

**UTILITIES**

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

COLUMBIA GAS OF OHIO (TOLEDO) TOLEDO EDISON  
2901 EAST MANHATTAN BLVD 6099 ANGOLA ROAD  
TOLEDO, OH 43611 HOLLAND, OH 43528  
CLINT WELLS RANDY SWOPE  
419-539-6209 419-249-5218  
CLINTWELLS@NISOURCE.COM RRSWOPE@FIRSTENERGYCORP.COM

FIRST ENERGY BUCKEYE CABLE  
5001 NASA BLVD - 2700 OREGON ROAD  
3RD FLOOR ENGINEERING NORTHWOOD, OH 43619  
FAIRMONT, WV 26554 MICHAEL SHEAHAN  
NICK BARMAN 419-724-3713  
216-402-7466 MSHEAHAN@SHAREDSVCS.COM  
NBARMAN@FIRSTENERGYCORP.COM

CHARTER COMMUNICATIONS FRONTIER  
3760 INTERCHANGE DR 1300 COLUMBUS-SANDUSKY RD  
COLUMBUS, OH 43204 MARION, OH 43302  
614-255-6340 740-383-0686

NORTHERN BUCKEYE EDUCATION COUNCIL CITY OF SYLVANIA  
209 NOLAN PARKWAY 6730 MONROE ST  
ARCHBOLD, OH 43502 SYLVANIA, OH 43560  
419-267-2515 419-885-8965

ODOT CO ITS  
1606 W BROAD ST  
COLUMBUS, OH 43223  
614-387-4113  
CEN.ITS.LAB@DOT.OHIO.GOV

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C

**ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN**

PRIOR TO THE COMMENCEMENT OF THIS CONTRACT, ODOT FORCES HAVE CUT DOWN ALL THE TREES WITHIN THE PROJECT EXCEPT FOR THE MARKED TREES IN THE ISLAND BORDER BY MONROE STREET AND ALEXIS ROAD AND THE TRIANGLE ISLAND BORDERED BY MONROE STREET, ALEXIS ROAD AND ACRES ROAD WHICH SHALL BE REMOVED BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO REMOVE THE STUMPS, LOGS, MULCH AND DEBRIS OF THE CUT DOWN TREES COMPLETED BY OTHERS. A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING AS PER PLAN.



**ITEM 203 - EMBANKMENT, AS PER PLAN**

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT FOR:

RAMP A  
BETWEEN STATIONS 30+45.50 TO 31+45.50 AND 32+76.50 TO 33+76.50.

RAMP D  
BETWEEN STATIONS 21+97.28 TO 22+97.28 AND 24+57.79 TO 25+57.79.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR THIS WORK

ITEM 203- EMBANKMENT, AS PER PLAN 9610 CY



**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 21 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

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

**PROJECT CONTROL**

POSITIONING METHOD: ODOT VRS SURVEYS  
MONUMENT TYPE: TYPE B

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: ORTHOMETRIC HEIGHT DATUM: NAVD 88  
GEOID: 12B

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD83 (2011)  
ELLIPSOID: GRS 80  
COORDINATE SYSTEM: OHIO STATE PLANE, NOTH ZONE  
COMBINED SCALE FACTOR: 0.99997466  
ORIGIN OF COORDINATE SYSTEM: (0,0)

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET.

**ROUNDING**

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

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

**CONSTRUCTION NOISE**

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9PM AND 7AM UNLESS WORK IN THE PLANS IS SPECIFIED TO OCCUR BETWEEN THOSE HOURS. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT



**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B**

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.

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.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

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

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E, MASH 2016**

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 REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

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 606 - IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 (70 MPH), HAZARD WIDTH (XXXXXX"), UNIDIRECTIONAL, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

**ITEM 606 - IMPACT ATTENUATOR, TYPE 3 (UNIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 3 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 3 (70 MPH), HAZARD WIDTH (XXXXXXX), (UNIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

**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.

**PART-WIDTH CONSTRUCTION**

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

DESIGN AGENCY

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DESIGNER

TB

REVIEWER

SMG 09/13/24

PROJECT ID

105889

SHEET

TOTAL

17 607



SEQUENCE OF CONSTRUCTION

SEASON 1

PREPHASE

OVER A PERIOD OF ONE WEEKEND FROM 9 PM FRIDAY TO 5 AM MONDAY, THE CONTRACTOR SHALL CLOSE THE INSIDE LANE OF SOUTHBOUND US-23. THIS LANE CLOSURE WILL ALLOW FOR THE INSTALLATION OF TEMPORARY PAVEMENT THAT IS REQUIRED DURING PHASE 1 AND 2. THE LANE CLOSURE SHALL BE INSTALLED AS PER SCD MT-95.30.

PHASE 1

DURING THE FIRST PHASE OF CONSTRUCTION, US-23 SOUTHBOUND MAINLINE TRAFFIC SHALL BE SHIFTED EAST TOWARDS THE MEDIAN ONTO TEMPORARY PAVEMENT. THE US-23 SOUTHBOUND ON-RAMP SHALL BE CONSTRUCTED, INCLUDING THE PROPOSED STRUCTURE (SFN: 4805137). THE SOUTHBOUND RAMP SHALL BE SHIFTED TO THE NORTH AND EAST ON EXISTING AND TEMPORARY PAVEMENT TO ALLOW SPACE FOR CONSTRUCTION. AS MUCH OF THE NORTHBOUND OFF-RAMP AS POSSIBLE SHALL BE CONSTRUCTED THAT IS OUTSIDE OF THE EXISTING PAVEMENT AREAS. THIS INCLUDES THE PROPOSED NORTHBOUND US-23 OFF-RAMP STRUCTURE (SFN: 4805136). PEDESTRIANS FROM THE RIVER TRAIL SHALL BE DETOURED AS SHOWN ON SHEET 27. NO DAYTIME LANE CLOSURES ARE ALLOWED ALONG MONROE STREET OR ALEXIS ROAD DURING THIS PHASE. SINGLE LANE OVERNIGHT LANE CLOSURES ALLOWED FROM 8 PM TO 6 AM ALONG MONROE STREET AND ALEXIS ROAD. DURING THIS TIME FRAME, THE OUTSIDE WESTBOUND LANE OF ALEXIS ROAD SHALL BE CLOSED IN THE VICINITY OF ELLIOTT DRIVE. CONSTRUCT THE PROPOSED PAVEMENT ON THE NORTH SIDE OF ALEXIS ROAD (ROUGHLY STA. 46+00 TO STA. 47+50). THIS WILL ALLOW FOR U-TURNS IN FUTURE MOT PHASES. CLOSE THE OUTSIDE AND INSIDE SHOULDERS OF US-23 IN THE VICINITY OF THE MONROE STREET BRIDGE. THESE SHOULDER CLOSURES SHALL REMAIN IN PLACE THROUGHOUT THE PROJECT DURATION. THESE SHOULDER CLOSURES WILL ALLOW FOR A MAXIMUM AMOUNT OF SPACE FOR THE CONTRACTOR TO WORK ON THE BRIDGE.

PHASE 2

DURING THE SECOND PHASE OF CONSTRUCTION, US-23 SOUTHBOUND MAINLINE TRAFFIC SHALL BE IN THE SAME LOCATION AS PHASE 1 UNTIL IT CROSSES THE OTTAWA RIVER BRIDGE WHERE IT WILL SHIFT BACK TO THE ORIGINAL LOCATION. THE EASTERN PORTION OF THE US-23 SOUTHBOUND RAMP SHALL BE CONSTRUCTED. WORK ON THE NORTHBOUND RAMP AND PROPOSED NORTHBOUND US-23 OFF-RAMP STRUCTURE (SFN: 4805136) SHALL CONTINUE FROM PHASE 1. THE PEDESTRIAN DETOUR FROM PHASE 1 SHALL REMAIN IN PLACE. NO DAYTIME LANE CLOSURES ARE ALLOWED ALONG MONROE STREET OR ALEXIS ROAD DURING THIS PHASE. SINGLE LANE OVERNIGHT LANE CLOSURES ALLOWED FROM 8 PM TO 6 AM ALONG MONROE STREET AND ALEXIS ROAD. WHEN SOUTHBOUND US-23 WORK IS COMPLETE, THE CONTRACTOR SHALL CLOSE THE INSIDE LANE OVER THE COURSE OF ONE WEEKEND FROM 9 PM FRIDAY TO 5 AM MONDAY TO REMOVE THE TEMPORARY PAVEMENT THAT WAS USED PHASE 1 AND 2. THE LANE CLOSURE SHALL BE AS PER SCD MT-95.30.

SEASON 2

PHASE 3

DURING THE THIRD PHASE OF CONSTRUCTION, MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD SHALL BE SHIFTED TO THE NORTH. THE SOUTHERN HALF OF MONROE STREET INCLUDING ALL ROADWAY LAYERS EXCEPT FOR THE SURFACE COURSE, CURB AND GUTTER, SIDEWALKS, AND DRIVES SHALL BE CONSTRUCTED. PROPOSED WATERLINE WORK ON THE NORTH SIDE OF MONROE STREET BETWEEN GLASGOW ROAD TO THE EAST SIDE OF US-23 SHALL BE INSTALLED. WATERLINE WORK ALONG ACRES ROAD TO THE SOUTHWEST CORNER OF MONROE STREET AND THE EXISTING NORTHBOUND RAMP SHALL ALSO BE INSTALLED. MONROE STREET IS TO BE CLOSED FROM GLASGOW ROAD TO ACRES ROAD. THE PROPOSED STRUCTURE (SFN:4805224) SHALL BE CONSTRUCTED. ALEXIS ROAD IS TO BE CLOSED FROM MONROE STREET TO ACRES ROAD. MONROE STREET TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 31 THE SOUTH HALF OF ALEXIS ROAD, FROM ACRES ROAD TO THE END OF THE PROJECT, SHALL BE CONSTRUCTED DURING THIS PHASE. MONROE STREET AND ALEXIS ROAD PEDESTRIAN TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 28. RAMP B SHALL BE CONSTRUCTED.

PHASE 3A

US-23 SOUTHBOUND ON-RAMP TRAFFIC SHALL BE SHIFTED ONTO THE FINISHED PAVEMENT AREA ON MONROE STREET BEGINNING AT STATION 170+00. THE FINISHED RAMP CURVE SHALL BE IMPLEMENTED. ALL OTHER WORK AREAS AND TRAFFIC LANE LOCATIONS REMAIN UNCHANGED FROM PHASE 3. THE CONTRACTOR SHALL MOVE TO PHASE 3A WITHIN 21 DAYS OF ESTABLISHING PHASE 3 MOT WEST OF GLASGOW INTERSECTION.

PHASE 4

DURING THE FOURTH PHASE OF CONSTRUCTION, MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD SHALL BE SHIFTED TO THE SOUTH. THE NORTHERN HALF OF MONROE STREET INCLUDING ALL ROADWAY LAYERS EXCEPT FOR THE SURFACE COURSE, CURB AND GUTTER, SIDEWALKS, AND DRIVES SHALL BE CONSTRUCTED. MONROE STREET IS TO REMAIN CLOSED FROM GLASGOW ROAD TO ACRES ROAD. WORK ON THE PROPOSED STRUCTURE (SFN:4805224) SHALL CONTINUE. ALEXIS ROAD IS TO REMAIN CLOSED FROM MONROE STREET TO ACRES ROAD. THE NORTH HALF OF ALEXIS ROAD, FROM ACRES ROAD TO THE END OF THE PROJECT, SHALL BE CONSTRUCTED DURING THIS PHASE. THE NORTH LEG OF THE ACRES ROAD AND ALEXIS ROAD INTERSECTION SHALL BE CLOSED. ACRES ROAD SHALL BE DETOURED AS SHOWN ON SHEET 31. THE PEDESTRIAN DETOUR FROM PHASE 3 SHALL REMAIN IN PLACE. THE NORTHERN-MOST SECTION OF THE US-23 SOUTHBOUND OFF-RAMP SHALL BE CONSTRUCTED. PROPOSED TRAFFIC SIGNAL POLES, HEADS, AND CORRESPONDING SIGNAL ITEMS WILL BE ERECTED AND UTILIZED FOR THIS PHASE OF CONSTRUCTION. THE PHASE 4 MAINTENANCE OF TRAFFIC TEMPORARY SIGNAL MODIFICATIONS FOR GLASGOW ROAD AND MONROE STREET ARE SHOWN ON SHEET 106 THE CONTRACTOR WILL ENSURE THE PROPOSED TRAFFIC SIGNAL INSTALLATION IS CONSTRUCTED AS PER THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE EAST DRIVE TO THE CEMETARY OFF OF MONROE STREET SHALL BE CLOSED. ALL CEMETARY TRAFFIC SHALL ENTER AND EXIT AT THE SIGNAL AT THE INTERSECTION OF MONROE STREET AND HARROUN ROAD.

PHASE 4A

DURING THIS SUBPHASE, TRAFFIC ON MONROE STREET WILL REMAIN UNCHANGED. RAMP C AND RAMP D LANES ARE TO BE SHIFTED TO THE EAST ONCE THE PROPOSED RAMP WORK IS COMPLETE IN PHASE 4. THE TRAFFIC OPERATION TO AND FROM GLASGOW ROAD SHALL BE CHANGED TO A ONE LANE TWO WAY FLOW.

PHASE 5A

PHASE 5A IS A SUBPHASE OF PHASE 4. MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD IS MOSTLY UNCHANGED, HOWEVER THE NORTHERN INTERSECTION AREA OF MONROE STREET AND GLASGOW ROAD SHALL BE CONSTRUCTED WHILE ALLOWING A SINGLE TWO-WAY LANE TO TRAVEL TO AND FROM GLASGOW ROAD. THE TWO-WAY SINGLE LANE OPERATION SHALL BE IN PLACE FOR A MAXIMUM OF 10 DAYS. MONROE STREET IS TO REMAIN CLOSED FROM GLASGOW ROAD TO ACRES ROAD. WORK ON THE PROPOSED STRUCTURE (SFN: 4805224) SHALL CONTINUE. PROPOSED RAMP B IS TO BE OPENED TO TRAFFIC. THE NORTHERN HALF OF THE MONROE STREET AND ACRES ROAD INTERSECTION AREA SHALL BE CONSTRUCTED. THE SOUTHERN HALF OF THE ALEXIS ROAD AND ACRES ROAD INTERSECTION AREA SHALL BE CONSTRUCTED. ACRES ROAD BETWEEN ALEXIS ROAD AND MONROE STREET SHALL BE REMOVED. THE PROPOSED US-23 SOUTHBOUND RAMP CONCRETE MEDIAN SEPARATING THE ON AND OFF-RAMP SHALL BE CONSTRUCTED. THE US-23 NORTHBOUND OFF-RAMP IS TO BE CLOSED DURING THIS PHASE AS PER MT-98.29 AND ALL OVERLAPPING PROPOSED PAVEMENT AREAS WITH EXISTING PAVEMENT AREAS ARE TO BE CONSTRUCTED AND COMPLETED BEFORE IMPLEMENTING THE NEXT PHASE. THE PEDESTRIAN DETOUR FROM PHASE 3 SHALL REMAIN IN PLACE. THE PHASE 5A MAINTENANCE OF TRAFFIC TEMPORARY SIGNAL MODIFICATIONS FOR US-23 OFF RAMP AND MONROE STREET ARE SHOWN ON SHEET 106 THE CONTRACTOR WILL ENSURE THE PROPOSED TRAFFIC SIGNAL INSTALLATION IS CONSTRUCTED AS PER THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PHASE 5B

PHASE 5B IS A SUBPHASE OF PHASE 4. MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD IS MOSTLY UNCHANGED FROM PHASE 5A, THE ONLY EXCEPTION BEING THAT THE NORTH LEG OF GLASGOW IS ALLOWED TO HAVE TWO LANE TWO WAY TRAFFIC. THE PROPOSED RAISED MEDIAN ON MONROE STREET FROM ROUGHLY STATION 170+42 TO STATION 175+18 SHALL BE INSTALLED DURING THIS PHASE. TRAFFIC SHALL BE MAINTAINED BY LANE CLOSURES AS PER MT-95.32. MONROE STREET IS TO REMAIN CLOSED FROM GLASGOW ROAD TO ACRES ROAD. WORK ON THE PROPOSED STRUCTURE (SFN: 4805224) SHALL CONTINUE. THE SOUTHERN HALF OF MONROE STREET FROM THE EXISTING US-23 NORTHBOUND RAMP INTERSECTION TO THE END OF THE PROJECT SHALL BE CONSTRUCTED. THE RAISED MEDIAN ALONG ALEXIS ROAD SHALL BE CONSTRUCTED. THE US-23 NORTHBOUND MAINLINE SHOULDER SHALL BE RECONSTRUCTED AND TRAFFIC SHALL BE SHIFTED ONTO THE EXISTING SHOULDER. THE PEDESTRIAN DETOUR FROM PHASE 3 SHALL REMAIN IN PLACE. THE WATERLINE WORK STARTED IN PHASE 3 IN THE SOUTHWEST QUADRANT OF MONROE STREET AND THE OLD US-23 NORTHBOUND RAMP SHALL BE FINISHED. THE SECTION THAT IS TO BE COMPLETED CROSSES THROUGH THE AREA OF WHERE THE NOW CLOSED AND DEMOLISHED US-23 NORTHBOUND RAMP WERE PREVIOUSLY LOCATED.

POST PHASE

THE WORK TO BE PERFORMED DURING THIS PHASE WILL INCLUDE THE FOLLOWING: CONSTRUCTION OF THE REMAINING SURFACE COURSE OF PAVEMENT, FINAL PAVEMENT MARKINGS, FINAL SIGNAGE, LIGHTING, AND LANDSCAPING ITEMS. ALL MAINTENANCE OF TRAFFIC ITEMS THAT WERE PREVIOUSLY PLACED SHALL BE REMOVED. AT THE COMPLETION OF THE 180 DAY BRIDGE CLOSURE PERIOD ALL LANES OF TRAFFIC ON MONROE, ALEXIS, US-23, AND ALL RAMP SHALL BE OPEN TO TRAFFIC. ANY REMAINING WORK SHALL BE COMPLETED WITH OVERNIGHT LANE CLOSURES FROM 8 PM TO 6 AM. EXISTING STRUCTURE SFN 4805135 LUC 00184-00.030R CANNOT BE DEMOLISHED UNTIL PEDESTRIAN TRAFFIC CAN SAFELY TRAVERSE ACROSS THE NEWLY CONSTRUCTED MONROE STREET BRIDGE. THE PEDESTRIAN DETOUR FROM PHASES 1 & 2 SHALL BE IN EFFECT WHILE THE EXISTING STRUCTURE IS DEMOLISHED.

CONSTRUCTION COORDINATION KROGER PARCEL

CONTRACTOR IS TO COORDINATE OPERATIONS AND SCHEDULE WITH A KROGER STORE MANAGER (419-885-5027), RELATED TO THE WORK AT THE DRIVEWAY FOR KROGER ON MONROE STREET. CONTRACTOR IS TO PERFORM WORK SO AS NOT TO INTERFERE WITH THE OPERATIONS OF THE KROGER PHARMACY DRIVE-THRU. WORK THAT WILL TEMPORARILY IMPACT THE PHARMACY DRIVE-THRU MAY ONLY BE PERFORMED WHEN THE PHARMACY IS CLOSED AND IN COORDINATION WITH KROGER.

ALLOWABLE CLOSURE TABLE			
LOCATION	MOT PHASE	DURATION	DAMAGES
SHORT TERM CLOSURES OF US-23 FOR MONROE STREET BRIDGE WORK AS PER MT-99.60	PHASES 1 - 5B	15 MINUTES BETWEEN HOURS OF MIDNIGHT AND 5 AM	\$1000/15 MIN
OVERNIGHT RAMP CLOSURES	PHASE CHANGES & TEMP. PAVEMENT WORK	9PM FRI - 5AM MON	\$1000/15 MIN
US-23 SB INSIDE LANE CLOSURE FOR TEMPORARY PAVEMENT INSTALLATION	PREPHASE	ONE WEEKEND FROM 9 PM FRIDAY TO 5 AM MONDAY	\$1000/15 MIN
ALEXIS ROAD U-TURN AT ELLIOTT DRIVE RIGHT LANE CLOSURE	PHASE 1	10 DAYS	\$1000/DAY
US-23 SB INSIDE LANE CLOSURE FOR TEMPORARY PAVEMENT REMOVAL	PHASE 2	ONE WEEKEND FROM 9 PM FRIDAY TO 5 AM MONDAY	\$1000/15 MIN
MONROE STREET & ALEXIS ROAD BETWEEN GLASGOW ROAD AND ACRES ROAD	PHASES 3 - 5B	A+B DURATION <span style="border: 1px solid red; padding: 2px;">1</span>	A+B INCENTIVE/ DISINCENTIVE
ACRES ROAD NORTH OF ALEXIS ROAD	PHASE 3	14 DAYS	\$1000/DAY
RAMP CLOSURE US-23 NB	PHASE 5A	14 DAYS	\$1000/15 MIN
EAST CEMETARY DRIVE NORTH OF MONROE STREET	PHASE 4	14 DAYS	\$1000/DAY
GLASGOW ROAD ONE LANE TWO WAY	PHASE 4A	10 DAYS	\$3000/DAY
LANE CLOSURES ON MONROE/ ALEXIS	PHASE 1-2 AND POST PHASE	8 PM TO 6 AM	\$1000/15 MIN
US 23 SINGLE LANE CLOSURES	ALL	PLCS REQUIREMENTS	\$150/MIN

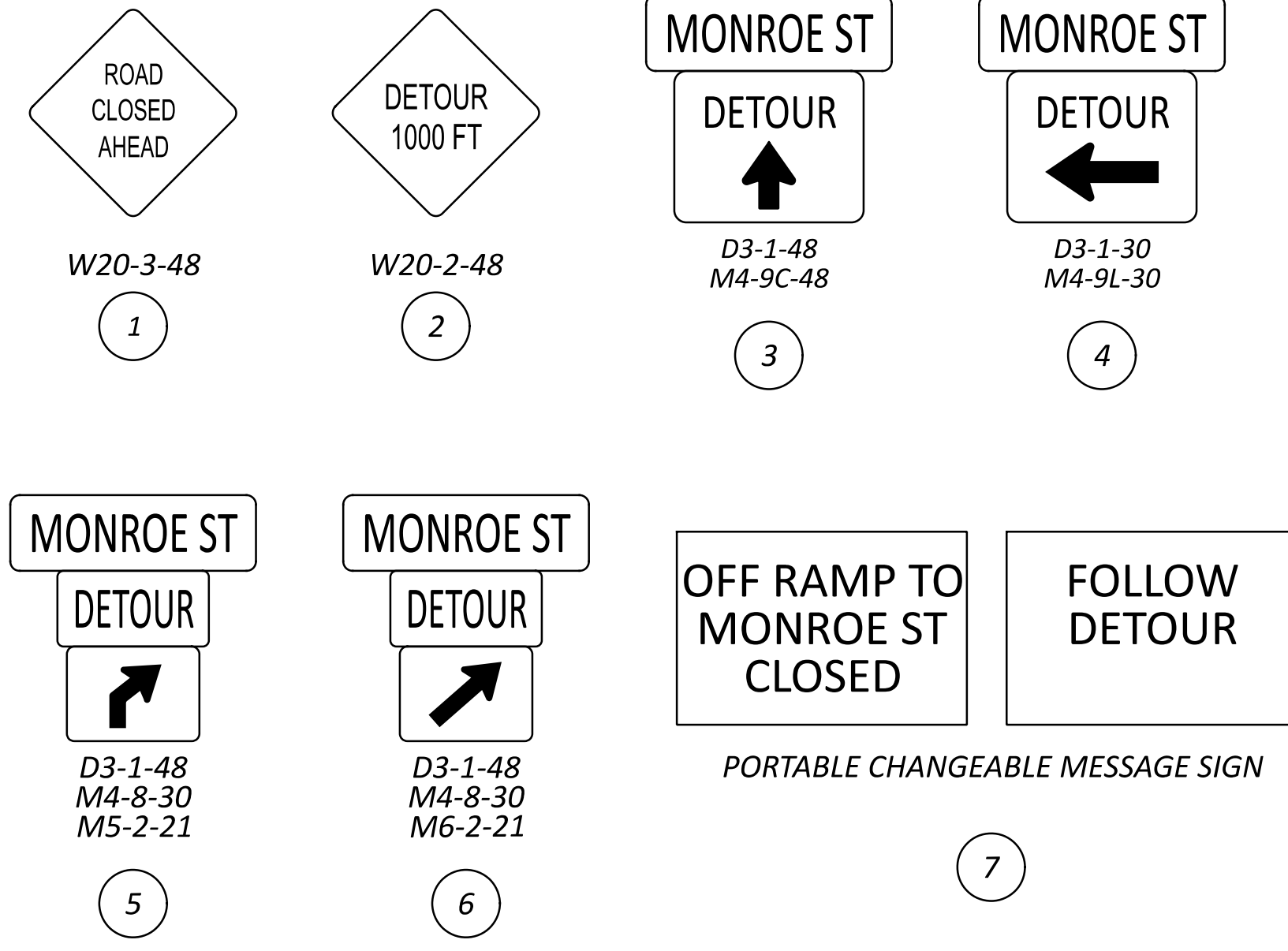
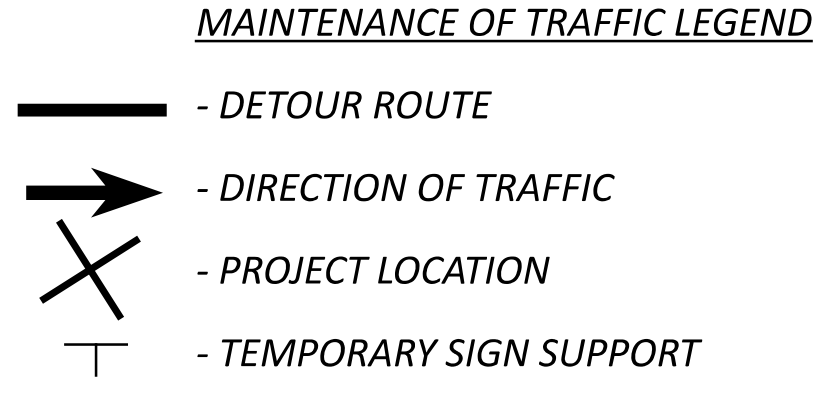
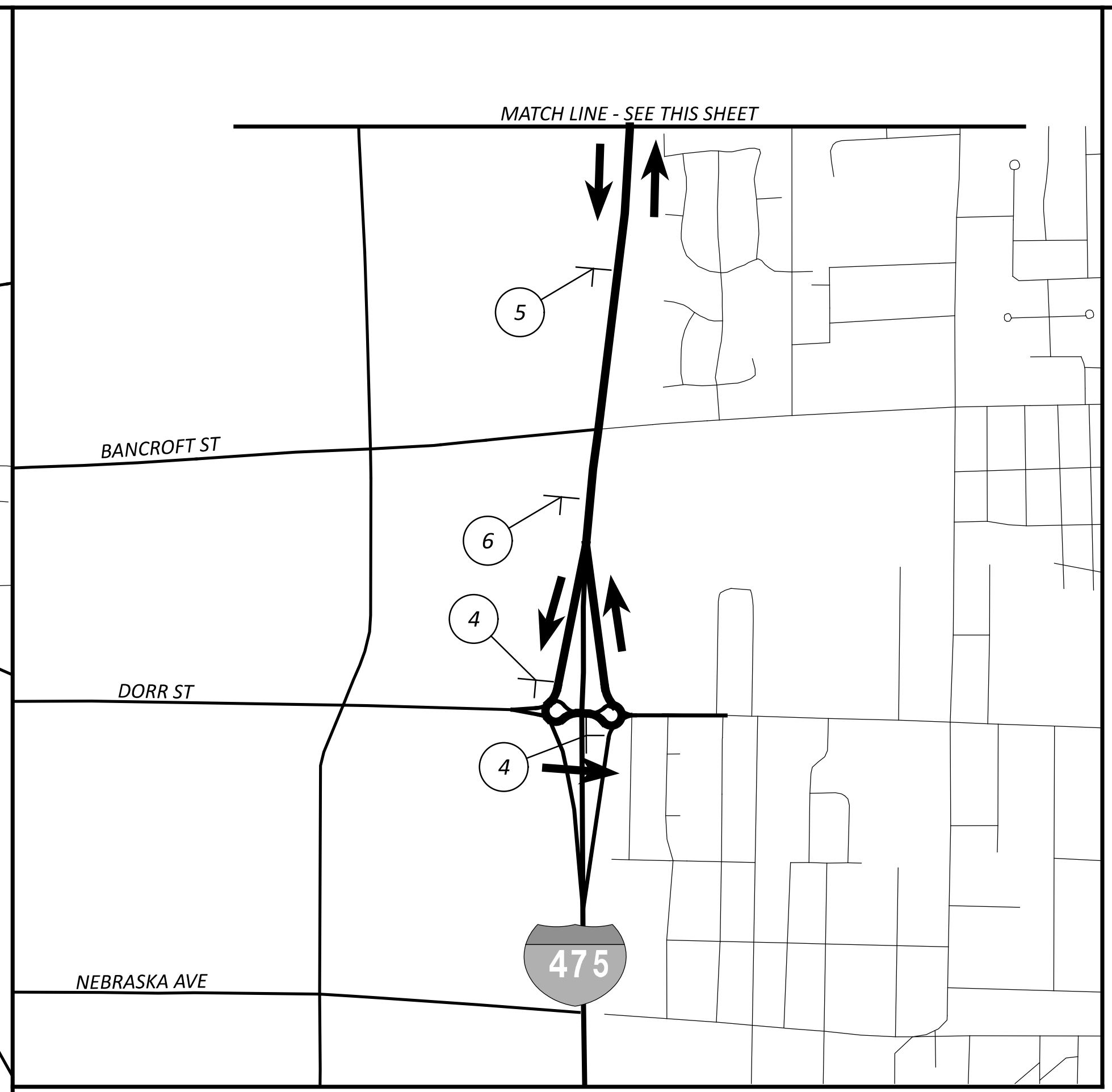
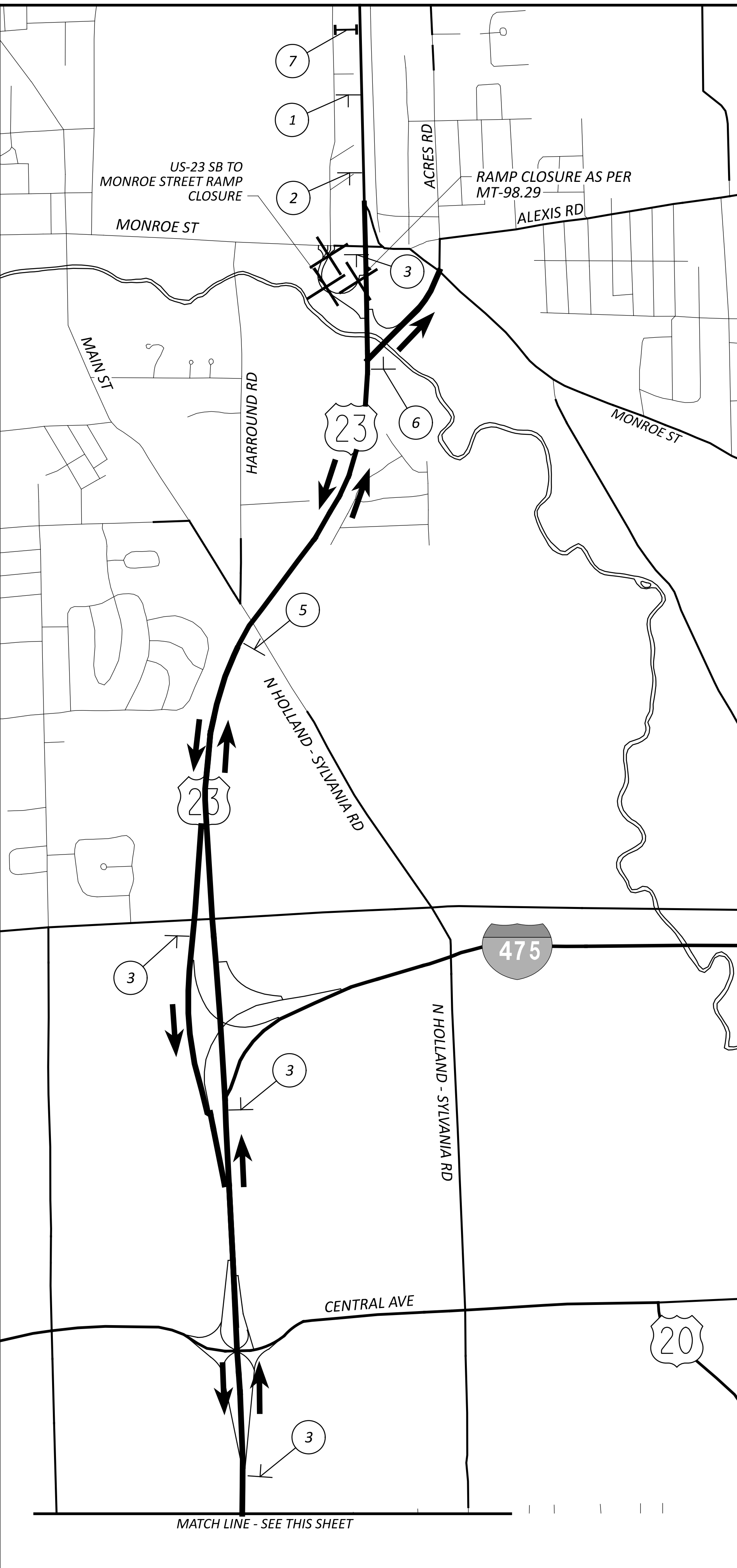
DESIGN AGENCY  
**ARCADIS**  
 1111 SUPERIOR AVENUE SUITE 1300  
 CLEVELAND, OH 44114  
 (216) 784-6777  
 www.arcadis.com

DESIGNER  
**EJT**

REVIEWER  
**TJR** 09/13/24

PROJECT ID  
**105889**

SHEET TOTAL  
**25 | 607**






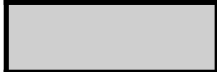


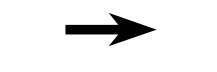


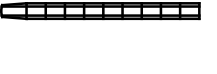





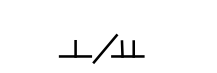












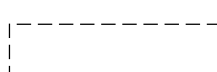


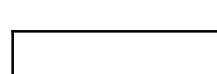
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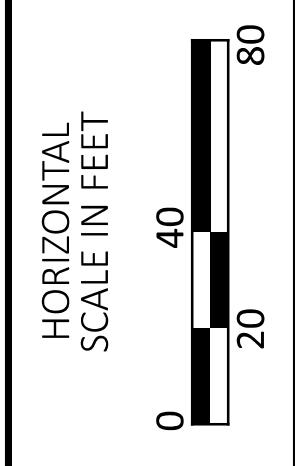
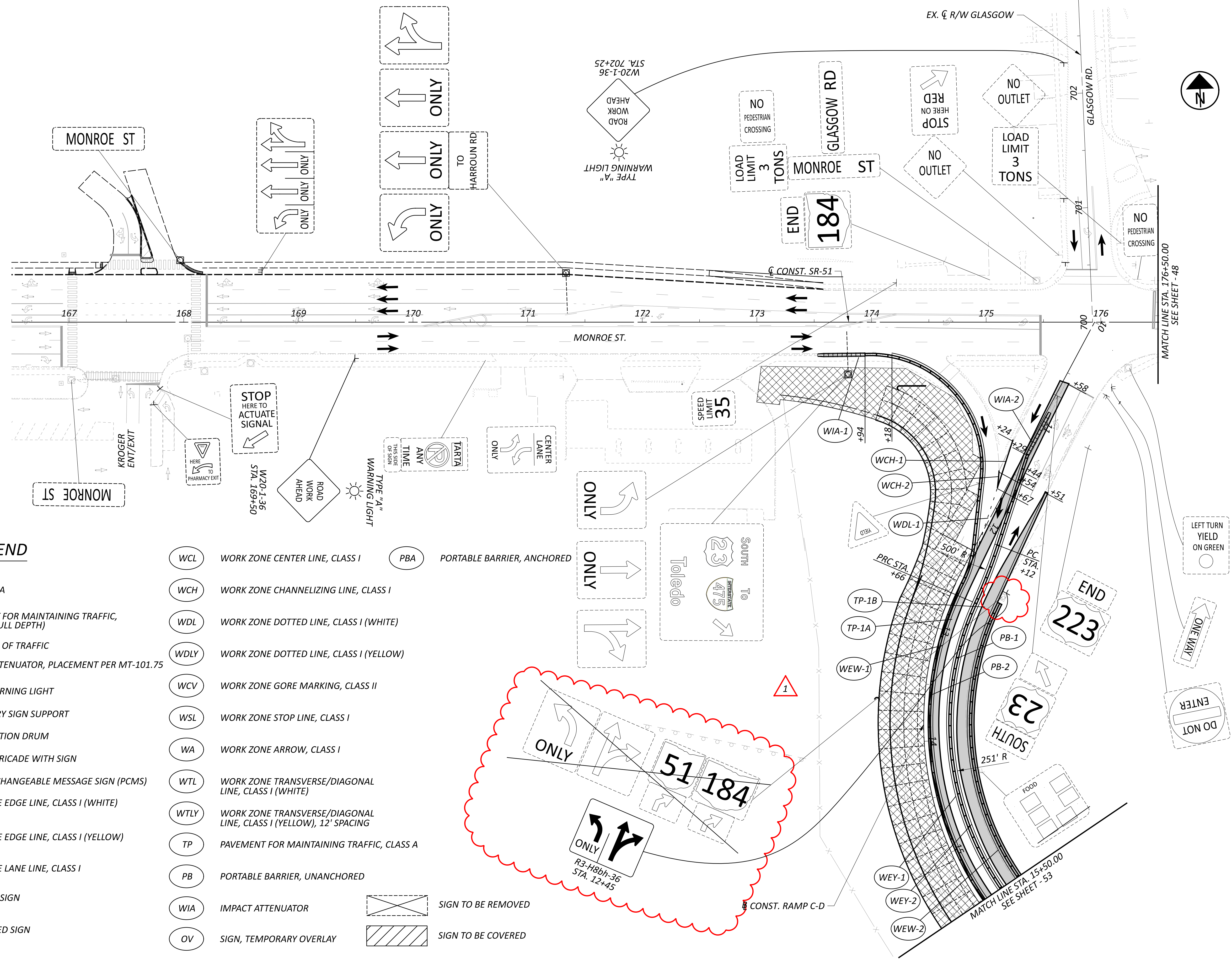
1. WHENEVER THE CLOSURE OCCURS, THE DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.
2. DETOUR SIGNS SHALL BE UNCOVERED AND VISIBLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT.
3. DISTANCE BETWEEN ADVANCE WARNING SIGNS SHALL BE A MINIMUM OF 100' AND THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMUTCD.
4. FOR ADDITIONAL SIGNING, SEE SHEETS 59 - 103

**MAINTENANCE OF TRAFFIC - DETOUR PLAN  
 US-23 SB OFF RAMP DETOUR**


DESIGN AGENCY	
<b>ARCADIS</b> <small>1111 SUPERIOR AVENUE SUITE 1300                  CLEVELAND OHIO 44114                  www.arcadis.com</small>	
DESIGNER	
EJT	
REVIEWER	
TJR 09/13/24	
PROJECT ID	
105889	
SHEET	TOTAL
32A	607

**PLAN LEGEND**

- |   |  |   |   |   |   |
|---|--|---|---|---|---|
|  | WORK AREA  |    | WCL WORK ZONE CENTER LINE, CLASS I                                    |  | PBA PORTABLE BARRIER, ANCHORED  |
|  | PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (FULL DEPTH) |    | WCH WORK ZONE CHANNELIZING LINE, CLASS I                              |    | WDL WORK ZONE DOTTED LINE, CLASS I (WHITE)                            |
|  | DIRECTION OF TRAFFIC                                   |    | WDL WORK ZONE DOTTED LINE, CLASS I (WHITE)                            |    | WDL WORK ZONE DOTTED LINE, CLASS I (YELLOW)                           |
|  | IMPACT ATTENUATOR, PLACEMENT PER MT-101.75             |    | WDL WORK ZONE DOTTED LINE, CLASS I (YELLOW)                           |    | WCV WORK ZONE GORE MARKING, CLASS II                                  |
|  | TYPE A WARNING LIGHT                                   |    | WCV WORK ZONE GORE MARKING, CLASS II                                  |    | WSL WORK ZONE STOP LINE, CLASS I                                      |
|  | TEMPORARY SIGN SUPPORT                                 |    | WSL WORK ZONE STOP LINE, CLASS I                                      |    | WA WORK ZONE ARROW, CLASS I   |
|  | CONSTRUCTION DRUM                                      |    | WA WORK ZONE ARROW, CLASS I   |    | WTL WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I (WHITE)               |
|  | TYPE 3 BARRICADE WITH SIGN                             |    | WTL WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I (WHITE)               |    | WTL WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I (YELLOW), 12' SPACING |
|  | PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)                |    | WTL WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I (YELLOW), 12' SPACING |    | TP PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A                          |
|  | WORK ZONE EDGE LINE, CLASS I (WHITE)                   |    | TP PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A                          |    | PB PORTABLE BARRIER, UNANCHORED                                       |
|  | WORK ZONE EDGE LINE, CLASS I (YELLOW)                  |    | PB PORTABLE BARRIER, UNANCHORED                                       |    | WIA IMPACT ATTENUATOR   |
|  | WORK ZONE LANE LINE, CLASS I                           |    | WIA IMPACT ATTENUATOR   |    | OV SIGN, TEMPORARY OVERLAY  |
|  | EXISTING SIGN  |  | SIGN TO BE REMOVED  |  | SIGN TO BE COVERED  |
|  | PROPOSED SIGN  |   |   |   |   |



**MAINTENANCE OF TRAFFIC PLAN - PHASE 1**  
 STA. 166+50.00 TO STA. 176+50.00

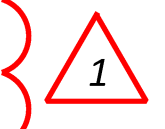
DESIGN AGENCY	
	ARCADIS
1111 SUPERIOR AVENUE SUITE 1300 CLEVELAND, OHIO 44114 TEL: (216) 784-6777 www.arcadis.com	
DESIGNER	EJT
REVIEWER	TJR
PROJECT ID	09/13/24
	105889
SHEET	TOTAL
47	607





SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
22	23	37						01/NHS/21	02/S>2/04								
		300						150	150	614	11110	300	HOUR	<b>MAINTENANCE OF TRAFFIC</b>			
			4,230					4,230		614	11630	4,230	FT	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE			
			18					18		614	12380	18	EACH	INCREASED BARRIER DELINEATION			
100								50	50	614	12600	100	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)			
			1,021					795	226	614	12800	1,021	EACH	REPLACEMENT DRUM			
	10							5	5	614	13000	10	CY	WORK ZONE RAISED PAVEMENT MARKER			
			784					784		614	13310	784	EACH	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC			
39								20	19	614	13312	39	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY			
			268					268		614	13350	268	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY			
192								96	96	614	18601	192	SNMT	OBJECT MARKER, ONE WAY			
			1.52					1.23	0.29	614	20010	1.52	MILE	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN			
			1.51					0.36	1.15	614	21000	1.51	MILE	WORK ZONE LANE LINE, CLASS I, 6"			
			11.1					8.96	2.14	614	22010	11.1	MILE	WORK ZONE CENTER LINE, CLASS I			
			17,051					14,197	2,854	614	23010	17,051	FT	WORK ZONE EDGE LINE, CLASS I, 6"			
			4,345					3,051	1,294	614	24000	4,345	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12"			
			828						828	614	25000	828	FT	WORK ZONE DOTTED LINE, CLASS I			
			406					189	217	614	26000	406	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I			
			118					41	7	614	30000	118	EACH	WORK ZONE STOP LINE, CLASS I			
196			6,207					5,543	860	615	20000	6,403	SY	WORK ZONE ARROW, CLASS I			
														PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A			
672								336	336	616	10000	672	MGAL	WATER			
			13,332					13,332		622	41100	13,332	FT	PORTABLE BARRIER, UNANCHORED			
			1					1		622	41060	1	EACH	DUAL PORTABLE BARRIER TRANSITION/TERMINATION			
								LS	LS	108	10000	LS		<b>INCIDENTALS</b>			
								LS	LS	614	11000	LS		GPM PROGRESS SCHEDULE			
								9	9	619	16021	18	MNTH	MAINTAINING TRAFFIC			
								LS	LS	623	10000	LS		FIELD OFFICE, TYPE C, AS PER PLAN			
								LS	LS	624	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING			
														MOBILIZATION			

GENERAL SUMMARY



DESIGN AGENCY  
**ARCADIS**  
 1975 HUNTINGTON PARK DR, STE 100  
 COLUMBIA, MD 21046  
 410.326.7000  
 www.arcadis.com

DESIGNER  
 TT

REVIEWER  
 SMG 09/13/24

PROJECT ID  
 105889

SHEET TOTAL  
 114 607





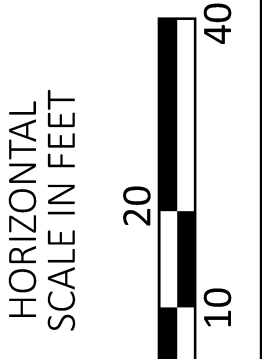
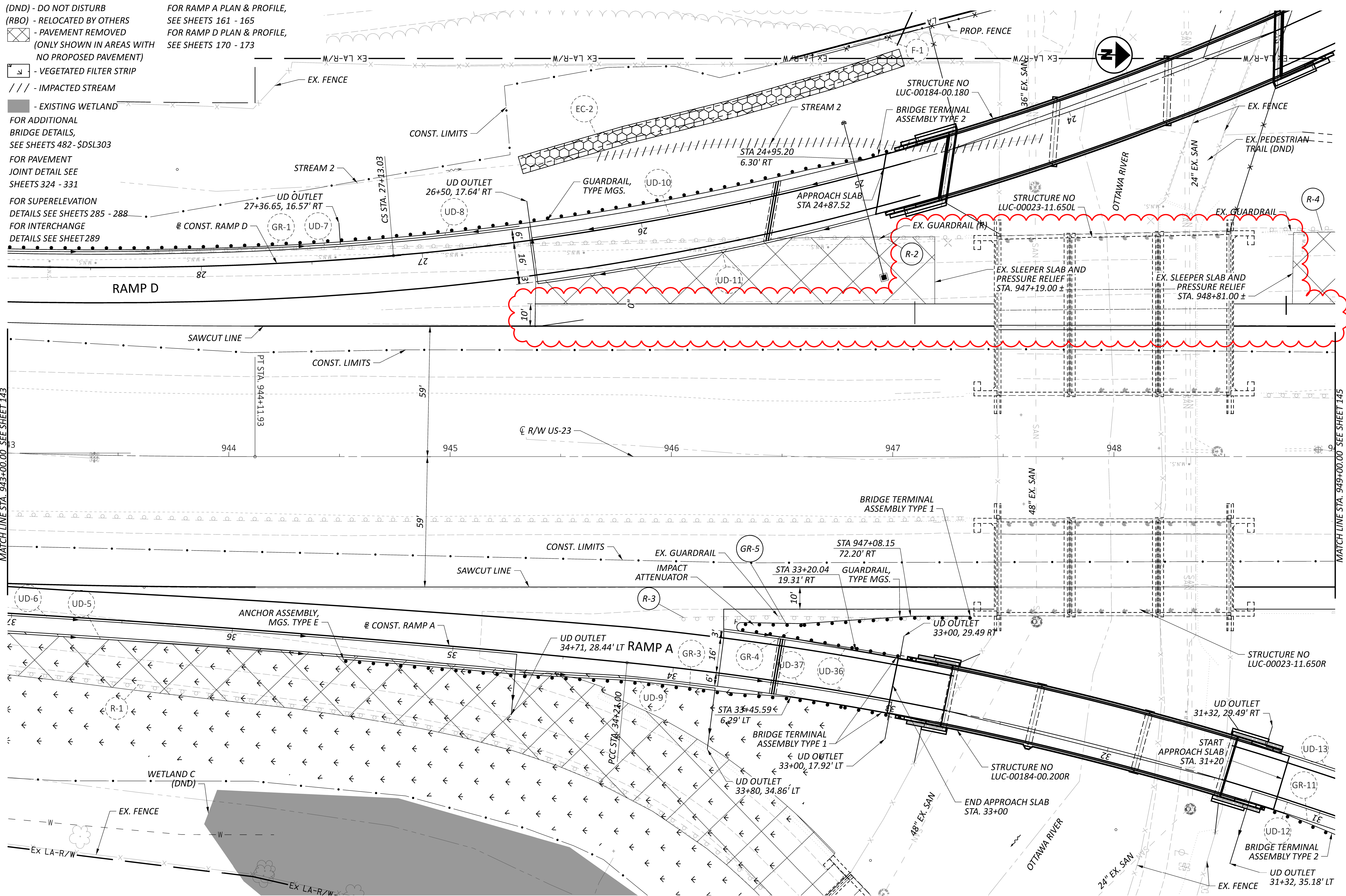




- LEGEND**
- (DND) - DO NOT DISTURB
  - (RBO) - RELOCATED BY OTHERS
  - ⊗ - PAVEMENT REMOVED (ONLY SHOWN IN AREAS WITH NO PROPOSED PAVEMENT)
  - ▭ - VEGETATED FILTER STRIP
  - /// - IMPACTED STREAM
  - - EXISTING WETLAND
- FOR ADDITIONAL BRIDGE DETAILS, SEE SHEETS 482 - \$DSL303
- FOR PAVEMENT JOINT DETAIL SEE SHEETS 324 - 331
- FOR SUPERELEVATION DETAILS SEE SHEETS 285 - 288
- FOR INTERCHANGE DETAILS SEE SHEET 289

FOR RAMP A PLAN & PROFILE, SEE SHEETS 161 - 165

FOR RAMP D PLAN & PROFILE, SEE SHEETS 170 - 173

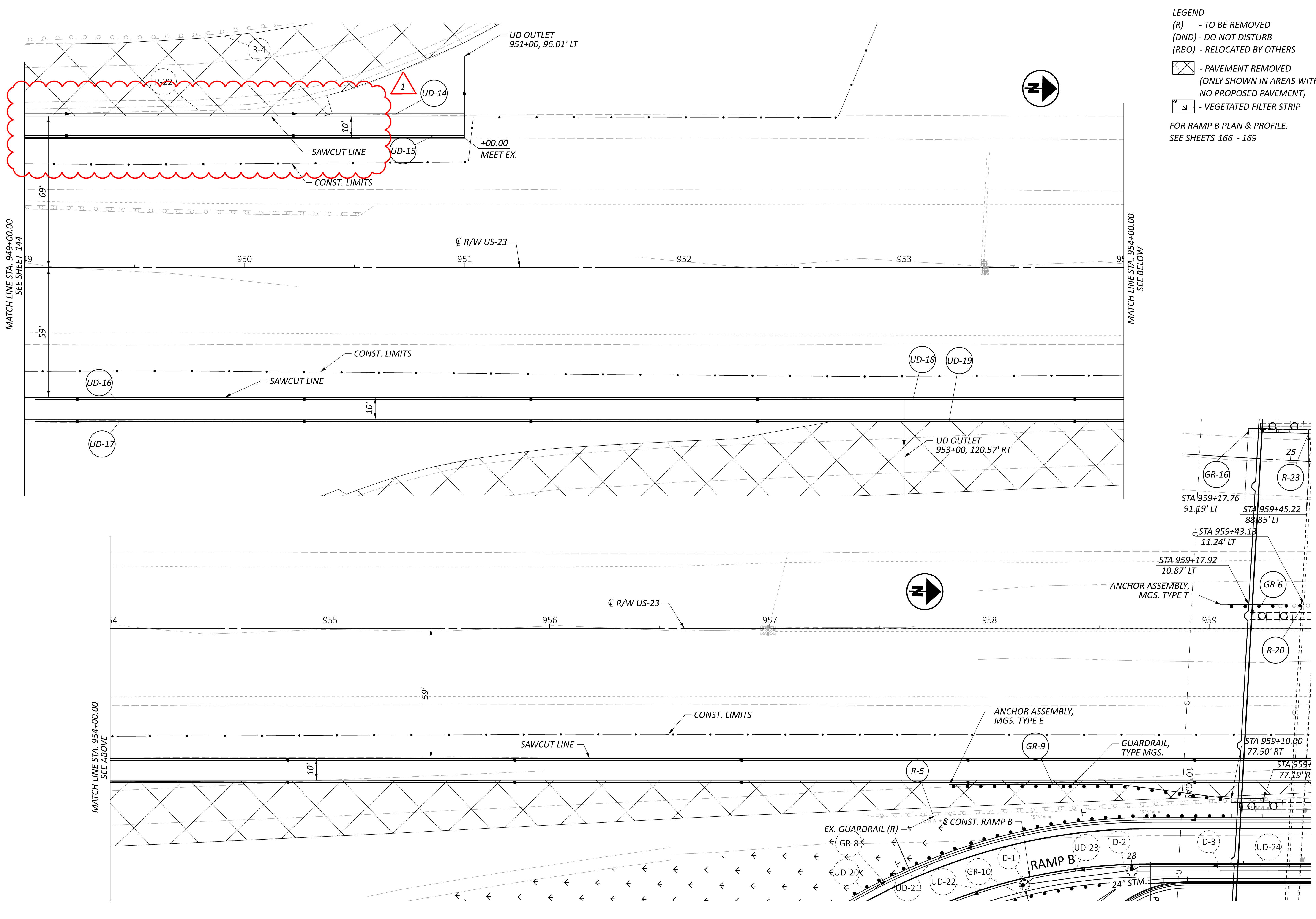


1

PLAN SHEET - US-23

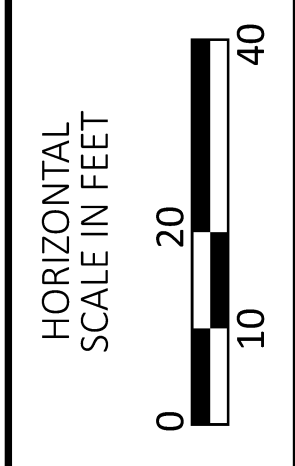
STA. 943+00 TO STA. 949+00

DESIGN AGENCY	
ARCADIS	
1111 SUPERIOR AVENUE SUITE 1300 CLEVELAND, OH 44114 www.arcadis.com	
DESIGNER	TB
REVIEWER	SMG 09/13/24
PROJECT ID	105889
SHEET	TOTAL
144	607



**LEGEND**  
 (R) - TO BE REMOVED  
 (DND) - DO NOT DISTURB  
 (RBO) - RELOCATED BY OTHERS  
 [X] - PAVEMENT REMOVED (ONLY SHOWN IN AREAS WITH NO PROPOSED PAVEMENT)  
 [V] - VEGETATED FILTER STRIP

FOR RAMP B PLAN & PROFILE, SEE SHEETS 166 - 169



**PLAN SHEET - US-23**  
**STA. 949+00 TO STA. 959+00**

DESIGN AGENCY	ARCADIS
DESIGNER	TB
REVIEWER	SMG 09/13/24
PROJECT ID	105889
SHEET TOTAL	145 607

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS

AS-1-15	REVISED	1/20/2023
AS-2-15	REVISED	7/21/2023
CPA-1-08	DATED	1/19/2024
CS-1-08	REVISED	1/15/2021
HL-20.14	REVISED	4/17/2020
HL-30.31	REVISED	1/19/2024
HL-50.21	REVISED	7/15/2022
SBR-1-20	REVISED	7/21/2023

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS

894	DATED	4/16/2021
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**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**DESIGN LOADING**

DESIGN LOADING INCLUDES:  
 VEHICULAR LIVE LOAD: HL-93  
 FUTURE WEARING SURFACE (FWS) OF 0.06KIPS/SQ.FT

**DESIGN DATA**

CONCRETE CLASS QC2:  
 COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1:  
 COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC5, WITH 0.75-INCH MAX AGGREGATE SIZE:  
 COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

CONCRETE REINFORCEMENT:  
 EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60-KSI - SLAB, ABUTMENTS, PIERS AND RAILINGS

GFRP REINFORCEMENT - RAILINGS

**MONOLITHIC WEARING SURFACE**

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

**SCOUR ELEVATIONS**

THE DESIGN FLOOD AND CHECK FLOOD SCOUR ELEVATIONS ARE PROVIDED BELOW:

	REAR ABUTMENT	PIER 1	PIER 2	FORWARD ABUTMENT
DESIGN FLOOD	607.30	606.85	606.61	604.50
CHECK FLOOD	607.30	606.85	606.52	604.50

**ITEM 203 - EMBANKMENT, AS PER PLAN**

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 30+45.50 TO 31+45.50 AND 32+76.50 TO 33+76.50. THIS ITEM IS INCLUDED FOR PAYMENT UNDER THE ROADWAY QUANTITIES.

**SHAFT DRILLING CONSTRAINTS**

PRIOR TO DRILLING SHAFTS, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATIONS FOR A MINIMUM DISTANCE OF 200-FT BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE DRILLING OF THE ABUTMENT SHAFTS UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 14 CALENDAR DAY WAITING PERIOD HAS ELAPSED.

**ROCK-SOCKETED DRILLED SHAFTS**

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 294.92 KIPS AT THE REAR ABUTMENT, 480.99 KIPS AT PIER 1, 480.99 KIPS AT PIER 2, AND 287.57 KIPS AT THE FORWARD ABUTMENT. THIS LOAD IS THEORETICALLY RESISTED ENTIRELY BY TIP RESISTANCE.

AT THE REAR ABUTMENT, THE FACTORED TIP RESISTANCE IS 21,735 KIPS.  
 AT PIER 1, THE FACTORED TIP RESISTANCE IS 24,705 KIPS.  
 AT PIER 2, THE FACTORED TIP RESISTANCE IS 22,405 KIPS.  
 AT THE FORWARD ABUTMENT, THE FACTORED TIP RESISTANCE IS 17,600 KIPS.

CONTRACTOR IS REQUIRED TO HAVE ON-HAND DURING DRILLED SHAFT INSTALLATION A STEEL CASING TO PREVENT BOREHOLE COLLAPSE AND FOR GROUNDWATER CONTROL DURING DRILLED SHAFT INSTALLATION THROUGH SOIL.

**ITEM 511 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN**

INCLUDED WITH THIS ITEM IS THE FOLLOWING:  
 COAT PORTIONS OF THE ABUTMENT WALLS AND WINGWALLS THAT ARE ABOVE EXISTING GRADE WITH LOW VISCOSITY BITUMINOUS ASPHALT AND THEN COVER OR WRAP THOSE COMPONENTS WITH A DURABLE THICK PLASTIC VISQUEEN TO AVOID ADDITIONAL DOWNDRAG LOADS ON THESE EXPOSED ELEMENTS. ALTERNATIVE METHODS TO AVOID DOWNDRAG ON THE WALLS AND FOOTINGS MAY BE IMPLEMENTED WITH THE APPROVAL OF THE ENGINEER.  
 ALL LABOR AND MATERIALS TO INSTALL THE BITUMINOUS ASPHALT AND VISQUEEN SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 511 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN.

**ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST**

PERFORM INTEGRITY TESTING ON ONE (1) OF THE DRILLED SHAFTS AT EACH SUBSTRUCTURE LOCATION: REAR ABUTMENT, FORWARD ABUTMENT PIER 1 AND PIER 2 BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND SUPPLEMENTAL SPECIFICATION 894.

**SHARE USE PATH PROTECTION DURING CONSTRUCTION:**

THE CONTRACTOR SHALL ENSURE PRESERVATION OF EXISTING SHARED-USE PATH FACILITIES, PAVEMENT, RAISED BOARDWALK, LANDSCAPING (INCLUDING BUT NOT LIMITED TO, ORNAMENTAL PLANTS, MULCHING, DECORATIVE STONE, OR FENCING) AND RETAINING WALLS DURING THE CONSTRUCTION OF THE PROPOSED RAMP BRIDGE. ACCESS TO THE CONSTRUCTION AREA VIA THE SHARED-USED PATH IS PERMITTED HOWEVER THE CONTRACTOR MUST LIMIT DAMAGE AS MUCH AS POSSIBLE TO ALL EXISTING SHARED-USE PATH FACILITIES. ANY DAMAGE OCCURRING AS A RESULT OF CONTRACTOR OPERATIONS TO THE AFOREMENTIONED SHARED-USE PATH ITEMS DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

**ITEM 516 - ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING:**

A 1.5" THICK UNREINFORCED ELASTOMERIC BEARING PAD STRIP SHALL BE INSTALLED IN THE ABUTMENT STEM UNDER THE SUPERSTRUCTURE WITHIN THE LOCATION SHOWN IN THESE PLANS.

THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER SECTION 14.6.7 (METHOD A) OF THE AASHTO LRFD DESIGN SPECIFICATION. THE LONG TERM COMPRESSION PROOF LOAD TEST IS NOT REQUIRED.

ALL LABOR, MATERIALS AND INCIDENTALS TO FURNISH AND INSTALL THIS BEARING STRIP ARE INCLUDED WITH PAYMENT FOR ITEM 516 - ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING AT THE UNIT COST.

GENERAL NOTES  
 BRIDGE NO. LUC-00184-00.200R NORTHBOUND RAMP A  
 OVER OTTAWA RIVER

SFN	4805136
DESIGN AGENCY	2LMN
DESIGNER	HHH
CHECKER	JAH
REVIEWER	AMT
PROJECT ID	105889
SUBSET	3
TOTAL	22
SHEET	P.498
TOTAL	607

**ESTIMATED QUANTITIES (04/NHS/10)**

Designer: JAH Date: 9/6/2024  
 Checker: JBM Date: 9/6/2024

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GENERAL	SEE SHT.
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING		LS			
503	21301	LS		UNCLASSIFIED EXCAVATION	LS	LS			
509	10000	115,937	LB	EPOXY COATED STEEL REINFORCEMENT	25426	18011	72500		
509	30020	5,319	FT	NO. 4 DEFORMED GFRP REINFORCEMENT			5319		
511	32212	301	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			301		
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				
511	34450	52	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			52		
511	40512	60	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		60			
511	43513	153	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING, AS PER PLAN	153				3 / 22
511	46512	26	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		26			
512	10100	441	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			441		
516	10010	50	FT	ARMORLESS PREFORMED JOINT SEAL				50	
516	13200	58	SF	1/2" PREFORMED EXPANSION JOINT FILLER	58				
516	13600	74	SF	1" PREFORMED EXPANSION JOINT FILLER			74		
516	13900	57	SF	2" PREFORMED EXPANSION JOINT FILLER	57				
516	25000	229	SF	NYLON REINFORCED NEOPRENE SHEETING	229				
516	42600	58	FT	ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING	58				3 / 22
518	12000	1	EACH	SCUPPERS, INCLUDING SUPPORTS			1		
518	21200	76	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	76				
518	40000	88	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	88				
518	40010	16	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	16				
524	94704	209	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	133	76			
524	94802	64	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK	51	13			
526	25011	155	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				155	20 / 22
526	90030	50	FT	TYPE C INSTALLATION				50	
601	21050	4	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	4				
601	20000	73	SY	CRUSHED AGGREGATE SLOPE PROTECTION	73				
601	32200	86	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	86				
611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	2				
625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM			1		
894	10000	4	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	2	2			

**ESTIMATED QUANTITIES**  
**BRIDGE NO. LUC-00184-00.200R NORTHBOUND RAMP A**  
**OVER OTTAWA RIVER**

SFN	4805136
DESIGN AGENCY	<b>2LMN</b>
DESIGNER	CHECKER
RFS	JAH
REVIEWER	
AMT	09/09/24
PROJECT ID	105889
SUBSET	TOTAL
5	22
SHEET	TOTAL
P.500	607

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS

AS-1-15	REVISED	1/20/2023
AS-2-15	REVISED	7/21/2023
CPA-1-08	DATED	1/19/2024
CS-1-08	REVISED	1/15/2021
SBR-1-20	REVISED	7/21/2023

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS  
 894 DATED 4/16/2021

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**DESIGN LOADING**

DESIGN LOADING INCLUDES:  
 VEHICULAR LIVE LOAD: HL-93  
 FUTURE WEARING SURFACE (FWS) OF 0.06KIPS/SQ.FT

**DESIGN DATA**

CONCRETE CLASS QC2:  
 COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1:  
 COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QCS, WITH 0.75-INCH MAX AGGREGATE SIZE:  
 COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

CONCRETE REINFORCEMENT:  
 EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60-KSI - SLAB, ABUTMENTS, PIERS AND RAILINGS

GFRP REINFORCEMENT - RAILINGS

**MONOTHILIC WEARING SURFACE**

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

**SCOUR ELEVATIONS**

THE DESIGN FLOOD AND CHECK FLOOD SCOUR ELEVATIONS ARE PROVIDED BELOW:

	REAR ABUTMENT	PIER 1	PIER 2	FORWARD ABUTMENT
DESIGN FLOOD	607.10	607.75	601.99	607.7
CHECK FLOOD	607.10	607.64	601.99	607.7

**ITEM 203 - EMBANKMENT, AS PER PLAN**

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 21+97.28 TO 22+97.28 AND 24+57.79 TO 25+57.79. THIS ITEM IS INCLUDED FOR PAYMENT UNDER THE ROADWAY QUANTITIES.

**SHAFT DRILLING CONSTRAINTS**

PRIOR TO DRILLING SHAFTS, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATIONS FOR A MINIMUM DISTANCE OF 200-FT BEHIND EACH ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE DRILLING OF THE ABUTMENT SHAFTS UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 14 CALENDAR DAY WAITING PERIOD HAS ELAPSED.

**ROCK-SOCKETED DRILLED SHAFTS**

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 452.91 KIPS AT THE REAR ABUTMENT, 630.96 KIPS AT PIER 1, 634.04 KIPS AT PIER 2, AND 390.34 KIPS AT THE FORWARD ABUTMENT. THIS LOAD IS THEORETICALLY RESISTED ENTIRELY BY TIP RESISTANCE.

AT THE REAR ABUTMENT, THE FACTORED TIP RESISTANCE IS 18,305 KIPS.  
 AT PIER 1, THE FACTORED TIP RESISTANCE IS 15,125 KIPS.  
 AT PIER 2, THE FACTORED TIP RESISTANCE IS 30,360 KIPS.  
 AT THE FORWARD ABUTMENT, THE FACTORED TIP RESISTANCE IS 17,350 KIPS.

CONTRACTOR IS REQUIRED TO HAVE ON-HAND DURING DRILLED SHAFT INSTALLATION A STEEL CASING TO PREVENT BOREHOLE COLLAPSE AND FOR GROUNDWATER CONTROL DURING DRILLED SHAFT INSTALLATION THROUGH SOIL.

**ITEM 511 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN**

INCLUDED WITH THIS ITEM IS THE FOLLOWING:  
 COAT PORTIONS OF THE ABUTMENT WALLS AND WINGWALLS THAT ARE ABOVE EXISTING GRADE WITH LOW VISCOSITY BITUMINOUS ASPHALT AND THEN COVER OR WRAP THOSE COMPONENTS WITH A DURABLE THICK PLASTIC VISQUEEN TO AVOID ADDITIONAL DOWNDRAG LOADS ON THESE EXPOSED ELEMENTS. ALTERNATIVE METHODS TO AVOID DOWNDRAG ON THE WALLS AND FOOTINGS MAY BE IMPLEMENTED WITH THE APPROVAL OF THE ENGINEER.  
 ALL LABOR AND MATERIALS TO INSTALL THE BITUMINOUS ASPHALT AND VISQUEEN SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 511 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN.

**ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST**

PERFORM INTEGRITY TESTING ON ONE (1) OF THE DRILLED SHAFTS AT EACH SUBSTRUCTURE LOCATION: REAR ABUTMENT, FORWARD ABUTMENT PIER 1 AND PIER 2 BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND SUPPLEMENTAL SPECIFICATION 894.

**SHARE USE PATH PROTECTION DURING CONSTRUCTION:**

THE CONTRACTOR SHALL ENSURE PRESERVATION OF EXISTING SHARED-USE PATH FACILITIES, PAVEMENT, RAISED BOARDWALK, LANDSCAPING (INCLUDING BUT NOT LIMITED TO, ORNAMENTAL PLANTS, MULCHING, DECORATIVE STONE, OR FENCING) AND RETAINING WALLS DURING THE CONSTRUCTION OF THE PROPOSED RAMP BRIDGE. ACCESS TO THE CONSTRUCTION AREA VIA THE SHARED-USED PATH IS PERMITTED HOWEVER THE CONTRACTOR MUST LIMIT DAMAGE AS MUCH AS POSSIBLE TO ALL EXISTING SHARED-USE PATH FACILITIES. ANY DAMAGE OCCURRING AS A RESULT OF CONTRACTOR OPERATIONS TO THE AFOREMENTIONED SHARED-USE PATH ITEMS DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

THE SUREVEYED AREA IDENTIFIED AS A "FLOWER BED" LOCATED AT THE FORWARD ABUTMENT WILL BE REMOVED WITHIN THE LIMITS OF THE ABUTMENT WALL AND PATH AS A RESULT OF NEW RAMP CONSTRUCTION. THE PORTION REMOVED WILL BE REPLACED WITH CRUSHED AGGREGATE SLOPE PROTECTION. OUTSIDE OF THESE LIMITS, NO OTHER UNNECESSARY DAMAGE SHALL TAKE PLACE TO ANY PORTIONS EXISTING LANDSCAPED AREAS.

**ITEM 516 - ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING:**

A 1.5" THICK UNREINFORCED ELASTOMERIC BEARING PAD STRIP SHALL BE INSTALLED IN THE ABUTMENT STEM UNDER THE SUPERSTRUCTURE WITHIN THE LOCATION SHOWN IN THESE PLANS.

THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER SECTION 14.6.7 (METHOD A) OF THE AASHTO LRFD DESIGN SPECIFICATION. THE LONG TERM COMPRESSION PROOF LOAD TEST IS NOT REQUIRED.

ALL LABOR, MATERIALS AND INCIDENTALS TO FURNISH AND INSTALL THIS BEARING STRIP ARE INCLUDED WITH PAYMENT FOR ITEM 516 - ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING AT THE UNIT COST.

GENERAL NOTES  
 BRIDGE NO. LUC-00184-00.180 SOUTHBOUND RAMP D  
 OVER OTTAWA RIVER

SFN	
4805137	
DESIGN AGENCY	
<b>2LMN</b>	
DESIGNER	CHECKER
HHH	JAH
REVIEWER	
AMT 09/09/24	
PROJECT ID	
105889	
SUBSET	TOTAL
3	22
SHEET	TOTAL
P.520	607



**ESTIMATED QUANTITIES (03/NHS/08)**

Designer: JAH Date: 9/6/2024  
 Checker: JBM Date: 9/6/2024

ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GENERAL	SEE SHT.
203	02000	15	CY	EMBANKMENT	15				
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING		LS			
503	21300	LS		UNCLASSIFIED EXCAVATION	LS	LS			
503	31100	23	CY	ROCK EXCAVATION		23			
509	10000	187,077	LB	EPOXY COATED STEEL REINFORCEMENT	40937	22808	123332		
509	30020	6,536	FT	NO. 4 DEFORMED GFRP REINFORCEMENT			6536		
511	32212	395	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			395		
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				
511	34450	64	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			64		
511	40512	84	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		84			
511	43513	219	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING, AS PER PLAN	219				3 / 22
511	46512	28	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		28			
512	10100	563	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)			563		
516	10010	56	FT	ARMORLESS PREFORMED JOINT SEAL				56	
516	13200	64	SF	1/2" PREFORMED EXPANSION JOINT FILLER	64				
516	13600	80	SF	1" PREFORMED EXPANSION JOINT FILLER			80		
516	13900	59	SF	2" PREFORMED EXPANSION JOINT FILLER	59				
516	25000	249	SF	NYLON REINFORCED NEOPRENE SHEETING	249				
516	42600	63	FT	ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING	63				3 / 22
518	21200	129	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	129				
518	40000	112	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	112				
518	40010	16	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	16				
524	94704	177	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	103	74			
524	94802	61	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK	56	5			
526	30011	187	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				187	20 / 22
526	90030	56	FT	TYPE C INSTALLATION				56	
601	21050	4	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	4				
601	32200	78	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	78				
611	99710	2	EACH	PRECAST REINFORCED CONCRETE OUTLET	2				
894	10000	4	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	2	2			

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 BRIDGE NO. LUC-00184-00.180 SOUTHBOUND RAMP D  
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