STATE OF OHIO

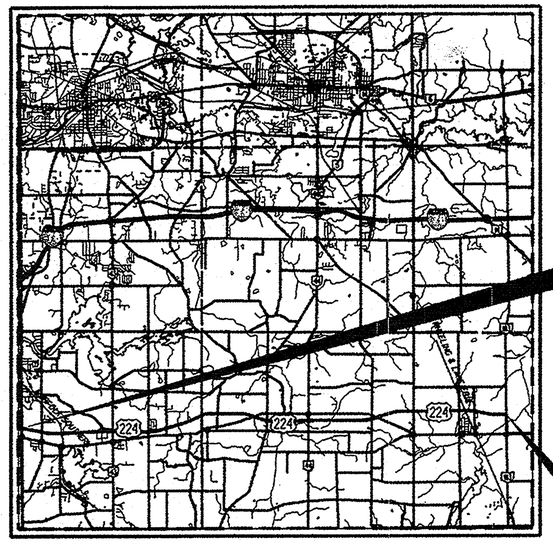
DEPARTMENT OF TRANSPORTATION

POR-224-0.00
PART 1

SUFFIELD, RANDOLPH & ATWATER TOWNSHIPS

PORTAGE COUNTY

FOR PART 2, SEE POR-224-7.14



LOCATION MAP

LATITUDE: 41°01'51" LONGITUDE: 81°16'18"

SCALE IN MILES

0 2 4 6 8

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

	SLM 2.42 (AT SR 43)	SLM 7.71 (AT SR 44)
CURRENT ADT (2010)	8210	3520
DIRECTIONAL DISTRIBUTION	50%	50%
TRUCKS (24 HOUR B&C)	450	290
DESIGN SPEED	55	55
LEGAL SPEED	55	55
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN PRINCIPAL/ MINOR ARTERIAL	RURAL MINOR ARTERIAL
NHS PROJECT: SLM 0.00 TO SLM 2.42	YES	
SLM 2.42 TO SLM 12.99	NO	

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

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

PLAN PREPARED BY:
ODOT-- DISTRICT 4
2088 S. ARLINGTON RD
AKRON, OH 44306

ENGINEERS SEAL:

STATE OF OHIO
REBECCA M BISESI
E-68469
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Rebecca M Bisesi
DATE: 12-5-12

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PROJECT DESCRIPTION

WIDEN US 224 IN THE MEDIAN ON US 224 AT THE INTERSECTION WITH SR 43 AND SR 44. RESURFACE 12.99 MILES OF US 224. DRAINAGE WORK INCLUDING SLIPLINING 1 CULVERT AND 2 CULVERT REPLACEMENTS. MINOR BRIDGE WORK.

SLM 2.42 (SR 43)

PROJECT EARTH DISTURBED AREA: 0.56 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EDA: N/A (NOI NOT REQUIRED)

SLM 7.71 (SR 44)

PROJECT EARTH DISTURBED AREA: 0.66 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EDA: N/A (NOI NOT REQUIRED)

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.

2010 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 11-12, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED
DATE 12-6-12 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 12-31-12 DIRECTOR, DEPARTMENT OF TRANSPORTATION

PARTS 1 AND 2

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-2.1	7/18/08	GR-1.1	7/20/12	DS-1-92	7/18/03	MT-105.10	7/20/12	TC-84.20	1/21/11	800	1/18/13	WPC	12/6/12
BP-2.2	7/18/08	GR-2.1	7/20/12	TST-1-99	4/18/08			TC-84.21	1/19/07	821	4/20/12		
BP-2.3	7/16/04	GR-3.1	7/20/12			TC-41.20	1/19/01	TC-85.10	10/16/09	832	5/5/09		
BP-3.1	4/20/12	GR-3.4	7/20/12	HL-30.11	10/16/09	TC-41.30	1/19/07			837	1/20/12		
BP-4.1	7/16/04	GR-3.6	7/20/12	HL-30.21	10/21/11	TC-41.50	1/19/07			843	4/18/03		
		GR-4.2	7/20/12			TC-42.10	1/19/07			961	10/17/08		
CB-1.1	7/20/12	GR-5.1	4/16/10	MT-95.31	7/20/12	TC-42.20	1/21/11						
CB-1.2	7/20/12	GR-5.2	4/16/10	MT-96.11	7/20/12	TC-52.10	1/19/07						
CB-2.3	7/20/12	GR-5.3	4/16/10	MT-96.20	7/20/12	TC-52.20	1/19/07						
		GR-6.1	4/16/10	MT-96.26	1/16/09	TC-65.10	4/20/12						
HW-2.1	7/20/12			MT-97.10	7/20/12	TC-65.11	4/20/12						
		RM-1.1	7/15/11	MT-97.12	7/20/12	TC-71.10	10/19/12						
DM-1.4	7/15/11	RM-4.2	10/15/10	MT-99.20	7/20/12	TC-73.10	4/20/12						
DM-4.3	7/20/12			MT-101.60	7/20/12	TC-82.10	1/21/11						
DM-4.4	7/20/12	AS-1-81	7/19/02	MT-101.70	4/15/11	TC-83.10	1/19/07						
		CS-1-03	4/18/03	MT-101.90	10/19/12	TC-83.20	4/20/12						

FEDERAL PROJECT NO. E081(113)

PID NO. 82919

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
WHEELING & LAKE ERIE, AND NORFOLK SOUTHERN

POR-224-0.00

1 / 62

Contract Proposal Available @ www.contracts.dot.state.oh.us/home

POR - US-224.0.00, PART 1;POR-224-
130160 PID - 82919
Dist 4 3/14/2013

ISSUED

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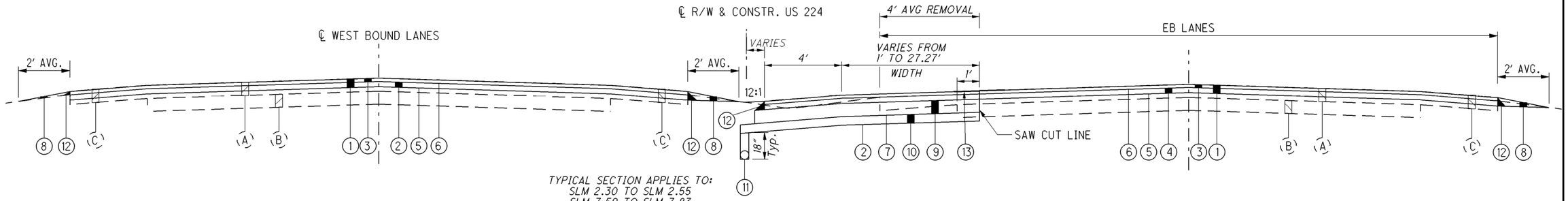
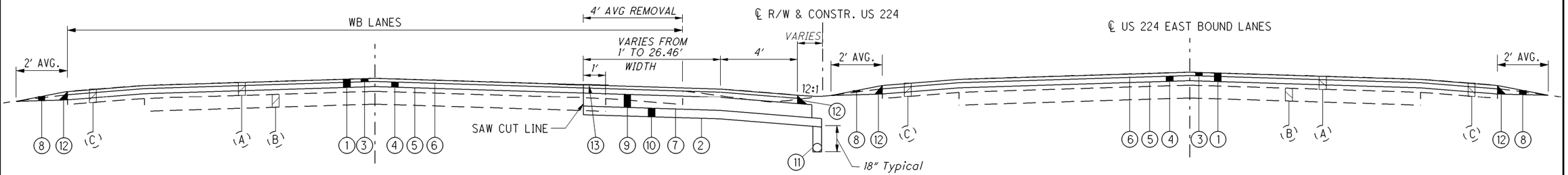


1

SECTION APPLIES:					
ROUTE	STATION		LENGTH	WIDTH	
	FROM	TO	FT	FROM	TO
US 224 AT SR 43	217+12.50	217+66.50	54.00	1	13.52
US 224 AT SR 43	217+66.50	221+23.73	357.23	13.52	13.33
US 224 AT SR 43	221+23.73	222+35.73	112.00	13.33	27.27
US 224 AT SR 43	222+35.73	223+11.35	75.62	27.27	median
Total			598.85		
US 224 AT SR 44	71+33.70	71+92.50	58.80	2.12	14.12
US 224 AT SR 44	71+92.50	75+50.70	358.20	14.12	13.3
US 224 AT SR 44	75+50.70	76+62.70	112.00	13.3	26.72
US 224 AT SR 44	76+62.70	77+44.00	81.30	26.72	median
Total			610.30		



TYPICAL SECTION APPLIES TO:
SLM 2.30 TO SLM 2.55
SLM 7.59 TO SLM 7.83

2

SECTION APPLIES:					
ROUTE	STATION		LENGTH	WIDTH	
	FROM	TO	FT	FROM	TO
US 224 AT SR 43	223+70.00	224+44.59	74.59	median	
US 224 AT SR 43	224+44.59	225+56.59	112.00	26.46	13.42
US 224 AT SR 43	225+56.59	229+69.00	412.41	13.42	13
US 224 AT SR 43	229+69.00	230+24.20	55.20	13	1
Total			654.20		
US 224 AT SR 44	78+04.00	78+77.67	73.67	median	26.17
US 224 AT SR 44	78+77.67	79+89.67	112.00	26.17	13.12
US 224 AT SR 44	79+89.67	83+48.10	358.43	13.12	13.07
US 224 AT SR 44	83+48.10	84+04.20	56.10	13.07	1.32
Total			600.20		

LEGEND

(1) 254, PAVEMENT PLANING 3"
(2) 204, SUBGRADE COMPACTION
(3) 448, 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN
(4) 448, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
(5) 407, TACK COAT @ 0.075 GAL/SQ.YD.
(6) 407, TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SQ.YD.
(7) 408, PRIME COAT @ 0.4 GAL/SQ.YD.
(8) 617, COMPACTED AGGREGATE, AS PER PLAN
(9) 301, ASPHALT CONCRETE BASE, PG64-22 (T=9")
(10) 304, AGGREGATE BASE, AS PER PLAN (T=6")
(11) ITEM 605, 6" BASE PIPE UNDERDRAIN WITH FABRIC WRAP
(12) SAFETY EDGE, SEE SHEETS 5-6 FOR DETAILS
(13) SPECIAL, MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS (Center Over Saw Cut)

(A) EXISTING ASPHALT PAVEMENT
(B) EXISTING REINFORCED CONCRETE PAVEMENT
(C) EXISTING SHOULDERS
(D) EXISTING CONCRETE MEDIAN
(E) EXISTING CONCRETE CURB
(F) EXISTING ASPHALT CURB

TYPICAL SECTIONS

POR-224-0.00

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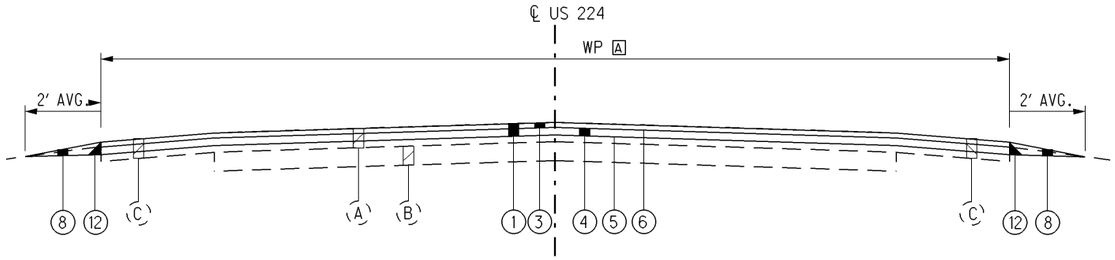

[3]

US 224			
SLM		AVG WP	LENGTH
FROM	TO	(FT)	(MILES)
0.00	0.10	46.00	0.10
0.10	0.32	31.00	0.22
0.32	0.78	45.00	0.46
0.78	2.30	31.00	1.52
2.55	3.16	31.00	0.61
3.16	3.57	44.00	0.41
3.57	6.02	31.00	2.45
6.02	6.41	44.00	0.39
6.41	6.55	31.00	0.14
6.55	6.66	48.00	0.11
6.66	7.59	31.00	0.93
7.83	9.06	31.00	1.23
9.06	9.15	48.00	0.09
9.69	9.76	48.00	0.07
9.76	10.47	31.00	0.71
10.47	10.60	46.00	0.13
10.60	12.08	31.00	1.48
12.08	12.19	50.00	0.11
12.19	12.83	31.00	0.64
12.83	12.91	48.00	0.08

NOTES:
[A]WP IS THE AVERAGE WIDTH OF PAVEMENT INCLUDING SHOULDERS.

SEE SHEET 2 FOR LEGEND

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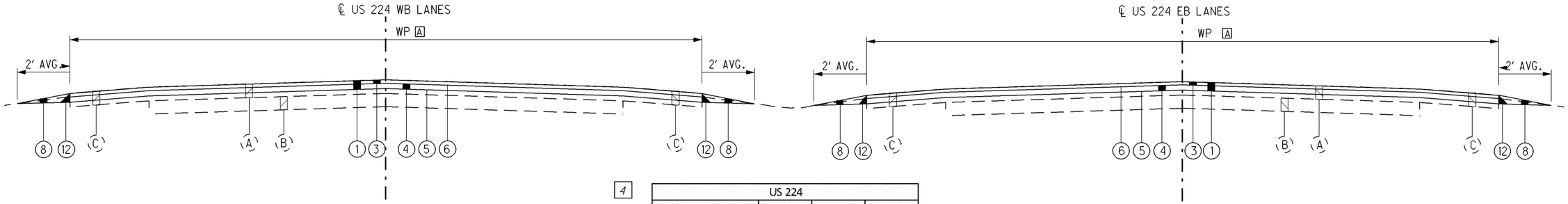
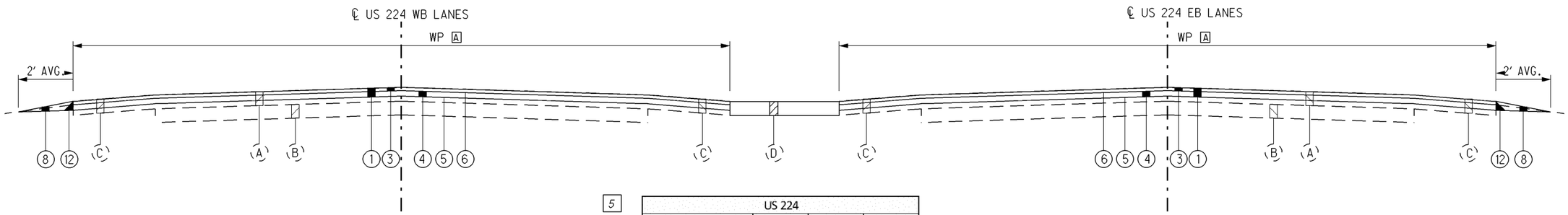
TYPICAL SECTIONS

POR-224-0.00



[4]

US 224				
SLM		SIDE	AVG WP (FT)	LENGTH (MILES)
FROM	TO			
9.15	9.69	EB	31.00	0.54
9.15	9.69	WB	31.00	0.54



[5]

US 224				
SLM		SIDE	AVG WP (FT)	LENGTH (MILES)
FROM	TO			
12.91	12.99	EB	19.00	0.08
12.91	12.99	WB	24.00	0.08

NOTES:
[A] WP IS THE AVERAGE WIDTH OF PAVEMENT INCLUDING SHOULDERS.

SEE SHEET 2 FOR LEGEND

TYPICAL SECTIONS

POR-224-0.00

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SAFETY EDGE (ASPHALT CONCRETE)

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

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

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

TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
WWW.TRANSTECHSYS.COM

ADVANT-EDGE PAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
WWW.ADVANTAEDGEPAVING.COM

CARLSON SAFETY EDGE END GATE
18425 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONIC LABORATORIES, INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
WWW.TROXLERLABS.COM

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

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

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

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

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

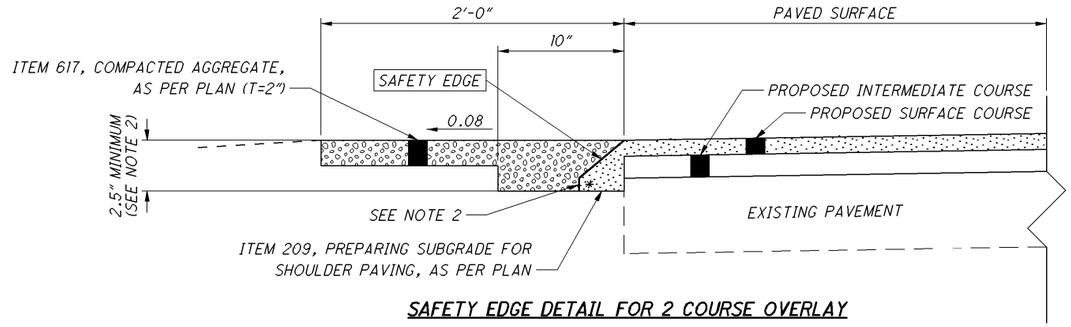
NOTES:

1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).

2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6". CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6".

3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.

* 40° MAX



SAFETY EDGE DETAIL FOR 2 COURSE OVERLAY

ESTIMATED QUANTITIES

ROUTE	SAFETY EDGE THICKNESS (IN.)	S.L.M TO S.L.M.			SIDE	209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN
						STATION	CU YD
224	3	0.00	TO	2.28	L/R	240.8	32.99
224EB	3	2.28	TO	2.42	R	7.4	1.01
224EB	3	2.42	TO	2.59	L/R	18.0	2.46
224WB	3	2.28	TO	2.42	L/R	14.8	2.03
224WB	3	2.42	TO	2.59	L	9.0	1.23
224	3	2.59	TO	3.85	L/R	133.1	18.23
224	3	3.85	TO	7.59	L/R	394.9	54.12
224EB	3	7.59	TO	7.83	L/R	25.3	3.47
224WB	3	7.59	TO	7.83	L	12.7	1.74
224	3	7.83	TO	9.15	L/R	139.4	19.10
224WB	3	9.15	TO	9.69	L/R	57.0	7.81
224EB	3	9.15	TO	9.69	L/R	57.0	7.81
224	3	9.69	TO	12.91	L/R	340.0	46.60
224	3	12.91	TO	12.99	L/R	8.4	1.16
TOTALS CARRIED TO GENERAL SUMMARY						1458	200

REVISED: 6/25/12

DISTRICT 4 - PLANNING & ENGINEERING
DESIGNED MAC REVIEWED TJP
REVISION DATE 06/25/12 CHECKED TJP

SAFETY EDGE DETAIL (RESURFACING)

POR-224-0.00

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SAFETY EDGE (ASPHALT CONCRETE)

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

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

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1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
WWW.TRANSTECHSYS.COM

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P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
WWW.ADVANTAEDGEPAVING.COM

CARLSON SAFETY EDGE END GATE
18425 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONIC LABORATORIES, INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
WWW.TROXLERLABS.COM

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

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

ITEM 451, REINFORCED CONCRETE PAVEMENT, AS PER PLAN
ITEM 452, NON-REINFORCED CONCRETE PAVEMENT, AS PER PLAN

THE SAFETY EDGE SHALL BE INCIDENTIAL TO THE 451 OR 452 CONCRETE PAVEMENT PAY ITEM. ALL ADDITIONAL MATERIAL, LABOR, EQUIPEMENT, AND INCIDENTIALS NECESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED.

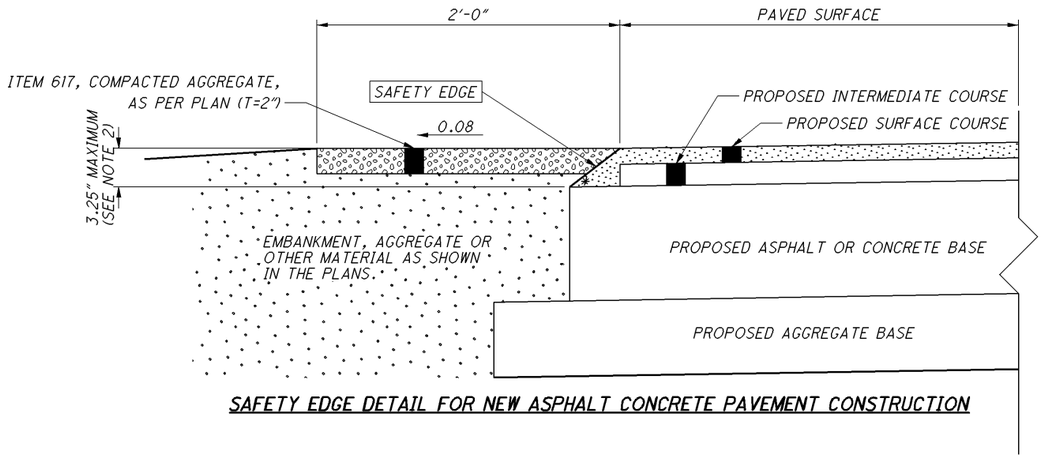
NOTES:

1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).

2.) FOR NEW ASPHALT CONCRETE PAVEMENT, CONSTRUCT THE SAFETY EDGE THE FULL THICKNESS OF THE SURFACE AND INTERMEDIATE COURSES, NOT TO EXCEED 3.25".

3.) FOR NEW CONCRETE PAVEMENT, CONSTRUCT THE SAFETY EDGE 4" THICK. CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE.

* 40° MAX



SAFETY EDGE DETAIL FOR NEW ASPHALT CONCRETE PAVEMENT CONSTRUCTION

ESTIMATED QUANTITIES (FOR ASPHALT CONCRETE PAVEMENT)

ROUTE	SAFETY EDGE THICKNESS (IN.)	STATION TO STATION			SIDE	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN (CU YD)
224 EB	3	71+33.70	TO	77+44.00	L	0.84
224 EB	3	217+12.50	TO	223+11.35	L	0.82
224WB	3	78+04.00	TO	84+04.20	R	0.82
224 WB	3	223+70.00	TO	230+24.20	R	0.90
TOTALS CARRIED TO GENERAL SUMMARY						4

REVISED: 6/25/12

DISTRICT 4 - PLANNING & ENGINEERING
DESIGNED MAC REVIEWED TJP
REVISION DATE 06/25/12 CHECKED TJP
SAFETY EDGE DETAIL (NEW CONSTRUCTION)
POR-224-0.00
6
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CALCULATED RMB CHECKED

GENERAL NOTES

UTILITIES

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS:

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-3145 KEN GREENE

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

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

AT&T
The Ohio Bell Telephone Company
ATTN: Cindy Zuchegno
50 W. Bowery St.
4th Floor
Akron, OH 44308
330-384-3561

Dominion East Ohio Gas
ATTN: Mary Long
320 Springside Drive
Suite 320
Akron, OH 44333
330-664-2409
888-504-0126 Fax

Portage County
Water Resources
County Administration
Building, 3rd Floor
ATTN: Louie Munoz
449 South Meridian Street
Ravenna, OH 44266
330-297-3670
330-297-3680 Fax

Belden and Blake Oil and Gas
ATTN: Keith Kerstetter
1748 Saltwell Road
Dover, OH 44622
330-602-5551 ext: 227
330-602-5554 Fax

Ohio Edison
ATTN: Jeff Knapp
1910 W. Market Street
Building #1
Akron, OH 44313
330-436-4051
Time Warner Cable
ATTN: Ron Ferdinand
5520 Whipple Ave. NW
North Canton, OH 44720
330-494-9200 ext.3305553003

THE UNDERGROUND UTILITIES ON THIS PLAN HAVE BEEN LOCATED BY SO DEEP, A SUBSURFACE UTILITY ENGINEERING COMPANY. IF THERE ARE ANY DISCREPANCIES BETWEEN FIELD MARKINGS AND WHAT THE PLAN INDICATES, PLEASE CONTACT STEVE JONES, DISTRICT UTILITY COORDINATOR, PHONE 330-786-4818, PRIOR TO ANY SUBSURFACE WORK BEING INITIATED.

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.

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.

WORK LIMITS

ALL PHYSICAL WORK SHALL BE COMPLETED WITHIN THE STATE RIGHT-OF-WAY ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PAVEMENT MARKING LANE WIDTHS

THE NORMAL LANE WIDTH FOR THE PAVEMENT MARKINGS ON THIS PROJECT SHALL BE AS FOLLOWS [AT LEAST 3 DAYS PRIOR TO PERFORMING THE WORK CONTACT THE TRAFFIC OFFICE AT 330-786-3147 TO CONFIRM THE WIDTHS]:

ROUTE	S.L.M. TO S.L.M.	LANE WIDTH
224	0.00 12.99	12'

A QUANTITY OF 300 FT OF ITEM 642 STOP LINE HAS BEEN ADDED TO THE GENERAL SUMMARY FOR SIDE ROAD STOP LINES ON US 224.

PAVEMENT MARKING DETAILS

THE PAVEMENT MARKING DETAIL SHEETS WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.

ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR)

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

203, EXCAVATION (FOR PAVEMENT REPAIR) 167 CU YD

ITEM 304 - AGGREGATE BASE, AS PER PLAN (FOR PAVEMENT REPAIR)

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION (FOR PAVEMENT REPAIR).
GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

304, AGGREGATE BASE, AS PER PLAN (FOR PAVEMENT REPAIR) 167 CU YD

ITEM 252 - FULL DEPTH RIGID PAVEMENT REMOVAL & FLEXIBLE REPLACEMENT

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 12"± 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE PLACEMENT OF THE TYPE 2 INTERMEDIATE COURSE. IT ISN'T THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

252, FULL DEPTH PAVEMENT SAWING, 6000 FT
252, FULL DEPTH RIGID PAVEMENT REMOVAL & FLEXIBLE REPLACEMENT, 1000 SQ YD

ITEM SPECIAL - PIPE CLEANOUT - SLM'S 1.32 & 3.91

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING CULVERTS AT SLM'S 1.32 & 3.91. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL CULVERTS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT 184 FT.

ITEM 603 - FIELD PAVING OF EXISTING PIPE - SLM 1.32

FIELD PAVE THE EXISTING 120" CORRUGATED METAL PIPE INVERT AT SLM 1.32 (1360' EAST OF THE RAIL ROAD). THE CONTRACTOR WILL PAVE THE BOTTOM OF THE EXISTING PIPE WITH CLASS C PORTLAND CEMENT CONCRETE AS PER CMS 603.13.

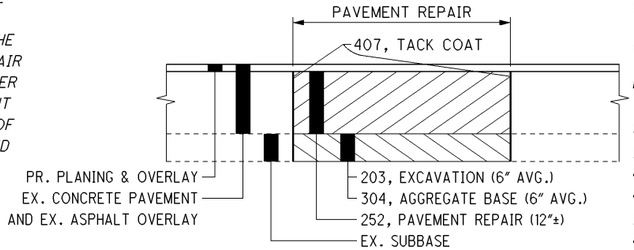
AREAS TO BE PAVED WILL BE CLEANED TO REMOVE ALL DEBRIS AND SEDIMENT AND WILL BE PAID FOR UNDER ITEM SPECIAL - PIPE CLEANOUT.

THE CONTRACTOR WILL BE REQUIRED TO USE ITEM 503 - COFFERDAMS AND EXCAVATION BRACING (CRIBS, AND SHEETING) TO DEWATER THE EXISTING PIPE PRIOR TO THE PREPARATION AND FIELD PAVING. AFTER THE PIPE HAS BEEN CLEANED OF ALL DEBRIS AND SEDIMENT, NO WATER WILL BE ALLOWED TO CONTAMINATE THE PIPE. IF ANY CONTAMINATION OCCURS, THE CONTRACTOR WILL RESEAL THE AREA AND RECLEAN THE PIPE AT NO ADDITIONAL COST.

ALL EROSION UNDER THE PIPE AND IN THE VOIDS WHERE THE PIPE IS RUSTED THROUGH WILL BE FILLED WITH ITEM 613 - LOW STRENGTH MORTAR BACKFILL.

ANY TREES LOCATED WITHIN 10' OF THE HEADWALLS THAT MAY POTENTIALLY DAMAGE THE CULVERT IN THE FUTURE OR ENCROACH UPON THE STREAM BEAD OR FIELD PAVING OPERATIONS WILL BE REMOVED. REMOVAL WILL BE DETERMINED BY THE PROJECT ENGINEER AND REMOVED UNDER ITEM 201 - CLEARING AND GRUBBING.

ITEM 603 - FIELD PAVING OF EXISTING PIPE 90 FT



ITEM 613 - LOW STRENGTH MORTAR - SLM 3.91

ALL EROSION UNDER THE PIPE AND IN THE VOIDS WHERE THE PIPE IS RUSTED THROUGH WILL BE FILLED WITH ITEM 613 - LOW STRENGTH MORTAR BACKFILL.

ITEM 613 - LOW STRENGTH MORTAR BACKFILL 5 CU. YD.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS: ITEM PROVIDED TO REPAIR CONTRACTOR DISTURBED AREAS AND EMBANKMENT SLOPE. THE CONTRACTOR IS RESPONSIBLE FOR ANY AREAS DISTURBED BEYOND AN ACRE.

THE FOLLOWING QUANTITES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

659, SOIL ANALYSIS TEST 2 EACH
659, TOPSOIL 656 CU. YD.
659, SEEDING AND MULCHING 5904 SQ. YD.
659, REPAIR SEEDING AND MULCHING 296 SQ. YD
659, COMMERCIAL FERTILIZER 0.80 TON
659, LIME 1.22 ACRES
659, WATER 32 M. GAL.

SEEDING AND MULCHING CALCULATIONS:
CARRIED FROM CROSS SECTIONS FROM
WIDENING AT SR 43: 1048 SQ YD
WIDENING AT SR 44: 1049 SQ YD
PAVEMENT REMOVAL AT SR 43: 1469 SQ YD
PAVEMENT REMOVAL AT SR 44: 2235 SQ YD
CULVERT AT SLM 2.81: 75 SQ YD
EXTRA FOR CULVERT AT SLM 3.91: 28 SQ YD
TOTAL= 5904 SQ YD

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

LINER PIPE - SLM 3.91

THE 42" CORRUGATED METAL PIPE LOCATED AT SLM 3.91 WILL BE LINED WITH A 38"X24" CORRUGATED STEEL SPIRAL RIB CONDUIT. INSTALL PIPE LINERS ACCORDING TO SUPPLEMENTAL SPECIFICATION 837.

837, 38"X24" LINER PIPE, 707.12 94 FT
837, BACK FILL FOR LINER PIPE 14 CU. YD.

CULVERT DETAILS SLM 3.91 (270' EAST OF MAY RD.)

THE CONTRACTOR SHOULD REMOVE BOTH END SECTIONS (7' EACH END) AND HEADWALLS FROM CULVERT POR-224-3.91. THE HEADWALLS SHOULD BE REPLACED ACCORDING TO STANDARD CONSTRUCTION DRAWING HW-2.1. THE HEADWALLS SHOULD BE PLACED AROUND THE PROPOSED LINER PIPE.

202, HEADWALL REMOVED 2 EACH
202, PIPE REMOVED, OVER 24" 14 FT
601, ROCK CHANNEL PROTECTION TYPE C WITH FABRIC FILTER 2 CU YD
602, CONCRETE MASONRY 0.86 CU YD

EARTHWORK

THE FOLLOWING QUANTITES ARE TAKEN FROM THE CROSS SECTIONS AND WILL BE CARRIED TO THE GENERAL SUMMARY.

SR 43 : STA 217+00 TO STA 235+00
203, EXCAVATION 1017 CU YD
203, EMBANKMENT 253 CU YD

SR 44 : STA 70+00 TO STA 85+50
203, EXCAVATION 586 CU YD
203, EMBANKMENT 578 CU YD

POR-224-0.00

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ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

IN LOW SHOULDER AREAS EXCEEDING 1", AND ADJACENT TO THE SAFETY EDGE, OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALLBE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1-1/2"	100
3/4"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 36 IN DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

ITEM 603 - CONDUIT BORED OR JACKED

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 8 FEET TO THE (EDGE OF PAVEMENT) (NEAREST RAIL). PROVIDE A 0.50 INCH UNGALVANIZED CASING PIPE CONFORMING TO 748.06 THAT HAS JOINTS WITH A CIRCUMFERENCIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND REMOVALS

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF THE PIPE AT SLM 2.81.

ITEM 301 ASPHALT CONCRETE BASE, PG64-22 7 CU. YDS.
ITEM 304 AGGREGATE BASE, AS PER PLAN 5 CU. YD.
ITEM 407 PRIME COAT 11 GAL

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 9 INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH. SEE STANDARD CONSTRUCTION DRAWING DM-1.4 FOR TRENCH WIDTH FORMULA AND CALCULATION.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

(30.5' WIDE PAVEMENT X 8' WIDE TRENCH X 9"/12)/27 = 7 CU YD
(30.5' WIDE PAVEMENT X 8' WIDE TRENCH X 6"/12)/27 = 5 CU YD
(30.5' WIDE PAVEMENT X 8' WIDE TRENCH)/9 X 0.4 GAL = 11 GAL

INTERSECTIONS

INTERSECTIONS WILL BE RESURFACED 2 FT. BEYOND THE EDGE LINE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR INDICATED IN THE PLAN. INTERSECTIONS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE OR WITH THE MAINLINE PAVEMENT IF THIS CAN BE ACCOMPLISHED WITHOUT CHANGING THE VELOCITY AND DIRECTION OF THE PAVER. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT. PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE PERTINENT BID ITEM.

INTERSECTIONS

THE FOLLOWING INTERSECTIONS SHALL BE RESURFACED BEYOND THE EDGE LINE AS NOTED BELOW, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR INDICATED IN THE PLAN. INTERSECTIONS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE. A BUTT JOINT, AS PER STANDARD CONSTRUCTION DRAWING BP-3.1, SHALL BE USED TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT UNLESS SHOWN OTHERWISE ON THE ASPHALT CONCRETE CALCULATIONS SHEET. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE PERTINENT BID ITEM.

INTERSECTION	SIDE	DISTANCE BEYOND EDGE LINE
US 224 AND HARTVILLE RD	N	55 FT
US 224 AND HARTVILLE RD	S	80 FT
US 224 AND INDUSTRY RD	N	45 FT
US 224 AND INDUSTRY RD	S	53 FT
US 224 AND BANK ST	N	50 FT
US 224 AND BANK ST	S	40 FT

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS 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 27.75 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, 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.

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 RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

SURVEYING PARAMETERS (AT SR 43 AND CULVERT AT SLM 2.81)

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 2009

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (CORS96) (EPOCH:2002.0000)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO NORTH ZONE (3401)
COMBINED SCALE FACTOR: .99988767202

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

SURVEYING PARAMETERS (AT SR 44) (SLM 7.71)

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 2009

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (CORS96) (EPOCH:2002.0000)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO NORTH ZONE (3401)
COMBINED SCALE FACTOR: .99989069995

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

SURVEYING PARAMETERS (CULVERT AT SLM 4.71)

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

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 2003

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (CORS96) (EPOCH:2002.0000)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO NORTH ZONE (3401)
COMBINED SCALE FACTOR: .99988823035

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

ITEM 448- ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG70-22M, AS PER PLAN

703.05 DO NOT USE ANY FINE OR COARSE AGGREGATE WITH A 'SR' OR 'SRH' DESIGNATION ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

ITEM 202 - PAVEMENT REMOVED

THE CONTRACTOR SHALL REMOVE THE PAVEMENT AS SHOWN ON THE PLAN AND PROFILE SHEETS 24-29 AND 34A-40. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 202, PAVEMENT REMOVED & SHALL INCLUDE AND ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE ABOVE WORK.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 202	PAVEMENT REMOVED	1834 SQ.YD.
ITEM 203	EXCAVATION	1464 CU.YD.
ITEM 203	EMBANKMENT	1544 CU.YD.

(QUANTITIES FOR PAVEMENT REMOVED FOR THE WIDENING SECTION ARE INCLUDED IN THIS QUANTITY)

CALCULATED RMB CHECKED

GENERAL NOTES

POR-224-0.00

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PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

CONNECTIONS OF PROPOSED LONGITUDINAL DRAINAGE TO CORRUGATED METAL STRUCTURES SHALL BE MADE BY MEANS OF A SHOP FABRICATED OR FIELD WELDED STUB ON THE STRUCTURE. THE STUB SHALL MEET THE REQUIREMENTS OF 707 AND HAVE A MINIMUM LENGTH OF 2 FEET AND A MINIMUM WALL THICKNESS OF 0.064 INCHES.

THE LOCATION AND ELEVATION OF THE STUB ARE TO BE CONSIDERED APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER TO AVOID CUTTING THROUGH JOINTS IN THE STRUCTURE.

THE FIELD WELDED JOINT, IF USED, SHALL BE THOROUGHLY CLEANED AND REGALVANIZED OR OTHERWISE SUITABLY REPAIRED. WELDING SHALL MEET THE REQUIREMENTS OF 513.21.

A MASONRY COLLAR, AS PER STANDARD DRAWING DM-1.1, WILL BE REQUIRED TO CONNECT THE LONGITUDINAL DRAINAGE TO THE STUB, WHEN PIPE OTHER THAN CORRUGATED METAL IS PROVIDED FOR THE LONGITUDINAL DRAINAGE.

PAYMENT FOR CUTTING INTO THE STRUCTURE AND PROVIDING THE CONNECTION DESCRIBED, SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 603 OR 522.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

603 6" CONDUIT, TYPE B 200 FT.

603 6" CONDUIT, TYPE E 200 FT.

603 6" CONDUIT, TYPE F 200 FT.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR$\frac{5}{32}$S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

ENDANGERED SPECIES HABITAT

WHENEVER PRACTICABLE, UNAVOIDABLE CUTTING OF LIVING OR DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES OR CAVITIES TREES SHALL BE PERFORMED AFTER SEPTEMBER 30 AND BEFORE APRIL 1. IF AT ALL POSSIBLE, TREES CONTAINING SUITABLE INDIANA BAT ROOST HABITAT, THAT MUST BE REMOVED BY THE PROJECT BETWEEN APRIL 1 AND SEPTEMBER 30, SHALL BE MARKED BY THE CONTRACTOR FOR AVOIDANCE DURING THESE MONTHS.

WETLANDS IMPACT AND AVOIDANCE CULVERT NO. POR-224-1.32

THE PROPOSED IMPROVEMENT AT CULVERT NO. POR-224-1.32 WILL TEMPORARILY IMPACT 0.007 ACRE OF EXISTING PALUSTRINE EMERGENT WETLAND AREA NORTH OF US ROUTE 224. A PALUSTRINE EMERGENT WETLAND IS ALSO PRESENT SOUTH OF US ROUTE 224 IN THE SOUTHWEST QUADRANT OF THE POR-224-1.32 CULVERT. WETLAND AREAS AT CULVERT NO. POR-224-1.32 SHALL BE FLAGGED IN THE FIELD BY ODOT, DISTRICT 4 ENVIRONMENTAL SECTION PERSONNEL. THE CONTRACTOR SHALL AVOID THE FLAGGED WETLAND AREA IN THE SOUTHWEST QUADRANT OF THE POR-224-1.32 CULVERT. THE CONTRACTOR MAY STAGE EQUIPMENT AND MATERIALS DIRECTLY SOUTH OF THE CULVERT OUTLET AND IN THE SOUTHEAST QUADRANT OF THE POR-224-1.32 CULVERT. BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE IMPACTS TO THE REMAINING PORTION OF WETLANDS AT THE POR-224-1.32 CULVERT. TO PROTECT AND DELINEATE THE BOUNDARIES OF THE EXISTING REMAINING WETLANDS, TEMPORARY CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED WITHIN THE US ROUTE 225 RIGHT-OF-WAY ALONG THE PROPOSED CONSTRUCTION LIMITS WITHIN THE NORTHERN WETLAND AREA AND ADJACENT TO THE SOUTHERN WETLAND AREA MAINTAINING A MINIMUM ONE-FOOT BUFFER BETWEEN THE SOUTHERN WETLAND BOUNDARY IDENTIFIED BY ODOT, DISTRICT 4 ENVIRONMENTAL SECTION PERSONNEL. THE TEMPORARY CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT THE REMAINING NORTHERN WETLANDS BEYOND A 0.007 ACRE AREA AT THE POR-224-1.32 CULVERT INLET. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE CONSTRUCTION EQUIPMENT AND/OR MATERIALS WITHIN THE REMAINING WETLANDS AREAS. THE TEMPORARY CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT.

WETLANDS IMPACT AND AVOIDANCE CULVERT NO. POR-224-2.81

THE PROPOSED REPLACEMENT OF CULVERT NO. POR-224-2.81 WILL RESULT IN PERMANENT IMPACTS TO 93 LINEAR FEET (0.006 ACRE) OF CLASS I PRIMARY HEADWATER HABITAT STREAM AND 0.0011 ACRE OF PALUSTRINE EMERGENT WETLAND AREA AS SHOWN IN THE CONSTRUCTION PLAN. BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE IMPACTS TO THE REMAINING PORTION OF THE STREAM WETLANDS AT THE POR-224-2.81 CULVERT. TO PROTECT AND DELINEATE THE BOUNDARIES OF THE EXISTING REMAINING WETLANDS AREA, TEMPORARY CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY ALONG THE PROPOSED CONSTRUCTION LIMITS WITHIN THE WETLANDS AREA. THE TEMPORARY CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT THE STREAM BEYOND THE CONSTRUCTION LIMITS AND/OR THE REMAINING WETLANDS AREA. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE CONSTRUCTION EQUIPMENT AND/OR MATERIALS WITHIN THE STREAM AND/OR REMAINING WETLANDS AREA. THE TEMPORARY CONSTRUCTION FENCE AND PERIMETER FILTER FABRIC FENCE SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE DURATION OF THE PROJECT.

ITEM SPECIAL - MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS

DESCRIPTION:
THIS WORK CONSISTS OF PLACEMENT OF A SELF ADHESIVE GLASS FIBER MESH OVER JOINTS DESIGNATED IN THE PLAN AND/OR BY THE ENGINEER PRIOR TO PLACEMENT OF ASPHALT CONCRETE.

MATERIAL:
FURNISH GLASGRID KNITTED GLASS FIBER STRAND MESH MEETING THE FOLLOWING PROPERTIES:

PROPERTIES	GlasGrid No. 0260
Material Width	5 ft.
Material - Self Adhesive fiberglass strand coated with elastomeric polymer per ASTM 4963	25% minimum dry pickup
Tensile Strength per G.R.I. GG 1-87	1120 lbs/in, 560 lbs/in
Elongation at break (min)	<5%
Melting Point (min) ASTM D276	>425 °F
Mass/ Unit Area (min) ASTM D5261-92	16 oz/sq yd
Grid pattern	0.5 in x 0.5 in

BEFORE INSTALLATION SUBMIT A LETTER TO THE PROJECT ENGINEER WITH A STATEMENT CERTIFYING MATERIAL RECEIVED MEETS THE ABOVE PROPERTIES. SUBMIT TO THE PROJECT ENGINEER ACTUAL DATED (SALES FLYER DATA NOT ACCEPTABLE) TEST DATA WITH THE CERTIFICATION LETTER.

CONSTRUCTION:
PERFORM ALL REQUIRED REPAIRS PRIOR TO PLACING MESH.

ENSURE ALL AREAS WHERE MESH IS TO BE PLACED ARE FREE OF ALL DIRT AND OTHER LOOSE MATERIALS BY SWEEPING OR OTHER APPROVED METHOD. PLACE TACK COAT FOR INTERMEDIATE COURSE AT A RATE OF 0.02 GAL./SQ. YD. AND WAIT 2 HOURS BEFORE PLACING THE MESH ON A PAVEMENT SURFACE THAT IS BETWEEN 40° F AND 140° F.

PLACE MESH UNDER TENSION TO PREVENT RIPPLING. REMOVE RIPPLES BY PULLING, OR IF NECESSARY (IN CURVES FOR EXAMPLE), BY CUTTING AND FLATTENING THE MESH. OVERLAP TRANSVERSE JOINTS OF THE MESH 3 TO 6 INCHES. OVERLAP LONGITUDINAL JOINTS OF THE MESH BY 1 INCH MINIMUM. ROLL THE MESH SURFACE 2 PASSES WITH A RUBBER COATED DRUM ROLLER, RUBBER TIRED ROLLER OR OTHER METHOD ACCEPTABLE TO THE MANUFACTURER. CLEAN RUBBER ROLLER IF BUILDUP ON THE RUBBER SURFACE INTERFERES WITH MESH PLACEMENT. DO NOT USE A STEEL DRUM ROLLER. PLACED MESH WILL HANDLE SPEED CONTROLLED EMERGENCY OR CONSTRUCTION TRAFFIC BUT DAMAGED SECTIONS MUST BE REMOVED AND/ OR REPAIRED, AT THE CONTRACTOR'S EXPENSE. DO NOT ALLOW MUD OR OTHER MATERIAL TO COLLECT ON THE MESH PRIOR TO ASPHALT CONCRETE PLACEMENT. COVER MESH WITH ASPHALT CONCRETE THE SAME DAY UNLESS WEATHER BECOMES UNSUITABLE.

MEASUREMENT:
MEASURE MESH PLACEMENT BY THE LINEAL FEET OF JOINT COVERED. DO NOT ALLOW FOR MESH OVERLAP.

PAYMENT:
THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES, COMPLETED IN PLACE, AT THE CONTRACT PRICES, AS DESCRIBED ABOVE, AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	FT.	MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS

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GENERAL NOTES

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MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. A MINIMUM OF ONE TEN FOOT BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AND COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS.

4. FOR RESURFACING WORK:
LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

5. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

6. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED.

7. TRUCK MOUNTED ATTENUATORS [TMA'S] SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

8. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

9. A QUANTITY OF 50 CU. YDS. OF 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

10. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

11. NO TRAFFIC SHALL BE PLACED ON A PLANED SURFACE.

12. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGN HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY MAY INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS: W8-1 [BUMP], W6-3 [TWO-WAY TRAFFIC], W8-H13 [NO EDGE LINES], R4-1 [DO NOT PASS], R4-2 [PASS WITH CARE], W8-11 [UNEVEN LANES]. THESE QUANTITIES SHALL BE AS PER 614.04.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

PHASE I- PLANED SURFACE
614, WORK ZONE CENTER LINE, CLASS II, 13.39 MILE
614 WORK ZONE LANE LINE, CLASS II, 1.72 MILE
614, WORK ZONE STOP LINE, CLASS I, 281 FT
614, WORK ZONE CHANNELIZING LINE, CLASS I, 5388 FT
614, WORK ZONE MARKING SIGN (ALL PHASES) 60 EACH

PHASE II- INTERMEDIATE COURSE
614, WORK ZONE CENTER LINE, CLASS II, 13.39 MILE
614, WORK ZONE LANE LINE, CLASS II, 1.72 MILE
614, WORK ZONE STOP LINE, CLASS I, 281 FT
614, WORK ZONE CHANNELIZING LINE, CLASS I, 5388 FT

PHASE III- SURFACE COURSE
614, WORK ZONE CENTER LINE, CLASS III, 642 PAINT, 13.39 MILE
614, WORK ZONE LANE LINE, CLASS III, 642 PAINT, 1.72 MILE
614, WORK ZONE STOP LINE, CLASS III,642 PAINT, 281 FT
614, WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT,5388 FT

TO BE USED AS DIRECTED BY THE ENGINEER
614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 28 MILE

ADVANCED NOTICE TO PAVE

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

DETOUR NOTIFICATION- POR-224-2.81

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) POR-224-2.81

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 7 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEETS 11-12. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

DETOUR COORDINATION

THE DETOUR FOR POR-224-2.81 SHALL NOT BE CONCURRENT WITH THE INTERSECTION WIDENING WORK AT THE SR-43 AND SR-44 INTERSECTIONS.

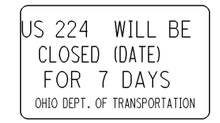
DUST CONTROL

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 7 M. GAL

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN) POR-224-2.81

NOTICE OF CLOSURE SIGNS, AS DETAILED IN THESE PLANS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE AT SLM 1.86. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.



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CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH IN THE VINCITY OF THE INTERSECTION OF US 224 AND SR 43, AND THE INTERSECTION OF US 224 AND SR 44 SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UN-COMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

PORTABLE CONCRETE BARRIER (PCB)

THE PORTABLE CONCRETE BARRIER SHALL BE PLACED ACCORDING TO THE DETAIL BELOW UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER.

ALL LABOR, EQUIPMENT, AND INCIDENTALS NEEDED TO PERFORM THIS WORK SHALL BE PAID FOR UNDER ITEM 614 MAINTENANCE OF TRAFFIC EXCEPT FOR THOSE LISTED BELOW.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

614, WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL), 8 EACH
622, PORTABLE CONCRETE BARRIER, 32", 2775 FT

614, WORK ZONE EDGE LINE, CLASS I, 0.55 MILE

ITEM 614, BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF 58 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B AND 58 EACH OF ITEM 614 OBJECT MARKER, 1-WAY HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

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

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

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

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

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

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

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

EXISTING TRAFFIC SIGNALS

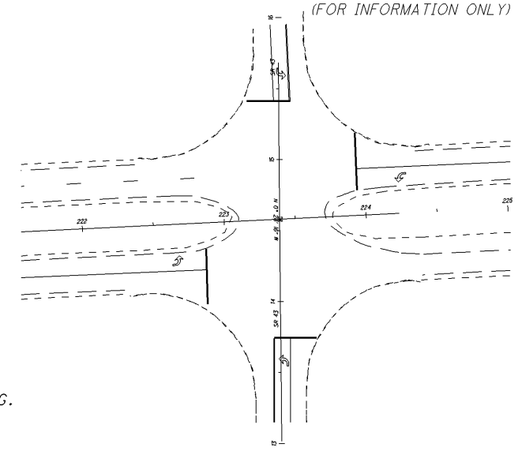
MOVE SIGNAL HEADS DURING CONSTRUCTION OF INTERSECTION WIDENINGS TO PROVIDE PROPER ALIGNMENT PER OMUTCD FIGURE 4D-2. PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION)

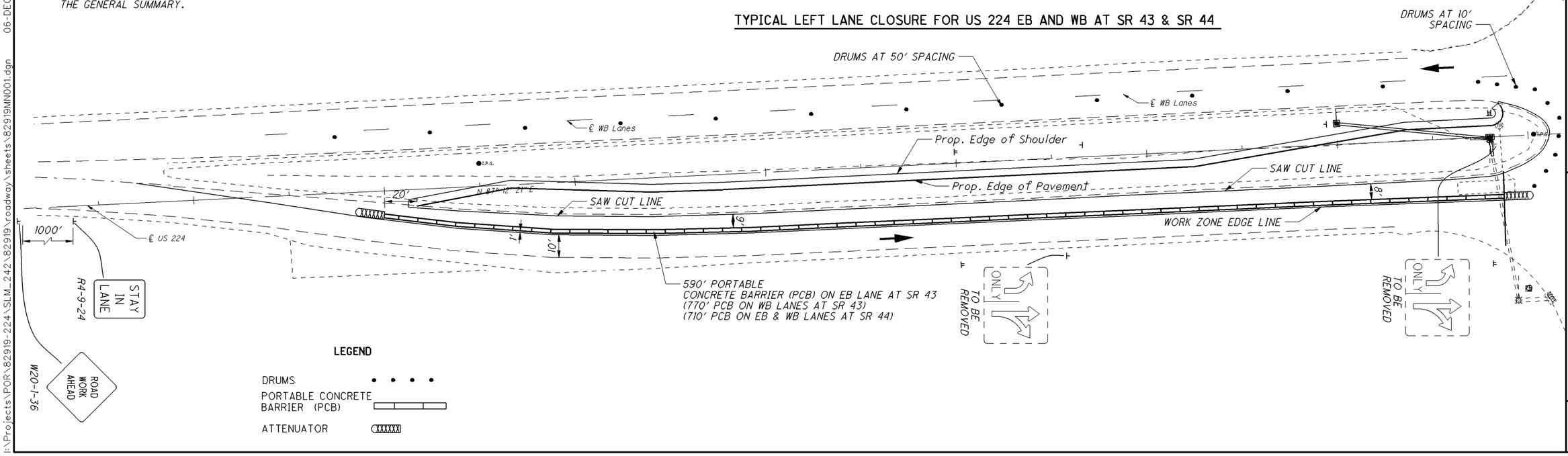
A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, AS SHOWN BELOW, FOR A PERIOD NOT TO EXCEED 14 CONSECUTIVE CALENDAR DAYS FOR EACH WIDENING.

A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR EACH CALENDAR DAY THE LANE REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

EXISTING LAYOUT FOR US 224 AT SR 43 & SR 44 (FOR INFORMATION ONLY)



TYPICAL LEFT LANE CLOSURE FOR US 224 EB AND WB AT SR 43 & SR 44



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MAINTENANCE OF TRAFFIC GENERAL NOTES

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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 CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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

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

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

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 ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) 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 200 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.

CALCULATED CNC CHECKED

MAINTENANCE

OFFICE OF TRAFFIC GENERAL NOTES

POR-224-0.00

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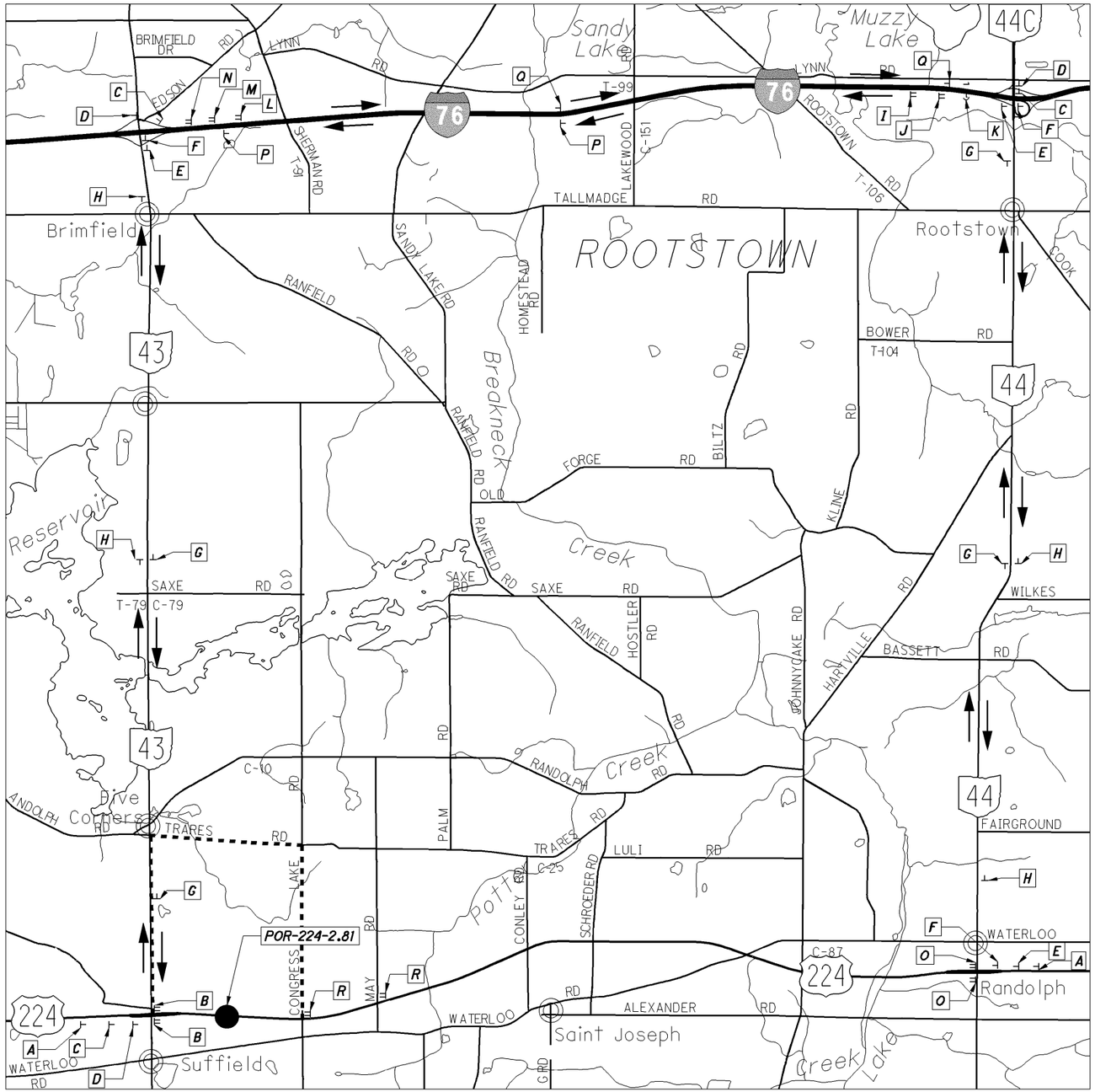


DETOUR ROUTE FOR: POR-224-2.81

OFFICIAL DETOUR ROUTE: SR 43 / IR 76 / SR 44

CLOSED AS PER SCD MT-101.60

LOCAL DETOUR ROUTE: SR 43 / TTRARES RD / CONGRESS LAKE RD

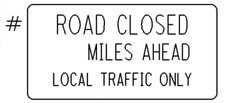
REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

 # ON TYPE III BARRICADE WITH TYPE B FLASHER MOUNTED PER MT 101.60

A

W20-2-36

B #



R11-3A-60

M4-10L-48

C

M4-8-24
M1-4-24-3
M5-1L-21

D

M4-8-24
M1-4-24-3
M6-1L-21

E

M4-8-24
M1-4-24-3
M5-1R-21

F

M4-8-24
M1-4-24-3
M6-1R-21

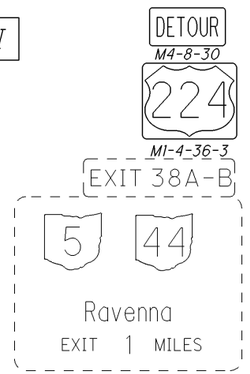
G

M4-8-24
M3-2-24
M1-4-24-3

H

M4-8-24
M3-4-24
M1-4-24-3

I



M4-8-30
M1-4-36-3

CALCULATED CNC CHECKED

DETOUR PLAN POR-224-2.81

POR-224-0.00

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J

DETOUR
M4-8-30
224
M1-4-36-3
EXIT 38A
44 SOUTH
NEXT RIGHT
Fairgrounds

K

DETOUR
M4-8-30
224
M1-4-36-3
M6-2R-30
EXIT 38B
EXIT 38A
INTERSTATE 76 EAST
5 44 NORTH
Ravenna
44 SOUTH
EXIT ONLY

L

DETOUR
M4-8-30
224
M1-4-36-3
EXIT 33
43
Hartville
Kent
EXIT 1 MILE

M

DETOUR
M4-8-30
224
M1-4-36-3
EXIT 33
43
Hartville
Kent
EXIT ½ MILE

N

DETOUR
M4-8-30
224
M1-4-36-3
M6-2R-30
EXIT 33
43
Hartville
Kent

O

ROAD CLOSED
MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3A-60
DETOUR
M4-10R-48

P

DETOUR
M4-8-30
EAST
M3-2-36
224
M1-4-36-3

Q

DETOUR
M4-8-30
WEST
M3-4-36
224
M1-4-36-3

R

ROAD CLOSED
MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3A-60

CALCULATED CNC
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DETOUR PLAN POR-224-2.81

POR-224-0.00

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SHEET NUMBER											PARTICIPATION			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	7	8	21	22	26	28	37	38	47	48	01/STR/ PV/	02/NHS/ PV/	03/S>2/ PV						
																		ROADWAY	
	LUMP										LUMP			201	11000	LUMP		CLEARING AND GRUBBING	
	2										2			202	20010	2	EACH	HEADWALL REMOVED	
		1834									1165	427	242	202	23000	1834	SQ YD	PAVEMENT REMOVED	
							104	105			209			202	32000	209	FT	CURB REMOVED	
					20	200		11			11	20	200	202	35100	231	FT	PIPE REMOVED, 24" AND UNDER	
	14								83	20	34		83	202	35200	117	FT	PIPE REMOVED, OVER 24"	
				28994							19337.5	7712.5	1944	202	38000	28994	FT	GUARDRAIL REMOVED	
					1	1		1			1	1	1	202	58100	3	EACH	CATCH BASIN REMOVED	
										127	127			SPEC	20270000	127	FT	FILL AND PLUG EXISTING CONDUIT	8
	184											90	94	SPEC	20270100	184	FT	PIPE CLEANOUT	7
	1770	1464								32	1186	1125	955	203	10000	3266	CU YD	EXCAVATION	
	831	1544									1509	497	369	203	20000	2375	CU YD	EMBANKMENT	
										5	5			203	40000	5	CU YD	BORROW	
			3634								1660	829	1145	204	10000	3634	SQ YD	SUBGRADE COMPACTION	
1458											1033	281	144	209	72001	1458	STATION	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	5
				25485							16510	7300	1675	606	13000	25485	FT	GUARDRAIL, TYPE 5	
				70							44	16	10	606	26100	70	EACH	ANCHOR ASSEMBLY, TYPE E	
				6							4	2		606	26500	6	EACH	ANCHOR ASSEMBLY, TYPE T	
				8							8			606	35000	8	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
				4							4			606	35140	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
				4								4		606	35170	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE BR-1	

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GENERAL SUMMARY

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SHEET NUMBER												PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	8A	21	26	28	38	47	48					01/STR/ PV/	02/NHS/ PV/	03/S>2/ PV						
																			EROSION CONTROL	
2							13					15			601	32104	15	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
2												2			659	00100	2	EACH	SOIL ANALYSIS TEST	
656												368	158	130	659	00300	656	CU YD	TOPSOIL	
5904												3312	1414	1178	659	10000	5904	SQ YD	SEEDING AND MULCHING	
296												166	71	59	659	14000	296	SQ YD	REPAIR SEEDING AND MULCHING	
0.8												0.45	0.19	0.16	659	20000	0.8	TON	COMMERCIAL FERTILIZER	
1.22												0.66	0.3	0.26	659	31000	1.22	ACRE	LIME	
32												18	8	6	659	35000	32	M GAL	WATER	
												1400	400	200	832	30000	2000	EACH	EROSION CONTROL	
																			DRAINAGE	
0.86						1.12	9.42					10.28		1.12	602	20000	11.4	CU YD	CONCRETE MASONRY	
	200											100	50	50	603	00900	200	FT	6" CONDUIT, TYPE B	
	200											100	50	50	603	01400	200	FT	6" CONDUIT, TYPE E	
	200	127										140	61	126	603	01500	327	FT	6" CONDUIT, TYPE F	
			8										8		603	01800	8	FT	8" CONDUIT, TYPE B	
			10	200									10	200	603	04400	210	FT	12" CONDUIT, TYPE B	
			91										91		603	05900	91	FT	15" CONDUIT, TYPE B	
					97							97			603	10600	97	FT	24" CONDUIT, TYPE C	
						79								79	603	13200	79	FT	30" CONDUIT, TYPE A	
90													90		603	96550	90	FT	FIELD PAVING OF EXISTING PIPE, 120" CMP	
							135					135			603	96600	135	FT	CONDUIT, BORED OR JACKED:, 42" TYPE A, 748.06	
			1										1		604	02000	1	EACH	CATCH BASIN, NO. 6	
			1										1		604	04100	1	EACH	CATCH BASIN, NO. 2-2A	
				1										1	604	04500	1	EACH	CATCH BASIN, NO. 2-2B	
					2							2			604	04900	2	EACH	CATCH BASIN, NO. 2-3	
		2404										1211	568	625	605	14020	2404	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	
5												5			613	41200	5	CU YD	LOW STRENGTH MORTAR BACKFILL	
94												94			837	10000	94	FT	38" X 24" LINER PIPE, 707.12	
14												14			837	20000	14	CU YD	BACK FILL FOR LINER PIPE	

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GENERAL SUMMARY

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SHEET NUMBER											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	7	8	18	19	20	21				01/STR/ PV/	02/NHS/ PV/	03/S>2/ PV						
																		PAVEMENT	
		1000									700	190	110	252	01000	1000	SQ YD	FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT	
		6000									4200	1140	660	252	01500	6000	FT	FULL DEPTH PAVEMENT SAWING	
				166626	82814	3219	14766				187275	49419	30731	254	01000	267425	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
			7				1412				665	330	424	301	46000	1419	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		167	5				974				576	260	310	304	20001	1146	CU YD	AGGREGATE BASE, AS PER PLAN	
				24994	12423	483	2639				28290	7512	4737	407	10000	40539	GALLON	TACK COAT	
				6666	3313	129	814				7596	2030	1296	407	14000	10922	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
			11				2337				1100	548.00	700	408	10000	2348	GALLON	PRIME COAT	
				8100	4026	157	989				9228	2468	1576	448	46050	13272	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
200	4			5786	2876	112	706				6735	1804	1146	448	46905	9684	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN	8
				1110	573		107				1270	321	199	617	10101	1790	CU YD	COMPACTED AGGREGATE, AS PER PLAN	8
							2404				1210	569	625	SPEC	69098100	2404	FT	MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS	8A

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GENERAL SUMMARY

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SHEET NUMBER								PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	22	49	51	52	53	56	57	01/STR/ PV/	02/NHS/ PV/	03/S>2/ PV						
															TRAFFIC CONTROL	
							907	593	199	115	621	10000	907	EACH	RPM, LOW PROFILE, YELLOW/YELLOW	
							58	32	21	5	621	10010	58	EACH	RPM, LOW PROFILE, WHITE	
							247	138	51	58	621	10020	247	EACH	RPM, LOW PROFILE WHITE/RED	
							1212	763	271	178	621	54000	1212	EACH	RAISED PAVEMENT MARKER REMOVED	
	305							202	81	22	626	00100	305	EACH	BARRIER REFLECTOR	
				135	135			135	67.5	67.5	630	02100	270	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
				74				37		37	630	03100	74	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
				14	10			10	5	9	630	08600	24	EACH	SIGN POST REFLECTOR	
				65	40			46.25	20	38.75	630	80100	105	SQ FT	SIGN, FLAT SHEET	
				6	7			7	3	3	630	84900	13	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
				8	8			8	4	4	630	85100	16	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
				10	15			15	6	4	630	86002	25	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
300								200	50	50	642	00490	300	FT	STOP LINE	
						28.00		20.30	4.84	2.86	644	00100	28	MILE	EDGE LINE, 4"	
						1.72		1.72			644	00200	1.72	MILE	LANE LINE, 4"	
						13.39		9.54	2.42	1.43	644	00300	13.39	MILE	CENTER LINE	
						5388		2325.00	1607	1456	644	00400	5388	FT	CHANNELIZING LINE, 8"	
						281		124.00	93	64	644	00500	281	FT	STOP LINE	
						1784		772.00	576	436	644	00700	1784	FT	TRANSVERSE/DIAGONAL LINE	
						72		27	24	21	644	01300	72	EACH	LANE ARROW	
															TRAFFIC SIGNALS	
			1290					419	461	410	625	25300	1290	FT	CONDUIT, 1-1/2", 725.04	
			48					48			625	25900	48	FT	CONDUIT, JACKED OR DRILLED, 3"	
			1290					419	461	410	625	29000	1290	FT	TRENCH	
			9					3	3	3	625	30701	9	EACH	PULL BOX, 725.08, 18", AS PER PLAN	49
			12					4	4	4	625	31510	12	EACH	PULL BOX REMOVED	
			1290					419	461	410	625	36000	1290	FT	PLASTIC CAUTION TAPE	
			4					2	1	1	632	05087	4	EACH	VEHICULAR SIGNAL HEAD, (LED), BLACK, 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN	49
			4					2	1	1	632	25000	4	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
			2						2		632	26000	2	EACH	PEDESTRIAN PUSHBUTTON	
			14					8	3	3	632	26500	14	EACH	DETECTOR LOOP	
			2					2			632	27005	2	EACH	LOOP DETECTOR UNIT, AS PER PLAN	49
			241						241		632	40300	241	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
			232					102	130		632	40500	232	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
			455					121		334	632	40700	455	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
			5157					2750	1745	662	632	65200	5157	FT	LOOP DETECTOR LEAD-IN CABLE	
			4					2	1	1	632	90020	4	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM: 3-SECTION SIGNAL HEAD	49
		164	147					72	184	55	632	90500	311	FT	SIGNALIZATION, MISC.: REMOVE AND REINSTALL LASHING ROD	49
															STRUCTURES	
															FOR STRUCTURE POR-244-0106 ESTIMATED QUANTITY	60
															FOR STRUCTURE POR-244-0831 ESTIMATED QUANTITY	60
															FOR STRUCTURE POR-244-1171 ESTIMATED QUANTITY	60
															FOR STRUCTURE POR-244-1189 ESTIMATED QUANTITY	60

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GENERAL SUMMARY

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SHEET NUMBER												PARTICIPATION			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
9	10	10A										01/STR/ PV/	02/NHS/ PV/	03/S>2/ PV						
																			MAINTENANCE OF TRAFFIC	
		200										140	38	22	614	11110	200	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	8											4	2	2	614	12338	8	EACH	WORK ZONE IMPACT ATTENUATOR (BIDIRECTIONAL)	
LUMP													LUMP		614	12420	LUMP		DETOUR SIGNING	
60												42	12	6	614	12460	60	EACH	WORK ZONE MARKING SIGN	
50												30	10	10	614	13000	50	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
	58											30	12	16	614	13300	58	EACH	BARRIER REFLECTOR, TYPE B	
	58											30	12	16	614	13350	58	EACH	OBJECT MARKER, ONE WAY	
3.44												3.44			614	20400	3.44	MILE	WORK ZONE LANE LINE, CLASS II	
1.72												1.72			614	20550	1.72	MILE	WORK ZONE LANE LINE, CLASS III, 642 PAINT	
26.78												19.08	4.84	2.86	614	21400	26.78	MILE	WORK ZONE CENTER LINE, CLASS II	
13.39												9.54	2.42	1.43	614	21550	13.39	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
	0.55											0.27	0.14	0.14	614	22000	0.55	MILE	WORK ZONE EDGE LINE, CLASS I	
28												24.15	2.42	1.43	614	22350	28	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
10776												4650	3214	2912	614	23000	10776	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
5388												2325	1607	1456	614	23680	5388	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
562												248	186	128	614	26000	562	FT	WORK ZONE STOP LINE, CLASS I	
281												124	93	64	614	26610	281	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
7												6	1		616	10000	7	M GAL	WATER	
	2780											1420	590	770	622	40020	2780	FT	PORTABLE CONCRETE BARRIER, 32"	
															614	11000	LUMP		MAINTAINING TRAFFIC	
												6			619	16010	6	MONTH	FIELD OFFICE, TYPE B	
															623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
															624	10000	LUMP		MOBILIZATION	

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GENERAL SUMMARY

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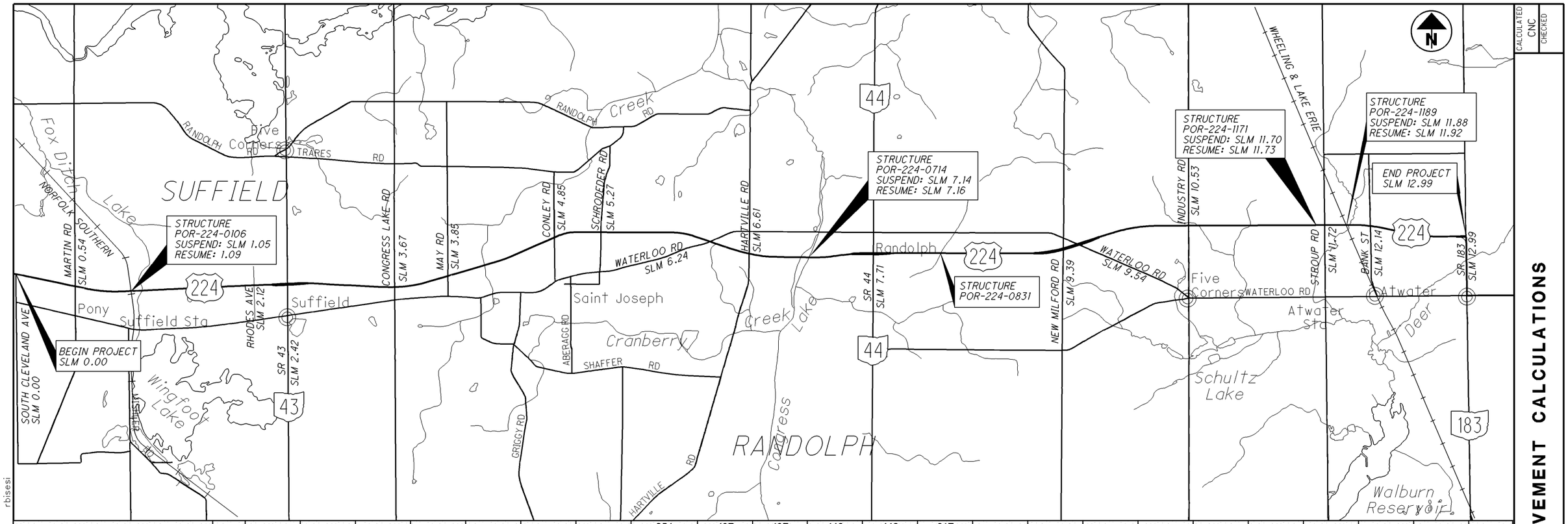

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PAVEMENT CALCULATIONS

SLM RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA			254 PAVEMENT PLANING, ASPHALT (T = 3")	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T= 1 3/4")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN (T = 1 1/4")	617 COMPACTED AGGREGATE, AS PER PLAN										
					FT	FT	SQ YD	SQ YD			SQ YD	GALLON	GALLON	CU YD	CU YD	CU YD										
0.00	TO	0.10	3		528.00	46.00	2698.67				2698.67	404.80	107.95	131.19	93.70	13.04										
0.10	TO	0.32	3		1161.60	31.00	4001.07				4001.07	600.16	160.04	194.50	138.93	28.68										
0.32	TO	0.78	3		2428.80	45.00	12144.00				12144.00	1821.60	485.76	590.33	421.67	59.97										
0.78	TO	1.05	3		1425.60	31.00	4910.40				4910.40	736.56	196.42	238.70	170.50	35.20										
1.09	TO	2.30	3		6388.80	31.00	22005.87				22005.87	3300.88	880.23	1069.73	764.09	157.75										
2.55	TO	3.16	3		3220.80	31.00	11093.87				11093.87	1664.08	443.75	539.29	385.20	79.53										
3.16	TO	3.57	3		2164.80	44.00	10583.47				10583.47	1587.52	423.34	514.47	367.48	53.45										
3.57	TO	6.02	3		12936.00	31.00	44557.33				44557.33	6683.60	1782.29	2165.98	1547.13	319.41										
6.02	TO	6.41	3		2059.20	44.00	10067.20				10067.20	1510.08	402.69	489.38	349.56	50.84										
6.41	TO	6.55	3		739.20	31.00	2546.13				2546.13	381.92	101.85	123.77	88.41	18.25										
6.55	TO	6.66	3		580.80	48.00	3097.60				3097.60	464.64	123.90	150.58	107.56	14.34										
6.66	TO	7.14	3		2534.40	31.00	8729.60				8729.60	1309.44	349.18	424.36	303.11	62.58										
			3																							
7.16	TO	7.59	3		2270.40	31.00	7820.27				7820.27	1173.04	312.81	380.15	271.54	56.06										
7.83	TO	9.06	3		6494.40	31.00	22369.60				22369.60	3355.44	894.78	1087.41	776.72	160.36										
								SUBTOTALS	0.00	0.00	166625.07	24993.76	6665.00	8099.83	5785.59	1109.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								TOTALS CARRIED TO GENERAL SUMMARY	0	0	166626	24994	6666	8100	5786	1110	0	0	0	0	0	0	0	0	0	0

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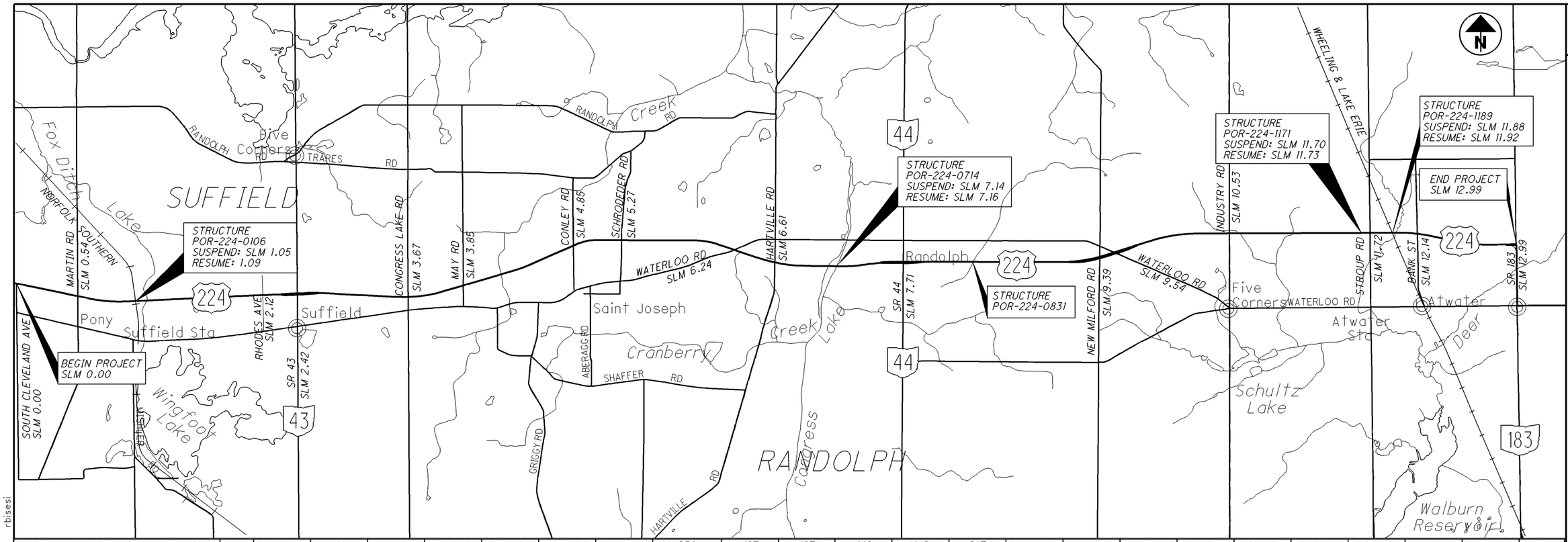

SLM RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA			254 PAVEMENT PLANING, ASPHALT CONCRETE (T = 3")	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T= 1 3/4")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN (T = 1 1/4")	617 COMPACTED AGGREGATE, AS PER PLAN										
					FT	FT	SQ YD	SQ YD			SQ YD	GALLON	GALLON	CU YD	CU YD	CU YD										
9.06	TO	9.15	3		475.20	48.00	2534.40				2534.40	380.16	101.38	123.20	88.00	11.73										
9.15	TO	9.69	4	L	2851.20	31.00	9820.80				9820.80	1473.12	392.83	477.40	341.00	70.40										
9.15	TO	9.69	4	R	2851.20	31.00	9820.80				9820.80	1473.12	392.83	477.40	341.00	70.40										
9.69	TO	9.76	3		369.60	48.00	1971.20				1971.20	295.68	78.85	95.82	68.44	9.13										
9.76	TO	10.47			3748.80	31.00	12912.53				12912.53	1936.88	516.50	627.69	448.35	92.56										
10.47	TO	10.60	3		686.40	46.00	3508.27				3508.27	526.24	140.33	170.54	121.81	16.95										
10.60	TO	11.70	3		5808.00	31.00	20005.33				20005.33	3000.80	800.21	972.48	694.63	143.41										
11.73	TO	11.88	3		792.00	31.00	2728.00				2728.00	409.20	109.12	132.61	94.72	19.56										
11.92	TO	12.08			844.80	31.00	2909.87				2909.87	436.48	116.39	141.45	101.04	20.86										
12.08	TO	12.19	3		580.80	50.00	3226.67				3226.67	484.00	129.07	156.85	112.04	14.34										
12.19	TO	12.83	3		3379.20	31.00	11639.47				11639.47	1745.92	465.58	565.81	404.15	83.44										
12.83	TO	12.91	3		422.40	48.00	2252.80				2252.80	337.92	90.11	109.51	78.22	10.43										
12.91	TO	12.99	5	L	422.40	24.00	1126.40				1126.40	168.96	45.06	54.76	39.11	10.43										
12.91	TO	12.99	5	R	422.40	19.00	891.73				891.73	133.76	35.67	43.35	30.96	10.43										
								SUBTOTALS	0.00	0.00	82813.87	12422.08	3312.55	4025.67	2875.48	572.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
								TOTALS CARRIED TO GENERAL SUMMARY	0	0	82814	12423	3313	4026	2876	573	0	0	0	0	0	0	0	0	0	0

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PAVEMENT CALCULATIONS

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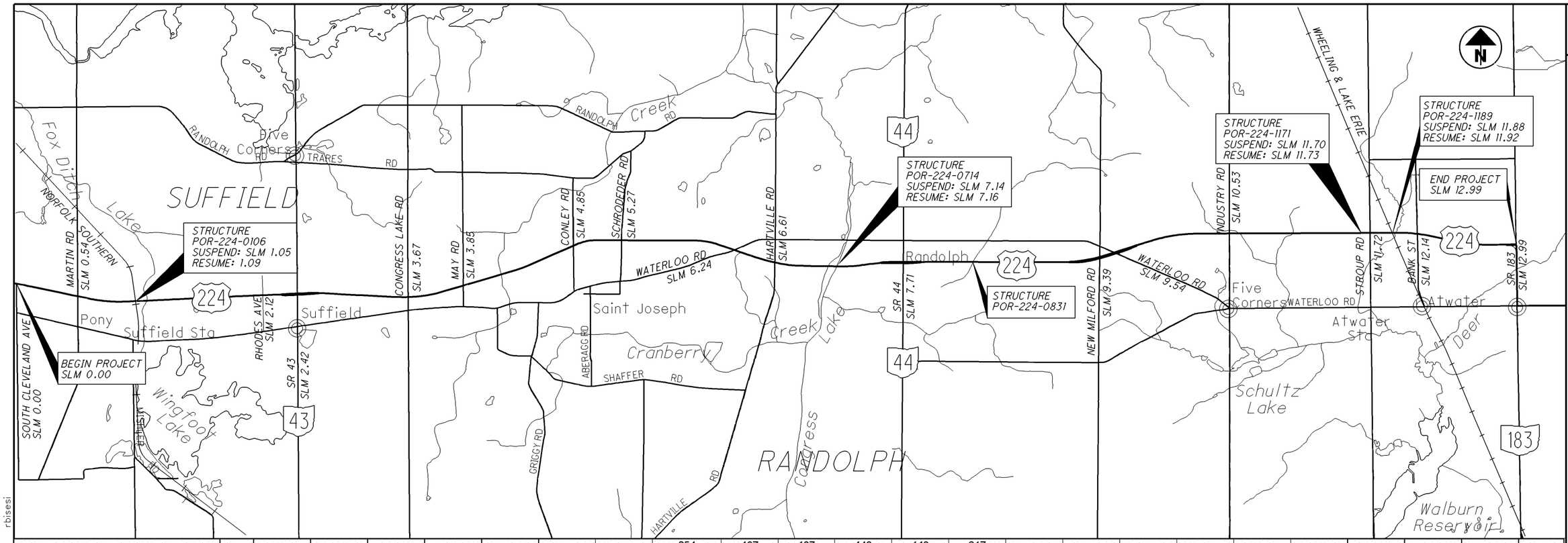

SLM RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA			254 PAVEMENT PLANING, ASPHALT CONCRETE (T = 3")	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (T= 1 3/4")	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN (T = 1 1/4")	617 COMPACTED AGGREGATE, AS PER PLAN											
					FT	FT	SQ YD	SQ YD			SQ YD	GALLON	GALLON	CU YD	CU YD	CU YD											
INTERSECTIONS																										
0.00	TO	2.42			2.00	VARIES		74.89			74.89	11.23	3.00	3.64	2.60											
2.42	TO	3.85			2.00	VARIES		79.78			79.78	11.97	3.19	3.88	2.77											
3.85	TO	12.99			2.00	VARIES		257.78			257.78	38.67	10.31	12.53	8.95											
HARTVILLE RD (SLM 6.61)					25.00	VARIES		953.89			953.89	143.08	38.16	46.37	33.12											
INDUSTRY RD (SLM 10.53)					25.00	VARIES		613.00			613.00	91.95	24.52	29.80	21.28											
BANK ST (SLM 12.14)					25.00	VARIES		572.78			572.78	85.92	22.91	27.84	19.89											
CROSS OVER @ SLM 9.39								186.89			186.89	28.03	7.48	9.08	6.49											
CROSS OVER @ SLM 9.56								480.00			480.00	72.00	19.20	23.33	16.67											
SUBTOTALS									0.00	0.00	3219.00	482.85	128.76	156.48	111.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS CARRIED TO GENERAL SUMMARY									0	0	3219	483	129	157	112	0	0	0	0	0	0	0	0	0	0	0

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STATION RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	254 PAVEMENT PLANING, ASPHALT CONCRETE (T = 3")	301 ASPHALT CONCRETE BASE, PG64-22	304 AGGREGATE BASE, AS PER PLAN	407 TACK COAT @ 0.08 GAL/SY	407 TACK COAT @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE	408 PRIME COAT	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M		603 6" CONDUIT, TYPE F	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP		617 COMPACTED AGGREGATE, AS PER PLAN	SPEC MISC.: REINFORCEMENT MESH FOR LONGITUDINAL JOINTS	204 SUBGRADE COMPACTION		
					FT	FT	SQ YD	SQ YD	SQ YD	CU YD	CU YD	GALLON	GALLON	GALLON	GALLON	CU YD	CU YD		FT	FT		CU YD	FT	SQ YD		
WIDENING																										
217+12.50	TO	217+66.50	1		54.00	7.26	43.56			17.39	12.34	5.22		2.70	29.62	3.28	2.35			54.00			54.00	43.56		
217+66.50	TO	221+23.73	1		357.23	13.43	533.07			176.27	122.47	52.88		27.67	293.93	33.63	24.02			357.23			357.23	533.07		
221+23.73	TO	222+35.73	1		112.00	20.30	252.62			76.64	52.65	22.99		12.10	126.35	14.70	10.50			112.00			112.00	252.62		
222+35.73	TO	223+11.35	1		75.62			236.56		59.63	40.49	17.89		9.46	97.17	11.50	8.21		11.00	45.00			45.00			
223+70.00	TO	224+44.59	1		74.59			244.00		61.42	41.57	18.43		9.76	99.77	11.86	8.47			45.00			45.00			
224+44.59	TO	225+56.59	1		112.00	39.88	496.28			137.55	93.26	41.27		21.84	223.82	26.54	18.96			112.00			112.00	496.28		
225+56.59	TO	229+69.00	1		412.41	13.21	605.33			200.97	139.71	60.29		31.54	335.30	38.34	27.38			412.41			412.41	605.33		
229+69.00	TO	230+24.20	1		55.20	7.00	42.93			17.38	12.35	5.21		2.70	29.64	3.28	2.34			55.20			55.20	42.93		
230+24.20		230+99.37	N/A		75.17														76.00							
70+99.20	TO	71+33.70	N/A																37.00							
71+33.70	TO	71+92.50	2		58.80	8.12	53.05			20.34	14.38	6.10		3.17	34.50	3.85	2.75			58.80			58.80	53.05		
71+92.50	TO	75+50.70	2		358.20	13.73	546.26			179.68	124.76	53.90		28.22	299.43	34.29	24.49			358.20			358.20	546.26		
75+50.70	TO	76+62.70	2		112.00	20.03	249.20			75.78	52.08	22.73		11.96	124.98	14.53	10.38			112.00			112.00	249.20		
76+62.70	TO	77+44.00	2		81.30			251.00		63.15	42.70	18.94		10.04	102.47	12.20	8.72			81.30			81.30			
78+04.00	TO	78+77.67	2		73.67			236.56		59.50	40.21	17.85		9.46	96.50	11.50	8.21		3.00	73.67			73.67			
78+77.67	TO	79+89.67	2		112.00	19.65	244.47			74.60	51.29	22.38		11.77	123.09	14.30	10.22			112.00			112.00	244.47		
79+89.67	TO	83+48.10	2		358.43	13.10	521.52			173.52	120.66	52.06		27.23	289.58	33.10	23.64			358.43			358.43	521.52		
83+48.10	TO	84+04.20	2		56.10	7.20	44.85			17.96	12.76	5.39		2.79	30.61	3.39	2.42			56.10			56.10	44.85		
RESURFACING																										
217+12.50	TO	217+66.50			54.00	43.00	258.00		258.00				38.70	10.32		12.54	8.96					2.67				
217+66.50	TO	221+23.73			357.23	46.65	1851.64		1851.64				277.75	74.07		90.01	64.29					17.64				
221+23.73	TO	222+35.73			112.00	50.50	628.44		628.44				94.27	25.14		30.55	21.82					5.53				
222+35.73	TO	223+11.35			75.62			844.98	844.98				126.75	33.80		41.08	29.34									
223+70.00	TO	224+44.59			74.59		0.00	854.39	854.39				128.16	34.18		41.53	29.67									
224+44.59	TO	225+56.59			112.00	49.80	619.73		619.73				92.96	24.79		30.13	21.52					5.53				
225+56.59	TO	229+69.00			412.41	46.50	2130.79		2130.79				319.62	85.23		103.58	73.99					20.37				
229+69.00	TO	230+24.20			55.20	45.00	276.00		276.00				41.40	11.04		13.42	9.58					2.73				
71+33.70	TO	71+92.50			58.80	44.90	293.35		293.35				44.00	11.73		14.26	10.19					2.90				
71+92.50	TO	75+50.70			358.20	47.60	1894.48		1894.48				284.17	75.78		92.09	65.78					17.69				
75+50.70	TO	76+62.70			112.00	49.30	613.51		613.51				92.03	24.54		29.82	21.30					5.53				
76+62.70	TO	77+44.00			81.30		0.00	874.89	874.89				131.23	35.00		42.53	30.38									
78+04.00	TO	78+77.67			73.67		0.00	884.78	884.78				132.72	35.39		43.01	30.72									
78+77.67	TO	79+89.67			112.00	49.40	614.76		614.76				92.21	24.59		29.88	21.35					5.53				
79+89.67	TO	83+48.10			358.43	46.65	1857.86		1857.86				278.68	74.31		90.31	64.51					17.70				
83+48.10	TO	84+04.20			56.10	43.00	268.03		268.03				40.21	10.72		13.03	9.31					2.77				
SUBTOTALS									14765.63	1411.78	973.67	423.53	2214.84	813.05	2336.80	988.08	705.77	0.00	127.00	2403.34	0.00	106.59	2403.34	3633.13	0.00	0.00
TOTALS CARRIED TO GENERAL SUMMARY									14766	1412	974	424	2215	814	2337	989	706	0	127	2404	0	107	2404	3634	0	0

CALCULATED RMB
CHECKED

PAVEMENT QUANTITIES - WIDENING

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ROUTE	SIDE	SLM TO SLM				202 GUARDRAIL REMOVED FT		606 GUARDRAIL, TYPE 5 FT		606 ANCHOR ASSEMBLY, TYPE E EACH	606 ANCHOR ASSEMBLY, TYPE T EACH		606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE BR-1 EACH		626 BARRIER REFLECTOR EACH								
224	RT	0.32	TO	0.50		1012.5		962.5		2							11								
224	LT	0.33	TO	0.53		1025		925		2							11								
224	RT	0.94	TO	1.35		1962.5		1800		2					2		20								
224	LT	0.94	TO	1.35		1987.5		1825		2					2		20								
224	RT	1.64	TO	1.64		450		450		2							5								
224	LT	1.67	TO	1.74		412.5		312.5		2							5								
224	RT	1.79	TO	1.92		687.5		562.5		2	2						7								
224	LT	1.81	TO	1.92		175		462.5		2							2								
224	RT	3.18	TO	3.28		500		400		2							5								
224	LT	3.19	TO	3.26		144		275		2							2								
224	LT	3.38	TO	3.49		550		450		2							6								
224	RT	3.72	TO	3.80		425		325		2							5								
224	LT	3.73	TO	3.80		325		225		2							4								
224	RT	3.87	TO	3.94		350		250		2							4								
224	LT	3.89	TO	3.94		300		200		2							3								
224	LT	4.09	TO	4.25		812.5		712.5		2							9								
224	RT	4.10	TO	4.24		700		600		2							7								
224	LT	4.60	TO	4.83		1237.5		1137.5		2							13								
224	RT	4.65	TO	4.83		950		850		2							10								
224	LT	4.88	TO	5.12		1275		1175		2							13								
224	RT	4.88	TO	5.12		1225		1125		2							13								
224	LT	5.42	TO	5.74		1637.5		1512.5		2	2						17								
224	RT	5.42	TO	5.74		1725		1600		2	2						18								
224	RT	5.92	TO	5.99		362.5		262.5		2							4								
224	LT	5.95	TO	6.02		387.5		287.5		2							4								
224	LT	6.12	TO	6.24		825		725		2							9								
224	RT	6.14	TO	6.22		425		325		2							5								
224	RT	6.26	TO	6.33		375		275		2							4								
224	LT	6.26	TO	6.36		487.5		387.5		2							5								
224	LT	7.04	TO	7.19		700		575		2					2		7								
224	RT	7.06	TO	7.18		500		375		2					2		5								
224	RT	7.53	TO	7.63		562.5		462.5		2							6								
224	LT	8.25	TO	8.38		587.5		59.5		2							6								
224	LT	11.67	TO	12.13		2000		1837.5		2			4				20								
224	RT	11.69	TO	12.13		1912.5		1775		2			4				20								
TOTALS CARRIED TO GENERAL SUMMARY					0	28994	0	25485	0	70	6	0	8	4	4	0	305	0	0	0	0	0	0	0	0

CALCULATED CNC CHECKED

GUARDRAIL SUBSUMMARY

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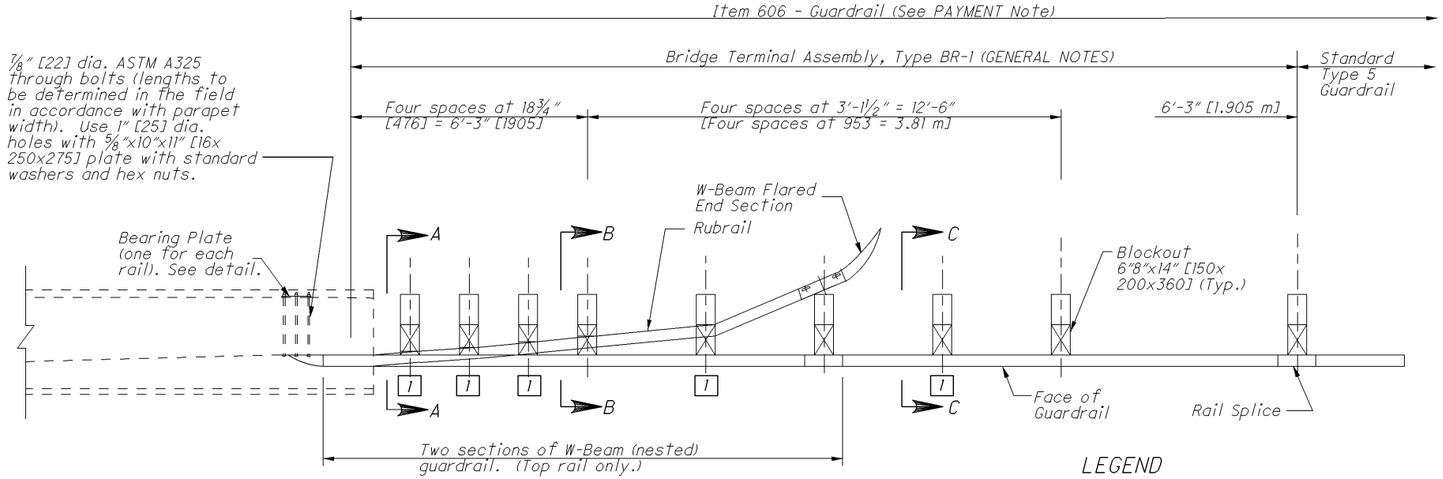
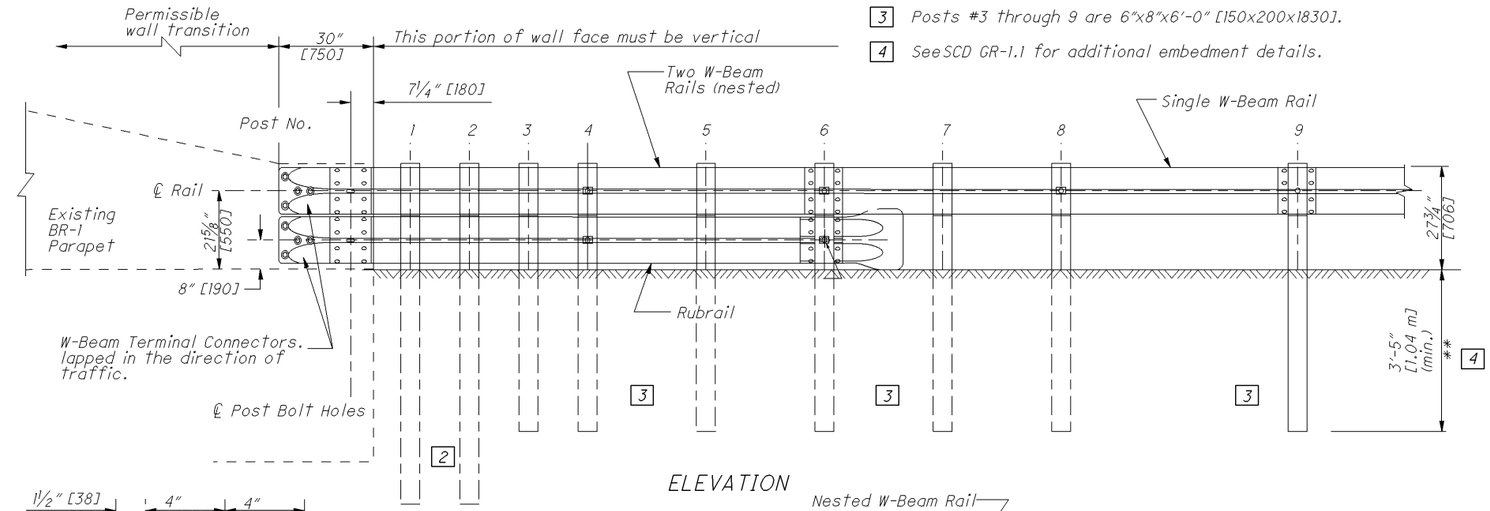


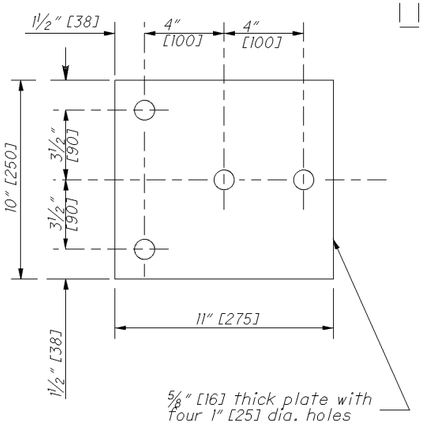
PLAN

LEGEND

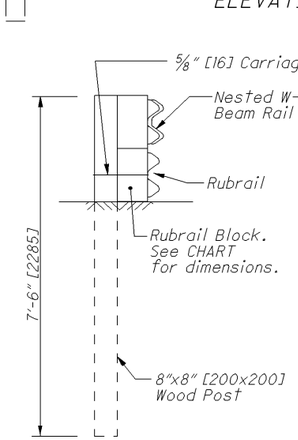
1. Guardrail not attached to Posts. Blockout fastened to Post with Standard Post Bolt.
2. Posts #1 and 2 are 8"x8"x7'-6" [150x200x2300].
3. Posts #3 through 9 are 6"x8"x6'-0" [150x200x1830].
4. SeeSCD GR-1.1 for additional embedment details.



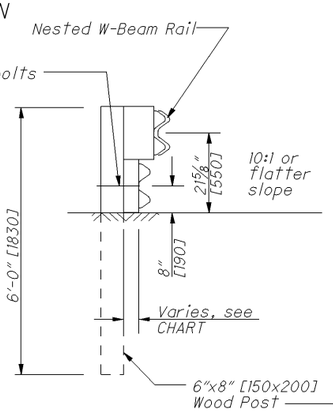
ELEVATION



BEARING PLATE
2 required



SECTION A-A



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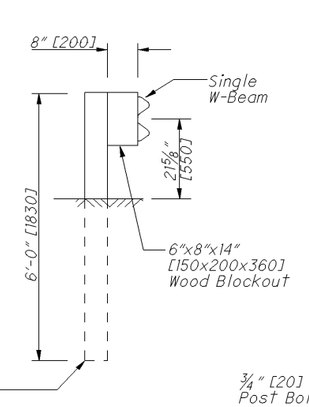
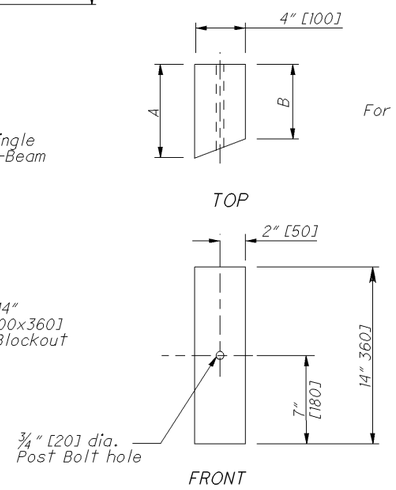


SECTION C-C



WOOD BLOCK FOR RUBRAIL

For A and B dimensions see CHART.

RUBRAIL BLOCK CHART		
POST	A	B
1	6½" [164]	6¼" [158]
2	5⅛" [131]	4⅞" [125]
3	3⅞" [99]	3⅝" [93]
4	2⅝" [67]	2⅜" [61]
5	No Block	No Block

NOTES

GENERAL: This design is intended to be used to upgrade bridge terminal assemblies utilizing 27" [786] BR-1 Bridge parapets in effect from 1979 to 1989. This assembly design is approved to NCHRP Report 350, Test Level 3.

This guardrail transition is only appropriate for connection to a vertical concrete end; it should not be connected directly to a concrete safety shape or single slope shape. If attached to a vertical concrete wall (other than a parapet), the wall must be adequately reinforced to resist the lateral and longitudinal forces transmitted through the terminal connectors. If the height of the vertical connection is 32" [813], use Bridge Terminal Assembly, Type 1 (SCD GR-3.1).

This design utilizes a lower rail (rubrail), and it cannot be used if there is a curb present.

RUBRAIL: The rubrail is a 12'-6" [3.81 m] standard 12 ga. W-Beam rail element. The last 3' [1 m] of the rubrail may be shop bent to facilitate field installation. Field drill rubrail hole at Post 6.

POST ATTACHMENTS: Posts No. 1, 2, 3, 4 and 6 require an additional 1" [25] dia. hole to attach the lower block and/or rubrail.

Do not bolt nested W-Beam or Rubrail to Posts and Blockouts on Posts No. 1, 2, 3, 5 and 7. Bolt blockouts directly to posts at those locations.

Center drill wood block for rubrails to sit squarely on Posts 1 through 4. Secure blocks to Posts No. 1, 2, & 3 with ⅝" [16] carriage bolts. See WOOD BLOCK FOR RUBRAIL Detail.

Use Wood posts only. Steel or plastic blockouts are not permitted. Use of rectangular plate washers is optional.

GUARDRAIL CONNECTION: At least one 12'-6" [3.8] m section of Standard W-Beam Guardrail must be present before attaching any End Anchors. See SCD GR-2.1 for standard guardrail details.

PAYMENT: Item 606 - Bridge Terminal Assembly, Type BR-1, Each, includes the cost of the extra components, in excess of normal guardrail, for additional and different sizes of posts and block-outs, nested rail and rubrail, Bearing Plates, End Section and Connectors, and other hardware.

All metric dimensions (in brackets [] are in millimeters unless otherwise noted.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 10-20-06 | CHECKED

PLAN INSERT SHEET

BRIDGE TERMINAL ASSEMBLY, TYPE BR-1

POR-224-0.00

1 / 1

23 / 62

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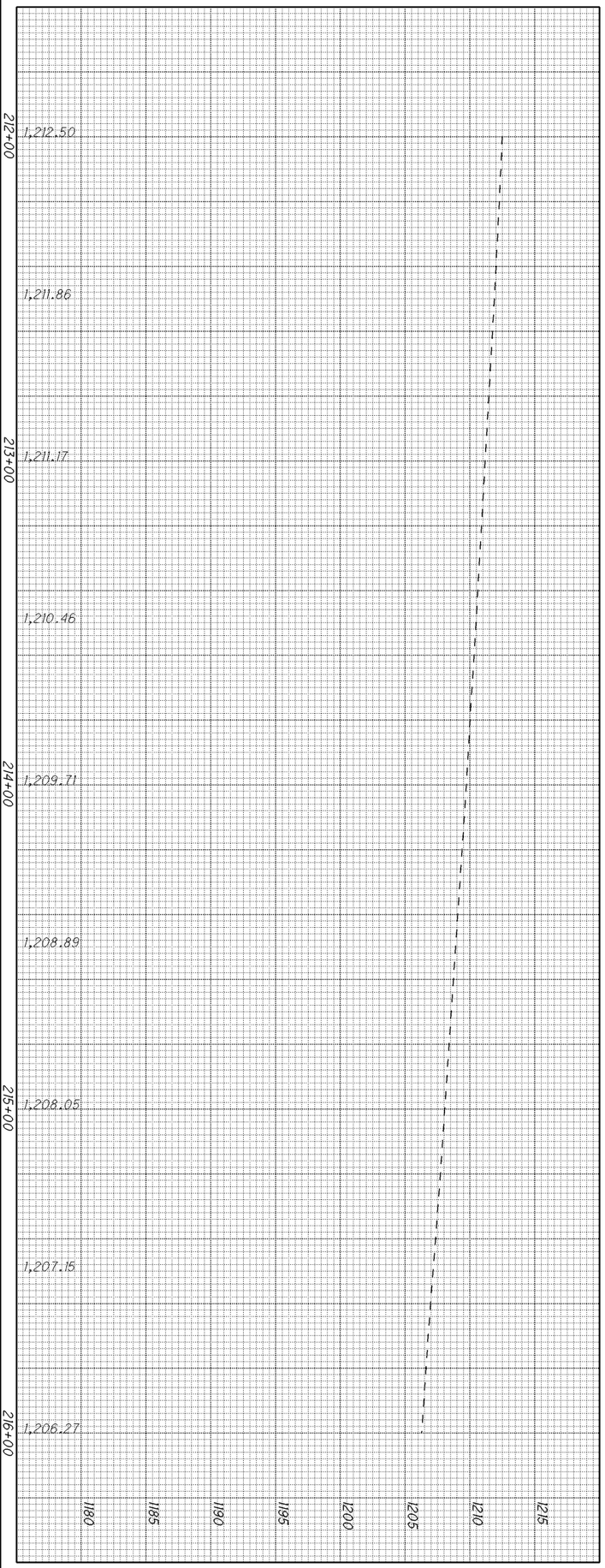
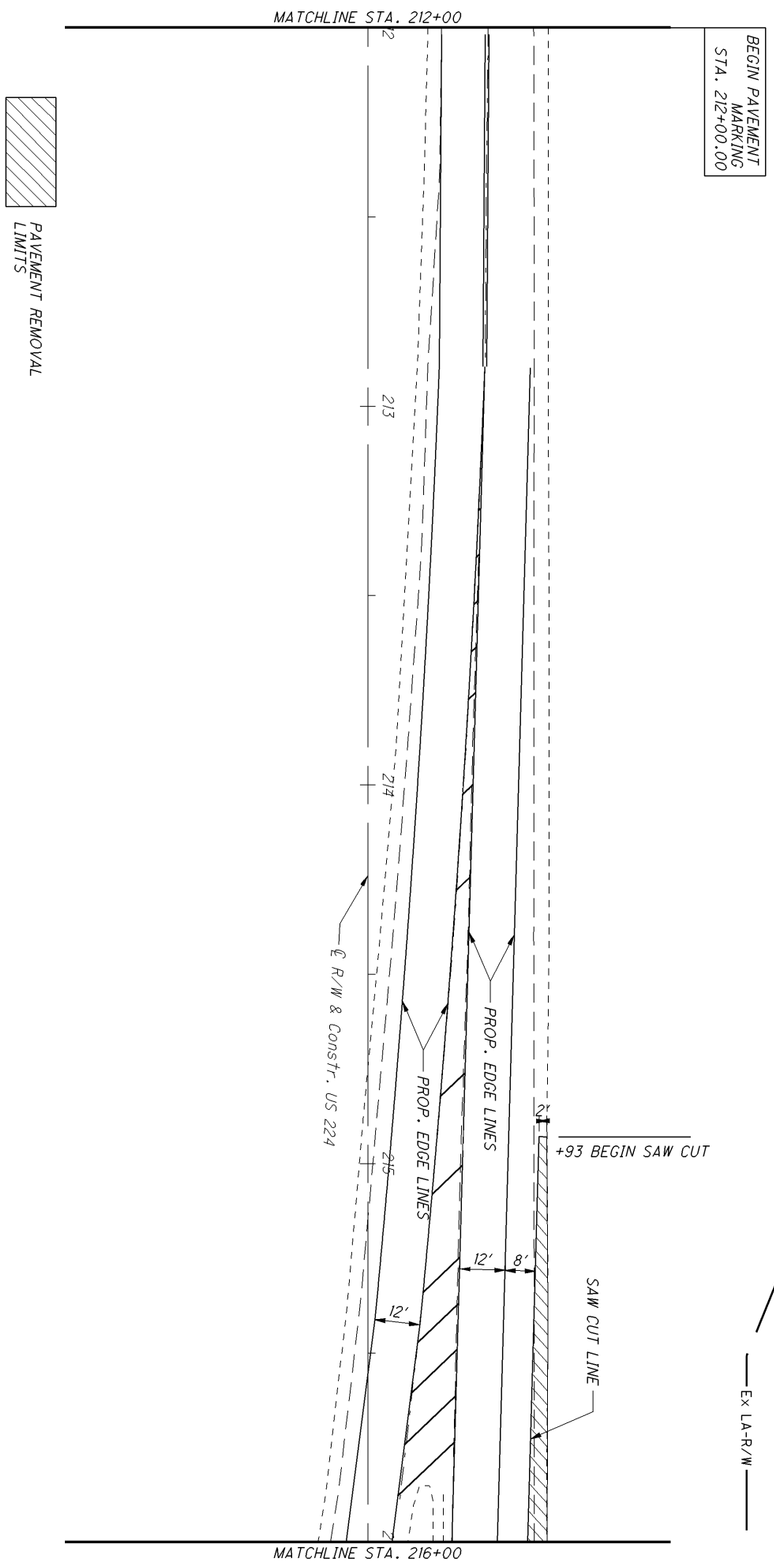
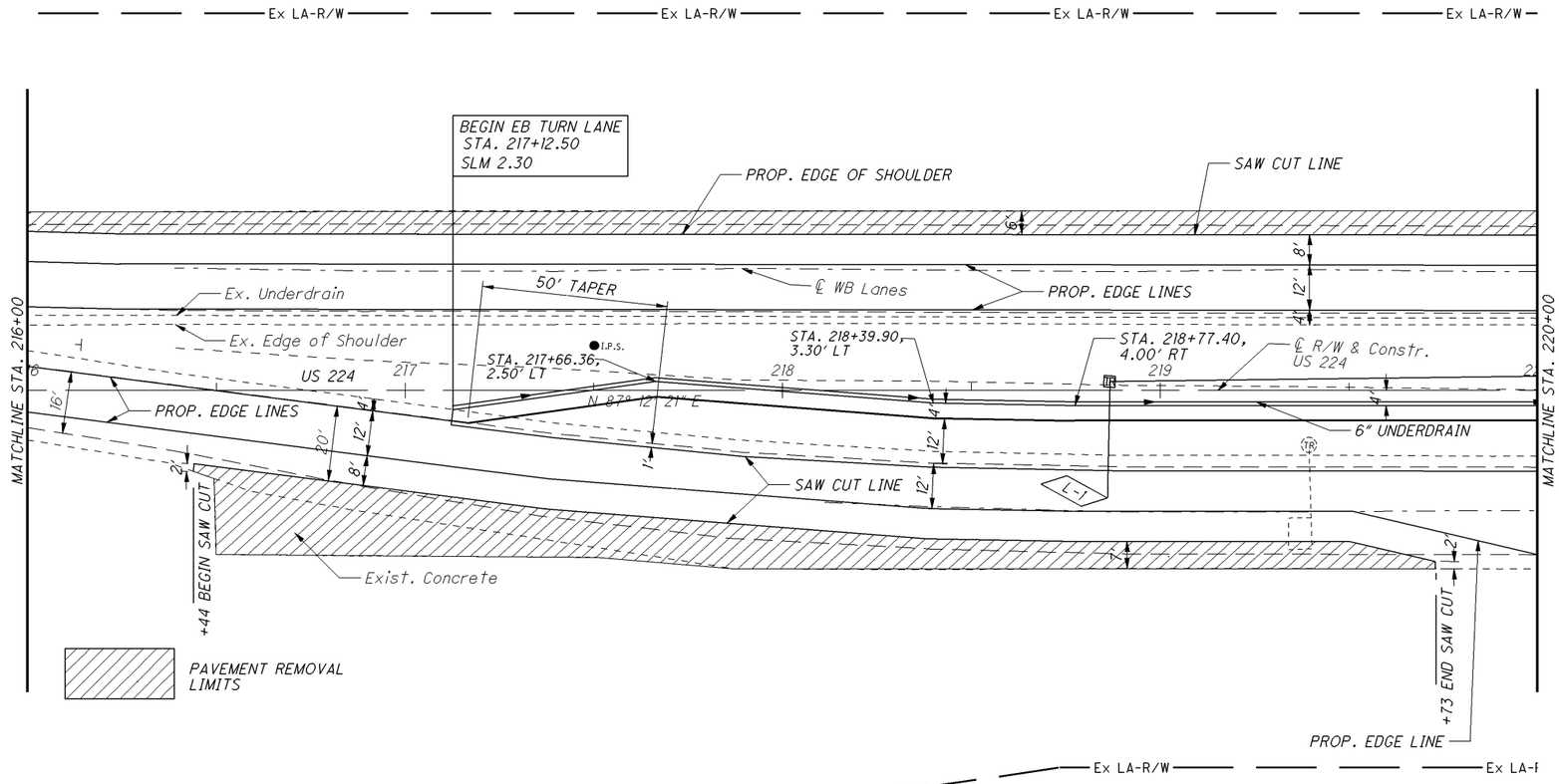




24 / 62	POR-224-0.00	PLAN AND PROFILE STA 212+00 TO 216+00 US 224 & SR 43	CALCULATED RMB CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET



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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE
STA 216+00 TO 220+00 US 224 & SR 43

POR-224-0.00

25
62

REF NO.	STATION TO STATION	TO		202 CATCH BASIN REMOVED (EACH)	202 PIPE REMOVED, 24" AND UNDER (FT)	603 8" CONDUIT, TYPE B (FT)	603 12" CONDUIT, TYPE B (FT)	603 15" CONDUIT, TYPE B (FT)	604 CATCH BASIN, NO. 6 (EACH)	604 CATCH BASIN, NO. 2-2A (EACH)
D-1	222+00.00 11'LT	222+80.00 0.7'RT				8		81		1
D-2	222+80.00 0.7'RT	222+81.00 11'RT		1	20		10	10	1	
TOTALS CARRIED TO GENERAL SUMMARY				1	20	8	10	91	1	1

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE US 224 & SR 43
STA. 220+00 TO 224+00

POR-224-0.00

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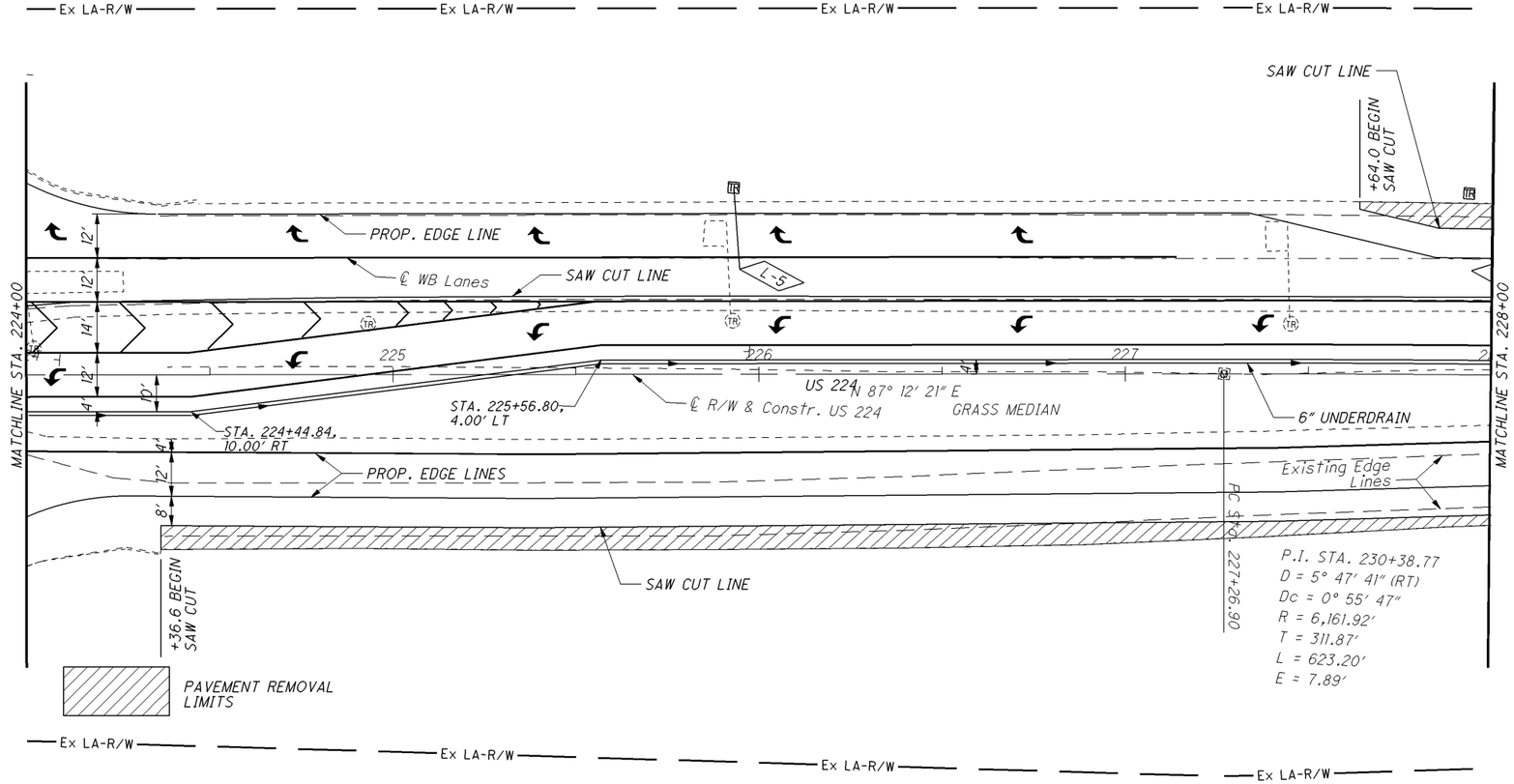

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE
STA 224+00 TO 228+00 US 224 & SR 43

POR-224-0.00

27
62

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BENCHMARK DATA

BM #1 STA. 228+76.84, ELEV. 1173.41, OFFSET 51.02' LT.
DECSRIPTION 5/8" REBAR W/ ODOT CAP SET

REF NO.	STATION TO STATION				202 CATCH BASIN REMOVED (EACH)	202 PIPE REMOVED, 24" AND UNDER (FT)	603 12" CONDUIT, TYPE B (FT)	604 CATCH BASIN, NO. 2-2B (EACH)
D-3	229+00.00	2.2'RT	TO 230+99.37	12.4'LT	1	200	200	1
TOTALS CARRIED TO GENERAL SUMMARY					1	200	200	1

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED RMB
CHECKED

PLAN AND PROFILE STA 228+00 TO 232+00 US 224 & SR 43

POR-224-0.00

28/62

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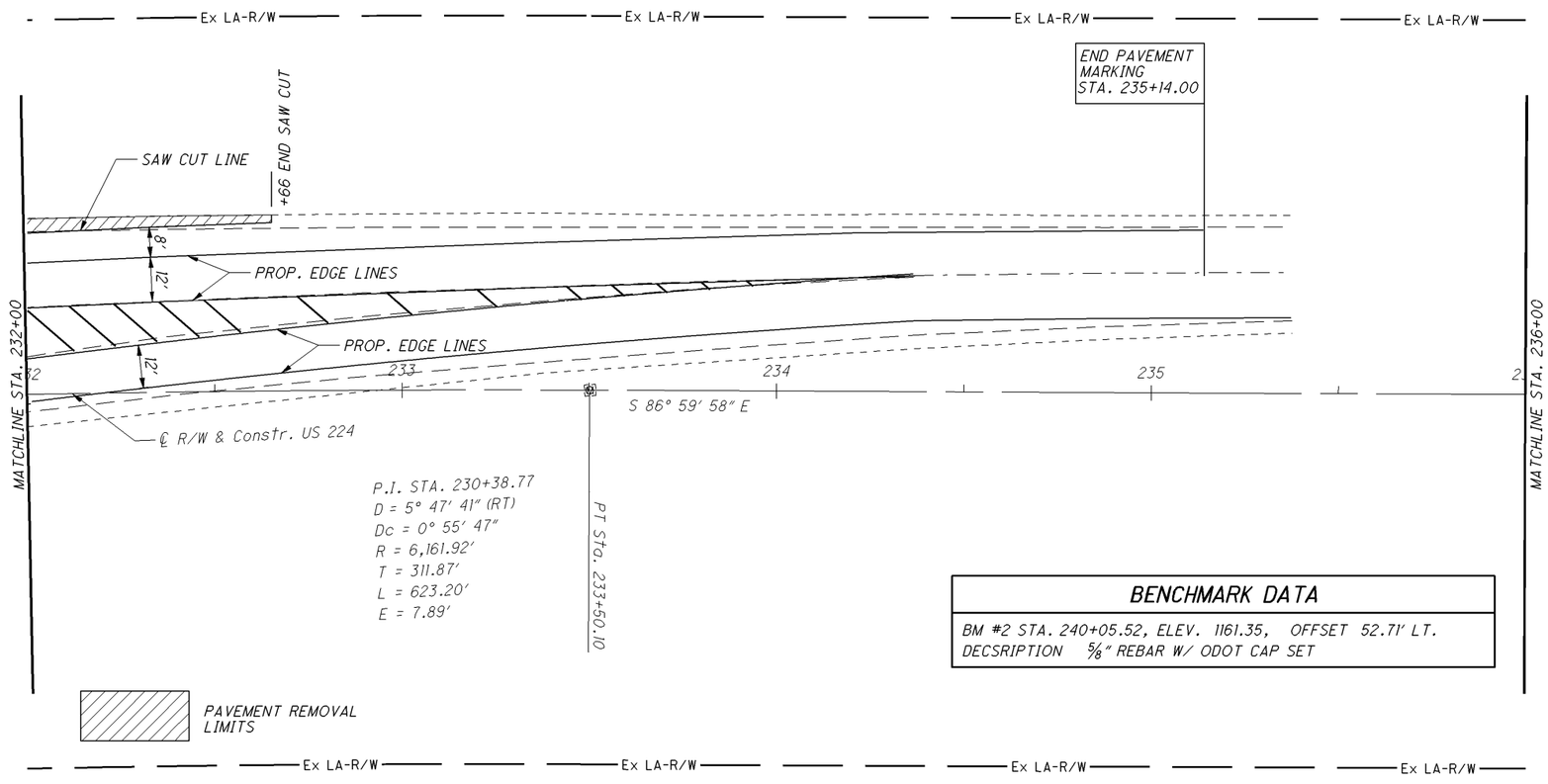

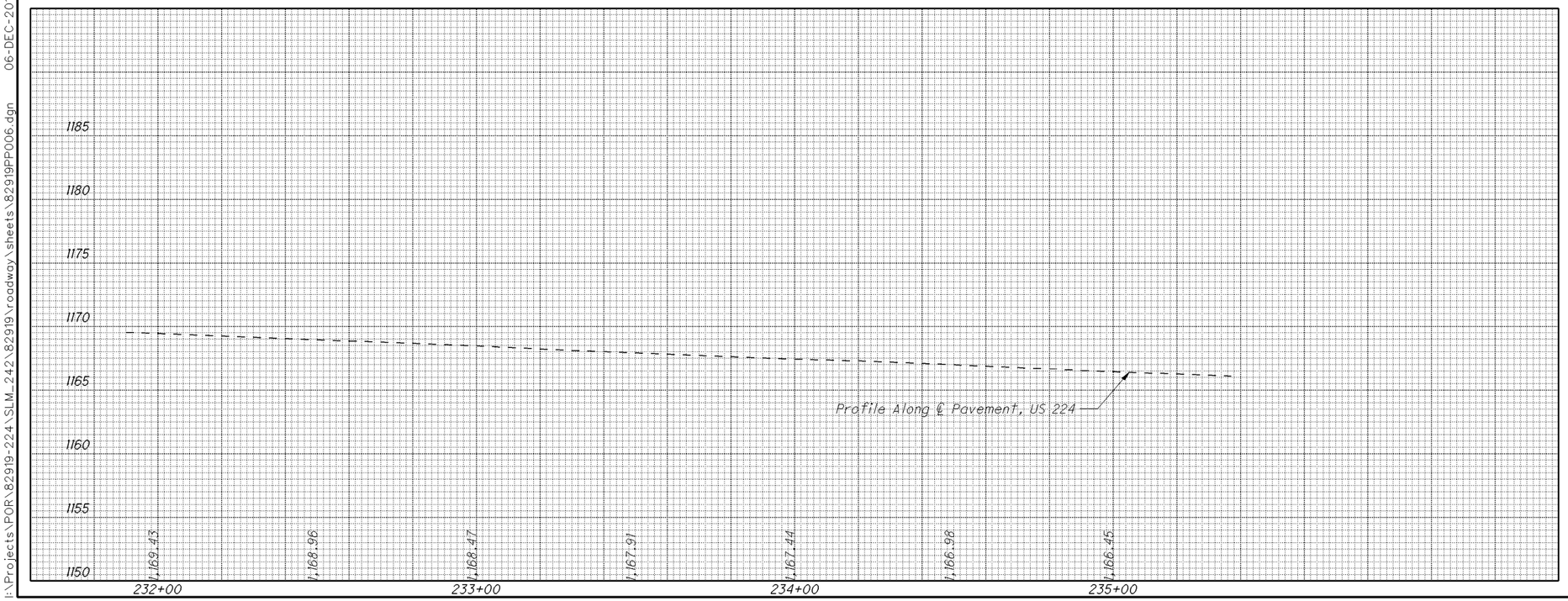

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE
STA 232+00 TO 236+00 US 224 & SR 43

POR-224-0.00

29
62

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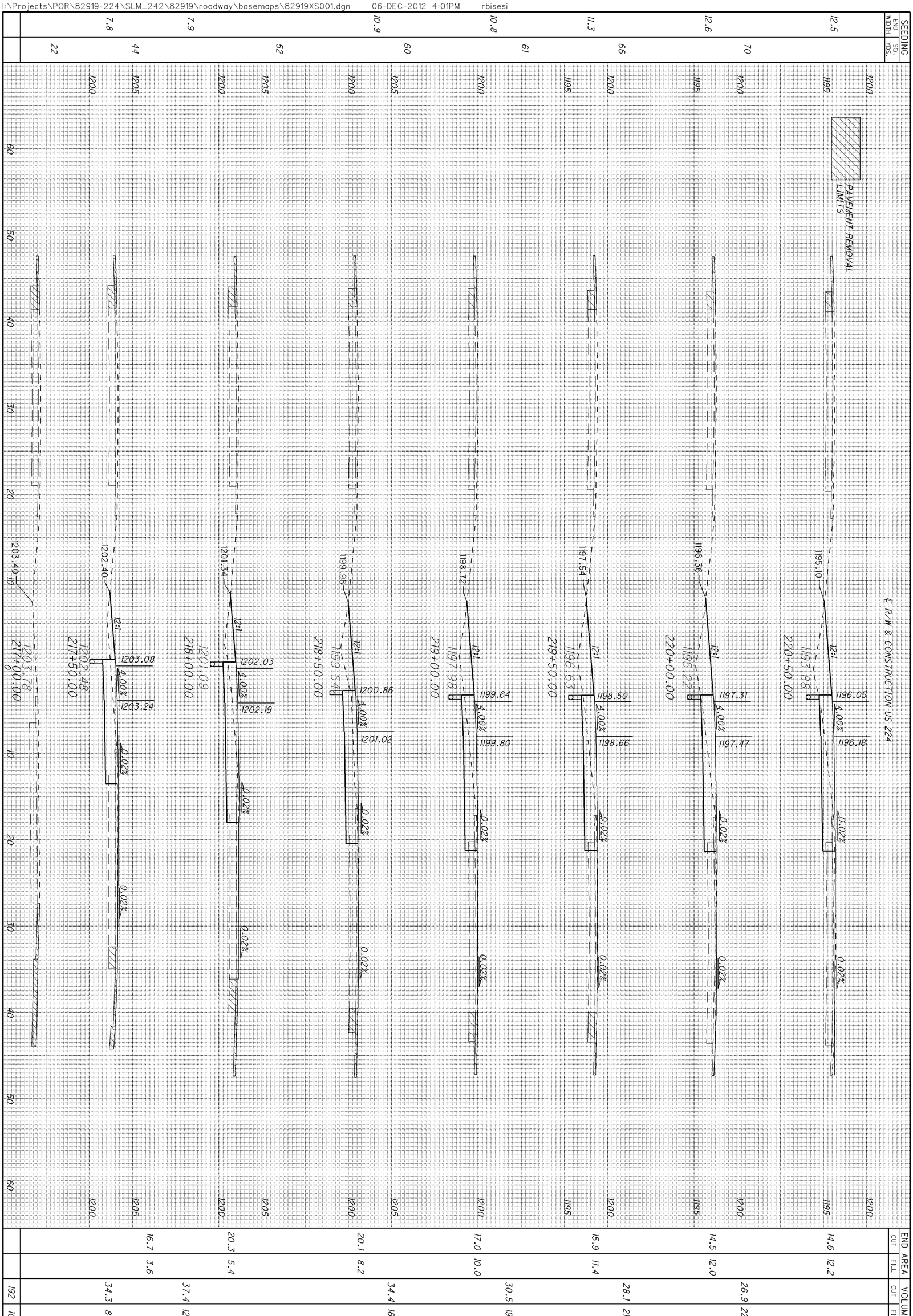
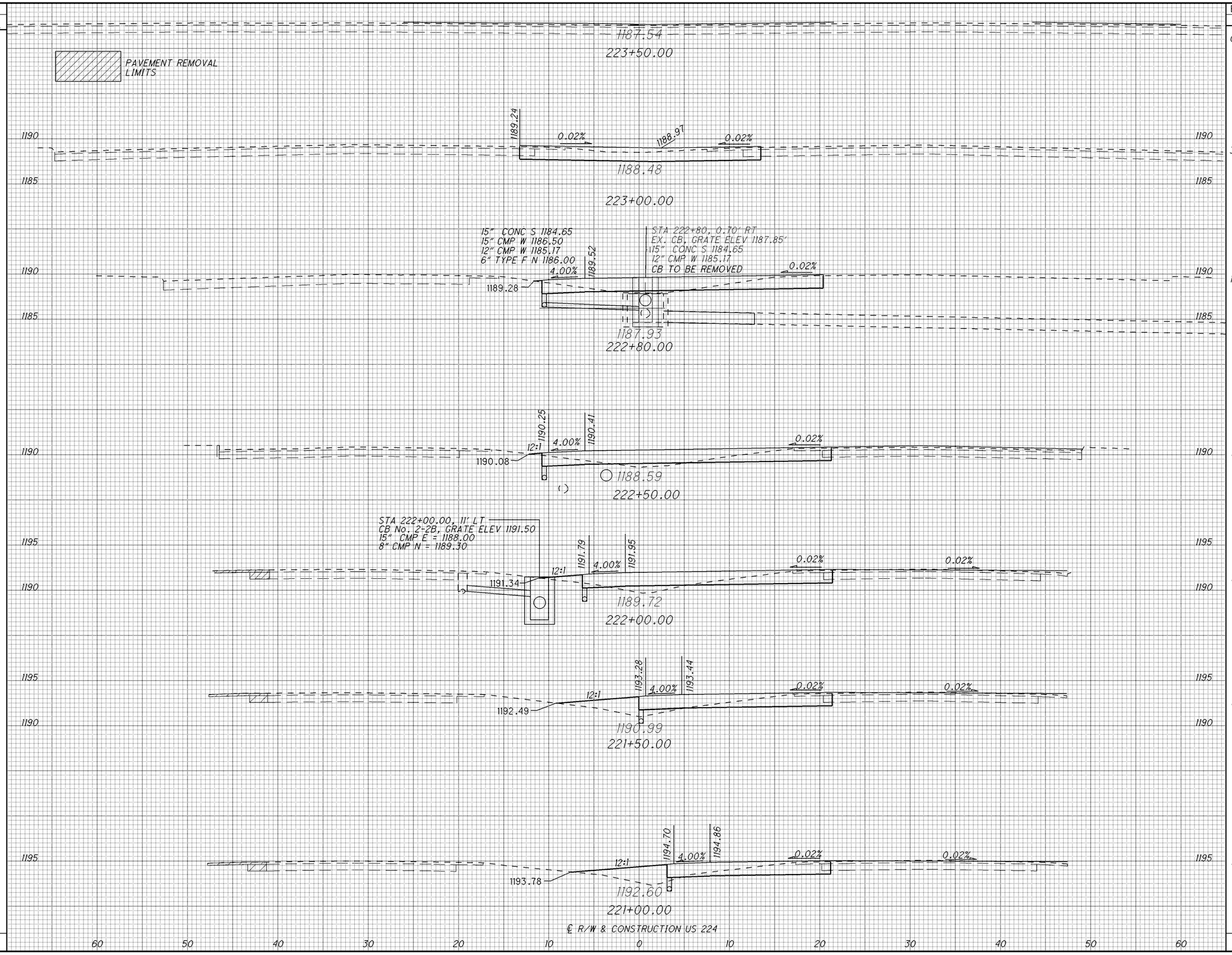


30/62

POR-224-0.00

CROSS SECTIONS
STA 217+00 TO 220+50 US 224 & SR 43

CALCULATED RMB
CHECKED



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		0.0	0.0		
				30.0	0.0
		32.2	0.0		
				48.1	0.0
		19.7	0.0		
	6			36.0	2.0
1.7		19.2	2.2		
	22			31.6	8.0
5.8		14.9	6.4		
	42			26.9	16.6
9.2		14.2	11.5		
	55			26.4	22.4
10.7		14.3	12.7		
	64			26.8	23.1
				226	72

CALCULATED RMB
CHECKED

CROSS SECTIONS
STA 221+00 TO 223+50 US 224 & SR 43

POR-224-0.00

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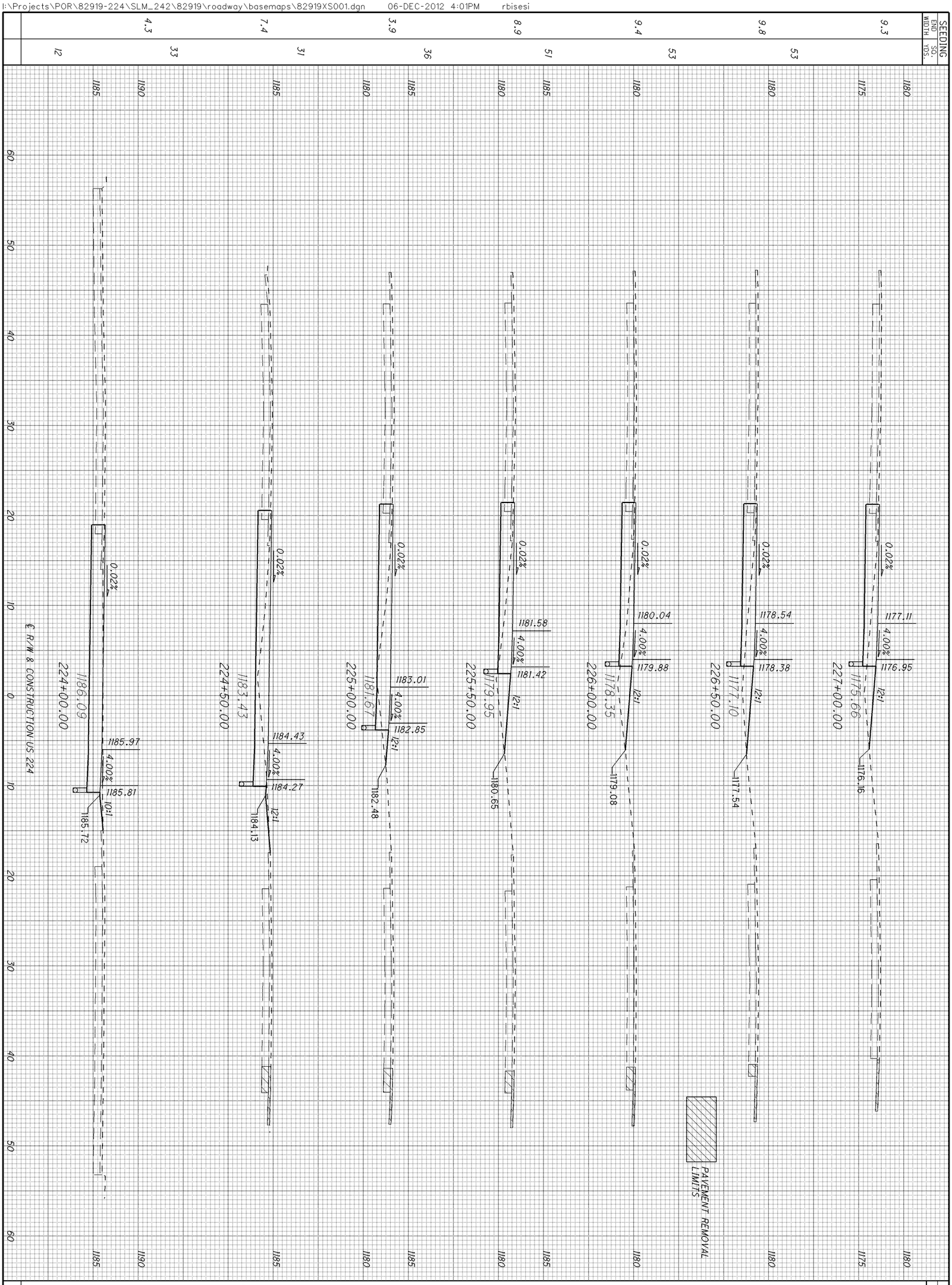

32
62

POR-224-0.00

CROSS SECTIONS
STA 224+00 TO 227+00 US 224 & SR 43

CALCULATED RMB
CHECKED

SEEDING END WIDTH	SEEDING SQ. YDS.
5.8	16
3.5	26
5.7	26
4.5	28
6.1	29
8.5	41
	49

PAVEMENT REMOVAL LIMITS

1170.96
230+50.00
1170.00
6" TYPE F
12" CONC

0.02% 4.00% 12:1
1171.26
1171.10
1171.13
1170.58
12" CONC
230+00.00

0.02% 4.00% 12:1
1171.83
1171.67
1171.32
12" CONC
1171.39
229+50.00
STA 229+00.53, 4.23' LT
EX. CB, GRATE ELEV 1171.15'
12" CONC E 1168.42
CB TO BE REMOVED

0.02% 4.00% 12:1
1172.69
1171.73
STA 229+00.00, 2.2' RT
CB No. 2-2B, GRATE ELEV 1172.19
12" CONC E = 1168.42
1172.02
229+00.00

0.02% 4.00% 12:1
1173.58
1173.42
1172.65
1173.00
228+50.00

0.02% 4.00% 12:1
1174.66
1174.50
1173.51
1173.96
228+00.00

0.02% 4.00% 12:1
1175.87
1175.71
1174.47
1174.97
227+50.00

℄ R/W & CONSTRUCTION US 224

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		13.0	1.4
14.0	1.5		
		34.4	1.4
24.0	0.0		
		38	1.0
17.7	1.0		
		34.7	2.6
19.8	1.8		
		35.6	4.9
18.6	3.5		
		33.9	8.2
18.0	5.4		
		32.9	10.7
		223	30

CALCULATED RMB
CHECKED

CROSS SECTIONS
STA 227+50 TO 230+50 US 224 & SR 43

POR-224-0.00

33
62

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SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED RMB
CHECKED

235+00.00

234+50.00

234+00.00

233+50.00

233+00.00

232+50.00

1169.11
232+00.00

PAVEMENT REMOVAL LIMITS

1170

231+50.00

1170

STA 230+99.37, 12.43' LT
EX. CB, GRATE ELEV 1169.15'
12" CONC W 1166.47 TO BE REMOVED
15" CONC S 1166.22
12" CONC W 1166.47
6" TYPE F NWW 1167.40

1169.60

1170

1170.36
231+00.00

STA 231+00.21, 38.13' RT
15" CONC N 1165.78

1170

℄ R/W & CONSTRUCTION US 224

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS
STA 231+00 TO 235+00 US 224 & SR 43

POR-224-0.00

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PAVEMENT REMOVAL LIMITS

HORIZONTAL SCALE IN FEET
0

CALCULATED | CHECKED

PLAN AND PROFILE
STA 62+00 TO 66+00 US 224 & SR 44

POR-224-0.00

34A
62

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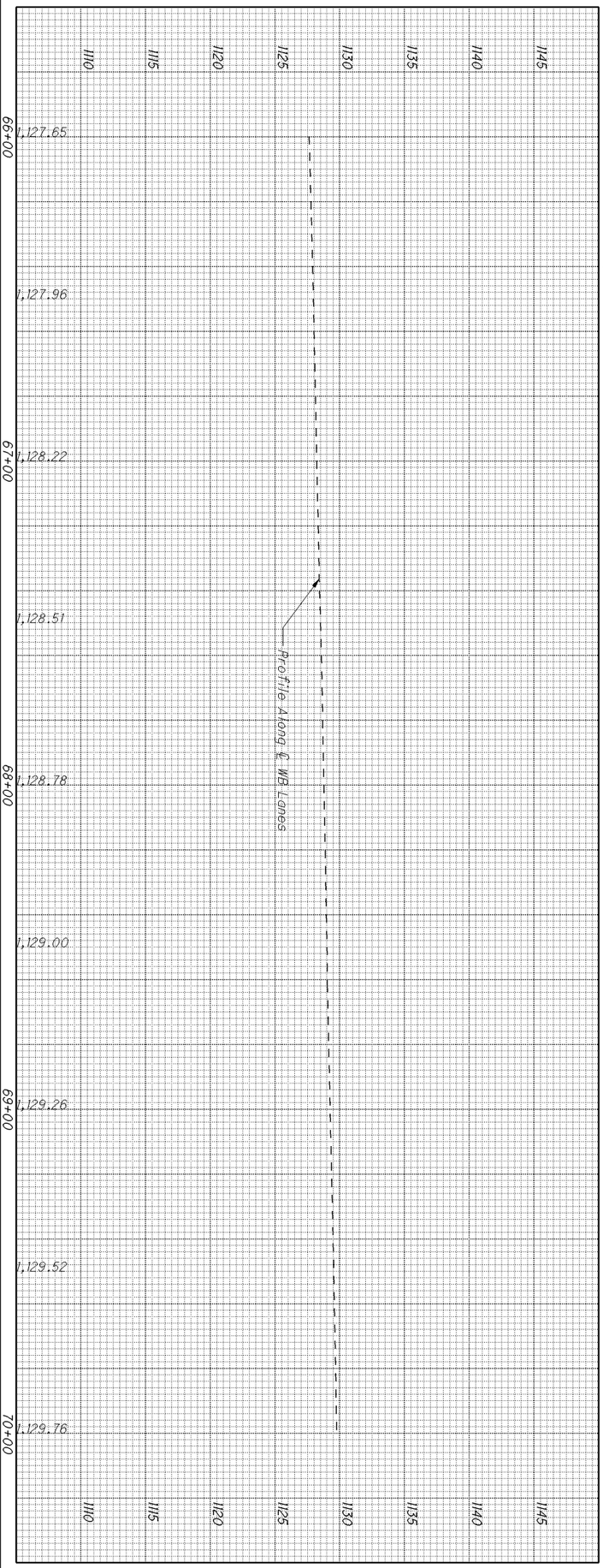
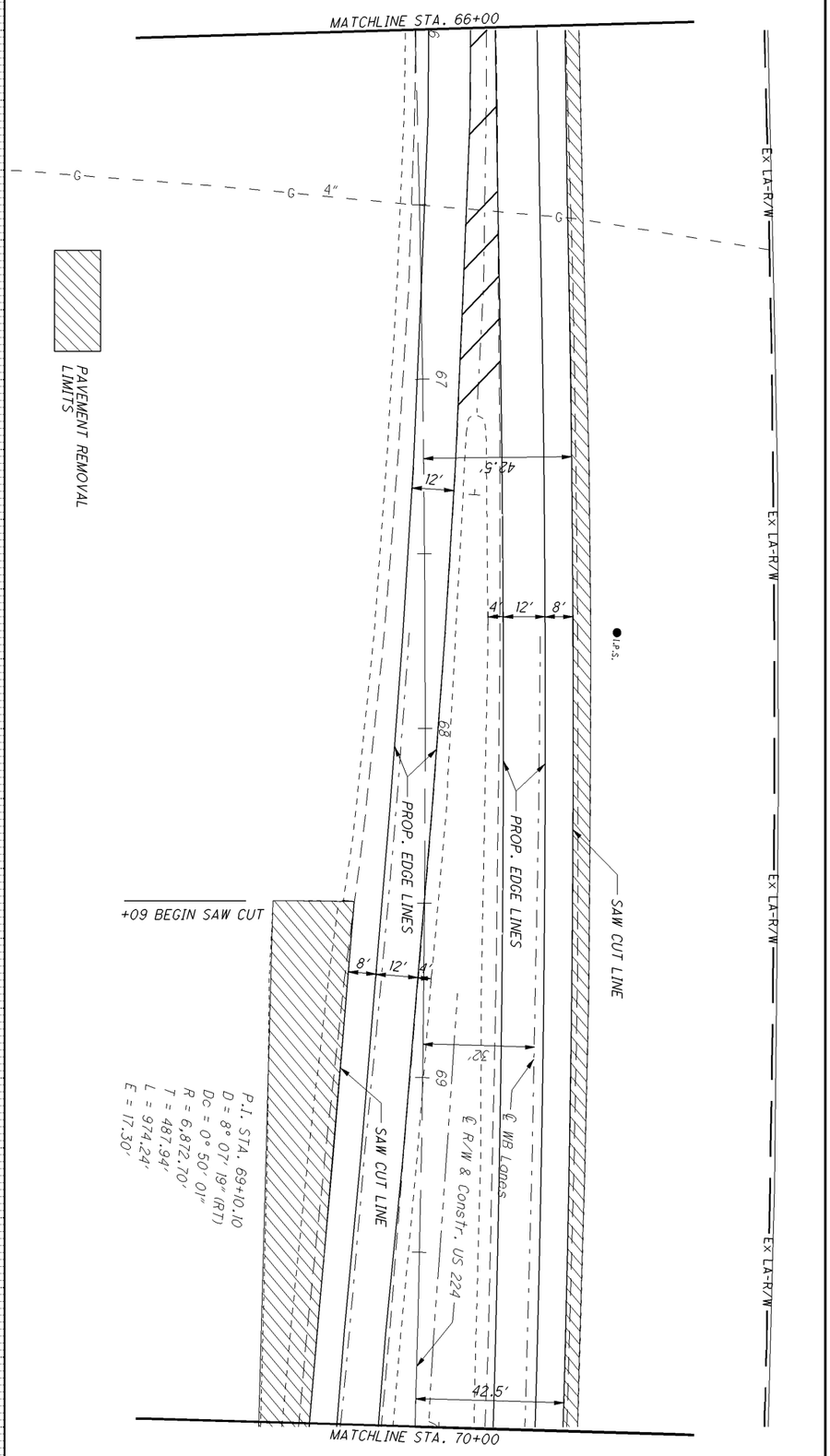
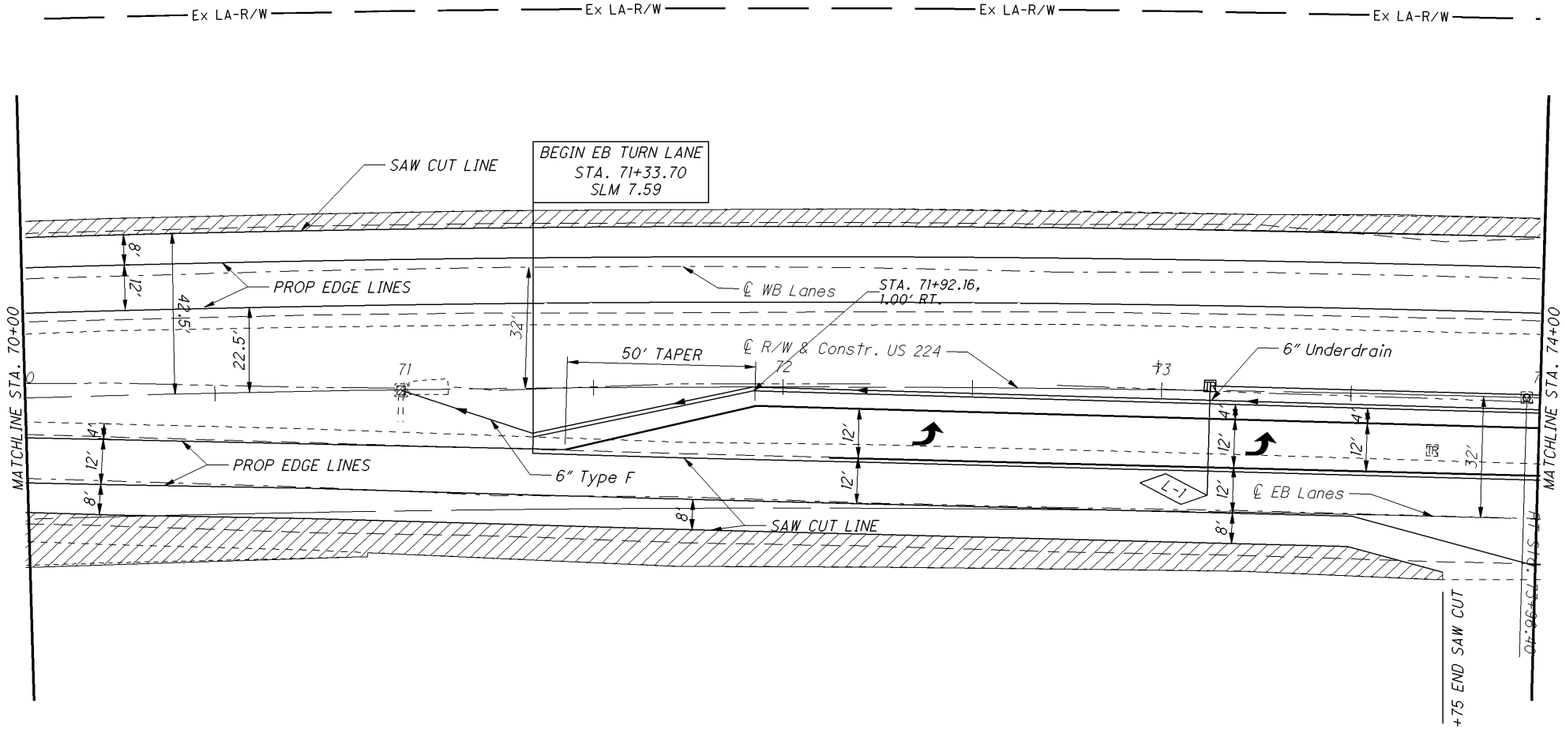
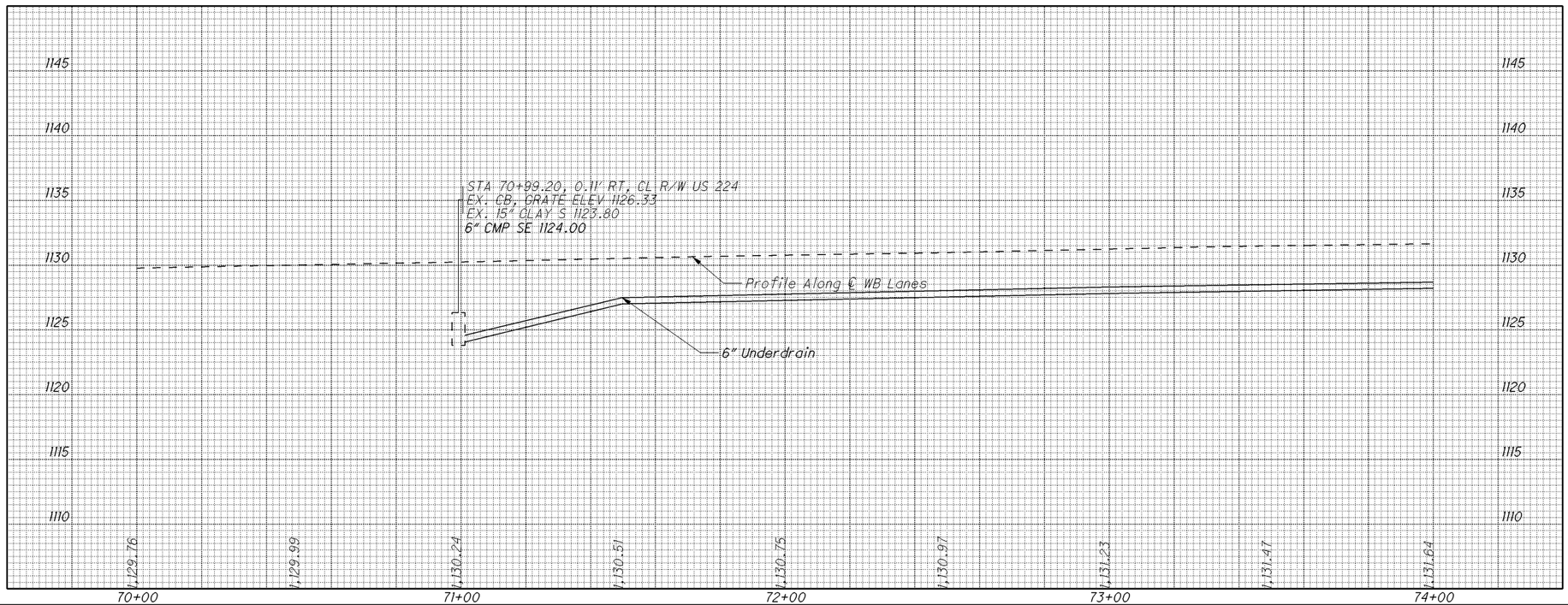




35/62	POR-224-0.00	PLAN AND PROFILE STA. 66+00 TO 70+00 US 224 & SR 44	CALCULATED RMB CHECKED	0 20 10 40 HORIZONTAL SCALE IN FEET



PAVEMENT REMOVAL LIMITS



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE
STA. 70+00 TO 74+00 US 224 & SR 44

POR-224-0.00

36
62

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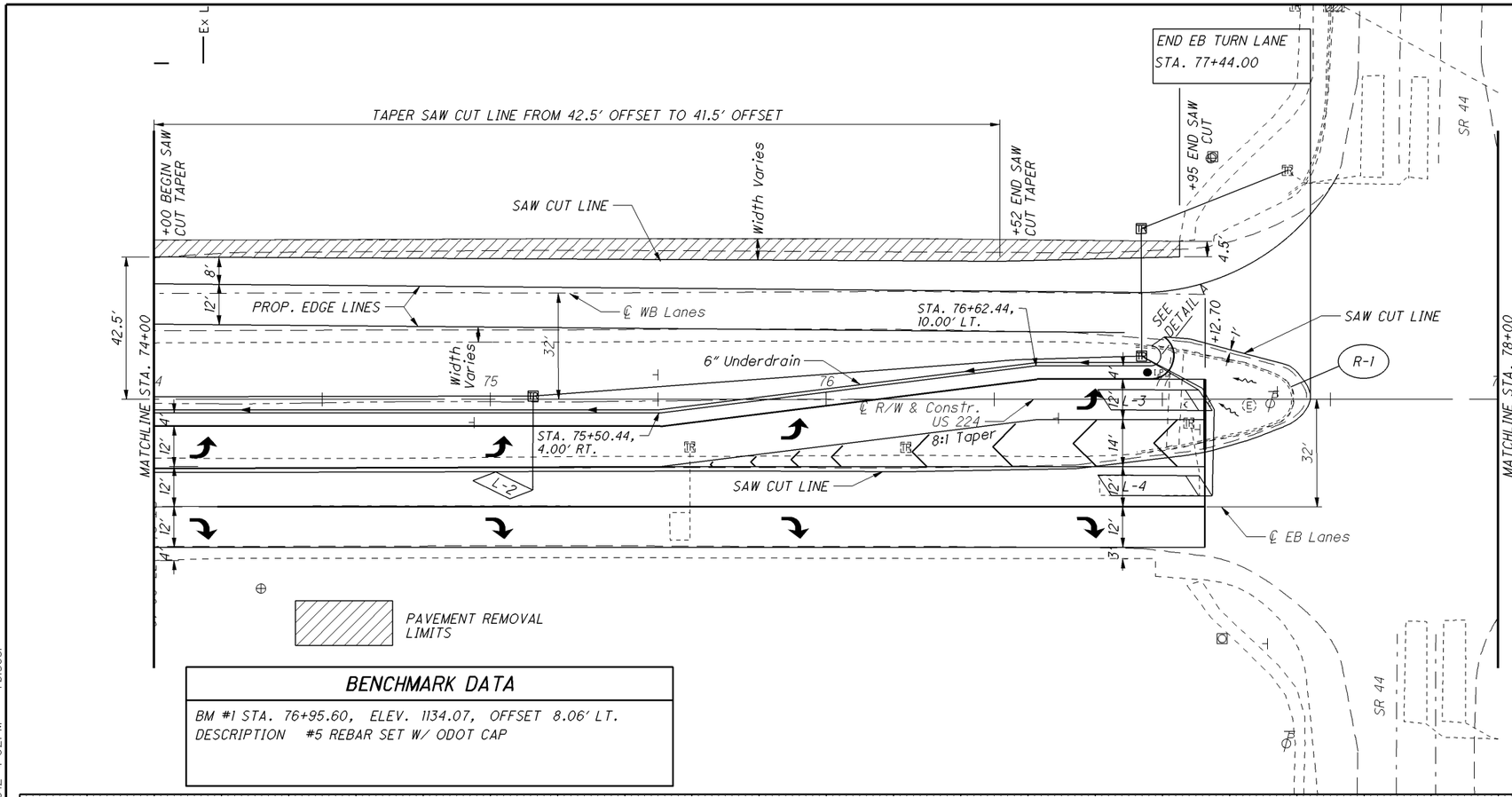
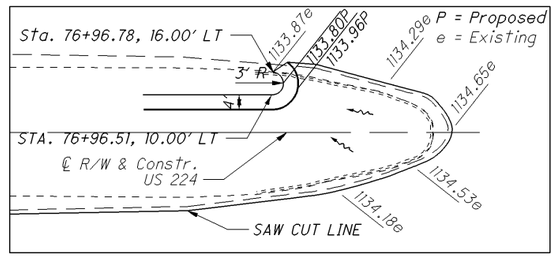
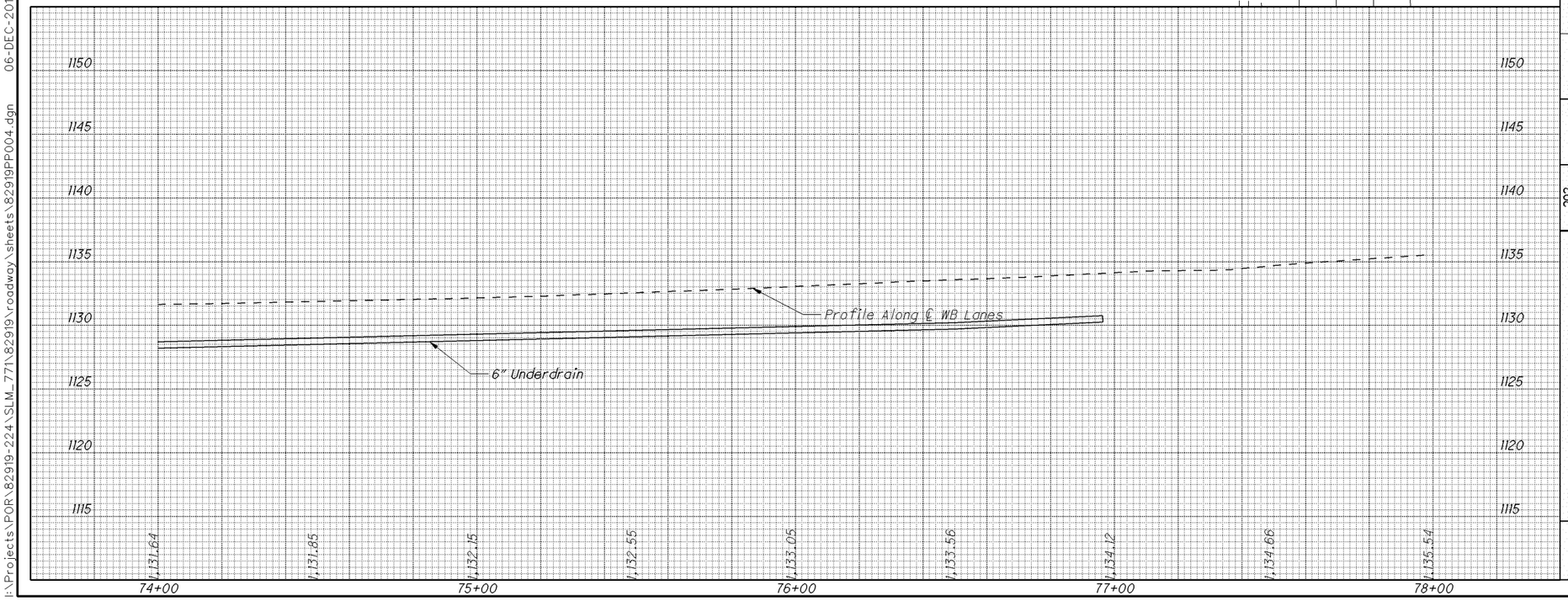




BENCHMARK DATA

BM #1 STA. 76+95.60, ELEV. 1134.07, OFFSET 8.06' LT.
DESCRIPTION #5 REBAR SET W/ ODOT CAP



REF NO.	STATION TO STATION				
			TO		
R-1	76+94.00	9.5'Lt/Rt	77+39.00	CL	104
202	CURB REMOVED			FT	104
TOTALS CARRIED TO GENERAL SUMMARY					0

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE
STA. 74+00 TO 78+00 US 224 & SR 44

POR-224-0.00

37
62

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BEGIN WB TURN LANE
℄ STA. 78+04.00

MATCHLINE STA. 78+00

MATCHLINE STA. 82+00

Saw Cut Line

50' Taper

℄ WB Lanes

Saw Cut Line

8:1 Taper

STA. 79+90.00, 4.00' LT.

6" Underdrain

℄ R/W & Constr. US 224

PROP. EDGE LINES

STA. 78+78.00, 10.00' RT.

Saw Cut Line

PAVEMENT REMOVAL LIMITS

Ex LA

DETAIL A

P = Proposed
e = Existing

Saw Cut Line

Sta. 78+52.62, 10.00' Rt.

℄ R/W & Constr. US 224

Sta . 78+56.05, 16.20' Rt.

Sta . 78+52.37, 16.00' Rt.

STA 78+19.72, 80.81' LT, ℄ US 224
EX. CB, GRATE ELEV 1132.11
EX. 12" RCP W 1128.01
EX. 36" CMP N 1127.21
EX. 36" RCP S 1127.21

STA 78+26.42, 69.65' RT, ℄ US 224
EX. CB, GRATE ELEV 1133.01
EX. 36" RCP N 1125.53
EX. 36" RCP W 1125.36
EX. 18" CMP S 1126.91
EX. 12" CMP NE 1128.41

STA 78+63.00, 45.30' RT, ℄ WB Lanes
CB-2-3, GRATE ELEV 1136.23
24" RCP SW 1129.21
24" RCP E 1129.25
6" CMP N 1132.50

STA 78+69.90, 0.23' RT, ℄ US 224
EX. CB, GRATE ELEV 1133.04
EX. 24" CONC S 1129.94
CB TO BE REMOVED

STA 79+50.00, 41.50' RT, ℄ WB Lanes
CB-2-3, GRATE ELEV 1137.15
24" RCP W 1132.00

Profile Along ℄ WB Lanes

6" Underdrain

24" RCP

1155 1150 1145 1140 1135 1130 1125 1120

1135.54 1136.34 1137.29 1138.26 1139.24 1140.23 1141.23 1142.21 1143.22

78+00 79+00 80+00 81+00 82+00

REF NO.	STATION TO STATION			TO		
D-4	78+63.00	45.3Rt		79+50.00	41.5Rt	
R-1	78+69.90	0.2Rt				
R-2	78+55.43	15.6Lt		78+56.10	15.5Rt	

			TOTALS CARRIED TO GENERAL SUMMARY
202	CURB REMOVED	FT	105
202	PIPE REMOVED, 24" AND UNDER	FT	11
202	CATCH BASIN REMOVED	EACH	1
603	24" CONDUIT, TYPE C	FT	97
604	CATCH BASIN, NO. 2-3	EACH	2

105	11	1	97
	11		
		1	
105			
			2

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE
STA. 78+00 TO 82+00 US 224 & SR 44

POR-224-0.00

38
62

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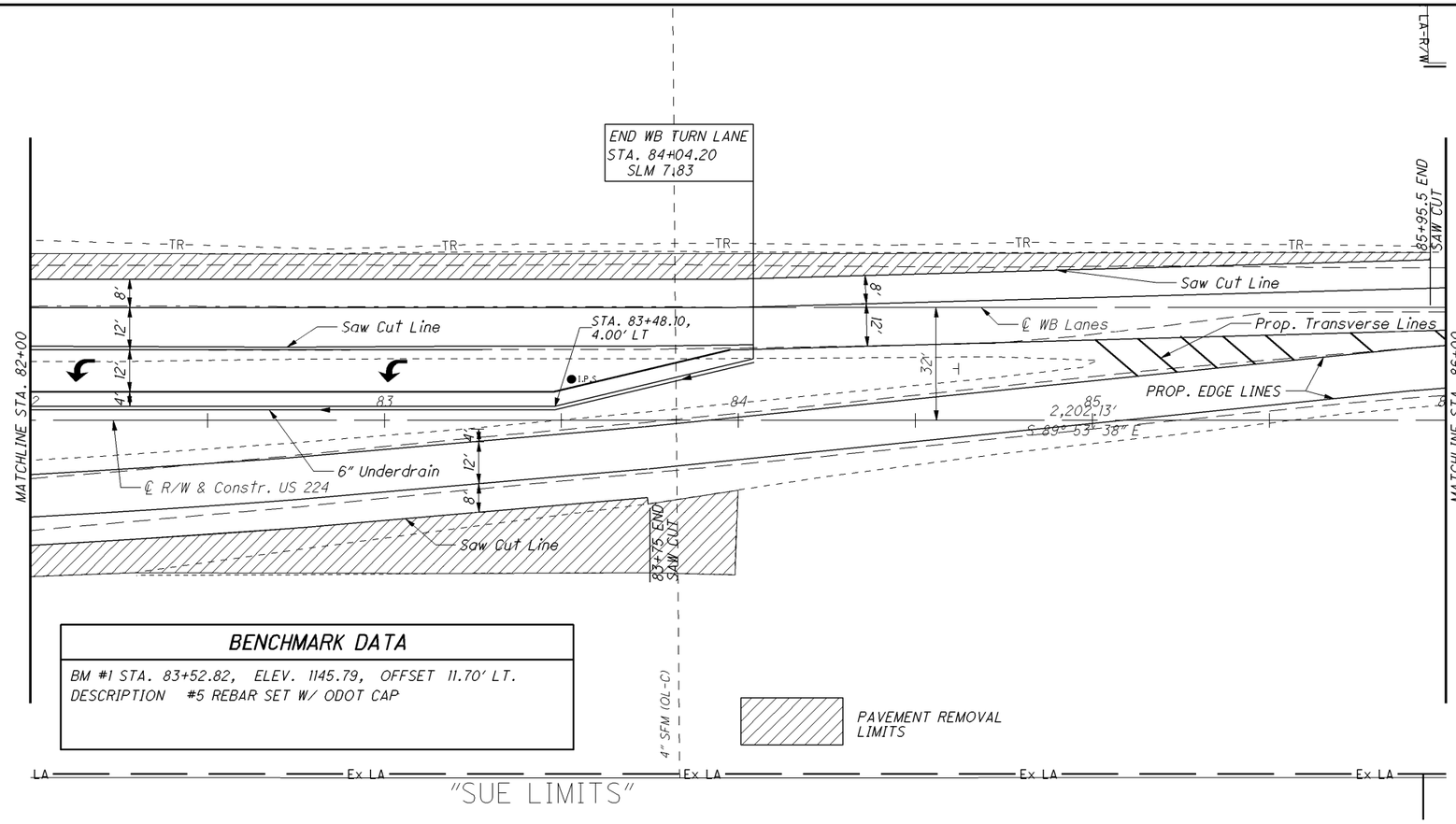
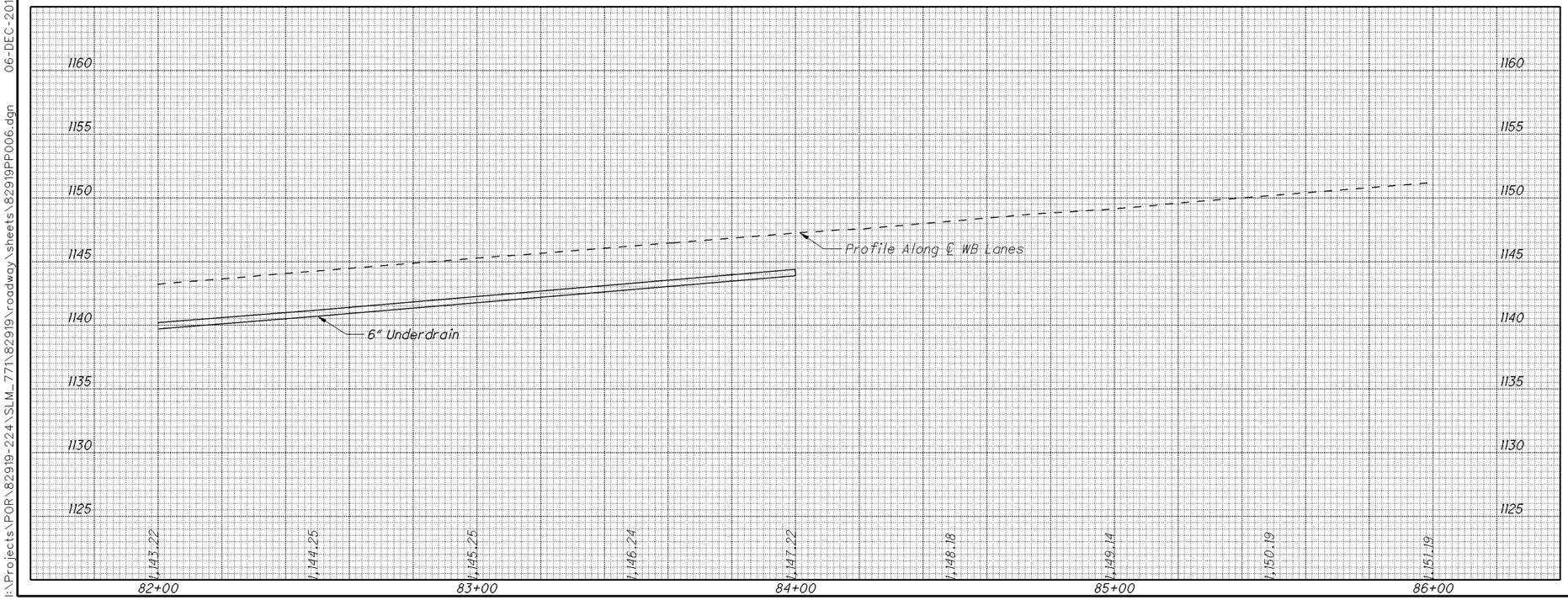


BENCHMARK DATA

BM #1 STA. 83+52.82, ELEV. 1145.79, OFFSET 11.70' LT.
DESCRIPTION #5 REBAR SET W/ ODOT CAP



HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED RMB
CHECKED

PLAN AND PROFILE
STA. 82+00 TO 86+00 US 224 & SR 44

POR-224-0.00

39
62

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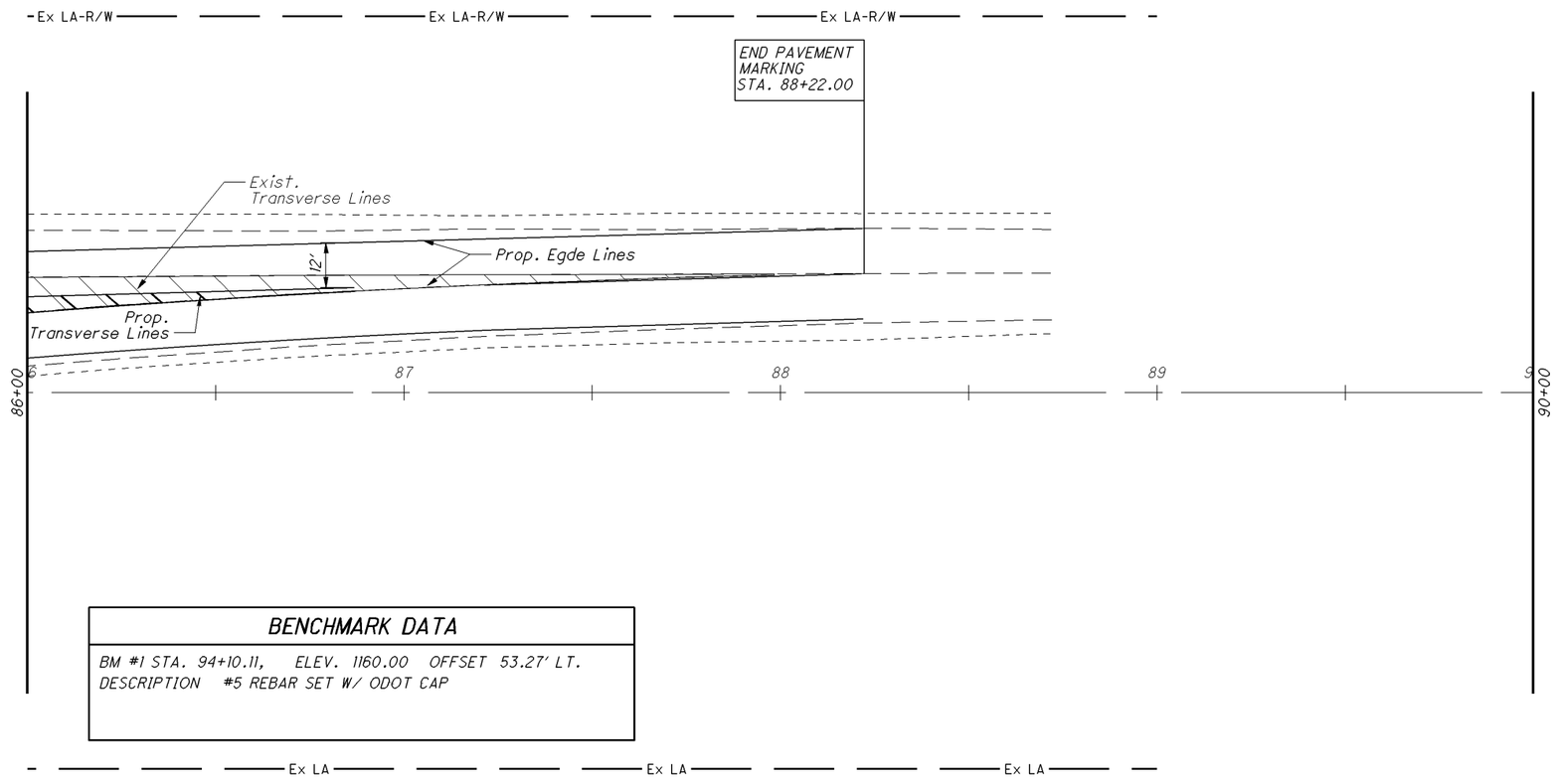
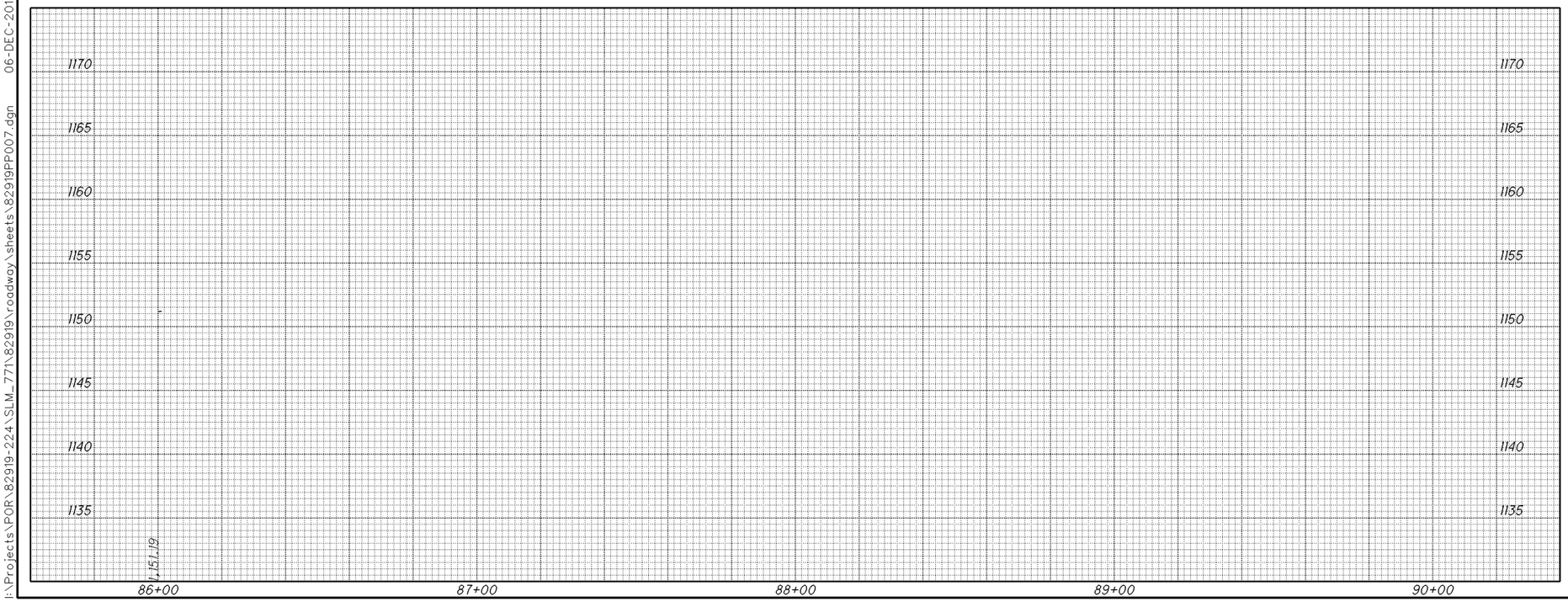


BENCHMARK DATA

BM #1 STA. 94+10.11, ELEV. 1160.00 OFFSET 53.27' LT.
DESCRIPTION #5 REBAR SET W/ ODOT CAP



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RMB CHECKED

PLAN AND PROFILE
STA 86+00 TO 90+00 US 224 & SR 44

POR-224-0.00

40
62

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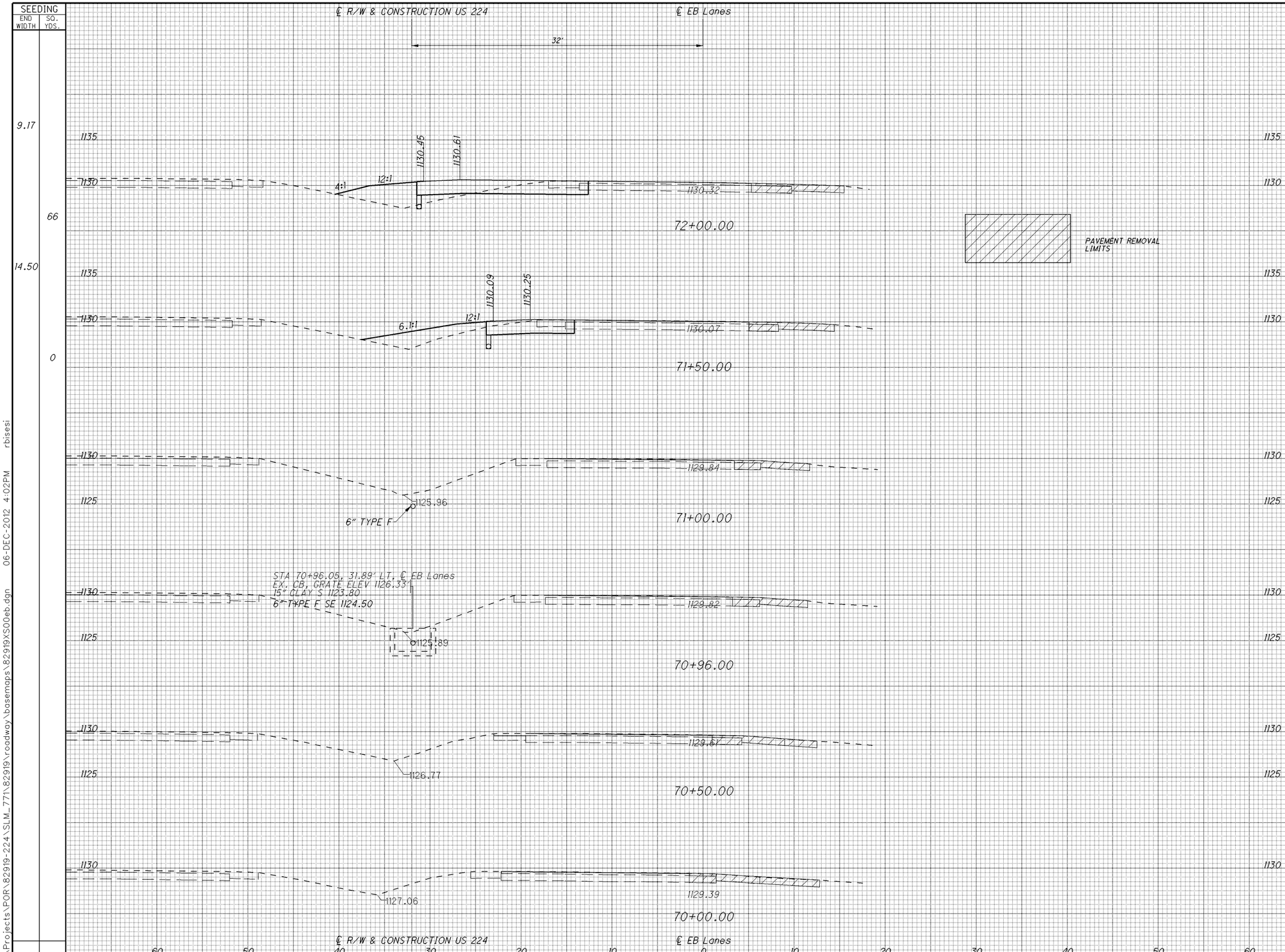

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13.0	19.0		
		24	32
12.5	15.6		
		0	0
		24	32

CALCULATED

CHECKED

CROSS SECTIONS
STA 70+00 TO 72+00 US 224 & SR 44

POR-224-0.00

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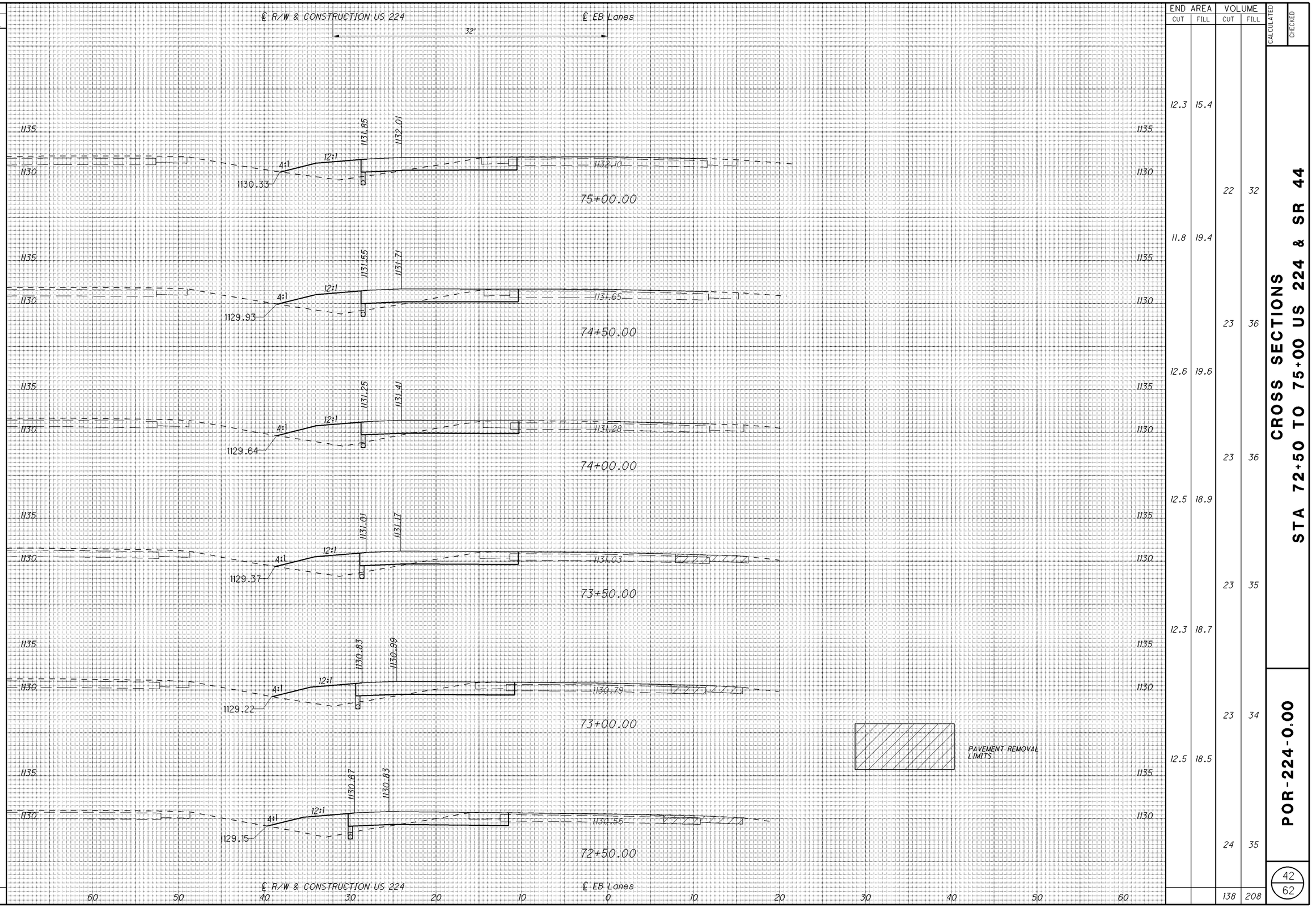
SEEDING END WIDTH	SEEDING SQ. YDS.	CUT	FILL
10.73	60	12.3	15.4
10.70	60	11.8	19.4
10.69	66	12.6	19.6
12.99	66	12.5	18.9
10.68	58	12.3	18.7
10.34	54	12.5	18.5
		138	208



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
12.3	15.4		
11.8	19.4	22	32
12.6	19.6	23	36
12.5	18.9	23	36
12.3	18.7	23	35
12.5	18.5	23	34
		24	35
		138	208

CALCULATED

CHECKED

CROSS SECTIONS
STA 72+50 TO 75+00 US 224 & SR 44

POR-224-0.00

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SEEDING	
END WIDTH	SQ. YDS.
6.80	37
6.45	44
9.25	56

℄ R/W & CONSTRUCTION US 224 — 32' — ℄ EB Lanes

1140 1135 1130 1125

1135.31

78+00.00

1134.51

77+50.00

1134.00 — 1134.08

77+00.00

1132.89 1133.05

4:1 12:1

1132.60 — 1133.59

76+50.00

1132.39 1132.55

12:1

1131.81 — 1133.10

76+00.00

1132.09 1132.25

4:1 12:1

1130.84 — 1132.59

75+50.00

℄ R/W & CONSTRUCTION US 224 — ℄ EB Lanes

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA		VOLUME			
CUT	FILL	CUT	FILL		
				CALCULATED	CHECKED
31.0	0.0				
17.1	3.6	45	3		
14.4	10.1	29	13		
		25	24		
		99	139		

CROSS SECTIONS
STA 75+50 TO 78+00 US 224 & SR 44

POR-224-0.00

43
62

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6.49	21	11.3	20.6	13	23
6.05	12	12.4	20.4	17	8
4.30	12	33.2	0.0	0	0
				30	31

CALCULATED

CHECKED

℄ WB Lanes

℄ R/W AND CONTRUCTION US 224

1137.09

1136.93

12:1

1137.29

1136.41

1140

1135

79+00.00

PAVEMENT REMOVAL LIMITS

STA 78+69.90, 32.23' RT, ℄ WB Lanes
EX. CB, GRATE ELEV 1133.04'
24" CONC SW 1129.94

STA 78+63.00, 45.30' RT, ℄ WB Lanes
CB-2-3, GRATE ELEV 1136.23
24" RCP SW 1129.21
24" RCP E 1129.25
6" CMP N 1132.50

1136.48

1136.32

12:1

1136.72

1145

1140

1135

1130

78+70.00

1136.24

1136.06

1136.34

1135.98

STA 78+26.42, 101.65' RT, ℄ WB
EX. CB, GRATE ELEV 1133.01'
36" RCP N 1126.53
36" RCP W 1125.36
24" RCP NE 1126±
18" CMP S 1126.91
12" CMP NE 1128.41

1125

78+50.00

1135.54

78+00.00

1134.66

77+50.00

℄ WB Lanes

℄ US 224

10 0 10 20 30 40 50 60 70 80 90 100 110

CROSS SECTIONS 77+50 TO 79+00 US 224 & SR 44

STA 77+50 TO 79+00

POR-224-0.00

44
62

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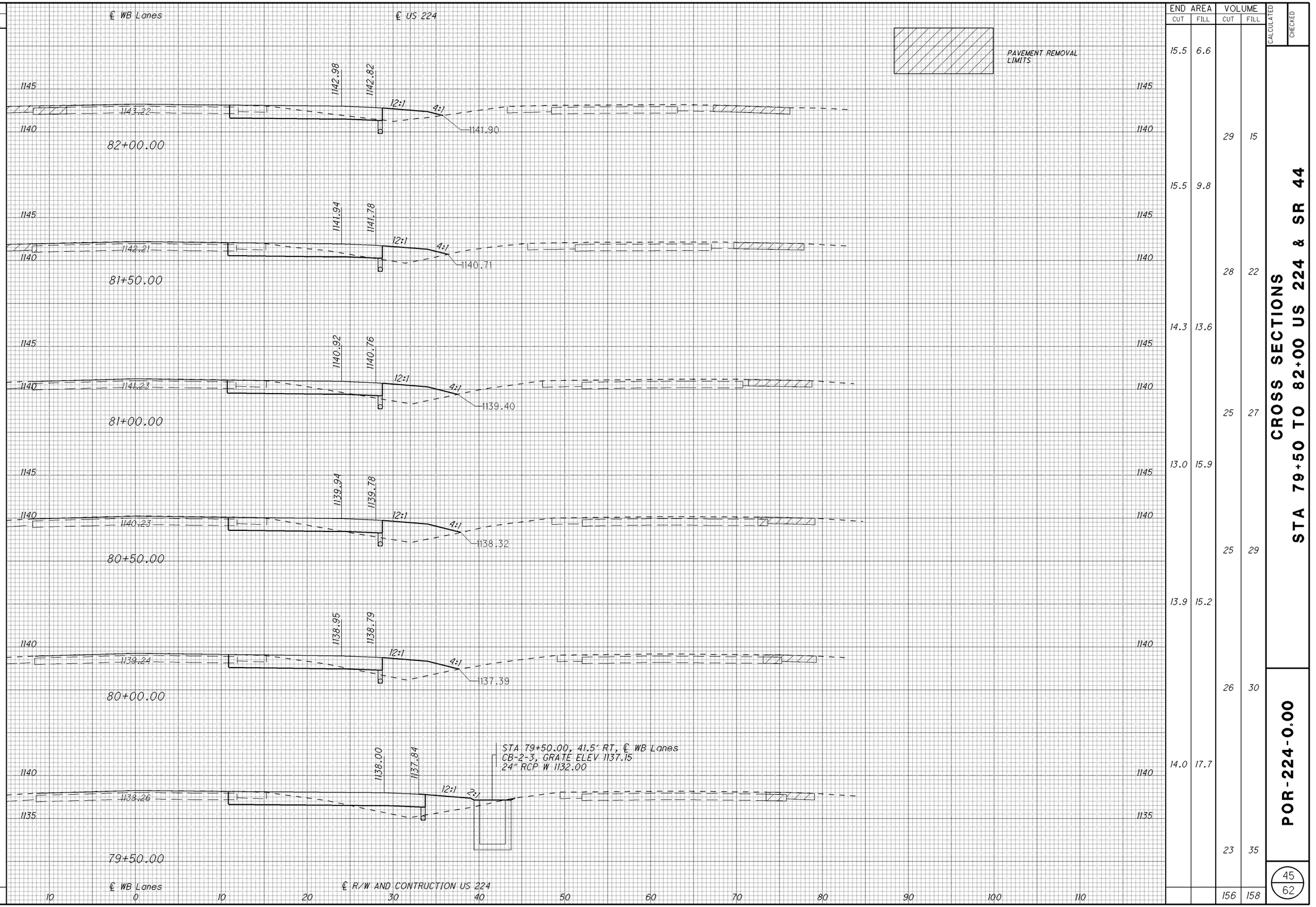
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
7.86	46	15.5	6.6	29	15
8.48	50	15.5	9.8	28	22
9.62	55	14.3	13.6	25	27
10.04	55	13.0	15.9	25	29
9.82	59	13.9	15.2	26	30
11.36	50	14.0	17.7	23	35
				156	158



CALCULATED

CHECKED

CROSS SECTIONS
STA 79+50 TO 82+00 US 224 & SR 44

POR-224-0.00

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SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	16				
5.65		9.2	0.0		
	28			29	0
4.40		22.1	0.0		
	20			40	0
2.83		21.1	0.3		
	22			38	2
5.02		19.4	1.7		
	36			32	8
				139	10

CALCULATED

CHECKED

CROSS SECTIONS

STA 82+50 TO 85+50 US 224 & SR 44

POR-224-0.00

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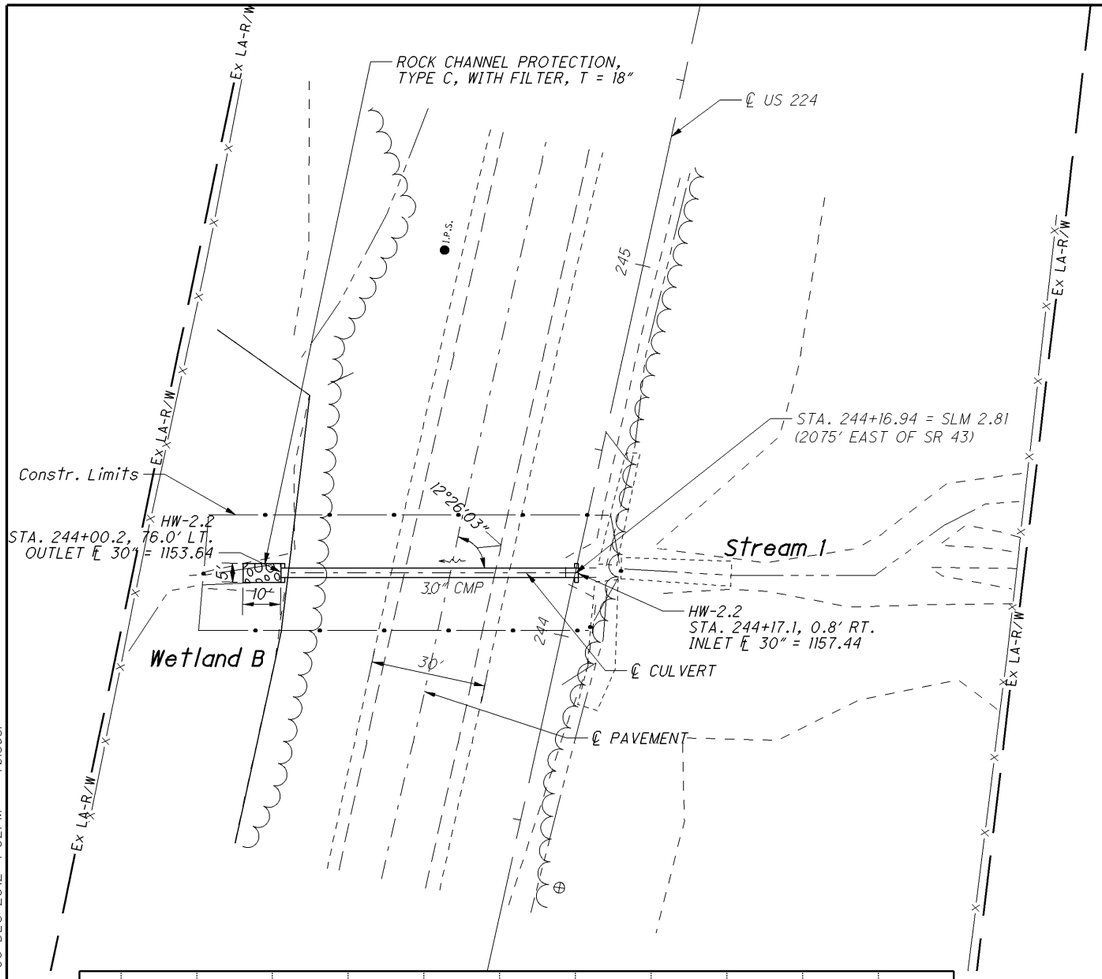

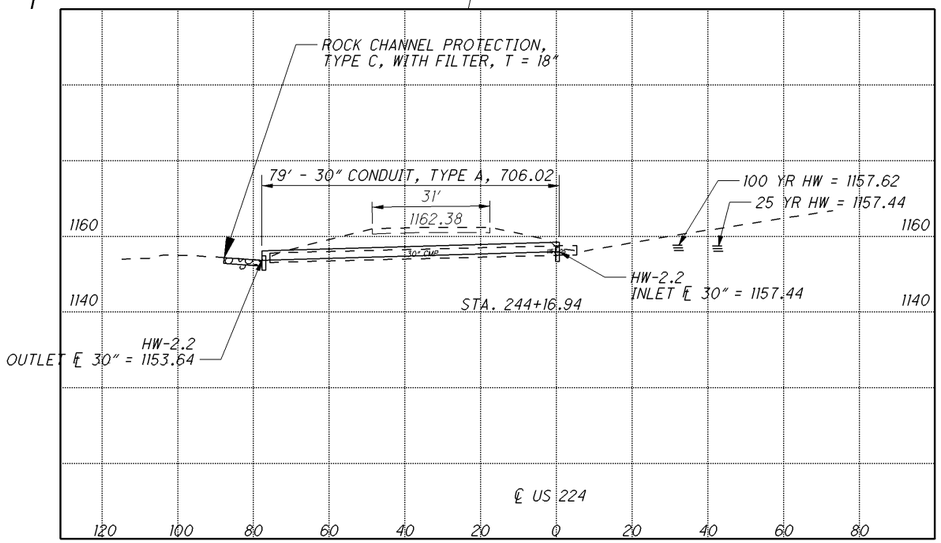

BENCHMARK DATA

BM #1 STA. 243+34.86, ELEV. 1159.42, OFFSET 13.82' RT.
DESCRIPTION SPIKE SET IN TREE
BM #2 STA. 244+92.78, ELEV. 1162.40, OFFSET 52.03' LT.
DESCRIPTION 5/8" REBAR W/ ODOT CAP SET

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE.

DESIGN TRAFFIC:
2010 ADT = 8210
DIRECTIONAL DISTRIBUTION = 50%

HYDRAULIC DATA

DRAINAGE AREA = 0.0113 SQ. MILES
Q (25) = 10.60 CFS V (25) = 9.07 FT/S
Q (100) = 12.90 CFS V (100) = 9.58 FT/S
STRUCTURE CLEARS THE 100 YEAR
DESIGN HW BY 0.80 FEET.

EXISTING CULVERT

TYPE: 30" CMP
LENGTH: 83'
ROADWAY: 30'± EOS/EOS
SKEW: 12°26'03"
ALIGNMENT: TANGENT
CROWN: 3/16"/FT
DISPOSITION: TO BE REMOVED
CULVERT FILE NUMBER: 672240080

PROPOSED CULVERT

TYPE: 30" RCP
LENGTH: 83'
ROADWAY: 30.4' EOS/EOS
SKEW: 12°26'03"
ALIGNMENT: TANGENT
CROWN: 3/16"/FT FT/FT
COORDINATES: LATITUDE 41°01'38"
LONGITUDE 81°20'24"

STATION TO STATION			202 PIPE REMOVED, OVER 24" FT	602 CONCRETE MASONRY CU YD	603 30" CONDUIT, TYPE A FT				
	TO								
			83	1.12	79				
TOTALS CARRIED TO GENERAL SUMMARY			83	1.12	79.0	0	0	0	0

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED RMB CHECKED

CULVERT PLAN
US 224 SLM 2.81

POR-224-0.00

47
62

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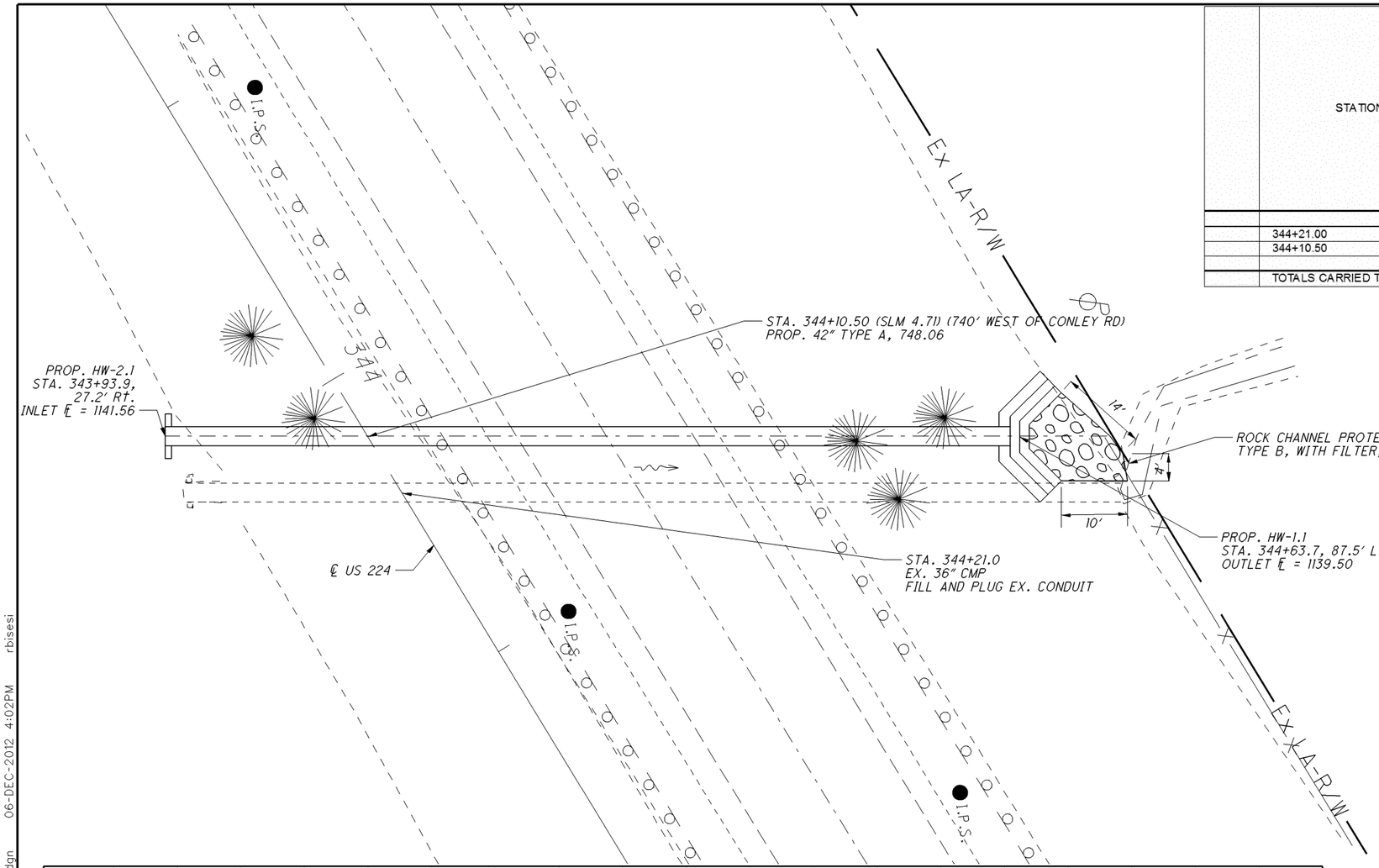
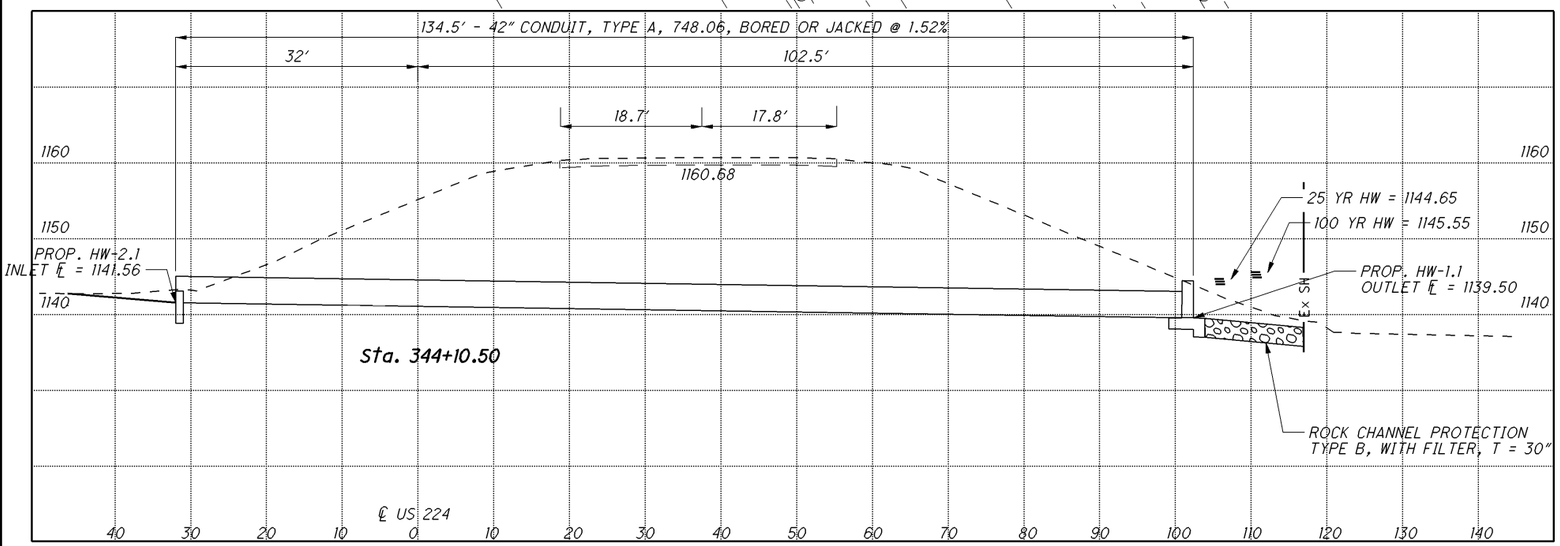
STATION TO STATION			202 PIPE REMOVED, OVER 24" FT	SPEC FILL AND PLUG EXISTING CONDUIT FT	203 EXCAVATION CU YD	203 BORROW CU YD	601 ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER CU YD	602 CONCRETE MASONRY CU YD	603 CONDUIT, BORED OR JACKED:, 42" TYPE A, 748.06 FT
	TO								
344+21.00			20	127					
344+10.50					32	5	13	9.42	135
TOTALS CARRIED TO GENERAL SUMMARY			20	127	32	5	13	9.42	135





BENCHMARK DATA

BM #1 STA. 345+06.60, ELEV. 1161.12, OFFSET 50.47' Lt.
DESCRIPTION ⅝" Rebar Set W/ ODOT Cap
BM #2 STA. 351+59.26, ELEV. 1170.76, OFFSET 8.42' Rt.
DESCRIPTION ⅝" Rebar Found w/o ODOT Cap

HYDRAULIC DATA

DRAINAGE AREA = 0.04 SQ. MILES
Q (25) = 40 CFS V (25) = 12.81 FT/S
Q (100) = 56.6 CFS V (100) = 18.04 FT/S

EXISTING CULVERT

TYPE: 36" CMP
LENGTH: 147'
ROADWAY: 31.2' EOS/EOS
SKEW: 31°17'48"
ALIGNMENT: TANGENT
CROWN: 3/16"/FT
DISPOSITION: TO BE ABANDONED
CULVERT FILE NUMBER: 672240130

PROPOSED CULVERT

TYPE: 42" CONDUIT, TYPE A, 748.06
LENGTH: 148'
ROADWAY: 31.2'
SKEW: 31°17'48"
ALIGNMENT: TANGENT
CROWN: 3/16"/FT FT/FT
COORDINATES: LATITUDE 41°01'55"
LONGITUDE 81°18'17"

HORIZONTAL SCALE IN FEET
0 5 10 20
CALCULATED RMB CHECKED

CULVERT PLAN
US 224 SLM 4.71
POR-224-0.00

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ITEM 625 PULL BOX, 725.08, AS PER PLAN

ENSURE THAT THE PORTLAND CONCRETE PULL BOX IS CONSTRUCTED OF REINFORCED PORTLAND CEMENT CONCRETE. WHEN THE BOX IS PRECAST, ONLY PROVIDE PULL BOXES FROM SUPPLIERS CERTIFIED TO SUPPLEMENT 1073. ENSURE THAT THE PULL BOX COVER IS CONSTRUCTED ACCORDING TO 725.08 AND AS SHOWN ON THE PLANS.

FURNISH METAL PULL BOX COVERS THAT CONFORM TO THE FOLLOWING REQUIREMENTS:

1. FURNISH 1/4-INCH (6mm) THICK STEEL PLATE FOR THE STEEL COVER CONFORMING TO 711.01 WITH 1/2-INCH (13mm) MINIMUM FLANGE AROUND THE EDGE AND GALVANIZED TO CONFORM TO 711.02. DISPLAY ON THE STEEL COVER OR ON AN ATTACHED BRASS OR STAINLESS STEEL PLATE (TAG) CLEARLY LEGIBLE BLOCK LETTERS 1 INCH TO 2 INCHES (25mm-50mm) IN HEIGHT WITH THE WORD "TRAFFIC", "LIGHTING", "ELECTRIC" OR "TELEPHONE" TO DESIGNATE THE CIRCUIT(S) CONTAINED. ENSURE THAT THE WORD DESIGNATING THE USE IS IN RAISED LETTERS THAT ARE EITHER INTEGRAL TO THE STEEL COVER OR INTEGRAL TO A BRASS OR STAINLESS STEEL PLATE 1/16-INCH (1.6mm) IN THICKNESS SECURELY MECHANICALLY ATTACHED TO THE STEEL COVER AT THE FOUR CORNERS OF THE TAG AND AT INTERVALS 2 - 3 INCHES (50 - 75mm) ALONG THE PERIMETER BETWEEN CORNERS.

2. FURNISH GRAY IRON OR DUCTILE IRON WITH A MINIMUM THICKNESS OF 3/8-INCH (9mm) CONFORMING TO ASTM A 48 OR ASTM 536. CERTIFICATION IS REQUIRED. ENSURE THAT THE WORD "TRAFFIC", "LIGHTING", "ELECTRIC", OR "TELEPHONE" IS CAST IN THE TOP SURFACE OF THE COVER FORMING LETTERS 1 TO 2 INCHES (25 TO 30mm) IN HEIGHT.

ITEM 632 REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM: 3 SECTION SIGNAL HEAD

THIS WORK WILL REQUIRE THE CONTRACTOR TO REMOVE EXISTING SIGNAL HEAD AS INDICATED ON THE SIGNAL PLANS.

PAYMENT FOR THIS ITEM OF WORK SHALL BE PER EACH SIGNAL HEAD REMOVED & INCLUDE ALL LABOR AND EQUIPMENT, INCLUDING TRAFFIC CONTROL, TO PERFORM THE WORK DESCRIBED ABOVE.

HEADS SHALL BE STORED FOR SALVAGE BY ODOT. CONTACT DISTRICT TRAFFIC OFFICE, 330-786-3145, TO ARRANGE TRANSFER.

ITEM 632 SIGNALIZATION, MISC.: REMOVE AND REINSTALL LASHING RODS

THIS WORK WILL REQUIRE THE CONTRACTOR TO CAREFULLY REMOVE THE LASHING RODS ACROSS AN EXISTING SIGNAL SPAN SO THAT NEW CABLE(S) CAN BE INSTALLED IN ORDER TO RELOCATE SIGNAL HEADS TO ALIGN WITH THE CENTER OF THE NEW LANE LOCATIONS AND IN ORDER TO INSTALL 3 CONDUCTOR CABLE FOR PEDESTRIAN PUSH BUTTONS. AS THE CABLE(S) IS INSTALLED IT SHALL BE CAREFULLY LASHED WITH THE OTHER EXISTING CABLES UTILIZING THE REMOVED LASHING RODS.

PAYMENT FOR THIS ITEM OF WORK AND FOR RELOCATING THE NEW SIGNAL HEADS WILL BE PER FOOT OF LASHING ROD REMOVED AND INCLUDE ALL LABOR AND EQUIPMENT, INCLUDING TRAFFIC CONTROL, TO PERFORM THE WORK DESCRIBED ABOVE.

THE FOLLOWING QUANITY AS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 632 SIGNALIZATION, MISC.: REMOVE AND REINSTALL LASHING RODS 164 FT

LOOP DETECTOR UNITS, BY TYPE

IN ADDITION TO THE REQUIREMENTS OF CMS ITEM 632 AND CMS 732.07 OR 732.08, LOOP DETECTOR UNITS SHALL HAVE THE FOLLOWING REQUIREMENTS OR FEATURES:

THE OUTPUT DEVICE SHALL BE A RELAY, AND ALL CONTACTS SHALL BE IN THE WIRING HARNESS.

THE UNIT SHALL BE SELF TUNING.

THE UNIT'S ELECTRICAL CONNECTION PLUGS OR WIRING HARNESS SHALL ALLOW READY REPLACEMENT WITH A SINGLE CHANNEL AMPLIFIER AS DESCRIBED IN CMS 732.07.

EACH UNIT SHALL BE LABELED TO CORRESPOND TO ITS PHASE AND DIRECTION.

DELAY INHIBIT SHALL BE CONNECTED ON ALL DETECTOR HARNESSES FOR THEIR RESPECTIVE PHASE GREENS.

ONE UNIT SHALL BE PROVIDED FOR EACH LOOP.

632 LOOP DETECTOR UNITS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS ITEM 632 AND CMS 732.07 OR 732.08, THE CONTRACTOR SHALL PROVIDE LOOP DETECTOR HARNESSES AND AMPLIFIERS IN THE CABINET.

PAYMENT FOR THIS ITEM OF WORK SHALL BE PER EACH LOOP DETECTOR & INCLUDE ALL LABOR AND EQUIPMENT TO PERFORM THE WORK DESCRIBED ABOVE.

ITEM 632 - VEHICULAR SIGNAL HEAD, (LED), BLACK, BY SECTION, 12" LENS, BY WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS ITEM 632 AND CMS 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

SIGNAL SECTIONS:
1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
3. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

MOUNTING HARDWARE:
1. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
2. BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS
3. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.

THE DEPARTMENT WILL MEASURE VEHICULAR SIGNAL HEAD, (LED), BLACK, BY SECTION, 12" LENS, BY WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS AS SPECIFIED.

CALCULATED RMB CHECKED KJG

TRAFFIC SIGNAL NOTES

POR-224-0.00

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS ONCE SIGNAL WORK HAS COMMENCED, WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS :

A) EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS INCLUDING DAMAGE DUE TO UTILITY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION AT AN INTERSECTION FROM THE TIME THE INSTALLATION IS FIRST DISTURBED, WHETHER FROM UTILITY WORK OR FROM THE CONTRACTOR UNTIL THE INSTALLATION HAS BEEN SUB-SEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

B) NEW OR REUSED SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE THE MAINTAINING AGENCY AND THE PROJECT ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL HAVE THE MALFUNCTION CORRECTED AND/OR REPAIRED TO THE SATISFACTION OF THE ENGINEER WITHIN EIGHT HOURS OF THE NOTIFICATION OR DISINCENTIVES OF $500 PER HOUR SHALL BE ASSESSED THE CONTRACTOR.

ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPT-ANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR IS NOTIFIED OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMP-ORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED EIGHT HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPON-SIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGES AS PER 107.15.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE PROJECT ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY FOR POLICE SERVICES AND MAINTENANCE SERVICES BY STATE OR CITY FORCES SHALL BE DEDUCTED FROM MONEYS DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15. IN ADDITION TO THESE BILLINGS, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES OF $500/HOUR FOR EACH HOUR BEYOND THE ALLOWED EIGHT HOUR PERIOD THAT THE SIGNAL IS INOPERATIVE.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICES ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A MUTUALLY ACCEPTABLE AGREEMENT WITH THE STATE MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE.

THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED FOUR HOURS AND SHALL NOT INCLUDE THE HOURS OF 6:00AM TO 8:00AM AND 4:00PM TO 6:00PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DE-SCRIBED ABOVE, SHALL BE PROTECTED BY OFF-DUTY POLICE, HIRED BY THE CONTRACTOR.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXIST-ING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED, AS DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING: 1. TIME OF NOTIFICATION OF MALFUNCTION; 2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION; 3. ACTIONS TAKEN TO CORRECT THE MAL-FUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED; 4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROB-ABILITY OF REOCCURRENCE; AND 5. TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE. A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

ITEM 614 - MAINTAINING TRAFFIC

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

LENGTH AND DURATION OF LANE CLOSURE 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.

IF IT IS NECESSARY TO STOP ALL TRAFFIC FOR THE ERECTION OF SPAN WIRE, THE WORK SHALL BE SO ARRANGED THAT THE STOPPAGE IS LESS THAN TEN (10) MINUTES IN ANY ONE (1) THIRTY (30) MINUTE PERIOD. NO STOPPAGE OF TRAFFIC SHALL OCCUR FOR THE ERECTION OF SIGNAL SUPPORTS, CUTTING AND INSTALLING LOOP DETECTOR WIRE, OR HANGING SPAN WIRE AND SIGNAL HEADS, WITHOUT A LAW ENFORCEMENT OFFICER WITH A PATROL CAR AT THE SITE FOR ASSISTANCE IN CONTROLLING TRAFFIC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE SERVICES AND SCHEDULING OF SAID LAW ENFORCEMENT OFFICER WITH PATROL CAR.

THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL FLAGS, FLAGGERS, WATCHERS, BARRICADES, SIGNS, SIGN SUPPORTS AND INCIDENTALS RELATED TO TRAFFIC CONTROL.

SIGNS FURNISHED SHALL BE IN NEW OR LIKE NEW CONDITIONS. LIKE NEW SIGNS SHALL BE SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR PROVIDING AND MAINTAINING LIGHTS, SIGNS, AND BARRICADES FOR THE MAINTENANCE OF TRAFFIC AND SAFETY OF HIS/HER WORK AT THE LOCATIONS SHOWN ON THESE PLANS OR AS DIRECTED BY THE ENGINEER.

TWO-WAY TRAFFIC ON A MINIMUM OF TWO 11-FOOT LANES SHALL BE MAINTAINED BY USE OF THE EXISTING PAVEMENT.

NO LANE CLOSURE SHALL BE IMPLEMENTED DURING THE HOURS OF 6:00am TO 9:00am OR 4:00pm TO 6:00pm WEEKDAYS. ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHEN THEY ARE NOT APPLICABLE, AS DETERMINED BY THE ENGINEER. FOR WORK WHICH IS CONFINED TO THE SHOULDER, TRAFFIC CONTROL SHALL CONFORM TO FIGURES 6H-1, 6H-3 AND 6H-4 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS AND PROVISIONS OF THE OMUTCD AND THE FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

CALCULATED RMB
CHECKED KJG

TRAFFIC SIGNAL NOTES

POR-224-0.00

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REF NO.	SHEET NO.	STATION TO STATION				625 CONDUIT, 1-1/2", 725.04			625 CONDUIT, JACKED OR DRILLED	625 TRENCH	625 PULL BOX, 725.08, 18", AS PER PLAN	625 PLASTIC CAUTION TAPE	625 PULL BOX REMOVED	632 VEHICULAR SIGNAL HEAD, (LED), BLACK, 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE WITH BACKPLATE	632 COVERING OF VEHICULAR SIGNAL HEAD	632 DETECTOR LOOP	632 LOOP DETECTOR UNIT, AS PER PLAN	632 SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	632 SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	632 LOOP DETECTOR LEAD-IN CABLE	632 REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM: 3 SEC SIGNAL SIGNAL HEAD	632 SIGNALIZATION, MISC.: REMOVE AND REINSTALL LASHING ROD	632 PEDESTRIAN PUSHBUTTON	632 SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG		
				TO		FT			FT	FT	EACH	FT	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	FT	EACH	FT		
SR 43																										
L-1		218+87.00	2.5'Lt		220+87.50	5'Lt	201				201	1	201				1			206						
L-1/2		220+87.50	5'Lt		222+77.00	13'Lt	190				190	1	190				1			390						
L-1/2/3		222+77.00	13'Lt		222+74.30	52.4'Lt	40				40	1	40				1			135						
L-1/2/3		222+74.30	52.4'Lt		222+98.60	69'Lt	30				30		30							105						
L-1/2/3		222+98.60	69'Lt		222+92.80	73'Lt														51						
L-4/5/6		222+92.80	73'Lt		222+98.60	69'Lt														36						
L-4/5/6		222+98.60	69'Lt		222+85.70	71'Lt														150						
L-4/5/6		222+85.70	71'Lt		223+87.80	70'Lt														672						
L-4/5/6		223+87.80	70'Lt		223+97.50	62'Lt	13				13	1	13				1			54						
L-5/6		223+97.50	62'Lt		225+93.00	51'Lt	196				196	1	196				1			402						
L-6		225+93.00	51'Lt		227+94.00	50'Lt	201				201	1	201				1			206						
H-1/2		222+85.70	71'Lt		223+86.00	74'Rt								1	1			130	150		1	55				
H-3/4		222+85.70	71'Lt		223+86.00	74'Rt								1	1				184		1	20				
PB Rem		219+39.00	14'Rt		220+91.00	14'Rt							2													
PB Rem		221+90.00	13'Rt		222+85.00	5'Lt							2													
PB Rem		224+02.00	7'Lt		224+93.00	14'Lt							2													
PB Rem		225+93.00	15'Lt		227+45.00	14'Lt							2													
PED		222+92.8	73' Lt.																					1	11	
PED		222+96	80.5' Rt.																					1	230	
SR 44																										
L-1		73+13.00	1'Lt		75+13.00	1'Lt	200				200	1	200				1			205						
L-1/2		75+13.00	1'Lt		76+94.00	13'Lt	182				182	1	182				1			374						
L-1/2/3/4		76+94.00	13'Lt		76+94.00	51'Lt				38		1					2	1		172						
L-1/2/3/4		76+94.00	51'Lt		77+37.00	68'Lt	37			10	37		37							208						
L-1/2/3/4		77+37.00	68'Lt		77+15.00	72'Lt														152						
L-5/6/7/8		77+15.00	72'Lt		78+30.00	63'Lt														1084						
L-5/6/7/8		78+30.00	63'Lt		78+35.00	55'Lt											2	1		60						
L-7/8		78+35.00	55'Lt		79+94.00	51'Lt											1			328						
L-8		79+94.00	51'Lt		81+56.00	49'Lt											1			167						
H-1/2		77+15.00	72'Lt		78+21.00	79'Rt								1	1			102	121		1	52				
H-3/4		77+15.00	72'Lt		78+21.00	79'Rt								1	1						1	20				
PB Rem		73+72.00	15'Rt		75+59.00	14'Rt							2													
PB Rem		76+24.00	14'Rt		77+09.00	7'Rt							2													
TOTALS CARRIED TO GENERAL SUMMARY							1290	0	0	48	1290	9	1290	12	4	4	14	2	232	455	5157	4	147	2	241	0	0

CALCULATED RMB
CHECKED

SIGNAL SUBSUMMARY

POR-224-0.00

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REF NO.	SHEET NO.	STATIION	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)				630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 ONE WAY SUPPORT, NO. 3 POST	630 GROUND MOUNTED SUPPORT, NO. 3 POST		630 SIGN, FLAT SHEET	630 SIGN POST REFLECTOR	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL											COMMENTS
									FT	FT	FT		SQ FT	EACH	EACH	EACH	EACH											
SR 43																											
S-1		220+00, 6' Lt.	LT	R3-H8B-48	30*48				27				10														
S-4		220+00, 6' Lt.	LT	R5-1A-36	24*36									2		1	1										
S-2		220+00, 53' Rt.	RT	R3-H8B-48	30*48				27				10														
S-6		220+00, 53' Rt.	RT	R5-1A-36	36*24									2		1											
S-3		220+67	LT	R3-H8BH-36	36*36										1		2										
S-5		220+67	RT	R3-H8BH-36	36*36										1												
S-7		222+50, 51' Lt.	LT	R5-1-30	30*30				13.5					1		1	1										
S-8		NOT USED																									
S-9		NOT USED																									
S-10		222+80, 12.5 Lt.	LT	R4-7B-24	24*30											1											
S-11		222+84	RT	R3-H8BH-36	36*36										1		2										
S-12		NOT USED																									
S-13		224+01, 13.5' Rt.	RT	R4-7B-24	24*30											1											
S-14		NOT USED																									
S-15		NOT USED																									
S-16		224+08	LT	R3-H8BH-36	36*36										1		2										
S-17		NOT USED																									
S-18		224+34, 48 Lt.	LT	R5-1-30	30*30				13.5					1		1	1										
S-20		225+97.4, 6' Lt.	LT	R3-H8BH-36	36*36										1		1										
S-22		225+97.4, 6' Rt.	RT	R3-H8BH-36	36*36										1												
S-23		227+35, 53' Lt.	LT	R3-H8B-48	30*48				27				10														
S-19		227+35, 53' Lt.	LT	R5-1A-36	36*24									2		1											
S-24		227+35, 4' Rt.	RT	R3-H8B-48	30*48				27				10														
S-21		227+35, 4' Rt.	RT	R5-1A-36	36*24									2		1											
CONGRESS LAKE (SLM 3.67)			LT	R1-1-30	30*30						18.5		6.25	1													STOP SIGN TO BE ADDED TO NE QUADRANT
CONGRESS LAKE (SLM 3.67)			LT	R-1-30	30*30						18.5		6.25	1													STOP SIGN TO BE ADDED TO SW QUADRANT
CONLEY RD (SLM (4.85)			LT	R1-1-30	30*30						18.5		6.25	1													STOP SIGN TO BE ADDED TO NE QUADRANT
CONLEY RD (SLM (4.85)			LT	R1-1-30	30*30						18.5		6.25	1													STOP SIGN TO BE ADDED TO SW QUADRANT
TOTALS CARRIED TO SHEET 9999						0	0	0	135	0	74	0	65	14	6	8	10	0	0	0	0	0	0	0	0	0	

CALCULATED
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CHECKED

SIGNING SUBSUMMARY

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SIGNING SUBSUMMARY

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REF NO.	SHEET NO.	STATION	SIDE	CODE * PLYWOOD # YELLOW/GREEN ## WHITE ON BROWN	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 ONE WAY SUPPORT, NO. 3 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 SIGN, FLAT SHEET SQ FT	630 SIGN POST REFLECTOR EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH
SR 44													
S-1		74+00,4'Lt.	LT	R3-H8B-48	30*48	27			10				
S-3		74+00, 4' Lt.	LT	R5-1A-36	24*36					2		1	1
S-2		74+95	LT	R3-H8BH-36	36*36						1		2
S-4		78+73, 50' Lt.	LT	R5-1-30	30*30	13.5				1		1	1
S-5		NOT USED											
S-6		NOT USED											
S-7		76+97, 13' Lt.	LT	R4-7B-24	24*30							1	
S-8		78+28, 6' Lt.	LT	R10-6-24							1		1
S-9		78+60	LT	R3-H8BH-36							1		2
S-10		74+00, 54' Rt.	RT	R3-H8B-48	30*48	27			10				
S-12		74+00, 54' Rt.	RT	R5-1A-36	24*36					2		1	
S-11		75+00	RT	R3-H8BH-36	36*36						1		2
S-13		77+11.20	RT	R10-6-24							1		1
S-14		78+58, 13' Rt.	RT	R4-7B-24	24*30							1	
S-15		NOT USED											
S-16		NOT USED											
S-18		80+79	LT	R3-H8BH-36	36*36						1		2
S-17		81+14, 54' Lt.	RT	R5-1A-36	24*36					2		1	
S-19		81+14, 54' Lt.	LT	R3-H8B-48	30*48	27			10				
S-20		77+00, 47' Rt.	RT	R5-1-30	30*30	13.5				1		1	1
S-22		80+78	RT	R3-H8BH-36	36*36						1		2
S-23		81+14, 4' Rt.	RT	R3-H8B-48	30*48	27			10				
S-21		80+78, 4' Rt.	RT	R5-1A-36	24*36					2		1	
TOTALS CARRIED TO SHEET 9999						135	0	0	40	10	7	8	15

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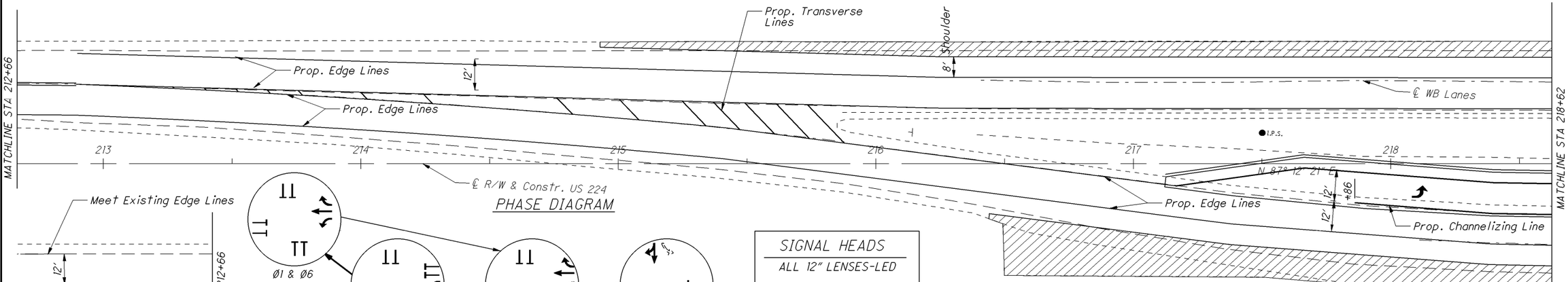
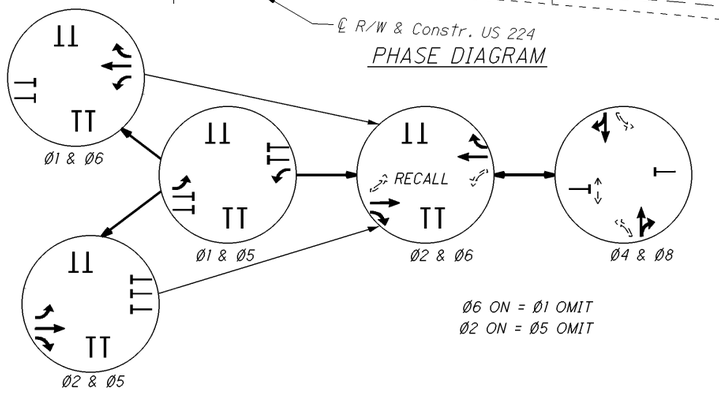
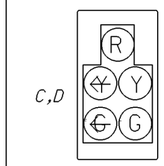


PHASE DIAGRAM

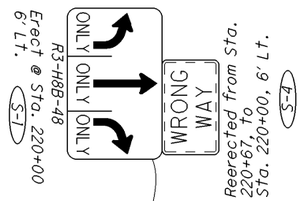


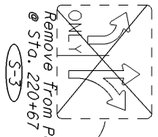
SIGNAL HEADS

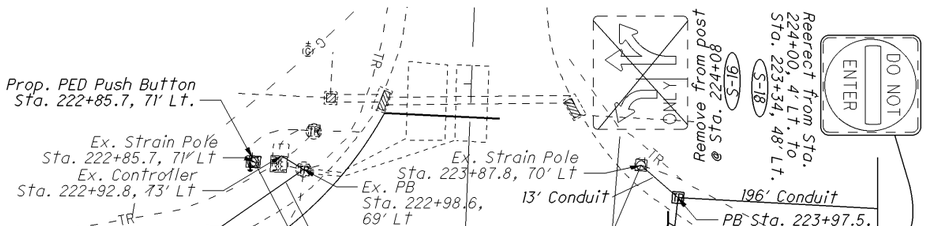
ALL 12" LENSES-LED

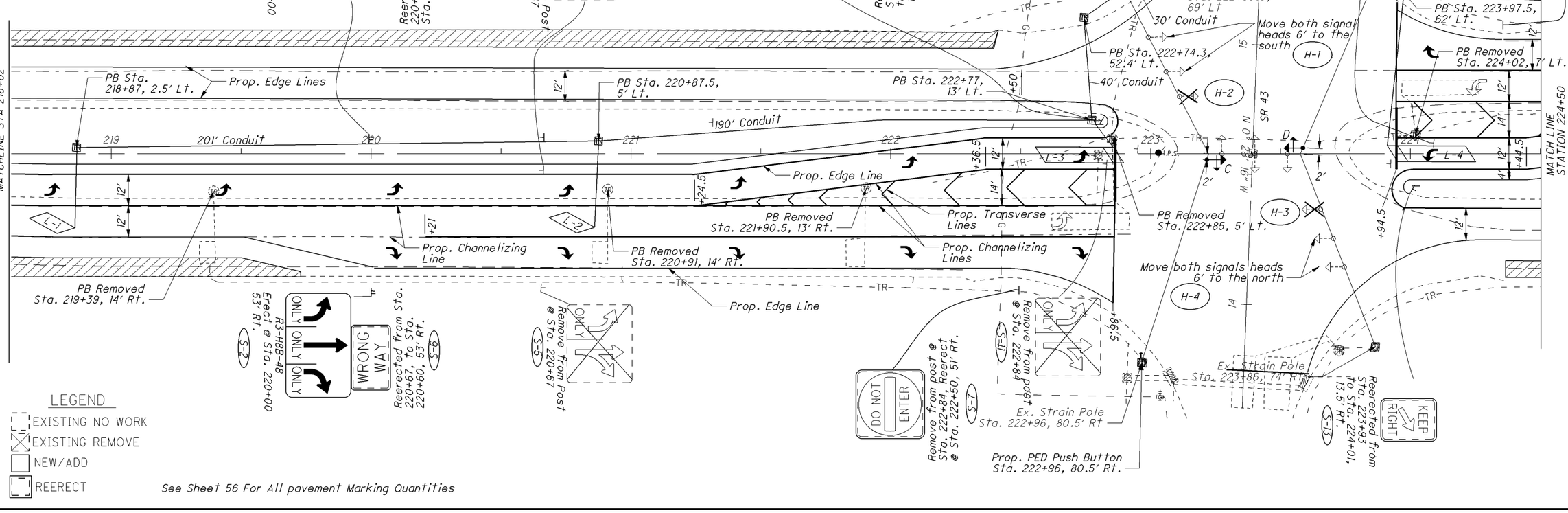


LOOP #	LOCATION	SIZE	TYPE		DELAY	DELAY INHIBITED BY	LOOP UNIT	DESCRIPTION	STYLE
L-1	400' FROM STOP BAR	9' X 18'	PRESENCE				1	EB EXT	ANGULAR DD
L-2	200' FROM STOP BAR	9' X 18'	PRESENCE				2	EB EXT	ANGULAR DD
L-3	AT STOP BAR	6' X 25'	PRESENCE				3	EB LEFT	POWERHEAD
L-4	AT STOP BAR	6' X 25'	PRESENCE				6	WB LEFT	POWERHEAD
L-5	200' FROM STOP BAR	9' X 18'	PRESENCE				7	WB EXT	ANGULAR DD
L-6	400' FROM STOP BAR	9' X 18'	PRESENCE				8	WB EXT	ANGULAR DD









LEGEND

- EXISTING NO WORK
- EXISTING REMOVE
- NEW/ADD
- REERECT

See Sheet 56 For All pavement Marking Quantities

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CNC
CHECKED

SIGNAL, PAVEMENT MARKING & SIGNING PLAN
US 224 AND SR 43
POR-224-0.00

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Prop. Transverse Lines
Prop. Edge Lines
Remove from pole @ Sta. 225+97.4, 6' Lt.
S-20
Reerected from Sta. 225+97.4 to Sta. 227+35, 53' Lt.
S-19
WRONG WAY
ONLY
ONLY ONLY
R3-H8B-48
Erect @ Sta. 227+35, 53' Lt.
S-23
201' Conduit
PB Sta. 227+94, 50' Lt.
T.P.S.
Prop. Transverse Lines
PB Sta. 225+93, 51' Lt.
Prop. Channelizing Lines
L-5
L-6
MATCH LINE STATION 224+50
MATCH LINE STATION 230+30
PB Removed Sta. 225+93, 15' Lt.
PB Removed Sta. 227+45, 14' Lt.
PB Removed Sta. 224+93, 14' Lt.
+00 Begin Taper To 8' Shoulder
+10 Begin Varied Shoulder Width
Prop. Edge Lines
PC Sta. 227+26.90
Remove from pole @ Sta. 225+97.4, 6' Rt.
S-22
Reerect from Sta. 225+97 to Sta. 227+35, 4' Rt.
S-21
RJ-H8B-48
Erect @ Sta. 227+35, 4' Rt.
S-24

LEGEND
EXISTING NO WORK
EXISTING REMOVE
NEW/ADD
REERECT

See Sheet 56 For All pavement Marking Quantities

Prop. Transverse Lines
℄ WB Lanes
Prop. Edge Lines
Match Existing Markings
MATCH LINE STATION 230+30
℄ R/W & Constr. US 224
S 86° 59' 58" E
P.I. STA. 230+38.77
D = 5° 47' 41" (RT)
+38.77 (RT)

CALCULATED CNC
CHECKED
0 10 20 40 HORIZONTAL SCALE IN FEET

SIGNAL, PAVEMENT MARKING & SIGNING PLAN
US 224 AND SR 43

POR-224-0.00

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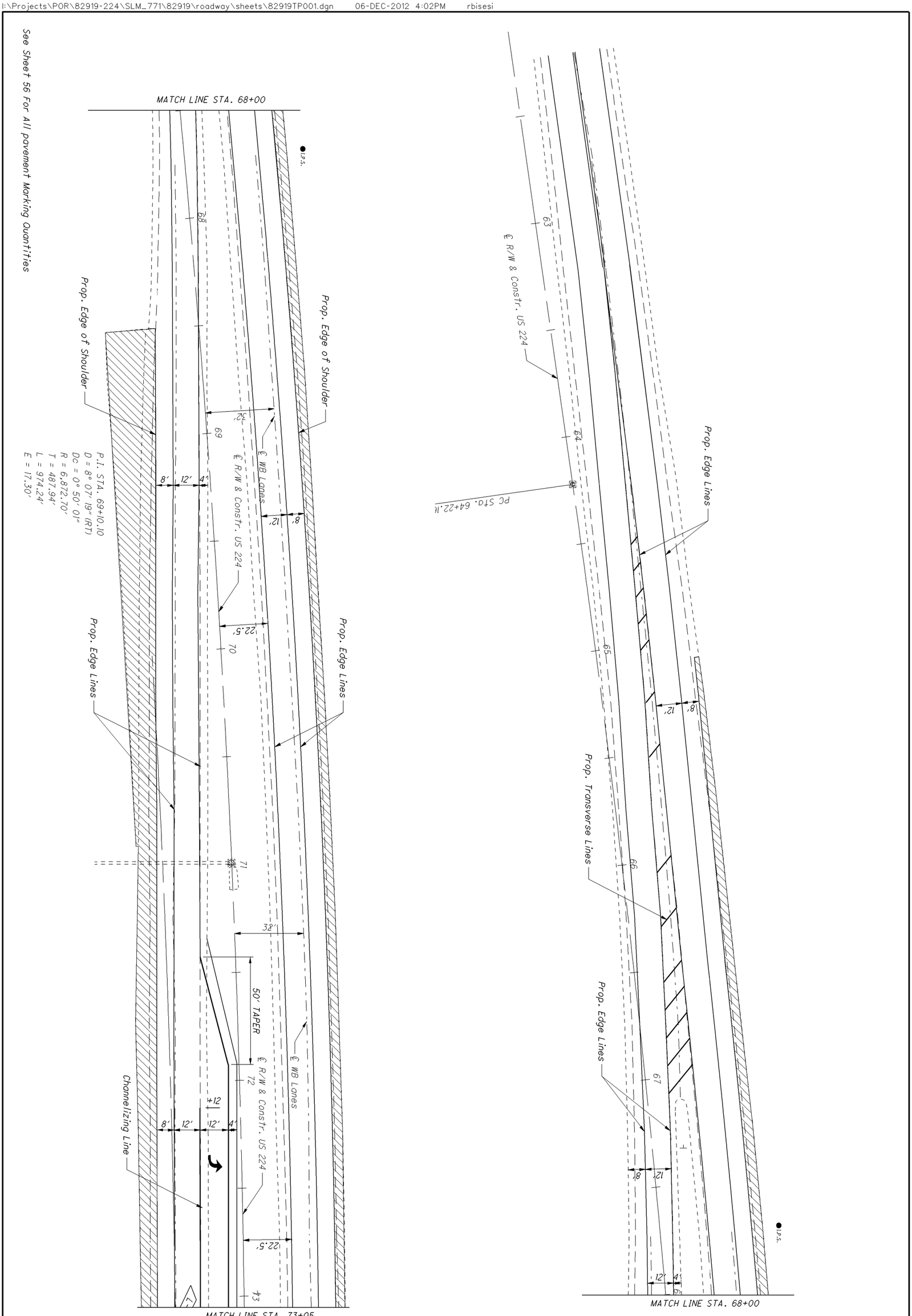
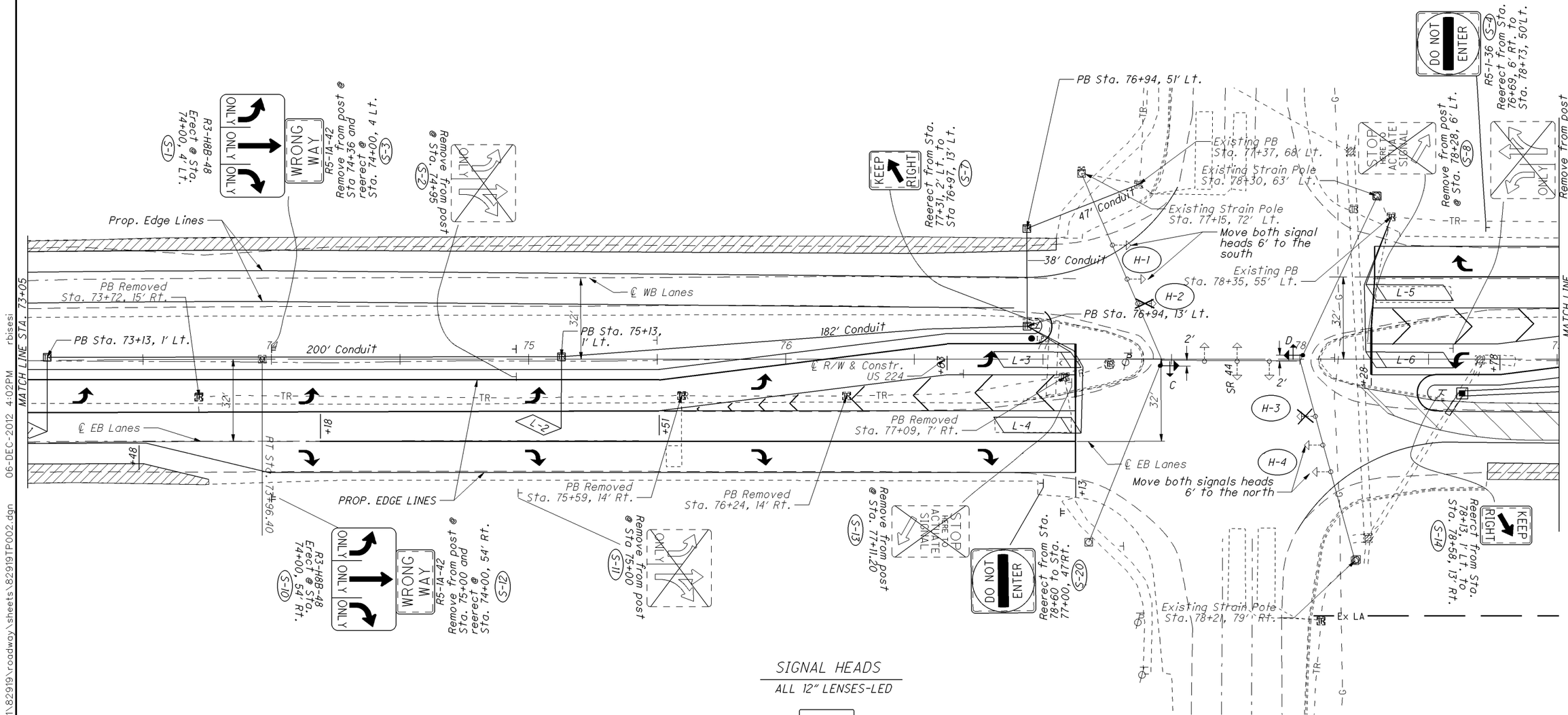


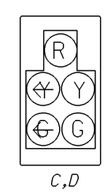
54B / 62	POR-224-0.00	SIGNAL, PAVEMENT MARKING & SIGNING PLAN US 224 AND SR 44	CALCULATED CNC CHECKED	0 10 20 40 HORIZONTAL SCALE IN FEET

LOOP #	LOCATION	SIZE	TYPE		DELAY	DELAY INHIBITED BY	LOOP UNIT	DESCRIPTION	STYLE
L-1	400' FROM STOP BAR	9' X 18'	PRESENCE				1	EB EXT	ANGULAR DD
L-2	200' FROM STOP BAR	9' X 18'	PRESENCE				2	EB EXT	ANGULAR DD
L-3	AT STOP BAR	6' X 25'	PRESENCE		5	ϕ1	3	EB LEFT	POWERHEAD
L-4	AT STOP BAR	6' X 30'	PRESENCE		5	ϕ2	4	EB THRU	POWERHEAD
L-5	AT STOP BAR	6' X 30'	PRESENCE		5	ϕ2	5	WB THRU	POWERHEAD
L-6	AT STOP BAR	6' X 25'	PRESENCE		5	ϕ1	6	WB LEFT	POWERHEAD
L-7	205' FROM STOP BAR	9' X 18'	PRESENCE				7	WB EXT	ANGULAR DD
L-8	330' FROM STOP BAR	9' X 18'	PRESENCE				8	WB EXT	ANGULAR DD



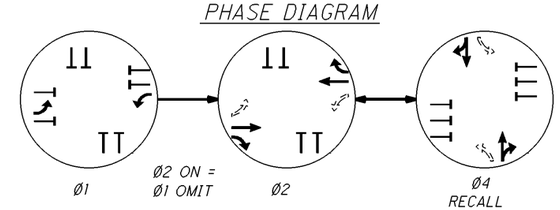
SIGNAL HEADS

ALL 12" LENSES-LED



C,D

PHASE DIAGRAM



LEGEND

- EXISTING NO WORK
- EXISTING REMOVE
- NEW/ADD
- REERECT

See Sheet 56 For All pavement Marking Quantities

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED CNC CHECKED

SIGNAL, PAVEMENT MARKING & SIGNING PLAN
US 224 AND SR 44

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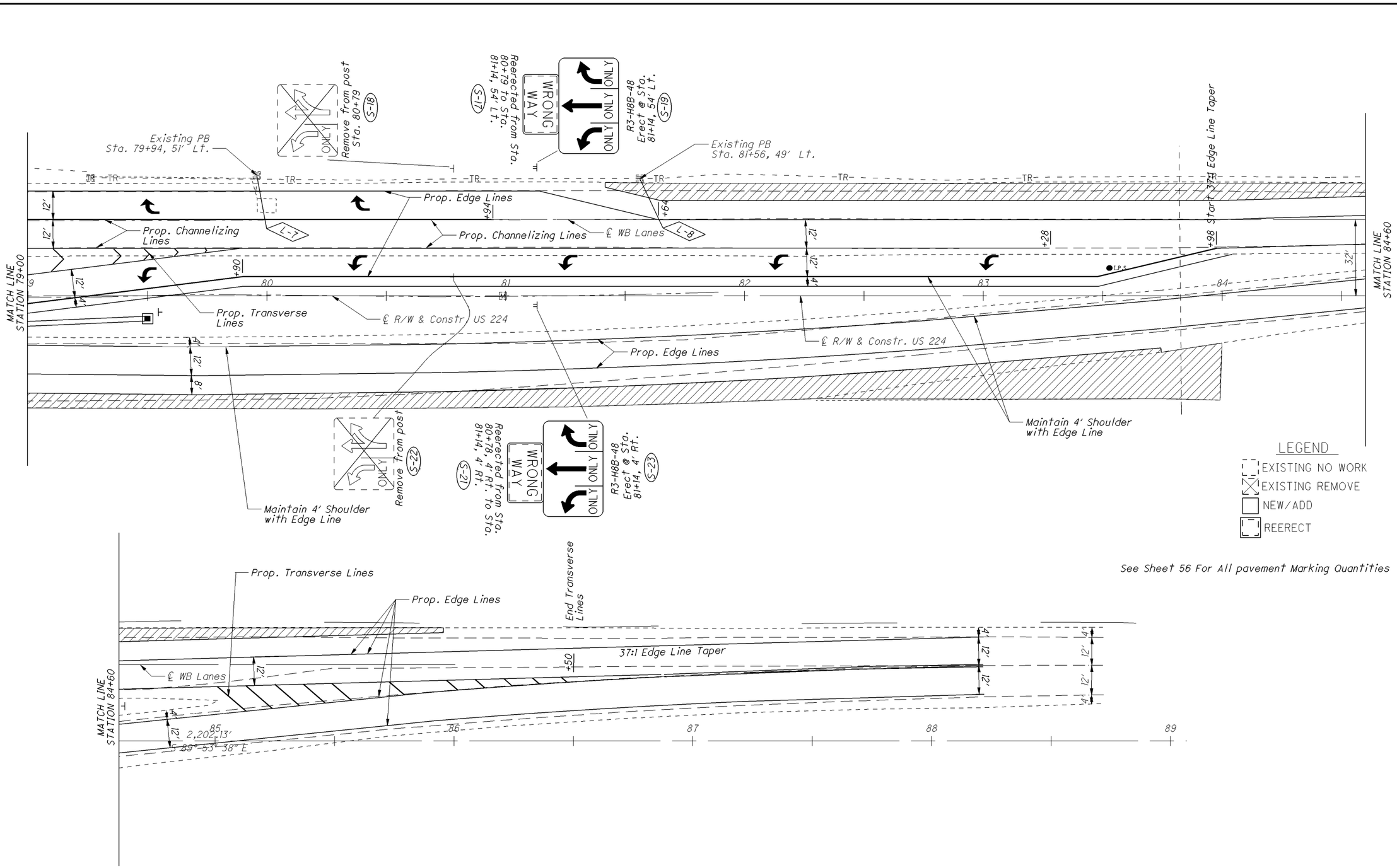

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CNC CHECKED

SIGNAL, PAVEMENT MARKING & SIGNING PLAN US 224 AND SR 44

POR-224-0.00

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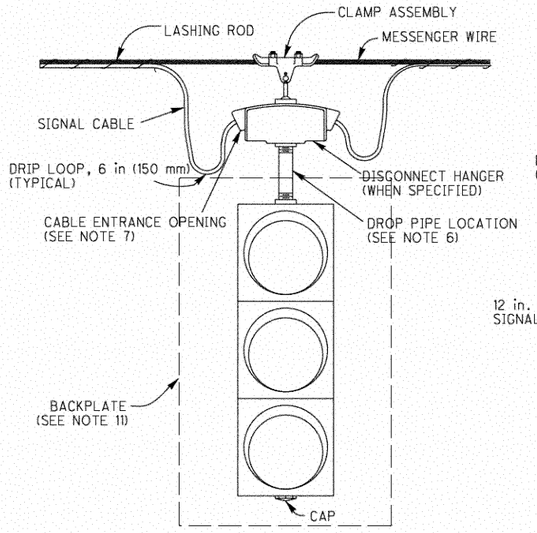
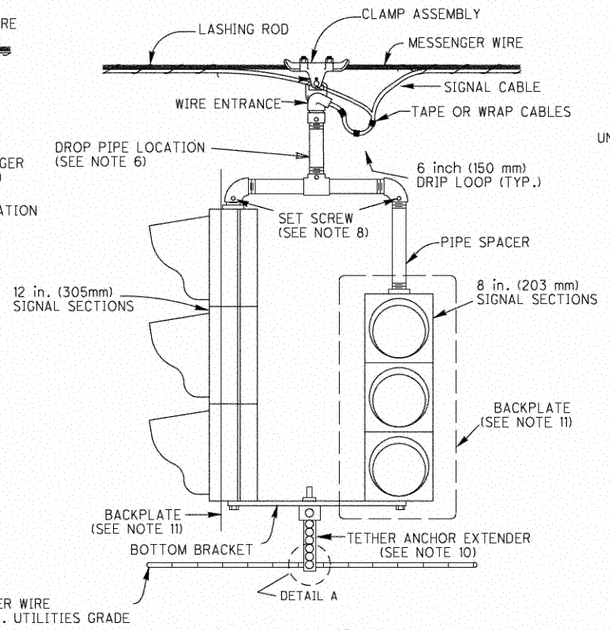
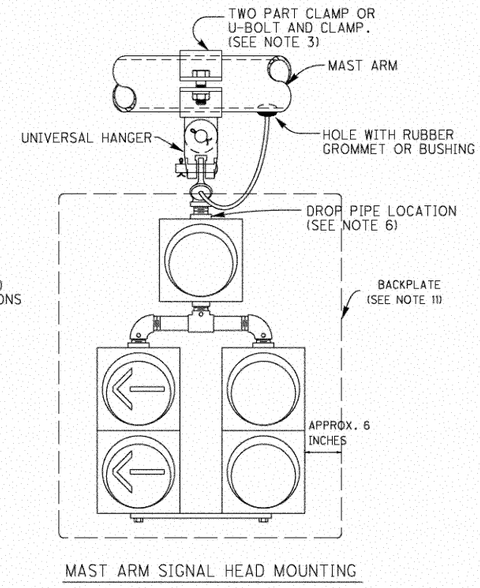


SIGNAL HEAD SUSPENSION WITH DISCONNECT



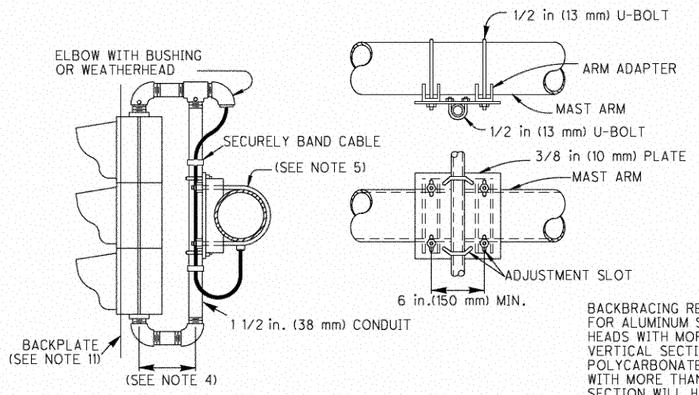
SIGNAL HEAD SUSPENSION



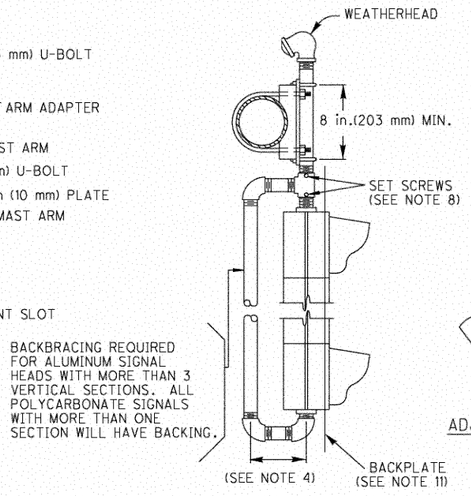
MAST ARM SIGNAL HEAD MOUNTING

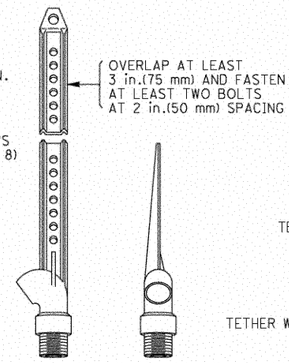
NOTES

1. Signal head conduit brackets and conduit fittings shall be galvanized and painted to match the body of the signal head.
2. All signal head assemblies shall be installed in a plumb position and perpendicular to the approach lane.
3. The mast arm clamp shall have a minimum strenght at yield to support a 200 pound (900 Killigrams) load.
4. A minimum of 17 inches (430 millimeters) is required for optically programmed signal heads and a minimum of 6 inches (150 millimeters) for standard signal heads.
5. Alternate rigid signal head mounting devices for mast arms may be approved by the Engineer upon demonstration that they provide adequate rigidity, equal range of adjustment and can be tightened sufficiently to prevent movement and loosening under vibration.
6. Signal heads shall be installed with a clearance above pavement elevation at the center of the roadway of 16 feet (4.9 meters) minimum, 18 feet (5.5meters) maximum, 17-19 feet (5.2-5.8 meters) if tethered. It is intended that this clearance be obtained without the use of drop pipes, but rather by the careful selection of foundation heights, attachment heights, arm rise, span wire sag, and other factors during the installation. If the installation cannot be adjusted to the proper clearance the contractor shall advise the engineer of all signals which exceed the maximum. The engineer will, in consultation with the maintaining agency, direct the use of drop pipes or waive the maximum clearance requirement for each head. If drop pipes are necessary, adjustable signal hangers as detailed may be used.
7. Cable entrance openings on disconnect hangers shall rigidly clamp cable to prevent movement of the cable within the enclosure.
8. Signal head rotation shall be prevented by the use of serrated rigns, set screws or other positive devices incorporated in the signal housing and at critical locations in the supporting hardware.
9. All conductors shall have adequate clearance between hangers, thimbles, bullrings, etc. in order to avoid damage from rubbing.
10. When tether wire is used, breakaway tether anchor shall be installed in bottom bracket as shown, directly beneath signal hanger. Tether anchor extender shall be used if there is interference between backplate and tether wire. See detail.
11. All backplates shall have 2 inch (0.50 millimeters) yellow reflective border



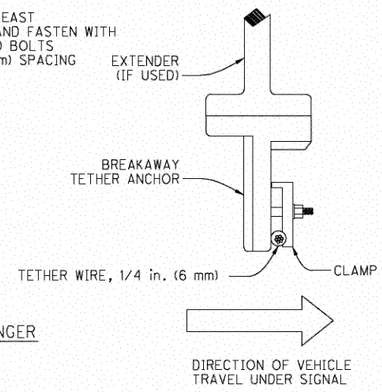
RIGID SIGNAL HEAD MOUNTING FOR MAST ARMS





ADJUSTABLE SIGNAL HANGER

(SEE NOTE 6)



DETAIL A: BREAKAWAY TETHER ANCHOR ASSEMBLY DETAIL

LAM

SIGNAL DETAILS

OVERHEAD SIGNAL ATTACHMENTS 01-15-10

OFFICE OF TRAFFIC ENGINEERING

TC-85.20

1 / 1

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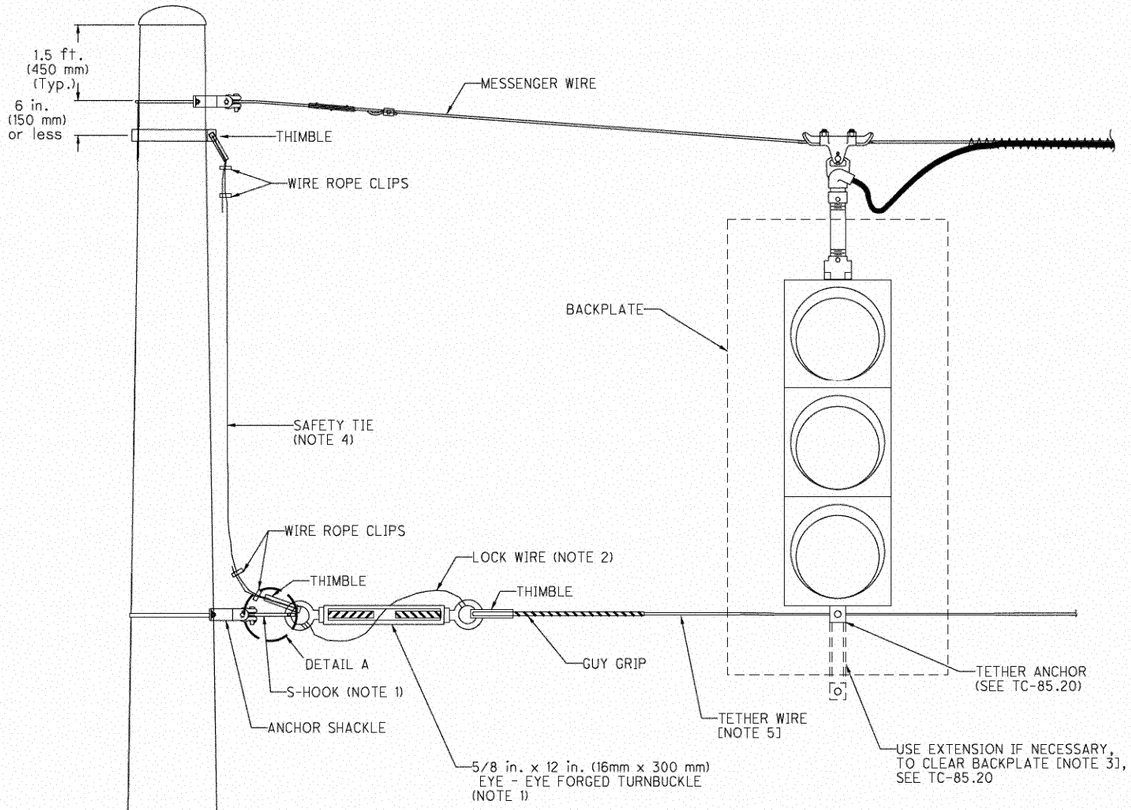

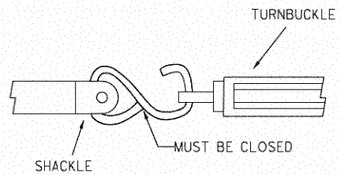

DETAIL A

(TOP VIEW)

NOTES

1. S-Hook is matched to the strain pole design number (see table). S-Hook and turnbuckle are required only at one end of simple spans, all ends of complex spans. S-hook shall be closed at pole end.
2. Lock wire shall be stainless steel, 1/8 inch (3 millimeters) soft temper, wound to prevent turning of turnbuckle body.
3. If signal orientation is not perpendicular to span and tether wire, then use an anchor extension.
4. Install safety tie at each turnbuckle. This wire shall be 1x19, 1/8 inch (3 millimeters) stainless steel. Tie should be slack, but not so slack as to contact pole. Use 2 clips per end at 3-1/4 inch (80 millimeters) spacing.
5. Tether wire shall be ASTM A475 Utilities Grade 1/4 inch (6 millimeters). On all spans, install tether horizontally. Maintain clearance of 17 feet (5.2 meters) to 19 feet (5.8 meters) over roadway.

Strain Pole Design No.	Galvanized Mild Steel S-Hook Wire Diameter (Inches)	Galvanized Mild Steel S-Hook Wire Diameter (mm)
1	1/4	6
2	1/4	6
3	1/4	6
4	1/4	6
5	1/4	6
6	3/8	10
7	3/8	10
8	3/8	10
9	3/8	10
10	3/8	10
11	1/2	13
12	1/2	13

1-15-10

SIGNAL TETHER ATTACHMENTS

OFFICE OF TRAFFIC ENGINEERING

TC-85.21

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KRS

CALCULATED
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SIGNAL DETAILS

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CENTER LINE

GENERAL SPEC: 640
MATERIAL TYPE: 644

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
POR	224	0.00	SUMMIT COUNTY LINE	12.99	JCT. SR 183	13.39	13.03	
TOTAL						13.39	13.03	

LANE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	4" LANE LINE DASHED	4" LANE LINE SOLID	COMMENTS
POR	224	7.50	BEGIN 4 LANE	7.82	END 4 LANE	0.64			
POR	224	9.15	BEGIN 4 LANE	9.69	END 4 LANE	1.08			
TOTAL						1.72			

EDGE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE TOTAL	WHITE EDGE LINE HIGHWAY	WHITE EDGE LINE RAMP	YELLOW EDGE LINE TOTAL	YELLOW EDGE LINE HIGHWAY	YELLOW EDGE LINE RAMP	COMMENTS
POR	224	0.00	SUMMIT COUNTY LINE	7.50	BEGIN 4 LANE	15.00	15.00					
POR	224	7.50	BEGIN 4 LANE	7.82	END 4 LANE	0.64	0.64		0.64	0.64		
POR	224	7.82	END 4 LANE	9.15	BEGIN 4 LANE	2.66	2.66					
POR	224	9.14	BEGIN 4 LANE	9.69	END 4 LANE	1.10	1.10		1.10	1.10		
POR	224	9.69	END 4 LANE	12.92	BEGIN CONC. ISLAND	6.46	6.46					
POR	224	12.92	BEGIN CONC. ISLAND	12.99	JCT. SR 183	0.20	0.14	0.06	0.20	0.14	0.06	
TOTAL						26.06	26.00	0.06	1.94	1.88	0.06	

AUXILIARY

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE	STOP LINE	TRANSVERSE DIAGONAL LINES WHITE	TRANSVERSE DIAGONAL LINES YELLOW	CROSS WALK LINES	WORD ON PVMT ONLY 72"	WORD ON PVMT ONLY 96"	LANE ARROWS TURN LEFT	LANE ARROWS TURN RIGHT	LANE ARROWS THRU	LANE ARROWS COMB.	SYMBOL MARKINGS RxR	SYMBOL MARKINGS SCHOOL 72"	SYMBOL MARKINGS SCHOOL 96"	ISLAND MARKING	DOTTED LINES	COMMENTS
			FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	FT	
POR	US 224 @ SR 532	0.000	130	29		100				3									
POR	US 224 @ MARTIN RD.	0.533	615			380				8									
POR	US 224 @ SR 43	2.416	1723	128		192				16	10								
POR	US 224 CONGRESS LAKE	3.364	595			340				8									
POR	US 224 @ WATERLOO	6.242	685			380				8									
POR	US 224 @ SR 44	7.701	1640	100		192				12	7								
POR	US 224 @ NEW MILFORD	9.410				80													
POR	US 224 @ WATERLOO	9.550				120													
POR	US 224 @ SR 183	12.990		24															
TOTAL			5388	281		1784				55	17								

CALCULATED CNC CHECKED

PAVEMENT MARKING SUB SUMMARY

POR-224-0.00

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LOCATION								621	621	621	621		621	REMARKS
COUNTY	ROUTE	SECTION (S.L.M.)						RPM, LOW PROFILE, YELLOW/YELLOW	RPM, LOW PROFILE WHITE/RED	RPM, LOW PROFILE, WHITE	RPM, LOW PROFILE YELLOW/RED		RAISED PAVEMENT MARKER REMOVED	
		FROM	TO					EACH	EACH	EACH	EACH		EACH	
POR	224	0.00	0.11					19	6	16			41	
POR	224	0.11	0.32					14					14	
POR	224	0.32	0.76					48	15				63	
POR	224	0.76	2.22					100					100	
POR	224	2.22	2.42					18	30	5			53	
POR	224	2.42	2.62					19	43	5			67	
POR	224	2.62	3.17					36					36	
POR	224	3.17	3.58					42	15				57	
POR	224	3.58	3.85					18					18	
POR	224	3.85	6.01					143					143	
POR	224	6.01	6.47					47	16				63	
POR	224	6.47	7.43					63					63	
POR	224	7.43	7.90					37	42	32			111	
POR	224	7.90	9.10					80					80	
POR	224	9.10	9.76					10	80				90	
POR	224	9.76	12.99					213					213	
TOTALS CARRIED TO GENERAL SUMMARY				0	0	0	0	907	247	58	0	0	1212	

CALCULATED CNC CHECKED

RAISED PAVEMENT MARKING SUB SUMMARY

POR-224-0.00

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 04/18/03

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH, INCLUDING THE 2002 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

EXISTING STRUCTURE VERIFICATION

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 CMS 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 WHICH HAVE BEEN VERIFIED IN THE FIELD.

PROPOSED WORK - POR-224-0106 (OVER WLE RR)

- PATCH THE EXISTING CONCRETE WEARING SURFACE ON THE BRIDGE DECK
- SEAL THE REPAIRED WEARING SURFACE WITH SRS CONCRETE TREATMENT
- REMOVE THE EXISTING ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- PLACE NEW ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- CLEANOUT THE EXISTING SCUPPERS
- REPAIR DEFECTS AND LOSS OF SECTION IN THE STEEL BEAMS
- PAINT THE LAST 10' OF THE BEAM ENDS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
- REPAIR EROSION BEHIND THE REAR WING WALLS
- SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, BACK WALLS, WING WALLS AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' OF THE STRUCTURE FOR SEALING OPERATIONS
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - POR-224-0831 (OVER BR CONGRESS LAKE OUTLET)

- SEE ROADWAY PLANS FOR PAVING DETAILS
- PAVE THE EXISTING INVERT WITH CONCRETE
- CHANNEL CLEANOUT 20' AT THE INLET AND OUTLET
- CLEARING AND GRUBBING 15' OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - POR-224-1171 (OVER STROUP ROAD)

- PATCH THE EXISTING CONCRETE WEARING SURFACE ON THE BRIDGE DECK AND APPROACH SLABS
- SEAL THE REPAIRED WEARING SURFACE AND APPROACH SLABS WITH SRS CONCRETE TREATMENT
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, WING WALLS AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - POR-224-1189 (OVER NS RR)

- PATCH THE EXISTING CONCRETE WEARING SURFACE ON THE BRIDGE DECK
- SEAL THE REPAIRED WEARING SURFACE WITH SRS CONCRETE TREATMENT
- REMOVE THE EXISTING ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- PLACE NEW ASPHALT CONCRETE OVERLAY ON THE APPROACH SLABS
- CLEANOUT THE EXISTING SCUPPERS
- PAINT THE LAST 10' OF THE BEAM ENDS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE
- SEAL ALL EXPOSED CONCRETE SURFACES OF THE PARAPETS, ABUTMENTS, BACK WALLS, WING WALLS AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING 15' OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

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.

ITEM 202, REMOVAL MISC.: CHANNEL CLEANOUT

THIS WORK SHALL CONSIST OF RE-ESTABLISHING THE ORIGINAL CHANNEL PROFILE BY REMOVING SEDIMENT BUILDUP, VEGETATION, AND DEBRIS FROM THE EXISTING CHANNEL WITHIN STATE RIGHT-OF-WAY LIMITS AS SPECIFIED IN THE PLANS FOR STRUCTURES POR-224-0831. ANY TREES LOCATED WITHIN CHANNEL OR BANK LIMITS SHALL BE INCLUDED UNDER ITEM 201, CLEARING AND GRUBBING. ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17 OF THE CMS WITH THE APPROVAL OF THE ENGINEER. NO AREAS OF EXISTING CHANNEL PROTECTION SHALL BE REMOVED IN ORDER TO RESTORE THE ORIGINAL CHANNEL PROFILE. AFFECTED CHANNEL AREAS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CHANNEL CLEANOUT SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 202 REMOVAL MISC.: CHANNEL CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR LABOR, EQUIPEMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CHANNEL CLEANOUT.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

ITEM 203, BORROW

THIS ITEM WILL BE USED TO REPAIR EROSION BEHIND THE LEFT AND RIGHT REAR WING WALLS AT STRUCTURE POR-224-0106

BORROW WILL BE PAID FOR AT THE UNIT PRICE BID IN CUBIC YARDS FOR ITEM 203, BORROW. THIS PRICE WILL INCLUDE THE COST FOR MATERIAL, LABOR, EQUIPMENT AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 448 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN

703.05 DO NOT USE ANY FINE OR COARSE AGGREGATE WITH A 'SR' OR 'SRH' DESIGNATION ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

ITEM 513 - STRUCTURAL STEEL, MISC.: STEEL BEAM REPAIRS

AFTER ABRASIVE BLASTING OF THE STRUCTURAL STEEL HAS BEEN COMPLETED IN PREPARATION FOR PAINTING AND THE PRIME COAT OF PAINT APPLIED (WORK WILL CONFORM TO CMS 514) THE CONTRACTOR WILL EXAMINE THE CONDITION OF THE EXISTING BEAMS AT THE ABUTMENTS AND INTERMEDIATE JOINTS (IF THEY EXIST) AND MAKE THE NECESSARY REPAIR RECOMMENDATIONS.

THE STRUCTURAL STEEL REPAIR WORK WILL CONSIST OF REPAIRING THE DETERIORATED BEAMS BY THE ADDITION OF WELDED STEEL PLATES, STIFFENERS, ANGLES, ETC. ALL WORK WILL CONFORM TO CMS 513.

THESE TASKS, AS DIRECTED BY THE ENGINEER, WILL BE COMPLETED BEFORE THE INTERMEDIATE COAT OF PAINT IS APPLIED. THE CONTRACTOR WILL PROVIDE THE ENGINEER WITH THE REPAIR PROCEDURE AND FIELD MEASUREMENT CALCULATIONS IN DETERMINING THE ACTUAL QUANTITY OF WORK REQUIRED PER THE REQUIREMENTS NOTED BELOW.

1. THE POTENTIAL REPAIR AREAS WILL BE LIMITED TO 10 FEET FROM THE ABUTMENT BEARINGS AND 10 FEET IN EACH DIRECTION FROM INTERMEDIATE JOINTS (IF THEY EXIST).
2. FLANGE AREA PERFORATIONS WILL BE REPAIRED.
3. USING A UT THICKNESS GAUGE, THE CONTRACTOR WILL QUANTIFY THE AREA OF SECTION LOSS FOR EACH BRIDGE. THE REPAIR AREA WILL BE IDENTIFIED USING A 4" x 4" WEB GRID. THE THINNEST STEEL WITHIN EACH GRID AREA WILL BE NOTED. MEASUREMENTS WILL BE RECORDED AND A COPY SUBMITTED TO THE ENGINEER.
4. ANY AREA 8" HIGH x 4" WIDE WITH 30% AVERAGE SECTION LOSS ON THE WEB WILL BE REPAIRED.
5. SECTION LOSS MORE THAN 50% FOR AN AREA GREATER THAN 8" HIGH x 4" WIDE WILL BE REPAIRED FOR THE FULL HEIGHT OF THE WEB.
6. USE THE MOST READILY AVAILABLE STEEL MATERIAL THICKNESS THAT IS AT MINIMUM EQUAL TO THE ORIGINAL THICKNESS OF THE BEAM/GIRDER SECTION TO BE REPAIRED.
7. NEW STEEL MATERIAL WILL BE SHOP PRIMED.
8. AREAS OF SECTION LOSS LOCATED BEHIND THE BACK SIDE OF THE BEARING, BETWEEN THE BEARING LOAD PLATE AND BACKWALL WILL NOT BE REPAIRED.
9. AFTER THE REPAIRS HAVE BEEN COMPLETED, REPAIR ALL DAMAGED AREAS OF THE PRIME COAT IN ACCORDANCE WITH CMS 514.22.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES BASED UPON ACTUAL DETAILS AND DIMENSIONS AT UNIT PRICE (POUND) BID FOR ITEM 513 - STRUCTURAL STEEL, MISC.: STEEL BEAM REPAIRS.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
AAG	AAG	LMP	09/12/12
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMP			

STRUCTURE GENERAL NOTES

BRIDGE NO.: POR-224-0106, POR-224-0831, POR-224-1171 & POR-224-1189
SFN: 6703755, 6703844, 6703909 & 6703933

POR-224-0.00
PID No. 82919

06-DEC-2012 4:03PM rbissei
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ITEM 514 - PARTIAL PAINTING OF STRUCTURAL STEEL

PAINT THE LAST 10' OF EACH BEAM/GIRDER END ADJACENT TO THE ABUTMENTS INCLUDING ALL CROSS FRAMES AND OTHER STEEL WITHIN THESE LIMITS

THE COLOR FOR THE FINISHED COAT OF STRUCTURE(S) POR-224-0106 AND POR-224-1189 WILL CONFORM TO FEDERAL COLOR NUMBER 595B-25526 (BLUE).

ITEM 518 - SCUPPER MISC.: CLEANOUT

THIS WORK WILL CONSIST OF REMOVING ALL DEBRIS FROM ON TOP AND INSIDE OF THE SCUPPERS. SCUPPER CLEANOUT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 518, SCUPPER MISC.: CLEANOUT. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN: PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 603 - FIELD PAVING OF EXISTING PIPE - POR-224-0831

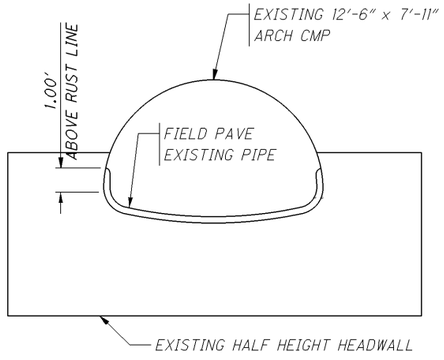
FIELD PAVE THE EXISTING 12'-6"x7'-11" SECTIONAL CORRUGATED PLATE PIPE ARCH CULVERT. THE CONTRACTOR WILL PAVE THE BOTTOM OF THE EXISTING PIPE AS SHOWN IN THE DETAIL WITH CLASS C PORTLAND CEMENT CONCRETE AS PER CMS 603.13.

AREAS TO BE PAVED WILL BE CLEANED TO REMOVE ALL DEBRIS AND SEDIMENT AND WILL BE PAID FOR UNDER ITEM SPECIAL - PIPE CLEANOUT.

THE CONTRACTOR WILL BE REQUIRED TO USE ITEM 503 - COFFERDAMS AND EXCAVATION BRACING (CRIBS, AND SHEETING) TO DEWATER THE EXISTING PIPE PRIOR TO THE PREPARATION AND FIELD PAVING. AFTER THE PIPE HAS BEEN CLEANED OF ALL DEBRIS AND SEDIMENT, NO WATER WILL BE ALLOWED TO CONTAMINATE THE PIPE. IF ANY CONTAMINATION OCCURS, THE CONTRACTOR WILL RESEAL THE AREA AND RECLEAN THE PIPE AT NO ADDITIONAL COST.

ALL EROSION UNDER THE PIPE AND IN THE VOIDS WHERE THE PIPE IS RUSTED THROUGH WILL BE FILLED WITH ITEM 613 - LOW STRENGTH MORTAR BACKFILL.

ANY TREES LOCATED WITHIN 15' OF THE HEADWALLS THAT MAY POTENTIALLY DAMAGE THE CULVERT IN THE FUTURE OR ENCROACH UPON THE STREAM BED OR FIELD PAVING OPERATIONS WILL BE REMOVED. REMOVAL WILL BE DETERMINED BY THE PROJECT ENGINEER AND REMOVED UNDER ITEM 201 - CLEARING AND GRUBBING.



OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS

OBJECT MARKERS WILL BE PLACED ON EACH APPROACH OFF THE LEFT AND RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. ONE OM-3L AND ONE OM-3R WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 10.5 FT IN LENGTH.

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
POR-224-0106 (2 APPROACHES)
POR-224-1171 (2 APPROACHES)
POR-224-1189 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - SIGN, FLAT SHEET, 6 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 21 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 3 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 2 EACH

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
POR-224-0831 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

CORRECTING BRIDGE IDENTIFICATION SIGN NUMBERS:

SOME OF THE EXISTING BRIDGE NUMBER SIGNS HAVE INCORRECT BRIDGE NUMBERS ON THEM. THE FOLLOWING BRIDGE NUMBERS ARE THE CORRECT ONES AND WILL BE USED ON THE NEW BRIDGE IDENTIFICATIONS SIGNS.

STRUCTURE POR-224-0106 (SFN:6703755) THE EXISTING SIGN SHOWS 0104. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0106.

STRUCTURE POR-224-0831 (SFN:6703844) THE EXISTING SIGN SHOWS 830. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0831.

STRUCTURE POR-224-1171 (SFN:6703909) THE EXISTING SIGN SHOWS 1172. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1171.

WATERWAY PERMIT DETERMINATION (404/401) - ODOT PROJECTS

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. THE ODOT-OES WATERWAY PERMIT UNIT DETERMINED THE PROJECT MEETS THE CRITERIA FOR REGIONAL GENERAL PERMIT (RGP)-SECTION B (MAINTENANCE) AND SECTION C (TEMPORARY CONSTRUCTION, ACCESS, AND DEWATERING) BASED UPON THE ANTICIPATED IMPACTS TO STREAMS AND WETLANDS. THE WATERWAY PERMIT CONDITIONS ARE PROVIDED IN THE SPECIAL PROVISIONS PACKAGE. ALL CONDITIONS SHALL BE ADHERED TO DURING CONSTRUCTION. ALSO, PER CONDITION 9 OF THE WATERWAY PERMIT CONDITIONS, A COPY OF THE RGP IS TO BE KEPT AT THE WORK SITE AT ALL TIMES. A COPY OF THE RGP WILL BE PROVIDED TO THE CONTRACTOR BY ODOT PERSONNEL AT THE PRECONSTRUCTION MEETING.

BEST MANAGEMENT PRACTICES

ALL MATERIALS REMOVED FROM STREAM CHANNELS, WETLANDS AND DITCHES SHALL BE IMMEDIATELY REMOVED TO AN UPLAND SITE AND STABILIZED (I.E., SEEDED) TO PREVENT REDISTRIBUTION INTO ANY WATERS OF THE UNITED STATES. THE CONTRACTOR SHALL UTILIZE AN APPROVED DISPOSAL SITE FOR THE DISPOSAL OF ALL WASTE FILL MATERIAL. THE APPROVED DISPOSAL SITE SHALL NOT INCLUDE ANY WETLANDS, STREAM BANKS OR RIVERBANKS OR ANY 100-YEAR FLOOD PLAINS.

ADJACENT RIPARIAN HABITAT SHALL BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE. EQUIPMENT AND MATERIAL STAGING AREAS SHALL BE KEPT AWAY FROM STREAMS, RIVERS, WETLANDS AND OTHER WATERS OF THE UNITED STATES TO EXTENT PRACTICABLE AND ALL AREAS DISTURBED BY THE PROJECT SHALL BE STABILIZED TO DECREASE THE POTENTIAL FOR EROSION. ALL DISTURBED AREAS SHALL BE MULCHED AND REVEGETATED WITH NATIVE PLANTS.

THE MECHANICAL EQUIPMENT USED TO EXECUTE THE WORK IN STREAM CHANNELS AND WETLANDS SHALL BE OPERATED IN SUCH A MANNER AS TO MINIMIZE TURBIDITY THAT COULD DEGRADE WATER QUALITY AND ADVERSELY AFFECT AQUATIC PLANT AND ANIMAL LIFE.

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT CONSTRUCTION AND DEMOLITION DEBRIS FROM ENTERING STREAMS AND WETLANDS. ANY DEBRIS THAT DOES FALL INTO THE STREAMS SHALL BE REMOVED AS SOON AS POSSIBLE.

PAINTING AND SEALING OPERATIONS

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT EPOXY-URETHANE SEALER, PAINT, OR OTHER MATERIALS USED TO REPAIR, CLEAN, SEAL, OR TREAT ANY BRIDGE STRUCTURE FROM ENTERING ANY STREAMS, WETLANDS OR OTHER WATERS OF THE UNITED STATES AND TAKE THE APPROPRIATE ACTIONS IN THE EVENT OF A RELEASE.

STREAM AVOIDANCE AT BRIDGE NO. POR-224-1171

STREAM 5 FLOWS EAST ALONG THE NORTH SIDE OF US ROUTE 224 PRIOR TO DISCHARGING INTO THE CONCRETE-LINED DITCH ON THE WEST SIDE OF STROUP ROAD. FROM THERE, STREAM 5 FLOWS SOUTH WITHIN THE CONCRETE-LINED DITCH, TRAVELS UNDER BRIDGE NO. POR-224-1171 AND EVENTUALLY LEAVES THE ROADWAY RIGHT-OF-WAY AND TURNS INTO A NATURAL CHANNEL AGAIN. NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED BELOW THE ORDINARY HIGH WATER MARK OF STREAM 5. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIAL IN, OR OTHERWISE IMPACT STREAM 5.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

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LMP			

STRUCTURE GENERAL NOTES
BRIDGE NO.: POR-224-0106, POR-224-0831, POR-224-1171 & POR-224-1189
SFN: 6703755, 6703844, 6703909 & 6703933

POR-224-0.00
PID No. 82919

CALC:	AAG	DATE:	6/8/2012
CHECKED:	LMP	DATE:	6/22/2012

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
POR-224-0106 SFN 6703755 04/NHS/BR/		POR-224-0831 SFN 6703844 05/STR/BR/		POR-224-1171 SFN 6703909 05/STR/BR/		POR-224-1189 SFN 6703933 05/STR/BR/						
LUMP		LUMP		LUMP		LUMP		201	11000		CLEARING AND GRUBBING	
173						239		202	23500	SQ YD	WEARING COURSE REMOVED	
		112						SPEC	20270100	FT	PIPE CLEANOUT	1 / 5
		40						202	98200	FT	REMOVAL MISC.: CHANNEL CLEANOUT	1 / 5
10								203	40000	CU YD	BORROW	
14						20		407	10000	GALLON	TACK COAT	
6						9		448	46901	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22, AS PER PLAN	1 / 5
		LUMP						503	11100		COFFERDAMS AND EXCAVATION BRACING	
548				483		732		512	10100	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
509				747		831		512	10400	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
548				483		732		512	74000	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
600								513	90000	POUND	STRUCTURAL STEEL, MISC.: STEEL BEAM REPAIRS	1 / 5
LUMP						LUMP		514	00100		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
LUMP						LUMP		514	00200		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
LUMP						LUMP		514	00300		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
LUMP						LUMP		514	00400		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
2						2		514	00504	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
1						1		514	10000	EACH	FINAL INSPECTION REPAIR	
16						16		518	12500	EACH	SCUPPER, MISC.: CLEANOUT	2 / 5
16				23		25		SPEC	51912304	SQ YD	PATCHING CONCRETE BRIDGE DECK - TYPE C	
150				100		150		519	11101	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2 / 5
		112						603	96550	FT	FIELD PAVING OF EXISTING PIPE, 12'-6"x7'-11" SECTIONAL CORRUGATED PLATE PIPE ARCH	2 / 5
		1						613	41200	CU YD	LOW STRENGTH MORTAR BACKFILL	
42		15		42		42		630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
2		2		2		2		630	80100	SQ FT	SIGN, FLAT SHEET, 730.20	
12				12		12		630	80100	SQ FT	SIGN, FLAT SHEET	
6		2		6		6		630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
4		2		4		4		630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
100				75		100		843	50000	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

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LMP			

STRUCTURE ESTIMATED QUANTITIES
BRIDGE NO.: POR-224-0106, POR-224-0831, POR-224-1171 & POR-224-1189
SFN: 6703755, 6703844, 6703909 & 6703933

POR-224-0.00
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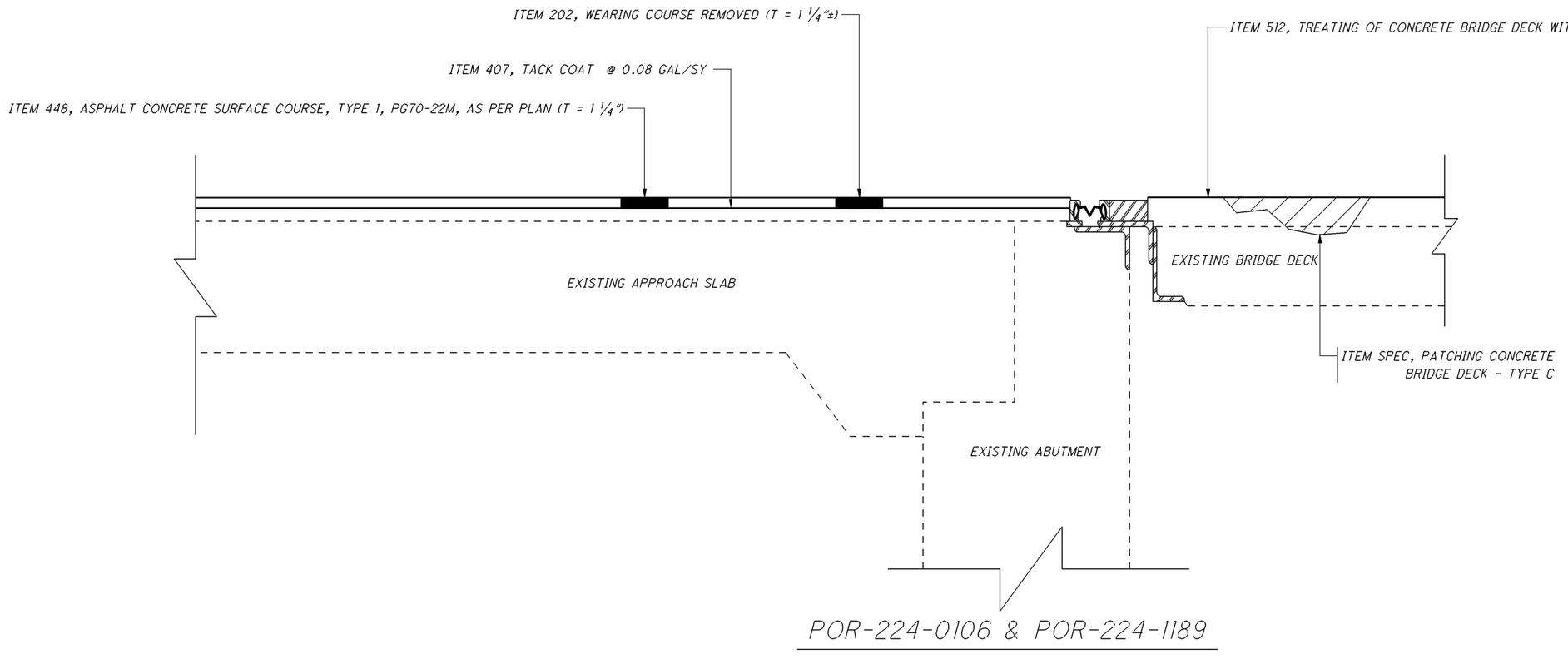

POR-224-0106 & POR-224-1189

APPROACH SHOWN;
TRAILING SIMILAR

BRIDGE NUMBER	BRIDGE DECK												APPROACH SLABS												
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	512 TREATING OF CONCRETE BRIDGE DECK WITH SRS	SPEC PATCHING CONCRETE BRIDGE DECK - TYPE C								LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	202 WEARING COURSE REMOVED (T = 1 1/4"±)	407 TACK COAT @ 0.08 GAL/SY	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M, AS PER PLAN (T = 1 1/4")	512 TREATING OF CONCRETE BRIDGE DECK WITH SRS	SPEC PATCHING CONCRETE BRIDGE DECK - TYPE C				
	FT	FT	SQ YD	SQ YD	SQ YD								FT	FT	SQ YD		SQ YD	GALLON	CU YD	SQ YD	SQ YD				
POR-224-0106	147.54	31.00	508.19	508.19	15.25								25.00	31.00	86.11	FWD	86.11	6.89	2.99						
													25.00	31.00	86.11	REAR	86.11	6.89	2.99						
POR-224-1171	125.00	43.33	601.85	601.85	18.06								15.00	43.33	72.22	FWD				72.22	2.17				
													15.00	43.33	72.22	REAR				72.22	2.17				
POR-224-1189	173.88	43.00	830.74	830.74	24.92								25.00	43.00	119.44	FWD	119.44	9.56	4.15						
													25.00	43.00	119.44	REAR	119.44	9.56	4.15						

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

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STRUCTURE DETAILS

BRIDGE NO.: POR-224-0106, POR-224-0831, POR-224-1171 & POR-224-1189
SFN: 6703755, 6703844, 6703909 & 6703933

POR-224-0.00
PID No. 82919

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06-DEC-2012 4:03PM rbisesi

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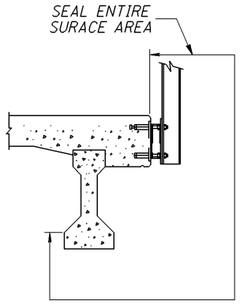
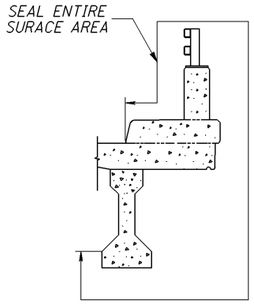
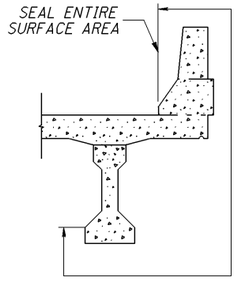


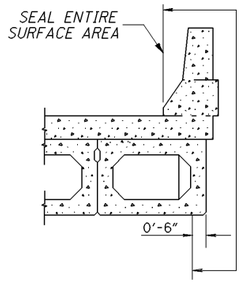
DETAIL A
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



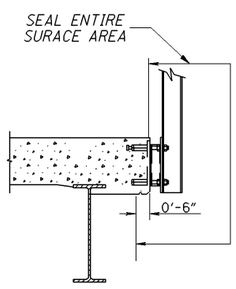
DETAIL B
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



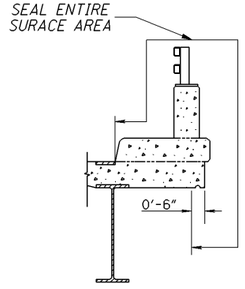
DETAIL C
CONCRETE DECK WITH
DEFLECTOR PARAPET



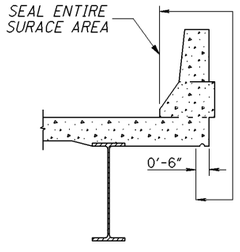
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



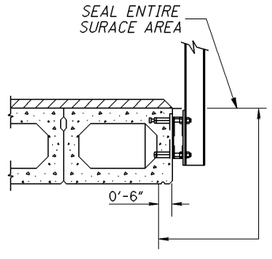
DETAIL E
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



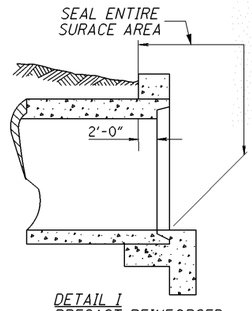
DETAIL F
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



DETAIL G
CONCRETE DECK WITH
DEFLECTOR PARAPET



DETAIL H
PRESTRESSED BOX BEAM DECK
WITH OVER THE SIDE DRAINAGE



DETAIL I
PRECAST REINFORCED
CONCRETE BOX CULVERT

BRIDGE NUMBER	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES				
				ABUT (SQ YD)	PIER (SQ YD)	SUPER (SQ YD)	GENERAL (SQ YD)	TOTAL (SQ YD)
POR-224-0106	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS OER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	94	205	249		548
POR-224-1171	3 SPAN CONTINUOUS SLAB BRIDGE	SEAL PARAPETS OER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	47	170	266		483
POR-224-1189	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS OER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	121	271	340		732

NOTES:
- EPOXY-URETHANE SEALER SHALL BE USED UNLESS SHOWN OTHERWISE
- DETAILS E, F, G AND H ALSO APPLY TO CONCRETE SLAB BRIDGES

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
AAG	AAG		
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LMP			

SEALING CONCRETE SURFACES DETAILS

BRIDGE NO.: POR-224-0106, POR-224-0831, POR-224-1171 & POR-224-1189
SFN: 6703755, 6703844, 6703909 & 6703933

POR-224-0.00
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