECTORS, OBJECT MARKERS

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BARRIER REFLECTORS AND OBJECT MARKERS (CONT.):

AND THEIR INSTALLATION SHALL CONFORM TO CMS 626.02 AND 626.04 EXCEPT THAT SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF ITEM 614 BARRIER REFLECTORS, TYPE B AND ITEM 614 OBJECT MARKER, ONE-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

PUBLIC OUTREACH AND NOTIFICATION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE DISTRICT 6 PUBLIC INFORMATION OFFICE AT (740) 833-8063 TO COORDINATE EFFORTS TO NOTIFY ADJACENT RESIDENTS AND BUSINESSES OF THE UPCOMING RESURFACING PROJECT. ADVANCE NOTIFICATION SHALL OCCUR NO LATER THAN FOURTEEN (14) DAYS PRIOR TO THE FIRST DAY OF WORK.

USE OF WEIGHTED CHANNELIZERS:

THE WEIGHTED CHANNELIZER MAY BE USED IN ACCORDANCE WITH THIS SECTION. THE WEIGHTED CHANNELIZER SHALL BE PREDOMINANTLY ORANGE IN COLOR AND SHALL BE MADE OF LIGHTWEIGHT, FLEXIBLE, AND DEFORMBABLE 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 INCHES 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.

USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATIONS FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK, 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 BARRICADES.

WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE TANGENT AREA AND AT A MAXIMUM SPACING OF 40 FEET. 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.

STEPS SHOULDE BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNLEIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE IN ADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS.

ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER’S SPECIFICATIONS.

PAYMENT SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

CITY OF COLUMBUS MOT NOTES:

NOTE: THESE ARE ONLY IN EFFECT IN THE CITY OF COLUMBUS SECTIONS OF THE PROJECT.

EXCAVATION /OCCUPANCY PERMITS MUST BE OBTAINED BY THE CONTRACTOR AT LEAST 5 DAYS PRIOR TO BEGINNING WORK FROM THE CITY OF COLUMBUS TRANSPORTATION DIVISION (614) 645-5660. A DETAILED TEMPORARY TRAFFIC CONTROL PLAN (TTCP) SHALL BE REQUIRED AS PART OF THE PERMIT PROCESS.

CITY OF COLUMBUS MOT NOTES (CONT.):

CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TEMPORARY/PERMANENT TRAFFIC CONTROL IS IN PLACE AND APPROVED BY ODOT PERSONNEL. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE APPROVED FOR CONDITION AND LOCATION BY THE CONSTRUCTION INSPECTOR BEFORE THE CONTRACTOR WILL BE ALLOWED TO BEGIN WORK. IF THE CONTRACTOR DOES NOT COMPLY WITH THE STANDARDS, INCLUDING THE INSTALLATION OF TEMPORARY PAVEMENT MARKINGS, HIS PERMIT SHALL BE REVOKED AND ALL WORK SHALL BE TERMINATED.

A TTCP, INCLUDING PEDESTRIAN CONTROL SHALL BE SUBMITTED TO THE TTC COORDINATOR AT THE PRE-CONSTRUCTION MEETING OR A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO BEGINNING WORK. COPIES OF THE APPROVED TTCP SHALL BE GIVEN TO THE PROJECT ENGINEER AND KEPT ON SITE ALONG WITH THE EXCAVATION/OCCUPANCY PERMIT.

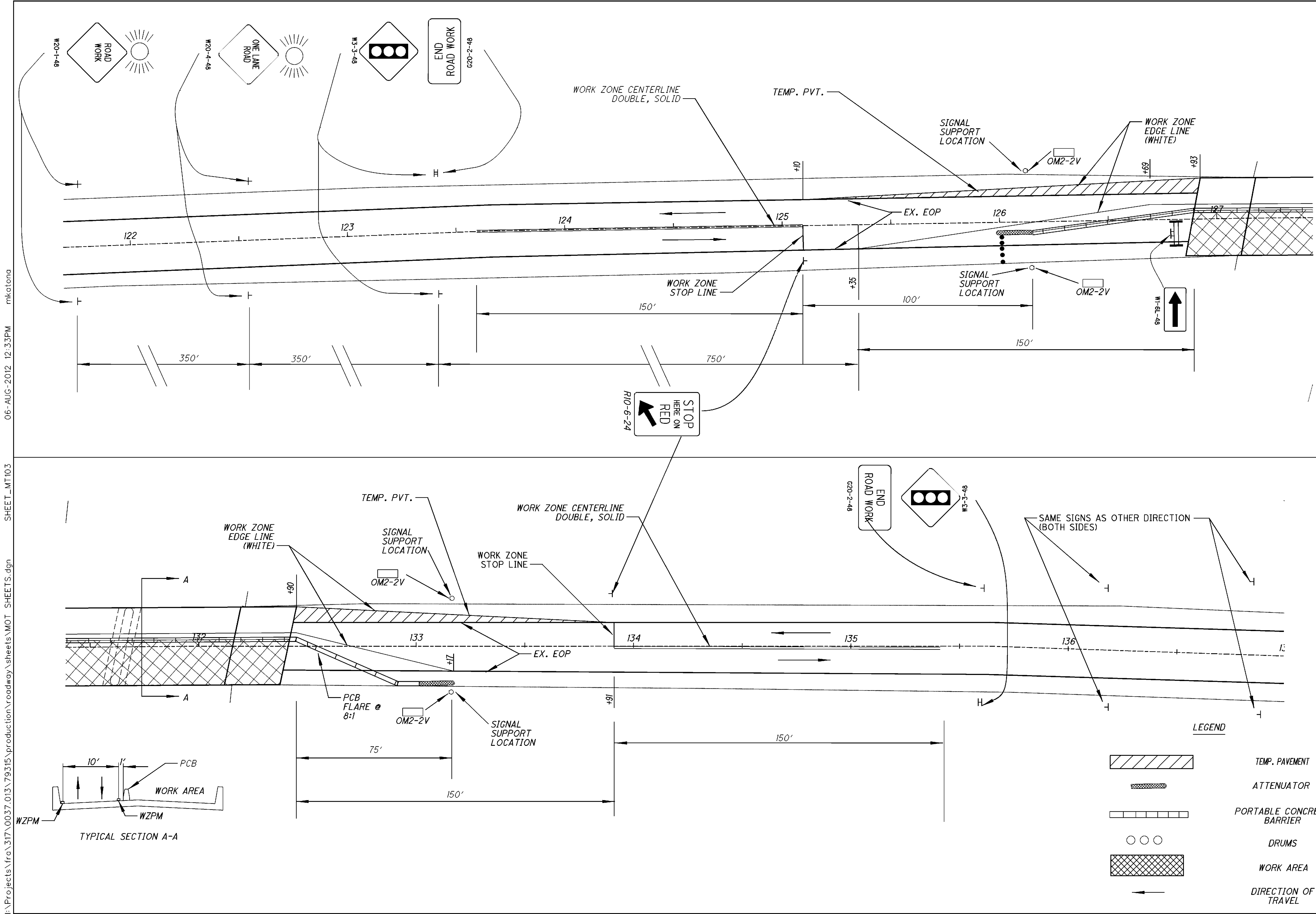
DUE TO THE URBAN SETTING AND SHORT-TERM SET-UP OF THE TRAFFIC CONTROL, DEVICE SPACING SHALL BE A MAXIMUM OF 40' (FEET) CENTER ON CENTER IN THE TAPERS AND 80' (FEET) CENTER ON CENTER IN THE TANGENT SECTIONS.

A PRE-MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD (MINIMUM 10 WORKING DAYS) PRIOR TO WORK BEGINNING OR ANY CHANGE OF PHASING. THIS MEETING SHALL INCLUDE THE DISTRICT

MAINTENANCE OF TRAFFIC PERSON AND THE TEMPORARY CONTROL COORDINATOR (645-6269 OR 645-5845) FROM THE CITY OF COLUMBUS TRANSPORTATION DIVISION AS WELL AS THE CONTRACTOR AND ANY OF HIS SUB-CONTRACTORS INVOLVED WITH TEMPORARY TRAFFIC CONTROL.

CURB RAMPS:

ADA CURB RAMPS WILL BE RECONSTRUCTED PRIOR TO RESURFACING BY THE CITY OF COLUMBUS.



LEGEND

	TEMP. PAVEMENT
	ATTENUATOR
	PORTABLE CONCRETE BARRIER
	DRUMS
	WORK AREA
	DIRECTION OF TRAVEL

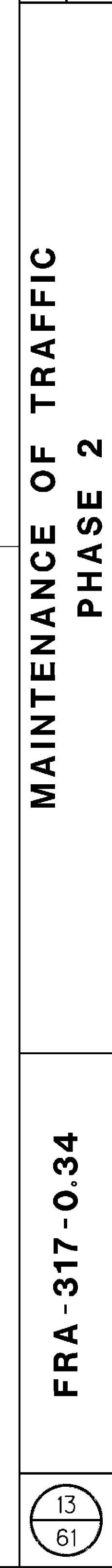
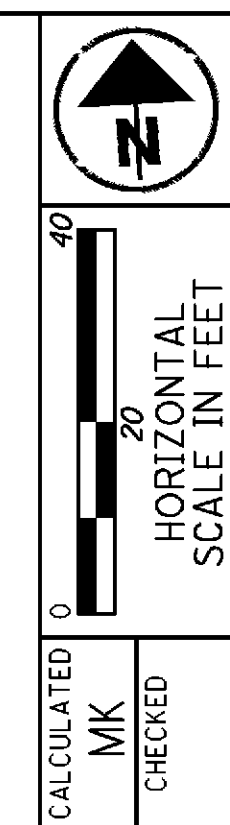
0 20 40
HORIZONTAL SCALE IN FEET

CALCULATED
MK
CHECKED

MAINTENANCE OF TRAFFIC
PHASE 1

FRA-317-0.34


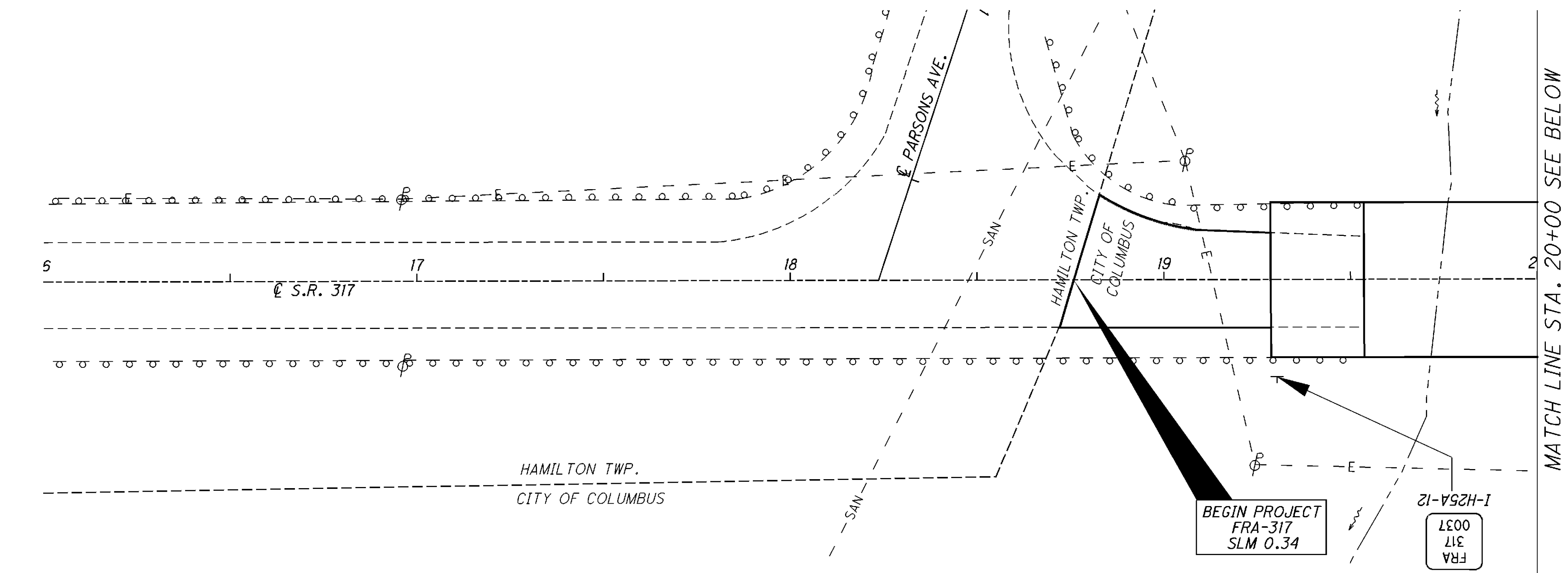
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							PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET	CALCULATED MK	CHECKED
							01/S>2/PV/F_LC	02/S>2/PV/F_ST	03/S>2/BR/	04/S>2/PV/COL								
	6 - 8	9 - 13	46 - 47	48	49 - 54	55 - 57												
															EROSION CONTROL			
							241	759			832	30000	1,000	EACH	EROSION CONTROL			
															PAVEMENT			
	8.56						8.56				209	72051	8.56	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN			
	400							304		96	251	01001	400	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN	6		
	50							38		12	253	02000	50	CU YD	PAVEMENT REPAIR			
			4,819	13			1,166	3,666			254	01000	4,832	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE			
			5,343	10			1,285	4,068			407	10000	5,353	GALLON	TACK COAT			
			3,024				726	2,298			442	20000	3,024	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448)			
			311				75	236			617	10100	311	CU YD	COMPACTED AGGREGATE			
	5						1	4			617	25000	5	M GAL	WATER			
															TRAFFIC CONTROL			
			509				123	386			621	00100	509	EACH	RPM			
			509				123	386			621	54000	509	EACH	RAISED PAVEMENT MARKER REMOVED			
	23				5		5				625	18510	5	EACH	BRACKET ARM, 30'			
	2						23				630	02100	23	FT	GROUND MOUNTED SUPPORT, NO. 2 POST			
							2				630	80100	2	SQ FT	SIGN, FLAT SHEET			
					6			6			633	69000	6	EACH	ADVANCE/DILEMMA ZONE DETECTION SYSTEM			
					8			8			633	69100	8	EACH	STOP BAR DETECTION RADAR			
			24					24			642	30000	24	FT	REMOVAL OF PAVEMENT MARKING			
				4.07			0.98	3.09			644	00301	4.07	MILE	CENTER LINE, AS PER PLAN	7		
			394				95	299			644	00500	394	FT	STOP LINE			
			1,280				309	971			644	00700	1,280	FT	TRANSVERSE/DIAGONAL LINE			
			19				5	14			644	01300	19	EACH	LANE ARROW			
			2				1	1			644	01382	2	EACH	WORD ON PAVEMENT, 48"			
				2,520			608	1,912			644	50300	2,520	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE 10"	7		
				9.10			2.19	6.91			644	50400	9.10	MILE	PAVEMENT MARKING, MISC.: EDGE LINE, 5"	7		
															MAINTENANCE OF TRAFFIC			
		140					34	106			614	11110	140	HOURL	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE			
		32					8	24			614	12460	32	EACH	WORK ZONE MARKING SIGN			
		120					29	91			614	18401	120	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	10		
		4.54					1.09	3.45			614	21600	4.54	MILE	WORK ZONE CENTER LINE, CLASS II, 740.06, TYPE I			
		0.63					0.63				614	22200	0.63	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I			
		322					78	244			614	26400	322	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I			
		100					20	80			615	25000	100	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B			
		1,445							1,445		614	12336	1,445	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)			
		4							4		622	40020	4	FT	PORTABLE CONCRETE BARRIER, 32"			
		1							1		SPECIAL	61411300	1	EACH	WORK ZONE TRAFFIC SIGNAL			
															STRUCTURE OVER 20'			
															SFN# 2516233			
						2,178			2,178		512	10400	2,178	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS			
						146			146		SPECIAL	51912300	146	SQ YD	PATCHING CONCRETE BRIDGE DECK - TYPE B			
															SFN# 2516233			
						500			500		509	10001	500	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	56		
						2,020			2,020		848	20000	2,020	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION			
						2,020			2,020		848	10000	2,020	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION 1.25"			
						2			2		848	30000	2	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			
						2,020			2,020		848	50320	2,020	SQ YD	EXISTING CONCRETE OVERLAY REMOVED 1.25" NOMINAL THICKNESS			
							LUMP	LUMP	LUMP	LUMP	614	11000	LUMP		MAINTAINING TRAFFIC			
	LUMP						1	2			619	16000	3	MONTH	FIELD OFFICE, TYPE A			
							LUMP	LUMP	LUMP	LUMP	623	10001	LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	6		
							LUMP	LUMP	LUMP	LUMP	624	10000	LUMP		MOBILIZATION			

GENERAL SUMMARY

FRA - 317 - 0.34

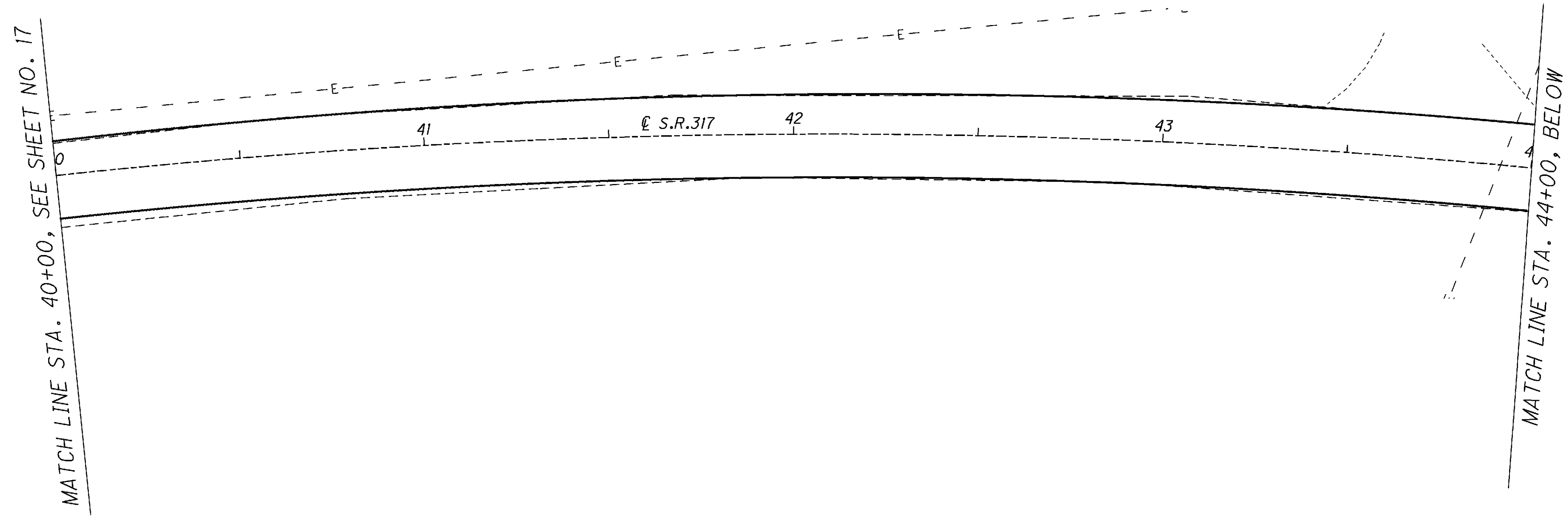


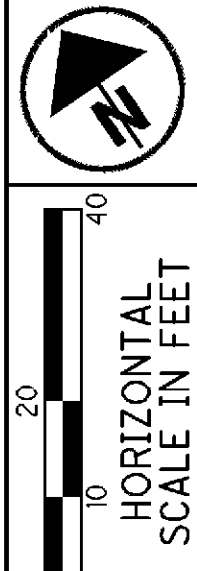
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PAVEMENT PLAN
STA. 16+00 TO STA. 24+00

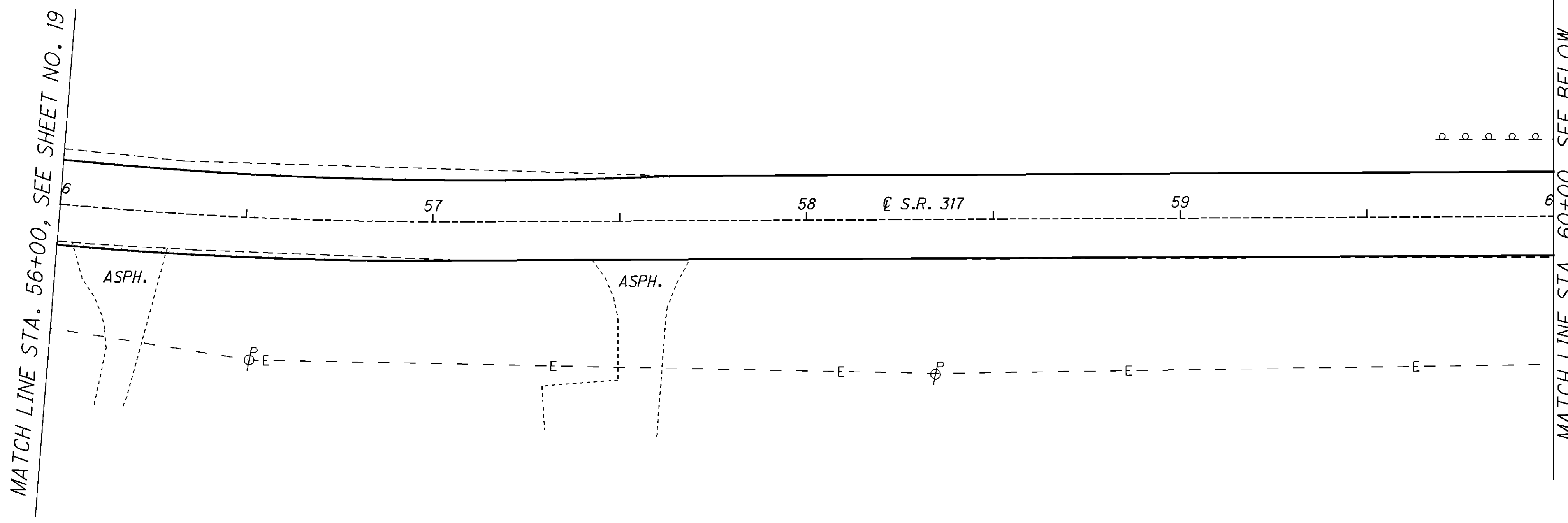
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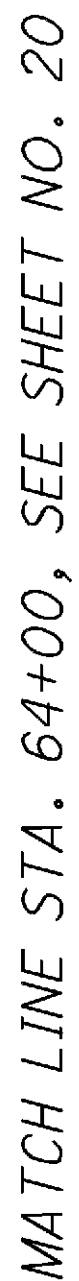
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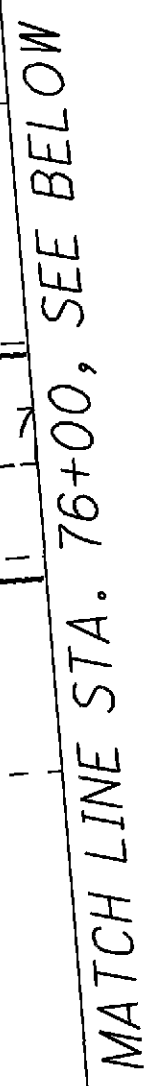


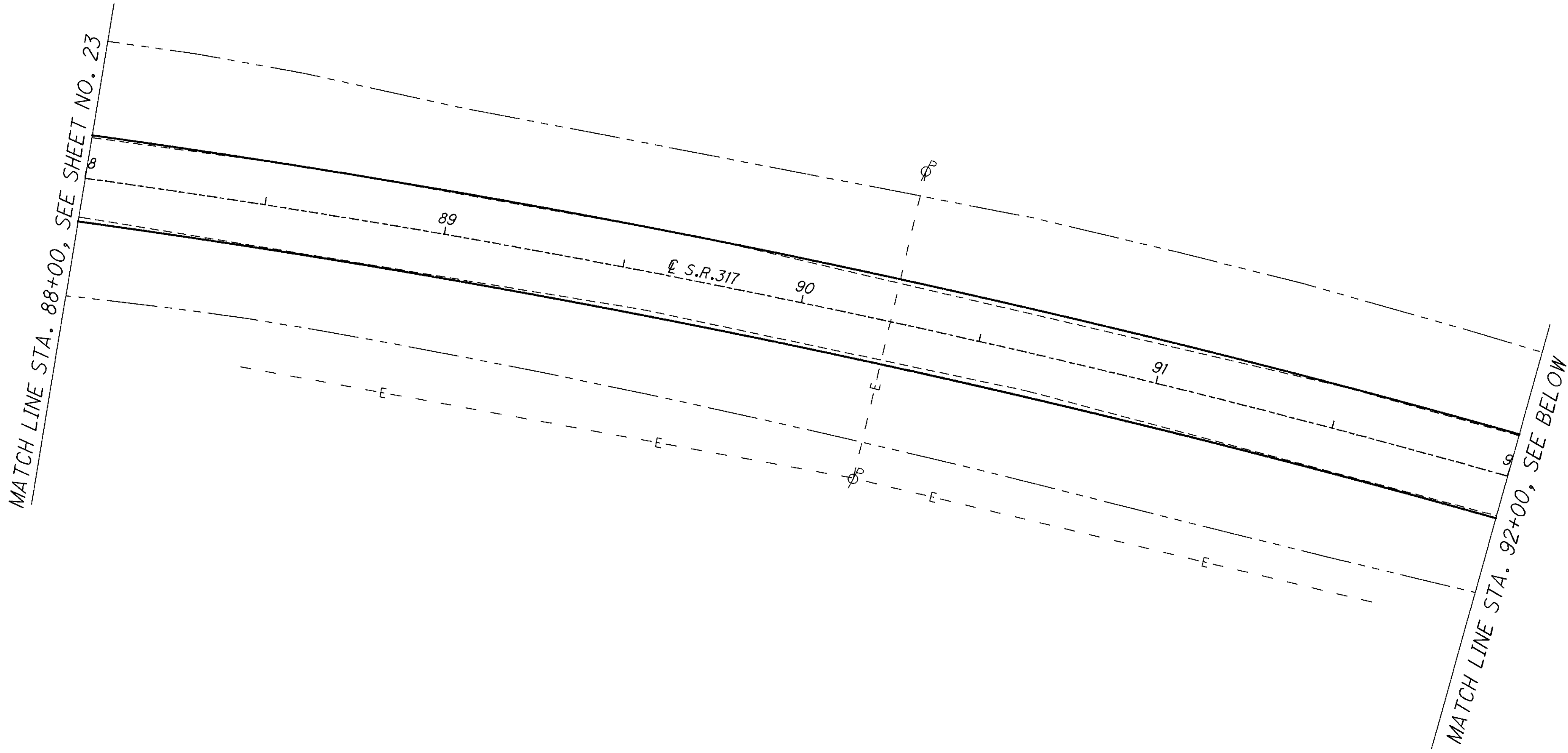
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56+00</div></div>	<div><div><div>CALCULATED</div><div>MK</div><div>CHECKED</div></div></div>	<div><div><div><div>0</div><div>20</div><div>40</div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><di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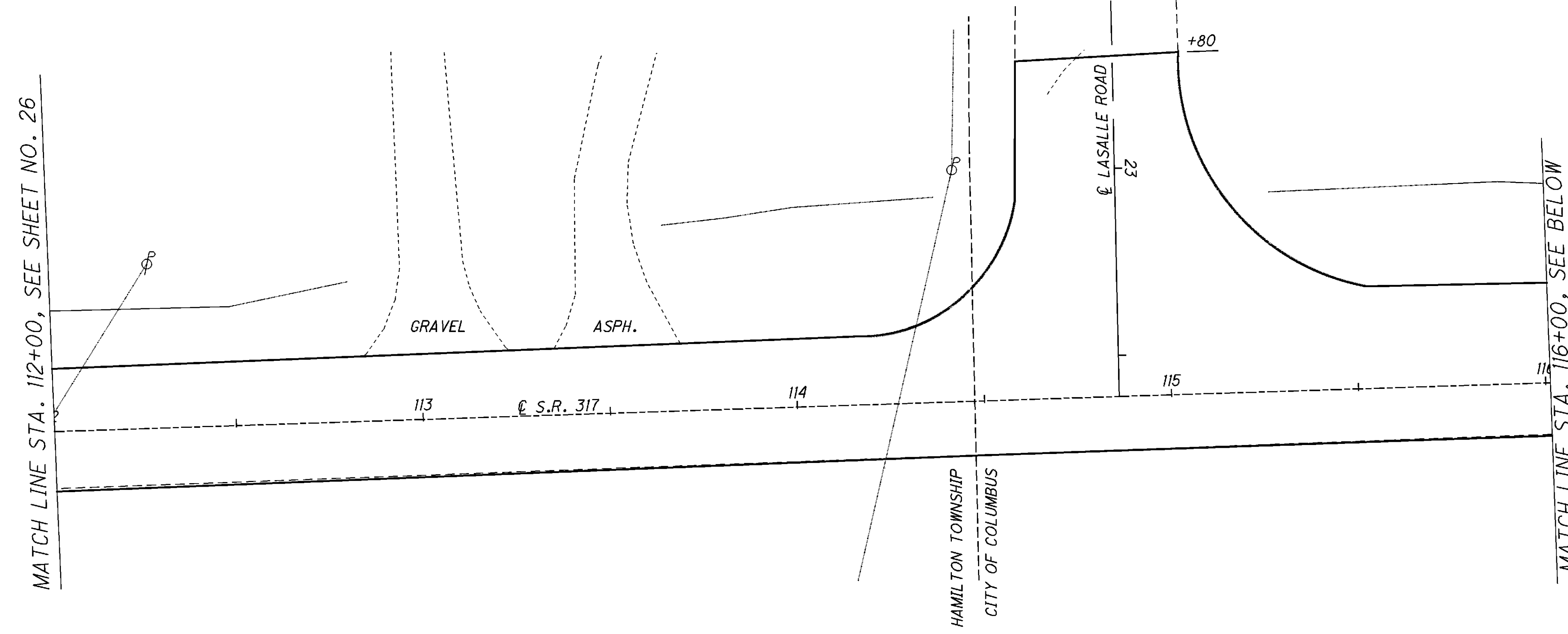
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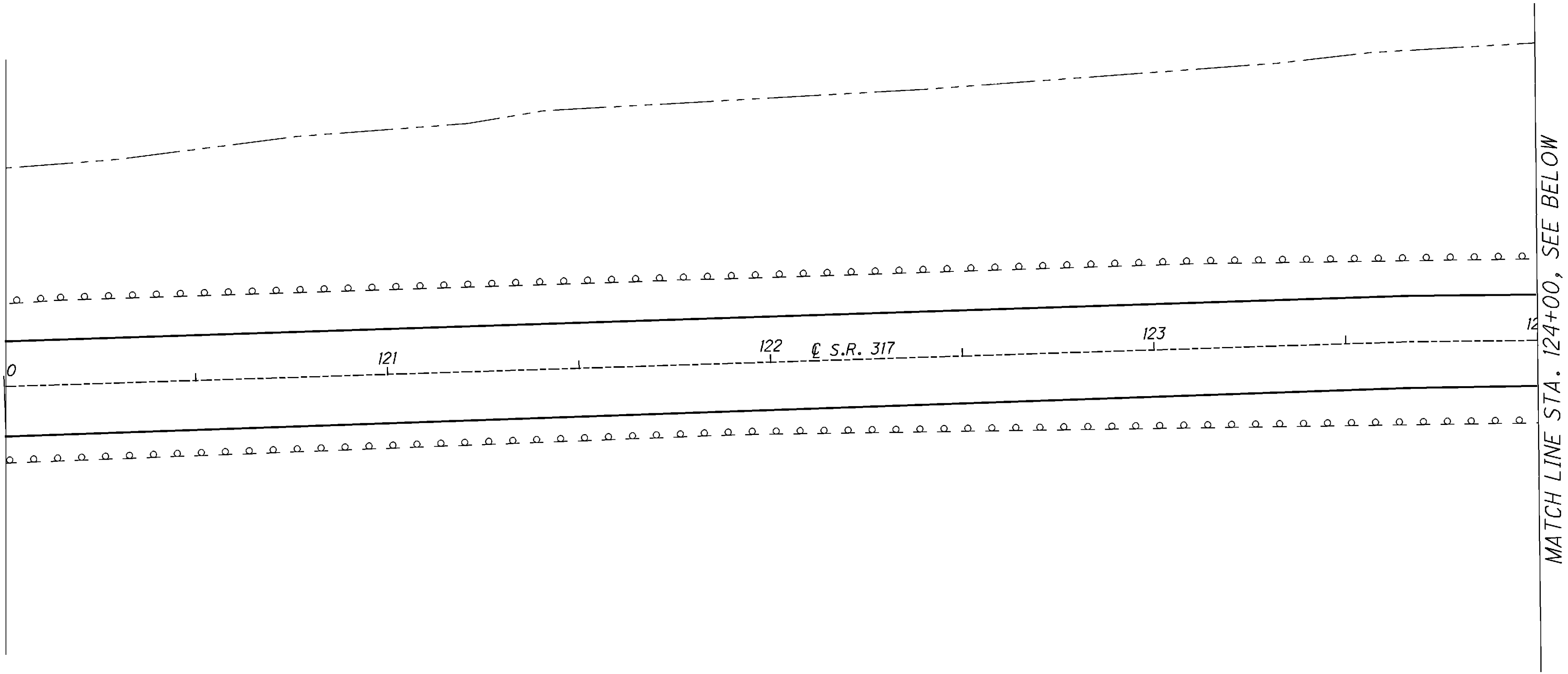
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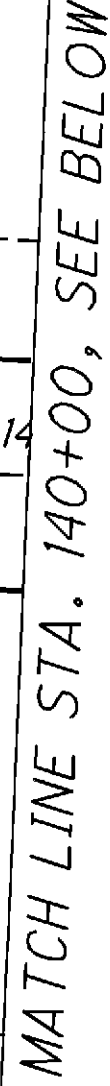
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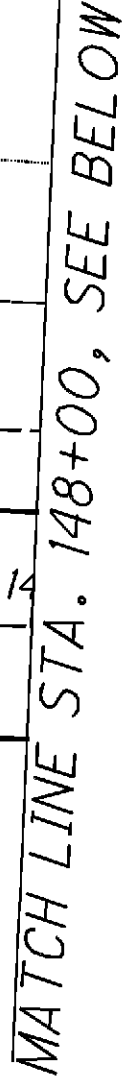


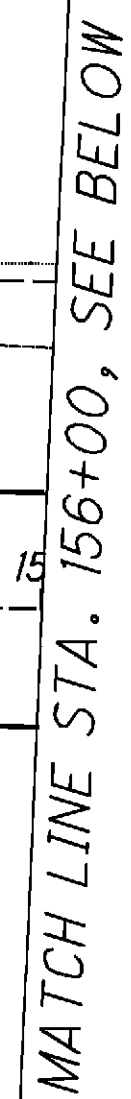
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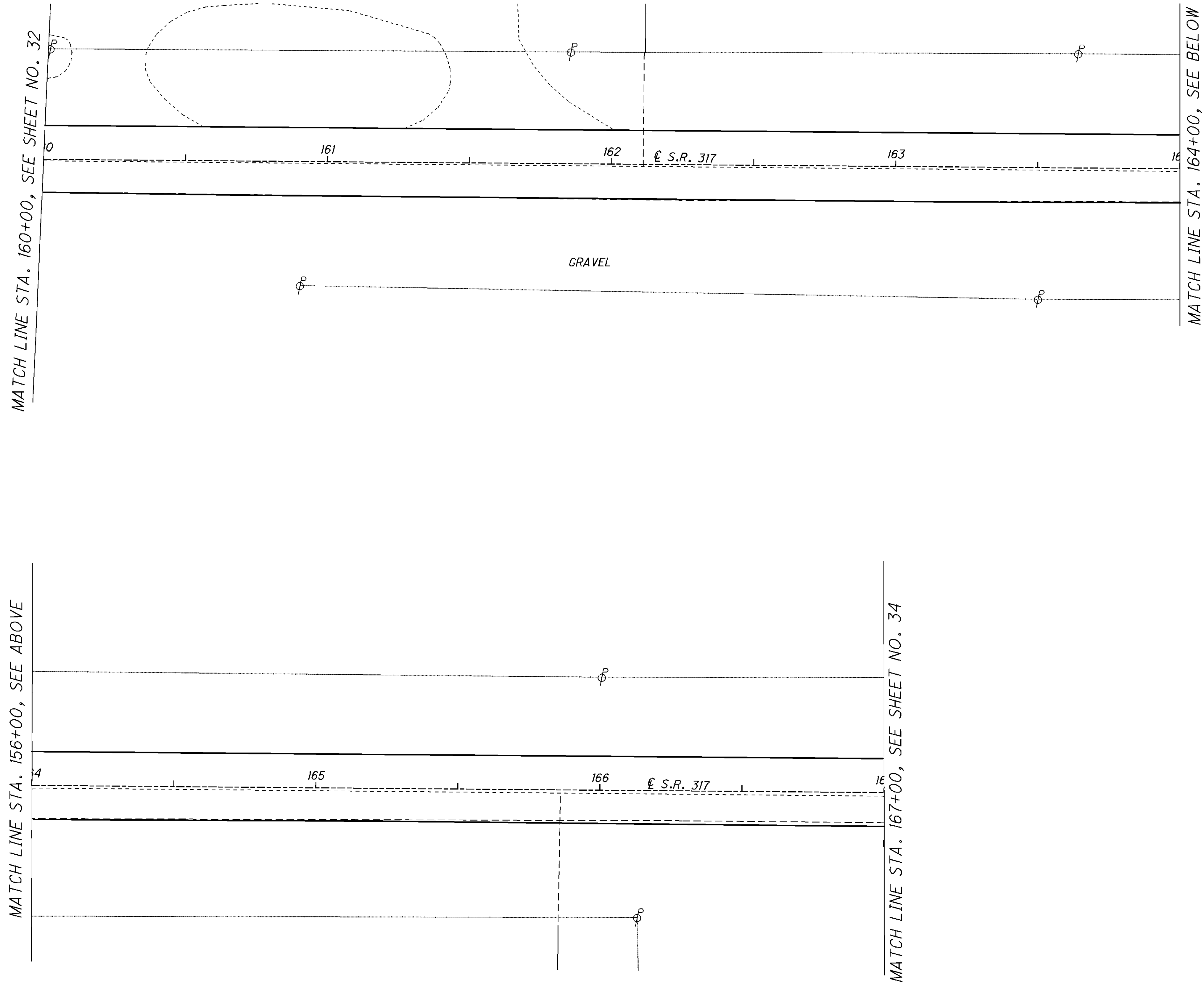
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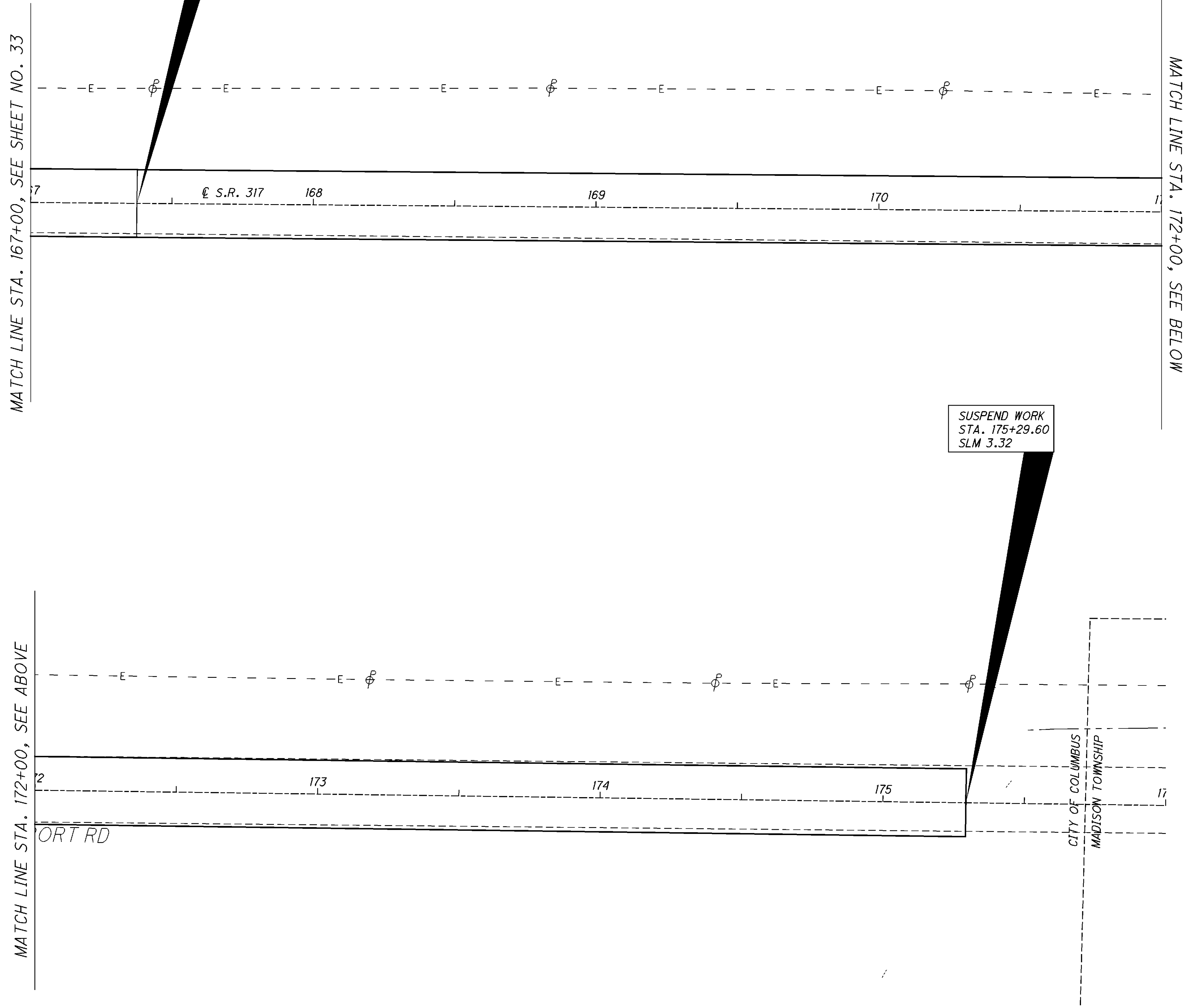
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[illegible]

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MATCH LINE STA. 208+00, SEE BELOW


MATCH LINE STA. 212+00, SEE SHEET NO. 36

CITY OF COLUMBUS

MADISON TOWNSHIP

MADISON TOWNSHIP

CITY OF COLUMBUS

 CITY OF COLUMBUS

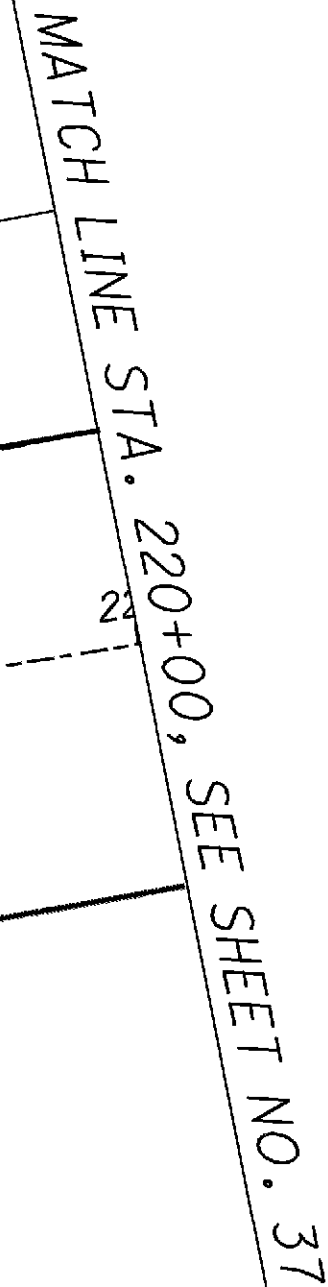
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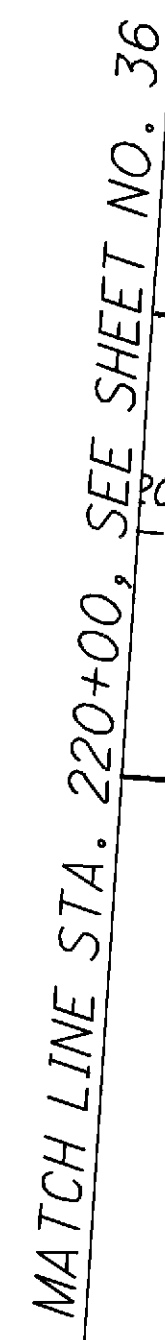
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MADISON TOWNSHIP
CITY OF COLUMBUS

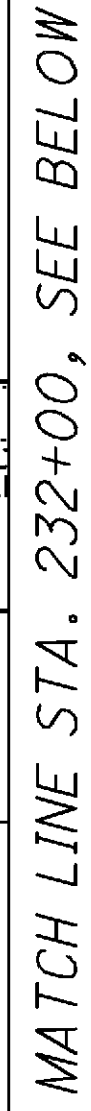
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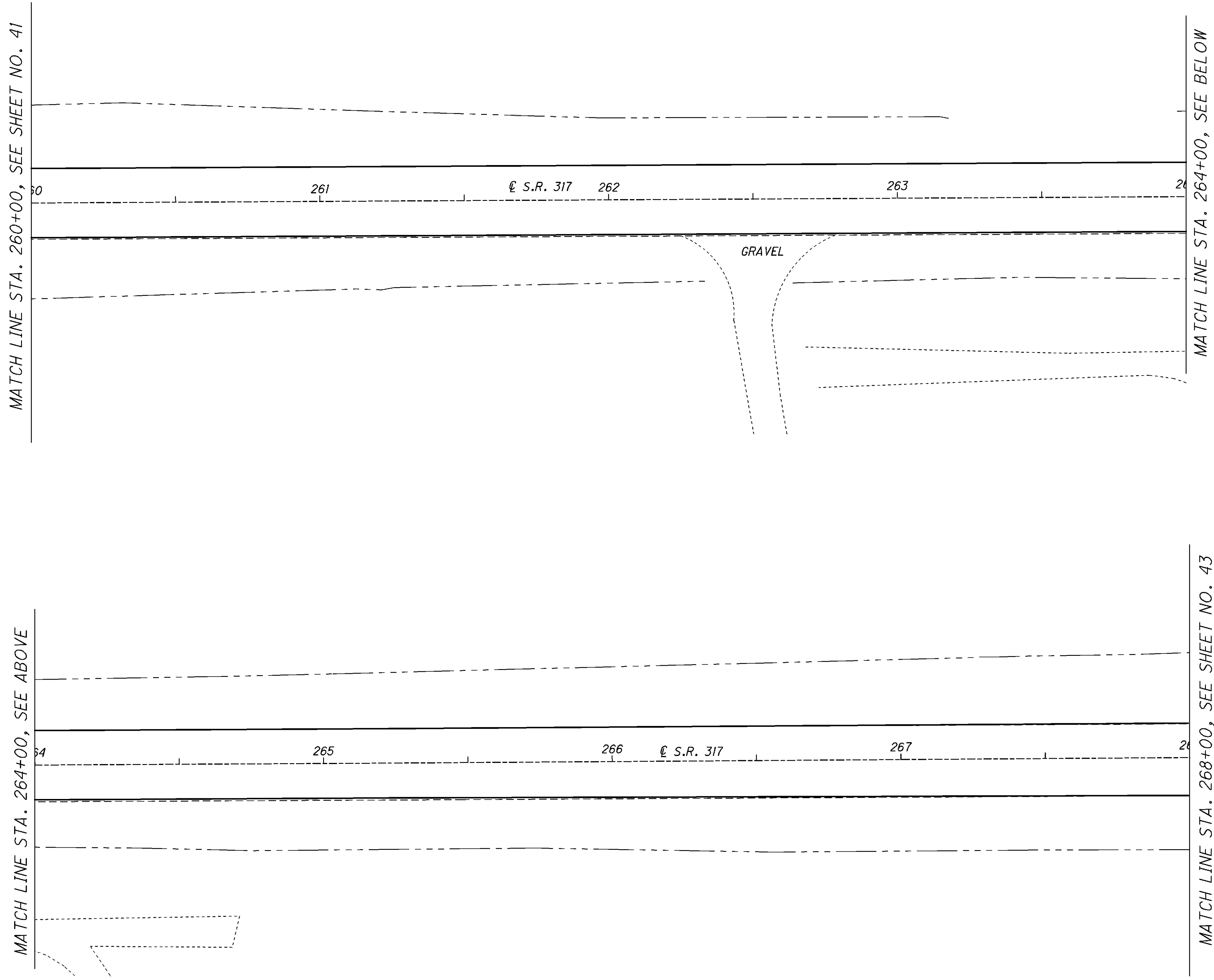
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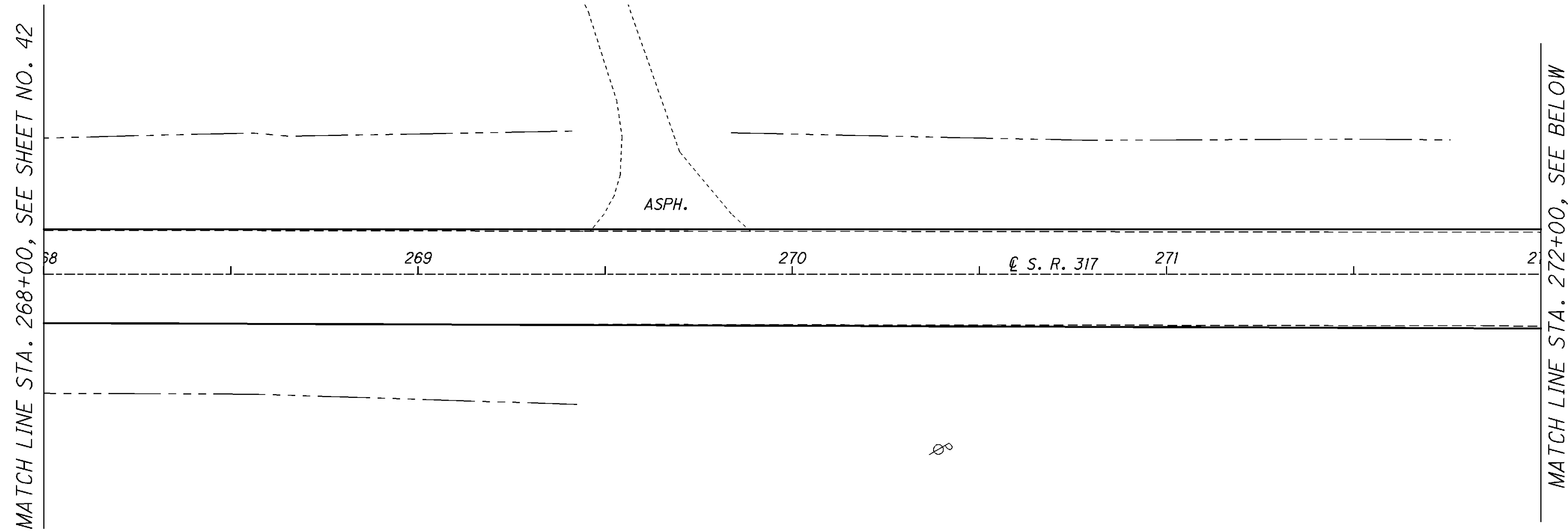
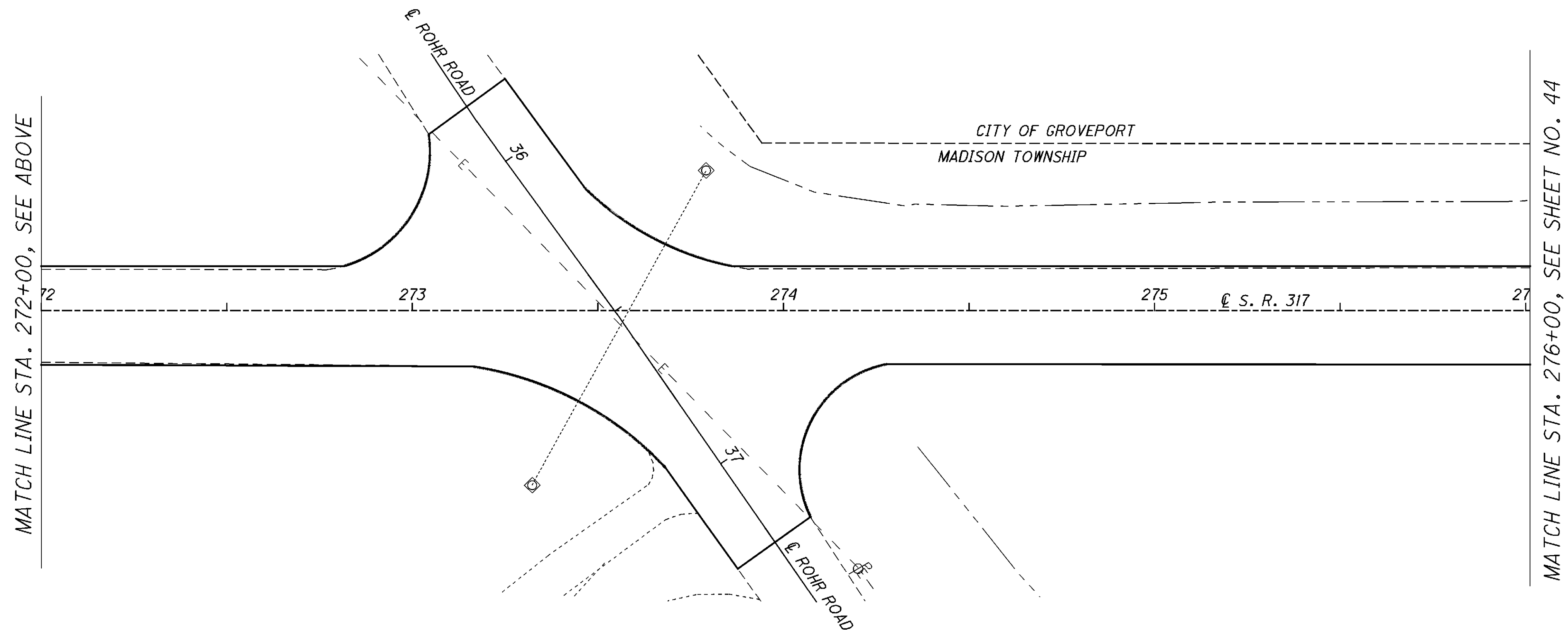
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MATCH LINE STA. 228+00, SEE SHEET NO. 37



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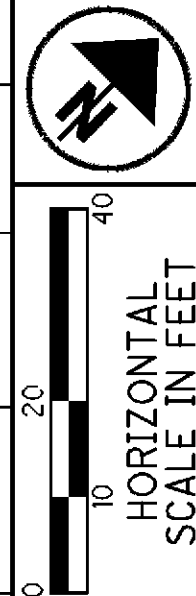
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END PROJECT
FRA- 317
STA. 287+02.36
S.L.M. 5.43

CITY OF GROVEPORT

MADISON TOWNSHIP

CITY OF GROVEPORT
MADISON TOWNSHIP

[illegible]

[illegible]

VEHICLE DETECTION REQUIREMENTS:

THE ITEMS 625-BRACKET ARM, 633-ADVANCE/DILEMMA ZONE DETECTION SYSTEM, AND 633-STOP BAR DETECTION RADAR SHALL BE INSTALLED AND FULLY FUNCTIONAL BEFORE ANY OF THE MILLING OF THE PAVEMENT IS PERFORMED OR EXISTING LOOP DETECTORS ARE DAMAGED.

ITEM 633 - ADVANCE/DILEMMA ZONE DETECTION SYSTEM:

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A ADVANCE/DILEMMA ZONE DETECTION UNIT CAPABLE OF INTERSECTION ADVANCE DETECTION CONTROL UTILIZING ABOVE GROUND DIGITAL WAVE RADAR TECHNIQUES. THE UNIT SHALL BE NON-INTRUSIVE AND SHALL DETECT VEHICLES FROM 50 FT. (15.2 M) UP TO 500 FT. (152.4 M) FROM THE UNIT. THE UNIT SHALL PROVIDE UP TO 8 DETECTION ZONES SIMULTANEOUSLY FOR INTERSECTION CONTROL. ONE UNIT SHALL BE PROVIDED PER APPROACH, WHERE SPECIFIED IN THE PLANS, COVERING MULTIPLE LANES WHERE ADVANCE DETECTION IS REQUIRED. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

- THE UNIT SHALL PROVIDE ACCURATE PRESENCE-DETECTION OF BOTH STOPPED AND MOVING VEHICLES. THE UNIT SHALL BE MOUNTED IN A FORWARD-FIRE, LOOKING AT EITHER APPROACHING OR DEPARTING TRAFFIC AND SHALL ONLY DETECT VEHICLES IN ONE DIRECTION OF TRAVEL.
- THE UNIT SHALL BE TESTED TO MEET NEMA TS2 ENVIRONMENTAL STANDARDS AND MAINTAIN ACCURATE PERFORMANCE IN THE FOLLOWING OPERATING CONDITIONS:
 - RAIN UP TO 4 IN. (10.2 CM) PER HOUR
 - FREEZING RAIN
 - SNOW
 - WIND
 - DUST
 - FOG
 - CHANGING TEMPERATURE
 - CHANGING LIGHTING
- THE RADAR DESIGN FOR EACH UNIT SHALL CONFORM TO THE FOLLOWING:
 - OPERATING FREQUENCY: 10.5-10.55 GHZ (X-BAND)
 - MATRIX OF A MINIMUM OF 16 RADARS
 - NO MANUAL TUNING TO CIRCUITRY
 - TRANSMITS MODULATED SIGNALS GENERATED DIGITALLY
 - NO TEMPERATURE-BASED COMPENSATION NECESSARY
 - BANDWIDTH STABLE WITHIN 1%
 - PRINTED CIRCUIT BOARD ANTENNAS
 - ANTENNA VERTICAL 6 DB BEAM WIDTH (TWO-WAY PATTERN): 80 DEGREES
 - ANTENNA HORIZONTAL 6 DB BEAM WIDTH (TWO-WAY PATTERN): 10.5 DEGREES
 - ANTENNA TWO-WAY SIDELOBES: -40 DB
 - TRANSMIT BANDWIDTH: 45 MHZ
 - UN-WINDOWED RESOLUTION: 11 FT. (3.4 M)
 - RF CHANNELS: 4

THE UNIT SHALL INCLUDE A SIMPLE SETUP ROUTINE THAT SHALL AUTOMATICALLY CONFIGURE AND CALIBRATE THE UNIT FOR PROPER OPERATION DURING INSTALLATION. THE UNIT SHALL ALSO BE CAPABLE OF BEING PROGRAMMED AND UPDATED FROM A LAPTOP COMPUTER OR OTHER PORTABLE PROGRAMMING DEVICE, SUCH AS A POCKET PC, VIA A LOCAL OR REMOTE ETHERNET CONNECTION USING VENDOR SUPPLIED SOFTWARE. THE SOFTWARE SHALL SUPPORT TCP/IP CONNECTIVITY, UNIT CONFIGURATION BACK-UP AND RESTORE, AND VIRTUAL SENSOR CONNECTIONS. THE GRAPHICAL USER INTERFACE SHALL OPERATE ON A WINDOWS PLATFORM.

ITEM 633 - ADVANCE/DILEMMA ZONE DETECTION SYSTEM (CONT.):

- THE UNIT SHALL HAVE ONE FULL-DUPLEX RS2-232 AND ONE HALF-DUPLEX RS-485 COMMUNICATION PORTS AND SHALL HAVE THE ABILITY TO UPGRADE FIRMWARE OVER ANY COMMUNICATION PORT.
- THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
- THE UNIT SHALL BE CAPABLE OF ETHERNET COMMUNICION.
- SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER, SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
- POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. THE UNIT SHALL CONSUME LESS THAN 10 WATTS AND OPERATE FROM A DC INPUT BETWEEN 9 VDC AND 28 VDC. COMPLETE AND AUTOMATIC RECOVERY FROM A POWER FAILURE SHALL BE WITHIN 15 SECONDS AFTER RESUMPTION OF NORMAL POWER.
- ALL REQUIRED INPUT CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
- THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION, AND MAINTENANCE OF THE UNIT.
- THE UNIT SHALL COME WITH A 2-YEAR MANUFACTURER SUPPLIED WARRANTY.
- PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT THE ODOT DISTRICT 6 DISTRICT TRAFFIC ENGINEER AT 740-833-8198. A DISTRICT 6 TRAFFIC DEPARTMENT REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

PAYMENT FOR ITEM 633 - ADVANCE/DILEMMA ZONE DETECTION SYSTEM SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

ITEM 633 - STOP BAR DETECTION RADAR:

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING STOP BAR DETECTION UNIT CAPABLE OF INTERSECTION DETECTION CONTROL UTILIZING ABOVE GROUND DIGITAL WAVE RADAR TECHNIQUES. THE UNIT SHALL BE NON-INTRUSIVE AND SHALL DETECT VEHICLES FROM 6 FT. (1.8 M) UP TO 140 FT. (42.7 M) FOR A 90 DEGREE FIELD OF VIEW FROM THE UNIT. THE UNIT SHALL PROVIDE REAL-TIME PRESENCE DATA FOR AT LEAST 10 LANES. THE UNIT SHALL PROVIDE AT LEAST SIXTEEN DETECTION ZONES SIMULTANEOUSLY FOR INTERSECTION CONTROL. ONE UNIT SHALL BE PROVIDED PER APPROACH, WHERE SPECIFIED IN THE PLANS, COVERING MULTIPLE LANES WHERE STOP BAR DETECTION IS REQUIRED. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

THE UNIT SHALL PROVIDE ACCURATE PRESENCE-DETECTION OF BOTH MOVING AND STOPPED VEHICLES. THE UNIT SHALL BE MOUNTED IN A FORWARD-FIRE OR SIDE-FIRE POSITION, LOOKING AT EITHER APPROACHING OR DEPARTING TRAFFIC AND SHALL ONLY DETECT VEHICLES IN ONE DIRECTION OF TRAVEL.

ITEM 633 - STOP BAR DETECTION RADAR (CONT.):

- THE UNIT SHALL BE TESTED TO MEET NEMA TS2 ENVIRONMENTAL STANDARDS AND MAINTAIN ACCURATE PERFORMANCE IN THE FOLLOWING OPERATING CONDITIONS:
 - RAIN UP TO 1 IN. (2.5 CM) PER HOUR
 - FREEZING RAIN
 - SNOW
 - WIND
 - DUST
 - FOG
 - CHANGING TEMPERATURE
 - CHANGING LIGHTING
- THE RADAR DESIGN FOR EACH UNIT SHALL CONFORM TO THE FOLLOWING:
 - OPERATING FREQUENCY: 24.0-24.25 GHZ (K-BAND)
 - MATRIX OF 16 RADARS
 - NO MANUAL TUNING TO CIRCUITRY
 - TRANSMITS MODULATED SIGNALS GENERATED DIGITALLY
 - NO TEMPERATURE-BASED COMPENSATION NECESSARY
 - BANDWIDTH STABLE WITHIN 1%
 - PRINTED CIRCUIT BOARD ANTENNAS
 - ANTENNA VERTICAL 6 DB BEAM WIDTH (TWO-WAY PATTERN): 65 DEGREES
 - HORIZONTAL FIELD OF VIEW: 90 DEGREES
 - ANTENNA TWO-WAY SIDELOBES: -40 DB
 - TRANSMIT BANDWIDTH: 245 MHZ
 - UN-WINDOWED RESOLUTION: 2 FT. (0.6 M)
 - RF CHANNELS: 8
 - SELF-TEST FOR VERIFYING HARDWARE FUNCTIONALITY
 - DIAGNOSTICS MODE FOR VERIFYING SYSTEM FUNCTIONALITY
- THE UNIT SHALL INCLUDE A SIMPLE SETUP ROUTINE THAT SHALL AUTOMATICALLY CONFIGURE AND CALIBRATE THE UNIT FOR PROPER OPERATION DURING INSTALLATION. THE UNIT SHALL ALSO BE CAPABLE OF BEING PROGRAMMED AND UPDATED FROM A LAPTOP COMPUTER OR OTHER PORTABLE PROGRAMMING DEVICE, SUCH AS A POCKET PC, VIA A LOCAL OR REMOTE ETHERNET CONNECTION USING VENDOR SUPPLIED SOFTWARE. THE SOFTWARE SHALL SUPPORT TCP/IP CONNECTIVITY, UNIT CONFIGURATION BACK-UP AND RESTORE, AND REAL-TIME TRAFFIC VISUALIZATION FOR PERFORMANCE VERIFICATION AND TRAFFIC DISPLAY. THE GRAPHICAL USER INTERFACE SHALL OPERATE ON A WINDOWS PLATFORM.
- THE UNIT SHALL HAVE TWO HALF-DUPLEX RS-485 COMMUNICATION PORTS AND SHALL HAVE THE ABILITY TO UPGRADE FIRMWARE OVER ANY COMMUNICATION PORT.
- THE UNIT SHALL BE CAPABLE OF ETHERNET COMMUNICATION.
- THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
- SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER, SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
- POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. THE UNIT SHALL CONSUME LESS THAN 10 WATTS AND OPERATE FROM A DC INPUT BETWEEN 9 VDC AND 28 VDC. COMPLETE AND AUTOMATIC RECOVERY FROM A POWER FAILURE SHALL BE WITHIN 15 SECONDS AFTER RESUMPTION OF NORMAL POWER. ALL REQUIRED INPUT CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL

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ITEM 633 - STOP BAR DETECTION RADAR (CONT.):

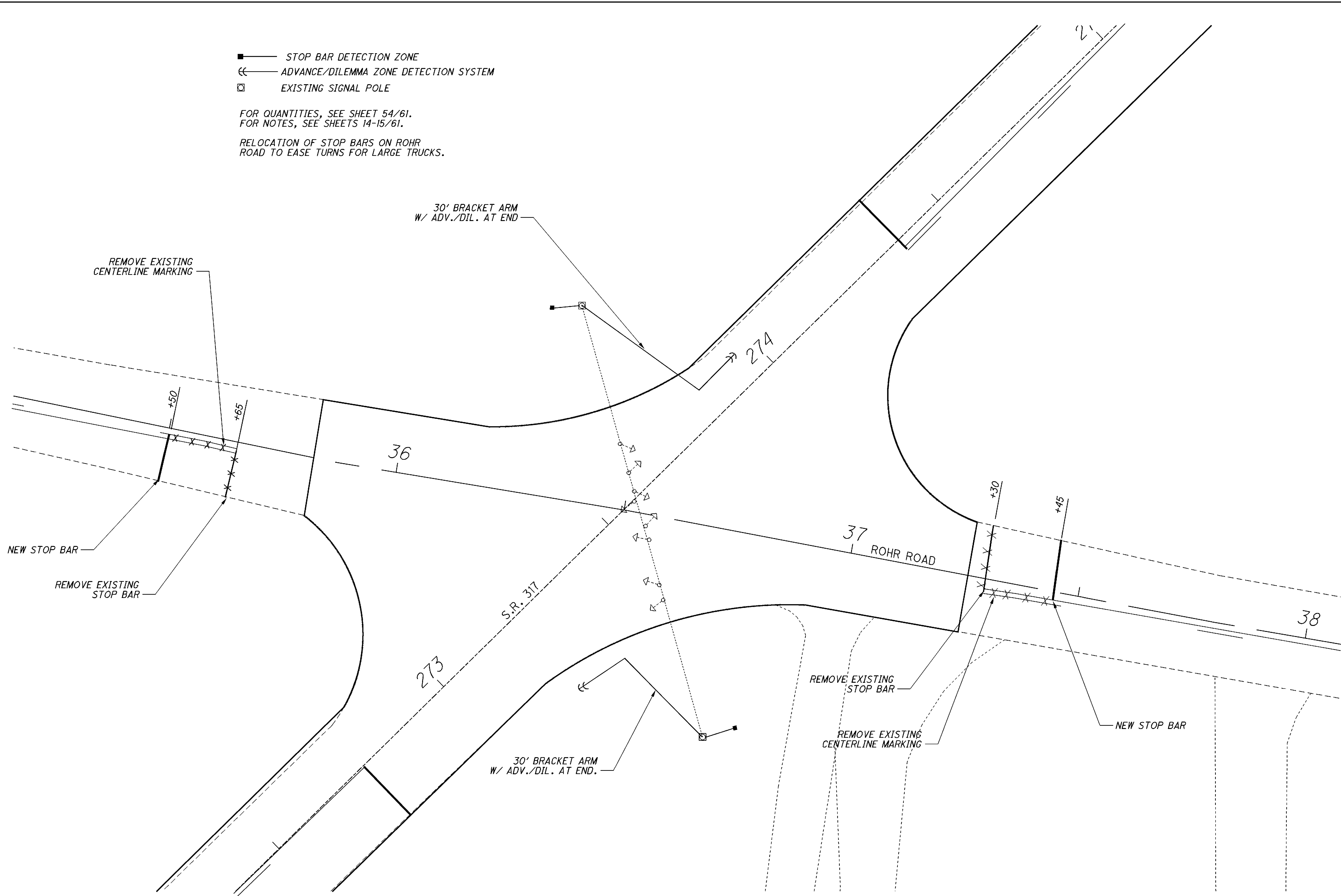
- PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
- THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION, AND MAINTENANCE OF THE UNIT.
- THE UNIT SHALL COME WITH A 2-YEAR MANUFACTURER SUPPLIED WARRANTY.
- PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT THE ODOT DISTRICT 6 TRAFFIC ENGINEER AT 740-833-8198. A DISTRICT 6 TRAFFIC DEPARTMENT REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

PAYMENT FOR ITEM 633 STOP BAR DETECTION RADAR SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 625 - BRACKET ARM, (BY LENGTH):

THIS ITEM SHALL BE USED IN CONJUNCTION WITH ITEM 633 ADVANCE/DILEMMA ZONE DETECTION SYSTEM AND ITEM 633 STOP BAR DETECTION RADAR WHERE INDICATED IN THE PLANS.

PAYMENT FOR ITEM 625 BRACKET ARM, (BY LENGTH) WILL BE PER EACH BRACKET ARM INSTALLED.



- STOP BAR DETECTION ZONE
- ADVANCE/DILEMMA ZONE DETECTION SYSTEM
- EXISTING SIGNAL POLE

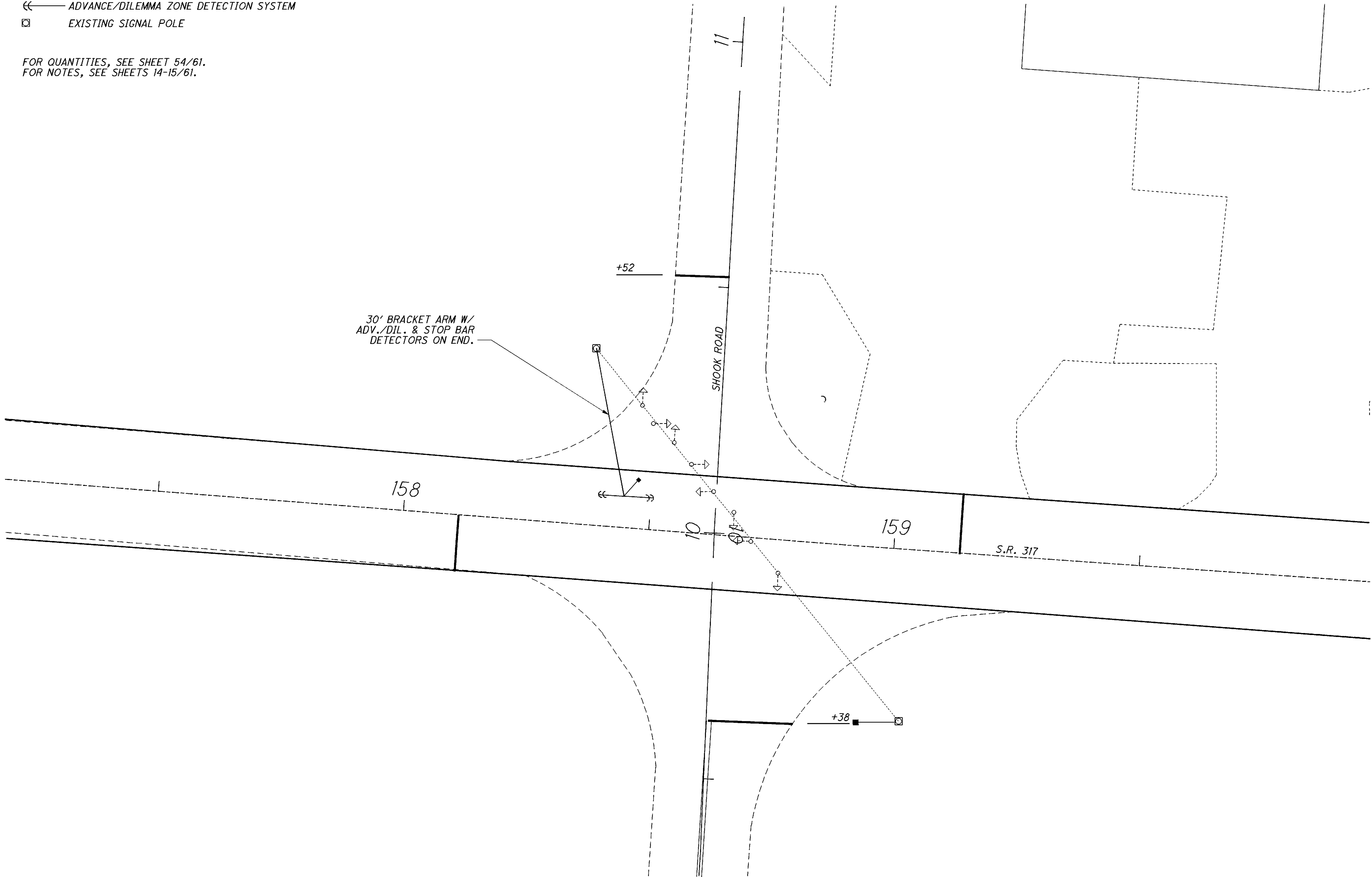
FOR QUANTITIES, SEE SHEET 54/61.
FOR NOTES, SEE SHEETS 14-15/61.

RELOCATION OF STOP BARS ON ROHR
ROAD TO EASE TURNS FOR LARGE TRUCKS.

ROHR ROAD AND SR 317 INTERSECTION

- STOP BAR DETECTION ZONE
- ⇐ ADVANCE/DILEMMA ZONE DETECTION SYSTEM
- ☐ EXISTING SIGNAL POLE

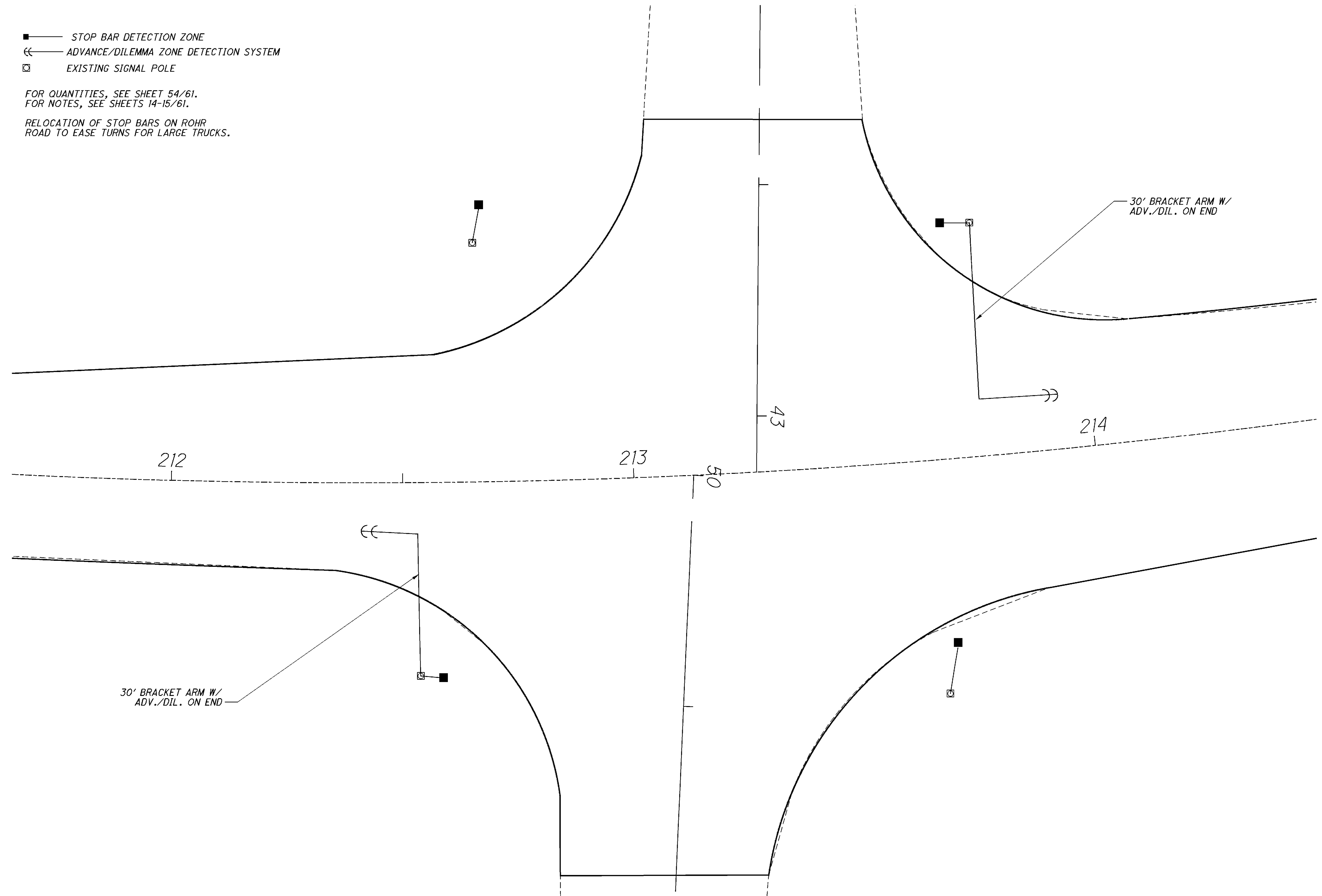
FOR QUANTITIES, SEE SHEET 54/61.
FOR NOTES, SEE SHEETS 14-15/61.



S.R. 315 & SHOOK ROAD INTERSECTION

- STOP BAR DETECTION ZONE
- ⇐ ADVANCE/DILEMMA ZONE DETECTION SYSTEM
- EXISTING SIGNAL POLE

FOR QUANTITIES, SEE SHEET 54/61.
FOR NOTES, SEE SHEETS 14-15/61.
RELOCATION OF STOP BARS ON ROHR
ROAD TO EASE TURNS FOR LARGE TRUCKS.



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		CALCULATED	MK CHECKED



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61



FRA-317-0.37
PID. # 79315

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

SUPPLEMENTAL SPEC: 848 DATED: 10/21/2011

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE, AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CONSTRUCTION MATERIAL AND SPECIFICATIONS (CMS) SECTION 102.05. CONTRACT BID PRICES SHALL BE BASED UPON RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENTIONS, WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ALIGNMENT AND PROFILE:

THE ALIGNMENT OF THE EXISTING OVERLAY WILL NOT BE CHANGED. THE PROPOSED PROFILE GRADE ELEVATIONS ARE TO BE THE SAME AS THE EXISTING.

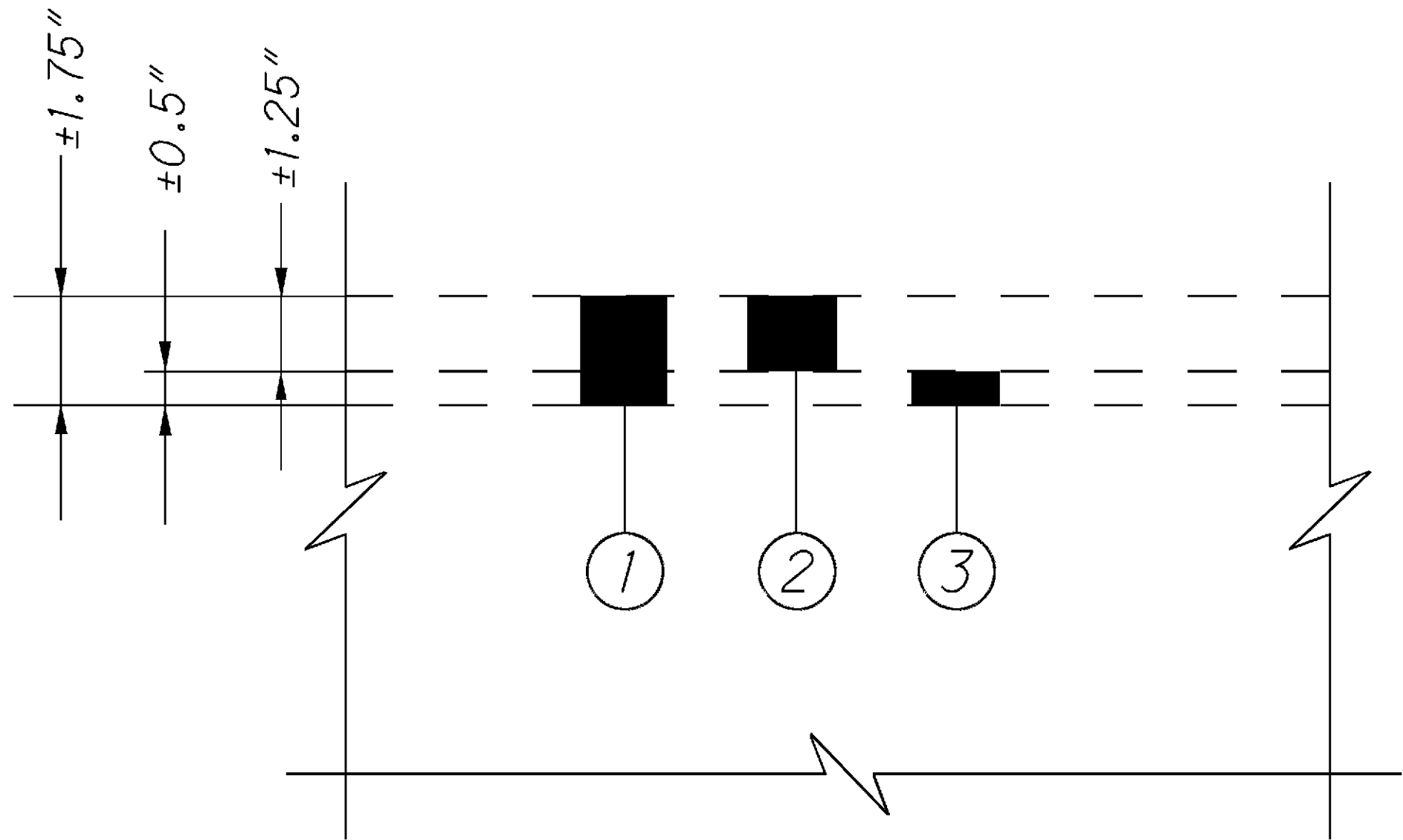
CONTINGENCY QUANTITIES:

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED AS DIRECTED BY THE ENGINEER, UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THE PROJECT.

THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT. A CONTINGENCY QUANTITY FOR THIS ITEM HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES.

CSXT RAILROAD COORDINATION NOTES:

- a. CSXT REQUIRES THAT THE CONTRACTOR SUBMIT AND RECEIVE ACCEPTANCE OF A COMPREHENSIVE MEANS AND METHODS SUBMITTAL PRIOR TO UNDERTAKING THE WORK FOR:
 - i. THE REMOVAL, REPLACEMENT, OR REPAIR OF ANY FULL-DEPTH DECK SECTIONS IN THE CSXT RAILROAD SPAN.
 - ii. THE REMOVAL, REPLACEMENT, OR REPAIR OF ANY PARAPET SECTIONS IN THE CSXT RAILROAD SPAN.
- b. CSXT REQUIRES FULL TIME RAILROAD FLAGGING FOR:
 - i. EITHER CONDITION DESCRIBED IN ITEM a, ABOVE.
 - ii. ANY CONCRETE DECK REMOVAL BY HYDRODEMOLITION FOR WORK BETWEEN PIERS IN THE CSXT RAILROAD SPAN.
- c. IF IT IS DETERMINED OR DISCOVERED THAT CONDITION OF THE BRIDGE DECK WILL REQUIRE FULL DEPTH REMOVAL OF THE EXISTING CONCRETE OVERLAY BY HYDRODEMOLITION OR OTHER METHODS, WORK WILL CEASE AND THE CSXT ENGINEERING DESIGNATE WILL BE CONTACTED. ANY FULL DEPTH DECK DEMOLITION WILL REQUIRE ADEQUATE DEMOLITION SHIELDING BE PLACED TO PREVENT DEBRIS FROM FALLING ONTO THE CSXT RIGHT-OF-WAY.
- d. THE CONTRACTOR SHALL USE EXTREME CARE AND TAKE ALL MEASURES NECESSARY TO PREVENT DEMOLITION DEBRIS FROM FALLING ONTO THE RAILROAD RIGHT-OF-WAY. THIS SHALL BE ACCOMPLISHED BY USE OF SHIELDING FROM WITHIN THE SUPERSTRUCTURE MEMBERS THAT WILL NOT INFRINGE ON EXISTING VERTICAL CLEARANCES IN THE CSXT AND ADJACENT SPAN- THAT CONTAINS CSXT COMMUNICATIONS AND SIGNAL POLELINE FACILITIES.



DECK OVERLAY DETAIL

- ① ITEM 848: MICRO-SILICA CONCRETE OVERLAY USING HYDRODEMOLITION (±1.75")
- ② ITEM 848: EXISTING CONCRETE OVERLAY REMOVED 1.25" NOMINAL THICKNESS
- ③ ITEM 848: SURFACE PREPERATION USING HYDRODEMOLITION (±0.25")



DESIGN AGENCY
DIST. #6
IN-HOUSE DESIGN

REVIEWED
DATE
1/13/10
MAK
STRUCTURE FILE NUMBER
251627

STRUCTURE OVERLAY DETAILS
OVER CSX & NS RR

FRA-317-0.37
PID. # 79315

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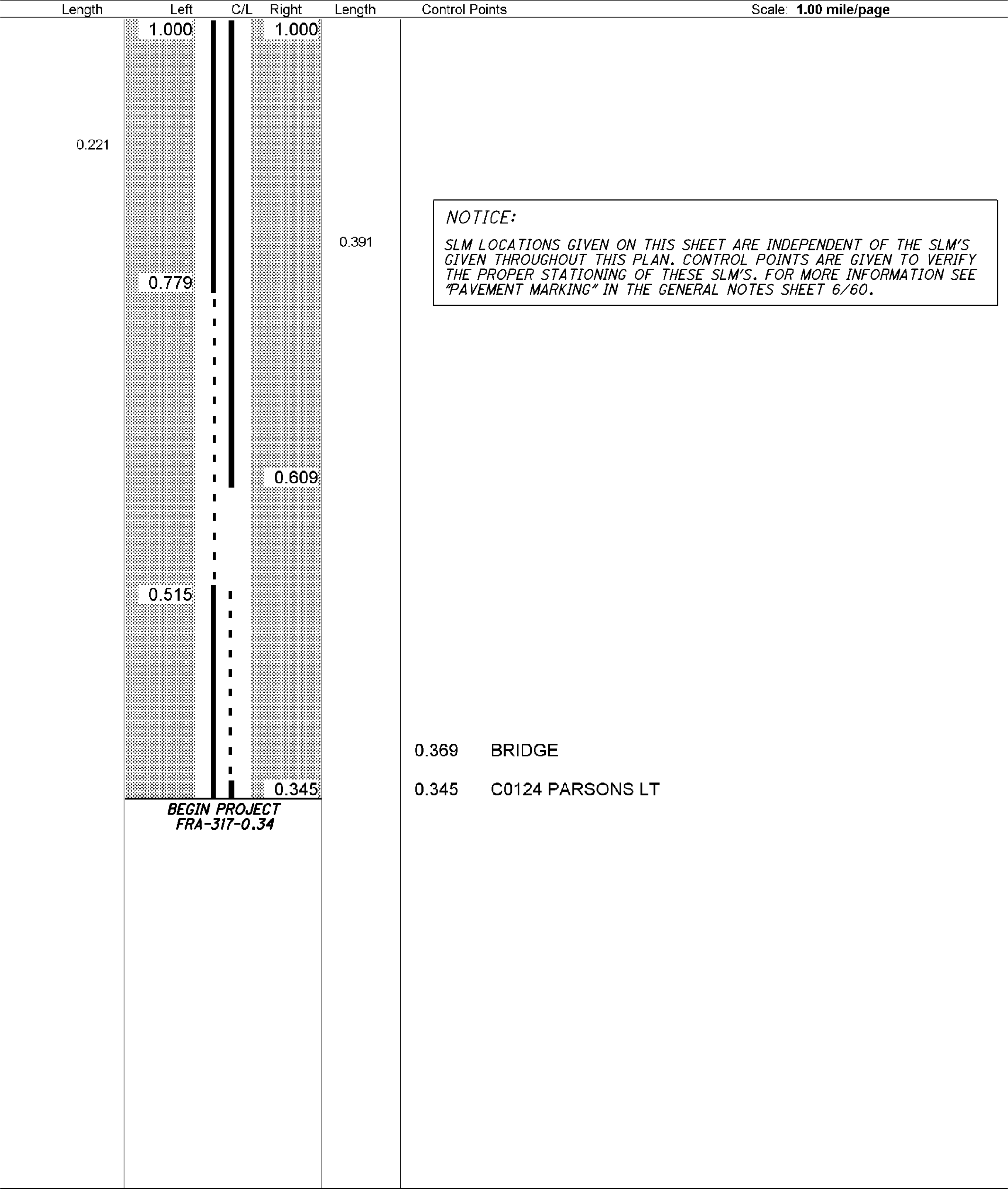
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FRA-317 SLM 0.37 TO SLM 5.43
PASSING AND NO PASSING ZONES

ODOT District 6
No Passing Zone Log (FRA)

Page: 1 of 4

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Length: 2.980 Direction: East
From: 0.340 U0023R
To: 3.320 C0007 GROVEPORT



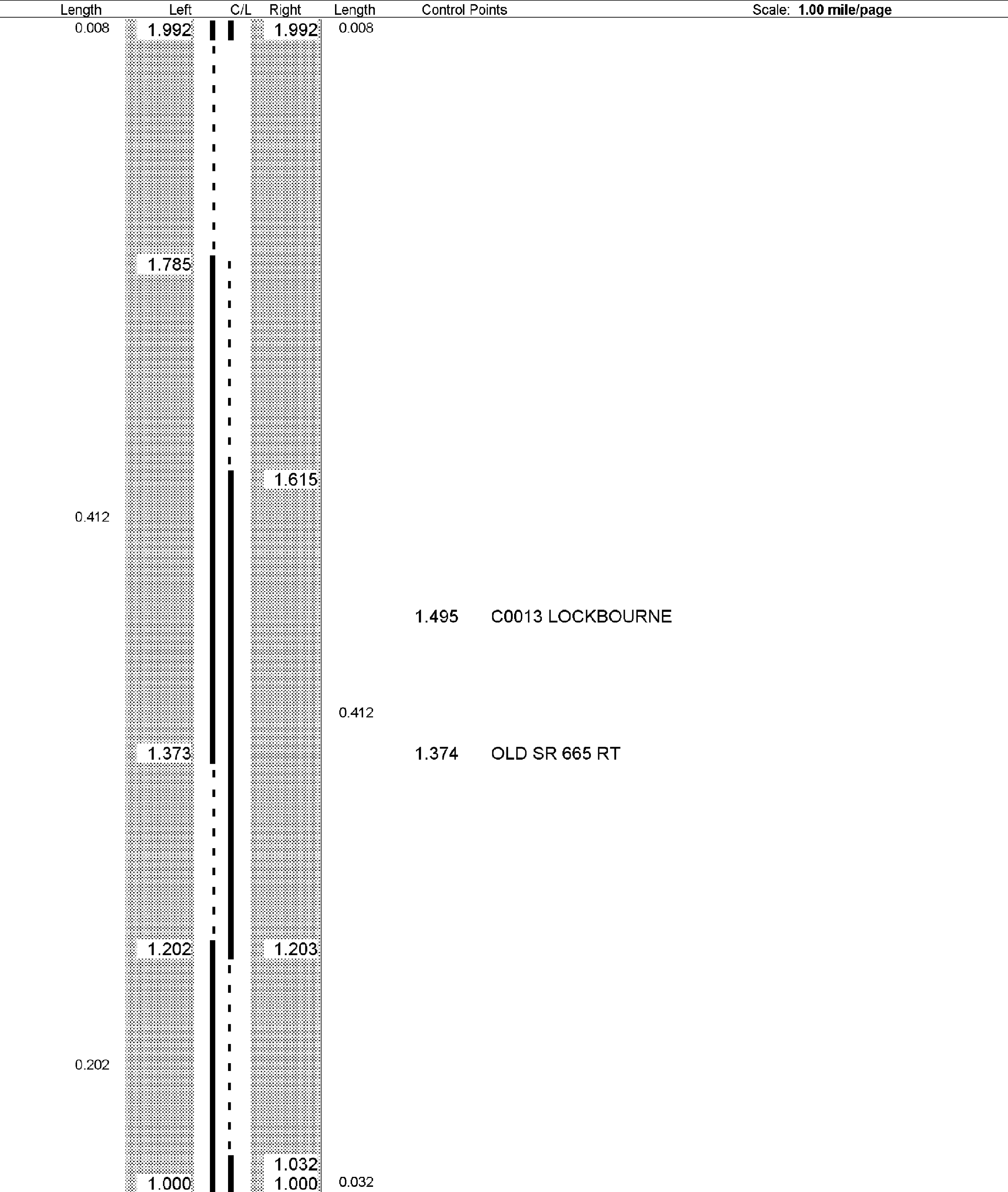
NOTICE:
SLM LOCATIONS GIVEN ON THIS SHEET ARE INDEPENDENT OF THE SLM'S GIVEN THROUGHOUT THIS PLAN. CONTROL POINTS ARE GIVEN TO VERIFY THE PROPER STATIONING OF THESE SLM'S. FOR MORE INFORMATION SEE "PAVEMENT MARKING" IN THE GENERAL NOTES SHEET 6/60.

Sheet total equivalent length of solid line: 0.901 Accum. total: 0.901 © 2012 - MasterMind Systems, Inc. - Traffic Safety Suite

ODOT District 6
No Passing Zone Log (FRA)

Page: 2 of 4

Route: 0317R (SFRASR00317**C)
Length: 2.980 Direction: East
From: 0.340 U0023R
To: 3.320 C0007 GROVEPORT



Sheet total equivalent length of solid line: 1.254 Accum. total: 2.155 © 2012 - MasterMind Systems, Inc. - Traffic Safety Suite

FRANKLIN COUNTY CENTERLINE LOG
PASSING AND NO PASSING ZONES

FRA - 317 - 0.34

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Page: 3 of 4

NOTICE:
SLM LOCATIONS GIVEN ON THIS SHEET ARE INDEPENDENT OF THE SLM'S GIVEN THROUGHOUT THIS PLAN. CONTROL POINTS ARE GIVEN TO VERIFY THE PROPER STATIONING OF THESE SLM'S. FOR MORE INFORMATION SEE "PAVEMENT MARKING" IN THE GENERAL NOTES SHEET 6/60.


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Page: 4 of 4

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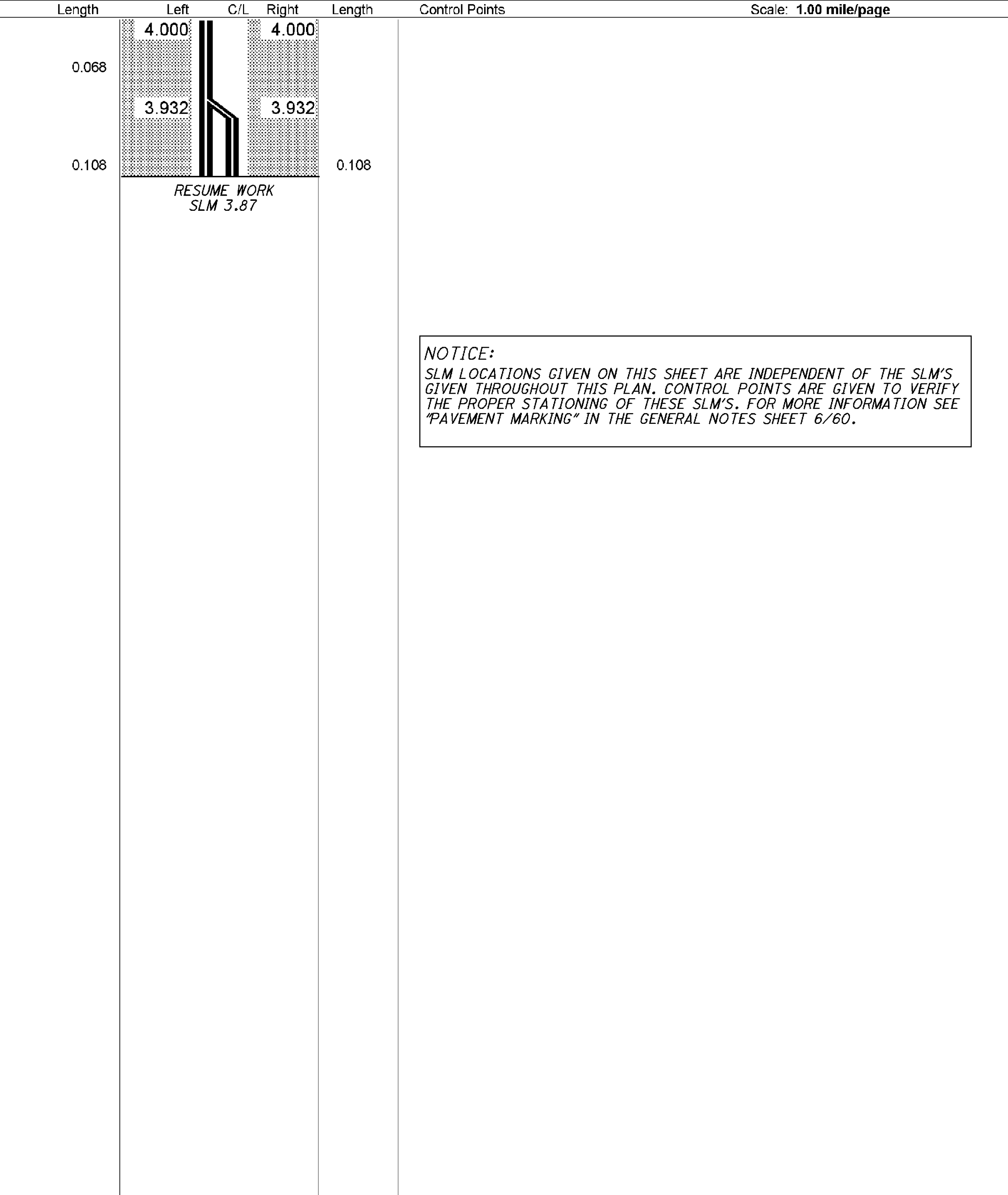
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FRA-317 SLM 0.37 TO SLM 5.43
PASSING AND NO PASSING ZONES

ODOT District 6
No Passing Zone Log (FRA)

Page: 1 of 3

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From: 3.870 U0023R
To: 5.430 C0007 GROVEPORT

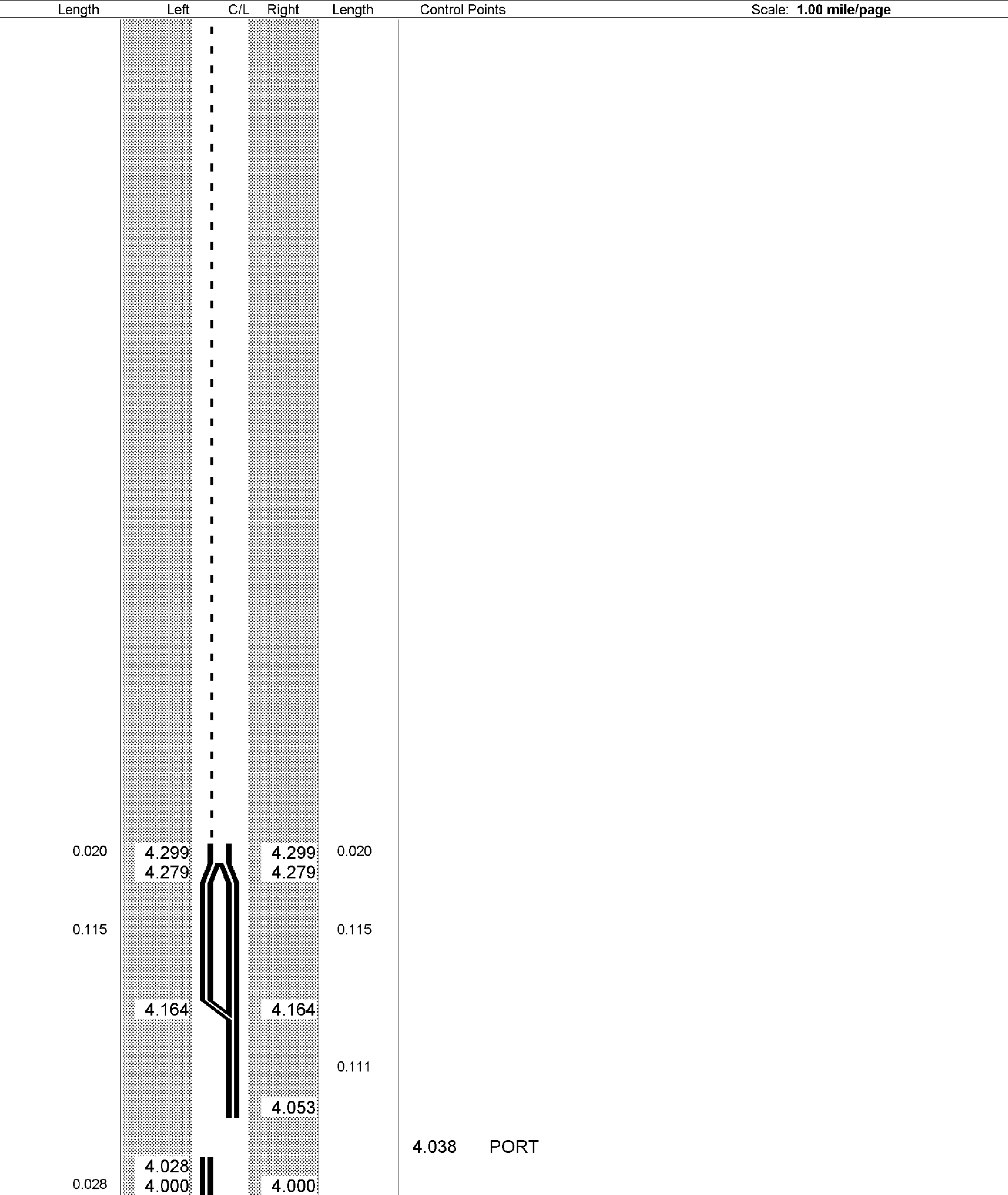


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ODOT District 6
No Passing Zone Log (FRA)

Page: 2 of 3

Route: 0317R (SFRASR00317**C)
Length: 1.560 Direction: East
From: 3.870 U0023R
To: 5.430 C0007 GROVEPORT



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FRANKLIN COUNTY CENTERLINE LOG
PASSING AND NO PASSING ZONES

FRA - 317 - 0.34

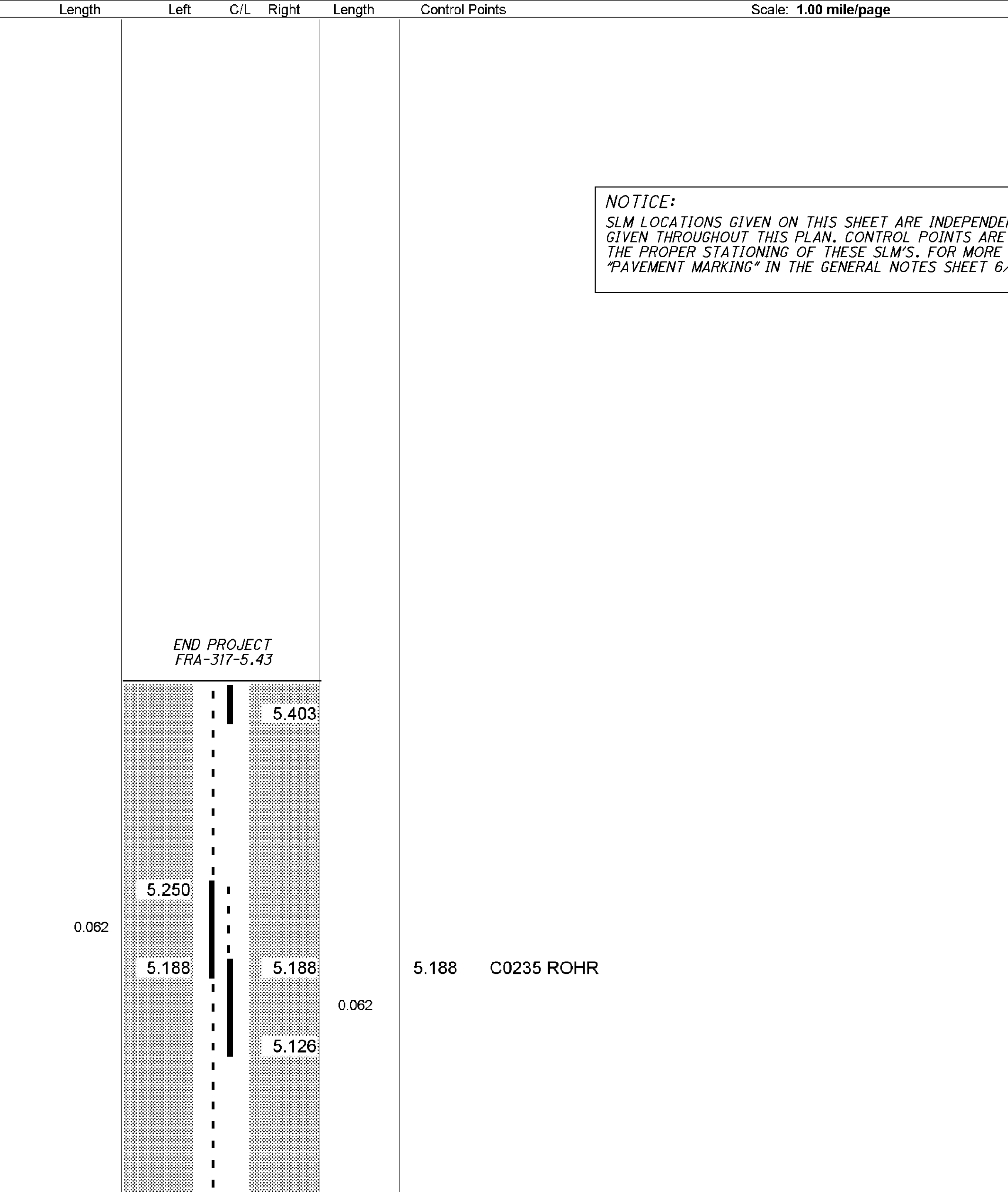
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FRA-317 SLM 0.37 TO SLM 5.43
PASSING AND NO PASSING ZONES

ODOT District 6
No Passing Zone Log (FRA)

Page: 3 of 3

Route: 0317R (SFRASR00317**C)
Length: 1.560 Direction: East
From: 3.870 U0023R
To: 5.430 C0007 GROVEPORT



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FRANKLIN COUNTY CENTERLINE LOG
PASSING AND NO PASSING ZONES

FRA - 317 - 0.34

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