ADA - SR 32-06.73
200487 PID - 95603
Dist 9 10/15/2020

Contract Proposal available @
www.contracts.dot.state.oh.us

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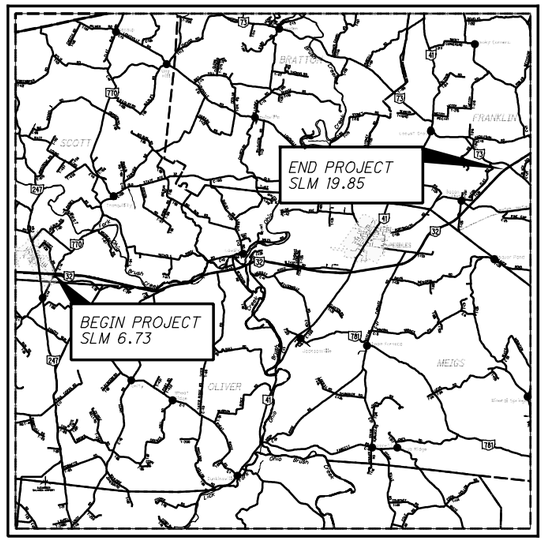
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ADA-32-6.73

SCIOTO TOWNSHIP
OLIVER TOWNSHIP
MEIGS TOWNSHIP
FRANKLIN TOWNSHIP



LOCATION MAP

LATITUDE: N 35°55'55" LONGITUDE: W 83°33'50"

SCALE IN MILES
0 1 2 3 4

N

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

DESIGN DESIGNATION

CURRENT ADT (2020)	6600
DESIGN YEAR ADT (2040)	8200
DESIGN HOURLY VOLUME (2040)	800
DIRECTIONAL DISTRIBUTION	53%
TRUCKS (24 HOUR B&C)	23%
DESIGN SPEED	60 MPH
LEGAL SPEED	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION: 03 - PRINCIPAL ARTERIAL	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
Ohio Department of Transportation
District Nine

ENGINEERS SEAL:
FOR STRUCTURES OVER 20 FOOT
STATE OF OHIO · MATTHEW C MCCLELLAN · E-77959 · REGISTERED PROFESSIONAL ENGINEER
SIGNED: Matthew C McClellan
DATE: 7/17/20

ENGINEERS SEAL:
STATE OF OHIO · DAVID M. BEEKMAN · E-69687 · REGISTERED PROFESSIONAL ENGINEER
SIGNED: David M. Beekman
DATE: 7/17/2020

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF PLANING BEFORE RESURFACING 13.12 MILES OF SR-32 FROM SLM 6.73 TO SLM 19.85 IN BOTH DIRECTIONS WITH SMOOTHSEAL, REPLACING ALL THE GUARDRAIL, PERFORMING FULL DEPTH PAVEMENT REPAIRS AND MINOR BRIDGE REHABILITATION WORK ON STRUCTURES ADA-32-0927 AND ADA-32-1182 IN ADAMS COUNTY, OHIO.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	NA	ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	NA	ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	NA	ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

INDEX OF SHEETS:

CONFORMED SET

STANDARD CONSTRUCTION DRAWINGS

BP-2.1	7/17/15	MT-95.30	7/19/19	TC-65.11	7/21/17				
BP-3.1	01/17/20	MT-95.50	7/21/17	TC-71.10	1/19/18				
BP-9.1	1/18/19	MT-99.20	4/19/19						
		MT-99.30	1/17/20						
MGS-1.1	1/19/18	MT-101.60	1/17/20						
MGS-2.1	1/19/18	MT-101.70	1/17/20						
MGS-3.1	1/19/18	MT-101.90	7/21/17						
MGS-3.2	1/18/13	MT-104.10	10/16/15						
MGS-4.3	1/18/13	MT-105.10	1/17/20						
MGS-5.3	7/15/16								
MGS-6.1	1/19/18	TC-42.10	10/18/13						
		TC-42.20	10/18/13						
DBR-3-11	7/15/11	TC-52.10	10/18/13						
DS-1-92	7/18/03	TC-52.20	7/20/18						
EXJ-4-87	1/19/18	TC-61.10	1/17/20						
		TC-65.10	1/17/14						

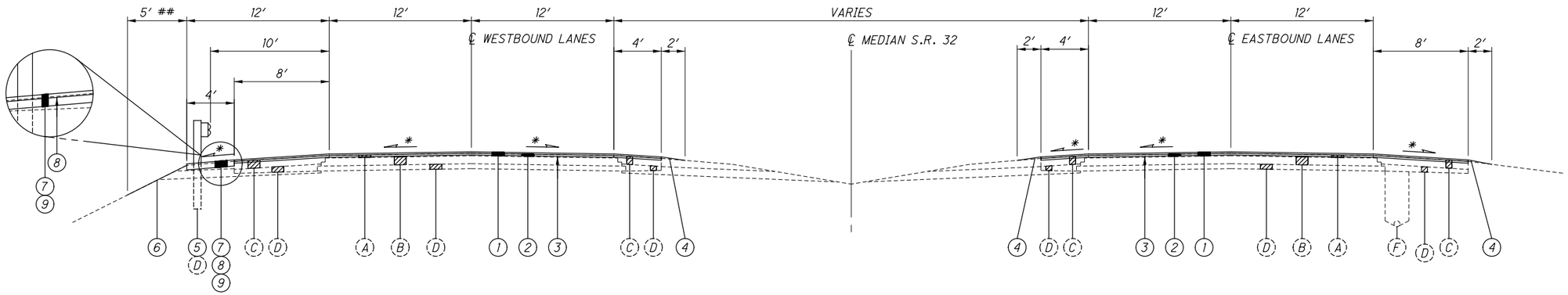
SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
800	7/17/20	
807	4/17/20	
808	1/18/19	
821	4/20/12	
832	10/19/18	
844	4/20/18	
850	4/17/20	
856	10/20/17	
897	1/16/15	
908	10/20/17	
921	4/20/12	

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED Michael H. Hankinson
DATE July 20, 2020 DISTRICT DEPUTY DIRECTOR

APPROVED Jack Marchbanks
DATE 7/21/2020 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E190(813)
PID NO. 95603
CONSTRUCTION PROJECT NO. 0
RAILROAD INVOLVEMENT NONE
ADA-32-6.73



MAINLINE TYPICAL

* MATCH EXISTING PAVEMENT SLOPE

PROPOSED LEGEND

1	1″	ITEM 424 - FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B
2	¾″	ITEM 897 - PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A, AS PER PLAN
3		ITEM 407 - TACK COAT
4	1″	ITEM 614 - COMPACTED AGGREGATE (SPOT BERMING AS DIRECTED BY ENGINEER, SEE GENERAL NOTE)
5		ITEM 606 - GUARDRAIL, TYPE MGS
6		ITEM 659 - SEEDING AND MULCHING
7		ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING 4″ DEEP
8		ITEM 408 - PRIME COAT
9		ITEM 617 - SHOULDER RECONDITIONING, MISC.: 4″ COMPACTED ASPHALT CONCRETE GRINDINGS (SEE GENERAL NOTE)

EXISTING LEGEND

A	EXISTING ±7″ ASPHALT CONCRETE PAVEMENT
B	EXISTING ±8″ BITUMINOUS AGGREGATE BASE
C	EXISTING ±4″ BITUMINOUS AGGREGATE BASE
D	EXISTING SUBBASE
E	EXISTING TYPE 5 GUARDRAIL TO BE REMOVED

CALCULATED BCB
CHECKED DMB

TYPICAL SECTIONS

ADA-32-6.73

UTILITIES

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

ADAMS RURAL ELECTRIC
CO-OP, INC.
P.O. BOX 247
WEST UNION, OH 45693
STEVE RASMUSSEN
937-544-2305

ADAMS COUNTY REGIONAL
WATER DISTRICT
P.O. BOX 427
WEST UNION, OH 45693
RICK ADAMSON
RICKADAMSON@ACRWD.COM

AMERICAN ELECTRIC POWER
(DISTRIBUTION)
850 TECH CENTER DRIVE
GAHANNA, OH 43230
PAUL PAXTON
740-348-5322

HORIZON NETWORK PARTNERS
1123 GOODALE BLVD.
SUITE 550,
COLUMBUS, OH 43212
hnoc@horizonconnects.com
(a representative will be assigned)

AMERICAN ELECTRIC POWER
(TRANSMISSION)
8600 SMITHS MILL RD
NEW ALBANY, OH 43054
MIKE CARR
380-205-5072

FRONTIER COMMUNICATIONS
241 S. NELSON AVE.
WILMINGTON, OH 45177
DAVID LONGWORTH
937-382-0055

CHARTER COMMUNICATIONS
10920 KENWOOD RD
CINCINNATI, OH 45242
JOSEPH ANGEL
513-233-5705

SPRINT COMMUNICATIONS,
INC.
11370 ENTERPRISE PARK DR
SHARONVILLE, OH 45241
STEVE HUGHES
513-459-5796

DUKE ENERGY GAS
139 EAST FOURTH ST
ROOM 460ANNEX
CINCINNATI, OH 45202
KIRK DUBE
513-979-5420

THERE ARE NO EXISTING UNDERGROUND UTILITY FACILITIES SHOWN ON THIS PLAN, NOR WILL ANY EXISTING UNDERGROUND UTILITY FACILITIES BE RELOCATED FOR THIS PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE OHIO UTILITIES PROTECTION SERVICE (OUPS) FOR FIELD MARKINGS TO IDENTIFY POTENTIAL UTILITY CONFLICTS. WITH THE APPROVAL OF THE PROJECT ENGINEER, THE CONTRACTOR SHALL ADJUST THE PROJECT CONSTRUCTION ACCORDINGLY, SO AS TO AVOID DAMAGE TO THE EXISTING UTILITY FACILITIES.

EXISTING PLANS

EXISTING PLANS ENTITLED ADA-32-6.29 (1978), AND ADA-32-14.66 (1970) MAY BE INSPECTED IN THE ODOT DISTRICT 9 OFFICE IN CHILLICOTHE, OHIO.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

EXTRA AREAS

QUANTITIES FOR THE FOLLOWING EXTRA AREAS ARE SHOWN ON THE PAVEMENT CALCULATION SHEET:

TURN LANES: FULL WIDTH OR AS DIRECTED BY THE ENGINEER
MEDIAN CROSSOVERS: AS DIRECTED BY THE ENGINEER
OTHER DESIGNATED AREAS: AS DIRECTED BY THE ENGINEER

RPM

IN ADDITION TO CMS 621.03, RPM'S SHALL NOT BE INSTALLED ON BRIDGES OR APPROACH SLABS OF STRUCTURES WITH A CONCRETE WEARING SURFACE. INSTALL RPM'S IN THE ASPHALT CONCRETE BEFORE AND AFTER THE SUPERSTRUCTURE.

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

ITEM 897 - PATCHING PLANED SURFACE

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

ITEM 897, PATCHING PLANED SURFACE 11,893 SY

INTERIM COMPLETION DATES FOR PAVEMENT PLANING

TRAFFIC SHALL NOT BE REQUIRED TO USE ANY PLANED ROADWAY SURFACE FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, DISINCENTIVES SHALL BE ASSESSED IN THE AMOUNT OF $1000 FOR EACH CALENDAR DAY OR PORTION THEREOF BEYOND THE 21 CALENDAR DAYS.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN

ALL CONSTRUCTION REQUIREMENTS OF 2019 CMS 251 SHALL APPLY. THE MINIMUM DIMENSION FOR TRANSVERSE REPAIRS SHALL BE 4.0', THE MINIMUM DIMENSION FOR LONGITUDINAL REPAIRS SHALL BE 2.0'. THIS ITEM SHALL COMMENCE PRIOR TO RESURFACING.

MATERIAL FOR REPAIR AREAS SHALL BE ITEM 442 INTERMEDIATE COURSE, 19MM, TYPE A (448) FOLLOWING THE APPLICATION OF ITEM 407 TACK COAT. REMOVE EXISTING SURFACE TO A UNIFORM DEPTH OF 3.0", TRIM AS NEEDED WHERE ROUNDED TO PROVIDE VERTICAL FACES ALONG THE PERIMETER OF THE REPAIR AREA. THOUROUGHLY COMPACT ENTIRE AREA.

PAYMENT FOR ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE SQUARE YARD CONTRACT PRICE FOR ITEM 251, PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DESIGNATED BY THE ENGINEER:

ITEM 251, PARTIAL DEPTH REPAIR (442),
AS PER PLAN 200 SY

ITEM 617 - COMPACTED AGGREGATE

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

ITEM 617 - COMPACTED AGGREGATE 400 CY

AIR SPEED ZONE MARKING

AIR SPEED ZONE MARKINGS SHALL BE WHITE AND 24 INCHES WIDE MEASURED IN THE DIRECTION OF TRAVEL AND 4 FEET IN LENGTH. ON TWO-LANE ROADWAYS WITH PAVED SHOULDERS LESS THAN 4 FEET IN WIDTH, THE AIR SPEED ZONE MARKINGS SHALL BE PLACED WITH 2 FEET ON EACH SIDE OF THE CENTER LINE OR EDGE LINE MARKINGS. WHEN PAVED SHOULDERS OF SUFFICIENT WIDTH ARE AVAILABLE, THE AIR SPEED ZONE MARKINGS SHALL BE PLACED ON THE SHOULDERS.

PLACE THE MARKINGS AT 0.25 MILE INTERVALS OVER A 1 MILE LENGTH OF ROADWAY.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE MARKINGS LAID OUT BY A REGISTERED SURVEYOR. A RECORD IS TO BE KEPT AND ONE ORIGINAL SIGNED AND SEALED DOCUMENT IS TO BE SENT TO THE DISTRICT TRAFFIC ENGINEER AND ONE COPY IS TO BE SENT TO THE DISTRICT CONSTRUCTION ENGINEER.

MATERIALS, EQUIPMENT AND APPLICATION SHALL BE ACCORDING TO THE TYPE OF PAVEMENT MARKING MATERIAL USED.

PAYMENT SHALL BE ACCORDING TO THE PAVEMENT MARKING MATERIAL USED AND SHALL INCLUDE THE SURVEYING WORK. THE FIVE MARKINGS PLACED IN EACH 1 MILE OF ROADWAY SHALL EQUAL ONE ZONE. ONE ZONE SHALL BE MEASURED AS 1 EACH FOR AIR SPEED ZONE MARKING.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 644 SPECIAL - AIR SPEED ZONE MARKING
2 EACH

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS AT ALL GUARDRAIL REPLACEMENT LOCATIONS WITHIN IN THE PROJECT:

659, SEEDING AND MULCHING
25' WIDE X 244 STA. X 100/9 = 67,777.78 SY
TOTAL CARRIED TO GENERAL SUMMARY 67,778 SY

659, REPAIR SEEDING AND MULCHING
5% 67,778 SY = 3,389 SY
TOTAL CARRIED TO GENERAL SUMMARY 3,389 SY

659, COMMERCIAL FERTILIZER
67,778 SY X 9 SF/SQ @ 20 LBS PER 1000 SF = 12,200 LBS
2ND APPLICATION @ 10 LBS. PER 1000 SF = 6,100 LBS
TOTAL 18,300 LBS. ÷ 2000 LBS/TON = 9.15 TON
TOTAL CARRIED TO GENERAL SUMMARY 9.15 TON

659, LIME
67,778 SY X 9 SF/SY = 610,002 SF
610,002 SF/ 43,560 SF/ACRE = 14.00 ACRE
TOTAL CARRIED TO GENERAL SUMMARY 14.00 ACRE

659, WATER
67,778 SY X 9 SF/SQ @ 300 GAL PER 1000 SF = 183,001 GAL
2ND APPLICATION @ 300 GAL PER 1000 SF = 183,001 GAL
TOTAL 336,002 GAL ÷ 1000 GAL/M GAL = 366.00 M. GAL.
TOTAL CARRIED TO GENERAL SUMMARY 366 MGAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL AT GUARDRAIL REPLACEMENT RUNS.

CALCULATED BCB CHECKED DMB

GENERAL NOTES

ADA-32-6.73

ITEM 202 - GUARDRAIL REMOVED, AS PER PLAN

ALL PROVISIONS OF CMS 202 APPLY EXCEPT THAT ONLY THE W-BEAM RAIL SHALL BE REMOVED FROM EXISTING POST AND/ OR TUBULAR BACKUP RAIL. ALL POSTS, CONNECTIONS, TUBE, ETC. SHALL REMAIN IN PLACE. IF THE POSTS TUBE, OR CONCRETE THAT THE POSTS ARE EMBEDDED IN IS DAMAGED BY THE CONTRACTOR, IT SHALL BE FIXED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

ITEM 606 - GUARDRAIL, TYPE 5, AS PER PLAN

THIS PAY ITEM IS PROVIDED TO REPLACE THE W-BEAM RAIL REMOVED BY ITEM 202- GUARDRAIL REMOVED, AS PER PLAN. CONTRACTOR SHALL INSTALL NEW W-BEAM RAIL ON EXISTING BRIDGE POST WITH OR WITHOUT TUBULAR BACKUP RAIL. NEW MOUNTING HARDWARE SHALL BE UTILIZED.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, GUARDRAIL, TYPE 5, AS PER PLAN AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL GUARDRAIL SYSTEM.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND 617 - SHOULDER RECONDITIONING, MISC.: 4" COMPACTED ASPHALT GRINDINGS.

ITEM 209, LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

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

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

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

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 617 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:

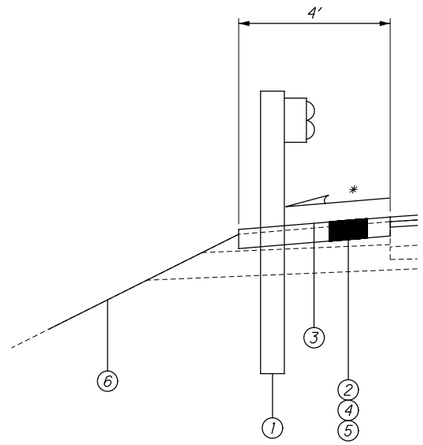
1. SET GUARDRAIL POSTS
2. PLACE ITEM 617 - SHOULDER RECONDITIONING, MISC.: 4" COMPACTED ASPHALT CONCRETE GRINDINGS

METHOD B:

1. PLACE ITEM 617 - SHOULDER RECONDITIONING, MISC.: 4" COMPACTED ASPHALT CONCRETE GRINDINGS
2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

PAVING UNDER GUARDRAIL (cont'd)

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 617 - SHOULDER RECONDITIONING, MISC.: 4" COMPACTED ASPHALT CONCRETE GRINDINGS.



* MATCH EXISTING SLOPE

(1) ITEM 606 - GUARDRAIL, TYPE MGS OR GUARDRAIL, BARRIER DESIGN, TYPE MGS

(2) ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING 4" DEEP

(3) ITEM 408 - PRIME COAT

(4) ITEM 617 - SHOULDER RECONDITIONING, MISC.: 4" COMPACTED ASPHALT CONCRETE GRINDINGS (SEE GENERAL NOTE)

(5) ITEM 209 - LINEAR GRADING, AS PER PLAN

(6) ITEM 209 - BORROW

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.

ITEM 606-GUARDRAIL

PLAN INTENT IS TO REPLACE ALL EXISTING GUARDRAIL WITHIN PROJECT LIMITS AT THE SAME LOCATION AND OFFSET WHERE THE EXISTING GUARDRAIL BEING REMOVED CURRENTLY RESIDES. CONTRACTOR SHALL NOT INSTALL ANY SECTIONS OF GUARDRAIL CLOSER TO THE EDGE LINE THAN THE DISTANCE OF GUARDRAIL CURRENTLY RESIDES.

THE LOG POINTS OF THE GUARDRAIL RUNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

EACH SECTION OF GUARDRAIL BEING INSTALLED MAY BE THE SAME, INCREASED, OR DECREASED IN LENGTH COMPARED TO THE EXISTING GUARDRAIL BEING REPLACED.

ITEM 209 - LINEAR GRADING, AS PER PLAN

GRADE SHOULDER WHERE EXISTING GUARDRAIL IS REMOVED AND/OR WHERE NEW GUARDRAIL IS TO BE ERECTED. SHOULDER SHALL BE RESHAPED AS DIRECTED BY THE ENGINEER TO INSURE A SMOOTH DRAINABLE SURFACE FREE OF ALL IRREGULARITIES. EXCESS EXCAVATION RESULTING FROM RESHAPING SHOULDERS SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER.

ALL HOLES RESULTING FROM GUARDRAIL REMOVAL OPERATION SHALL BE FILLED IN ACCORDANCE WITH THE REQUIREMENTS CMS 203.

A QUANTITY OF ITEM 209, BORROW HAS BEEN PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER TO REGRADE SHOULDERS AND TO PROVIDE THE 10:1 OR FLATTER SLOPES IN FRONT OF THE GUARDRAIL RUN AS SHOWN ON STANDARD DRAWINGS GR-1.1 & GR-5.2 AND TO BUILD UP LOW SHOULDERS AND FILL HOLES AS REQUIRED. THE SLOPE BEHIND THE GUARDRAIL RUN CAN BE VARIED AS REQUIRED TO MEET THE EXISTING DRAINAGE PATTERN.

AT NO POINT IN TIME SHALL THE CONTRACTOR PLACE BORROW ON THE EXISTING PAVEMENT. THE BORROW SHALL BE PLACED ON THE SHOULDER ONLY.

POSITIVE DRAINAGE OFF THE PAVEMENT SHALL BE MAINTAINED AT ALL TIMES ONCE BORROW IS PLACED.

CONTRACTOR SHALL FINAL GRADE BORROW AND INSTALL PROPOSED GUARDRAIL WITHIN 30 DAYS OF ROUGH PLACEMENT OF BORROW.

PAYMENT FOR RESHAPING GRADED SHOULDERS AS DESCRIBED SHALL BE INCLUDED IN THE CONTRACT PRICE PER STA. FOR ITEM 209, LINEAR GRADING, AS PER PLAN.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

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

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

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

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

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

ITEM 617 - SHOULDER RECONDITIONING, MISC.: COMPACTED ASPHALT CONCRETE GRINDINGS

WORK SHALL CONFORM TO SECTION 617 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS WITH THE EXCEPTION OF 617. 02 (MATERIALS) AND 617.06 (METHOD OF MEASUREMENT).

THE MATERIAL FOR THIS ITEM SHALL BE THE ASPHALT CONCRETE GRINDINGS FROM ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN. 100% OF THE ASPHALT CONCRETE GRINDINGS SHALL PASS A 1-1/4 SIEVE AS DETERMINED BY THE ENGINEER.

PAYMENT FOR THE ABOVE IS INCLUDED IN THE PRICE PER SQUARE YARD 617 SHOULDER RECONDITIONING, MISC.: COMPACTED ASPHALT CONCRETE GRINDINGS.

ITEM 408 - PRIME COAT, AS PER PLAN

AFTER COMPLETION OF ITEM 617, SEAL THE COMPACTED ASPHALT CONCRETE GRINDINGS BERM WITH ITEM 408 PRIME COAT. THE RATE OF APPLICATION OF PRIME COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN INDICATES AN APPLICATION RATE OF 0.40 GAL/SY.

CALCULATED BCB CHECKED DMB

GENERAL NOTES

ADA-32-6.73

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION, IN SECTIONS OF NO MORE THAN 2 MILES IN LENGTH SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND THE COMPLETED PAVEMENT.

BEFORE THE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAME(S) AND TELEPHONE NUMBER(S) OF OF A PERSON OR PERSONS WHO CAN BE CONTACTED TWENTY-FOUR (24) HOURS PER DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

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 BELOW TO INFORM SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). 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 AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVEABLE PAVEMENT DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 CALENDAR DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 CALENDAR DAYS PRIOR TO CLOSURE
START OF CONST. & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO CLOSURE

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

THE CONTRACTOR SHALL ARRANGE FOR ALL MAINTENANCE OF TRAFFIC OPERATIONS SUCH THAT THERE WILL BE NO OBSTRUCTIONS TO THE CONTINUOUS FLOW OF TRAFFIC. ALL INTERSECTIONS AND DRIVEWAYS SHALL BE OPEN TO TRAFFIC AT ALL TIMES UNLESS OTHERWISE SHOWN IN THE PLAN.

ITEM 614, MAINTAINING TRAFFIC (cont'd)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS UNLESS PORTABLE BARRIER IS IN PLACE:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE	TIME UNIT	DISINCENTIVE $ PER TIME UNIT
1 LANE EB & WB OF ADA-SR 32 FROM SLM 6.73 TO SLM 18.75	EACH MINUTE	$75.00

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. 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.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 50 CY

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND OF THE TYPE AND LOCATION AS SHOWN IN THE PLANS.

ITEM 614, MAINTAINING TRAFFIC (cont'd)

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 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.

THE FOLLOWING IS A SUGGESTED PHASING SEQUENCE FOR MAINTENANCE OF TRAFFIC AND CONSTRUCTION FOR THE THIS PROJECT. FOR DETAILS NOT SHOWN ON THESE PLANS, CONSULT THE APPROPRIATE STANDARD CONSTRUCTION DRAWINGS.

PHASE 1
SET UP TRAFFIC CONTROL IN ACCORDANCE WITH SCD MT-95.30 AND PERFORM PAVEMENT PLANING AND RESURFACING ON THE EXISTING SHOULDERS AS DISCUSSED ON THIS SHEET.

PHASE 2
SET UP TRAFFIC CONTROL IN ACCORDANCE WITH SCD MT-95.30 AND MT-95.40 AND AS SHOWN ON SHEETS 8-12 TO CLOSE THE DRIVING LANES OF BOTH EASTBOUND AND WESTBOUND TRAFFIC ON S.R. 32. CONSTRUCT PHASE I PORTION OF STRUCTURES ADA-32-0927 AND ADA-32-1182 L&R WITH THE EXCEPTION OF THE ASPHALT CONCRETE SURFACE COURSE. ADDITIONALLY PERFORM THE FULL DEPTH PAVEMENT REPAIRS AS SHOWN ON SHEETS ABOVE.

PHASE 3
SET UP TRAFFIC CONTROL IN ACCORDANCE WITH SCD MT-95.30 AND MT-95.40 AND AS SHOWN ON SHEETS 13-18 TO CLOSE THE PASSING LANES OF BOTH EASTBOUND AND WESTBOUND TRAFFIC ON S.R. 32. CONSTRUCT PHASE II PORTION OF STRUCTURES ADA-32-0927 AND ADA-32-1182 L&R WITH THE EXCEPTION OF THE ASPHALT CONCRETE SURFACE COURSE. ADDITIONALLY PERFORM THE FULL DEPTH PAVEMENT REPAIRS AS SHOWN ON ABOVE SHEETS.

PHASE 4
SET UP TRAFFIC CONTROL IN ACCORDANCE WITH SCD MT-95.30 AND PERFORM PAVEMENT PLANING, PLACE REMAINING ASPHALT CONCRETE COURSES, AND PLACE THE PERMANENT PAVEMENT MARKINGS.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614, WORK ZONE, MARKING SIGN	12	EACH
ITEM 614, WORK ZONE, LANE LINE, CLASS III, 6"	25.30	MILE
ITEM 614, WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE 1	2.27	MILE
ITEM 614, WORK ZONE, CHANNELIZING LINE, CLASS III, 12", 642 PAINT	380	FT
ITEM 614, WORK ZONE, DOTTED LINE, CLASS I, 4", 740.06 TYPE I	2640	FT

DUST CONTROL

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

ITEM 616, WATER 1 M. GAL.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

CALCULATED BCB CHECKED DMB

MAINTENANCE OF TRAFFIC NOTES

ADA-32-6.73

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WORK ZONE SPEED ZONES (WZSZS)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISION(S) HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBER	COUNTY & ROUTE	DIRECTION
WZ-50265	ADA-32-6.73	EB/WB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF 55 MPH OR GREATER, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRECONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION.

WORK ZONE SPEED ZONES (WZSZS), (cont'd)

WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY 90 SNMT

ASSUMING 30 DSL SIGN ASSEMBLY(IES) FOR 3 MONTH(S)

CALCULATED BY:
SPACING = 1.0 MILES FOR SPEED ZONE AREA
SLM 19.85 - SLM 6.73 = 13.12
13.12/1.0 = 13.12 SIGNS OR 14 SIGNs + 1 (1st SIGN) = 15
BOTH EB & WB = 15 X 2 = 30 SIGNS
NUMBER OF ENTRANCE RAMPS = 0 SIGNS
NUMBER OF WORK ZONE SPEED LIMIT SIGNS FOR THIS WORK ZONE SPEED ZONE = 30+0 = 30

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $50 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUTDOWNS.

WORK ZONE INCREASED PENALTIES SIGN (R11-H5A), (cont'd)

THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND RE-ERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 27 EACH

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS, 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 SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (cont'd)

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 TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 4 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRE-CONSTRUCTION CONFERENCE. 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 SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

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 OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT. THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. 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 FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

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

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 6 SNMT

ASSUMING 2 PCMS SIGN(S) FOR 3 MONTH(S)

CALCULATED BCB CHECKED DMB

MAINTENANCE OF TRAFFIC NOTES

ADA-32-6.73

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 OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 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.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 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 AS APPROVED BY THE ENGINEER:

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 IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

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. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

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

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 40 HOURS

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.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NONGATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

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.

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.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NONGATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

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.

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.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

THE QUANTITIES TO COMPLETE THIS WORK IS PROVIDED ON SHEET 19.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 3, ONE-WAY 18 EACH

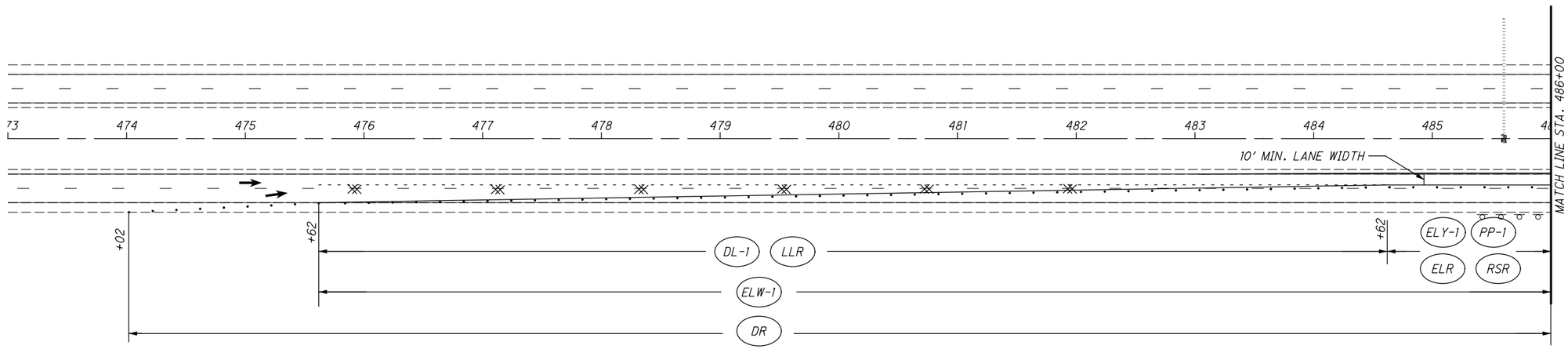
[ITEM 614, OBJECT MARKER, ONE-WAY 18 EACH

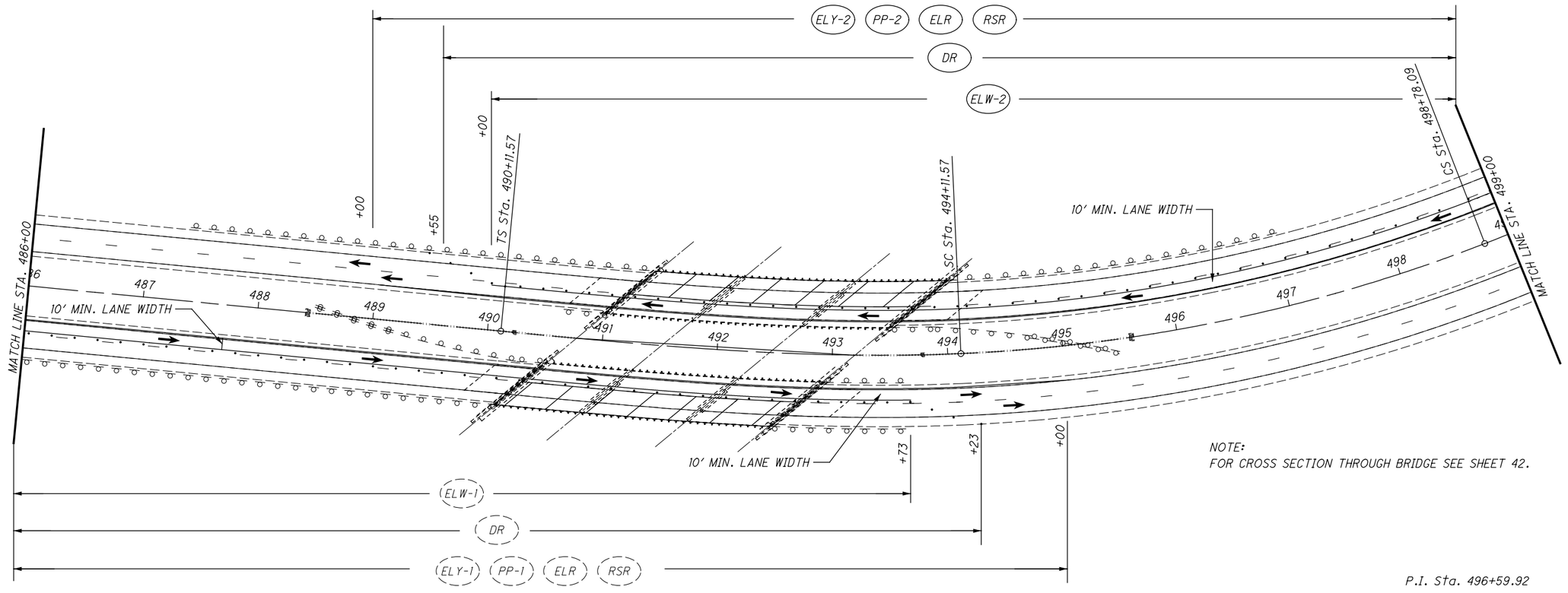
PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

CALCULATED BCB CHECKED DMB

MAINTENANCE OF TRAFFIC NOTES

ADA-32-6.73





NOTE:
FOR CROSS SECTION THROUGH BRIDGE SEE SHEET 42.

P.I. Sta. 496+59.92

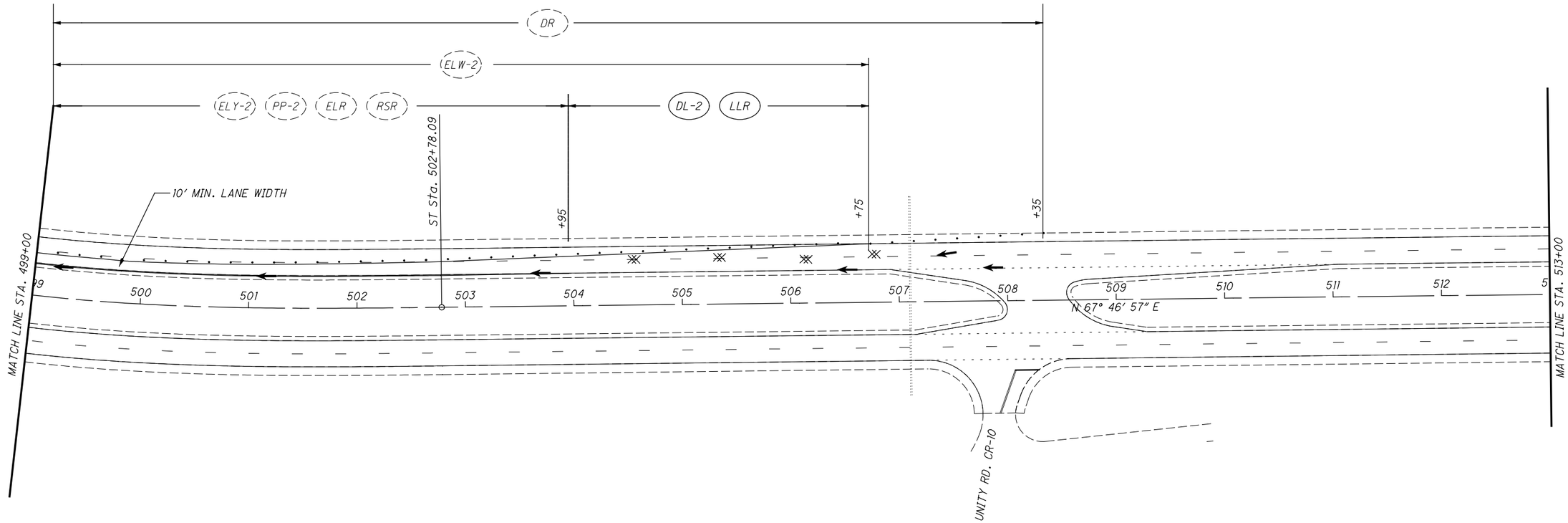
Δ = 34° 39′ 52″ (LT)	p = 4.65′
Dc = 4° 00′ 03″	Δc = 18° 39′ 52″ (LT)
R = 1,432.39′	Lc = 466.52′
Ls = 400.00′	Ts = 648.35′
θs = 8° 00′ 00″	Es = 73.01′
LT = 266.94′	C = -464.55′
ST = 133.58′	C1 = C2 = 399.65′
x = 399.22′	C.B.1 = S 80° 13′ 09″ E
y = 18.59′	C.B. = N 85° 06′ 53″ E
k = 199.87′	C.B.2 = S 70° 26′ 55″ W

ELW-# WORK ZONE EDGE LINE (WHITE)
ELY-# WORK ZONE EDGE LINE (YELLOW)
DL-# WORK ZONE DOTTED LINE
PP-# PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)
DR DRUMS
LLR EX. LANE LINE REMOVED
ELR EX. EDGE LINE REMOVED
RSR RUMBLE STRIPS REMOVED
DIRECTION OF TRAVEL
REMOVE EXISTING MARKINGS
WORK AREA

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 2
ADA-32-0927 STA. 473+00 - STA. 499+00

ADA-32-6.73



(ELW-#) WORK ZONE EDGE LINE (WHITE)

(ELY-#) WORK ZONE EDGE LINE (YELLOW)

(DL-#) WORK ZONE DOTTED LINE

(PP-#) PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)

(DR) DRUMS

(LLR) EX. LANE LINE REMOVED

(ELR) EX. EDGE LINE REMOVED

(RSR) RUMBLE STRIPS REMOVED

→ DIRECTION OF TRAVEL

XX REMOVE EXISTING MARKINGS

WORK AREA

P.I. Sta. 496+59.92

Δ = 34° 39' 52" (LT)	p = 4.65'
Dc = 4° 00' 03"	Δc = 18° 39' 52" (LT)
R = 1,432.39'	Lc = 466.52'
Ls = 400.00'	Ts = 648.35'
θs = 8° 00' 00"	Es = 73.01'
LT = 266.94'	C = -464.55'
ST = 133.58'	C1 = C2 = 399.65'
x = 399.22'	C.B.1 = S 80° 13' 09" E
y = 18.59'	C.B. = N 85° 06' 53" E
k = 199.87'	C.B.2 = S 70° 26' 55" W

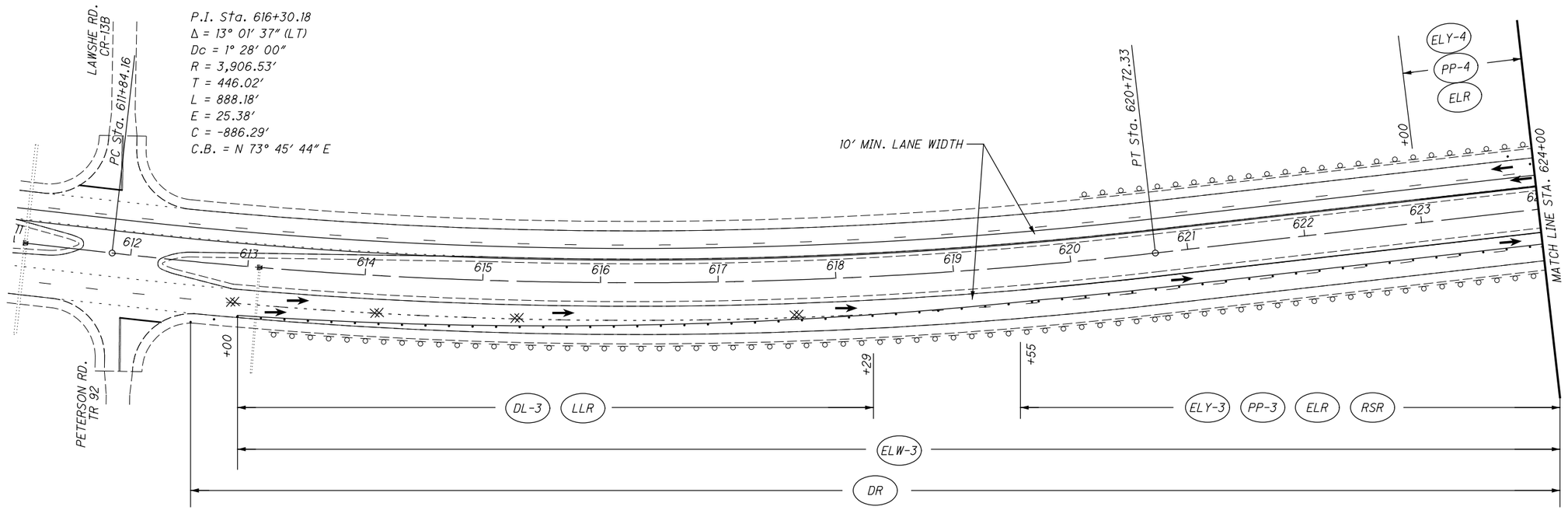
HORIZONTAL SCALE IN FEET
0 25 50 100

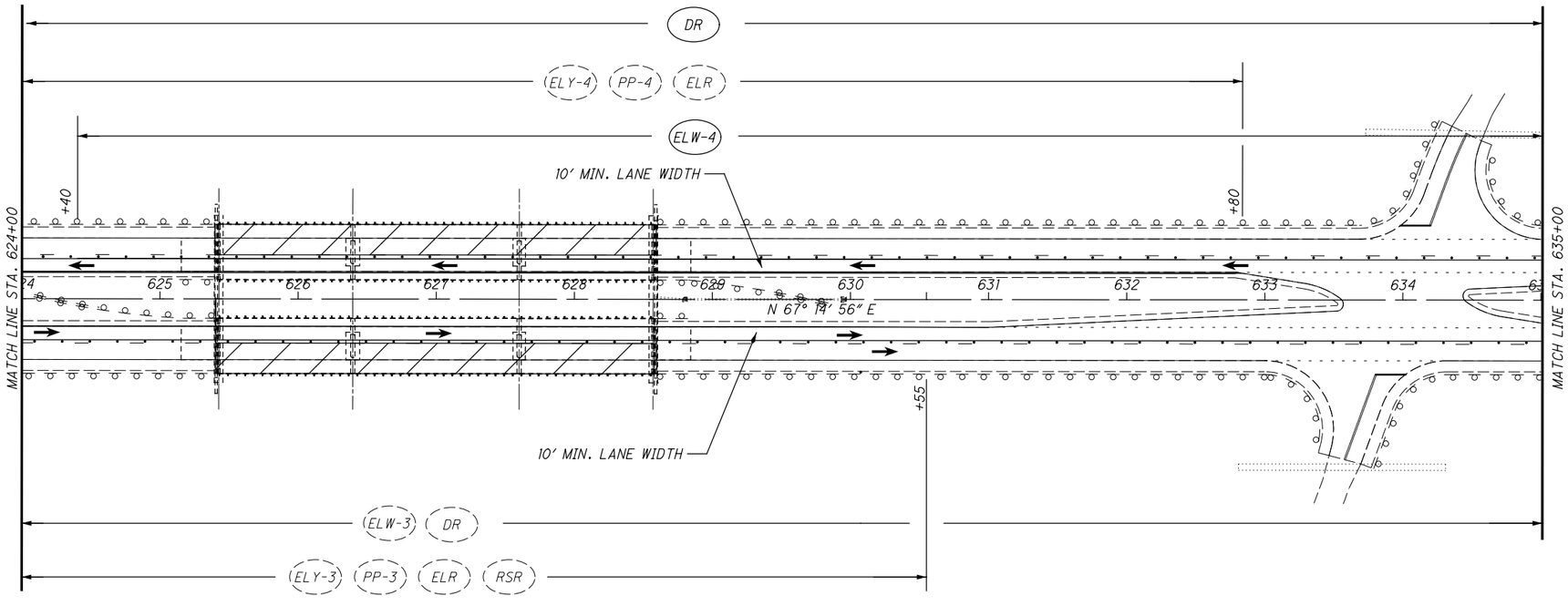
CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 2
ADA-32-0927 STA. 499+00 - STA. 513+00

ADA-32-6.73

9
52





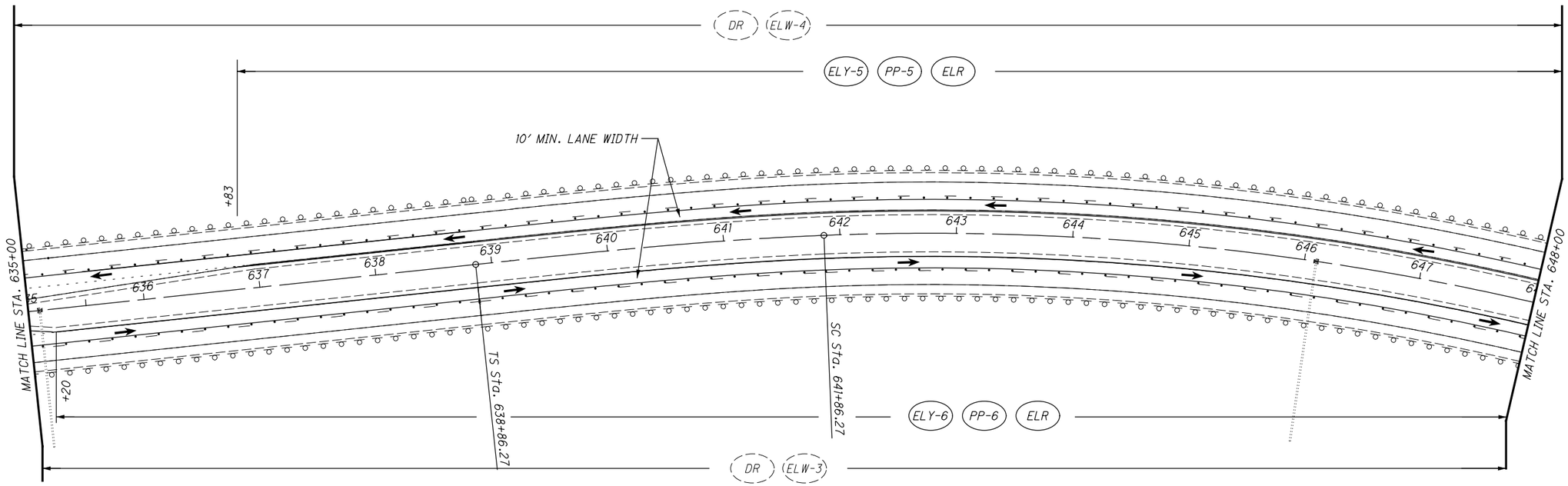
P.I. Sta. 647+25.80
Δ = 33° 28′ 04″ (RT)
Dc = 2° 30′ 01″
R = 2,291.83′
Ls = 300.00′
θs = 3° 45′ 00″
LT = 200.04′
ST = 100.04′
x = 299.87′
y = 6.54′
k = 149.98′
p = 1.64′
Δc = 25° 58′ 04″ (RT)
Lc = 1,038.63′
Ts = 839.53′
Es = 103.05′
C = -1,029.84′
C1 = C2 = 299.94′
C.B.1 = N 68° 29′ 56″ E
C.B. = N 83° 58′ 58″ E
C.B.2 = N 80° 32′ 00″ W

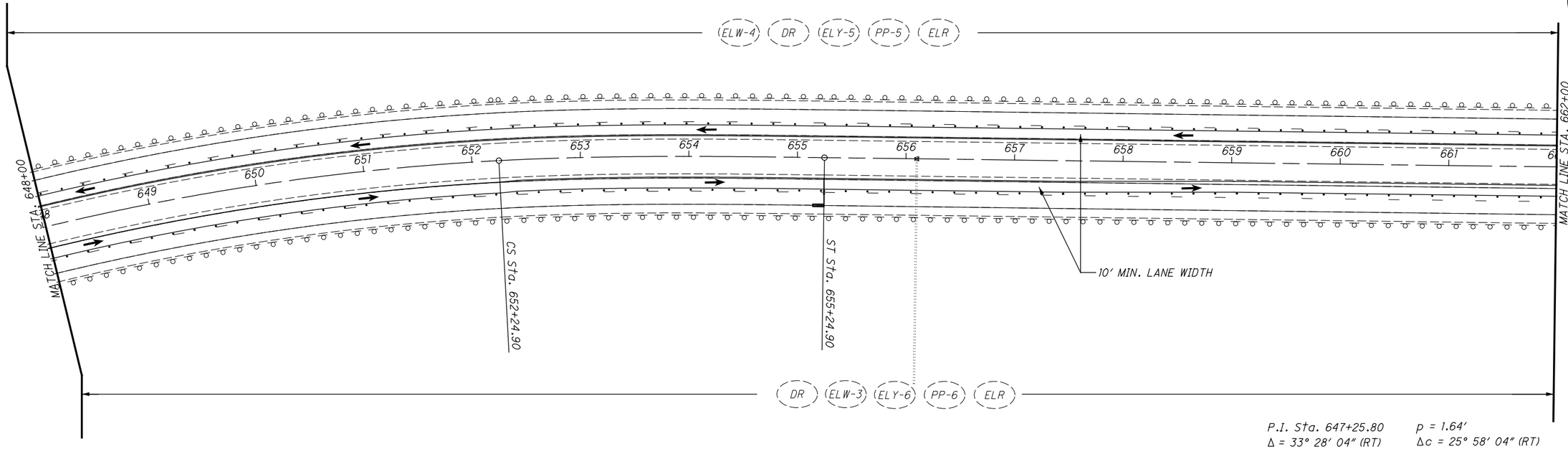
(ELW-#) WORK ZONE EDGE LINE (WHITE)
(ELY-#) WORK ZONE EDGE LINE (YELLOW)
(DL-#) WORK ZONE DOTTED LINE
(PP-#) PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)
(DR) DRUMS
(LLR) EX. LANE LINE REMOVED
(ELR) EX. EDGE LINE REMOVED
(RSR) RUMBLE STRIPS REMOVED
DIRECTION OF TRAVEL
REMOVE EXISTING MARKINGS
WORK AREA

NOTE:
FOR CROSS SECTION THROUGH BRIDGE SEE SHEET 49.

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 2
ADA-32-1182 STA. 611+00 - STA. 635+00
ADA-32-6.73





ELW-# WORK ZONE EDGE LINE (WHITE)

ELY-# WORK ZONE EDGE LINE (YELLOW)

DL-# WORK ZONE DOTTED LINE

PP-# PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)

DR DRUMS

LLR EX. LANE LINE REMOVED

ELR EX. EDGE LINE REMOVED

RSR RUMBLE STRIPS REMOVED

DIRECTION OF TRAVEL

REMOVE EXISTING MARKINGS

WORK AREA

P.I. Sta. 647+25.80
Δ = 33° 28' 04" (RT)
Dc = 2° 30' 01"
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Ls = 300.00'
θs = 3° 45' 00"
LT = 200.04'
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y = 6.54'
k = 149.98'

p = 1.64'
Δc = 25° 58' 04" (RT)
Lc = 1,038.63'
Ts = 839.53'
Es = 103.05'
C = -1,029.84'
Cl = C2 = 299.94'
C.B.1 = N 68° 29' 56" E
C.B. = N 83° 58' 58" E
C.B.2 = N 80° 32' 00" W

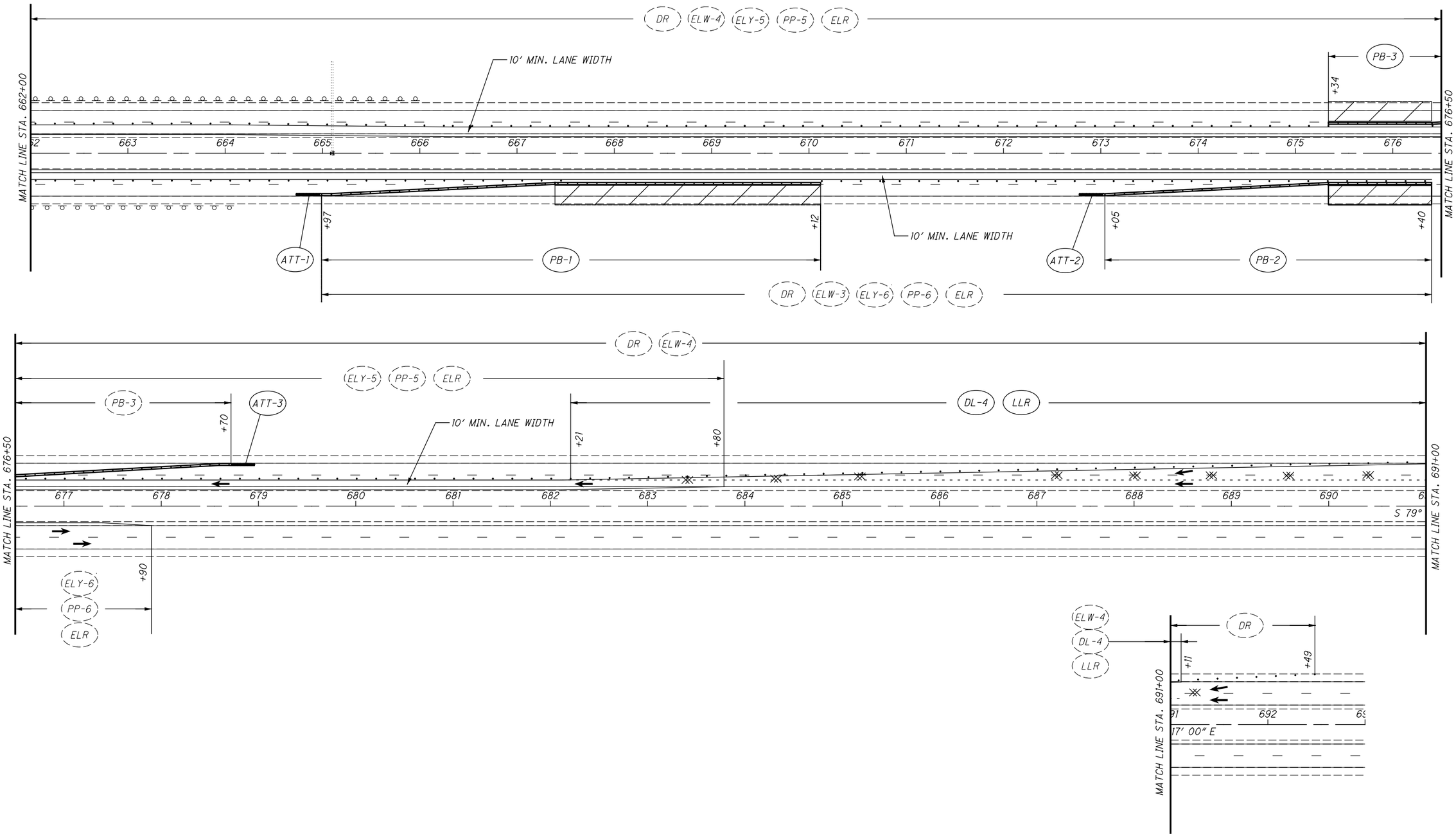
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 635+00 - STA. 662+00

ADA-32-6.73

11
52



ELW-# WORK ZONE EDGE LINE (WHITE)

ELY-# WORK ZONE EDGE LINE (YELLOW)

DL-# WORK ZONE DOTTED LINE

PP-# PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)

DR DRUMS

LLR EX. LANE LINE REMOVED

ELR EX. EDGE LINE REMOVED

RSR RUMBLE STRIPS REMOVED

PB PORTABLE BARRIER

ATT IMPACT ATTENUATOR

DIRECTION OF TRAVEL

REMOVE EXISTING MARKINGS

WORK AREA

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 2
STA. 662+00 - STA. 693+00

ADA-32-6.73

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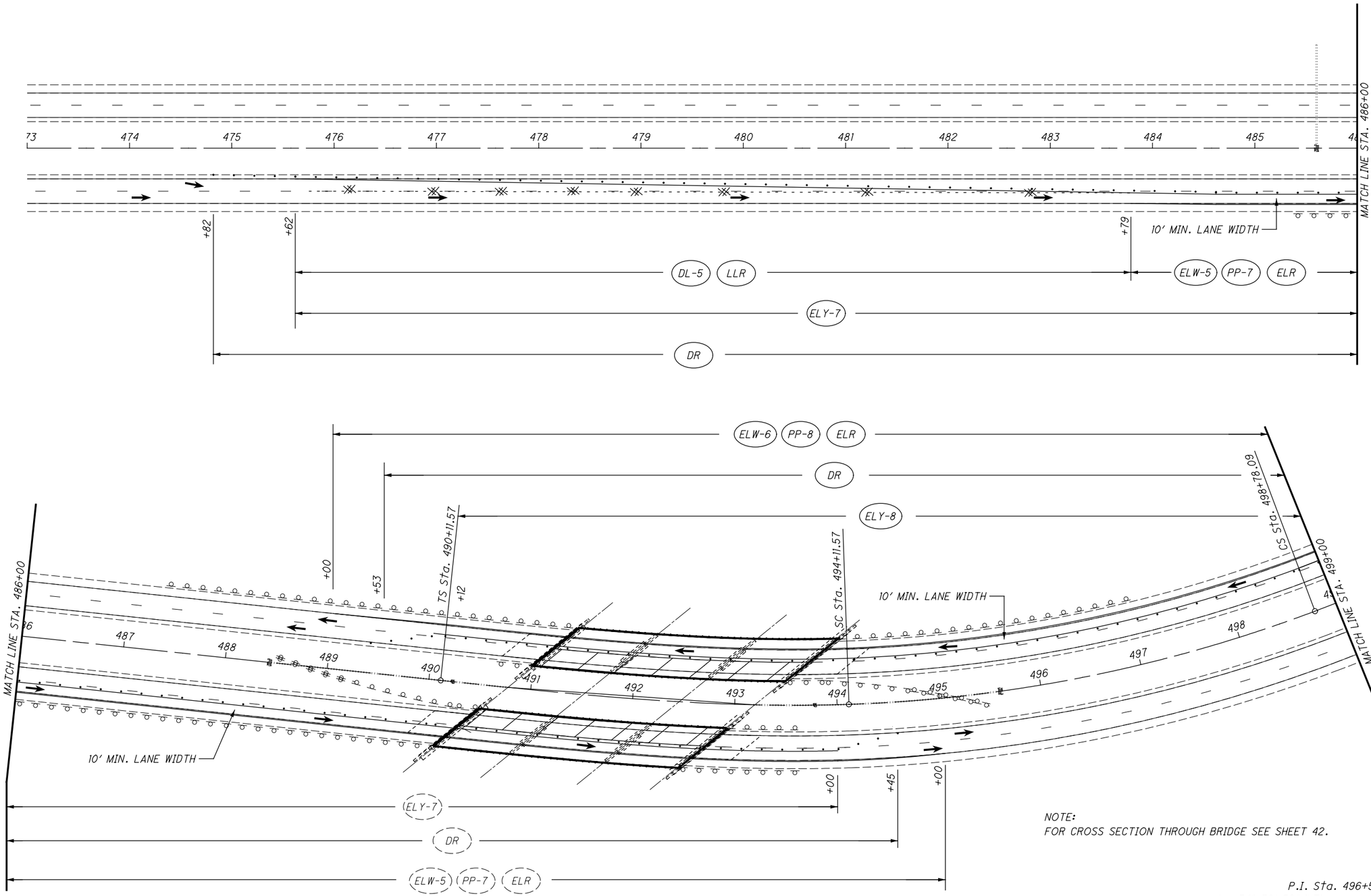

NOTE:
FOR CROSS SECTION THROUGH BRIDGE SEE SHEET 42.

P.I. Sta. 496+59.92

Δ = 34° 39′ 52″ (LT)	p = 4.65′
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R = 1,432.39′	Lc = 466.52′
Ls = 400.00′	Ts = 648.35′
θs = 8° 00′ 00″	Es = 73.01′
LT = 266.94′	C = -464.55′
ST = 133.58′	C1 = C2 = 399.65′
x = 399.22′	C.B.1 = S 80° 13′ 09″ E
y = 18.59′	C.B. = N 85° 06′ 53″ E
k = 199.87′	C.B.2 = S 70° 26′ 55″ W

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(ELY-#) WORK ZONE EDGE LINE (YELLOW)
(DL-#) WORK ZONE DOTTED LINE
(PP-#) PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)
(DR) DRUMS
(LLR) EX. LANE LINE REMOVED
(ELR) EX. EDGE LINE REMOVED
(RSR) RUMBLE STRIPS REMOVED
DIRECTION OF TRAVEL
REMOVE EXISTING MARKINGS
WORK AREA

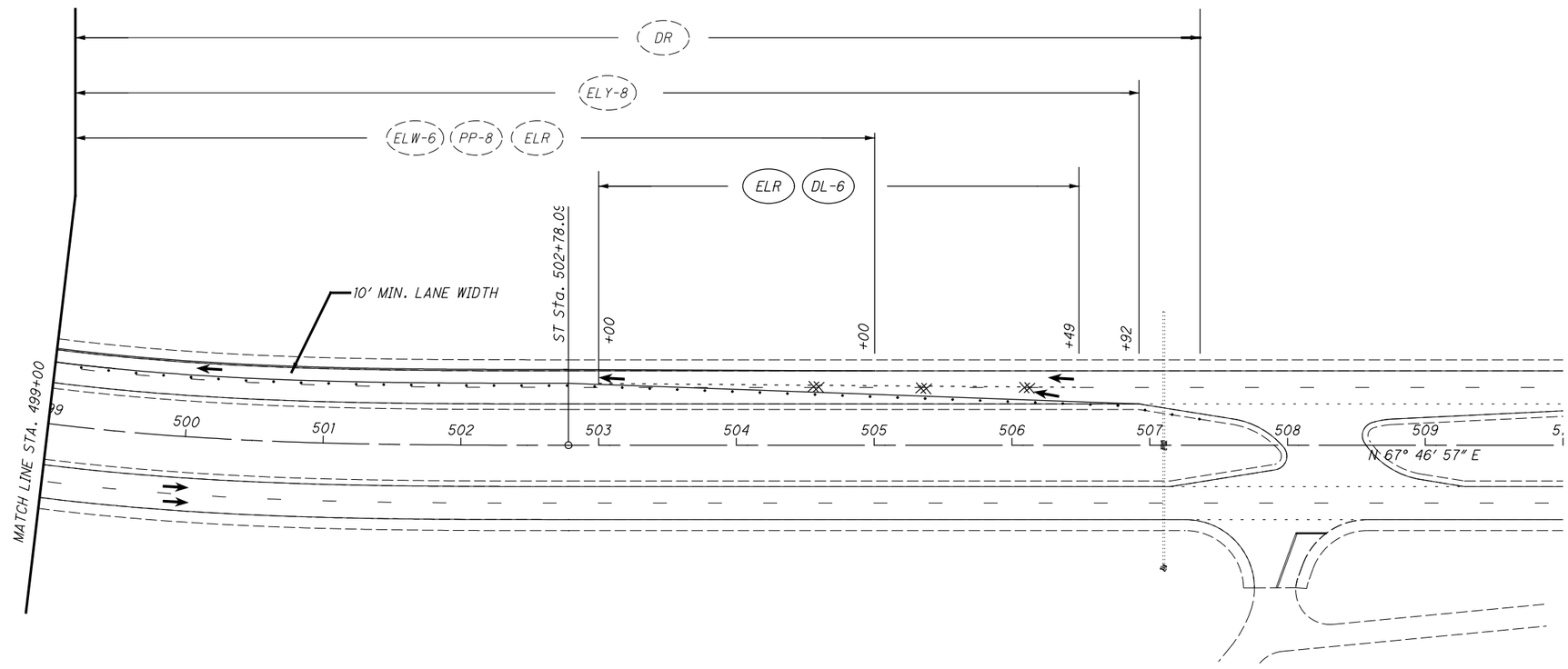
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 3
ADA-32-0927 STA. 473+00 - STA. 499+00

ADA-32-6.73

13
52



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(DL-#) WORK ZONE DOTTED LINE
(PP-#) PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)
(DR) DRUMS
(LLR) EX. LANE LINE REMOVED
(ELR) EX. EDGE LINE REMOVED
(RSR) RUMBLE STRIPS REMOVED
DIRECTION OF TRAVEL
REMOVE EXISTING MARKINGS
WORK AREA

HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 3
ADA-32-0927 STA. 499+00 - STA. 510+00

ADA-32-6.73

14
52

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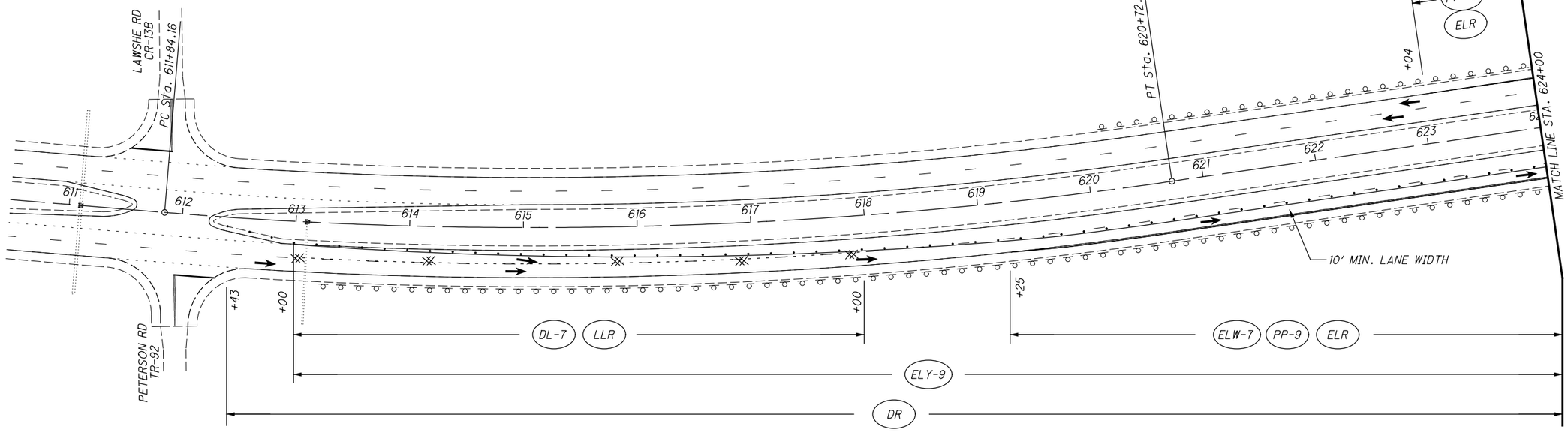
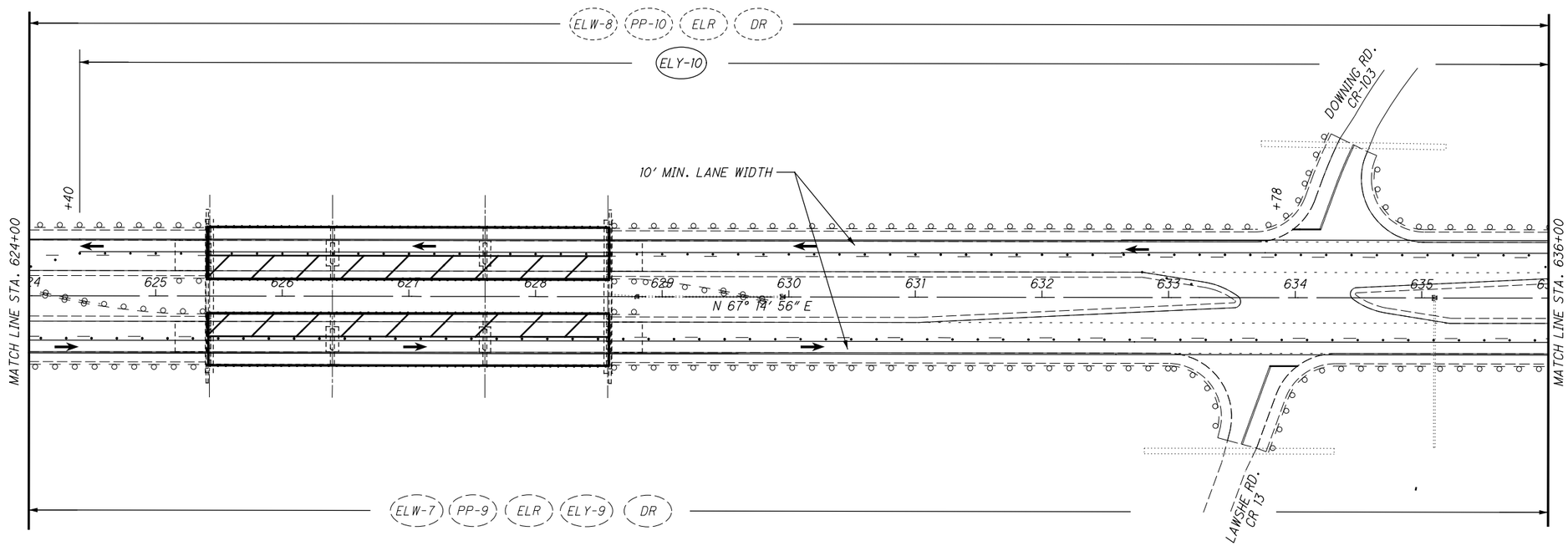
ELW-# WORK ZONE EDGE LINE (WHITE)
ELY-# WORK ZONE EDGE LINE (YELLOW)
DL-# WORK ZONE DOTTED LINE
PP-# PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)
DR DRUMS
LLR EX. LANE LINE REMOVED
ELR EX. EDGE LINE REMOVED
RSR RUMBLE STRIPS REMOVED
DIRECTION OF TRAVEL
REMOVE EXISTING MARKINGS
WORK AREA





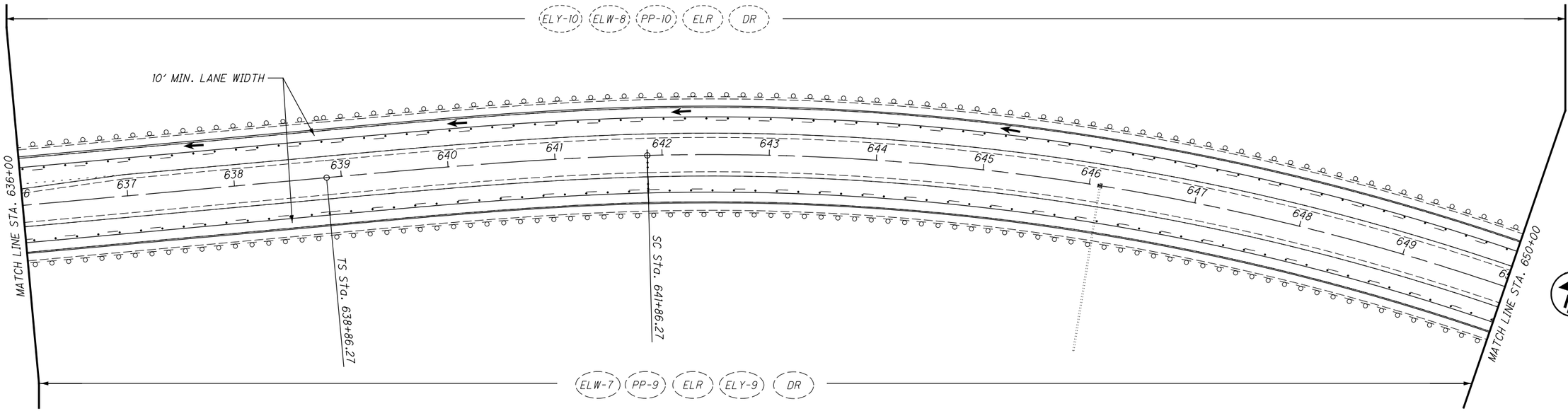
NOTE:
FOR CROSS SECTION THROUGH BRIDGE SEE SHEET 49.

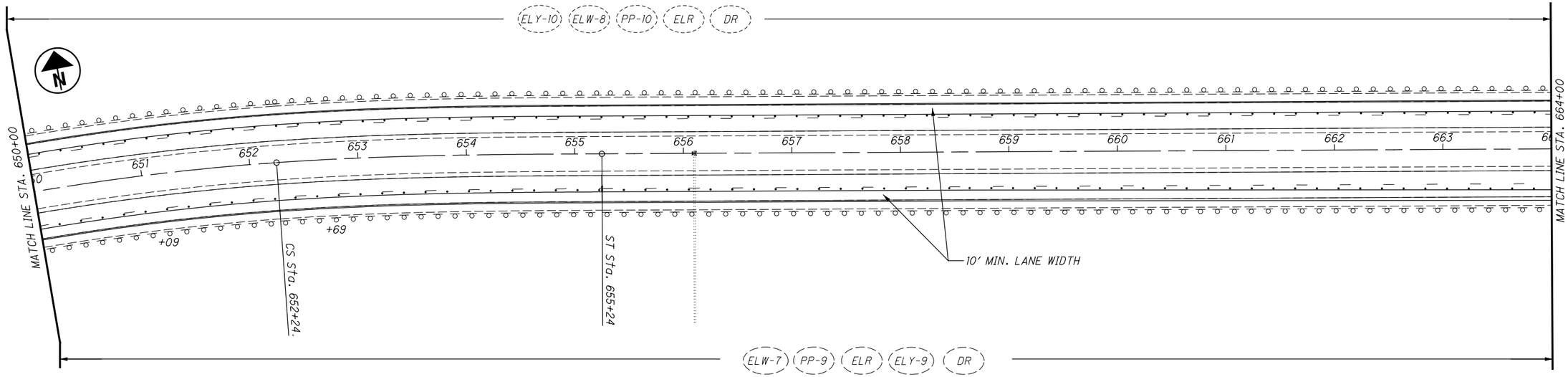
HORIZONTAL SCALE IN FEET
0 25 50 100
CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 3
ADA-32-1182 STA. 610+50 - STA. 636+00

ADA-32-6.73

15
52





ELW-# WORK ZONE EDGE LINE (WHITE)

ELY-# WORK ZONE EDGE LINE (YELLOW)

DL-# WORK ZONE DOTTED LINE

PP-# PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)

DR DRUMS

LLR EX. LANE LINE REMOVED

ELR EX. EDGE LINE REMOVED

RSR RUMBLE STRIPS REMOVED

DIRECTION OF TRAVEL

REMOVE EXISTING MARKINGS

WORK AREA

P.I. Sta. 647+25.80

Δ = 33° 28′ 04″ (RT)	p = 1.64′
Dc = 2° 30′ 01″	Δc = 25° 58′ 04″ (RT)
R = 2,291.83′	Lc = 1,038.63′
Ls = 300.00′	Ts = 839.53′
θs = 3° 45′ 00″	Es = 103.05′
LT = 200.04′	C = -1,029.84′
ST = 100.04′	C1 = C2 = 299.94′
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y = 6.54′	C.B. = N 83° 58′ 58″ E
k = 149.98′	C.B.2 = N 80° 32′ 00″ W

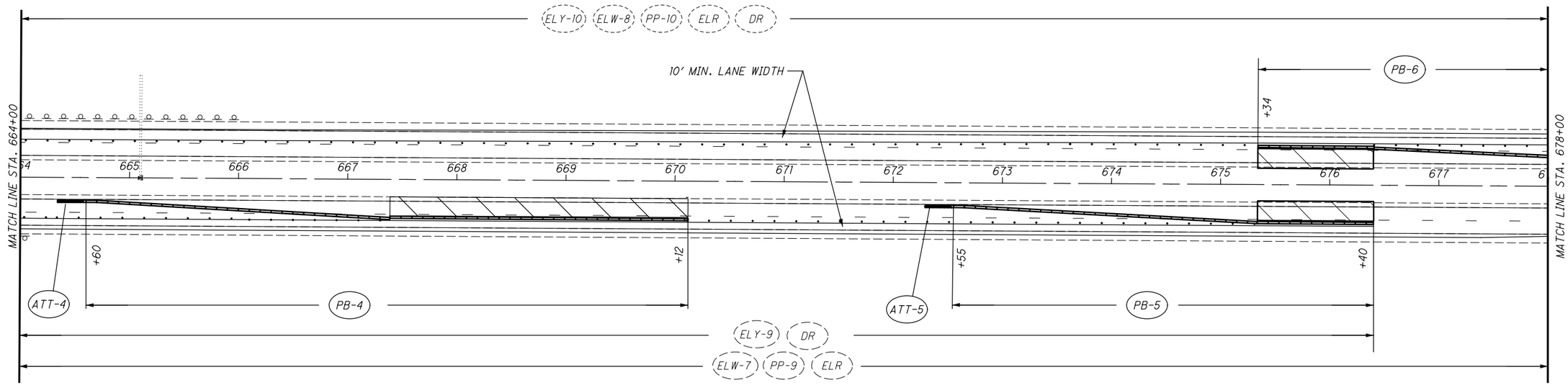
HORIZONTAL SCALE IN FEET
0 25 50 100

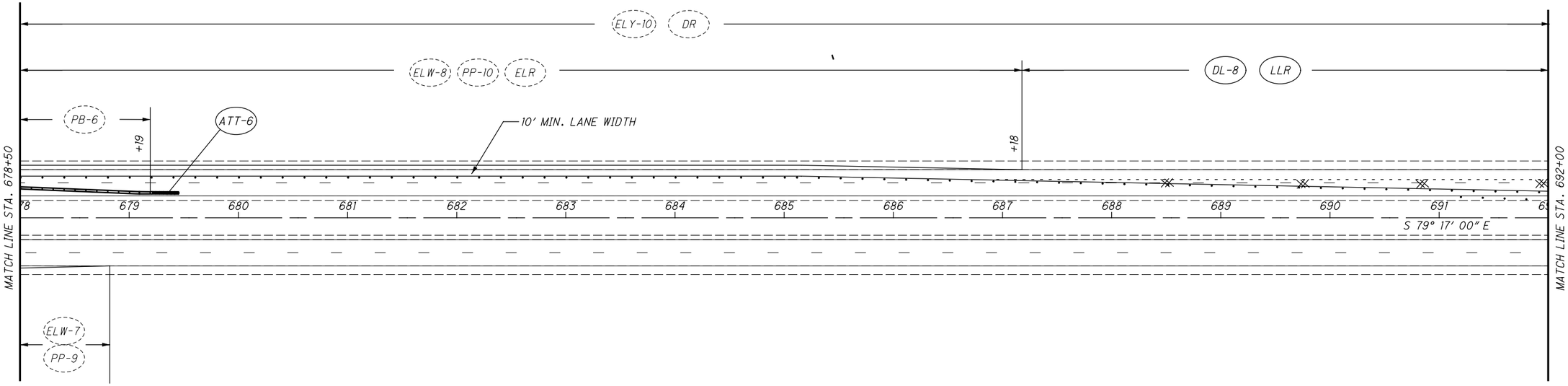
CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 636+00 - STA. 664+00

ADA-32-6.73

16
52





ELW-# WORK ZONE EDGE LINE (WHITE)

ELY-# WORK ZONE EDGE LINE (YELLOW)

DL-# WORK ZONE DOTTED LINE

PP-# PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)

DR DRUMS

LLR EX. LANE LINE REMOVED

ELR EX. EDGE LINE REMOVED

RSR RUMBLE STRIPS REMOVED

PB PORTABLE BARRIER

ATT IMPACT ATTENUATOR

→ DIRECTION OF TRAVEL

REMOVE EXISTING MARKINGS

WORK AREA

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 664+00 - STA. 692+00

ADA-32-6.73

17
52

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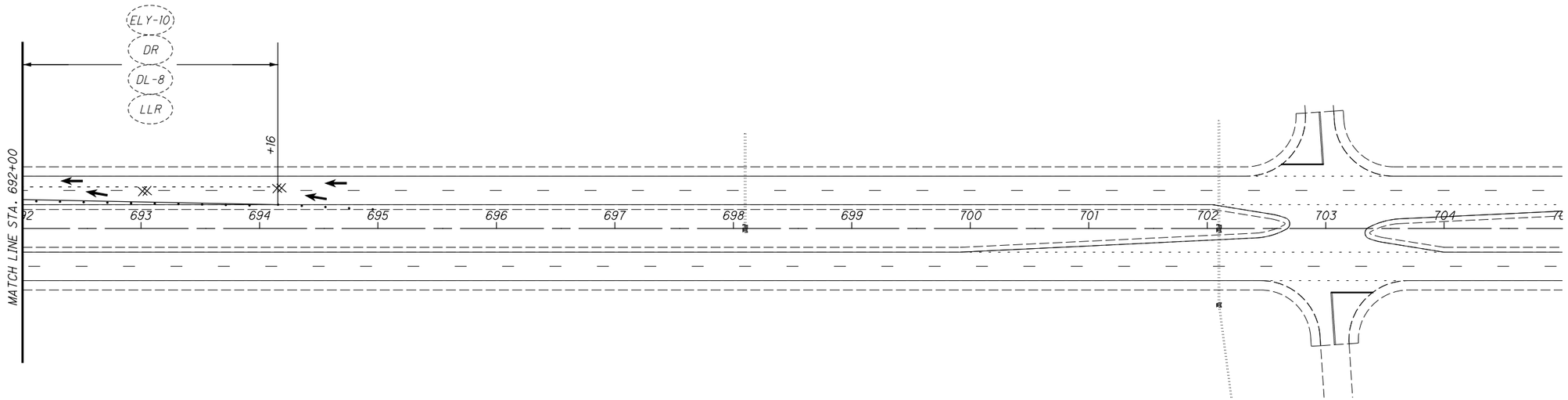

ELW-# WORK ZONE EDGE LINE (WHITE)

ELY-# WORK ZONE EDGE LINE (YELLOW)

DL-# WORK ZONE DOTTED LINE

PP-# PAVEMENT PLANING (EX. RUMPLE STRIPS REMOVED)

DR DRUMS

LLR EX. LANE LINE REMOVED

ELR EX. EDGE LINE REMOVED

RSR RUMBLE STRIPS REMOVED

PB PORTABLE BARRIER

ATT IMPACT ATTENUATOR

DIRECTION OF TRAVEL

REMOVE EXISTING MARKINGS

WORK AREA

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED BCB
CHECKED DMB

MAINTENANCE OF TRAFFIC - PHASE 3
STA. 692+00 - STA. 705+00

ADA-32-6.73

18
52

SHEET NUMBER	ROUTE	PHASE/LOCATION	REFERENCE	STATION FROM	STATION TO		254 PAVEMENT PLANING ASPHALT CONCRETE, AS PER PLAN, 1.25" (RUMBLE STRIPS REMOVED)	407 TACK COAT (0.085 GAL/SQ YD)	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22 1.25"	614 INCREASED BARRIER DELINEATION	614 WORK ZONE ATTENUATOR (UNIDIRECTIONAL)	614 BARRIER REFLECTOR, TYPE 1 ONE-WAY	614 OBJECT MARKER, ONE WAY	614 WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT (YELLOW)	614 WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT (WHITE)	614 WORK ZONE DOTTED LINE, CLASS I	622 PORTABLE BARRIER UNANCHORED						
							SY	GALLON	CY	FT	EACH	EACH	EACH	MILE	MILE	FT	FT						
		PHASE 2																					
8	SR-32	EASTBOUND	DL-1	475+62	484+62											900							
8		EASTBOUND	ELW-1	475+62	493+73										0.35								
8		EASTBOUND	ELY-1	484+62	495+00									0.20									
8		EASTBOUND	PP-1	484+00	495+00		245	21	9														
10		EASTBOUND	DL-3	613+00	618+29											529							
10-12		EASTBOUND	ELW-3	613+00	676+40										1.21								
10		EASTBOUND	ELY-3	619+55	630+55									0.21									
10		EASTBOUND	PP-3	619+55	630+55		245	21	9														
11,12		EASTBOUND	ELY-6	635+20	677+90									0.81									
11,12		EASTBOUND	PP-6	635+20	677+90		949	81	33														
12		EASTBOUND	PB-1, ATT-1	664+97	670+12					515	1	12	12				515						
12		EASTBOUND	PB-2, ATT-2	673+05	676+40					335	1	8	8				335						
8, 9		WESTBOUND	ELY-2	489+00	503+95									0.29									
8, 9		WESTBOUND	ELW-2	490+00	506+75										0.32								
8, 9		WESTBOUND	PP-2	489+00	503+95		333	29	12														
9		WESTBOUND	DL-2	503+95	506+75											280							
10		WESTBOUND	ELY-4	623+00	632+80									0.19									
10		WESTBOUND	PP-4	623+00	632+80		218	19	8														
10-12		WESTBOUND	ELW-4	624+40	691+11										1.27								
11,12		WESTBOUND	ELY-5	636+83	683+80									0.89									
11,12		WESTBOUND	PP-5	636+83	683+80		1044	89	37														
12		WESTBOUND	PB-3,ATT-3	675+34	678+70					336	1	8	8				336						
12		WESTBOUND	DL-4	682+21	691+11											890							
		PHASE 3																					
13		EASTBOUND	DL-5	475+62	483+79											817							
13		EASTBOUND	ELY-7	475+62	494+00									0.35									
13		EASTBOUND	ELW-5	483+79	495+00										0.22								
13		EASTBOUND	PP-7	483+79	495+00		250	22	9														
15		EASTBOUND	DL-7	613+00	618+00											500							
15		EASTBOUND	ELY-9	613+00	676+40									1.21									
15-17		EASTBOUND	ELW-7	619+25	678+82										1.13								
15-17		EASTBOUND	PP-9	619+25	678+82		1324	113	46														
17		EASTBOUND	PB-4, ATT-4	664+60	670+12					552	1	13	13				552						
17		EASTBOUND	PB-5, ATT-5	672+55	676+40					385	1	9	9				385						
12, 13		WESTBOUND	ELW-6	489+00	505+00										0.31								
12, 13		WESTBOUND	PP-8	489+00	505+00		356	31	13														
12, 13		WESTBOUND	ELY-8	490+00	506+49									0.32									
13		WESTBOUND	PP-8	502+78	506+49		83	8	3														
14		WESTBOUND	DL-6	503+00	506+49											349							
15-17		WESTBOUND	ELW-8	623+04	687+18										1.22								
15-17		WESTBOUND	PP-10	623+04	687+18		1426	122	50														
15-18		WESTBOUND	ELY-10	624+40	694+16									1.33									
17		WESTBOUND	PB-6, ATT-6	675+34	679+19					385	1	9	9				385						
17		WESTBOUND	DL-8	687+18	694+16											698							
						SUB TOTALS								5.80	6.03								
						TOTALS CARRIED TO GENERAL SUMMARY	6473	556	229	2508	6	59	59	11.83		4963	2508						

CALCULATED BCB
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MAINTENANCE OF TRAFFIC SUB-SUMMARY

ADA-32-6.73

SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	19	24	25	26	27	29				01/NHS/ PV	02/NHS/ BR	03/NHS/ OT	04/SAE/ OT						
																		ROADWAY	
										LS				201	11000	LS		CLEARING AND GRUBBING	3
						22,013.5						22,013.5		202	38000	22,013.5	FT	GUARDRAIL REMOVED	
						182						182		202	38300	182	FT	GUARDRAIL REMOVED, BARRIER DESIGN	
						2						2		202	42000	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A	
						18						18		202	42010	18	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
						25						25		202	42040	25	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
						1						1		202	42050	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE B	
						26						26		202	47000	26	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
						4						4		202	47800	4	EACH	IMPACT ATTENUATOR REMOVED	
			2,496							2,496				203	10000	2,496	CY	EXCAVATION	
			7,293							7,293				204	10000	7,293	SY	SUBGRADE COMPACTION	
						9,006						9,006		203	40000	9,006	CY	BORROW	
			1,295							1,295				204	20000	1,295	CY	EMBANKMENT	
						244						244		209	60201	244	STA	LINEAR GRADING, AS PER PLAN	4
						20,400						20,400		606	15050	20,400	FT	GUARDRAIL, TYPE MGS	
						533						533		606	15100	533	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
						150						150		606	15550	150	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS	
						21						21		606	26100	21	EACH	ANCHOR ASSEMBLY, TYPE E	
						26						26		606	26500	26	EACH	ANCHOR ASSEMBLY, TYPE T	
						4						4		606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
						1						1		606	35100	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
						21						21		606	35140	21	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
						4						4		606	60012	4	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	
																		EROSION CONTROL	
67,778												67,778		659	10000	67,778	SY	SEEDING AND MULCHING	
3,389												3,389		659	14000	3,389	SY	REPAIR SEEDING AND MULCHING	
9.15												9.15		659	20000	9.15	TON	COMMERCIAL FERTILIZER	
14												14		659	31000	14	ACRE	LIME	
366												366		659	35000	366	MGAL	WATER	
																		PAVEMENT	
200										200				251	01021	200	SY	PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN	3
			216							216				252	01500	216	FT	FULL DEPTH PAVEMENT SAWING	
	6,473									6,473				254	01001	6,473	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.25"	3
			600							600				301	46000	600	CY	ASPHALT CONCRETE BASE, PG64-22	
			416							416				304	20000	416	CY	AGGREGATE BASE	
	229		194							423				441	50000	423	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
400										400				617	10100	400	CY	COMPACTED AGGREGATE	
2										2				SPECIAL	64440000	2	EACH	AIR SPEED ZONE MARKING	3
	556	47,822	198							48,576				407	10000	48,576	GAL	TACK COAT	
		15,629								15,629				424	12000	15,629	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B	
						9,784				9,784				617	98000	9,784	SY	SHOULDER RECONDITIONING, MISC.:4" COMPACTED ASPHALT CONCRETE GRINDINGS	4
		52.24								52.24				618	40600	52.24	MILE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
				77.55									77.55	850	10010	77.55	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
				1.32									1.32	850	20010	1.32	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	
		562,610								562,610				897	01010	562,610	SY	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A. 0.75"	
11,893										11,893				897	02000	11,893	SY	PATCHING PLANED SURFACE	
																		TRAFFIC CONTROL	
				1,732						1,732				621	00100	1,732	EACH	RPM	
				1,732						1,732				621	54000	1,732	EACH	RAISED PAVEMENT MARKER REMOVED	
						54				54				626	00102	54	EACH	BARRIER REFLECTOR, TYPE 1, BI-DIRECTIONAL	
						222				222				626	00112	222	EACH	BARRIER REFLECTOR, TYPE 3, BI-DIRECTIONAL	
		6								6				632	26500	6	EACH	DETECTOR LOOP	
					666					666				644	00500	666	FT	STOP LINE	

CALCULATED BCB
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GENERAL SUMMARY

ADA-32-6.73

SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					26	27		41		01/NHS/ PV	02/NHS/ BR	03/NHS/ OT	04/SAE/ OT						
																		TRAFFIC CONTROL	
						155				155				644	00700	155	FT	TRANSVERSE/DIAGONAL LINE	
						164				164				644	00900	164	SF	ISLAND MARKING	
						10				10				644	01300	10	EACH	LANE ARROW	
					0.88								0.88	807	12010	0.88	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6"	
					0.44								0.44	807	12110	0.44	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	
					51.7								51.7	807	13010	51.7	MILE	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6"	
					25.85								25.85	807	13110	25.85	MILE	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	
						1,379							1,379	807	13310	1,379	FT	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"	
						11,348							11,348	807	13410	11,348	FT	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"	
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-0927 L)	
								LS			LS			202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	40
								491			491			202	38001	491	FT	GUARDRAIL REMOVED, AS PER PLAN	4
								67			67			407	10000	67	GAL	TACK COAT	
								89			89			407	13900	89	GAL	TACK COAT, 702.13	
								16			16			424	12000	16	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B	
								414			414			509	10000	414	LB	EPOXY COATED REINFORCING STEEL	
								121			121			510	10001	121	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	40
								2			2			511	34410	2	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
								69			69			513	10200	69	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF	
								121.2			121.2			516	11211	121.2	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	40
								122			122			516	31010	122	FT	2" DEEP JOINT SEALER	
								10			10			516	45305	10	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	40
								LS			LS			516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	40
								508			508			517	75600	508	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
								619.45			619.45			SPECIAL	51822300	619.45	FT	STEEL DRIP STRIP	40
								491			491			606	13001	491	FT	GUARDRAIL, TYPE 5, AS PER PLAN	4
								1,106			1,106			SPECIAL	69098300	1,106	SY	ASPHALT CONCRETE MICROMILLING	40
								46			46			856	10000	46	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE	
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-0927 R)	
								LS			LS			202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	40
								491			491			202	38001	491	FT	GUARDRAIL REMOVED, AS PER PLAN	4
								67			67			407	10000	67	GAL	TACK COAT	
								89			89			407	13900	89	GAL	TACK COAT, 702.13	
								16			16			424	12000	16	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B	
								414			414			509	10000	414	LB	EPOXY COATED REINFORCING STEEL	
								121			121			510	10001	121	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	40
								2			2			511	34410	2	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
								69			69			513	10200	69	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF	
								121.2			121.2			516	11211	121.2	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	40
								122			122			516	31010	122	FT	2" DEEP JOINT SEALER	
								10			10			516	45305	10	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	40
								LS			LS			516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	40
								508			508			517	75600	508	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
								619.45			619.45			SPECIAL	51822300	619.45	FT	STEEL DRIP STRIP	40
								491			491			606	13001	491	FT	GUARDRAIL, TYPE 5, AS PER PLAN	4
								1,106			1,106			SPECIAL	69098300	1,106	SY	ASPHALT CONCRETE MICROMILLING	40
								46			46			856	10000	46	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE	

CALCULATED BCB
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GENERAL SUMMARY

ADA-32-6.73

SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
		5	6	7	19	29	38	48		01/NHS/ PV	02/NHS/ BR	03/NHS/ OT	04/SAE/ OT						
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-1182 L)	
								LS			LS			202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	47
								638			638			202	38000	638	FT	GUARDRAIL REMOVED	
								85			85			407	10000	85	GAL	TACK COAT	
								113			113			407	13900	113	GAL	TACK COAT, 702.13	
								20			20			424	12000	20	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B	
								254			254			509	10000	254	LB	EPOXY COATED REINFORCING STEEL	
								80			80			510	10001	80	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	47
								1			1			511	34410	1	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
								79.67			79.67			516	11211	79.67	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	47
								80			80			516	31010	80	FT	2" DEEP JOINT SEALER	
								638			638			517	75600	638	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
								784.33			784.33			SPECIAL	51822300	784.33	FT	STEEL DRIP STRIP	47
								638			638			606	13001	638	FT	GUARDRAIL, TYPE 5, AS PER PLAN	4
								1,403			1,403			SPECIAL	69098300	1,403	SY	ASPHALT CONCRETE MICROMILLING	47
								59			59			856	10000	59	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE	
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-1182 R)	
								LS			LS			202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	47
								638			638			202	38000	638	FT	GUARDRAIL REMOVED	
								85			85			407	10000	85	GAL	TACK COAT	
								113			113			407	13900	113	GAL	TACK COAT, 702.13	
								20			20			424	12000	20	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B	
								254			254			509	10000	254	LB	EPOXY COATED REINFORCING STEEL	
								80			80			510	10001	80	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	47
								1			1			511	34410	1	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
								79.67			79.67			516	11211	79.67	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	47
								80			80			516	31010	80	FT	2" DEEP JOINT SEALER	
								638			638			517	75600	638	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
								784.33			784.33			SPECIAL	51822300	784.33	FT	STEEL DRIP STRIP	47
								638			638			606	13001	638	FT	GUARDRAIL, TYPE 5, AS PER PLAN	4
								1,403			1,403			SPECIAL	69098300	1,403	SY	ASPHALT CONCRETE MICROMILLING	47
								59			59			856	10000	59	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE	
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-1699 L)	
							83				83			512	10300	83	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
							830				830			512	10400	830	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-1699 R)	
							83				83			512	10300	83	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
							830				830			512	10400	830	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-1942 L)	
							103				103			512	10300	103	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
							1,028				1,028			512	10400	1,028	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
																		STRUCTURE OVER 20 FOOT SPAN (ADA-32-1942 R)	
							103				103			512	10300	103	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
							1,028				1,028			512	10400	1,028	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
																		MAINTENANCE OF TRAFFIC	
				40						40				614	11110	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
					2,508					2,508				614	11630	2,508	FT	INCREASED BARRIER DELINEATION	
					6					6				614	12336	6	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
		12								12				614	12460	12	EACH	WORK ZONE MARKING SIGN	
			27							27				614	12484	27	EACH	WORK ZONE INCREASED PENALTIES SIGN	
		50								50				614	13000	50	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
					59					59				614	13310	59	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
				18						18				614	13314	18	EACH	BARRIER REFLECTOR, TYPE 3, ONE-WAY	

CALCULATED BCB
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GENERAL SUMMARY

ADA-32-6.73

SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
				5	6	7		19		01/NHS/ PV	02/NHS/ BR	03/NHS/ OT	04/SAE/ OT						
																		MAINTENANCE OF TRAFFIC	
						18		59		77				614	13350	77	EACH	OBJECT MARKER, ONE WAY	
					6					6				614	18601	6	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	6
				25.3						25.3				614	20560	25.3	MILE	WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	
								11.83					11.83	614	22360	11.83	MILE	WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	
				2.27						2.27				614	22200	2.27	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 740.06, TYPE I	
				380						380				614	23690	380	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT	
								4,963		4,963				614	24000	4,963	FT	WORK ZONE DOTTED LINE, CLASS I	
				2,640						2,640				614	24400	2,640	FT	WORK ZONE DOTTED LINE, CLASS I, 4", 740.06, TYPE I	
				1						1				616	10000	1	MGAL	WATER	
								2,508		2,508				622	41100	2,508	FT	PORTABLE BARRIER, UNANCHORED	
					90					90				808	18700	90	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
																		INCIDENTALS	
				LS						0.61	0.14	0.16	0.09	614	11000	LS		MAINTAINING TRAFFIC	
										0.61	0.14	0.16	0.09	619	16000	6	MNTH	FIELD OFFICE, TYPE A	
										0.61	0.14	0.16	0.09	624	10000	LS		MOBILIZATION	

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GENERAL SUMMARY

ADA-32-6.73

LOCATION					PAVEMENT DATA							407	424	897		632	618	
COUNTY-ROUTE DIRECTION	LOG POINT		LENGTH		PAVEMENT WIDTH	PAVEMENT AREA	SHOULDER WIDTH		SHOULDER AREA	CADD MEASURED CROSSOVERS (PAVEMENT AREA VARIES)	TOTAL PAVEMENT AREA	TACK COAT (0.085 GAL/SY)	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B	PAVEMENT PLANING ASPHALT CONCRETE, CLASS A		DETECTOR LOOP	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	COMMENTS
													1"	0.75"				
	SLM	TO SLM	MILES	FT	FT	SY	FT	FT	SY	SY	SY	GALLON	CY	SY		EACH	MILE	
ADA-32, EB & WB	6.7300	9.2700	2.5400	13,411.20	24	35,763.20	4	8	17,881.60		107,289.60	9,119.62	2,980.27	107,289.60			10.16	
	9.2700	9.3172	0.0472	249.22	SEE BRIDGE SHEETS FOR STRUCTURE ADA-32-0927													
	9.3172	11.8804	2.5632	13,533.70	24	36,089.86	4	8	18,044.93		108,269.57	9,202.91	3,007.49	108,269.57			10.28	
	11.8804	11.8851	0.0047	24.82	SEE BRIDGE SHEETS FOR STRUCTURE ADA-32-1182													
	11.8851	16.9853	5.1002	26,929.06	24	71,810.82	4	8	35,905.41		215,432.45	18,311.76	5,984.23	215,432.45			20.44	
	16.9853	17.0220	0.0367	193.78	SEE STRUCTURE SHEETS FOR ADA-32-1699													
	17.0220	19.4153	2.3933	12,636.62	24	33,697.66	4	8	16,848.83		101,092.99	8,592.90	2,808.14	101,092.99			9.60	
	19.4153	19.4626	0.0473	249.74	SEE STRUCTURE SHEETS FOR ADA-32-1699												0.20	
	19.4626	19.8500	0.3874	2,045.47	24	5,454.59	4	8	2,727.30		16,363.78	1,390.92	454.55	16,363.78			1.56	
EXTRA AREAS																		
BURNT CABIN RD	8.51									1,029.17		87.48	28.59	1,029.17				MEDIAN CROSSOVER
UNITY RD	9.61									1,359.62		115.57	37.77	1,359.62				MEDIAN CROSSOVER
BARRY McFARLAND DR	10.34									897.13		76.26	24.92	897.13				MEDIAN CROSSOVER
TATOR RIDGE RD	11.10									1,000.46		85.04	27.79	1,000.46				MEDIAN CROSSOVER
PETERSON RD	11.58									1,189.39		101.10	33.04	1,189.39				MEDIAN CROSSOVER
LAWSHE/ DOWNING RD	11.99									1,123.81		95.52	31.22	1,123.81				MEDIAN CROSSOVER
MEASLEY RIDGE RD	13.30									1,173.07		99.71	32.59	1,173.07				MEDIAN CROSSOVER
SR-41 EB	14.70									969.21		82.38	26.92	969.21		3		TURN LANE + TRANSVERSE AREA
	14.70									836.69		71.12	23.24	836.69				MEDIAN CROSSOVER SECTION
SR-41 WB	14.70									1,005.73		85.49	27.94	1,005.73		3		TURN LANE + TRANSVERSE AREA
STEAM FURNACE RD	15.97									1,219.52		103.66	33.88	1,219.52				MEDIAN CROSSOVER
MENDENHALL RD	16.59									831.87		70.71	23.11	831.87				MEDIAN CROSSOVER
PLUM RUN RD	18.09									764.89		65.02	21.25	764.89				MEDIAN CROSSOVER
PORTSMOUTH RD	18.48									760.75		64.66	21.13	760.75				MEDIAN CROSSOVER
											SUB-TOTALS	47,821.82	15,628.05	562,609.69		6	52.24	
											TOTALS CARRIED TO GENERAL SUMMARY	47,822	15,629	562,610		6	52.24	

CALCULATED BCB
CHECKED DMB

PAVEMENT CACLCULATIONS

ADA-32-6.73

24
52

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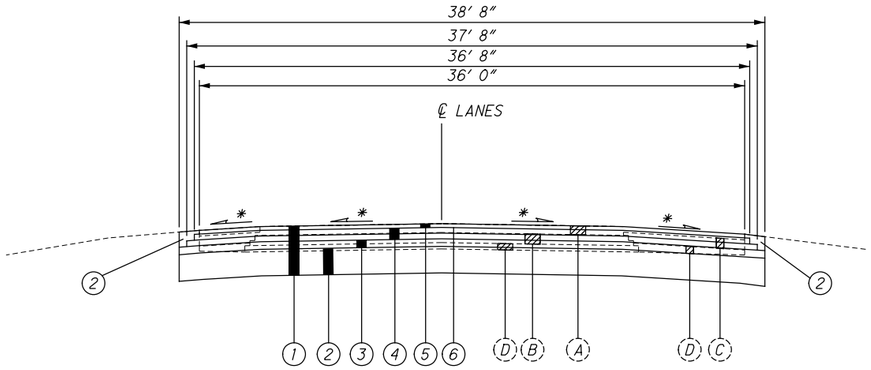


* MATCH EXISTING PAVEMENT SLOPE

THE ABOVE DETAIL APPLIES TO THE FOLLOWING LIMITS:

EASTBOUND ONLY
SLM 12.64 - SLM 12.71

WESTBOUND AND EASTBOUND
SLM 12.79 - SLM 12.81

LOCATION								203	204	204	252	301	304	407	441
COUNTY-ROUTE DIRECTION	LOG POINT		LENGTH		TOTAL WIDTH	TOTAL AREA	CADD MEASURED	EXCAVATION	SUBGRADE COMPACTION	EMBANKMENT	FULL DEPTH PAVEMENT SAWING	9" BITUMINOUS AGGREGATE BASE (2 EQUAL LIFTS)	AGGREGATE BASE	TACK COAT (0.085 GAL/SY)	ASPHALT CONCRETE SURFACE, TYPE 1 (448), PG64-22
								36"		18"		4.5"	6"		3"
	SLM	TO SLM	MILES	FT	FT	SY	SY	CY	SY	CY	FT	CY	CY	GALLON	CY
ADA-32															
EB	12.64	12.71	0.07	369.60	36.00	1,478.40					72			125.66	123.20
					36.67	1,505.91			1,505.91			188.24			
					37.67	1,546.98			1,546.98			193.37			
					38.67	1,588.05		1,588.05	1,588.05	794.02			264.67		
							109.65			36.55					
EB	12.79	12.81	0.02	105.60	36.00	422.40					72			35.90	35.20
					36.67	430.26			430.26			53.78			
					37.67	441.99			441.99			55.25			
					38.67	453.73		453.73	453.73	226.86			75.62		
							31.33			10.44					
WB	12.79	12.81	0.02	105.60	36.00	422.40					72			35.90	35.20
					36.67	430.26			430.26			53.78			
					37.67	441.99			441.99			55.25			
					38.67	453.73		453.73	453.73	226.86			75.62		
							31.33			10.44					
							SUB-TOTALS	2,495.50	7,292.91	1,294.74	216.00	599.68	415.92	197.47	193.60
							TOTALS CARRIED TO GENERAL SUMMARY	2,496	7,293	1,295	216	600	416	198	194

PROPOSED LEGEND

1	36"	ITEM 203 - EXCAVATION
2	18"	ITEM 204 EMBANKMENT
3	6"	ITEM 304 AGGREGATE BASE
4	9"	ITEM 301 BITUMINOUS AGGREGATE BASE (2 EQUAL LIFTS)
5	3"	ITEM 441 -ASPHALT CONCRETE SURFACE, TYPE 1, (448), PG64-22
6		ITEM 407 - TACK COAT

EXISTING LEGEND

A	EXISTING ±7" ASPHALT CONCRETE PAVEMENT
B	EXISTING ±8" BITUMINOUS AGGREGATE BASE
C	EXISTING ±4" BITUMINOUS AGGREGATE BASE
D	EXISTING SUBBASE
E	EXISTING TYPE 5 GUARDRAIL TO BE REMOVED

CALCULATED BCB
CHECKED DMB

FULL DEPTH REPAIR DETAIL & SUB-SUMMARY

ADA-32-6.73

2.5
5.2

LOCATION	DIRECTION	LOG POINT		LENGTH	807								850			621					COMMENTS
					WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING,				WET REFLECTIVE EPOXY PAVEMENT MARKING,				PAVEMENT GROOVING								
		FROM	TO		EDGE LINE, 6" (YELLOW)	EDGE LINE, 6" (WHITE)	LANE LINE, 6"		EDGE LINE, 6" (YELLOW)	EDGE LINE, 6" (WHITE)	LANE LINE, 6"		FOR 6" RECESSED MARKING, (ASPHALT)	FOR 6" RECESSED MARKING, (CONCRETE)		RPM	RAISED PAVEMENT MARKER REMOVED			
		SLM	SLM	MILE	MILE	MILE	MILE		MILE	MILE	MILE		MILE	MILE		EACH	EACH				
ADA-32	EB, WB	6.7300	9.2653	2.5353	5.08	5.08	5.08						15.24								
ADA-32	EB, WB	9.2653	9.3219	0.0566					0.12	0.12	0.12			0.36							STRUCTURE ADA-32-0927
ADA-32	EB, WB	9.3219	11.8153	2.4934	4.99	4.99	4.99						14.97								
ADA-32	EB, WB	11.8153	11.8851	0.0698					0.14	0.14	0.14			0.42							STRUCTURE ADA-32-1182
ADA-32	EB, WB	11.8851	16.9853	5.1002	10.21	10.21	10.21						30.63								
ADA-32	EB, WB	16.9853	17.0220	0.0367					0.08	0.08	0.08			0.24							STRUCTURE ADA-32-1699
ADA-32	EB, WB	17.0220	19.4153	2.3933	4.79	4.79	4.79						14.37								
ADA-32	EB, WB	19.4153	19.4626	0.0473					0.10	0.10	0.10			0.30							STRUCTURE ADA-32-1942
ADA-32	EB, WB	19.4626	19.8500	0.3874	0.78	0.78	0.78						2.34								
TOTALS CARRIED FROM SHEET 28																1,732	1,732				
THIS SHEET SUB-TOTALS					25.85	25.85			0.44	0.44											
THIS SHEET TOTALS					51.70		25.85		0.88		0.44		77.55	1.32							
TOTALS CARRIED TO GENERAL SUMMARY					**51.70**		**25.85**		**0.88**		**0.44**		**77.55**	**1.32**		**1732**	**1732**				

CALCULATED BCB
CHECKED DMB

PAVEMENT MARKINGS SUB-SUMMARY

ADA-32-6.73

COUNTY-ROUTE	LOCATION	DIRECTION	LOG POINT		LENGTH	644						807						850			COMMENTS
						STOP LINE			TRANSVEERSE/DIAGONAL LINE (WHITE)	ISLAND MARKING	LANE ARROW	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING,						PAVEMENT GROOVING FOR			
			FROM	TO		LEFT	MAIN LINE	RIGHT			LEFT TURN	CHANNELIZING LINE, 12"	CHANNELIZING LINE, 12" (TRANSVERSE/DIAGONAL LINE BORDER)		DOTTED LINE, 6" (WHITE)		DOTTED LINE, 6", (YELLOW)	6" RECESSED MARKING, (ASPHALT)	12" RECESSED MARKING, (ASPHALT)		
			SLM	SLM	MILE	FT	FT	FT	FT	SQ FT	EACH	FT	FT	FT	EDGE	TURN LANE	EDGE	FT	FT		
ADA-32	**EXTRA AREAS**																				
	BURNT CABIN RD.	EB	8.51					35							117		358	475			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	8.51					25							92		362	454			STOP LINE IS @ SB SIDE RD STOP APPROACH
	UNITY RD	EB	9.61					30							115		394	509			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	9.61														394	394			
	BARRY McFARLAND RD	EB	10.34					25							70		202	272			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	10.34														395	395			
	TATER RIDGE RD	EB	11.10					28							101		380	481			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	11.10														380	380			
	PETERSON RD	EB	11.58					28							97		405	502			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	11.58					32							100		396	496			STOP LINE IS @ SB SIDE RD STOP APPROACH
	LAWSHE RD	EB	11.99					20							116		386	502			STOP LINE IS @ NB SIDE RD STOP APPROACH
	DOWNING RD	WB	11.99					25							122		422	544			STOP LINE IS @ SB SIDE RD STOP APPROACH
	MEASLEY RIDGE RD	EB	13.30					32							101		399	500			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	13.30					43							123		433	556			STOP LINE IS @ SB SIDE RD STOP APPROACH
	SR-41	EB	14.70			12	24				5	300							300		STOP LINE IS LEFT TURN LANE
									82	92			165	170		185		185	335		DOTTED LINE IS FROM CHANNELIZING LINE TO EDGE LINE
								22							113			113			SR-41 NB STOP APPROACH
	SR-41	WB	14.70			12	24				5	190							190		STOP LINE IS LEFT TURN LANE
									73	72			275	279		164		164	554		DOTTED LINE IS FROM CHANNELIZING LINE TO EDGE LINE
								26							146			146			SR-41 SB STOP APPROACH
	STEAM FURNACE RD	EB	15.97					25							130		436	566			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	15.97					25							130		397	527			STOP LINE IS @ SB SIDE RD STOP APPROACH
	MENDENHALL RD	EB	16.59					27							118		426	544			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	16.59					40							126		382	508			STOP LINE IS @ SB SIDE RD STOP APPROACH
	PLUM RUN RD	EB	18.09												200		401	601			
		WB	18.09					30							142		404	546			STOP LINE IS @ SB SIDE RD STOP APPROACH
	PORTSMOUTH RD	EB	18.48					42							114		374	488			STOP LINE IS @ NB SIDE RD STOP APPROACH
		WB	18.48					34							108		392	500			STOP LINE IS @ SB SIDE RD STOP APPROACH
					SUB-TOTALS	24	48	594				490	440	449	2481	349	8518				
					TOTALS		666		155	164	10		1379			11,348			11,348	1,379	
					TOTALS CARRIED TO GENERAL SUMMARY		**666**		**155**	**164**	**10**		**1,379**			**11,348**			**11,348**	**1,379**	

CALCULATED BCB
CHECKED DMB

PAVEMENT MARKINGS SUB-SUMMARY

ADA-32-6.73

DETAIL	STANDARD DRAWING TC-65.10
1	EDGE LINE
2	CHANNELIZING LINE
3	LANE LINE
4	CENTER LINE

DETAIL	STANDARD DRAWING TC-65.11
5	ENTRANCE RAMP
6	EXIT RAMP
7	4 LANE DIVIDED TO 2 LANE TRANSITION
8	4 LANE UNDIVIDED TO 2 LANE TRANSITION
9	MULTILANE DIVIDED HIGHWAY

DETAIL	STANDARD DRAWING TC-65.11
10	APPROACH W/ LEFT TURN LANE
11	STOP APPROACH
12	TWO WAY LEFT TURN LANE
13	ONE LANE BRIDGE
14	HORIZONTAL CURVE

							REFLECTOR TYPE												621		REMARKS
							ONE WAY			TWO WAY											
							WHITE		YELLOW	WHITE RED					YELLOW YELLOW			YELLOW RED			
LOCATION	SLM	SLM	LENGTH	LENGTH	DIRECTION	DETAIL	RIGHT EDGE LINE		LEFT EDGE LINE	WHITE TRANSVERSE LINE		CHANNELIZING LINE		LANE LINE	YELLOW TRANSVERSE LINE		CENTER LINE	RAMP	RPM	RAISED PAVEMENT MARKER REMOVED	
	MILE	MILE	MILE	FT			40'	80'	80'	40'	80'	40'	80'	80'	40'	80'	80'	80'	EACH	EACH	
SR-32 EB	6.7300	9.2653	2.5353	13,386.38	EB	3								169					169	169	
	9.2653	9.3219	0.0566	298.85	EB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	9.3219	11.8153	2.4934	13,165.15	EB	3								166					166	166	
	11.8153	11.8851	0.0698	368.54	EB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	11.8851	16.9853	5.1002	26,929.06	EB	3								338					338	338	
	16.9853	17.0220	0.0367	193.78	EB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	17.0220	19.4153	2.3933	12,636.62	EB	3								159					159	159	
	19.4153	19.4626	0.0473	249.74	EB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	19.4626	19.8500	0.3874	2,045.47	EB	3								27							
SR-32 WB	6.7300	9.2653	2.5353	13,386.38	WB	3								169					169	169	
	9.2653	9.3219	0.0566	298.85	WB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	9.3219	11.8153	2.4934	13,165.15	WB	3								166					166	166	
	11.8153	11.8851	0.0698	368.54	WB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	11.8851	16.9853	5.1002	26,929.06	WB	3								338					338	338	
	16.9853	17.0220	0.0367	193.78	WB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	17.0220	19.4153	2.3933	12,636.62	WB	3								159					159	159	
	19.4153	19.4626	0.0473	249.74	WB														0	0	DO NOT INSTALL ON CONCRETE BRIDGE DECKS
	19.4626	19.8500	0.3874	2,045.47	WB	3								27					27	27	
SR-41	14.70			300	EB					9									9	9	CHANNELIZING LINE
				165	EB					5									5	5	BORDER AROUND TRANSVERSE LINE AREA
				170	EB					5									5	5	BORDER AROUND TRANSVERSE LINE AREA
SR-41	14.70			190	WB					6									6	6	CHANNELIZING LINE
				275	WB					8									8	8	BORDER AROUND TRANSVERSE LINE AREA
				290	WB					8									8	8	BORDER AROUND TRANSVERSE LINE AREA
TOTALS CARRIED TO THE SHEET 26																			1,732	1,732	

CALCULATED BCB
CHECKED DMB

RAISED PAVEMENT MARKERS SUB-SUMMARY

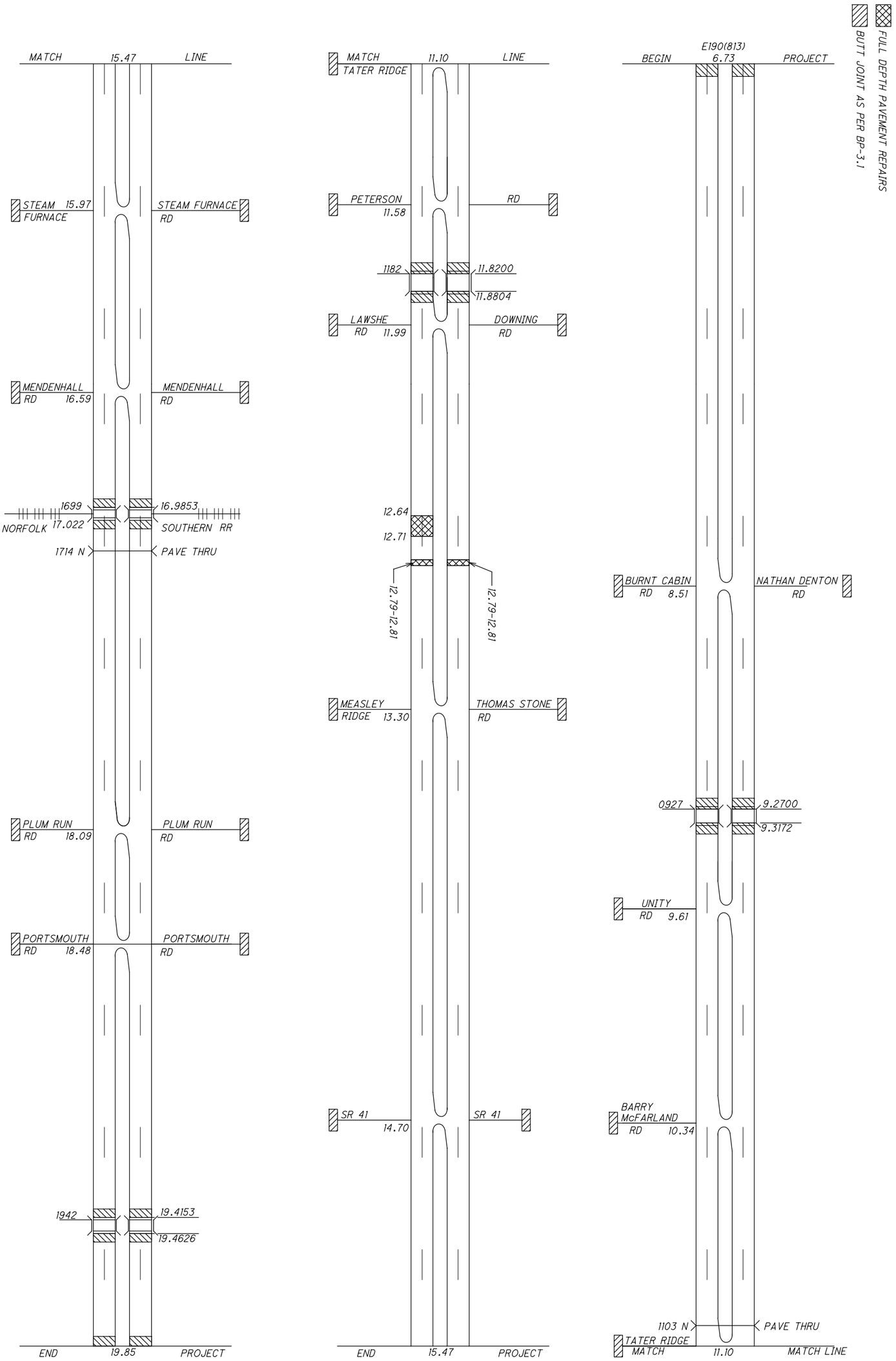
ADA-32-6.73

LOCATION		SLM	DIRECTION, SIDE	202 GUARDRAIL REMOVED	202 ANCHOR ASSEMBLEY REMOVED, TYPE A	202 ANCHOR ASSEMBLEY REMOVED, TYPE E	202 ANCHOR ASSEMBLEY REMOVED, TYPE T	202 ANCHOR ASSEMBLEY REMOVED, TYPE B	202 GUARDRAIL REMOVED, BARRIER DESIGN	202 BRIDGE TERMINAL ASSEMBLY REMOVED	202 IMPACT ATTENUATOR REMOVED	209 LINEAR GRADING, AS PER PLAN	209 BORROW	606 GUARDRAIL, TYPE MGS	606 GUARDRAIL, TYPE MGS WITH LONG POSTS	606 GUARDRAIL, BARRIER DESIGN, TYPE MGS	606 ANCHOR ASSEMBLY TYPE E	606 ANCHOR ASSEMBLY TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4	606 IMPACT ATTENUATOR, TYPE 1 (BI-DIRECTIONAL)	626 BARRIER REFLECTER, TYPE 1 (BIDIRECTIONAL)	626 BARRIER REFLECTER, TYPE 3 (BIDIRECTIONAL)	617 SHOULDER RECONDITIONING, MISC.: 4" COMPACTED ASPHALT CONCRETE GRINDINGS	COMMENTS
				FT	EA	EA	EA	EA	FT	EA	EA	STA	CY	FT	FT	FT	EA	EA	EA	EA	EA	EA	EA	EA	SY	
ADA-32		8.69	EB,RT	262.5		1	1					3	118.52	200.0			1	1						4	117	
ADA-32-0927 R	LEADING INTO	9.19	EB, RT	394.5		1				1		5	157.04	350.0			1				1			5	175	
	TRAILING END	9.31	EB, RT	150.0			1			1		2	117.78	112.5				1			1			3	67	
	LEADING INTO	9.23	EB, MED.	151.5					50	1	1	2		125.0		50.0		1			1	1		3	67	
	TRAILING END	9.31	EB, MED.	37.5			1			1		1						1			1			2	17	
ADA-32		10.42	EB, RT	1062.5		1	1					11	1000.00	1000.0			1	1						12	472	
ADA-32		10.95	EB, RT	475.0		1	1					5	176.11	412.5			1	1						6	211	
ADA-32-1182 R	LEADING INTO	11.61	EB, RT	1244.5		1				1		13	586.67	1200.0	114		1				1			14	553	
	TRAILING END	11.88	EB, RT	787.5			3			1		9	386.67	725.0	51			3			1			9	350	CONTINUES AROUND ON LAWSHE RD, RT
	LEADING INTO	11.80	EB, MED.	151.5					25	1	1	2		125.0		25.0					1	1		3	67	
	TRAILING END	11.88	EB, MED.	37.5			1			1		1		25.0				1			1			2	17	
ADA-32		11.99	EB, RT	250.0			1					3	63.52	237.5				1						4	111	BEGINS ON LAWSHE RD., RT
ADA-32		11.99	EB, RT	2975.0			2					30	1000.00	2950.0	127			2						31	1322	MAINLINE SR 32
ADA-32-1699 R	LEADING INTO	16.88	EB, RT	532.0		1				1		6	351.85	487.5			1		1				7		236	
	TRAILING END	17.00	EB, RT	787.5			1			1		9	635.19	750.0				1		1			9		350	
	LEADING INTO	16.94	EB, MED	207.0		1				1		3		162.5			1		1				4		92	
	TRAILING END	17.00	EB, MED	0.0										0.0												NO GUARDRAIL ON TRAILING END
ADA-32-1942 R	LEADING INTO	19.36	EB, MED	194.5		1				1		3		150.0			1		1				3		86	
	TRAILING END			0.0										0.0												NO GUARDRAIL ON TRAILING END
	LEADING INTO	19.38	EB, RT	144.5		1				1		2	411.11	100.0			1		1				3		64	
	TRAILING END	19.46	EB, RT	337.5			1			1		4	117.22	300.0				1		1			5		150	
ADA-32		8.70	WB, LT	425.0		1	1					5	342.59	362.5			1	1						6	189	
ADA-32		8.87	WB, LT	437.5		1	1					5	87.78	375.0			1	1						6	194	
ADA-32-0927 L	TRAILING END	9.18	WB, LT	550.0			1			1		6	157.04	512.5				1			1			7	244	
	LEADING INTO	9.31	WB, LT	219.5		1				1		3	117.78	175.0			1				1			4	98	
	TRAILING END	9.29	WB, MED	50.0			1			1		1		12.5				1			1			2	22	
	LEADING INTO	9.31	WB, MED	119.5					50	1	1	2		125.0		50.0					1	1		3	53	
ADA-32		10.22	WB, LT	2750.0		1	1					28	1000.00	2687.5			1	1						29	1222	
ADA-32		10.93	WB, LT	850.0		1	1					9	351.67	787.5			1	1						10	378	
ADA-32-1182 L	TRAILING END	11.73	WB, LT	575.0			1			1		6	750.67	537.5	38			1			1			7	256	
	LEADING INTO	11.88	WB, LT	794.5	1		2			1		9	37.04	737.5	76		1	2			1			9	353	CONTINUES AROUND ON LAWSHE RD, LT
	TRAILING END	11.82	WB, MED	62.5			1			1		1		25.0				1			1			2	28	
	LEADING INTO	11.88	WB, MED	119.5					57	1	1	2		125.0		25.0					1	1		3	53	
ADA-32		12.01	WB, LT	125.0	1							2	96.30	100.0			1							3	56	BEGINS ON LAWSHE RD., LT
ADA-32		12.01	WB, LT	3162.5		1	1					32	431.48	3100.0	127		1	1						33	1406	MAINLINE SR 32
ADA-32-1699 L	TRAILING END		WB, LT	0.0										0.0									1			NO GUARDRAIL ON TRAILING END
	LEADING INTO	17.00	WB, LT	932.0				1		1		10	410.56	875.0			1		1				11		414	
	TRAILING END		WB, MED	0.0										0.0												NO GUARDRAIL ON TRAILING END
	LEADING INTO	17.00	WB, MED	207.0		1				1		3		137.5			1		1				4		92	
ADA-32-1942 L	TRAILING END		WB, LT	0.0										0.0												NO GUARDRAIL ON TRAILING END
	LEADING INTO	19.49	WB, LT	257.0		1				1		3	101.59	187.5			1		1				4		114	
	TRAILING END		WB, MED	0.0										0.0												NO GUARDRAIL ON TRAILING END
	LEADING INTO	19.48	WB, MED	194.5		1				1		3		125.0			1		1				3		86	
SUB- TOTALS THIS SHEET				22013.5	2	18	25	1	182.0	26	4	244.0	9006.15	20400.0	533.0	150.0	21	26	8	2	16	4	54	222	9783.78	
TOTALS CARRIED TO GENERAL SUMMARY				**22,013.5**	**2**	**18**	**25**	**1**	**182.0**	**26**	**4**	**244.0**	**9,007**	**20,400.0**	**533.0**	**150.0**	**21**	**26**	**8**	**2**	**16**	**4**	**54**	**222**	**9784**	

CALCULATED BCB
CHECKED DMB

GUARDRAIL SUB-SUMMARY

ADA-32-6.73



ADA-32-6.73

PAVEMENT LINE DIAGRAM

CALCULATED BCB
CHECKED DMB

NOTES

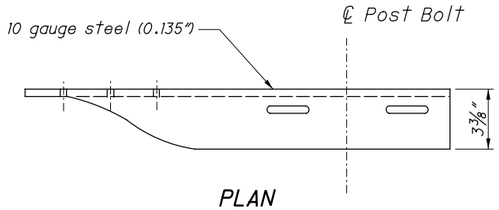
GENERAL: *Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.*

See CMS 606 for guardrail specifications not covered on these drawings.

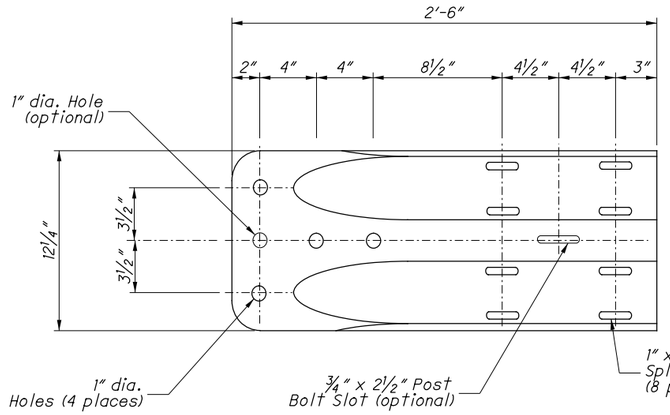
Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

RAIL ELEMENTS: *W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with ¾" x 2½" post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.*

RAIL SPLICES: *Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.*

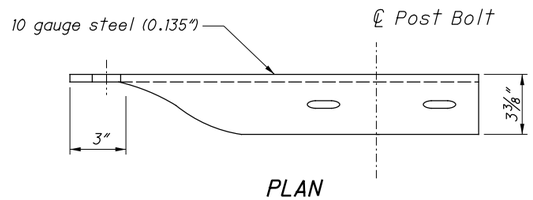


PLAN

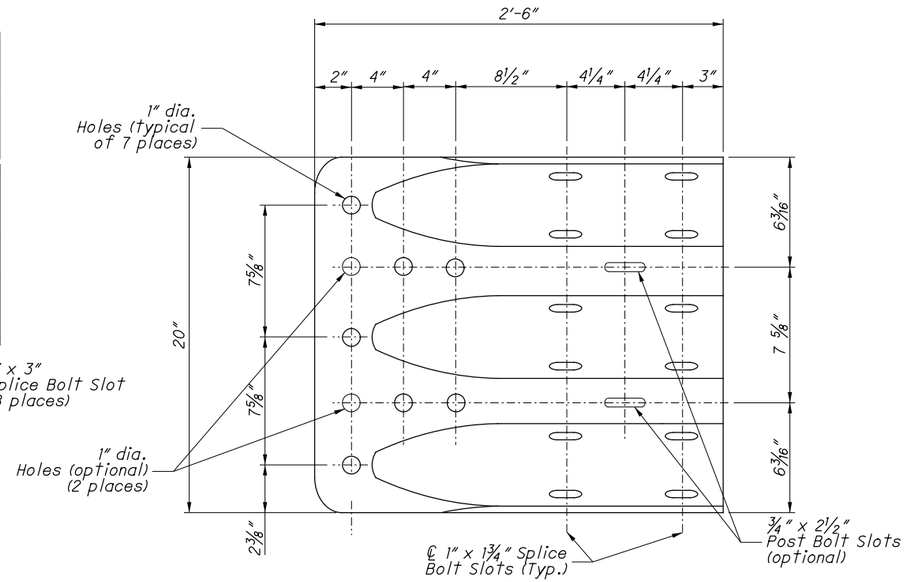


ELEVATION

W-BEAM TERMINAL CONNECTOR

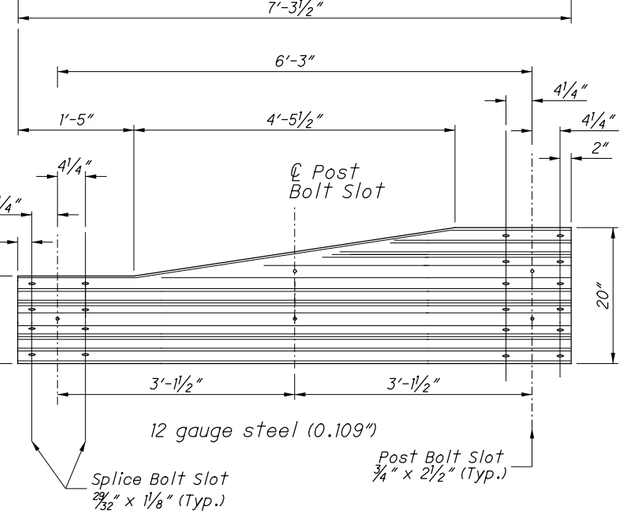


PLAN



ELEVATION

THRIE-BEAM TERMINAL CONNECTOR

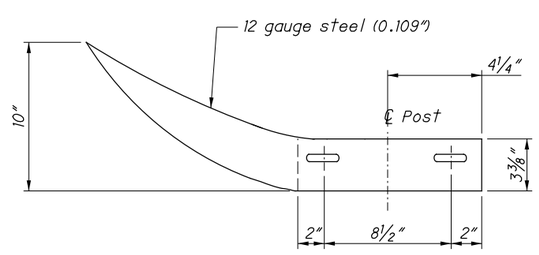


ELEVATION

TYPE 2 TRANSITION SECTION

(Asymmetric W to Thrie-Beam)

For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.



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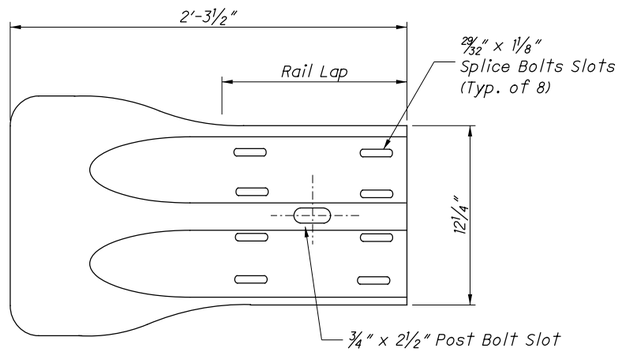
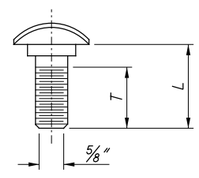


ELEVATION

W-BEAM FLARED END SECTION



GUARDRAIL BOLT (For Post and Splice Bolts)		
L	**T min.**	**Bolt Use**
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)		
10"	4"	Type 5: SP/WB, PB
1¼"	1⅛"	Splice Bolt

WP = Wood Post WB = Wood Blockout
SP = Steel Post PB = Plastic Blockout

Longer Bolt may be needed for round Wood Post larger than 8" dia.

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PLAN INSERT SHEET

GUARDRAIL DETAILS (Rail Components)

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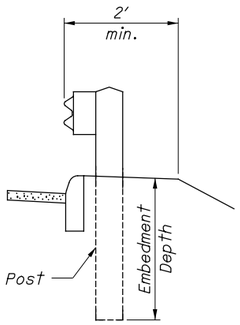
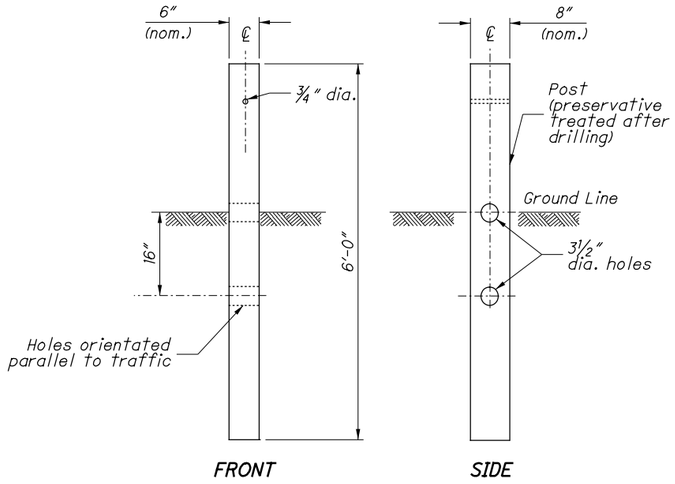
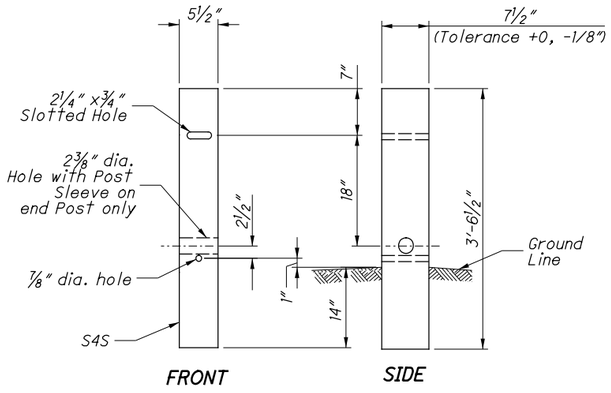


DETAIL A

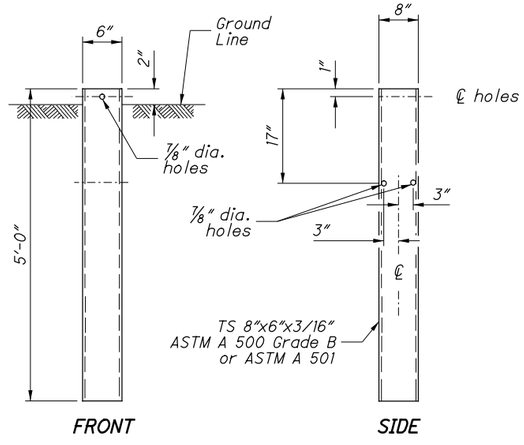
See POST EMBEDMENT DEPTH Note



TYPE 1 BREAKAWAY CRT POST



TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE

NOTES

GUARDRAIL HEIGHT: *For initial installation, construct the guardrail within ± 1″ of the standard height, h, or* ***29″*** *to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)*
When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within ±2.5″ of the standard height.

POST EMBEDMENT DEPTH: *Standard embedment is 3′-5″ min. Where less than 2′ of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL "A"), use longer posts so that a minimum of 5′-5″ embedment depth is provided. Payment for the longer posts will be made at the unit price bid for* ***ITEM 606 - GUARDRAIL POST, 9′, Each.***

SPECIAL POST MOUNTINGS: *Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on* ***SCD GR-2.2.***

Install posts located over a footing with a cover of less than 2′-6″ with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of ***SCD GR-2.2****, may be used as an alternative attachment method.) Where the cover is between 2′-6″ and 3′-5″,the footing anchor may be omitted and the post encased instead with 4″ (min.) of concrete.*

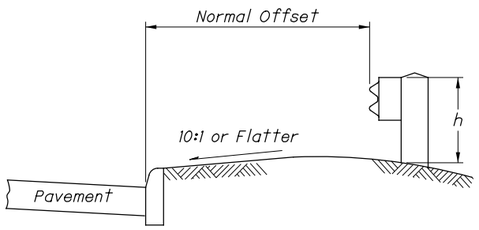
Do not drive posts located over a culvert with less than 4′-3″ of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3′-5″, encase the post with a minimum of 4″ concrete.

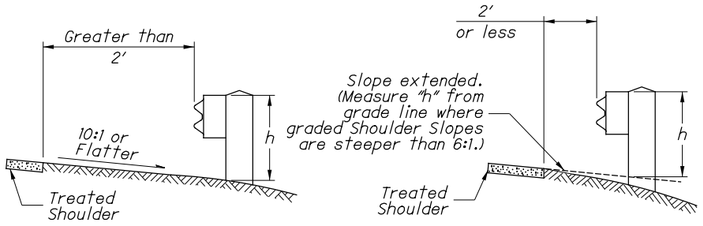
All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.

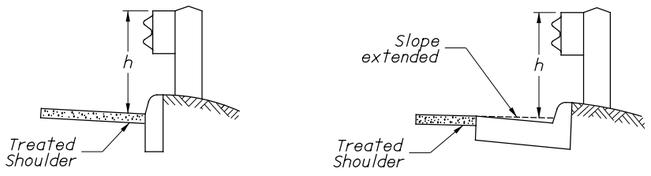
ANCHORS: *Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.*

Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

PROTECTIVE COATING: *In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)*

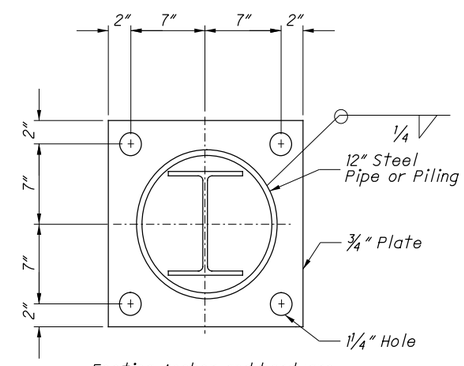






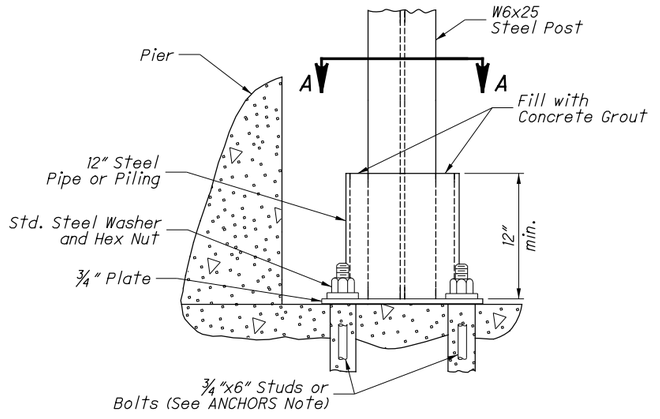
h = Standard Height (See GUARDRAIL HEIGHT Note)

MEASURING GUARDRAIL HEIGHT



Footing Anchor and hardware need not be galvanized

SECTION A-A



ELEVATION
FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

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PLAN INSERT SHEET
GUARDRAIL DETAILS (Rail Components)

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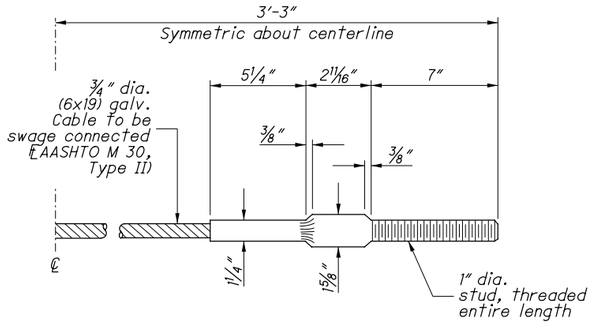
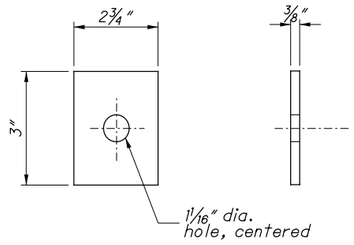
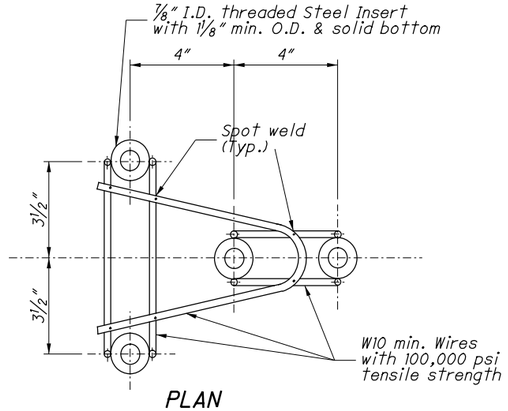


STANDARD SWAGED FITTING AND STUD

CABLE ANCHOR



END PLATE



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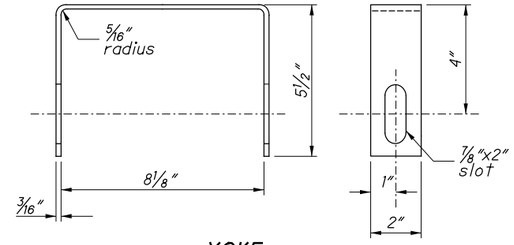
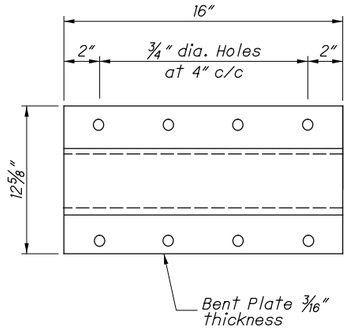
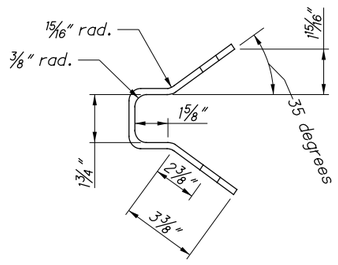


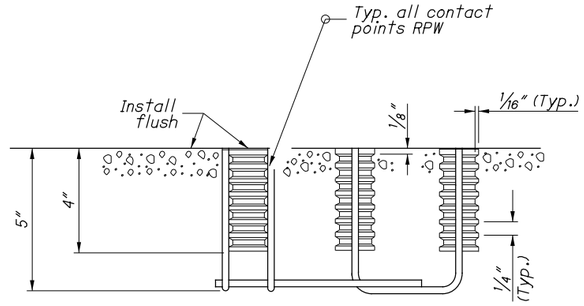
YOKE

Two required in Assembly





ANCHOR BRACKET

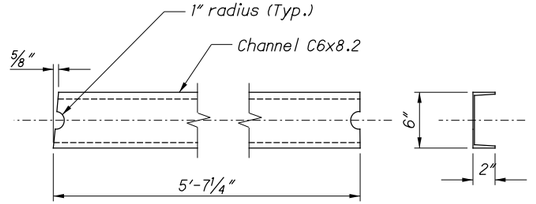


Four 7/8" Bolts required

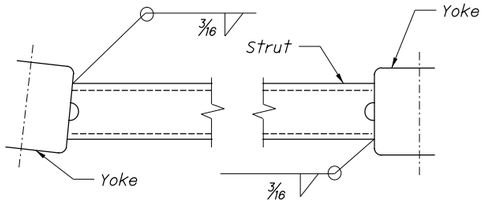
ELEVATION

CONCRETE INSERT ANCHOR ASSEMBLY (W-BEAM ONLY)

See ANCHORS and PROTECTIVE COATINGS Notes on Sheet 2

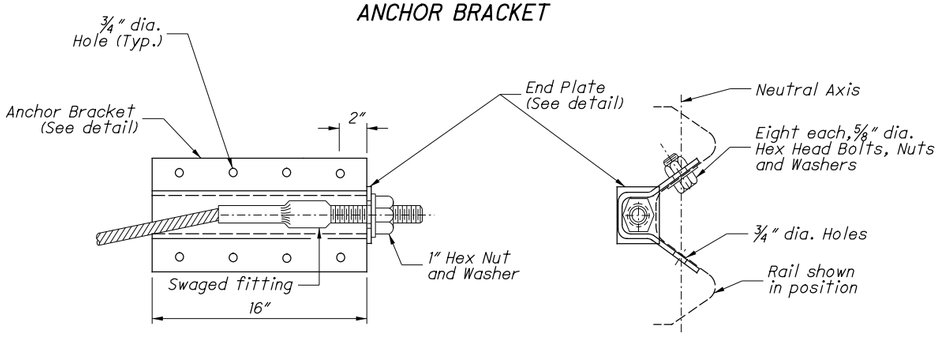


STRUT

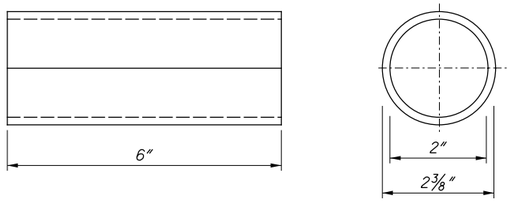


Channel legs shown down. For opposite hand, install Channel legs up.

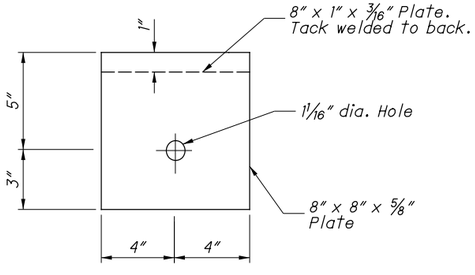
STRUT AND YOKE ASSEMBLY



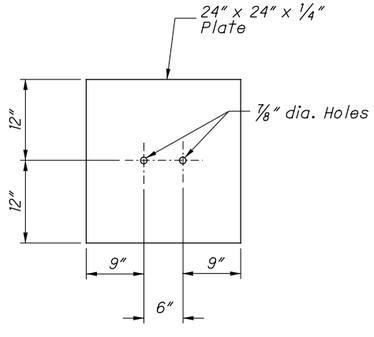
ANCHOR BRACKET ASSEMBLY DETAILS



POST SLEEVE



BEARING PLATE



SOIL PLATE

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GUARDRAIL DETAILS (Rail Components)
ADA-32-6.73
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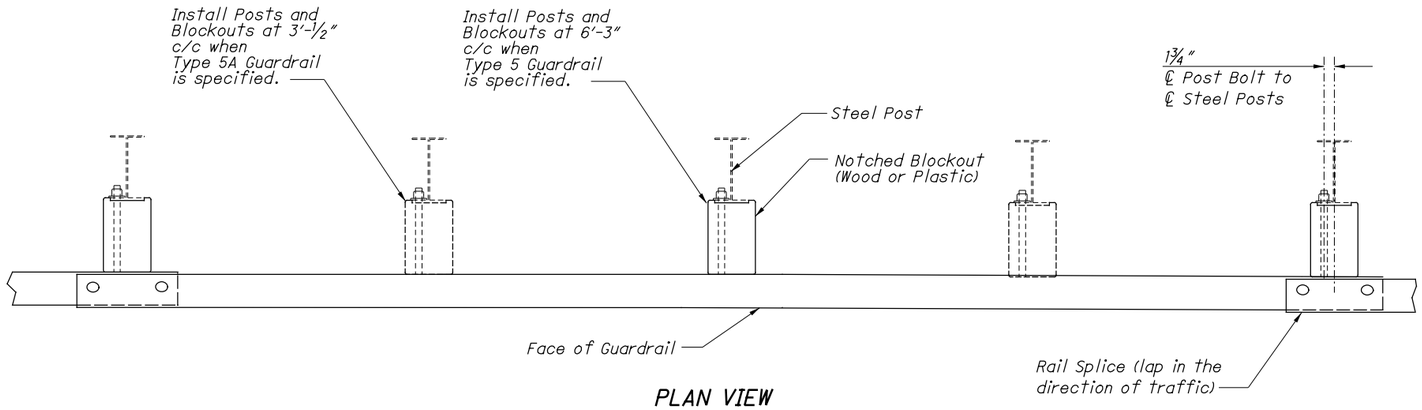
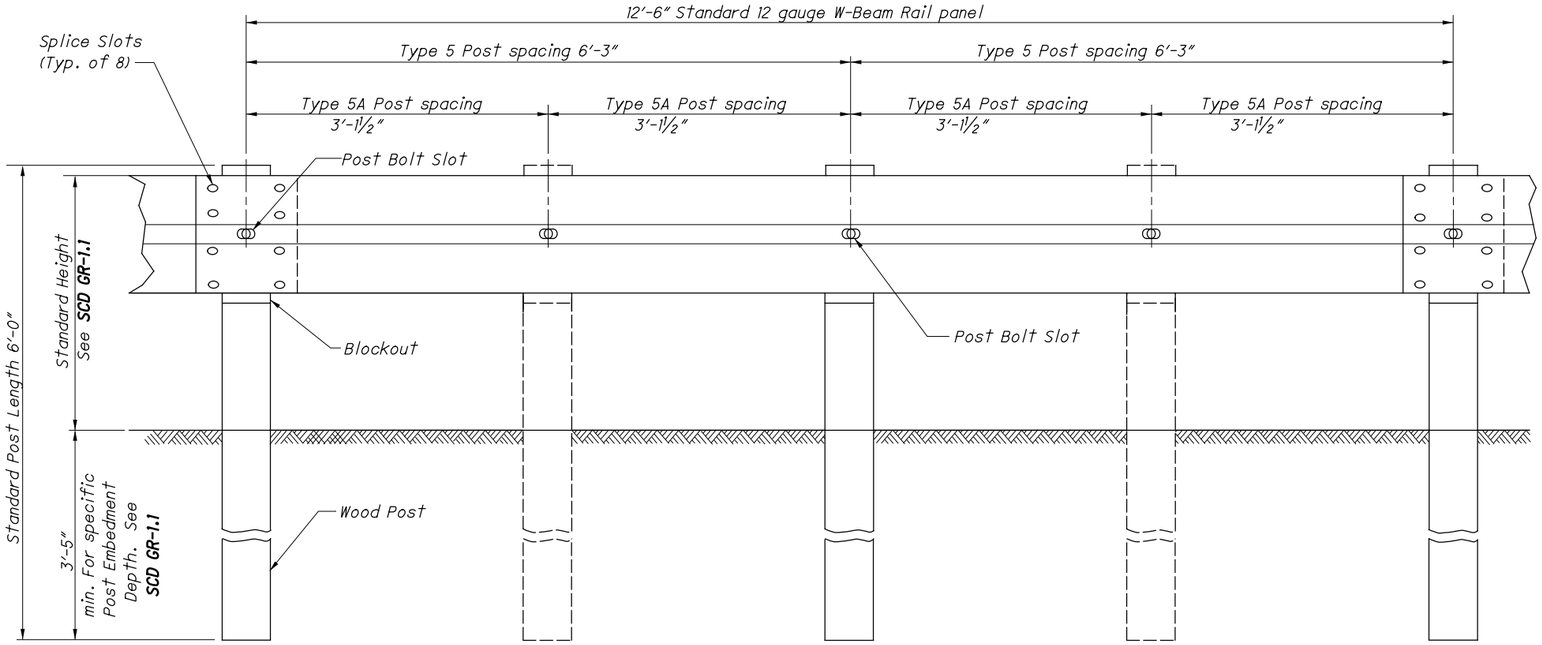


PLAN VIEW

(Steel Posts shown)



ELEVATION

(Wood Posts shown)

NOTES

RAIL: *Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.*

POSTS: *Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawed.*

Use round wood posts on runs of single-sided rail. The round posts shall be 8"±1 in diameter at the top and not more than 3" larger at the butt with a uniform taper.

Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: *Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel [250 MPa yield point] with the following exceptions:*

Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.

Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.

Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the ***Office of Materials Management's*** *Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.*

BLOCKOUTS: *Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the* ***Office of Roadway Engineering.***

WASHERS: *Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.*

DELINEATION: *For barrier reflectors, see CMS 626.*

MISCELLANEOUS: *For other guardrail details, see* ***SCD GR-1.1.***

STEEL BEAM POSTS (English)				
Size	**Beam depth**	**Flange width**	**Flange thickness**	**Web thickness**
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

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GUARDRAIL TYPE 5 & 5A

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1 / 2

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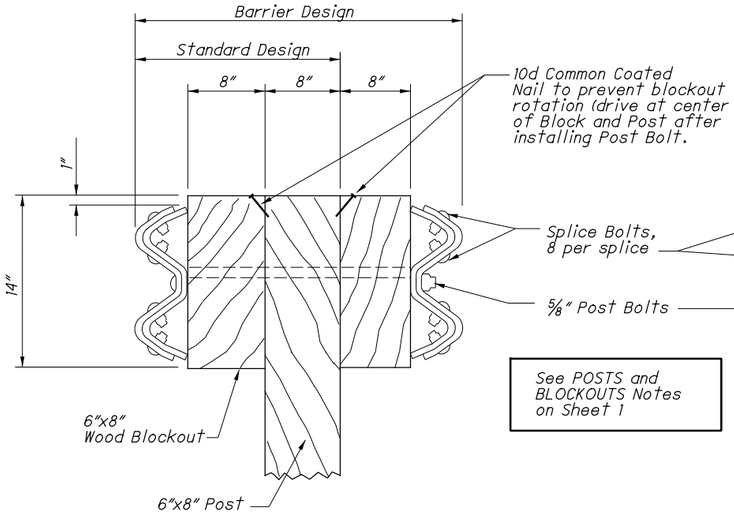
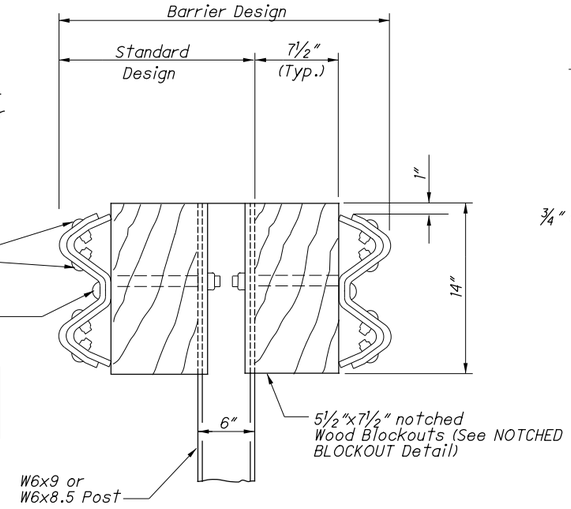
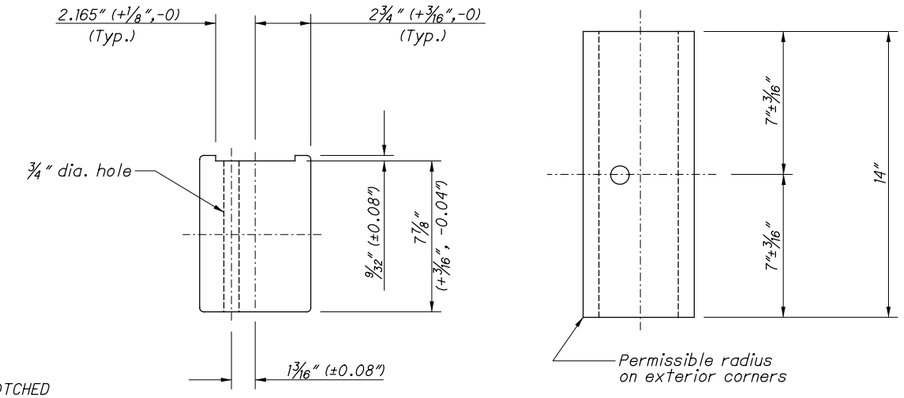


SQUARE WOOD POST



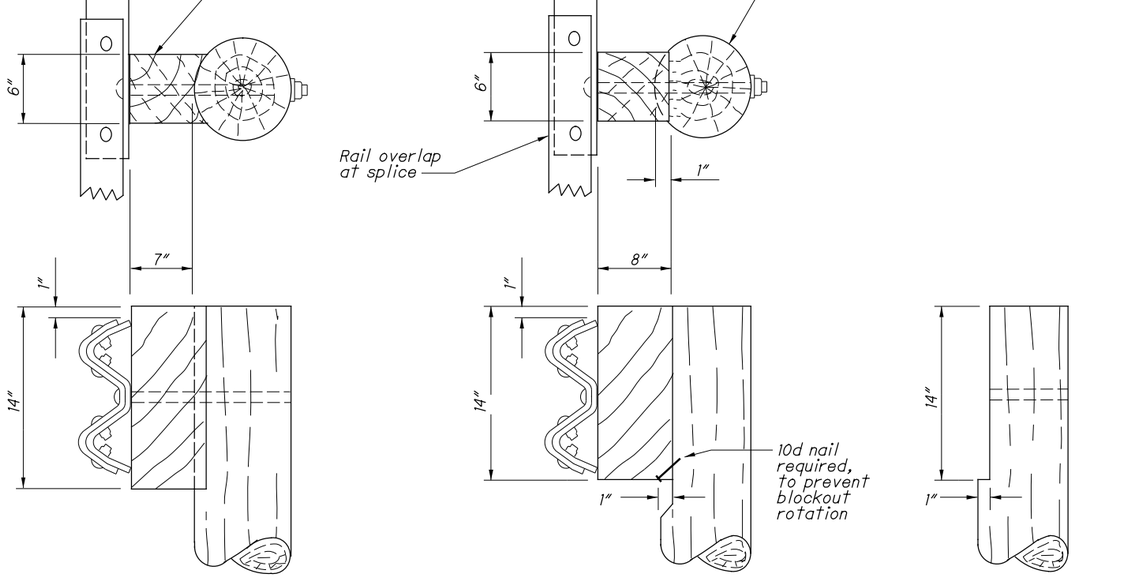
STEEL POST

See POSTS Note, Sheet 1



NOTCHED BLOCKOUTS FOR STEEL POSTS

See BLOCKOUTS Note on Sheet 1



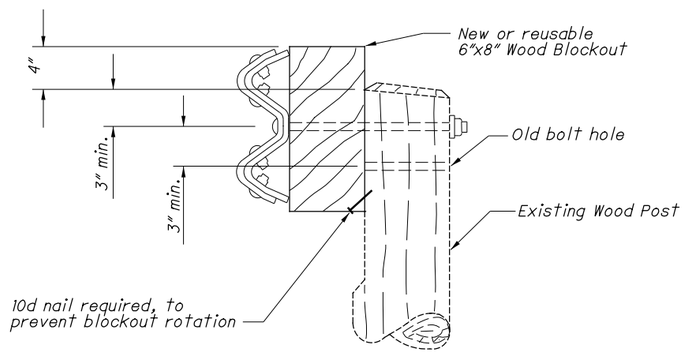
Method 1
Routed Blockout

Method 2
Notched Post

Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

ROUND WOOD POSTS

Single Sided runs only (Standard Design)



WOOD POSTS WITH WOOD BLOCK RAISING EXISTING GUARDRAIL HEIGHT

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CHECKED ADA-32-6.73

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GUARDRAIL TYPE 5 & 5A

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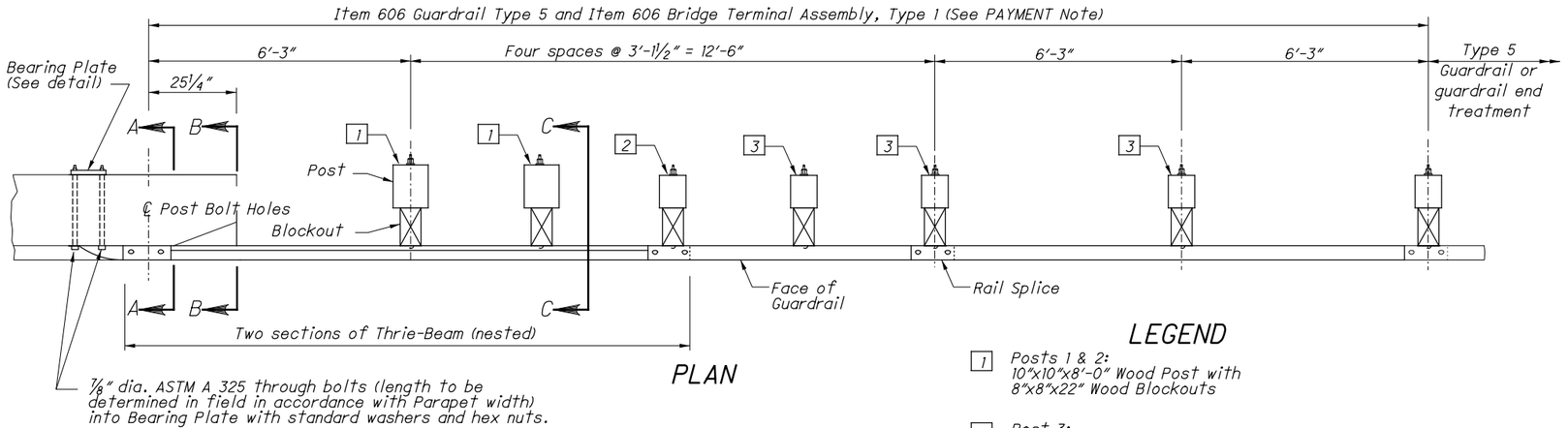
35
52

I:\ProjectData\ADA\95603_ADA_32_0673\Design\Roadway\Sheets\95603_GR005.dgn Sheet 2 7/20/2020 11:10:31 AM bbrown



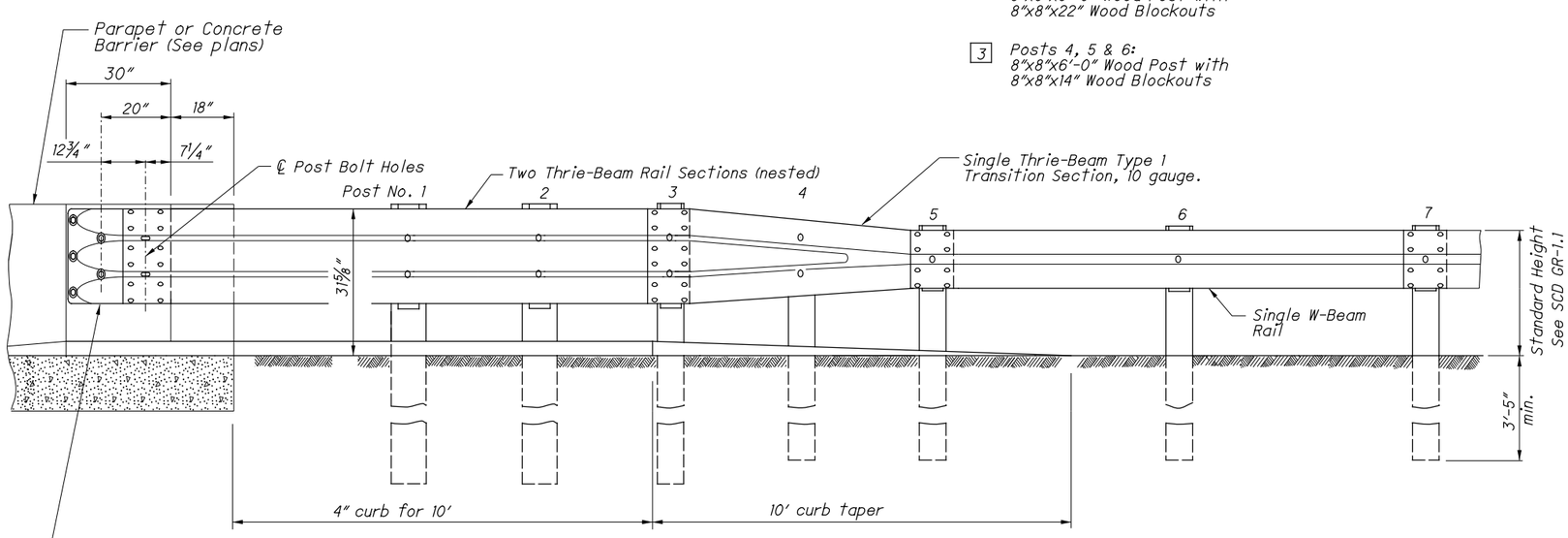
PLAN

LEGEND

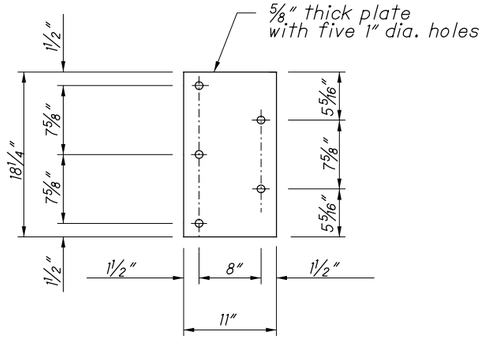
1 Posts 1 & 2: 10"x10"x8'-0" Wood Post with 8"x8"x22" Wood Blockouts

2 Post 3: 8"x8"x8'-0" Wood Post with 8"x8"x22" Wood Blockouts

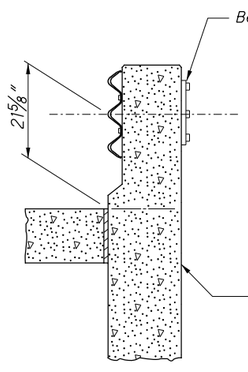
3 Posts 4, 5 & 6: 8"x8"x6'-0" Wood Post with 8"x8"x14" Wood Blockouts



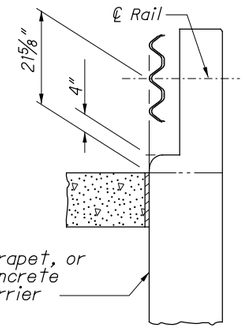
ELEVATION



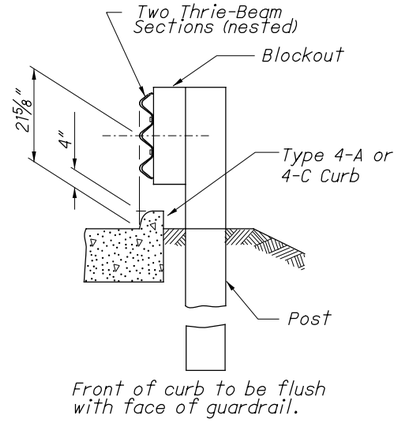
BEARING PLATE



SECTION A-A



SECTION B-B



SECTION C-C

NOTES

GENERAL: For additional details, see **SCD GR-1.1.**

APPLICATION: Use Type 1 Bridge Terminal Assembly to connect guardrail runs to bridges having deflector Parapet Type Bridge Railing (see **Structural Engineering's SCD BR-1).** It may also be used to connect guardrail runs to the approach ends of Concrete Barrier (see **SCD RM-4.6).**

On undivided, bi-directional roadways, Type 1's may be used to anchor guardrail runs to the trailing end of Deflector Parapets or Concrete Barrier installations.

THRIE BEAM TRANSITION: Symmetrical W-Beam to Thrie Beam transition panel shall be 10 gauge.

POSTS: Posts may be set in drilled holes or driven to grade. See **SCD GR-1.1** for additional Post embedment details.

WOOD POSTS - Use square sawed pressure treated wood as per CMS 710.14 and fabricate with square ends. Bore bolt holes and trim the tops of posts, if required, after the posts are set.

STEEL POSTS - are allowed as an alternate. Use W8x24 for 10"x10" wood posts and use W6x25 for 8"x8" posts. Use same post material throughout assembly.

BLOCKOUTS: Use wood blockouts only, steel or plastic blockouts are not permitted. Use notched blockouts with steel posts.

CURB: Provide a Type 4A or 4C concrete curb minimum of 20', or longer as shown on plans, including a 10' taper (from curb height to flush). Front of curb to be flush with face of guardrail.

FLARED GUARDRAIL: Begin Standard Guardrail Flares as shown on **SCD GR-5.1** preferably at or beyond Post No. 7; however, the flare may begin at Post No. 5.

PAYMENT: Item 606 - Bridge Terminal Assembly, Type 1, Each, includes the cost of extra components, in excess of normal guardrail, for additional and different size of posts and blockouts, nested Thrie-Beam, transition and connector sections, Bearing Plate, bolts, washers, nuts, and other hardware.

The curb is required in this design, and is paid separately under **Item 609 - Curb, Type 4A (or 4C), per Foot,** for the curb and taper sections, including materials, forming and labor needed to construct as shown.

OFFICE OF ROADWAY ENGINEERING

DESIGNED XXX REVIEWED XXX

REVISION DATE 1/18/2013 CHECKED CHECKED

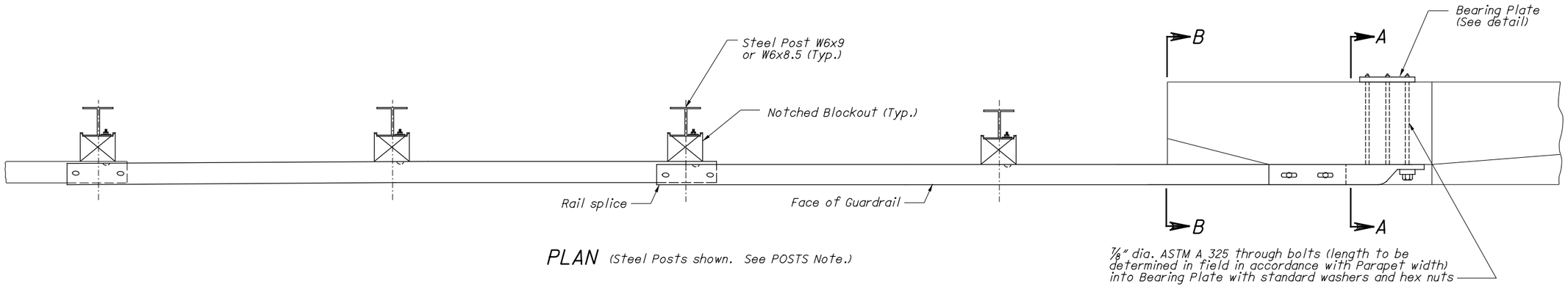
PLAN INSERT SHEET

BRIDGE TERMINAL ASSEMBLY, TYPE 1

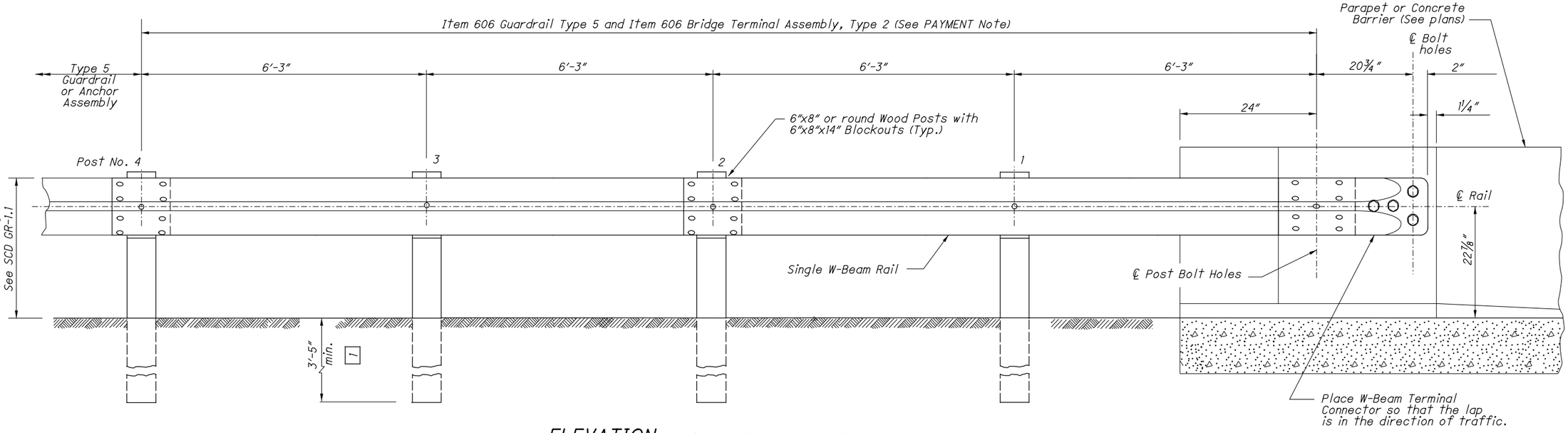
ADA-32-6.73

1 / 1

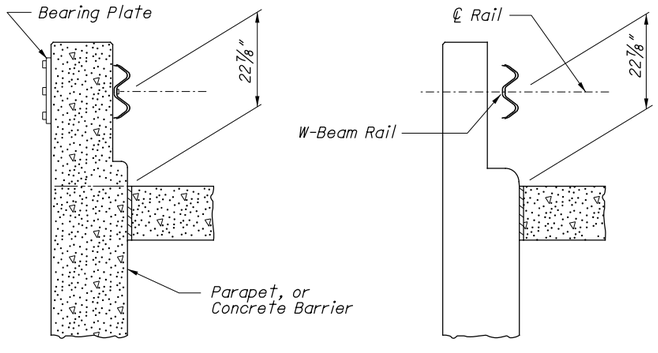
36 / 52



PLAN (Steel Posts shown. See POSTS Note.)

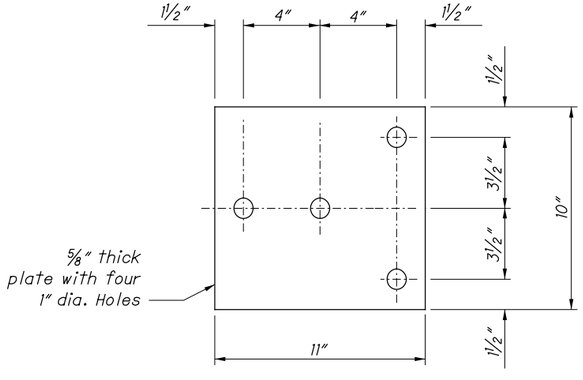


ELEVATION (Wood Posts shown. See POSTS Note.)



SECTION A-A

SECTION B-B



BEARING PLATE

NOTES

GENERAL: For additional rail and post details, see **SCD GR-1.1.**

APPLICATION: Use Type 2 Bridge Terminal Assembly to connect guardrail runs to the trailing end of Parapets or Concrete Barriers (see **SCD RM-4.6** for barrier) on one-directional roadways. Do not use if located within clear zone of opposing traffic.

POSTS: Posts shall be of standard size and material specified for the appropriate type of guardrail to be installed leaving the bridge or barrier. For Type 5 guardrail, see **SCD GR-2.1.**

BLOCKOUTS: Wood or plastic blockouts are permitted.

FLARED GUARDRAIL: Begin Standard Guardrail Flares as shown on **SCD GR-5.1,** preferably at or beyond Post No. 4, however, the flare may begin at Post No. 2.

PAYMENT: **Item 606 - Bridge Terminal Assembly, Type 2, Each.** includes the cost of extra components, in excess of normal guardrail for the Terminal connector, Bearing Plates, bolts, washers, nuts, and other hardware.

OFFICE OF ROADWAY ENGINEERING

DESIGNED XXX REVIEWED XXX

REVISION DATE 1/18/2013 CHECKED CHECKED

PLAN INSERT SHEET

BRIDGE TERMINAL ASSEMBLY, TYPE 2

ADA-32-6.73

1 / 1

37
52

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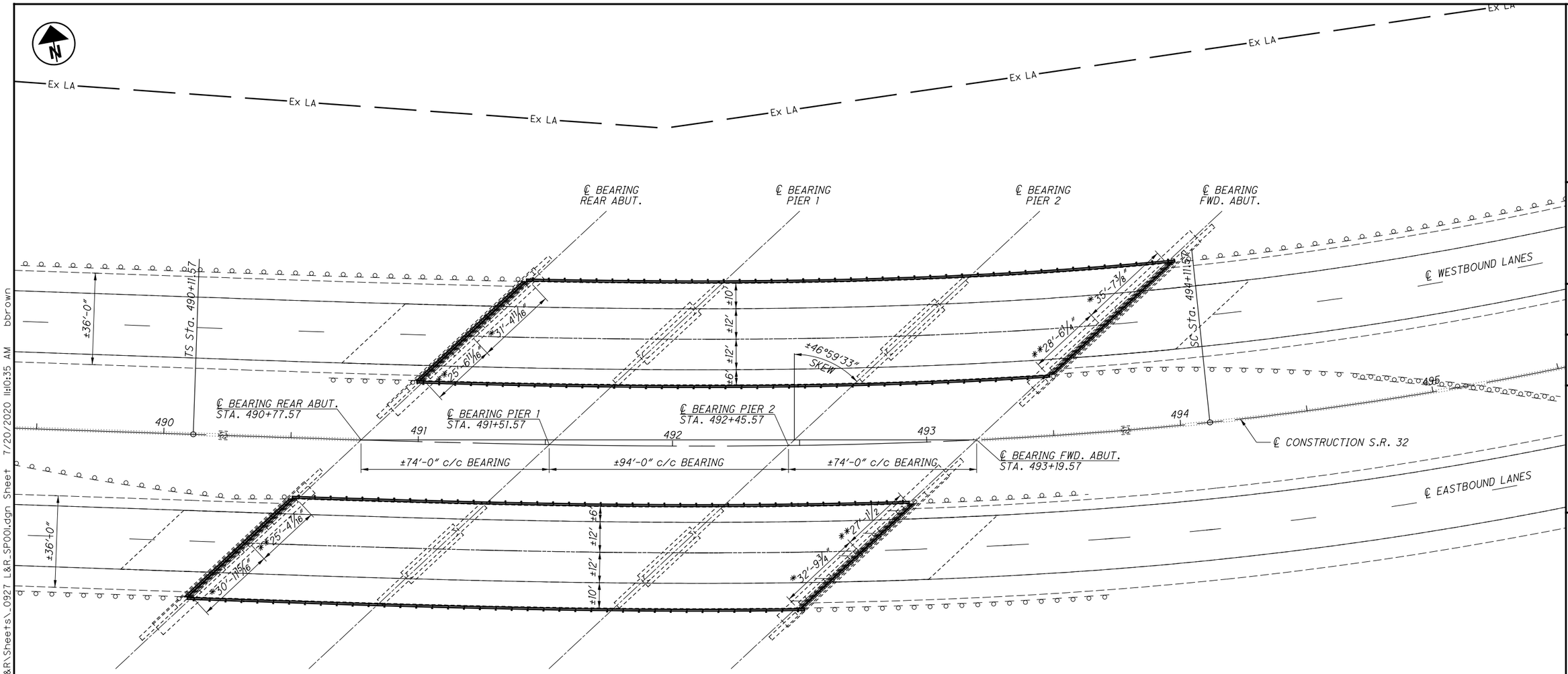
BRIDGE LOCATION	WIDTH	LENGTH	DECK AREA	APPROACH SLAB AREA	PARAPET SURFACE WIDTH		512 SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	512 TREATING OF CONCRETE BRIDGE DECK WITH SRS							COMMENTS
	FT	FT	SY	SY	FT		SY	SY							
ADA-32-0927 R & L SFN: 0100137 & 0100145	SEE BRIDGE SHEETS FOR DETAILS AND QUANITITIES														
ADA-32-1103 N SFN: 0100196															OVER SPOON RIVER
PAVE THRU															
ADA-32-1182 R & L SFN: 0100234 & 0100226	SEE BRIDGE SHEETS FOR DETAILS AND QUANITITIES														
ADA-32-1699 L SFN: 0100331															OVER N & W RAILROAD
BEGIN APPROACH SLAB SLM 16.9853 - SLM 16.9900	38.5	25		106.94	10.20		10.69	106.94							
SLM 16.9900 - SLM 17.0172	38.5	144	616.00		10.20		61.60	616.00							
END APPROACH SLAB SLM 17.0172 - SLM 17.0220	38.5	25		106.94	10.20		10.69	106.94							
SUB-TOTAL							82.99	829.89							
TOTAL CARRIED TO GENERAL SUMMARY							**83**	**830**							
ADA-32-1699 R SFN: 0100366															OVER N & W RAILROAD
BEGIN APPROACH SLAB SLM 16.9853 - SLM 16.9900	38.5	25		106.94	10.20		10.69	106.94							
SLM 16.9900 - SLM 17.0172	38.5	144	616.00		10.20		61.60	616.00							
END APPROACH SLAB SLM 17.0172 - SLM 17.0220	38.5	25		106.94	10.20		10.69	106.94							
SUB-TOTAL							82.99	829.89							
TOTAL CARRIED TO GENERAL SUMMARY							**83**	**830**							
ADA-32-1714 N SFN: 0100390															TRIBUTARY OF PLUM RUN
PAVE THRU															
ADA-32-1942 L SFN: 0100420															OVER SCIOTO BRUSH CREEK
BEGIN APPROACH SLAB SLM 19.4153 - SLM 19.4200	37.0	25		102.78	10.20		10.28	102.78							
SLM 19.4200 - SLM 19.4579	37.0	200	822.22		10.20		82.22	822.22							
END APPROACH SLAB SLM 19.4579 - SLM 19.4623	37.0	25		102.78	10.20		10.28	102.78							
SUB-TOTAL							102.78	1027.78							
TOTAL CARRIED TO GENERAL SUMMARY							**103**	**1028**							
ADA-32-1942 R SFN: 0100455															OVER SCIOTO BRUSH CREEK
BEGIN APPROACH SLAB SLM 19.4153 - SLM 19.4200	37.0	25		102.78	10.20		10.28	102.78							
SLM 19.4200 - SLM 19.4579	37.0	200	822.22		10.20		82.22	822.22							
END APPROACH SLAB SLM 19.4579 - SLM 19.4623	37.0	25		102.78	10.20		10.28	102.78							
SUB-TOTAL							102.78	1027.78							
TOTAL CARRIED TO GENERAL SUMMARY							**103**	**1028**							

CALCULATED BCB
CHECKED DMB

STRUCTURES SUB-SUMMARY

ADA-32-6.73



EX. SPIRAL CURVE DATA - S.R. 32

P.I. Sta. 496+59.92	p = 4.65'
Δ = 34° 39' 52" (LT)	Δc = 18° 39' 52" (LT)
Dc = 4° 00' 03"	Lc = 466.52'
R = 1,432.39'	Ts = 648.35'
Ls = 400.00'	E = 73.01'
θs = 8° 00' 00"	C = -464.55'
LT = 266.94'	C1 = C2 = 399.65'
ST = 133.58'	C.B.1 = S 80° 13' 09" E
x = 399.22'	C.B. = N 85° 06' 53" E
y = 18.59'	C.B.2 = S 70° 26' 55" W
k = 199.87'	

LEGEND

* - PHASE 1 CONSTRUCTION
** - PHASE 2 CONSTRUCTION

DESIGN TRAFFIC:
2020 ADT = 6,600 2020 ADTT = 1,518
2040 ADT = 8,200 2040 ADTT = 1,886
DIRECTIONAL DISTRIBUTION = 53%

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: ±74'-0" - ±94'-0" - ±74'-0" c/c BEARINGS
ROADWAY: ±40'-0" o/o DECK
LOADING: HS20
SKEW: ±46°59'33" LEFT FORWARD
WEARING SURFACE: CONCRETE
APPROACH SLABS: ±25'-0" (AS-1-72)
ALIGNMENT: ±4°00'00" CURVE LEFT
CROWN: SUPERELEVATED, VARIES
STRUCTURAL FILE NUMBER: 0100137L / 0100145R
DATE BUILT: 1978
DISPOSITION: REHABILITATION

PROPOSED WORK

REMOVE PORTIONS OF OF THE ABUTMENTS AS DETAILED

PLACE PROPOSED EXPANSION JOINT AND CAST BACK ABUTMENTS

INSTALL DRIP STRIPS

PLACE 702.13 TACK, ½" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, TACK, AND 1½" BRIDGE DECK WATERPROOFING ASPHALT CONCRETE

INSTALL DEEP BEAM BRIDGE RETROFIT RAILING

PERFORM STRUCTURAL STEEL REPAIR AND SPOT PAINT AS DETAILED

REFURBISH BEARINGS

COORDINATES: LATITUDE N 38° 55' 34"
LONGITUDE W 83° 30' 50"

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JAZ	JAZ	MCM	07/14/20
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		0100137/0100145	

ADAMS COUNTY
STA. 490+77.57
STA. 493+19.57

SITE PLAN

BRIDGE NO. ADA-32-0927 L&R
OVER CHERRY FORK CREEK

ADA-32-6.73
PID No. 95603

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

DBR-3-11 DATED 07/15/2011
DS-1-92 REVISED 07/18/2003
EXJ-4-87 REVISED 01/19/2018

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 DATED 07/17/2020
832 DATED 10/19/2018
844 DATED 04/20/2018

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING: HS20
NO FUTURE WEARING SURFACE

DESIGN DATA

CONCRETE CLASS QC2
-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

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 C&MS SECTIONS 102.05, 105.02 AND 513.04*. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN

PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE EACH CONTRACT PRICE FOR ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

SEE SHEET 4/7 FOR ESTIMATED QUANTITIES.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (C&MS 711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60° F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION:
THIS WORK CONSISTS OF THE REMOVAL OF PORTIONS OF THE ABUTMENTS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING ABUTMENT REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

REMOVAL METHODS:
THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

THE EXISTING BEAM ENDS SHALL HAVE A MINIMUM OF 3 INCHES OF CLEARANCE FROM THE EXISTING BACKWALL. IF THERE IS LESS THAN 3 INCHES OF CLEARENCE, THE EXISTING BEAM ENDS SHALL BE TRIMMED TO ALLOW FOR A MINIMUM OF 3 INCHES OF CLEARANCE.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH C&MS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH C&MS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY PLACE THE STRUCTURAL EXPANSION JOINT (I.E. STEEL RETAINERS, STEEL BARS, AND CONCRETE), AND INSTALL THE ELASTOMERIC SEAL AS SHOWN ON SHEETS 7/7, AND STANDARD BRIDGE DRAWING EXJ-4-87.

ALL STRUCTURAL STEEL MEMBERS SHALL BE LEVEL UF AND ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER.

PROVIDE SHOP DRAWINGS ACCORDING TO 513.04 OR SUPPLY THE ENGINEER WITH "AS BUILT" DRAWINGS MEETING 513.04 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, TO THE STRUCTURAL, WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

PAYMENT FOR ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE FOOT CONTRACT PRICE FOR ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

SEE SHEET 4/7 FOR ESTIMATED QUANTITIES.

ITEM 690, SPECIAL-MISC.: ASPHALT CONCRETE MICROMILLING

THIS ITEM CONSISTS OF MICROMILLING THE EXISTING ¼" EPOXY OVERLAY FROM THE SUPERSTRUCTURE IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. ENSURE THE MICROMILLED SURFACE MEETS SMOOTHNESS REQUIREMENTS AND PROVIDES A CONSTANT CROSS SLOPE. USE MICROMILLING EQUIPMENT THAT IS POWER DRIVEN AND SELF-PROPELLED HAVING SUFFICIENT POWER, TRACTION AND STABILITY TO REMOVE THE REQUIRED THICKNESS OF OVERLAY. THE MICROMILLING MACHINE SHALL USE CARBIDE TIPPED TEETH. THE CUTTING HEAD AND TEETH SHALL BE DESIGNED, MAINTAINED AND OPERATED TO PRODUCE A SURFACE FREE FROM GROOVES, RIDGES, GOUGES, OR OTHER IRREGULARITIES DETRIMENTAL TO THE SAFE OPERATION OF VEHICLES IN TRAFFIC. USE A 6 FT. (1.83 METER) MINIMUM WIDTH CUTTING HEAD WITH A 2 INCH (5 MM) TOOTH SPACING.

THE MICROMILLING MACHINE SHALL HAVE A MINIMUM 2 POINT AVERAGE SYSTEM CAPABLE OF PROVIDING A UNIFORMLY VARYING DEPTH OF CUT AND CROSS SLOPE WHILE THE MACHINE IS IN MOTION.

ENSURE MILLINGS DO NOT FLOW ACROSS LANES USED BY THE TRAVELING PUBLIC OR INTO THE STREAM OR DRAINAGE FACILITIES. THE CONTRACTOR SHALL IMPLEMENT EFFECTIVE MEASURES TO CONTROL DUST, PAVEMENT CONTAMINATION, STREAM CONTAMINATION AND SCATTERING OF LOOSE PARTICLES DURING THE MILLING AND CLEANING OPERATION. ALL MILLING RESIDUE SHALL BE REMOVED FROM THE MILLED SURFACE.

MICROMILL THE SUPERSTRUCTURE TO EXPOSE A SURFACE THAT IS 100% MILLED WHILE MAINTAINING A CONSTANT CROSS SLOPE BETWEEN THE MILLING EXTREMITIES IN EACH LANE.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE PER SQUARE YARD FOR ITEM 690, SPECIAL-MISC.: ASPHALT CONCRETE MICROMILLING, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

SUGGESTED BRIDGE CONSTRUCTION SEQUENCE:

PHASE 1 CONSTRUCTION

1. SET UP PHASE 1 TRAFFIC CONTROL TO CLOSE THE LEFT EAST/WESTBOUND LANES USING DRUMS TO PROTECT THE BRIDGE WORK AS DETAILED ON ROADWAY SHEETS 8-12.

2. COMPLETE PHASE 1 CONSTRUCTION OF BRIDGE NO. ADA-32-0927 L&R.

PHASE 2 CONSTRUCTION

1. SET UP PHASE 2 TRAFFIC CONTROL TO CLOSE THE RIGHT EAST/WESTBOUND LANES USING DRUMS TO PROTECT THE BRIDGE WORK AS DETAILED ON ROADWAY SHEETS 13-18.

2. COMPLETE PHASE 2 CONSTRUCTION OF BRIDGE NO. ADA-32-0927 L&R.

PHASE 3 CONSTRUCTION

1. AT THE COMPLETION OF PHASE 2 CONSTRUCTION, REMOVE MAINTENANCE OF TRAFFIC DEVICES AND OPEN ALL LANES TO TRAFFIC.

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DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED JAZ | DRAWN JAZ | REVIEWED MCM | DATE 07/14/20
CHECKED | REVISED | STRUCTURE FILE NUMBER 0100137/0100145

GENERAL NOTES
BRIDGE NO. ADA-32-0927 L&R
OVER CHERRY FORK CREEK

ADA-32-6.73
PID No. 95603

CALC:	JAZ	DATE:	4/27/2020
CHECKED:	MCM	DATE:	7/14/2020

ESTIMATED QUANTITIES ADA-32-0927L (02/NHS/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	2/7
202	38001	508	FT	GUARDRAIL REMOVED, AS PER PLAN			508		4
407	10000	67	GAL	TACK COAT			67		
407	13900	89	GAL	TACK COAT, 702.13			89		
424	12000	16	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B			16		
509	10000	414	LB	EPOXY COATED REINFORCING STEEL	414				
510	10001	121	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	121				2/7
511	34410	2	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	2				
513	10200	69	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF			69		
516	11211	121.2	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			121.2		2/7
516	31010	122	FT	2" DEEP JOINT SEALER	122				
516	45305	10	EACH	REFURBISH BEARING DEVICE, AS PER PLAN			10		2/7
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LS		2/7
517	75600	508	FT	DEEP BEAM BRIDGE RETROFIT RAILING			508		
SPECIAL	51822300	619.45	FT	STEEL DRIP STRIP			619.45		
606	13001	508	FT	GUARDRAIL, TYPE 5, AS PER PLAN			508		4
SPECIAL	69098300	1106	SY	ASPHALT CONCRETE MICROMILLING			1106		2/7
856	10000	46	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE			46		

CALC:	JAZ	DATE:	4/27/2020
CHECKED:	MCM	DATE:	7/14/2020

ESTIMATED QUANTITIES ADA-32-0927R (02/NHS/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	2/7
202	38001	491	FT	GUARDRAIL REMOVED, AS PER PLAN			491		4
407	10000	65	GAL	TACK COAT			65		
407	13900	86	GAL	TACK COAT, 702.13			86		
424	12000	15	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B			15		
509	10000	395	LB	EPOXY COATED REINFORCING STEEL	395				
510	10001	116	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	116				2/7
511	34410	2	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	2				
513	10200	69	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF			69		
516	11211	116.3	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			116.3		2/7
516	31010	117	FT	2" DEEP JOINT SEALER	117				
516	45305	10	EACH	REFURBISH BEARING DEVICE, AS PER PLAN			10		2/7
516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LS		2/7
517	75600	491	FT	DEEP BEAM BRIDGE RETROFIT RAILING			491		
SPECIAL	51822300	597.693	FT	STEEL DRIP STRIP			597.69		
606	13001	491	FT	GUARDRAIL, TYPE 5, AS PER PLAN			491		4
SPECIAL	69098300	1068	SY	ASPHALT CONCRETE MICROMILLING			1068		2/7
856	10000	45	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE			45		

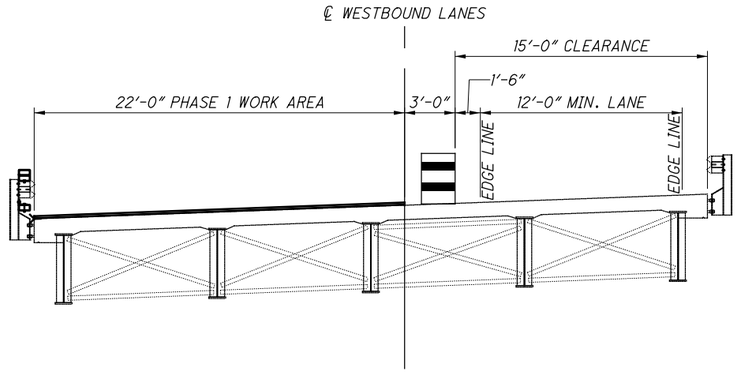
DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

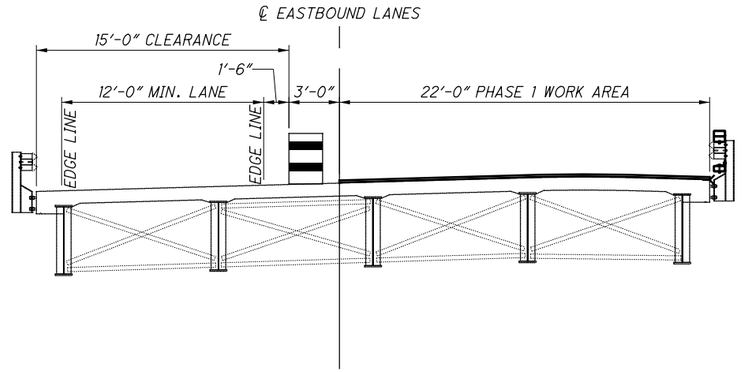
REVIEWED MCM DATE 07/14/20
STRUCTURE FILE NUMBER 0100137/0100145

DRAWN JAZ REVISED
DESIGNED JAZ CHECKED

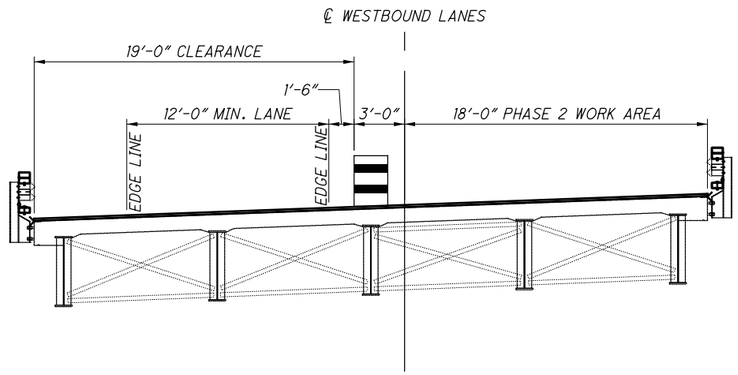
ESTIMATED QUANTITIES
BRIDGE NO. ADA-32-0927 L&R
OVER CHERRY FORK CREEK

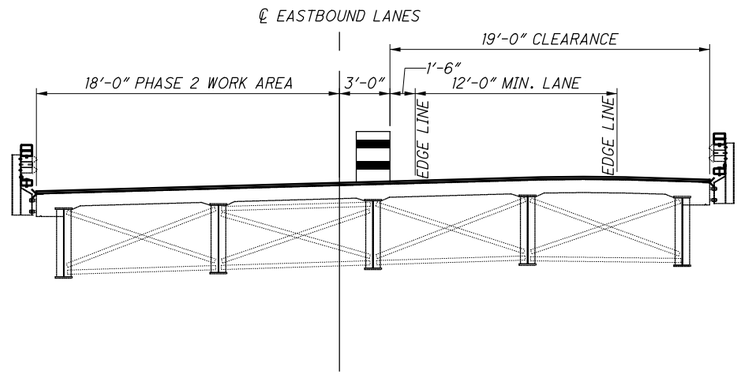
ADA-32-6.73
PID No. 95603





PROPOSED PHASE 1 MAINTENANCE OF TRAFFIC





PROPOSED PHASE 2 MAINTENANCE OF TRAFFIC

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JAZ	JAZ	MCM	07/14/20
CHECKED	REVISED	STRUCTURE FILE NUMBER	0100137/0100145

STAGED CONSTRUCTION DETAILS
BRIDGE NO. ADA-32-0927 L&R
OVER CHERRY FORK CREEK

ADA-32-6.73
PID No. 95603

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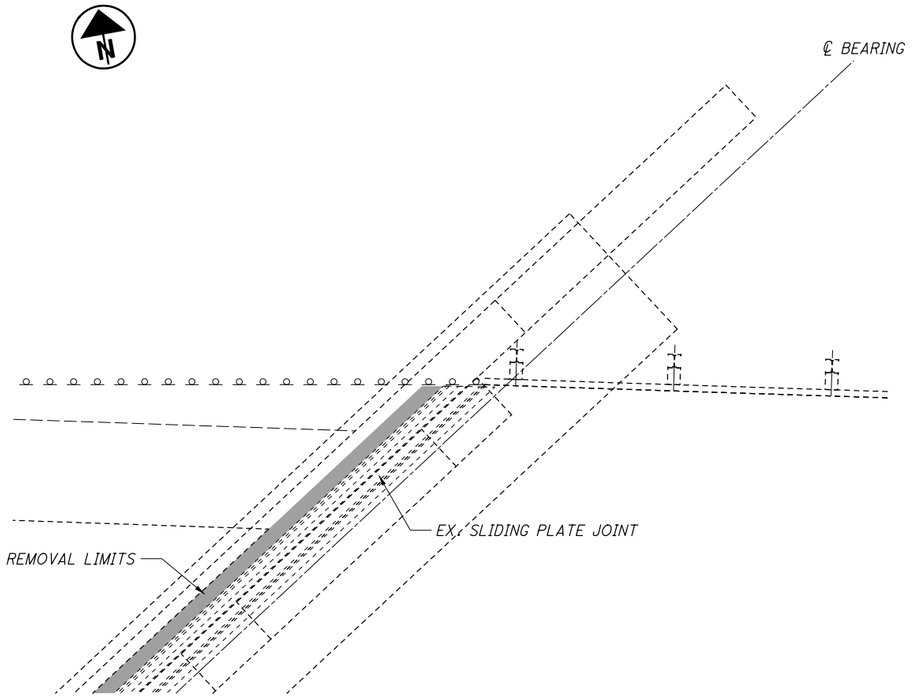


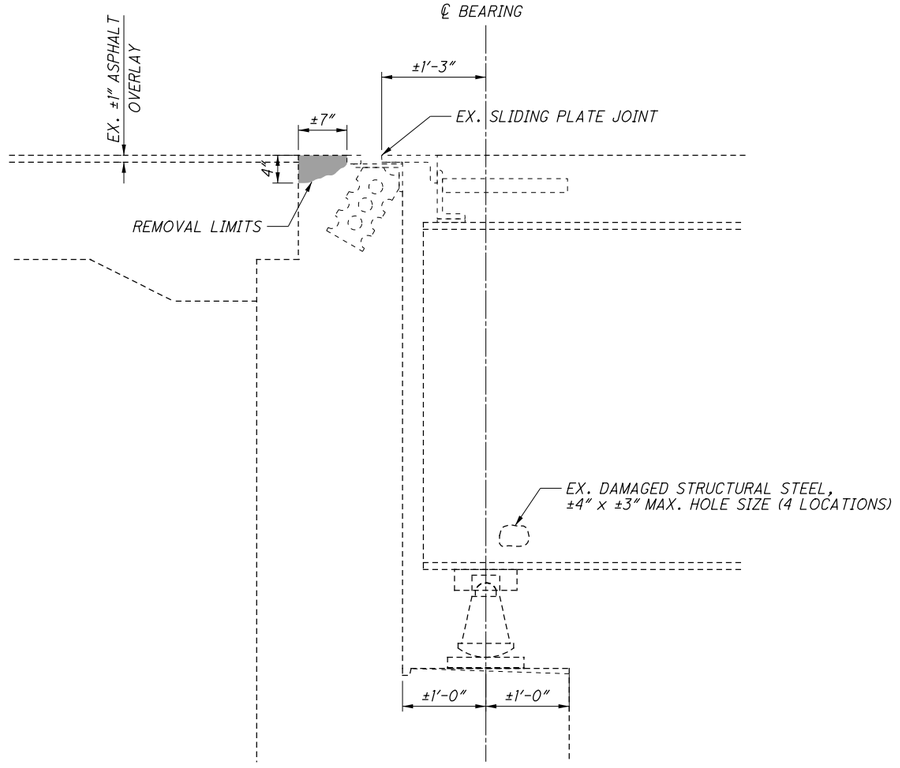
EXISTING PLAN VIEW

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS
OF THE LEFT AND RIGHT STRUCTURES

NOTES:

EXISTING REINFORCING STEEL NOT SHOWN FOR CLARITY,
ALL EXISTING REINFORCING STEEL SHALL BE PRESERVED.

REMOVAL OF CONCRETE



SECTION B-B

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS
OF THE LEFT AND RIGHT STRUCTURES

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JAZ	JAZ	MCM	07/14/20
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		0100137/0100145	

REMOVAL DETAILS
BRIDGE NO. ADA-32-0927 L&R
OVER CHERRY FORK CREEK

ADA-32-6.73
PID No. 95603

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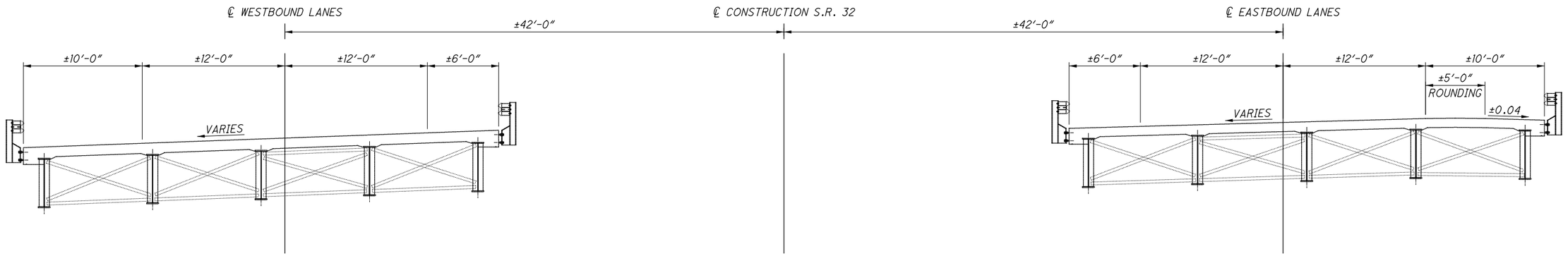
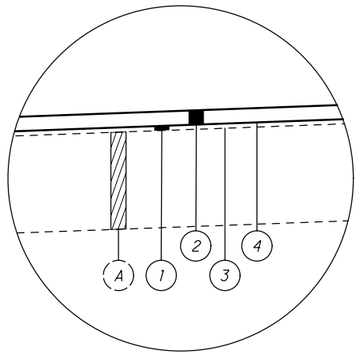


EXISTING TRANSVERSE SECTION



DETAIL "A"

LEGEND:

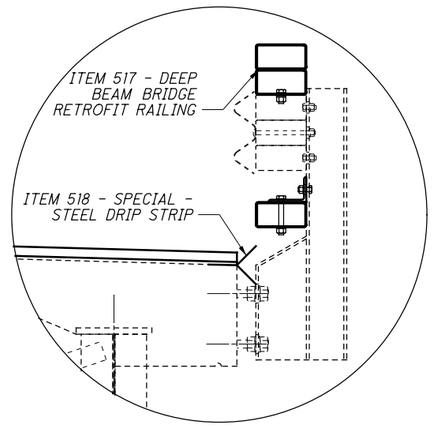
(1) ITEM 424 - ½" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B

(2) ITEM 856 - 1½" BRIDGE DECK WATERPROOFING ASPHALT CONCRETE

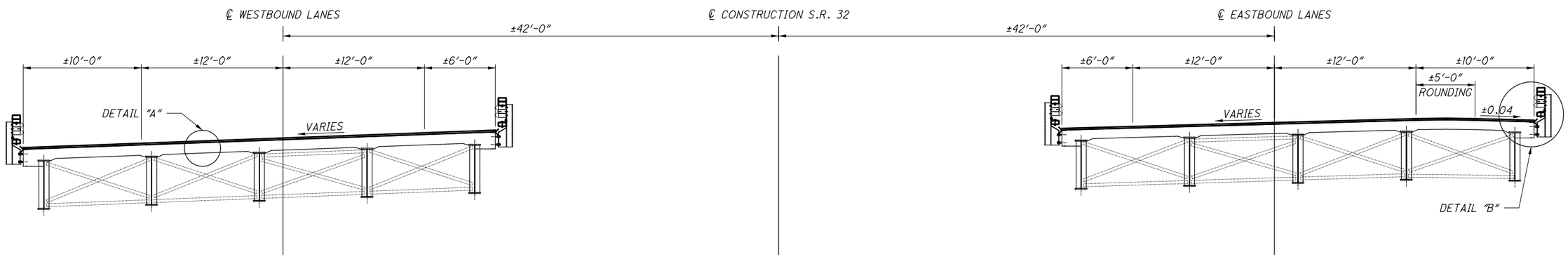
(3) ITEM 407 - TACK COAT, 702.13

(4) ITEM 407 - TACK COAT

(A) EX. ±9½" BRIDGE DECK



DETAIL "B"



PROPOSED TRANSVERSE SECTION

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
JAZ	JAZ	MCM	07/14/20	0100137/0100145
CHECKED	REVISED			

TRANSVERSE SECTION
BRIDGE NO. ADA-32-0927 L&R
OVER CHERRY FORK CREEK

ADA-32-6.73
PID No. 95603

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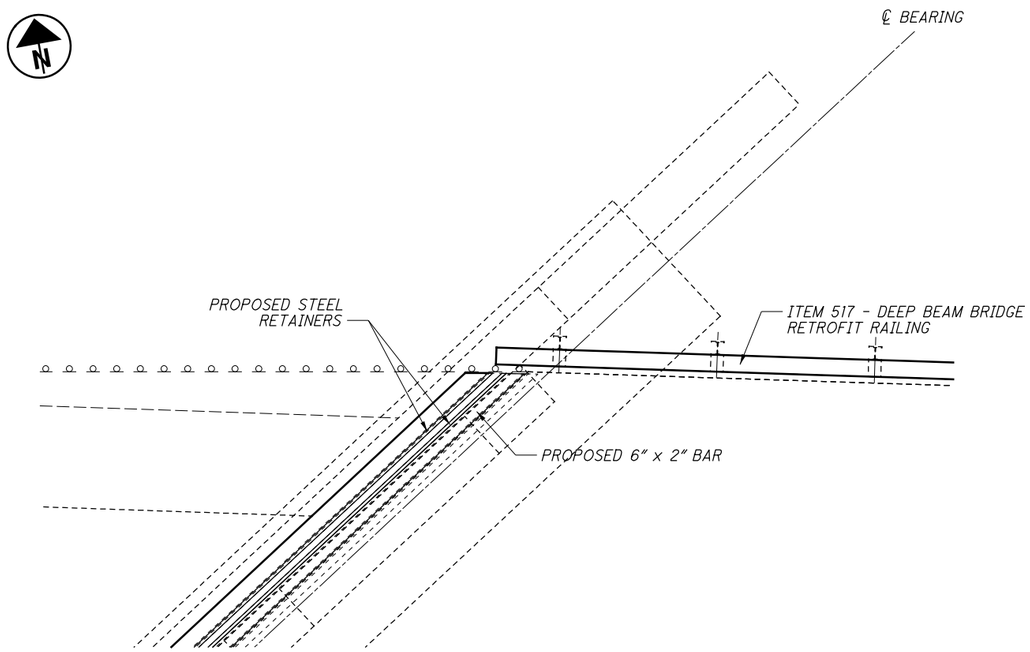
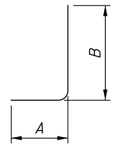


PLAN VIEW

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS OF THE LEFT AND RIGHT STRUCTURES



TYPE-1

REINFORCING STEEL LIST						
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	DIMENSIONS B
LEFT BRIDGE REAR ABUTMENT						
PHASE I						
A501*	1	31'-2"	33	STR		
A601	31	1'-7"	74	1	0'-4 3/4"	1'-4"
PHASE II						
A502	1	25'-4"	26	STR		
A601	26	1'-7"	62	1	0'-4 3/4"	1'-4"
SUB-TOTAL REAR ABUT.			195			
LEFT BRIDGE FORWARD ABUTMENT						
PHASE I						
A503*	1	35'-5"	37	STR		
A601	35	1'-7"	83	1	0'-4 3/4"	1'-4"
PHASE II						
A504	1	28'-4"	30	STR		
A601	29	1'-7"	69	1	0'-4 3/4"	1'-4"
SUB-TOTAL FWD. ABUT.			219			
SUB-TOTAL REAR ABUT.			195			
ABUTMENT TOTAL			414			

REINFORCING STEEL LIST						
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	DIMENSIONS B
RIGHT BRIDGE REAR ABUTMENT						
PHASE I						
A505*	1	30'-9"	32	STR		
A601	31	1'-7"	74	1	0'-4 3/4"	1'-4"
PHASE II						
A506	1	25'-1"	26	STR		
A601	25	1'-7"	59	1	0'-4 3/4"	1'-4"
SUB-TOTAL REAR ABUT.			191			
RIGHT BRIDGE FORWARD ABUTMENT						
PHASE I						
A507*	1	32'-7"	34	STR		
A601	33	1'-7"	78	1	0'-4 3/4"	1'-4"
PHASE II						
A508	1	26'-11"	28	STR		
A601	27	1'-7"	64	1	0'-4 3/4"	1'-4"
SUB-TOTAL FWD. ABUT.			204			
SUB-TOTAL REAR ABUT.			191			
ABUTMENT TOTAL			395			

* = MECHANICAL CONNECTOR IS REQUIRED

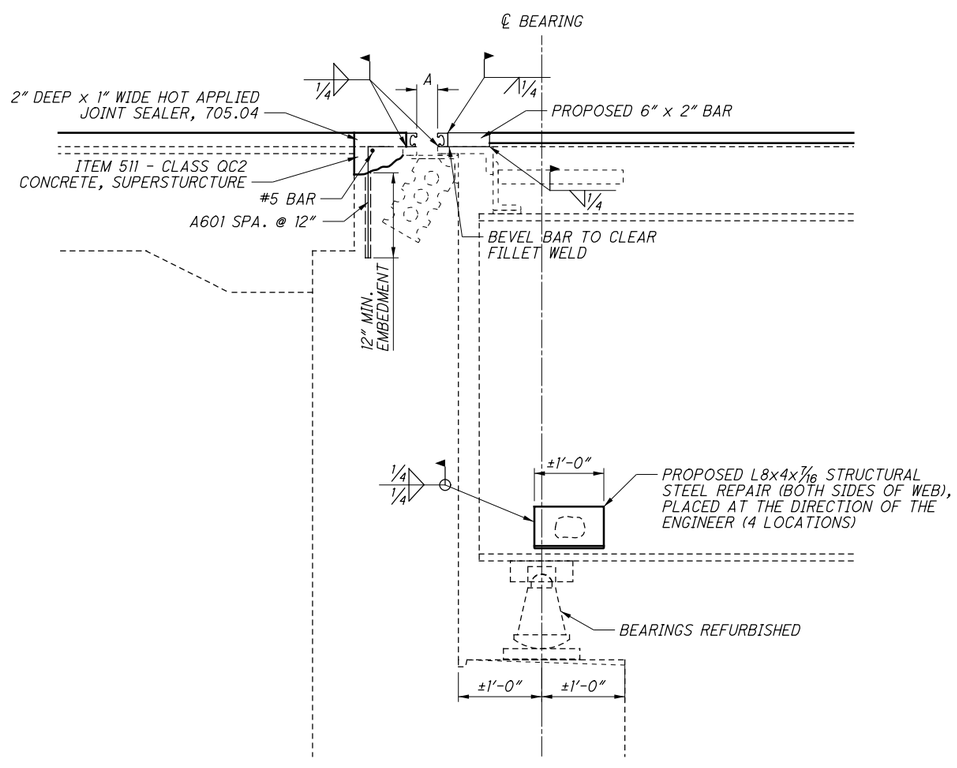
NEOPRENE STRIP SEAL SPECIFICATIONS
A = 1 1/16" @ 60° F

MAXIMUM MOVEMENT PERPENDICULAR	MAXIMUM MOVEMENT PARALLEL	JOINT OPENING
INCHES	INCHES	INCHES
4.0	±0.5	0.5-5.0

NOTE: THE PROPOSED JOINT IS DESIGNED FOR A JOINT OPENING OF "A" @ 60° F AND WITH 1½" WIDE STEEL RETAINERS. THE CONTRACTOR MAY CHOOSE TO USE A DIFFERENT SIZE RETAINER, BUT MUST SUBMIT SHOP DRAWINGS OF PROVISIONS MADE TO MAINTAIN THE JOINT OPENING OF "A" @ 60° F. THESE MUST BE APPROVED BY THE ENGINEER BEFORE WORK CAN BEGIN ON THE JOINT AND SHALL BE NO ADDITIONAL COST TO THE STATE FOR CHANGES MADE BY THE CONTRACTOR.

FOR ADDITIONAL DETAILS REFER TO STD. BDG. DWG. GSD-1-96 AND STD. BDG. DWG. EXJ-4-87.

TEMPERATURE	DIMENSION "A"
F	INCHES
30	1 7/8
40	1 4/5
50	1 3/4
60	1 11/16
70	1 5/8
80	1 9/16
90	1 1/2



SECTION B-B

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS OF THE LEFT AND RIGHT STRUCTURES

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED JAZ | DRAWN JAZ | REVIEWED MCM | DATE 07/14/20 | STRUCTURE FILE NUMBER 0100137/0100145 | CHECKED | REVISED

EXPANSION JOINT DETAILS
BRIDGE NO. ADA-32-0927 L&R
OVER CHERRY FORK CREEK

ADA-32-6.73
PID No. 95603

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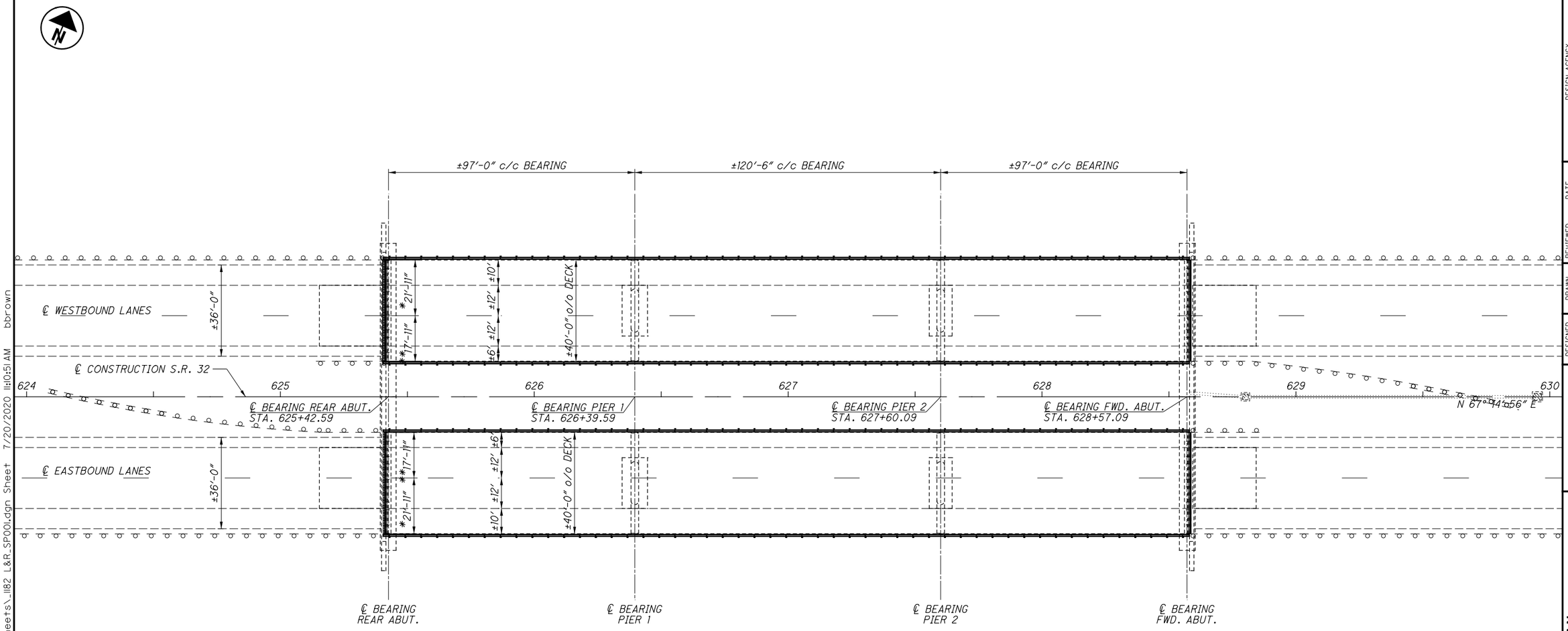

LEGEND

* - PHASE 1 CONSTRUCTION
** - PHASE 2 CONSTRUCTION

DESIGN TRAFFIC:
2020 ADT = 6,600 2020 ADTT = 1,518
2040 ADT = 8,200 2040 ADTT = 1,886
DIRECTIONAL DISTRIBUTION = 53%

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: ±97'-0" - ±120'-6" - ±97'-0" c/c BEARINGS
ROADWAY: ±40'-0" o/o DECK
LOADING: HS20
SKEW: NONE
WEARING SURFACE: CONCRETE
APPROACH SLABS: ±25'-0" (AS-1-72)
ALIGNMENT: TANGENT
CROWN: NORMAL
STRUCTURAL FILE NUMBER: 0100226L / 0100234R
DATE BUILT: 1978
DISPOSITION: REHABILITATION

PROPOSED WORK

REMOVE PORTIONS OF OF THE ABUTMENTS AS DETAILED

PLACE PROPOSED EXPANSION JOINT AND CAST BACK ABUTMENTS

INSTALL DRIP STRIPS

PLACE 702.13 TACK, ½" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, TACK, AND 1½" BRIDGE DECK WATERPROOFING ASPHALT CONCRETE

INSTALL DEEP BEAM BRIDGE RETROFIT RAILING

COORDINATES: LATITUDE N 38° 56' 09"
LONGITUDE W 83° 28' 09"

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

REVIEWED MCM DATE 07/14/20
STRUCTURE FILE NUMBER 0100226/0100234
DRAWN JAZ REVISED
DESIGNED JAZ CHECKED

ADAMS COUNTY
STA. 625+40.34
STA. 628+59.34

SITE PLAN
BRIDGE NO. ADA-32-1182 L&R
OVER OHIO BRUSH CREEK

ADA-32-6.73
PID No. 95603

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

DBR-3-11 DATED 07/15/2011
DS-1-92 REVISED 07/18/2003
EXJ-4-87 REVISED 01/19/2018

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

800 DATED 07/17/2020
832 DATED 10/19/2018
844 DATED 04/20/2018

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING: HS20
NO FUTURE WEARING SURFACE

DESIGN DATA

CONCRETE CLASS QC2
-COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

REINFORCING STEEL
-MINIMUM YIELD STRENGTH 60 KSI

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 C&MS SECTIONS 102.05, 105.02 AND 513.04*. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION:
THIS WORK CONSISTS OF THE REMOVAL OF PORTIONS OF THE ABUTMENTS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING ABUTMENT REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

REMOVAL METHODS:
THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

THE EXISTING BEAM ENDS SHALL HAVE A MINIMUM OF 3 INCHES OF CLEARANCE FROM THE EXISTING BACKWALL. IF THERE IS LESS THAN 3 INCHES OF CLEARENCE, THE EXISTING BEAM ENDS SHALL BE TRIMMED TO ALLOW FOR A MINIMUM OF 3 INCHES OF CLEARANCE.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN

PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE EACH CONTRACT PRICE FOR ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

SEE SHEET 4/7 FOR ESTIMATED QUANTITIES.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY PLACE THE STRUCTURAL EXPANSION JOINT (I.E. STEEL RETAINERS, STEEL BARS, AND CONCRETE), AND INSTALL THE ELASTOMERIC SEAL AS SHOWN ON SHEETS 7/7, AND STANDARD BRIDGE DRAWING EXJ-4-87.

ALL STRUCTURAL STEEL MEMBERS SHALL BE LEVEL UF AND ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER.

PROVIDE SHOP DRAWINGS ACCORDING TO 513.04 OR SUPPLY THE ENGINEER WITH "AS BUILT" DRAWINGS MEETING 513.04 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, TO THE STRUCTURAL, WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

PAYMENT FOR ALL EQUIPMENT, MATERIALS, AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE FOOT CONTRACT PRICE FOR ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

SEE SHEET 4/7 FOR ESTIMATED QUANTITIES.

ITEM 690, SPECIAL-MISC.: ASPHALT CONCRETE MICROMILLING

THIS ITEM CONSISTS OF MICROMILLING THE EXISTING 1/4" EPOXY OVERLAY FROM THE SUPERSTRUCTURE IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS. ENSURE THE MICROMILLED SURFACE MEETS SMOOTHNESS REQUIREMENTS AND PROVIDES A CONSTANT CROSS SLOPE. USE MICROMILLING EQUIPMENT THAT IS POWER DRIVEN AND SELF-PROPELLED HAVING SUFFICIENT POWER, TRACTION AND STABILITY TO REMOVE THE REQUIRED THICKNESS OF OVERLAY. THE MICROMILLING MACHINE SHALL USE CARBIDE TIPPED TEETH. THE CUTTING HEAD AND TEETH SHALL BE DESIGNED, MAINTAINED AND OPERATED TO PRODUCE A SURFACE FREE FROM GROOVES, RIDGES, GOUGES, OR OTHER IRREGULARITIES DETRIMENTAL TO THE SAFE OPERATION OF VEHICLES IN TRAFFIC. USE A 6 FT. (1.83 METER) MINIMUM WIDTH CUTTING HEAD WITH A 2 INCH (5 MM) TOOTH SPACING.

THE MICROMILLING MACHINE SHALL HAVE A MINIMUM 2 POINT AVERAGE SYSTEM CAPABLE OF PROVIDING A UNIFORMLY VARYING DEPTH OF CUT AND CROSS SLOPE WHILE THE MACHINE IS IN MOTION.

ENSURE MILLINGS DO NOT FLOW ACROSS LANES USED BY THE TRAVELING PUBLIC OR INTO THE STREAM OR DRAINAGE FACILITIES. THE CONTRACTOR SHALL IMPLEMENT EFFECTIVE MEASURES TO CONTROL DUST, PAVEMENT CONTAMINATION, STREAM CONTAMINATION AND SCATTERING OF LOOSE PARTICLES DURING THE MILLING AND CLEANING OPERATION. ALL MILLING RESIDUE SHALL BE REMOVED FROM THE MILLED SURFACE.

MICROMILL THE SUPERSTRUCTURE TO EXPOSE A SURFACE THAT IS 100% MILLED WHILE MAINTAINING A CONSTANT CROSS SLOPE BETWEEN THE MILLING EXTREMITIES IN EACH LANE.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE PER SQUARE YARD FOR ITEM 690, SPECIAL-MISC.: ASPHALT CONCRETE MICROMILLING, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

SUGGESTED BRIDGE CONSTRUCTION SEQUENCE:

PHASE 1 CONSTRUCTION

1. SET UP PHASE 1 TRAFFIC CONTROL TO CLOSE THE LEFT EAST/WESTBOUND LANES USING DRUMS TO PROTECT THE BRIDGE WORK AS DETAILED ON ROADWAY SHEETS 8-12.

2. COMPLETE PHASE 1 CONSTRUCTION OF BRIDGE NO. ADA-32-1182 L&R.

PHASE 2 CONSTRUCTION

1. SET UP PHASE 2 TRAFFIC CONTROL TO CLOSE THE RIGHT EAST/WESTBOUND LANES USING DRUMS TO PROTECT THE BRIDGE WORK AS DETAILED ON ROADWAY SHEETS 13-18.

2. COMPLETE PHASE 2 CONSTRUCTION OF BRIDGE NO. ADA-32-1182 L&R.

PHASE 3 CONSTRUCTION

1. AT THE COMPLETION OF PHASE 2 CONSTRUCTION, REMOVE MAINTENANCE OF TRAFFIC DEVICES AND OPEN ALL LANES TO TRAFFIC.

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
JAZ	JAZ	MCM	07/14/20	0100226/0100234
CHECKED	REVISED			

GENERAL NOTES
BRIDGE NO. ADA-32-1182 L&R
OVER OHIO BRUSH CREEK

ADA-32-6.73
PID No. 95603

CALC:	JAZ	DATE:	4/28/2020
CHECKED:	MCM	DATE:	7/14/2020

ESTIMATED QUANTITIES ADA-32-1182L (02/NHS/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	2/7
202	38001	638	FT	GUARDRAIL REMOVED, AS PER PLAN			638		4/48
407	10000	85	GAL	TACK COAT			85		
407	13900	113	GAL	TACK COAT, 702.13			113		
424	12000	20	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B			20		
509	10000	254	LB	EPOXY COATED REINFORCING STEEL	254				
510	10001	80	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	80				2/7
511	34410	1	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	1				
516	11211	79.67	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			79.67		2/7
516	31010	80	FT	2" DEEP JOINT SEALER	80				
517	75600	638	FT	DEEP BEAM BRIDGE RETROFIT RAILING			638		
SPECIAL	51822300	784.33	FT	STEEL DRIP STRIP			784.33		
606	13001	638	FT	GUARDRAIL, TYPE 5, AS PER PLAN			638		
SPECIAL	69098300	1403	SY	ASPHALT CONCRETE MICROMILLING			1403		2/7
856	10000	59	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE			59		

CALC:	JAZ	DATE:	4/28/2020
CHECKED:	MCM	DATE:	7/14/2020

ESTIMATED QUANTITIES ADA-32-1182R (02/NHS/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
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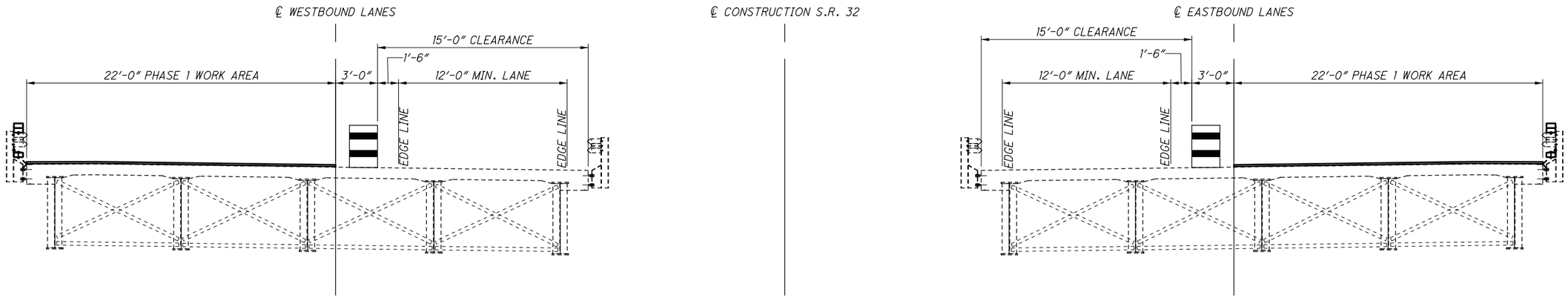
DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

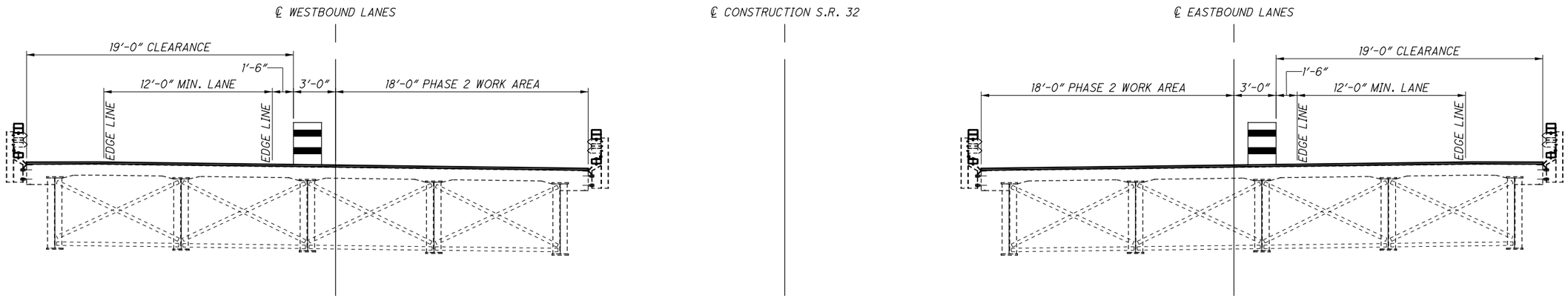
REVIEWED MCM DATE 07/14/20
STRUCTURE FILE NUMBER 0100226/0100234
DRAWN JAZ REVISED
DESIGNED JAZ CHECKED

ESTIMATED QUANTITIES
BRIDGE NO. ADA-32-1182 L&R
OVER OHIO BRUSH CREEK

ADA-32-6.73
PID No. 95603



PROPOSED PHASE 1 MAINTENANCE OF TRAFFIC



PROPOSED PHASE 2 MAINTENANCE OF TRAFFIC

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JAZ	JAZ	MCM	07/14/20
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		0100226/0100234	

STAGED CONSTRUCTION DETAILS

BRIDGE NO. ADA-32-1182 L&R
OVER OHIO BRUSH CREEK

ADA-32-6.73
PID No. 95603

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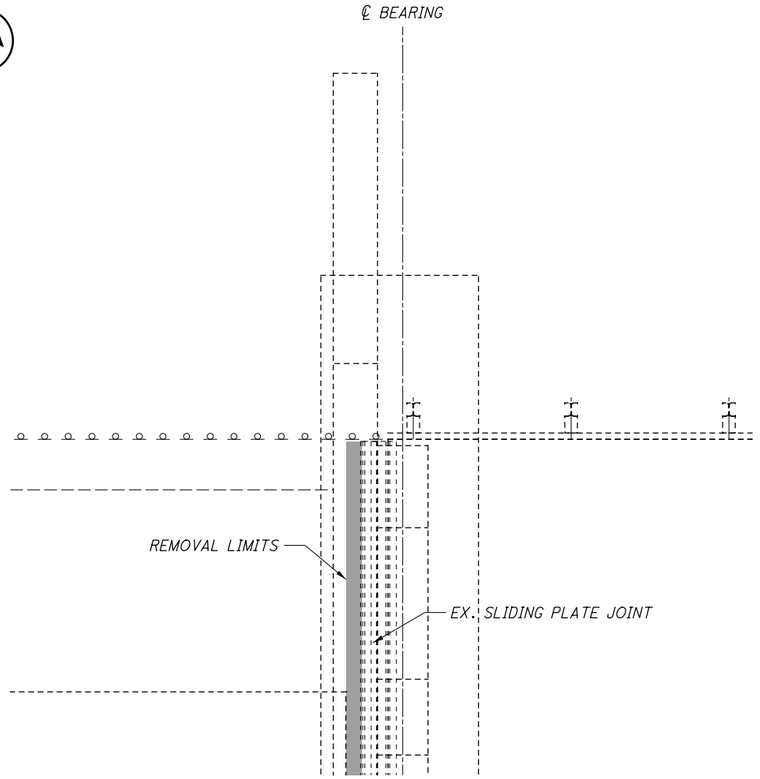
i:\ProjectData\ADA\95603_ADA_32_0673\Design\Structures\ADA032_1182 L&R\Sheets_1182 L&R_SC001.dgn Sheet 7/20/2020 11:10:54 AM bbrown



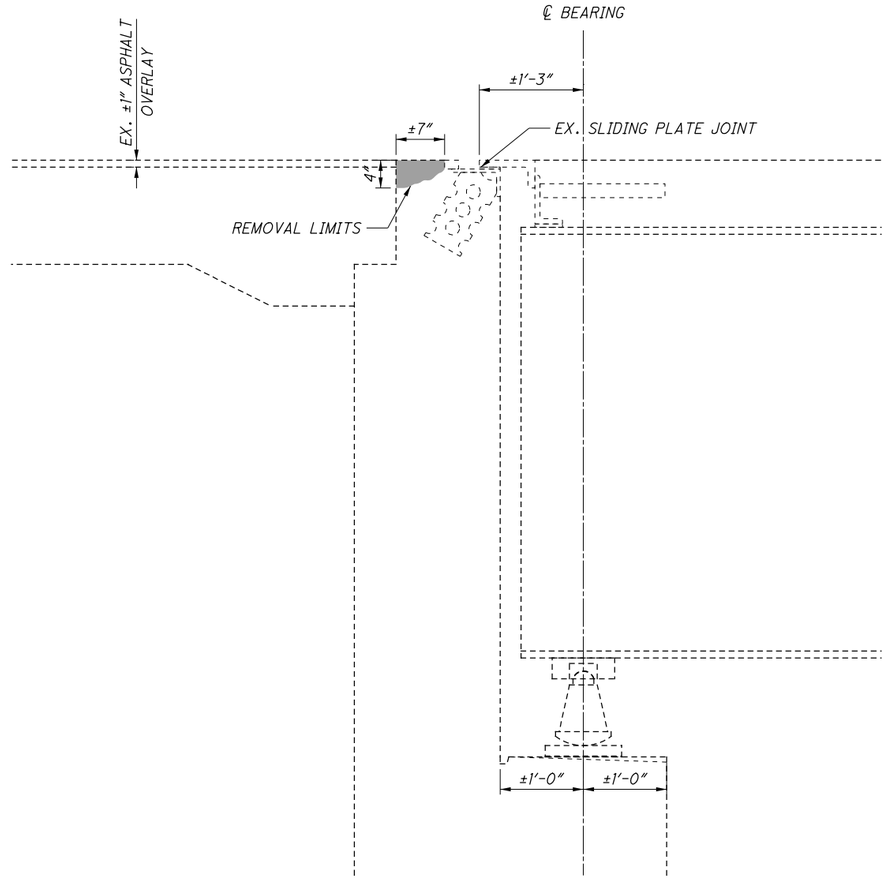
EXISTING PLAN VIEW

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS
OF THE LEFT AND RIGHT STRUCTURES

NOTES:

EXISTING REINFORCING STEEL NOT SHOWN FOR CLARITY,
ALL EXISTING REINFORCING STEEL SHALL BE PRESERVED.

REMOVAL OF CONCRETE



SECTION B-B

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS
OF THE LEFT AND RIGHT STRUCTURES

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JAZ	JAZ	MCM	07/14/20
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		0100226/0100234	

REMOVAL DETAILS
BRIDGE NO. ADA-32-1182 L&R
OVER OHIO BRUSH CREEK

ADA-32-6.73
PID No. 95603

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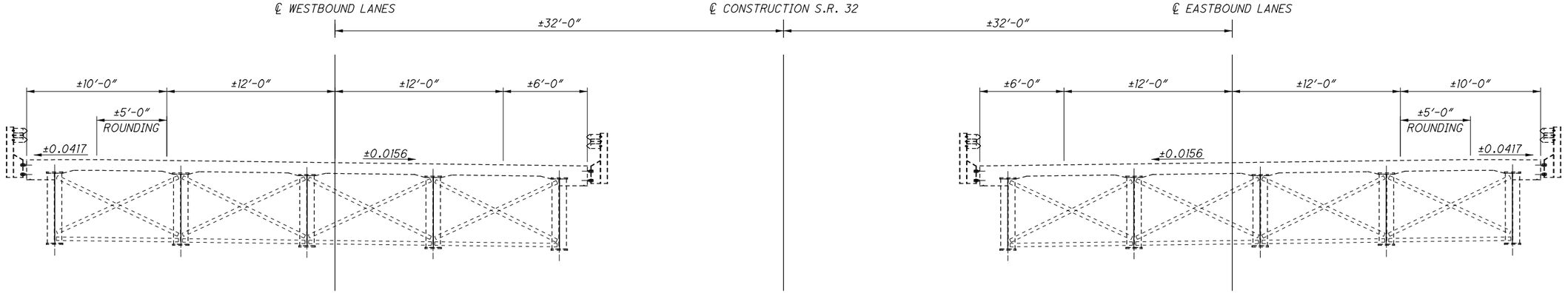
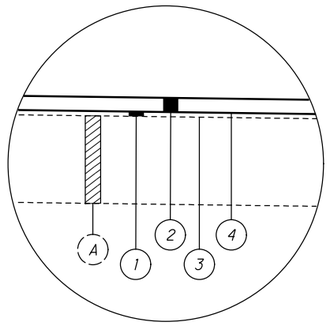


EXISTING TRANSVERSE SECTION



DETAIL "A"

LEGEND:

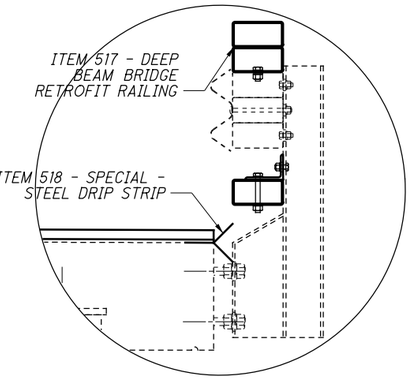
(1) ITEM 424 - ½" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B

(2) ITEM 856 - 1½" BRIDGE DECK WATERPROOFING ASPHALT CONCRETE

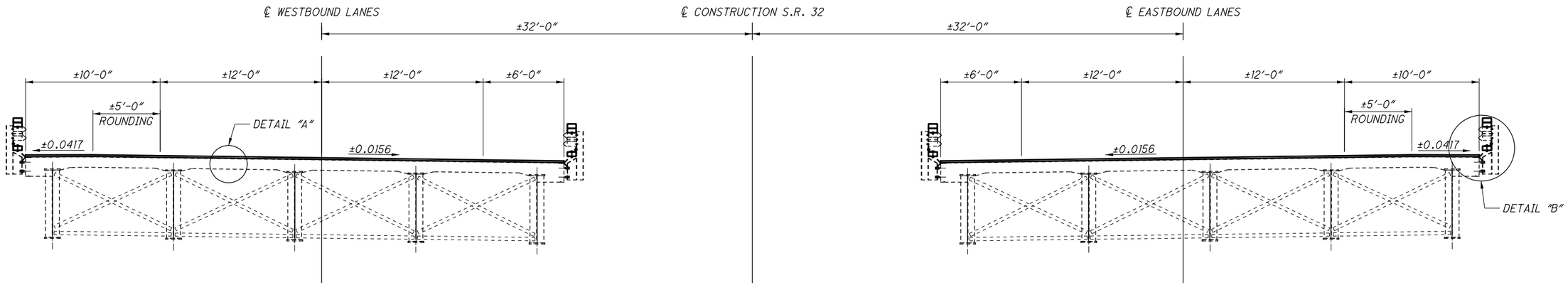
(3) ITEM 407 - TACK COAT, 702.13

(4) ITEM 407 - TACK COAT

(A) EX. ±9½" BRIDGE DECK



DETAIL "B"



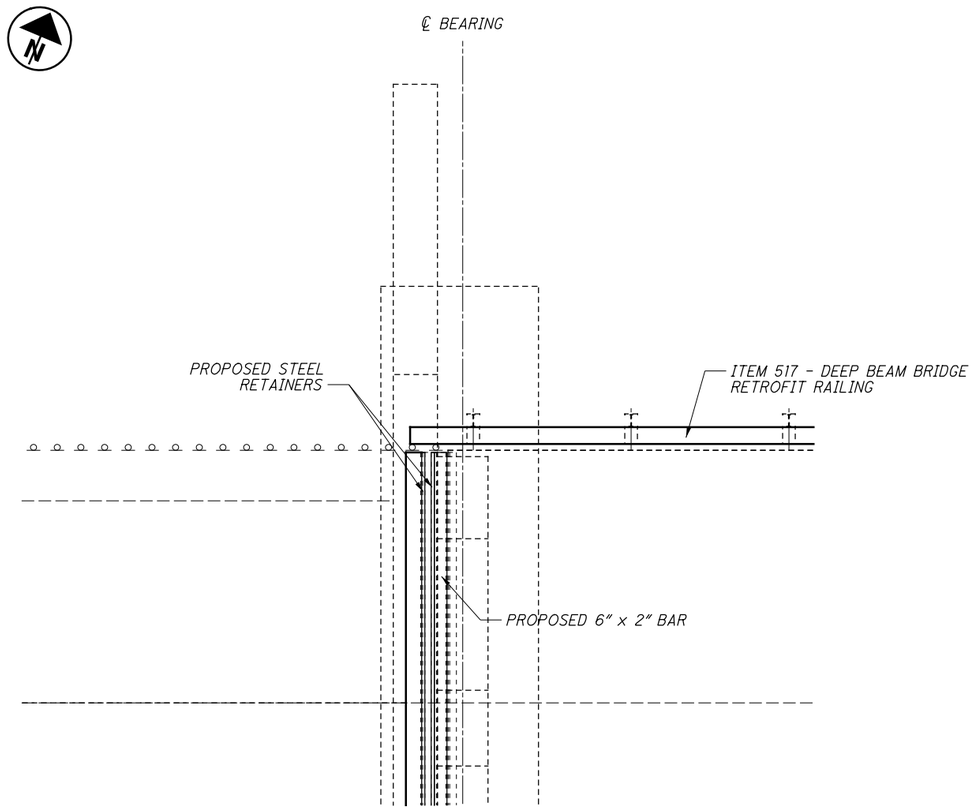
PROPOSED TRANSVERSE SECTION

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
JAZ	JAZ	MCM	07/14/20
CHECKED	REVISED	STRUCTURE FILE NUMBER	
		0100226/0100234	

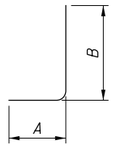
TRANSVERSE SECTION
BRIDGE NO. ADA-32-1182 L&R
OVER OHIO BRUSH CREEK

ADA-32-6.73
PID No. 95603



PLAN VIEW

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS OF THE LEFT AND RIGHT STRUCTURES



TYPE-1

REINFORCING STEEL LIST						
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	DIMENSIONS B
LEFT BRIDGE REAR ABUTMENT						
PHASE I						
A501*	1	21′-9″	23	STR		
A601	22	1′-5″	47	1	0′-3″	1′-4″
PHASE II						
A502	1	17′-9″	19	STR		
A601	18	1′-5″	38	1	0′-3″	1′-4″
SUB-TOTAL REAR ABUT.			127			
LEFT BRIDGE FORWARD ABUTMENT						
PHASE I						
A501*	1	21′-9″	23	STR		
A601	22	1′-5″	47	1	0′-3″	1′-4″
PHASE II						
A502	1	17′-9″	19	STR		
A601	18	1′-5″	38	1	0′-3″	1′-4″
SUB-TOTAL FWD. ABUT.			127			
SUB-TOTAL REAR ABUT.			127			
ABUTMENT TOTAL			254			

REINFORCING STEEL LIST						
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	DIMENSIONS B
RIGHT BRIDGE REAR ABUTMENT						
PHASE I						
A501*	1	21′-9″	23	STR		
A601	22	1′-5″	47	1	0′-3″	1′-4″
PHASE II						
A502	1	17′-9″	19	STR		
A601	18	1′-5″	38	1	0′-3″	1′-4″
SUB-TOTAL REAR ABUT.			127			
RIGHT BRIDGE FORWARD ABUTMENT						
PHASE I						
A501*	1	21′-9″	23	STR		
A601	22	1′-5″	47	1	0′-3″	1′-4″
PHASE II						
A502	1	17′-9″	19	STR		
A601	18	1′-5″	38	1	0′-3″	1′-4″
SUB-TOTAL FWD. ABUT.			127			
SUB-TOTAL REAR ABUT.			127			
ABUTMENT TOTAL			254			

* = MECHANICAL CONNECTOR IS REQUIRED

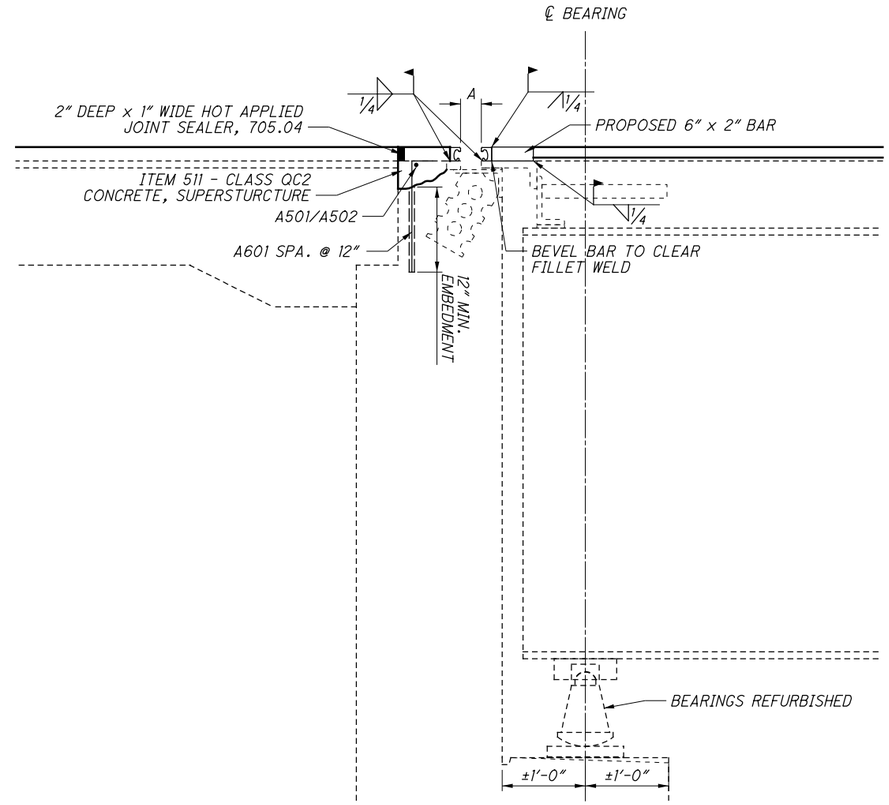
NEOPRENE STRIP SEAL SPECIFICATIONS
A = 1 5/8″ @ 60° F

MAXIMUM MOVEMENT PERPENDICULAR	MAXIMUM MOVEMENT PARALLEL	JOINT OPENING
INCHES	INCHES	INCHES
4.0	±0.5	0.5-5.0

NOTE: THE PROPOSED JOINT IS DESIGNED FOR A JOINT OPENING OF "A" @ 60° F AND WITH 1½″ WIDE STEEL RETAINERS. THE CONTRACTOR MAY CHOOSE TO USE A DIFFERENT SIZE RETAINER, BUT MUST SUBMIT SHOP DRAWINGS OF PROVISIONS MADE TO MAINTAIN THE JOINT OPENING OF "A" @ 60° F. THESE MUST BE APPROVED BY THE ENGINEER BEFORE WORK CAN BEGIN ON THE JOINT AND SHALL BE NO ADDITIONAL COST TO THE STATE FOR CHANGES MADE BY THE CONTRACTOR.

FOR ADDITIONAL DETAILS REFER TO STD. BDG. DWG. GSD-1-96 AND STD. BDG. DWG. EXJ-4-87.

TEMPERATURE F	DIMENSION "A" INCHES
30	1 7/8
40	1 4/5
50	1 3/4
60	1 5/8
70	1 4/7
80	1 1/2
90	1 7/16



SECTION B-B

APPLIES TO BOTH THE REAR AND FORWARD ABUTMENTS OF THE LEFT AND RIGHT STRUCTURES

DESIGN AGENCY
ODOT DISTRICT 9
PLANNING AND ENGINEERING

REVIEWED MCM DATE 07/14/20
STRUCTURE FILE NUMBER 0100226/0100234

DRAWN JAZ
REVISED

DESIGNED JAZ
CHECKED

EXPANSION JOINT DETAILS
BRIDGE NO. ADA-32-1182 L&R
OVER OHIO BRUSH CREEK

ADA-32-6.73
PID No. 95603

7 / 7

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PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF PLANING BEFORE RESURFACING 13.12 MILES OF SR-32 FROM SLM 6.73 TO SLM 19.85 IN BOTH DIRECTIONS WITH SMOOTHSEAL, INCLUDING REPLACING ALL THE GUARDRAIL AND MINOR BRIDGE REHABILITATION WORK ON STRUCTURES ADA-32-0927 AND ADA-32-1182 ADAMS COUNTY, OHIO.

HISTORIC RECORDS

HISTORICAL BORING RECORDS WERE FOUND OBTAINED FROM THE ODOT TRANSPORTATION INFORMATION MAPPING SYSTEM (TIMS) FOR ADA-32-6.34 COMPLETED IN 1978 FOR THE CURRENT ROADWAY ALIGNMENT. THE BORINGS INDICATED THE PRESENCE OF DOLOMITE, DOLOMITIC LIMESTONE, SILTSTONE AND SHALE AT THE ROADWAY ELEVATION. THIS INFORMATION IS NOT INCLUDED FOR CLARITY.

GEOLOGY

THE PROJECT IS LOCATED WITHIN THE OUTER BLUEGRASS REGION PHYSIOGRAPHIC REGION WHICH IS CHARACTERIZED AS A DISSECTED PLATEAU OF CARBONATE BEDROCK WITH MODERATE RELIEF. THIN GLACIALLY DERIVED SOILS CAP THE NARROW RIDGELINES. OVERBURDEN SOILS ARE UNDERLAIN BY DOLOMITE, DOLOMITIC LIMESTONE, SILTSTONE AND SHALE OF SILURIAN AGE.

RECONNAISSANCE

FIELD RECONNAISSANCE WAS COMPLETED BY PERSONNEL FROM THE DISTRICT AND OFFICE OF GEOTECHNICAL ENGINEERING. THE PROJECT AREA IS LOCATED WITHIN A CUT SECTION WITH EXPOSED BEDROCK ABOVE THE ROAD ELEVATION. THE EXISTING ROADWAY WAS NOTED AS BEING GENERALLY POOR CONDITION DUE TO AGE. AREAS OF HEAVED PAVEMENT WERE NOTED WITH AREAS OF SIGNIFICANT HEAVE HAVING BEEN MILLED TO MAINTAIN THE ROADWAY SURFACE. THE AREAS OF HEAVE WERE ALSO NOTED WITHIN THE MEDIAN AND DITCH LINES. VEGETATION IN THE FORM OF ISOLATED TREES WERE NOTED WITHIN THE LOWER SLOPES OF THE ROCK CUT. THE ADJACENT LAND USAGE ABOVE THE ROCK CUTS WERE NOTED AS BEING PREDOMINATELY WOODED.

SUBSURFACE EXPLORATION

FOUR (4) BORINGS, B-001-0-20 THROUGH B-003-0-20 AND B-003-2-20 AND TWO (2) HAND AUGER LOCATIONS, H-003-1-20 AND H-003-3-20, WERE COMPLETED AS PART OF THE SUBSURFACE EXPLORATION. THE BORINGS WERE DRILLED WITH A TRUCK MOUNTED CME 55 ROTARY DRILL RIG, USING 3¼-INCH I.D. HOLLOW STEM AUGERS TO ADVANCE THE BORINGS THROUGH THE SOIL. DISTURBED SAMPLES WERE COLLECTED IN ACCORDANCE WITH THE STANDARD PENETRATION TEST (AASHTO T206) AT CONTINUOUS INTERVALS FOR THE FULL DEPTH OF THE BORINGS. THE HAMMER SYSTEM USED WAS CALIBRATED ON APRIL 2, 2018 WITH AN AVERAGE DRILL ROD ENERGY RATIO (ER) OF 87%.

EXPLORATION FINDINGS

THE BORINGS WERE COMPLETED WITHIN THE DRIVING LANE ENCOUNTERING 16 TO 22 INCHES OF ASPHALT. B-002 ENCOUNTERED DENSE STONE FRAGMENTS WITH SAND AND SILT (A-2-4) IMMEDIATELY BENEATH THE PAVEMENT. B-003-0 AND B-003-2 ENCOUNTERED COHESIVE SOILS IMMEDIATELY BENEATH THE PAVEMENT CONSISTING OF SILTY CLAY (A-6b) AND CLAY (A-7-6) IN STIFF TO VERY STIFF CONSISTENCY. SHALE BEDROCK WAS ENCOUNTERED EITHER IMMEDIATELY BENEATH THE PAVEMENT OR NEAR SUBGRADE ELEVATION. THE SHALE WAS DESCRIBED AS HIGHLY WEATHERED AND WEAK TO VERY WEAK. HAND AUGERS WERE COMPLETED WITHIN THE WESTBOUND SHOULDER AND MEDIAN ENCOUNTERING THIN COHESIVE SOILS CONSISTING OF CLAY (A-7-6) IN STIFF TO VERY STIFF CONSISTENCY UNDERLAIN BY HIGHLY WEATHERED VERY WEAK TO WEAK SHALE. ALL BORINGS AND HAND AUGER LOCATIONS WERE DRY AT COMPLETION.

SPECIFICATIONS

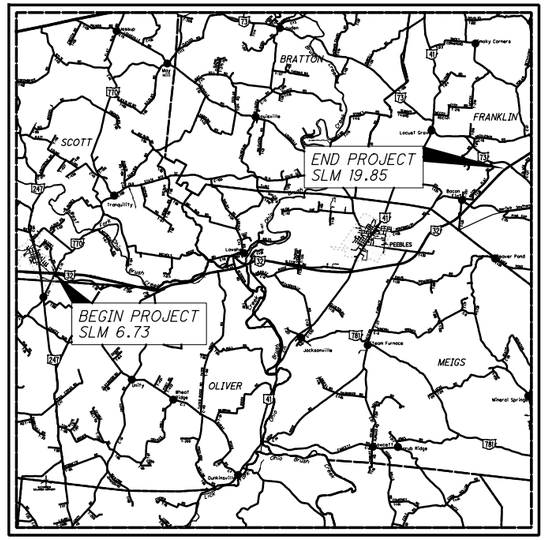
THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED JANUARY 2020.

AVAILABLE INFORMATION

THE SOIL, BEDROCK, AND GROUNDWATER INFORMATION COLLECTED FOR THIS SUBSURFACE EXPLORATION THAT CAN BE CONVENIENTLY DISPLAYED ON THE SOIL PROFILE SHEETS HAS BEEN PRESENTED. GEOTECHNICAL REPORTS, IF PREPARED, ARE AVAILABLE FOR REVIEW ON THE OFFICE OF CONTRACT SALES WEBSITE.

LEGEND

	DESCRIPTION	ODOT CLASS	CLASSIFIED MECH./VISUAL
	STONE FRAGMENTS WITH SAND AND SILT	A-2-4	- 1
	SILTY CLAY	A-6b	2 -
	CLAY	A-7-6	6 -
		TOTAL	8 1
	SHALE	VISUAL	
	PAVEMENT = X = APPROXIMATE THICKNESS	VISUAL	
	B-ZZZ-W-18 PROJECT BORING LOCATION - PLAN VIEW.		
	H-ZZZ-W-18 PROJECT HAND AUGER LOCATION - PLAN VIEW.		
WC	INDICATES WATER CONTENT IN PERCENT.		
N_{60}	INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.		
HA	INDICATES A HAND AUGER SAMPLE.		
SS	INDICATES A SPLIT SPOON SAMPLE.		
TR	INDICATES TOP OF ROCK ELEVATION.		



LOCATION MAP

SCALE IN MILES

0 2 4 6 8

N

PARTICLE SIZE DEFINITIONS

12″	3″	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS |	COBBLES |	GRAVEL |	COARSE SAND |	FINE SAND |	SILT | CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE	

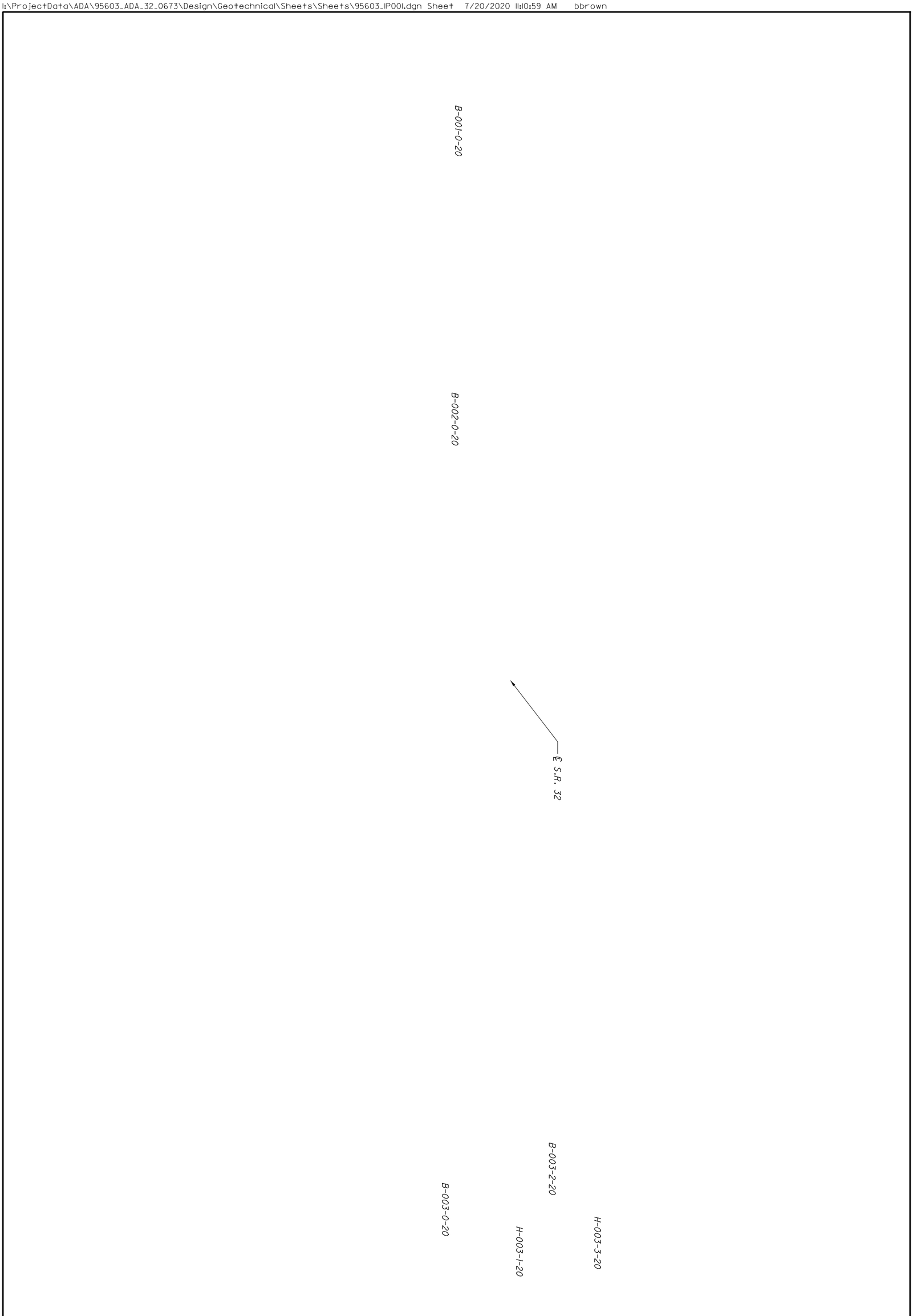
RECON. - PPP 03/10/20
HAND AUGER - PPP 03/10/20
DRILLING - KAM 03/26/20
DRAWN - ARR 07/15/20
REVIEWED - SAT 07/17/20

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF GEOTECHNICAL ENGINEERING
1980 W. BROAD ST. COLUMBUS, OH 43223

PID NO. 95603

SOIL PROFILE - ROADWAY

ADA-32-6.73



2/5	ADA-32-6.73	SOIL PROFILE -ROADWAY SLM 12.63 TO SLM 12.82 S.R. 32	DRAWN ARR CHECKED SAT	0 15 30 60 HORIZONTAL SCALE IN FEET	N

PROJECT: ADA-32-6.73 | DRILLING FIRM / OPERATOR: ODOT / CAREY | DRILL RIG: CME 55 TRUCK | STATION / OFFSET: | EXPLORATION ID B-001-0-20
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: ODOT / MCLEISH | HAMMER: CME AUTOMATIC | ALIGNMENT: CL SR 32 | PAGE 1 OF 1
PID: 95603 SFN: N/A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 4/2/18 | ELEVATION: 783.4 (ft) EOB: 5.83 ft.
START: 3/26/20 END: 3/26/20 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 87 | LAT / LONG: 38.937053, -83.454397

MATERIAL DESCRIPTION AND NOTES	ELEV. 783.4	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ASPHALT (22")	781.6																	
SHALE, GRAYISH BROWN, HIGHLY WEATHERED, VERY WEAK TO WEAK, LAMINATED.		TR	6 14 25	57	67	SS-1	-	-	-	-	-	-	-	-	-	10	Rock (V)	
			26 52	-	100	SS-2	-	-	-	-	-	-	-	-	-	8	Rock (V)	
	777.6	EOB	41 50/4"	-	100	SS-3	-	-	-	-	-	-	-	-	-	7	Rock (V)	

NOTES: HOLE DRY UPON COMPLETION. LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM OSIP DEM.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/16/20 06:51 - X:\GINT\PROJECTS\2020 COMPLETE\600728.GPJ

PROJECT: ADA-32-6.73 | DRILLING FIRM / OPERATOR: ODOT / CAREY | DRILL RIG: CME 55 TRUCK | STATION / OFFSET: | EXPLORATION ID B-002-0-20
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: ODOT / MCLEISH | HAMMER: CME AUTOMATIC | ALIGNMENT: CL SR 32 | PAGE 1 OF 1
PID: 95603 SFN: N/A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 4/2/18 | ELEVATION: 793.5 (ft) EOB: 5.75 ft.
START: 3/26/20 END: 3/26/20 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 87 | LAT / LONG: 38.936950, -83.453706

MATERIAL DESCRIPTION AND NOTES	ELEV. 793.5	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ASPHALT (20")	791.9																	
DENSE, GRAY, **STONE FRAGMENTS WITH SAND AND SILT**, TRACE CLAY, (NOT ENOUGH MATERIAL TO TEST), DAMP	791.3	TR	6			SS-1A	-	-	-	-	-	-	-	-	-	6	A-2-4 (V)	
SHALE, GRAYISH BROWN, HIGHLY WEATHERED, VERY WEAK TO WEAK, LAMINATED.			6 21	39	33	SS-1B	-	-	-	-	-	-	-	-	-	10	Rock (V)	
			16 33 50/4"	-	88	SS-2	-	-	-	-	-	-	-	-	-	9	Rock (V)	
	787.8	EOB	27 50/3"	-	78	SS-3	-	-	-	-	-	-	-	-	-	8	Rock (V)	

NOTES: HOLE DRY UPON COMPLETION. LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM OSIP DEM.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/16/20 06:51 - X:\GINT\PROJECTS\2020 COMPLETE\600728.GPJ

PROJECT: ADA-32-6.73 | DRILLING FIRM / OPERATOR: ODOT / CAREY | DRILL RIG: CME 55 TRUCK | STATION / OFFSET: | EXPLORATION ID B-003-0-20
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: ODOT / MCLEISH | HAMMER: CME AUTOMATIC | ALIGNMENT: CL SR 32
PID: 95603 SFN: N/A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 4/2/18 | ELEVATION: 824.4 (ft) EOB: 6.4 ft. | PAGE 1 OF 1
START: 3/26/20 END: 3/26/20 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 87 | LAT / LONG: 38.936683, -83.451613

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ASPHALT (16")	824.4 / 823.1																	
STIFF, GRAY AND BROWN, **SILTY CLAY**, SOME STONE FRAGMENTS, TRACE SAND, DAMP	821.4	TR	6 3 5	12	11	SS-1	-	32	4	3	32	29	37	18	19	12	A-6b (9)	
SHALE, GRAY, HIGHLY WEATHERED, VERY WEAK TO WEAK, LAMINATED.			4 8 17	36	22	SS-2	-	-	-	-	-	-	-	-	-	10	Rock (V)	
			11 23 42	94	78	SS-3	-	-	-	-	-	-	-	-	-	10	Rock (V)	
	818.0	EOB	50/4"	-	100	SS-4	-	-	-	-	-	-	-	-	-	8	Rock (V)	

NOTES: HOLE DRY UPON COMPLETION. LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM OSIP DEM.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/16/20 06:51 - X:\GINT\PROJECTS\2020 COMPLETE\600728.GPJ

PROJECT: ADA-32-6.73 | DRILLING FIRM / OPERATOR: ODOT / CAREY | DRILL RIG: CME 55 TRUCK | STATION / OFFSET: | EXPLORATION ID B-003-2-20
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: ODOT / MCLEISH | HAMMER: CME AUTOMATIC | ALIGNMENT: CL SR 32
PID: 95603 SFN: N/A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 4/2/18 | ELEVATION: 822.9 (ft) EOB: 6.0 ft. | PAGE 1 OF 1
START: 3/26/20 END: 3/26/20 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 87 | LAT / LONG: 38.936897, -83.451665

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GR	CS	FS	SI	CL	LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ASPHALT (16")	822.9 / 821.5																	
VERY STIFF, BROWN AND GRAY, **SILTY CLAY**, "AND" STONE FRAGMENTS, LITTLE SAND, DAMP	819.9		2 3 6	13	61	SS-1	2.50	48	9	7	19	17	35	19	16	11	A-6b (1)	
VERY STIFF, BROWN AND GRAY, **CLAY**, SOME STONE FRAGMENTS, SOME SILT, LITTLE SAND, DAMP	819.5	TR	3 20 33	77	89	SS-2A	-	34	8	6	28	24	41	20	21	12	A-7-6 (8)	
						SS-2B	-	-	-	-	-	-	-	-	-	10	Rock (V)	
SHALE, GRAY, HIGHLY WEATHERED, VERY WEAK TO WEAK, LAMINATED.			16 46 56	148	83	SS-3	-	-	-	-	-	-	-	-	-	8	Rock (V)	
	816.9	EOB																

NOTES: HOLE DRY UPON COMPLETION. LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM OSIP DEM.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 7/16/20 06:51 - X:\GINT\PROJECTS\2020 COMPLETE\600728.GPJ

PROJECT: ADA-32-6.73	DRILLING FIRM / OPERATOR: ODOT	DRILL RIG:	STATION / OFFSET:	EXPLORATION ID H-003-1-20
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: ODOT / PAINTER	HAMMER:	ALIGNMENT: CL SR 32	
PID: 95603 SFN: N/A	DRILLING METHOD: HAND AUGER	CALIBRATION DATE: N/A	ELEVATION: 820.0 (ft) EOB: 1.4 ft.	PAGE 1 OF 1
START: 3/10/20 END: 3/10/20	SAMPLING METHOD: HAND AUGER	ENERGY RATIO (%):	LAT / LONG: 38.936792, -83.451677	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
STIFF, BROWN MOTTLED WITH GRAY, **CLAY**, SOME SILT, SOME GRAVEL AND STONE FRAGMENTS, TRACE SAND, MOIST	820.0																	
@1.0'; GRAY MOTTLED WITH BROWN	818.6	EOB 1			100	HA-1	1.00	26	4	2	27	41	45	20	25	22	A-7-6 (13)	
					100	HA-2	1.75	29	2	2	26	41	43	21	22	22	A-7-6 (12)	

NOTES: HOLE DRY UPON COMPLETION. LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM OSIP DEM.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH AUGER CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT GDT - 7/16/20 06:51 - X:\GINT\PROJECTS\2020 COMPLETE\600728.GPJ

PROJECT: ADA-32-6.73	DRILLING FIRM / OPERATOR: ODOT	DRILL RIG:	STATION / OFFSET:	EXPLORATION ID H-003-3-20
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: ODOT / PAINTER	HAMMER:	ALIGNMENT: CL SR 32	
PID: 95603 SFN: N/A	DRILLING METHOD: HAND AUGER	CALIBRATION DATE: N/A	ELEVATION: 821.7 (ft) EOB: 2.2 ft.	PAGE 1 OF 1
START: 3/10/20 END: 3/10/20	SAMPLING METHOD: HAND AUGER	ENERGY RATIO (%):	LAT / LONG: 38.936942, -83.451664	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N_{60}	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
VERY STIFF, BROWN AND GRAY MOTTLED, **CLAY**, SOME SILT, LITTLE GRAVEL AND STONE FRAGMENTS, TRACE SAND, MOIST	821.7																	
@1.3'; SOME GRAVEL AND STONE FRAGMENTS		1			100	HA-1	2.25	17	2	2	26	53	46	23	23	23	A-7-6 (14)	
@1.8'; GRAY MOTTLED WITH BROWN	819.5	EOB 2			100	HA-2	2.25	21	3	3	29	44	45	20	25	19	A-7-6 (15)	
					100	HA-3	2.50	35	4	3	24	34	45	20	25	19	A-7-6 (11)	

NOTES: HOLE DRY UPON COMPLETION. LAT/LONG FROM OGE HANDHELD GPS UNIT. ELEV FROM OSIP DEM.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH AUGER CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT GDT - 7/16/20 06:51 - X:\GINT\PROJECTS\2020 COMPLETE\600728.GPJ

SOIL PROFILE -ROADWAY
HAND AUGER LOGS H-003-1-20 & H-003-3-20

DRAWN ARR
CHECKED SAT