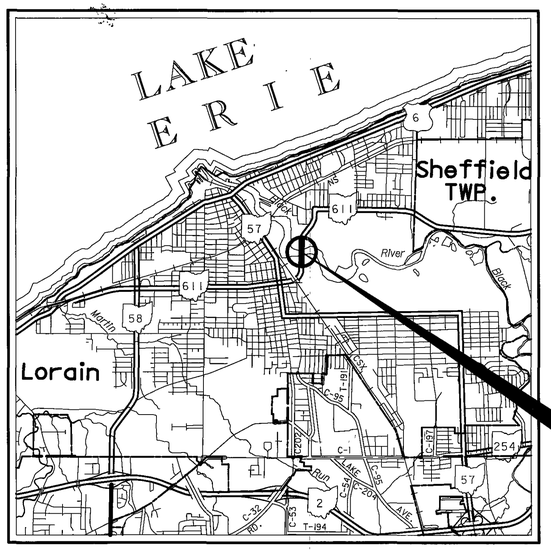


LOCATION MAP

LATITUDE: N 41°27'27" LONGITUDE: W 82°09'37"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2006)	15,320
DESIGN YEAR ADT (2026)	16,190
DESIGN HOURLY VOLUME (2026)	1619
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	2.5%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH

DESIGN FUNCTIONAL CLASSIFICATION - URBAN PRINCIPAL ARTERIAL

DESIGN EXCEPTIONS

NONE

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOR-611-3.58

CITY OF LORAIN
LORAIN COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

MINOR REHABILITATION AND PARTIAL PAINTING OF BRIDGE LOR-611-0358 OVER THE BLACK RIVER. NEW NAVIGATIONAL LIGHTING SYSTEM. CONSTRUCT MAINTENANCE DRIVES UNDER REAR BRIDGE SPANS AND MINOR DRAINAGE WORK UNDER THE BRIDGE. THE WORK LENGTH IS 0.79 MILE.

2005 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 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED Thomas M. O'Leary
DATE 2-27-06 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor II
DATE 4-7-06 DIRECTOR, DEPARTMENT OF TRANSPORTATION

PROJECT EARTH DISTURBED AREA	=	0.8 ACRES
CONTRACTOR EARTH DISTURBED AREA	=	0.4 ACRES
NOI EARTH DISTURBED AREA	=	4.9 ACRES

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PREPARED AND RECOMMENDED BY:

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD OHIO 44902
PHONE: (419) 524-0074 FAX: (419) 524-1812

ENGINEERS SEAL:

STATE OF OHIO
DEAN A. PALMER
E-37475
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Dean A Palmer
DATE: 2-14-06

STANDARD CONSTRUCTION DRAWINGS

BP-2.1	7/16/04							MT-35.10	4/20/01	800	1/20/06
BP-2.2	7/16/04									802	4/15/05
		DM-1.1	10/20/05			HL-50.21	1/21/05			832	4/17/04
		DM-1.4	1/21/05			HL-60.11	1/16/04	MT-95.31	7/16/04	833	2/12/03
		DM-4.2	1/21/05					MT-95.32	7/16/04	843	4/18/03
		DM-4.3	7/19/02					MT-95.41	7/16/04		
		DM-4.4	7/19/02							847	4/15/05
CB-3.2	7/15/05	TC-41.20	1/19/01					MT-105.10	10/18/02		
MH-1.1	7/19/02	TC-52.10	4/20/01					MT-105.11	10/18/02		
MH-1.2	1/20/06	TC-52.20	4/20/01								
		TC-83.10	5/01/00					MT-110.30	10/18/02		
RM-4.2	4/18/03										

FEDERAL PROJECT NO. E060 (638)
PID NO. 21226
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
LOR-611-3.58 PID 21226
1/91

LOR - SR 611-3.58
060268 PID - 21226
Dist 3 6/7/2006

21226GT.DGN 2/14/06 RB,SAM,RC,BH

ROUNDING

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

UTILITIES

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

ELECTRIC: OHIO EDISON CO. (DISTRIBUTION)
6326 LAKE AVENUE
ELYRIA, OHIO 44035
(440) 326-3225

OHIO EDISON CO. (TRANSMISSION)
76 SOUTH MAIN STREET
AKRON, OHIO 44308
(330) 384-5180

TELEPHONE: CENTURY TELEPHONE
1730 WEST 19th STREET
LORAIN, OHIO 44052
(440) 244-8330

CABLE T.V.: ADELPHIA CABLE
1801 ELYRIA AVENUE
LORAIN, OH 44052
(440) 245-1353

THERE ARE NO KNOWN UNDERGROUND UTILITIES ON THIS PROJECT.

CONTINGENCY QUANTITIES

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

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S DATUM.

WORK LIMITS

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

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZE	NO. TREES	NO. STUMPS	TOTAL
18"	3	0	3
30"	0	0	0
48"	0	0	0
60"	0	0	0

FOR ADDITIONAL REQUIREMENTS SEE SHEETS 13 TO 17.

EROSION CONTROL

ITEMS 601 AND 670 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ITEM 670. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET THE REQUIREMENT OF 107.19.

ITEM SPECIAL - PIPE CLEANOUT

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

CLEANOUT OF THE PIPE AND CATCH BASINS 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 659, SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDING AREAS:

659, SEEDING AND MULCHING	2363 SQ. YD.
659, TOPSOIL (4" THICK)	283 CU. YD.
659, SOIL ANALYSIS TEST	2 EACH
659, COMMERCIAL FERTILIZER	0.34 TON
659, LIME	0.5 ACRE
659, WATER	7 M GAL.
659, REPAIR SEEDING AND MULCHING	120 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 COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659, SEEDING AND MULCHING, ARE BASED ON THESE LIMITS AND QUANTITIES ARE CARRIED ON THE CROSS SECTIONS.

STORM WATER POLLUTION PREVENTION PLAN

PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO PREPARE AND HAVE APPROVED A STORM WATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH SS 832, SS 833 AND PROPOSAL NOTE 205. AN ELECTRONIC FILE IN MICROSTATION FORMAT OF THE PROJECT SITE PLAN WILL BE PROVIDED FOR THE CONTRACTOR'S USE.

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

832 , STORM WATER POLLUTION PREVENTION PLAN	1 EACH
832 , EROSION CONTROL	2000 EACH

ENVIRONMENTAL COMMITMENTS

TREE REMOVAL RESTRICTIONS:
THIS PROJECT IS WITHIN THE LIMITS OF THE FEDERAL ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND MAY IMPACT THAT SPECIES HABITAT. TREES OVER 9 INCHES IN DIAMETER WITH LOOSE OR PEELING BARK OR CAVITIES SHALL ONLY BE CUT BETWEEN SEPTEMBER 16 AND APRIL 14.

642 CALCULATIONS

642 CENTER LINE, TYPE 2, SOLID DOUBLE
STA. 184+00 TO STA. 210+50 : 2650 FT./5280 = 0.50 MILE

642 LANE LINE, TYPE 2
STA. 177+40 TO STA. 210+50 NB : 3310 FT.
STA. 184+00 TO STA. 218+90 SB : 3490 FT.

TOTAL = 6800 FT./5280 = 1.29 MILE

659 CALCULATIONS

659 & 670 AREAS FROM SUMMARY:2363+186 = 2549 SQ. YD.

659, TOPSOIL (4" THICK):
2549 SQ. YD. x 4"/36 = 283 CU. YD.

659, COMMERCIAL FERTILIZER:
2549 SQ. YD. x 9 x 30LB/1000 SQ. FT. ÷ 2000 = 0.34 TON

659, LIME:
2549 SQ. YD. x 9 ÷ 43,560 = 0.5 ACRE

659, WATER:
2549 SQ. YD. x 9 x 300 GAL/1000 SQ. FT. ÷ 1000 = 7 M. GAL.

659, REPAIR SEEDING AND MULCHING:
2363 SQ. YD. x 5% = 120 SQ. YD.

ALL 659 QUANTITIES TO NOTE ABOVE

CALCULATED PPG 2/06
CHECKED JB 2/06

GENERAL NOTES

LOR-611-3.58
PID 21226

21226GN.DGN 2/14/06 RC,S.K,BH

ITEM 614 - MAINTAINING TRAFFIC

STATE ROUTE 611:

TWO (2) LANES OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR PERIODS NOTED BELOW WHEN ONE LANE OF TRAFFIC IN EACH DIRECTION WILL BE MAINTAINED.

A MINIMUM OF ONE (1) LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED DURING THE FOLLOWING WORK OPERATIONS:

1) DURING STRUCTURAL REHABILITATION AND PAINTING OVER OR ADJACENT TO THE TWO DIRECTIONAL PAVEMENT LANES, THE TWO LANES WILL BE CLOSED TO TRAFFIC USING DRUMS AND PORTABLE CONCRETE BARRIER WITH TWO-WAY TRAFFIC MAINTAINED AS PER DETAILS ON SHEETS 4 TO 9.

2) DURING OTHER PERIODS WHEN THE CONTRACTOR IS WORKING IN OR NEAR A TRAFFIC LANE, THE ADJACENT LANE SHALL BE CLOSED TO TRAFFIC DURING WORKING HOURS ONLY USING DRUMS AS PER STANDARD DRAWINGS MT-95.31 OR MT-95.32.

THE DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION ON MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS

LOCAL ACCESS:

ACCESS TO ALL EXISTING SIDE STREETS AND DRIVEWAYS WITHIN THE LIMITS OF THE M.O.T. OPERATIONS SHALL BE MAINTAINED AT ALL TIMES.

PEDESTRIANS:

DURING THE PERIODS WHEN THE LEFT (WEST) TRAFFIC LANES ARE CLOSED TO TRAFFIC, UNDER ITEM 1 ABOVE, AND DURING ANY OTHER WORK PERIOD WHEN THERE IS POTENTIAL DANGER TO PEDESTRIANS, THE BRIDGE AND APPROACH SIDEWALK SHALL BE CLOSED TO PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE THE "SIDEWALK CLOSED" SIGNS AT THE LOCATIONS DETAILED ON SHEETS 4 AND 5.

THE CONTRACTOR SHALL NOTIFY IN WRITING THE LORAIN COUNTY ENGINEER AND THE LORAIN CITY MAYOR AND ENGINEER A MINIMUM OF 1 WEEK IN ADVANCE OF THE ANTICIPATED DATE OF THE SIDEWALK CLOSURE.

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. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614 REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLAN, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE FOOT FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OR REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 64 S.F. HAS BEEN PROVIDED IN THE M.O.T. SUBSUMMARY.

ITEM 614 REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM

AN ESTIMATED QUANTITY OF 50 EACH HAS BEEN PROVIDED IN THE M.O.T. SUBSUMMARY.

ITEM 614, BARRIER REFLECTORS AND OBJECT MARKERS

BARRIER REFLECTORS AND OBJECTS MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR MAINTENANCE OF TRAFFIC. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO ITEM 626 EXCEPT THAT THE SPACING SHALL BE 50 FEET. SEE M.O.T. PLAN FOR ESTIMATED QUANTITIES.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

616 WATER 20 M-GAL.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, MODEL QZ2403Y, (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A QUADGUARD CZ WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ADSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL, 60601 (TELEPHONE: 312-467-6750).

INSTALLATION SHALL BE AT LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS.

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 REV. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, QG	11/19/97 REV.D	8/27/99
35-40-16	QUADGUARD SYSTEM BACKUP ASSEMBLY, CZ, QG	7/30/99 REV. F	8/27/99
35405IZ	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24,30,36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, QG	6/25/99 REV. F	8/27/99
35400260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 REV. C	8/27/99

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY 1 TO 6 UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, 5 INSTALLED UNITS REQUIRE 1 SPARE PARTS PACKAGE AND 7 INSTALLED UNITS REQUIRE 2 SPARE PARTS PACKAGE.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614, WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, MODEL QZ2403Y, (UNDIRECTIONAL OR BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT, MAINTAIN, REPAIR, REPLACE OR RELOCATE 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.

MAINTENANCE OF TRAFFIC SUB-SUMMARY

GENERAL NOTES	BRIDGE REHABILITATION			BRIDGE * PAINTING		ITEM	TOTAL	UNITS	DESCRIPTION
	PHASE 1	PHASE 2	PHASE 3	PHASE 1	PHASE 2				
64						614	64	S.F.	REPLACEMENT SIGN
50						614	50	EACH	REPLACEMENT DRUM
	1970	2130	3900	1970	2130	622	12,100	FOOT	PORTABLE CONCRETE BARRIER, 32"
	40	43	80	40	43	614	246	EACH	OBJECT MARKER, 1 WAY
	40	43	80	40	43	614	246	EACH	BARRIER REFLECTOR, TYPE B
	0.43	0.40		-	-	614	0.83	MILE	WORK ZONE EDGE LINE, CLASS 1, 642 PAINT
	0.70	0.73	1.22	0.70	0.73	614	4.08	MILE	WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1
	0.47	0.50		0.47	0.50	614	1.94	MILE	WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE 1
	1	-		≠	-	614	1	EACH	WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, MODEL QZ2403Y, UNIDIRECTIONAL
			2			614	2	EACH	WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, MODEL QZ2403Y, BIDIRECTIONAL
20						616	20	M-GAL.	WATER

* MOT FOR PAINTING ESTIMATED TO BE THE SAME AS FOR REHABILITATION WORK, SHEETS 4 TO 7, EXCEPT FOR PAINTED EDGE LINE WHICH TO REMAIN.

≠ UNIT REUSED FROM PHASE 1, BRIDGE REHABILITATION.

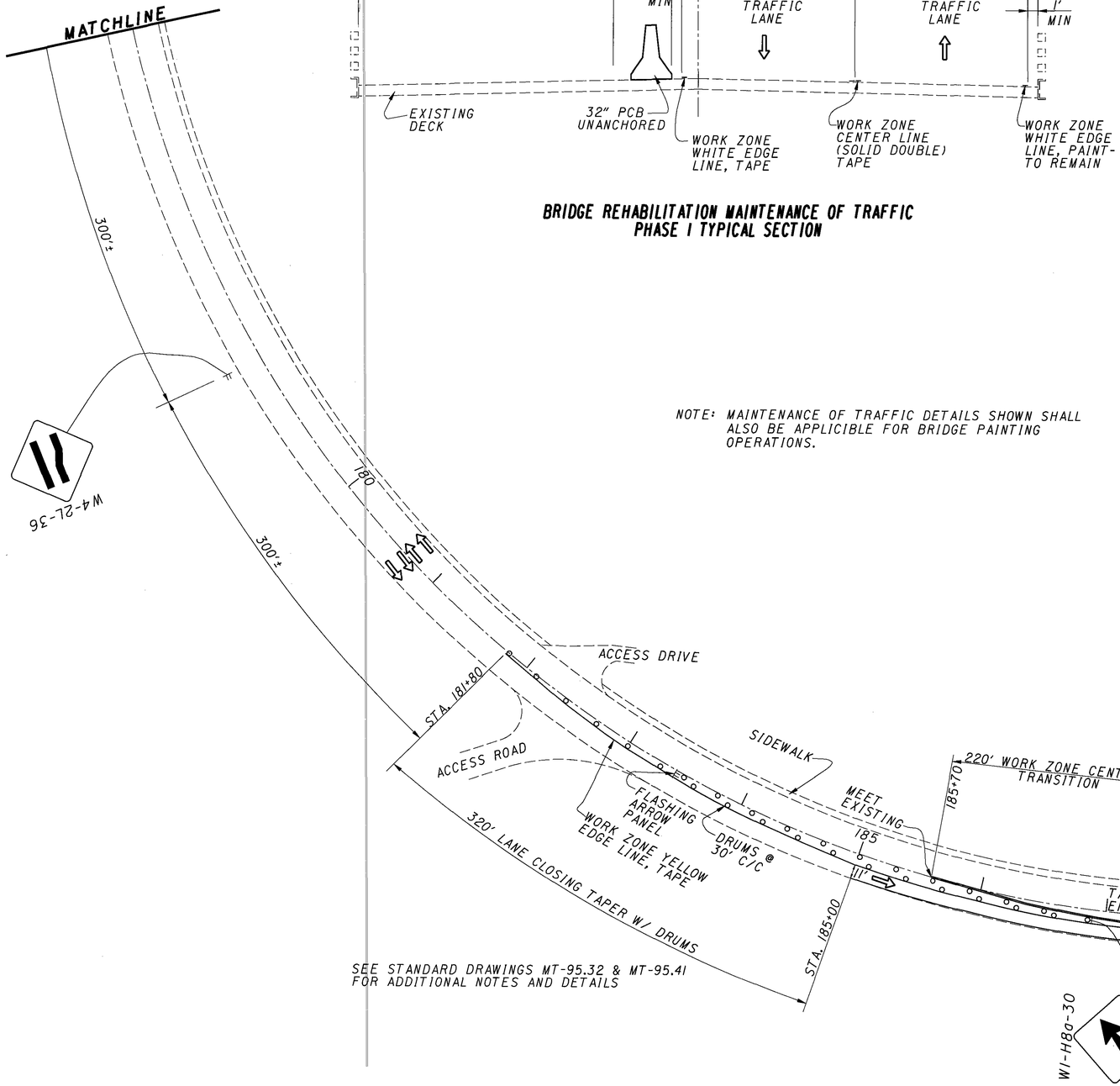
CALCULATED PDG 2/06
CHECKED JB 2/06

MAINTENANCE OF TRAFFIC
GENERAL NOTES AND SUB-SUMMARY

LOR-611-3.58
PID 21226

3
91

21226MN.DGN 2/14/06 CEO,RC,BH

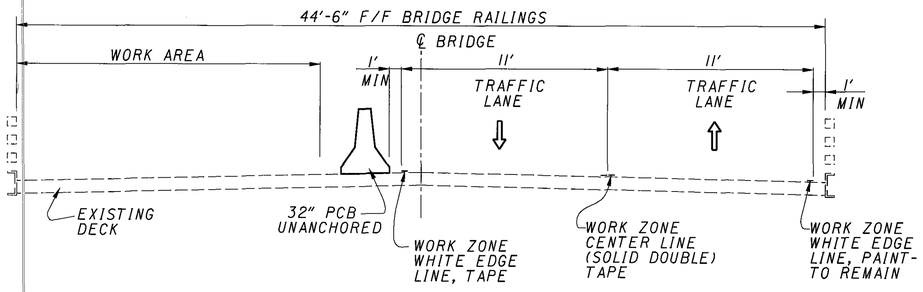


NOTE: MAINTENANCE OF TRAFFIC DETAILS SHOWN SHALL ALSO BE APPLICIBLE FOR BRIDGE PAINTING OPERATIONS.

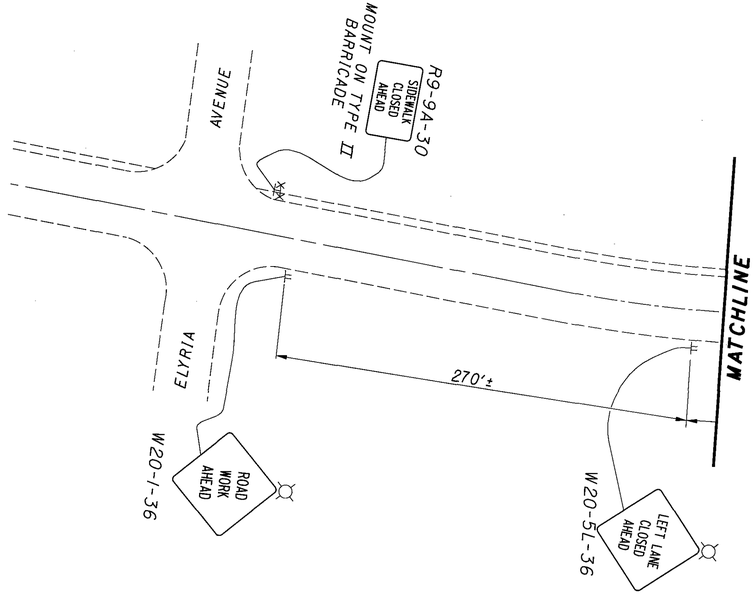
NOTE: REMOVE CONFLICTING PAVEMENT MARKINGS AT THE BEGINNING OF EACH M.O.T. PHASE. REPLACE ALL MARKINGS REMOVED WHEN TRAFFIC IS RETURNED TO ITS NORMAL PATTERN, COST INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC - TYPICAL ALL PHASES.

NOTE: MAINTENANCE OF TRAFFIC CONTINUES AHEAD ACROSS BRIDGE. SEE NEXT SHEET.

SEE STANDARD DRAWINGS MT-95.32 & MT-95.41 FOR ADDITIONAL NOTES AND DETAILS



BRIDGE REHABILITATION MAINTENANCE OF TRAFFIC PHASE I TYPICAL SECTION



MAINTENANCE OF TRAFFIC PLAN PHASE 1

HORIZONTAL SCALE IN FEET
0 25 50 100

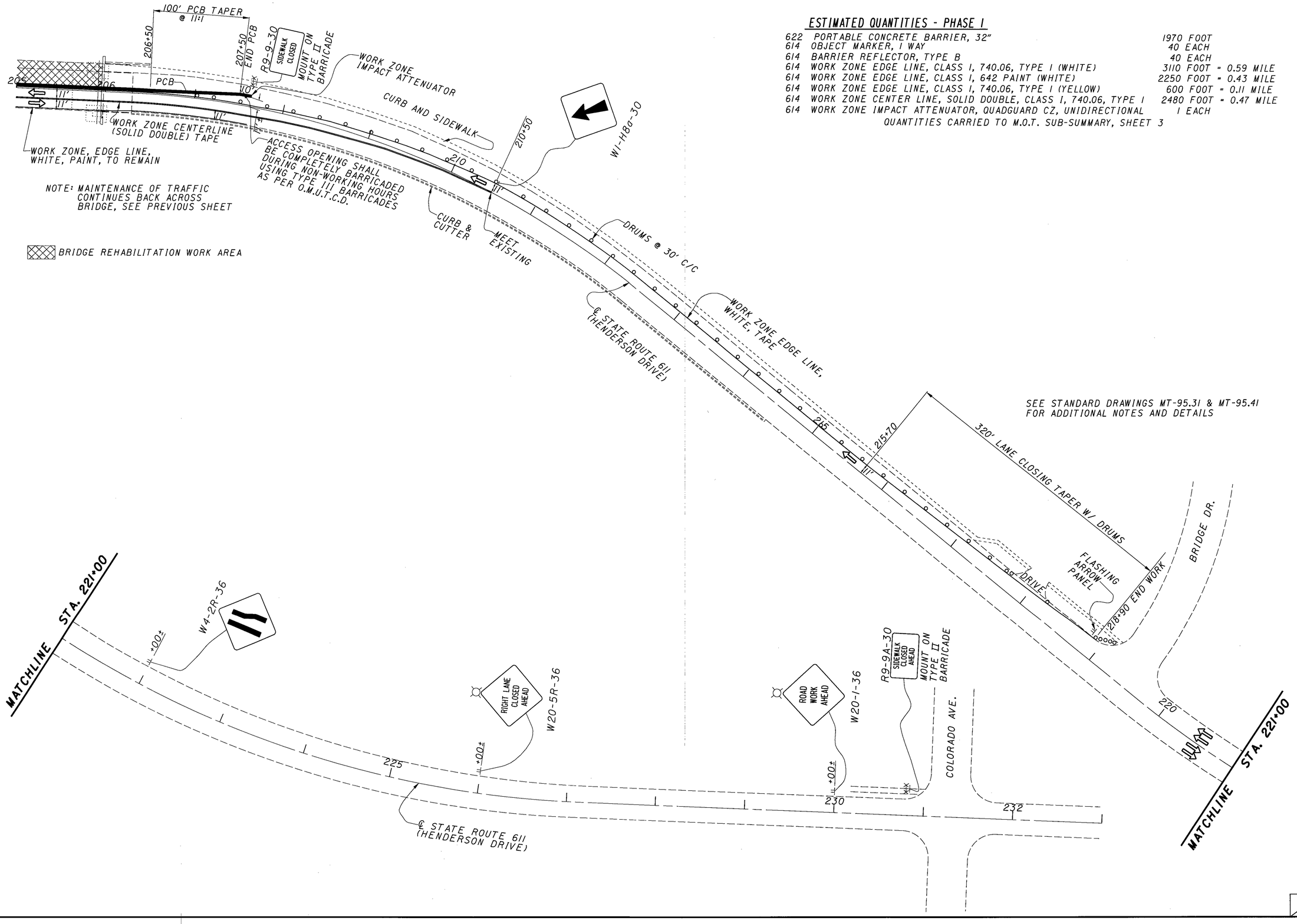
CALCULATED PDG 2/06
CHECKED JB 2/06

LOR-611-3.58
PID 21226

4
91

1/2

21226MP.DGN 2/14/06 JDY,RC,BH



ESTIMATED QUANTITIES - PHASE 1

622	PORTABLE CONCRETE BARRIER, 32"	1970 FOOT
614	OBJECT MARKER, 1 WAY	40 EACH
614	BARRIER REFLECTOR, TYPE B	40 EACH
614	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I (WHITE)	3110 FOOT = 0.59 MILE
614	WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)	2250 FOOT = 0.43 MILE
614	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I (YELLOW)	600 FOOT = 0.11 MILE
614	WORK ZONE CENTER LINE, SOLID DOUBLE, CLASS I, 740.06, TYPE I	2480 FOOT = 0.47 MILE
614	WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, UNIDIRECTIONAL	1 EACH

QUANTITIES CARRIED TO M.O.T. SUB-SUMMARY, SHEET 3

SEE STANDARD DRAWINGS MT-95.31 & MT-95.41 FOR ADDITIONAL NOTES AND DETAILS

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PDG 2/06
CHECKED JB 2/06

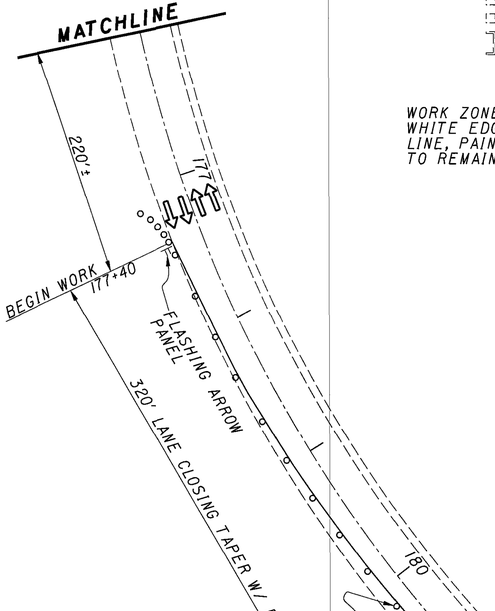
MAINTENANCE OF TRAFFIC PLAN PHASE 1

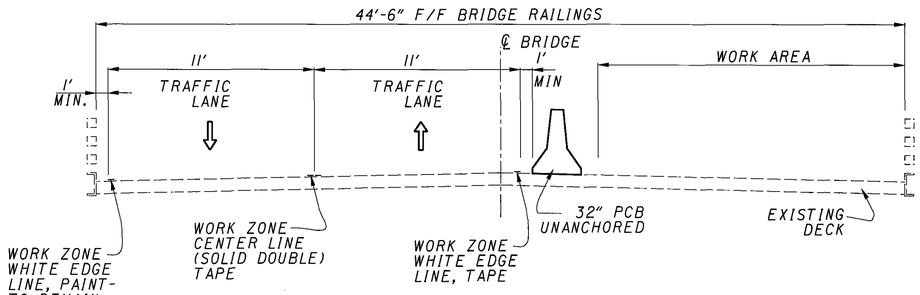
LOR-611-3.58
PID 21226

5/91

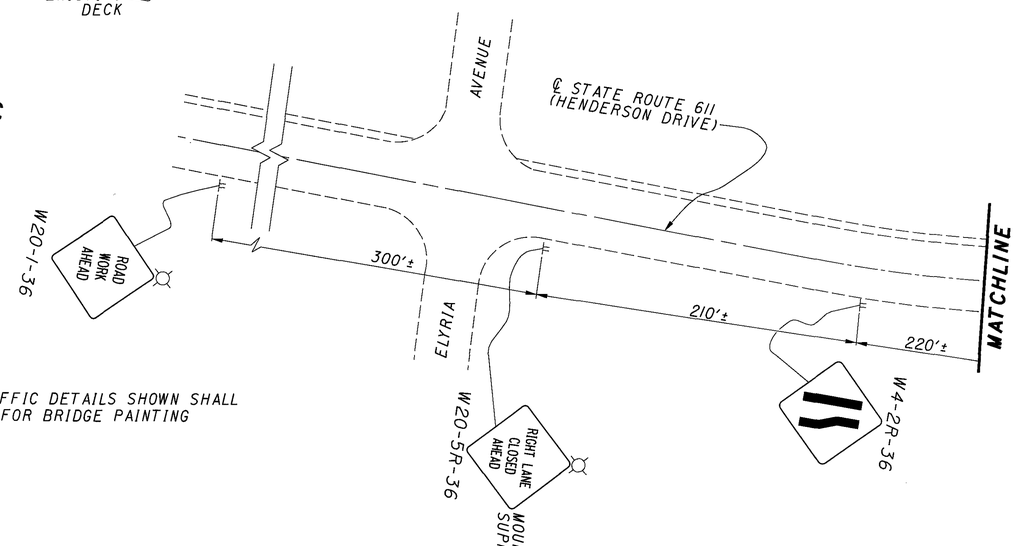
2/2

2126MPA1.DGN 2/13/06 JDY,RC,BH



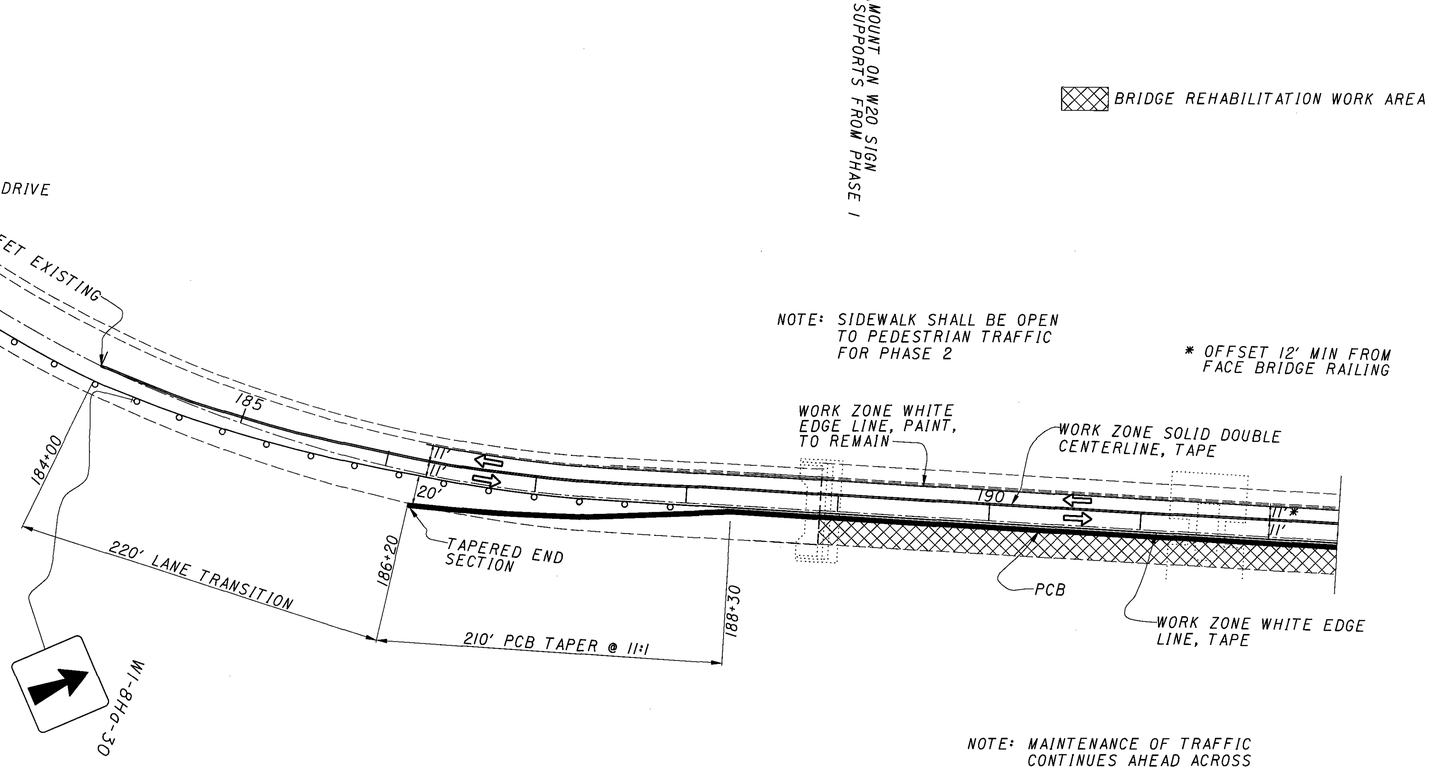


BRIDGE REHABILITATION MAINTENANCE OF TRAFFIC PHASE 2 TYPICAL SECTION



NOTE: MAINTENANCE OF TRAFFIC DETAILS SHOWN SHALL ALSO BE APPLICIBLE FOR BRIDGE PAINTING OPERATIONS.

SEE STANDARD DRAWINGS MT-95.31 & MT-95.41 FOR ADDITIONAL NOTES AND DETAILS



NOTE: SIDEWALK SHALL BE OPEN TO PEDESTRIAN TRAFFIC FOR PHASE 2

* OFFSET 12' MIN FROM FACE BRIDGE RAILING

BRIDGE REHABILITATION WORK AREA

NOTE: MAINTENANCE OF TRAFFIC CONTINUES AHEAD ACROSS BRIDGE. SEE NEXT SHEET.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PDG 2/06
CHECKED JB 2/06

MAINTENANCE OF TRAFFIC PLAN PHASE 2

LOR-611-3.58
PID 21226

1/2

6
91

2126MP2.DGN 2/14/06 RC,BH

ESTIMATED QUANTITIES - PHASE 2

622	PORTABLE CONCRETE BARRIER, 32"	2130 FOOT
614	OBJECT MARKER, 1 WAY	43 EACH
614	BARRIER REFLECTOR, TYPE B	43 EACH
614	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I (WHITE)	3010 FOOT = 0.57 MILE
614	WORK ZONE EDGE LINE, CLASS I, 642 PAINT (WHITE)	2130 FOOT = 0.40 MILE
614	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I (YELLOW)	870 FOOT = 0.16 MILE
614	WORK ZONE CENTER LINE, SOLID DOUBLE, CLASS I, 740.06, TYPE I	2650 FOOT = 0.50 MILE

QUANTITIES CARRIED TO M.O.T. SUB-SUMMARY, SHEET 3

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PDG 2/06
CHECKED JB 2/06

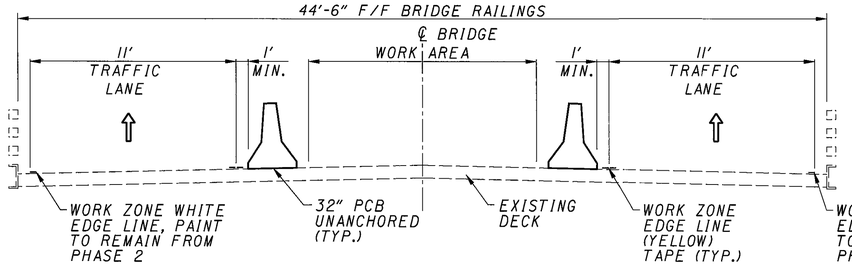
MAINTENANCE OF TRAFFIC PLAN PHASE 2

LOR-611-3.58

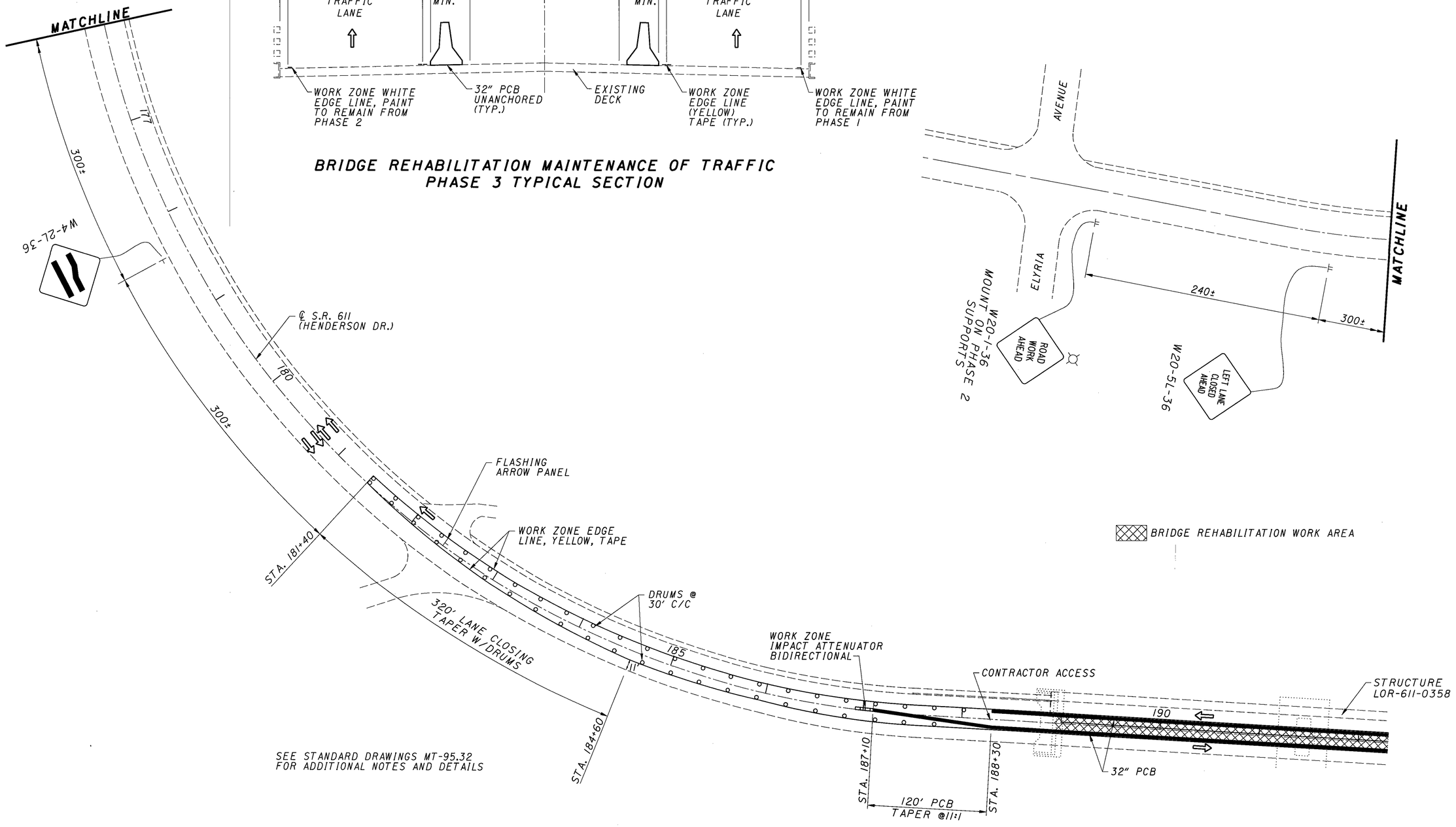
7
91

2/2

21226MPA2.DGN 2/14/06 RC



BRIDGE REHABILITATION MAINTENANCE OF TRAFFIC PHASE 3 TYPICAL SECTION



SEE STANDARD DRAWINGS MT-95.32
FOR ADDITIONAL NOTES AND DETAILS

NOTE: REMOVE CONFLICTING PAVEMENT MARKINGS AT THE BEGINNING OF EACH M.O.T. PHASE. REPLACE ALL MARKINGS REMOVED WHEN TRAFFIC IS RETURNED TO ITS NORMAL PATTERN, COST INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC

NOTE: MAINTENANCE OF TRAFFIC CONTINUES AHEAD ACROSS BRIDGE. SEE NEXT SHEET.

N

0 25' 50 100 HORIZONTAL SCALE IN FEET

CALCULATED PDG 2/06
CHECKED JB 2/06

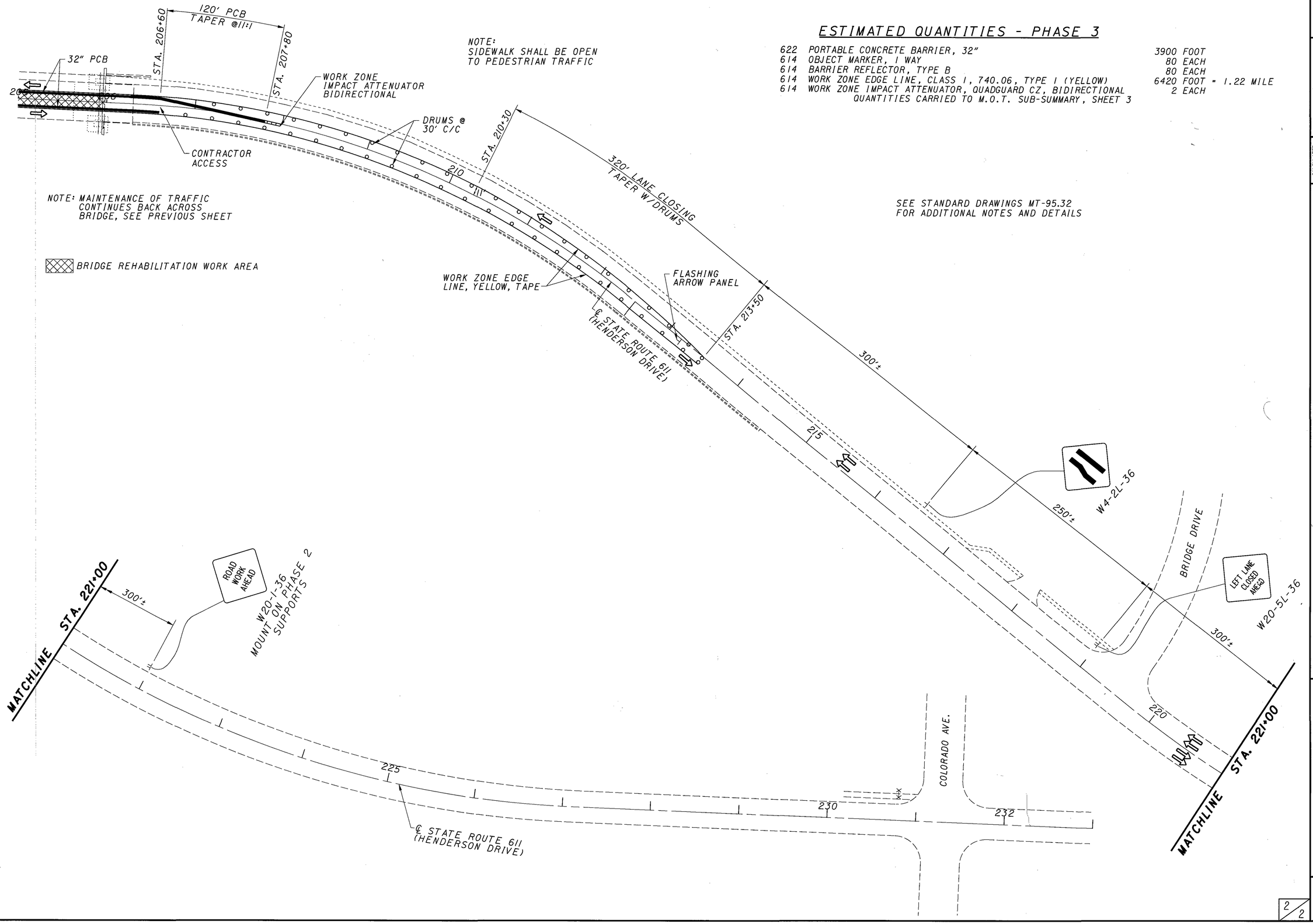
MAINTENANCE OF TRAFFIC PLAN PHASE 3

LOR-611-3.58
PID 21226

1/2

8
91

2122GMPA4.DGN 2/14/06 CEO



ESTIMATED QUANTITIES - PHASE 3

622	PORTABLE CONCRETE BARRIER, 32"	3900 FOOT
614	OBJECT MARKER, 1 WAY	80 EACH
614	BARRIER REFLECTOR, TYPE B	80 EACH
614	WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1 (YELLOW)	6420 FOOT = 1.22 MILE
614	WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, BIDIRECTIONAL	2 EACH
	QUANTITIES CARRIED TO M.O.T. SUB-SUMMARY, SHEET 3	

SEE STANDARD DRAWINGS MT-95.32 FOR ADDITIONAL NOTES AND DETAILS

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED PDG 2/06
CHECKED JB 2/06

MAINTENANCE OF TRAFFIC PLAN PHASE 3

LOR-611-3.58
PID 21226

9
91

2/2

21226MPA5.DGN 2/14/06 CEO

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	2	3		13	14	15	16	17	24	26						
															ROADWAY	
	LUMP										201	11000	LUMP		CLEARING AND GRUBBING	
							11	11			202	35100	22	FT	PIPE REMOVED, 24" AND UNDER	
								318			SPECIAL	20270100	318	FT	PIPE CLEANOUT	2
									640		203	10000	640	CU YD	EXCAVATION	
									141		203	20000	141	CU YD	EMBANKMENT	
				404	851						204	10000	1255	SQ YD	SUBGRADE COMPACTION	
															EROSION CONTROL	
							20	19			601	20000	39	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	
					195						601	32004	195	CU YD	ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER	
	2										659	00100	2	EACH	SOIL ANALYSIS TEST	
	283										659	00300	283	CU YD	TOPSOIL	
	2363										659	10000	2363	SQ YD	SEEDING AND MULCHING	
	120										659	14000	120	SQ YD	REPAIR SEEDING AND MULCHING	
	0.34										659	20000	0.34	TON	COMMERCIAL FERTILIZER	
	0.5										659	31000	0.5	ACRE	LIME	
	7										659	35000	7	M-GAL	WATER	
				88	98						670	00700	186	SQ YD	DITCH EROSION PROTECTION	
	1										832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
	2000										832	30000	2000	EACH	EROSION CONTROL	
															DRAINAGE	
					94						603	04400	94	FT	12" CONDUIT, TYPE B	
							8	8			603	06100	16	FT	15" CONDUIT, TYPE C	
					1		1	1			604	01610	3	EACH	CATCH BASIN, NO. 5 WITHOUT APRON, WITH SUMP, 12 INCH	
								1			604	35500	1	EACH	MANHOLE RECONSTRUCTED TO GRADE	
															PAVEMENT	
				35	177						304	20000	212	CU YD	AGGREGATE BASE	
				280	215						452	12000	495	SQ YD	8" NON-REINFORCED CONCRETE PAVEMENT	
															LIGHTING	
											40	625	00500	40	EACH	CONNECTOR KIT, TYPE II	
											23	625	00600	23	EACH	CONNECTOR KIT, TYPE III	
											20	625	01000	20	EACH	CONNECTOR KIT, TYPE VII A	
											3	625	01004	3	EACH	CONNECTOR KIT, TYPE VII B	
											2	625	01500	2	EACH	CABLE SPLICING KIT	
											12,199	625	23201	12,199	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE, AS PER PLAN	25
											560	625	23400	560	FT	NO. 10 AWG POLE AND BRACKET CABLE	
											16	625	25200	16	FT	CONDUIT, 1¼", 725.04	
											214	625	25401	214	FT	CONDUIT, 2", 725.04, AS PER PLAN	25
											4	625	25930	4	EACH	CONDUIT, MISC.: EXPANSION JOINT FITTINGS	25
											4	625	29921	4	EACH	STRUCTURE JUNCTION BOX, AS PER PLAN	25
											2	625	33001	2	EACH	STRUCTURE GROUNDING SYSTEM, AS PER PLAN	25
											1	625	34000	1	EACH	POWER SERVICE	
											2	625	98000	2	EACH	LIGHTING, MISC.: CHANNEL CENTERLINE MARKER LIGHT	25
											4	625	98000	4	EACH	LIGHTING, MISC.: CHANNEL MARGIN MARKER LIGHT	25
											2	625	98000	2	EACH	LIGHTING, MISC.: PHOTO CELL	25
											120	625	98100	120	FT	LIGHTING, MISC.: 3/C NO. 10 AWG, 725.02	25
											120	632	29900	120	FT	MESSENGER WIRE, 7 STRAND, ¼" DIAMETER WITH ACCESSORIES	
															TRAFFIC CONTROL	
	1.29										642	00202	1.29	MILE	LANE LINE, TYPE 2	
	0.50										642	00302	0.50	MILE	CENTER LINE, TYPE 2	

CALCULATED PDG 2/06
CHECKED JB 2/06

GENERAL SUMMARY

LOR-611-3.58
PID 21226

21226GGA.DGN 2/14/06 SJK,BH

SHEET NUMBER										ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
2	3		13	14	15	16	17	24	26						
														MAINTENANCE OF TRAFFIC	
	1									614	12346	1	EACH	WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, MODEL QZ2403Y (UNIDIRECTIONAL)	3
	2									614	12348	2	EACH	WORK ZONE IMPACT ATTENUATOR, QUADGUARD CZ, MODEL QZ2403Y (BIDIRECTIONAL)	3
	64									614	12510	64	SQ FT	REPLACEMENT SIGN	
	50									614	12600	50	EACH	REPLACEMENT DRUM	
	246									614	13300	246	EACH	BARRIER REFLECTOR, TYPE B	
	246									614	13350	246	EACH	OBJECT MARKER, ONE WAY	
	1.94									614	21200	1.94	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06 TYPE I	
	0.83									614	22100	0.83	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
	4.08									614	22200	4.08	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06 TYPE I	
	20									616	10000	20	MGAL	WATER	
	12,100									622	40020	12,100	FT	PORTABLE CONCRETE BARRIER, 32"	
														STRUCTURE LOR-611-0358	
														FOR QUANTITIES, SEE SHEETS 38 & 39	
	LUMP									614	11000	LUMP		MAINTAINING TRAFFIC	
										619	16010	7	MONTH	FIELD OFFICE, TYPE B	
										623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
										624	10000	LUMP		MOBILIZATION	

CALCULATED PDG 2/06
CHECKED JB 2/06

GENERAL SUMMARY

LOR-611-3.58
PID 21226

11
16

21226GGA.DGN 2/14/06 RC,BH

PROJECT DATA

TOTAL AREA (RIGHT-OF-WAY):	6.77 ACRES
PROJECT EARTH DISTURBED AREA:	0.8 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.4 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9 ACRES
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	2.08 ACRES
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	2.19 ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.4-0.6
RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE:	0.4-0.7
SEE SOIL SURVEY MAPS OF LORAIN COUNTY	
IMMEDIATE RECEIVING WATERS:	BLACK RIVER
SUBSEQUENT RECEIVING WATERS:	LAKE ERIE

GENERAL NOTES

THE PROJECT CONSISTS OF MINOR REHABILITATION AND PARTIAL PAINTING OF BRIDGE LOR-611-0358 OVER THE BLACK RIVER. NEW NAVIGATIONAL LIGHTING SYSTEM. CONSTRUCT MAINTENANCE DRIVES UNDER REAR BRIDGE SPANS AND MINOR DRAINAGE WORK UNDER THE BRIDGE. THE WORK LENGTH IS 0.79 MILE.

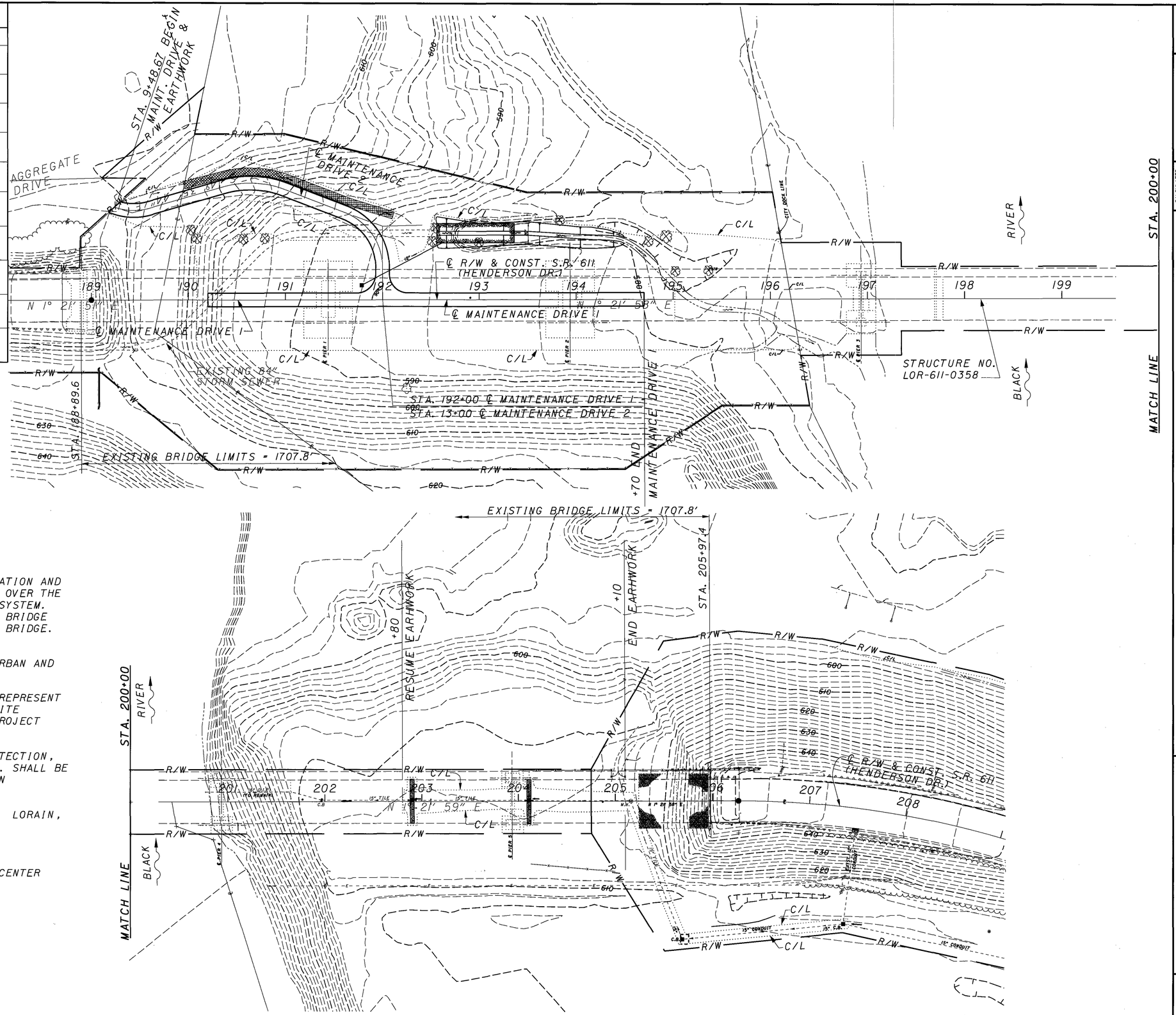
THE EXISTING SITE CAN BE DESCRIBED AS URBAN AND COMMERCIAL.

RUNOFF COEFFICIENTS SHOWN ON THE PLANS REPRESENT PRECONSTRUCTION AND POST CONSTRUCTION SITE CONDITIONS. DUE TO THE NATURE OF THIS PROJECT ARE APPROXIMATE.

CATCH BASIN, INLET OR MANHOLE INLET PROTECTION, DITCH CHECKS AND BALE FILTER DIKES, ETC. SHALL BE CONSTRUCTED AS PER STANDARD CONSTRUCTION DRAWINGS DM-4.3 AND DM-4.4.

USGS QUADRANT NO. N4122.5 - W8207.5/7.5 LORAIN, OHIO
*LATITUDE N41°27'27"
*LONGITUDE W82°09'37"

*LONGITUDE AND LATITUDE TO APPROXIMATE CENTER OF PROJECT.



PROJECT SITE PLAN

LOR-611-3.58
PID 21226

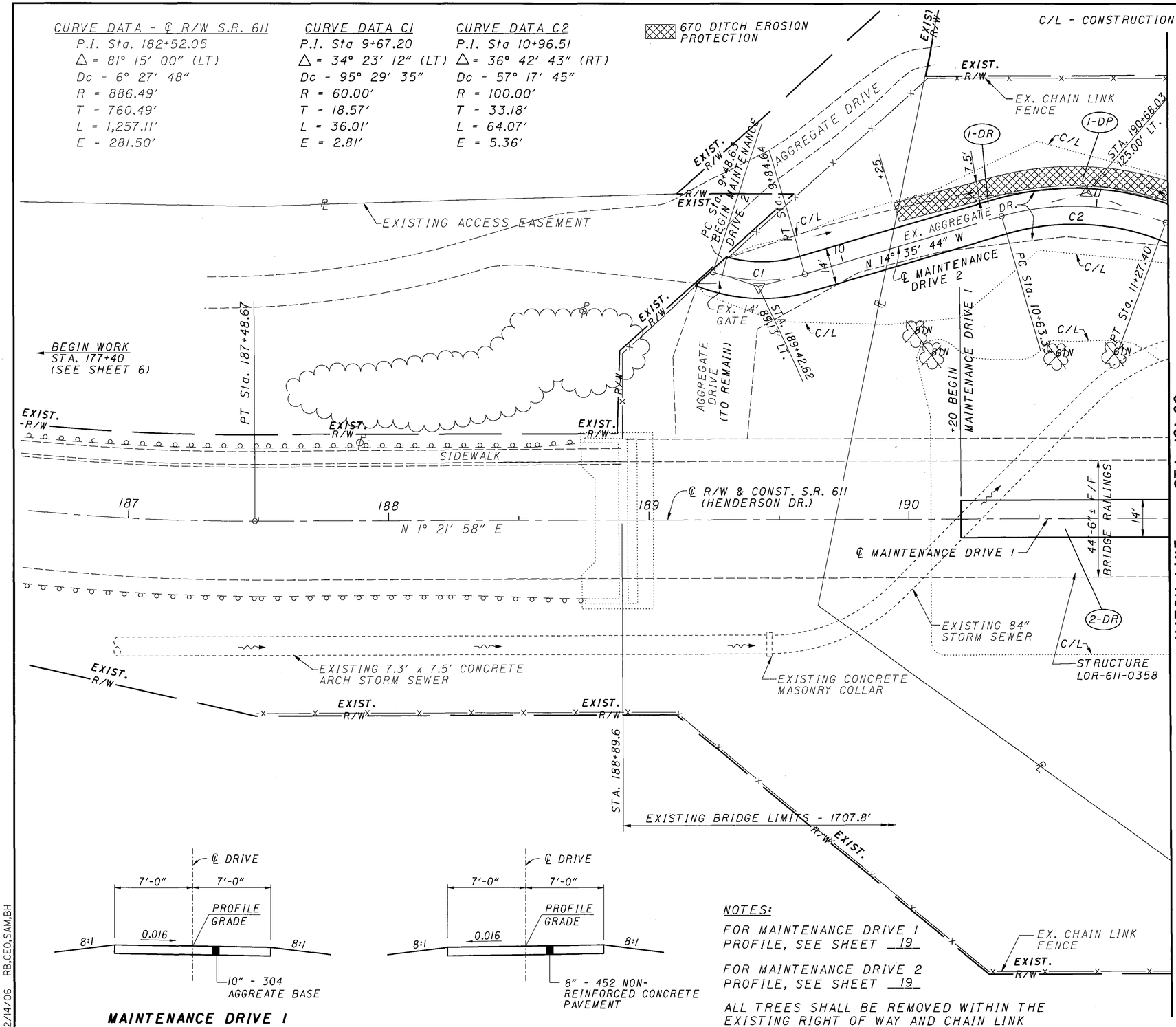
CURVE DATA - ℄ R/W S.R. 611
P.I. Sta. 182+52.05
△ = 81° 15′ 00″ (LT)
Dc = 6° 27′ 48″
R = 886.49′
T = 760.49′
L = 1,257.11′
E = 281.50′

CURVE DATA C1
P.I. Sta 9+67.20
△ = 34° 23′ 12″ (LT)
Dc = 95° 29′ 35″
R = 60.00′
T = 18.57′
L = 36.01′
E = 2.81′

CURVE DATA C2
P.I. Sta 10+96.51
△ = 36° 42′ 43″ (RT)
Dc = 57° 17′ 45″
R = 100.00′
T = 33.18′
L = 64.07′
E = 5.36′

670 DITCH EROSION PROTECTION

C/L = CONSTRUCTION LIMITS



MAINTENANCE DRIVE 1
STA. 190+20 TO STA. 194+70
MAINTENANCE DRIVE 2
STA. 12+66.43 TO STA. 12+93.00

MAINTENANCE DRIVE 2
STA. 9+48.63 TO STA. 12+66.43

MAINTENANCE DRIVE TYPICAL SECTIONS

NOTES:

FOR MAINTENANCE DRIVE 1 PROFILE, SEE SHEET 19

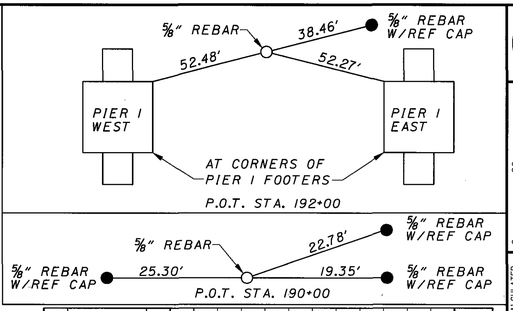
FOR MAINTENANCE DRIVE 2 PROFILE, SEE SHEET 19

ALL TREES SHALL BE REMOVED WITHIN THE EXISTING RIGHT OF WAY AND CHAIN LINK FENCED AREA. WORK WITHIN THE EXISTING CROWN VETCH AREA SHALL BE PERFORMED BY HAND WITH SMALL TOOLS. DO NOT DISTURB CROWN VETCH. SEE CLEARING AND GRUBBING GENERAL NOTE, SHEET 2.

670 DITCH EROSION PROTECTION
I-DP: 106′± x 7.5′ ÷ 9 = 88.3 SQ.YD.

DRIVE CALCULATIONS

1-DR: AREA = 199.77′ x 14′ ÷ 9 = 279.6 SQ. YD. (ITEM 204 & 452)
2-DR: AREA = 80′ x 14′ ÷ 9 = 124.4 SQ. YD. (ITEM 204)
VOLUME = 124.4 x 10″/36 = 34.6 CU. YD. (ITEM 304)



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED PDG 2/06
CHECKED JB 2/06

REF NO.	STATION FROM	STATION TO	SIDE	204 SUBGRADE COMPACTION SQ.YD.	304 10″ AGGREGATE BASE CU.YD.	452 8″ NON-REINFORCED CONCRETE PAVEMENT SQ.YD.	670 DITCH EROSION PROTECTION SQ.YD.
1-DR	9+48.63	11+28.40	℄	279.6		279.6	
2-DR	190+20	191+00	℄	124.4	34.6		
1-DP	10+25	11+25	LT				88.3
TOTALS CARRIED TO GENERAL SUMMARY				404	35	280	88

PLAN
STA. 187+00 TO STA. 191+00

LOR-611-3.58
PID 21226

13
91

21226P6.DGN 2/14/06 RB,CEO,SAM,BH

670 DITCH EROSION PROTECTION

C/L = CONSTRUCTION LIMITS

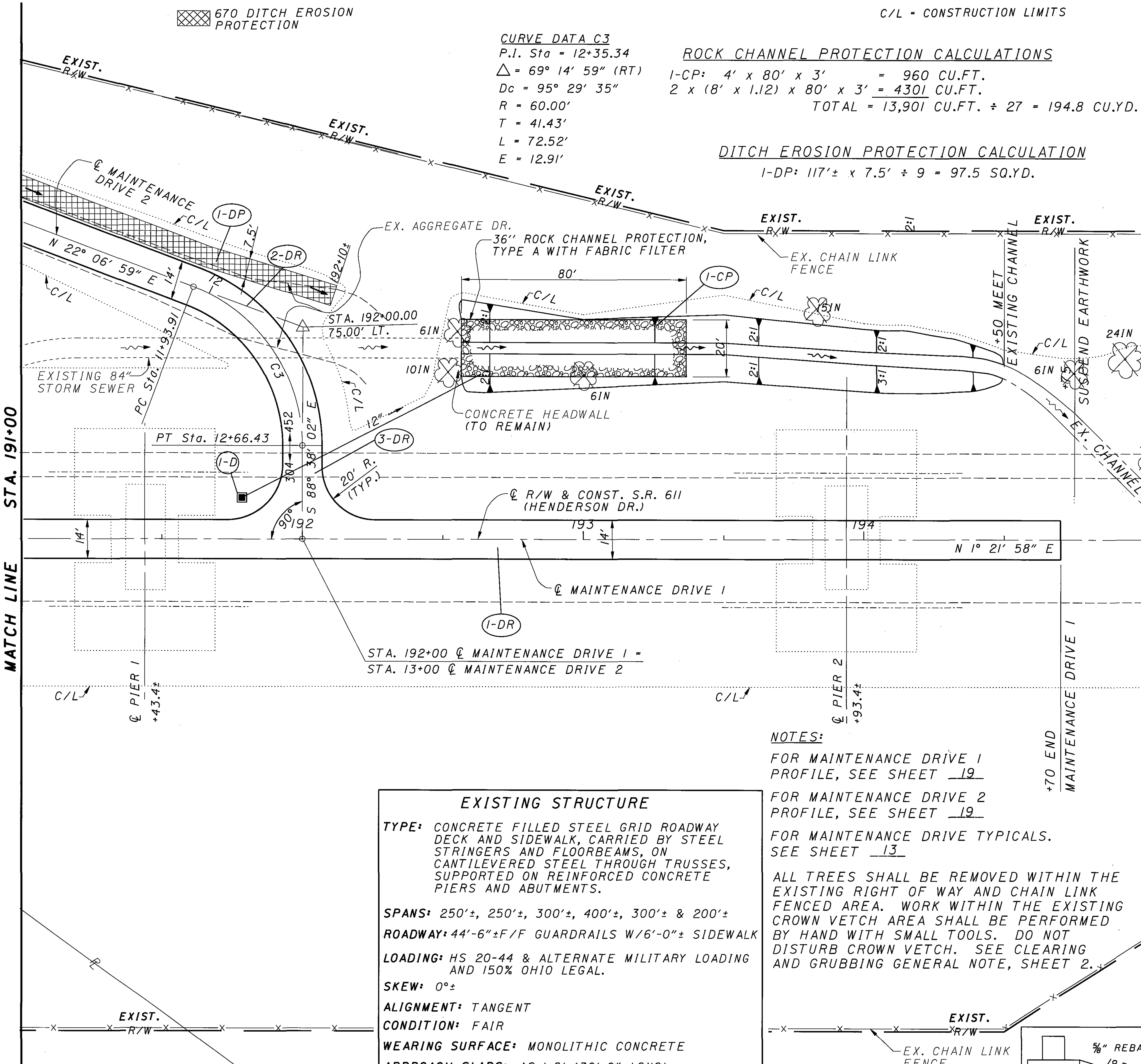
CURVE DATA C3
P.I. Sta = 12+35.34
Δ = 69° 14' 59" (RT)
Dc = 95° 29' 35"
R = 60.00'
T = 41.43'
L = 72.52'
E = 12.91'

ROCK CHANNEL PROTECTION CALCULATIONS

1-CP: 4' x 80' x 3' = 960 CU.FT.
2 x (8' x 1.12) x 80' x 3' = 4301 CU.FT.
TOTAL = 13,901 CU.FT. ÷ 27 = 194.8 CU.YD.

DITCH EROSION PROTECTION CALCULATION

1-DP: 117'± x 7.5' ÷ 9 = 97.5 SQ.YD.



DRIVE CALCULATIONS

1-DR: AREA = 370' x 14' ÷ 9 = 575.6 SQ. YD. (ITEM 204)
VOLUME = 575.6 x 10"/36 = 159.9 CU. YD. (ITEM 304)
2-DR: AREA = 138.03' x 14' ÷ 9 = 214.7 SQ. YD. (ITEM 204 & 452)
3-DR: COMPUTER AREA = 60.4 SQ. YD. (ITEM 204)
VOLUME = 60.4 x 10"/36 = 16.8 CU. YD. (ITEM 304)

NOTES:

FOR MAINTENANCE DRIVE 1 PROFILE, SEE SHEET 19

FOR MAINTENANCE DRIVE 2 PROFILE, SEE SHEET 19

FOR MAINTENANCE DRIVE TYPICALS. SEE SHEET 13

ALL TREES SHALL BE REMOVED WITHIN THE EXISTING RIGHT OF WAY AND CHAIN LINK FENCED AREA. WORK WITHIN THE EXISTING CROWN VETCH AREA SHALL BE PERFORMED BY HAND WITH SMALL TOOLS. DO NOT DISTURB CROWN VETCH. SEE CLEARING AND GRUBBING GENERAL NOTE, SHEET 2.

EXISTING STRUCTURE

TYPE: CONCRETE FILLED STEEL GRID ROADWAY DECK AND SIDEWALK, CARRIED BY STEEL STRINGERS AND FLOORBEAMS, ON CANTILEVERED STEEL THROUGH TRUSSES, SUPPORTED ON REINFORCED CONCRETE PIERS AND ABUTMENTS.

SPANS: 250'±, 250'±, 300'±, 400'±, 300'± & 200'±

ROADWAY: 44'-6"±F/F GUARDRAILS W/6'-0"± SIDEWALK

LOADING: HS 20-44 & ALTERNATE MILITARY LOADING AND 150% OHIO LEGAL.

SKEW: 0°±

ALIGNMENT: TANGENT

CONDITION: FAIR

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-81 (30'-0" LONG)

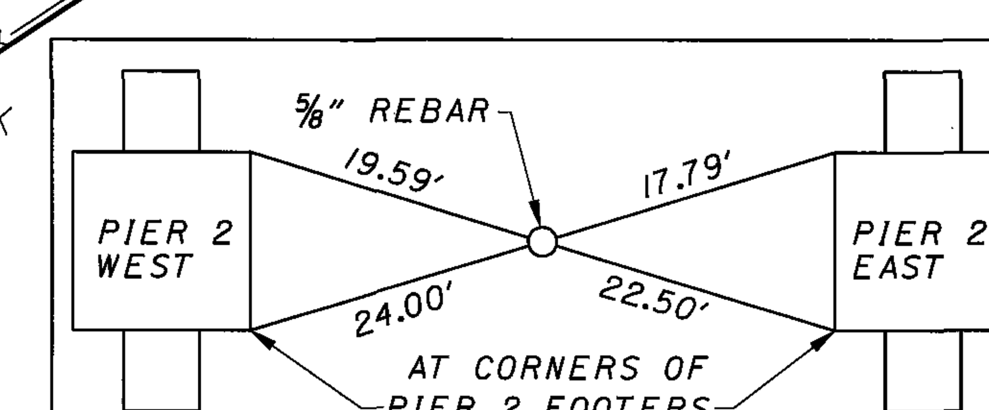
YEAR BUILT: 1940, REHABILITATED 1989

STRUCTURE FILE NO.: 4707443

DISPOSITION: MINOR REHABILITATION

B.M.: PK NAIL IN TOP OF CONCRETE HEADWALL STA. 192+56.5 / 68' LT. ELEVATION 584.55

EXIST. R/W — EX. CHAIN LINK FENCE



P.O.T. STA. 194+00

REF NO.	STATION FROM	STATION TO	SIDE	601 ROCK CHANNEL PROTECTION, TYPE A WITH FABRIC FILTER (CU.YD.)	204 SUBGRADE COMPACTION (SQ.YD.)	304 10" AGGREGATE BASE (CU.YD.)	452 8" NON REINFORCED CONCRETE PAVEMENT (SQ.YD.)	670 DITCH EROSION PROTECTION (SQ.YD.)	603 12" CONDUIT, TYPE B (FOOT)	604 CATCH BASIN NO. 5 W/O APRON W/ 12" SUMP (EACH)
1-CP	192+57	193+37	LT	194.8						
1-D	191+77	192+60	LT						94	1
1-DR	191+00	194+70	℄		575.6	159.9				
2-DR	11+28.40	12+66.43	℄		214.7		214.7			
3-DR	12+66.43	12+93.00	℄		60.4	16.8				
1-DP	11+25	192+10	LT					97.5		
TOTALS CARRIED TO GENERAL SUMMARY				195	851	177	215	98	94	1

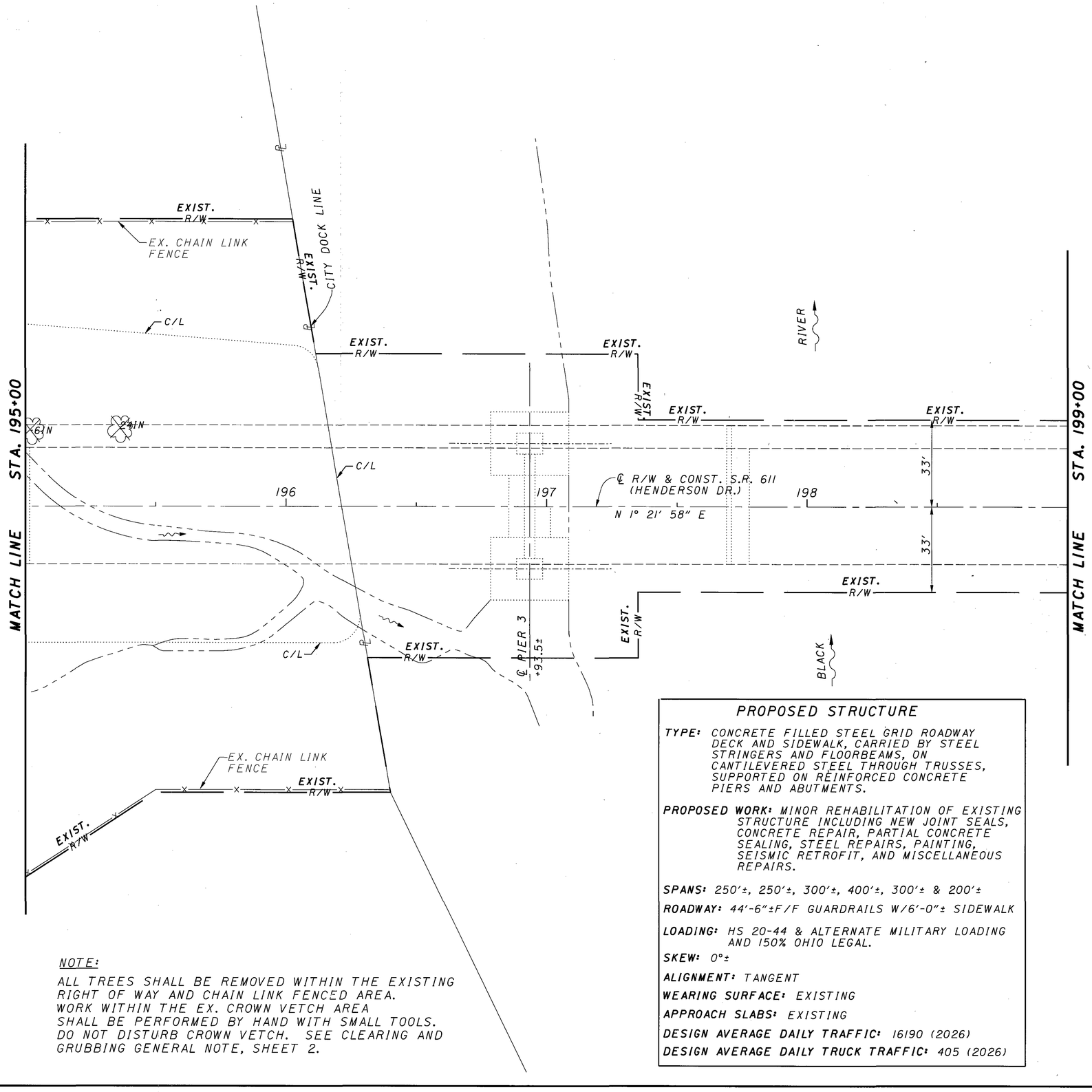
CALCULATED PDG 2/06 — CHECKED JB 2/06

HORIZONTAL SCALE IN FEET (0 10 20 40)

PLAN
STA. 191+00 TO STA. 195+00

LOR-611-3.58
PID 21226

21226P7.DGN 2/14/06 RB,SJK,BH



NOTE:

ALL TREES SHALL BE REMOVED WITHIN THE EXISTING RIGHT OF WAY AND CHAIN LINK FENCED AREA. WORK WITHIN THE EX. CROWN VETCH AREA SHALL BE PERFORMED BY HAND WITH SMALL TOOLS. DO NOT DISTURB CROWN VETCH. SEE CLEARING AND GRUBBING GENERAL NOTE, SHEET 2.

PROPOSED STRUCTURE

TYPE: CONCRETE FILLED STEEL GRID ROADWAY DECK AND SIDEWALK, CARRIED BY STEEL STRINGERS AND FLOORBEAMS, ON CANTILEVERED STEEL THROUGH TRUSSES, SUPPORTED ON REINFORCED CONCRETE PIERS AND ABUTMENTS.

PROPOSED WORK: MINOR REHABILITATION OF EXISTING STRUCTURE INCLUDING NEW JOINT SEALS, CONCRETE REPAIR, PARTIAL CONCRETE SEALING, STEEL REPAIRS, PAINTING, SEISMIC RETROFIT, AND MISCELLANEOUS REPAIRS.

SPANS: 250'±, 250'±, 300'±, 400'±, 300'± & 200'±

ROADWAY: 44'-6"±F/F GUARDRAILS W/6'-0"± SIDEWALK

LOADING: HS 20-44 & ALTERNATE MILITARY LOADING AND 150% OHIO LEGAL.

SKEW: 0°±

ALIGNMENT: TANGENT

WEARING SURFACE: EXISTING

APPROACH SLABS: EXISTING

DESIGN AVERAGE DAILY TRAFFIC: 16190 (2026)

DESIGN AVERAGE DAILY TRUCK TRAFFIC: 405 (2026)

REF NO.	STATION FROM	STATION TO	SIDE

TOTALS CARRIED TO GENERAL SUMMARY

N

0 20 40 HORIZONTAL SCALE IN FEET

CALCULATED PDG 2/06
CHECKED JB 2/06

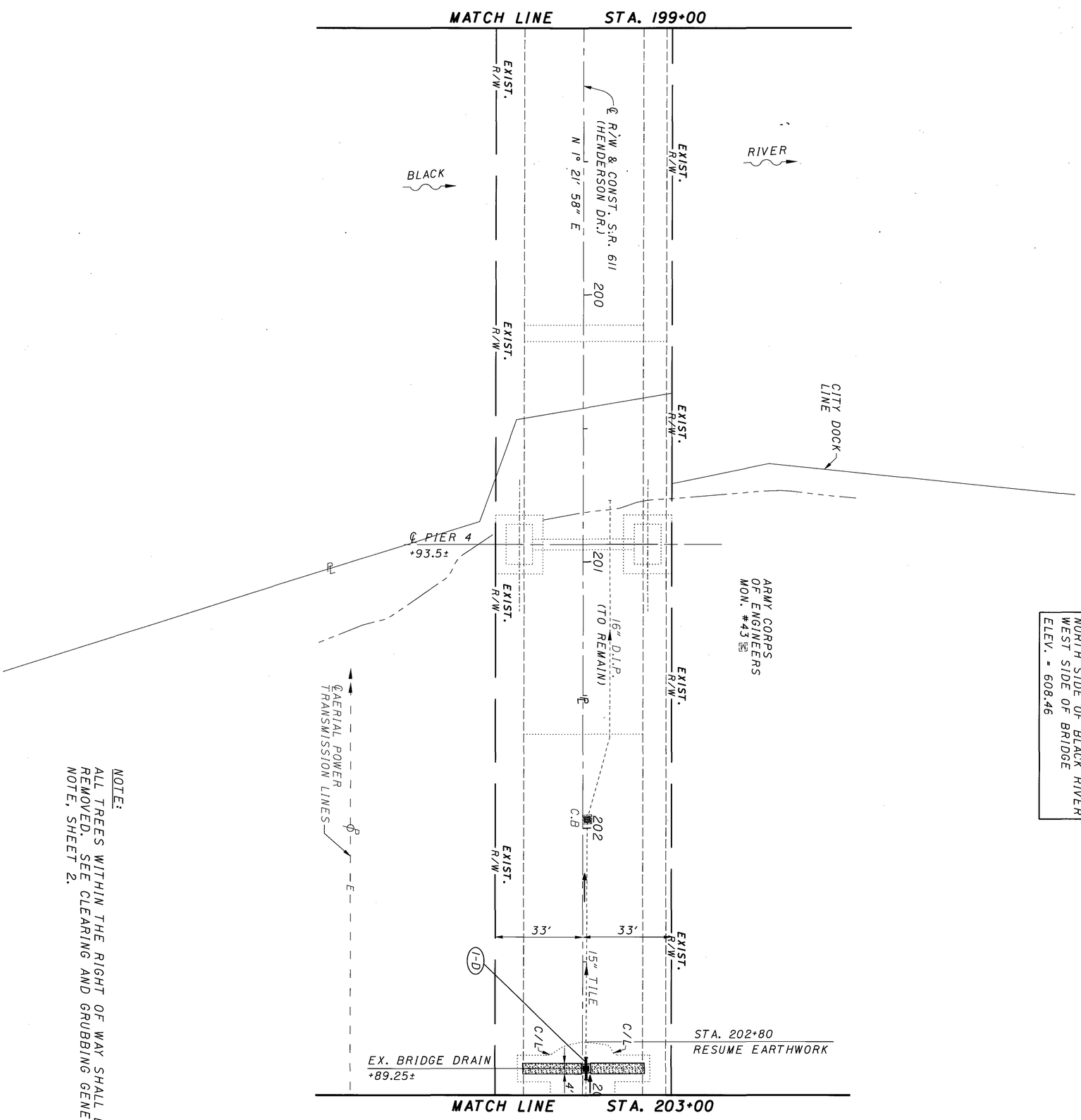
PLAN
STA. 195+00 TO STA. 199+00

LOR-611-3.58
PID 21226

15
91

21226P8.DGN 2/14/06 RB,RC,BH

21226P9.DGN 2/14/05 RB,RC,BH



B.M.: STA. 201+31.98, 60.1' LT.
US ENGINEER #43 MON. BOX
NORTH SIDE OF BLACK RIVER
WEST SIDE OF BRIDGE
ELEV. = 608.46

C/L - CONSTRUCTION LIMIT

NOTE:
ALL TREES WITHIN THE RIGHT OF WAY SHALL BE REMOVED, SEE CLEARING AND GRUBBING GENERAL NOTE, SHEET 2.

* SEE CROSS-SECTION

REF NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED, 24" AND UNDER	603 15" CONDUIT, TYPE C	604 CATCH BASIN, NO.5 W/O CONCRETE APRON W/ 12" SUMP		601 CRUDHED AGGREGATE SLOPE PROTECTION							
				FOOT	FOOT	EACH		SQ.YD.							
						1									
I-D	202+89		LT&RT	11	8			19.6*							
TOTALS CARRIED TO GENERAL SUMMARY				11	8	1		20							

19 / 19	LOR-611-3.58 PID 21226	PLAN STA. 199+00 TO STA. 203+00	CALCULATED PDG 2/06 CHECKED JB 2/06	0 20 10 40 HORIZONTAL SCALE IN FEET

C/L = CONSTRUCTION LIMITS

EXISTING BRIDGE LIMITS - 1707.8'

STA. 205+97.4

R/W EXIST.

WOODED

STRUCTURE NO. LOR-611-0358

STA. 203+00

MATCH LINE

END WORK
STA. 218+90
(SEE SHEET 5)

DIRT & AGGREGATE ACCESS DRIVE

RETAINING WALL (TO REMAIN)

* SEE CROSS SECTION

℄ R/W & CONST. S.R. 611 (HENDERSON DR.)

15" TILE (TO REMAIN)

33'

C/L

204

205

206

207

4'

F/F BRIDGE RAILINGS 44'-6"±

EX. 14' GATE

EX. SLOPE PROTECTION (TO REMAIN)

M.H. (TO REMAIN)

N 1° 21' 58" E

APPROACH SLAB

C.B.

I-MH

I-D

I-PC

2-PC

℄ PIER 5 +93.5±

EX. BRIDGE DRAIN +11

END EARTHWORK STA. 205+10

PC Sta. 206+26.69 ℄ R/W & CONST.

12" CONDUIT

15" CONDUIT

EX. CHAIN LINK FENCE

℄ OHIO EDISON CO. AERIAL POWER TRANSMISSION LINES

CURVE DATA
℄ SURVEY AND R/W

P.I. Sta. 209+44.50
△ = 36° 48' 00" (RT)
Dc = 5° 59' 50"
R = 955.37'
T = 317.81'
L = 613.62'
E = 51.47'

NOTE:
FOR PROFILE
SEE NEXT SHEET

NOTE:
ALL TREES WITHIN THE RIGHT OF WAY SHALL BE REMOVED. SEE CLEARING AND GRUBBING GENERAL NOTE, SHEET 2.

REF NO.	STATION FROM	STATION TO	SIDE	SPECIAL 202 PIPE REMOVED, 24" AND UNDER FOOT	604 MANHOLE RECONSTRUCTED TO GRADE EACH	604 CATCH BASIN, NO. 5 W/O CONCRETE APRON W/ 12" SUMP EACH	603 15" CONDUIT, TYPE C FOOT	601 CRUSHED AGGREGATE SLOPE PROTECTION SQ. YD.	SPECIAL PIPE CLEANOUT FOOT
I-D	204+11		LT & RT	11	1	1	8	19	
I-PC	205+16±	205+68±	RT						152
2-PC	207+50±	207+50±	RT						166
I-MH	205+16±		℄		1				
TOTALS CARRIED TO GENERAL SUMMARY				11	1	1	8	19	318

HORIZONTAL SCALE IN FEET
0 10 20 40

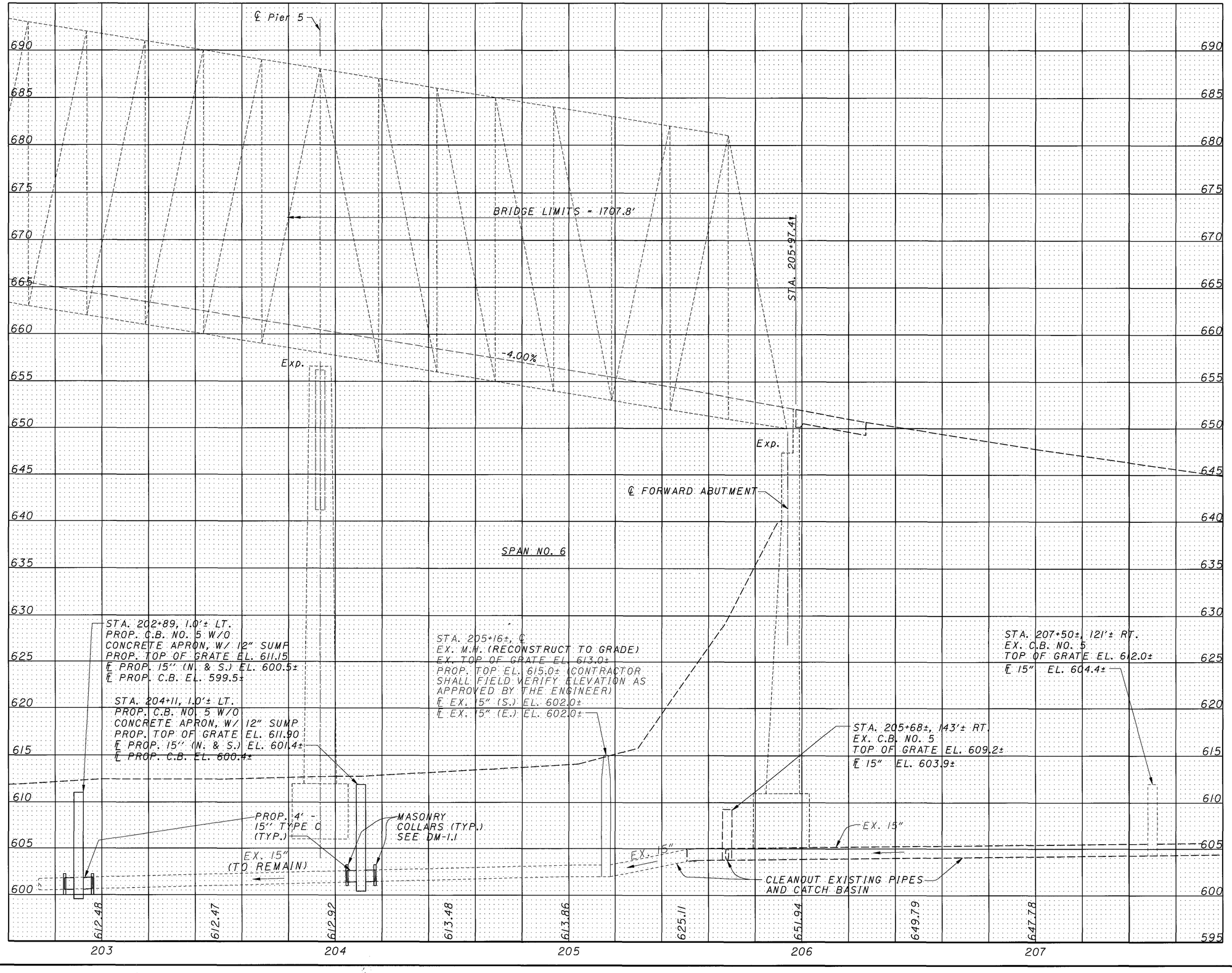
CALCULATED PDG 2/06
CHECKED JB 2/06

PLAN
STA. 203+00 TO STA. 207+50

LOR-611-3.58
PID 21226

17
91

21226PIO.DGN 2/14/06 RB,CEO,RC,BH



21226PI0.DGN 2/14/06 RC,BH

N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED PDG 2/06
CHECKED JB 2/06

PROFILE
STA. 202+80 TO STA. 207+00

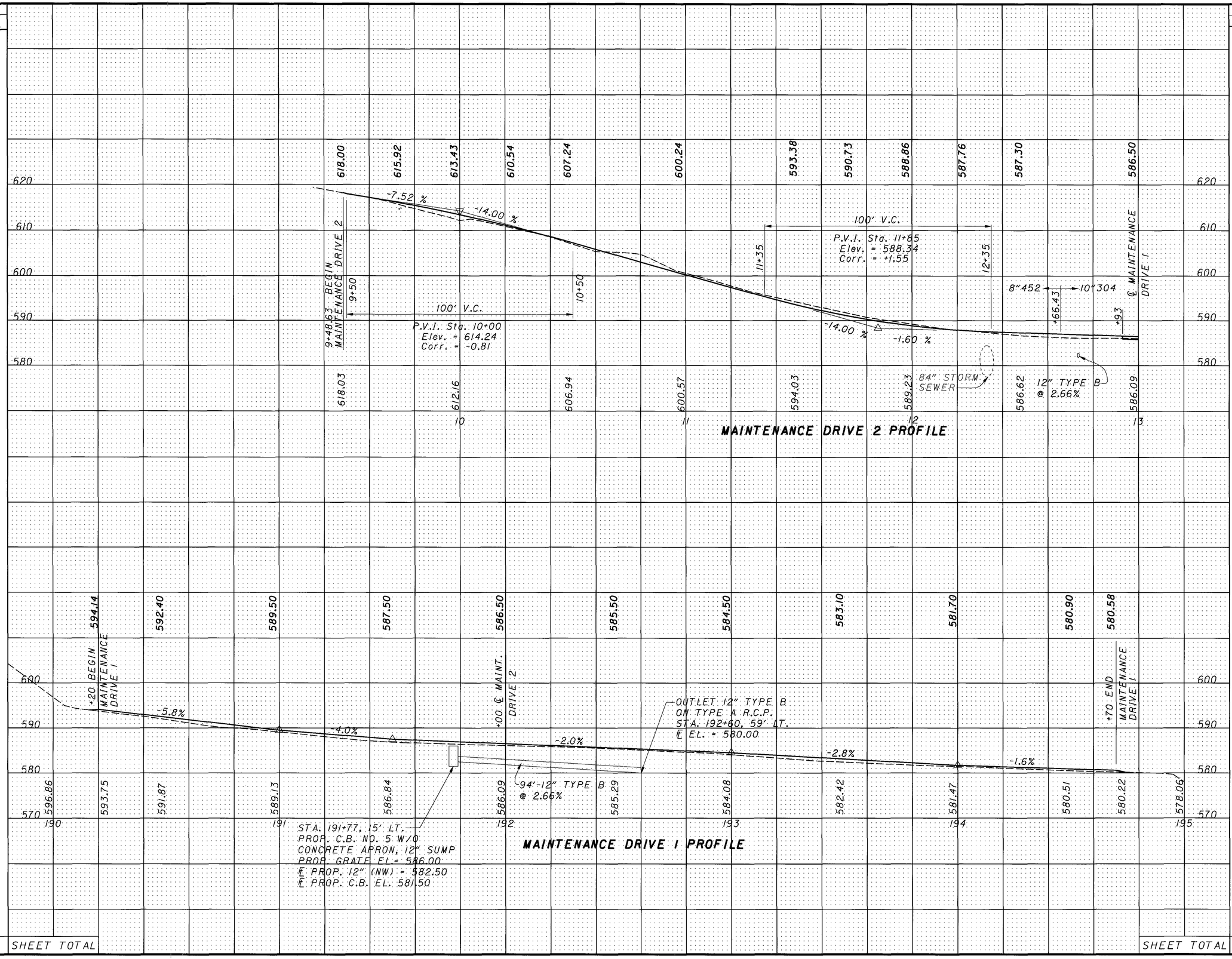
LOR-611-3.58
PID 21226

18
91

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED PDG 2/06
CHECKED JB 2/06



MAINTENANCE DRIVE 1 & 2 PROFILES

LOR-611-3.58
PID 21226

SHEET TOTAL

SHEET TOTAL

21226XS.DGN 01/31/06 RB,RC

SEEDING	
END WIDTH	SQ. YDS.
58	
72	
	121
37	
	161
21	
	40
8	
	322

END AREA		VOLUME	
CUT	FILL	CUT	FILL
31	24		
21	26		
		9	22
2	34		
		6	34
5	3		
		6	2
9	0		
0	0		
		21	58

CALCULATED PDG 2/06
CHECKED JB 2/06

CROSS SECTIONS
STA. 189+25 TO STA. 190+20

LOR-611-3.58
PID 21226

20
91

21226XS.DGN 2/14/06 RB,RC

SEEDING END WIDTH	SEEDING SQ. YDS.
11	
40	
	44
40	
	231
43	
	214
34	
	211
42	
	167
58	
	867

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
8	3		
		12	3
33	2	38	5
32	1	60	3
62	5	87	6
31	24	52	16
		249	33

CALCULATED PDG 2/06
CHECKED JB 2/06

CROSS SECTIONS STA. 190+50 TO STA. 192+00

LOR-611-3.58
PID 21226

21/91

2/14/06 RB,RC
21226XS.DGN

150 100 50 0 50

AHEAD BACK STA. 192+10

END DITCH 192+10±

STA. 191+77, 15' LT.
PROP. C.B. NO. 5 W/O CONCRETE APRON, W/12" SUMP
PROP. TOP OF GRADE EL. 586.00
℄ PROP. 12" 582.50
℄ PROP. C.B. EL. 581.50

12" TYPE B @ 2.66%

℄ CONSTRUCTION

1.60%

8:1 8:1 Se

MAINTENANCE DRIVE 1

84" STORM SEWER

℄ MAINTENANCE DRIVE 2 - SEE PROFILE SHEET 17

ADDITIONAL FOR MAINTENANCE DRIVE 2 INTERSECTION

586.50
192+00 = ℄ MAINTENANCE DRIVE 2 LEFT
586.09

℄ MAINTENANCE DRIVE 2

2:1 8:1 8:1 Se

EXISTING AGGREGATE DRIVE

84" STORM SEWER

587.50
191+50
586.84

℄ MAINTENANCE DRIVE 2

2:1 8:1 8:1 Se

EXISTING AGGREGATE DRIVE

589.50
191+00
589.13

℄ MAINTENANCE DRIVE 2

2:1 8:1 8:1 Se

EXISTING AGGREGATE DRIVE

592.40
190+50
591.87

STA. 190+20 AH

SHEET TOTAL

610 600 590 580

CROSS SECTIONS
STA. 192+57 TO STA. 194+70

LOR-611-3.58
PID 21226

CALCULATED PDG 2/06
CHECKED JB 2/06

SEEDING END WIDTH	SEEDING SQ. YDS.
25	
	14
25 11	
	24
11 32	
	178
32	
	225
49	
	67
44 26	
	97
21	
	124
31 8	
	50
11	
SHEET TOTAL	779

STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
STA. 194+75	0	0		
			0	1
STA. 194+70 AHEAD	0	8		
STA. 194+70 BACK	8	2		
			6	2
194+50	8	2		
			69	3
194+00	66	1		
			94	19
193+50	35	19		
			58	20
193+00	28	3		
			41	3
STA. 192+57 AHEAD	24	1		
STA. 192+57 BACK	8	1		
			17	2
STA. 192+00	8	3		
SHEET TOTAL			285	50

21226XS.DGN 2/14/06 RB,RC

SEEDING	
END WIDTH	SQ. YDS.
28	42
10	
	42 SHEET TOTAL

100 50 0 50 100

℄ CONSTRUCTION

620 / 610 / 600

R/W 22' Se 8:1 8:1 22' Se R/W

A A A A

611.5

STA. 202+89, 1.0± LT.
PROP. C.B. NO. 5 W/O
CONCRETE APRON, W/12" SUMP
PROP. TOP OF GRATE EL. 611.15
℄ PROP. 15" IN. & S.) EL. 600.5±
℄ PROP. C.B. EL. 599.5±

EXISTING 15" VITRIFIED TILE

STA. 202+89

203+00
612.48

202+80 RESUME EARTHWORK

STA. 202+80 AH

STA. 202+80

R/W R/W

EXISTING 15" VITRIFIED TILE

202+50
611.74

R/W R/W

EXISTING 15" VITRIFIED TILE

202+00
610.69

4' 8:1 8:1

SECTION A-A

12" CRUSHED AGGREGATE SLOPE PROTECTION

END AREA		VOLUME	
CUT	FILL	CUT	FILL
8	0		
		6	0
21	0		
		4	0
0	0		
		10	0

SHEET TOTAL

CALCULATED PDG 2/06
CHECKED JB 2/06

CROSS SECTIONS
STA. 202+00 TO STA. 203+00

LOR-611-3.58
PID 21226

23
91

21226XS.DGN 2/14/06 RB,RC

SEEDING END WIDTH	SEEDING SQ. YDS.
	2363 — NET SEEDING (TO GENERAL NOTE)
	-186 — DEDUCT 670 DITCH PROTECTION
	2549 — TOTAL AREA
10	17
20	122
24	128
22	128
24	144
28	539 SHEET TOTAL

100 50 0 50 100

℄ CONSTRUCTION

205+10 END EARTHWORK

EARTHWORK TOTALS (TO GENERAL SUMMARY)

STA. 205+10 BACK

620 / 610 / 600

R/W — Se — 8:1 — 613.0 — 8:1 — Se — R/W

STA. 205+16±, ℄
EX. M.H. (RECONSTRUCT TO GRADE)
EX. TOP OF COVER EL. 613.0±
PROP. TOP EL. 615.0± (CONTRACTOR SHALL FIELD VERIFY ELEVATIONS AS APPROVED BY THE ENGINEER)
℄ EX. 15" (S.) EL. 602.0±
℄ EX. 15" (E.) EL. 602.0±

EX. 15" TILE (TO REMAIN)

205+00
613.86

PIPE CLEANOUT

620 / 610 / 600

R/W — Se — 8:1 — 612.4 — 8:1 — Se — R/W

EXISTING 15" VITRIFIED TILE

204+50
613.48

SEE SEC. A-A, SHEET 21

620 / 610 / 600

R/W — 20' — Se — A — 8:1 — 8:1 — 22' — Se — A — R/W

612.1

STA. 204+11, 1.0± LT.
PROP. C.B. NO. 5 W/O CONCRETE APRON, W/12" SUMP
PROP. TOP OF GRATE EL. 611.90
℄ PROP. 15" (N. & S.) EL. 601.4±
℄ PROP. C.B. EL. 600.4±

EXISTING 15" VITRIFIED TILE

204+00
612.92

Se - DENOTES SEEDING LIMITS

620 / 610 / 600

R/W — Se — 8:1 — 611.8 — 8:1 — Se — R/W

EXISTING 15" VITRIFIED TILE

203+50
612.47

STA. 203+00

	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
			640	141
STA. 205+10	0	0		
			1	0
	6	0		
			16	0
	11	0		
			22	0
	19	0		
			6	0
	8	0		
			15	0
	8	0		
			15	0
STA. 203+00	8	0		
SHEET TOTAL			75	0

CALCULATED PDG 2/06
CHECKED JB 2/06

CROSS SECTIONS
STA. 203+50 TO STA. 205+00

LOR-611-3.58
PID 21226

24
91

21226XS.DGN 01/31/06 RB,SAM,CEO,JDY,RC

PROPOSED LIGHTING WORK:

1. NEW STRUCTURE GROUNDING SYSTEM AT PIERS 1 AND 3.
2. NEW RELAYS AND WIRING FOR NAVIGATION LIGHT CIRCUITS.
3. NEW LIGHTING CONDUIT EXPANSION JOINTS ON TOP CHORDS OF TRUSS AT PANELS 12 AND 35.
4. NEW NAVIGATION LIGHT FIXTURES AND SUPPORTS.
5. NEW NAVIGATION LIGHT PHOTO CELLS AT SIDEWALK LEVEL.
6. NEW LIGHTING CONDUIT ALONG WEST TOP CHORD PANELS 1 TO 5.
7. NEW DISTRIBUTION CABLE FROM ADJACENT POWER POLE TO BRIDGE.
8. REPLACE ALL #4 CABLE IN EXISTING CONDUIT, INCLUDING NEW CONNECTION TO THE #10 EXISTING STREET LIGHT WIRE.

ITEM 625 - CONDUIT MISC.: EXPANSION JOINT FITTINGS

EXPANSION FITTINGS SHALL BE OZ GEDNEY TYPE AX-8, CROSE HINDS TYPE XJ-8, APPLETON XJ-8, OR APPROVED EQUAL.

EXPANSION FITTINGS SHALL HAVE A COPPER EXTERNAL BONDING JUMPER. INSTALLATION OF THE EXPANSION FITTINGS SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS FOR THE TEMPERATURE AT THE TIME OF INSTALLATION.

ITEM 625 - STRUCTURE JUNCTION BOX, AS PER PLAN

JUNCTION BOX SHALL BE NEMA-4, 725.10 WITH DIMENSIONS OF 9"x12"x6" DEEP.

PAYMENT FOR THE ABOVE JUNCTION BOX SHALL INCLUDE ANY WORK ON THE EXISTING 2" DIA. CONDUIT ON THE SOUTH PORTAL NECESSARY TO FIT IT TO THE NEW JUNCTION BOX.

ITEM 625 - STRUCTURE GROUNDING SYSTEM, AS PER PLAN

THE CONTRACTOR SHALL CONSTRUCT NEW STRUCTURE GROUNDING SYSTEM ON PIERS 1 AND 3 IN ACCORDANCE WITH STANDARD DRAWING HL-50.21 (1-21-05)

PAYMENT FOR THE ABOVE MENTION ITEM SHALL BE PAID PER UNIT EACH AND INCLUDE ALL LABOR, MATERIALS, TOOLS AND INCIDENTALS REQUIRED FOR THE CONSTRUCTION OF THE NEW GROUNDING SYSTEM AND REMOVAL OF THE EXISTING SYSTEM FROM CONNECTION TO BRIDGE TO ONE FOOT BELOW GROUND LINE.

ITEM 625 - LIGHTING MISC.: PHOTO CELL

PHOTO CELLS SHALL BE INTERMATIC SERIES 1100, PARAGON, ALR, TORK OR APPROVED EQUAL. THE PHOTO CELLS SHALL BE MOUNTED ON JUNCTION BOX WHERE SHOWN IN THE PLANS.

NEW PHOTO CELLS SHALL BE LOCATED 10'-0" FROM THE TOP OF THE SIDEWALK ON THE WEST TRUSS. THE HEADS OF THE PHOTO CELLS SHALL BE ANGLED UPWARD 60° FROM HORIZONTAL WHEN ATTACHED TO JUNCTION BOXES ON TRUSS VERTICAL

ITEM 625 - 2" CONDUIT, 725.04 AS PER PLAN

THE NEW CONDUIT PLACED BETWEEN PANEL POINTS 1 AND 5 ON THE WEST TRUSS SHALL INCLUDE ONE EXPANSION FITTING.

EXPANSION FITTINGS SHALL BE OZ GEDNEY TYPE AX-4, CROSE HINDS TYPE XJ-4, APPLETON XJ-4, OR APPROVED EQUAL.

EXPANSION FITTINGS SHALL HAVE A COPPER EXTERNAL BONDING JUMPER. INSTALLATION OF THE EXPANSION FITTINGS SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS FOR THE TEMPERATURE AT THE TIME OF INSTALLATION.

AT EXPANSION JOINTS AT PANELS 12 AND 35, THE CONTRACTOR SHALL REMOVE THE FAILED EXPANSION FITTINGS AND CONDUIT TO THE THREADED ENDS OF THE EXISTING 2" DIA. CONDUIT, AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CAREFULLY FIELD MEASURE THE REQUIRED LENGTHS OF NEW CONDUIT AT EACH TRUSS PANEL POINT. THE CONTRACTOR SHALL THEN FASHION NEW CONDUIT, WITH EXPANSION FITTINGS TO FIT EACH EXPANSION JOINT. THE CONTRACTOR MAY UTILIZE THE THREADED ENDS OF THE EXISTING CONDUIT, OR REMOVE SMALL PORTIONS OF THE CONDUIT AND RE-THREAD, TO SPLICE THE NEW CONDUIT TO THE EXISTING.

THE REMOVAL OF THE EXISTING CONDUIT AND EXPANSION JOINT FITTINGS, OR THE REMOVAL OF ANY THREADED PIPE ENDS AND THE THREADING OF EXISTING PIPE SHALL BE CONSIDERED INCIDENTAL TO THE 2" CONDUIT PAY ITEM.

ITEM 625 - LIGHTING MISC.: CHANNEL MARKER LIGHTS

THE NAVIGATION LIGHTS SHALL BE MAINTAINED AT ALL TIMES DURING THE SHIPPING SEASON THROUGH THE USE OF THE EXISTING OR PROPOSED LIGHTING FIXTURES. THE EXISTING WIRING SHALL BE MAINTAINED TO ALL NAVIGATION LIGHTS UNTIL THE PROPOSED NAVIGATION LIGHTS ARE FUNCTIONAL ON THE NEW WIRING CIRCUITS. BATTERY POWERED LIGHTS MAY BE USED FOR TEMPORARY NAVIGATION LIGHTS SUBJECT TO THE APPROVAL OF THE ENGINEER. HOURS OF OPERATION SHALL BE FROM DUSK TO DAYLIGHT AND AS DIRECTED BY THE GOVERNING COAST GUARD DISTRICT.

CHANNEL MARGIN MARKER LIGHTS SHALL BE FEDERAL APD TYPE 1-P CATALOGUE NO. 5901-251BX, TIDELAND SIGNAL, B&B ELECTROMATIC MODEL CC 7304 OR APPROVED EQUAL. THE CASTING SHALL BE BRONZE WITH TWO LAMP RECEPTACLES, INTEGRALLY MOUNTED LAMP RELAY, 100 WATT LAMPS AND 180° RED FRESNAL LENS.

CHANNEL CENTERLINE MARKER LIGHTS SHALL BE FEDERAL APD TYPE 6 PSU CATALOGUE NO. 5901-208BX, TIDELAND SIGNAL, B&B ELECTROMATIC MODEL CC 7304 OR APPROVED EQUAL. THE CASTING SHALL BE BRONZE WITH TWO LAMP RECEPTACLES, INTEGRALLY MOUNTED LAMP RELAY, 100 WATT LAMPS AND 360° GREEN FRESNEL LENS.

FOR ADDITIONAL DETAILS, SEE SHEET 29 .

ITEM 625.03, 625.15 - GENERAL

THE POWER SUPPLYING AGENCY FOR THE LIGHTING PORTION OF THE PROJECT IS:

OHIO EDISON COMPANY
6326 LAKE AVENUE
ELYRIA, OHIO 44035
TELEPHONE (330) 326-3225

ITEM 625 - NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE STRINGING OF NEW CABLE FROM THE EXISTING POWER POLE TO THE BRIDGE AND ALONG THE TOP CHORD. THE CABLE SHALL BE STRUNG THROUGH NEW CONDUIT AND JUNCTION BOXES AT PANELS 1-5 AND THROUGH EXISTING CONDUIT AND JUNCTION BOXES THE REMAINING LENGTH OF BRIDGE.

THE DISCONNECTION OF THE STREET LIGHT WIRE FROM THE EXISTING DISTRIBUTION CABLE, THE REMOVAL OF THE EXISTING POLE AND BRACKET CABLE TO THE NAVIGATION LIGHTING AND THE REMOVAL OF THE EXISTING DISTRIBUTION CABLE SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

PAINTING NEW MATERIALS

ALL NEW GALVANIZED MATERIALS INCORPORATED INTO THE PROJECT SHALL BE PAINTED WITH A URETHANE TOP COAT TO MATCH THE EXISTING STEEL COLOR. MATERIALS SHALL INCLUDE THE NAVIGATION LIGHT MOUNTING BRACKETS, FASTENERS, CONDUIT, CLAMPS AND JUNCTION BOXES.

THE PAINTING SHALL BE CONSIDERED INCIDENTAL TO EACH PAY ITEM AND INCLUDED FOR PAYMENT WITH EACH ITEM.

PAYMENT FOR FIELD TOUCH-UP OF LIGHTING CONDUIT CONNECTIONS AND SPLICES SHALL BE MADE PER ITEM 514 - FIELD PAINTING, MISC: FIELD TOUCH-UP OF NEW AND EXISTING PAINT. SEE SHEET 34.

CALCULATED KAK 2/06
CHECKED EEL 2/06

LIGHTING GENERAL NOTES

LOR-611-3.58
PID 21226

98076LN.DGN 3/22/06 SJK,RC

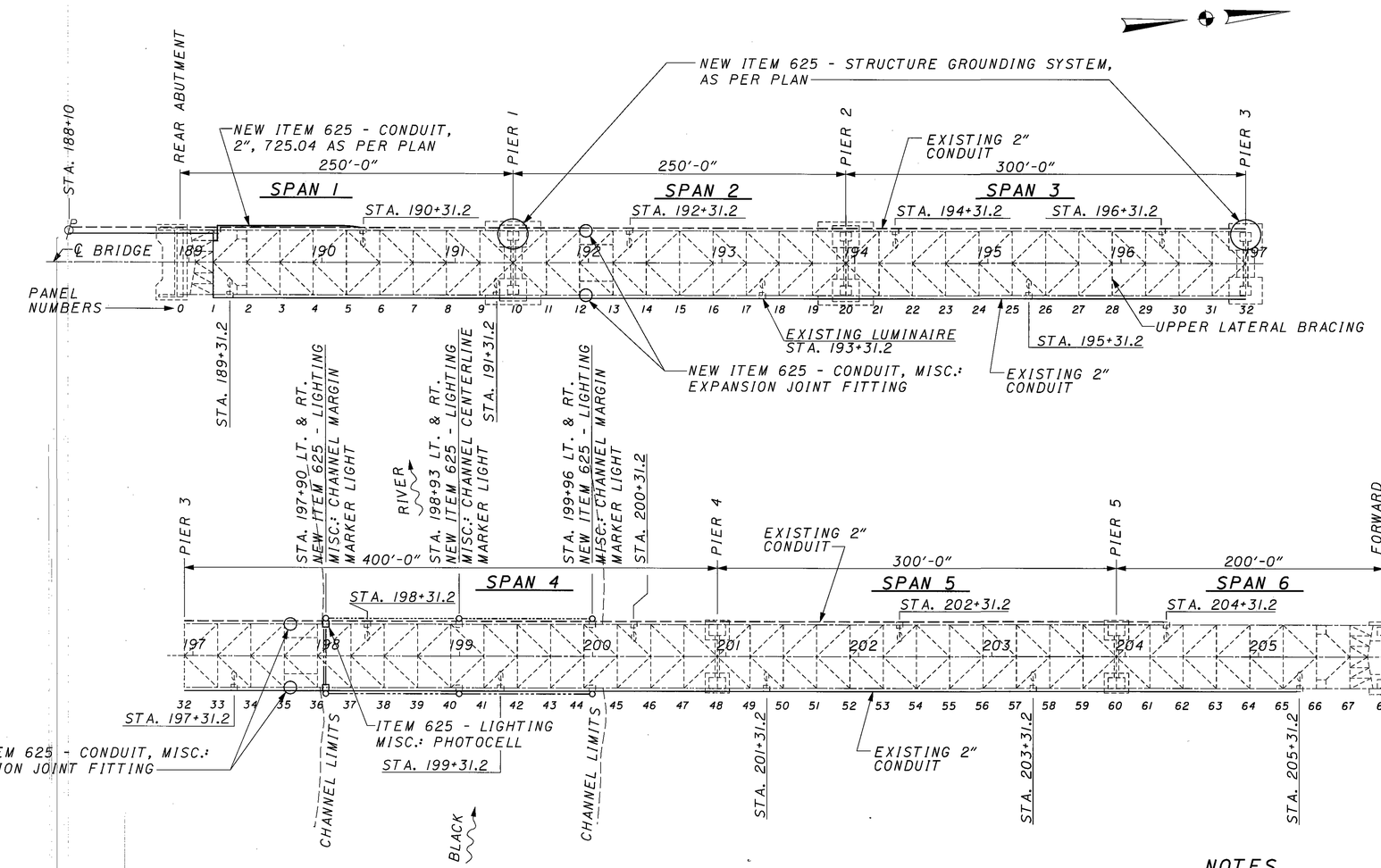
LIGHTING SUBSUMMARY

CALCULATED KAK 2/06 CHECKED EEL 2/06

SHEET NO.	STATION FROM	STATION TO	SIDE	625 STRUCTURE GROUNDING SYSTEM, AS PER PLAN EACH	625 STRUCTURE JUNCTION BOX, AS PER PLAN EACH	625 2" CONDUIT 725.04, AS PER PLAN FOOT	625 1¼" CONDUIT 725.04 FOOT	625 NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE, AS PER PLAN FOOT	625 NO. 10 AWG POLE AND BRACKET CABLE FOOT	625 LIGHTING MISC.: 3/C NO. 10 AWG 725.02 FOOT	625 CONNECTOR KIT TYPE II EACH	625 CONNECTOR KIT TYPE III EACH	625 CONNECTOR KIT TYPE VII A EACH	625 CONNECTOR KIT TYPE VII B EACH	625 CABLE SPLICING KIT EACH	625 LIGHTING MISC.; CHANNEL CENTERLINE MARKER LIGHT EACH	625 LIGHTING MISC.; CHANNEL MARGIN MARKER LIGHT EACH	625 POWER SERVICE EACH	625 LIGHTING MISC.; PHOTOCELL EACH	625 CONDUIT MISC.: EXPANSION JOINT FITTINGS EACH	632 MESSENGER WIRE, 7 STRAND, ¼" DIAMETER WITH ACCESSORIES FOOT
	188+10														2			1			
	188+10	189+20	LT.					720					6								120
	189+20	189+32	LT. & RT.					222			2	1									
	189+32	191+32	RT.					630			2	1									
	191+32	193+32	RT.					630			2	1									
	193+32	195+32	RT.					630			2	1									
	195+32	197+32	RT.					630			2	1									
	197+32	197+98	RT.					228													
	197+98		RT.		1				100	20	1	1	2	2			1				
	197+98		LT. & RT.			48		116													
	197+98	198+94	RT.					530													
	198+94		RT.						100	20	1	1	2			1					
	198+94	199+32	RT.					240			2	1									
	199+32	199+98	RT.					380													
	199+98		RT.						100	20	1	1	2					1			
	199+98	201+32	RT.					435			2	1									
	201+32	203+32	RT.					630			2	1									
	203+32	205+32	RT.					630			2	1									
	189+18	190+32	LT.		1	115		375			2	1									
	190+32	192+32	LT.					630			2	1									
	192+32	194+32	LT.					630			2	1									
	194+32	196+32	LT.					630			2	1									
	196+32	197+98	LT.					528			1		1	1							
	197+98		LT.		2	20	16	210	60	20		1	3					1		2	
	197+98	198+32	LT.					225			2	1									
	198+32	198+94	LT.					360													
	198+94		LT.						100	20	1	1	2			1					
	198+94	199+94	LT.					550													
	199+94		LT.						100	20	1	1	2					1			
	199+94	200+32	LT.					150			2	1									
	200+32	202+32	LT.					630			2	1									
	202+32	204+32	LT.					630			2	1									
	191+44		LT.	1																	
	196+93.5		LT.	1																	
	191+90	191+97	LT.			7														1	
	197+63	197+73	LT.			10														1	
	191+90	191+97	RT.			7														1	
	197+65	197+72	RT.			7														1	
	TOTALS TO GENERAL SUMMARY			2	4	214	16	12199	560	120	40	23	20	3	2	2	4	1	2	4	120

LOR-611-3.58
PID 21226

98076LSI 2/14/06 SJK.RC



LEGEND

- PROPOSED CHANNEL MARGIN OR CENTERLINE MARKER
- EXISTING JUNCTION BOX AT EXISTING LIGHT FIXTURE
- EXISTING JUNCTION BOX
- EXISTING POWER POLE
- PROPOSED CIRCUIT A (STREET LIGHT)
- PROPOSED CIRCUIT B (STREET LIGHT)
- PROPOSED CIRCUIT C
- PROPOSED CIRCUIT D

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

LIGHTING CONDUIT REPAIRS IN SPAN 1
SEE SHEET 28.

CONDUIT EXPANSION JOINT FITTING
SEE DETAILS SHEET 28.

NAVIGATION LIGHTS SEE DETAILS SHEET 29.

PROPOSED NAVIGATIONAL LIGHTING
WATTAGE: 100 W
LIGHT OUT RELAYS
FRESNEL LENSES
OWNERSHIP: LORAIN COUNTY
PROPOSED CIRCUIT VOLTAGE: 120V 2 WIRE

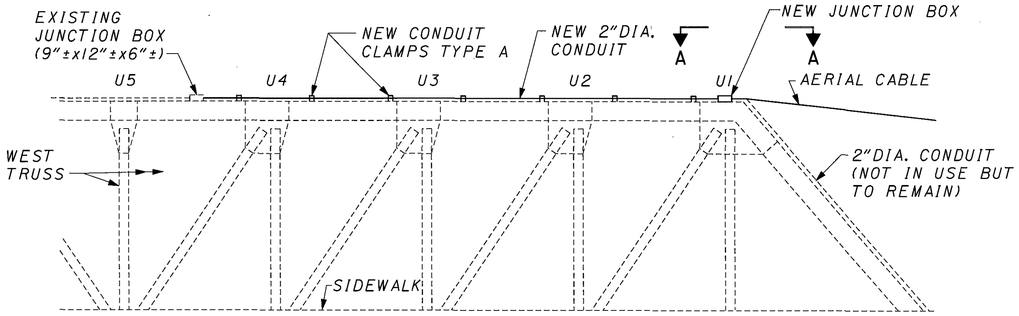
EXISTING STREET LIGHTING
TYPE: MERCURY VAPOR
WATTAGE: 400 W
LUMEN RATING: 22500
OWNERSHIP: OHIO EDISON
PROPOSED CIRCUIT VOLTAGE: 120/240V 3 WIRE

CALCULATED KAK 2/06
CHECKED EEL 2/06

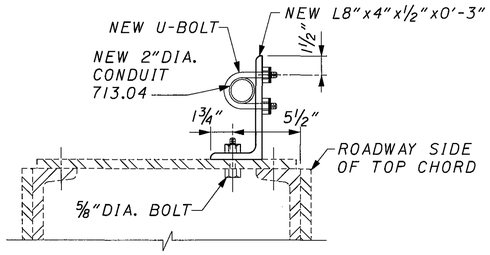
LIGHTING PLAN

LOR-611-3.58
PID 21226

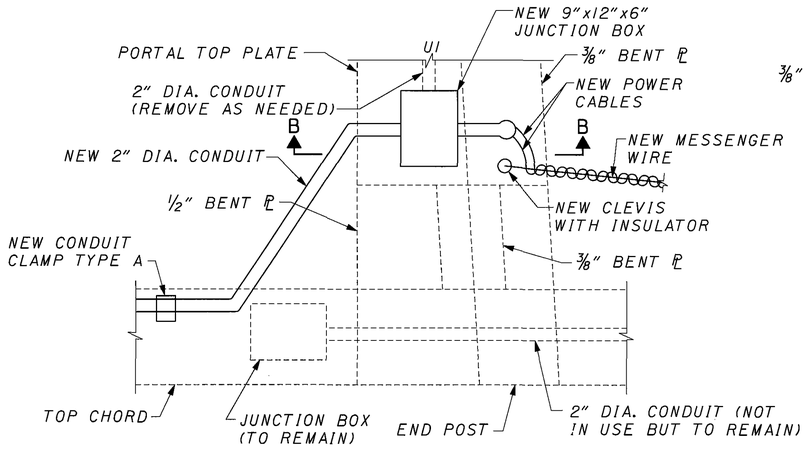
98076ULB.DGN 2/14/06 SJK.RC



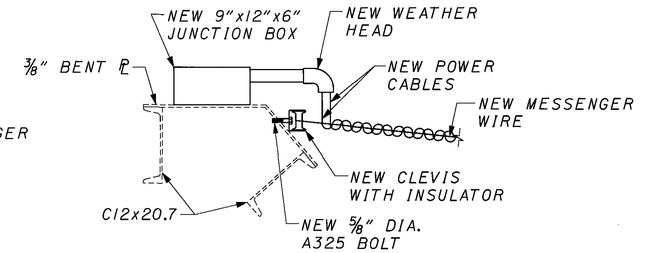
WEST TRUSS ELEVATION



TYPE A CLAMP

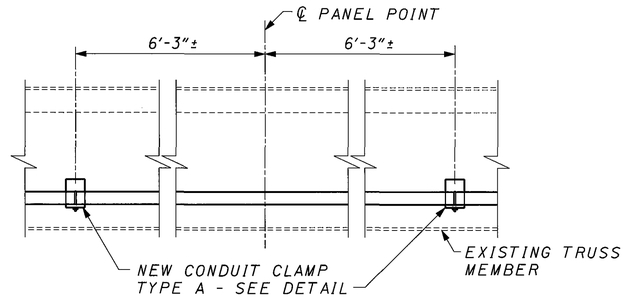


VIEW A-A
WIRE CONNECTION TO TRUSS



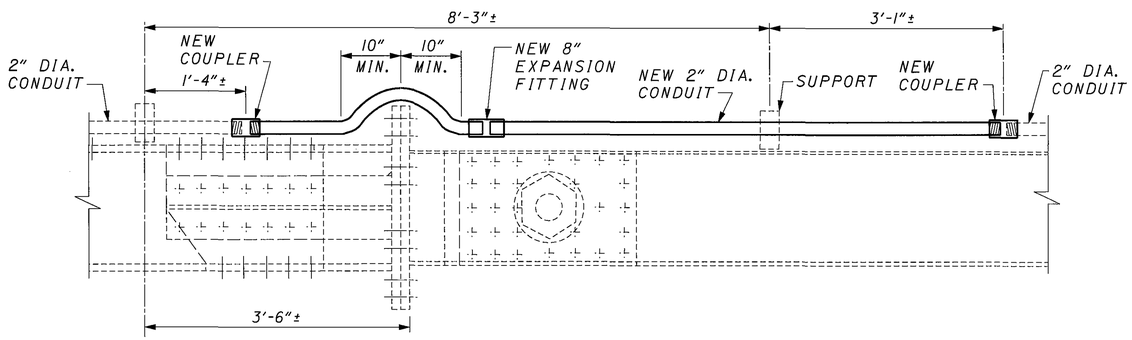
NOTE: SEE STD. DWG. TC-83.10 FOR WEATHERHEAD, DRIP LOOP AND OTHER DETAILS NOT SHOWN

SECTION B-B

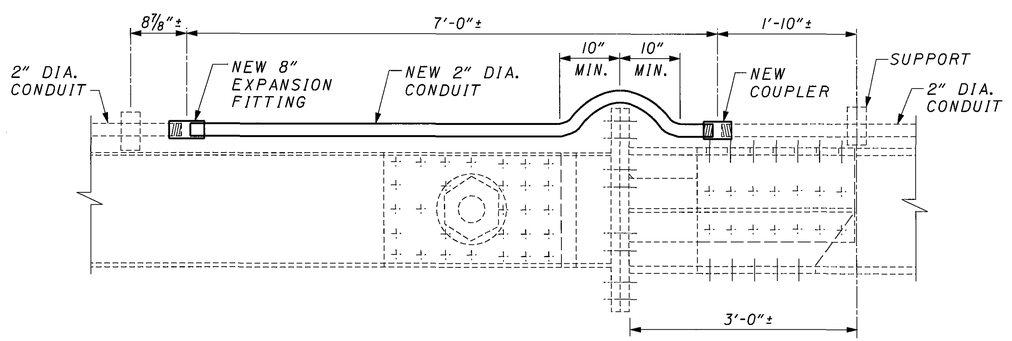


CONDUIT ATTACHMENT SPACING DETAIL

ITEM 625 - 2" CONDUIT, 725.04, AS PER PLAN



ELEVATION
(PANEL 35 - WEST TRUSS ONLY)



TYPICAL REPAIR
(PANEL 12 - WEST TRUSS SHOWN)
(PANEL 12 - EAST, PANEL 35 - EAST SIMILAR)

ITEM 625 - CONDUIT MISC.: EXPANSION JOINT FITTINGS

NOTE:

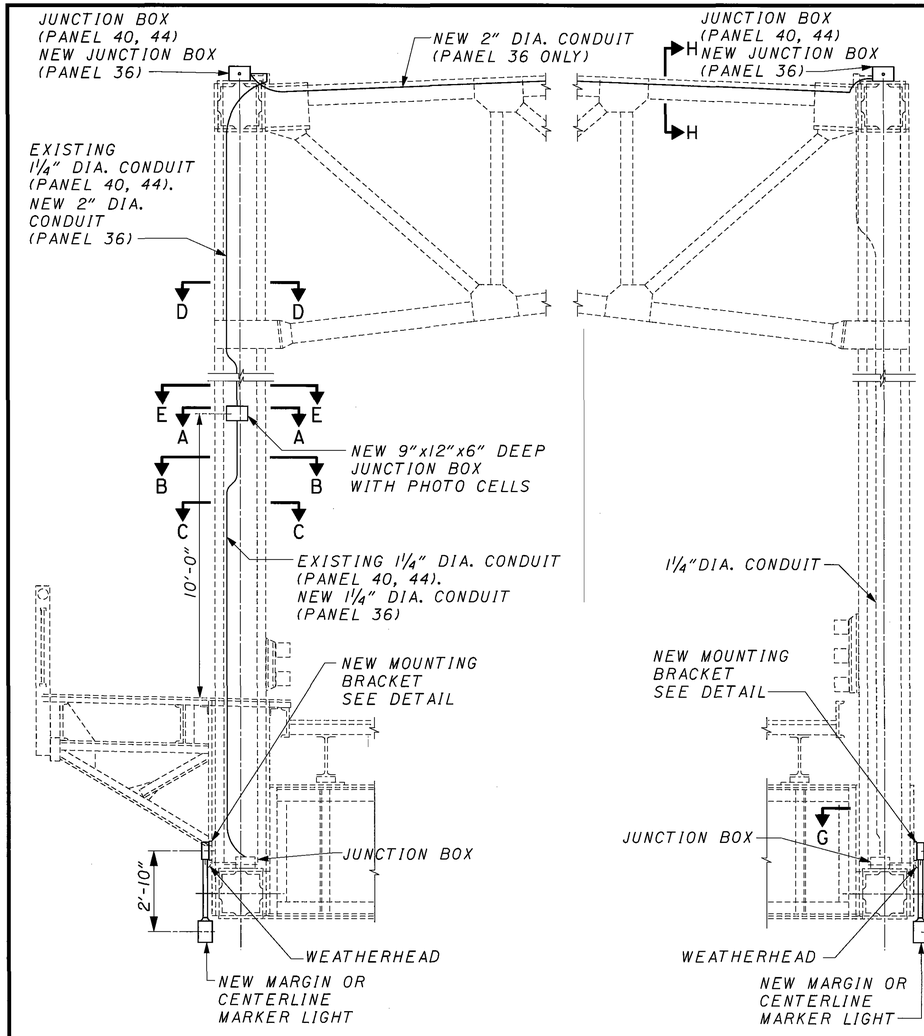
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

CALCULATED KAK 2/06
CHECKED EEL 2/06

LIGHTING CONDUIT REPAIRS

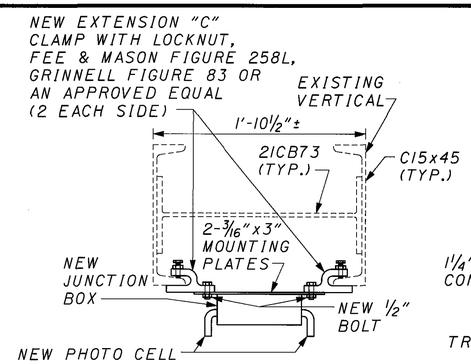
LOR-611-3.58
PID 21226

98076RD3.DGN 2/14/06 SJK,RC

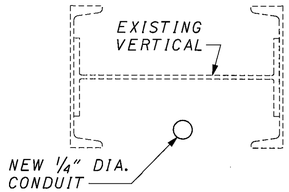


NEW NAVIGATION LIGHT FIXTURES AND SUPPORTS

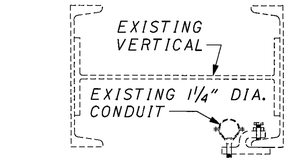
(PANELS 36, 40 & 44)



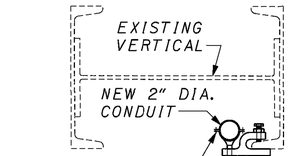
SECTION A-A



SECTION B-B



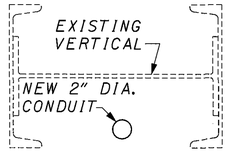
SECTION C-C



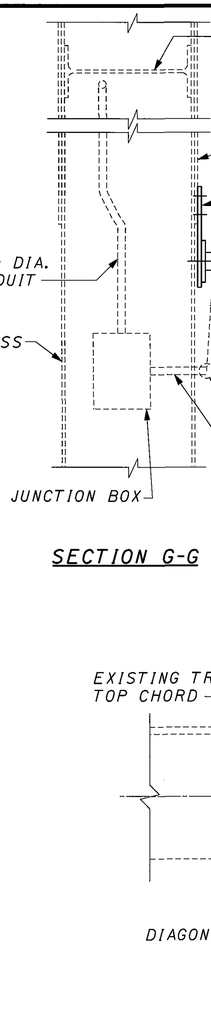
SPLIT RING CLAMP FEE & MASON FIGURE 304, GRINNELL FIGURE 138R OR AND APPROVED EQUAL (TYP.)

NEW EXTENSION "C" CLAMP WITH LOCKNUT, FEE & MASON FIGURE 258L, GRINNELL FIGURE 83 OR AN APPROVED EQUAL (TYP.)

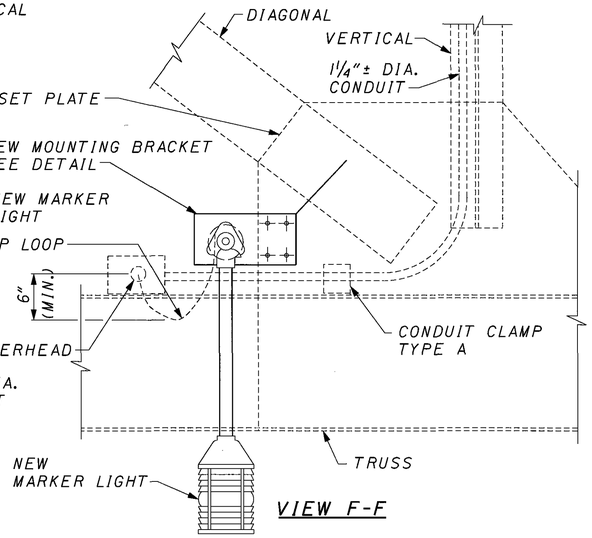
SECTION D-D



SECTION E-E

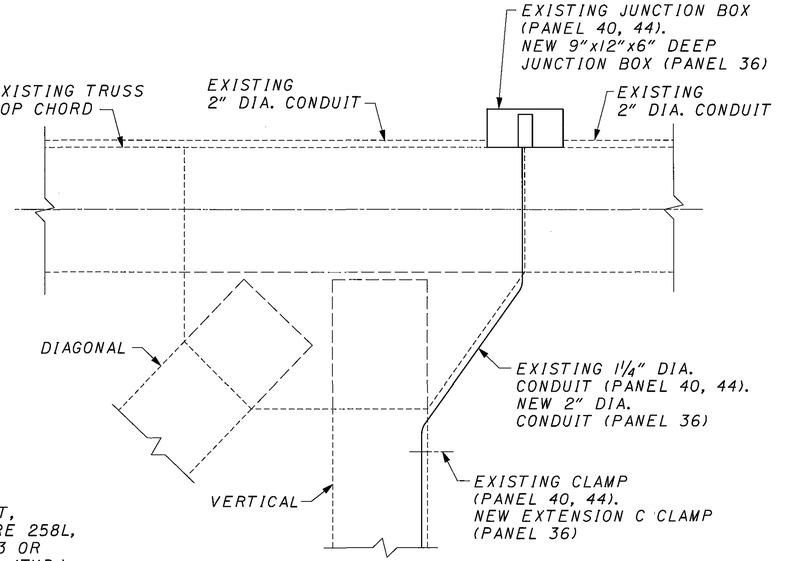


SECTION G-G

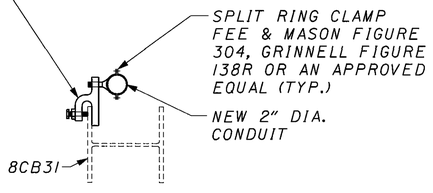


VIEW F-F

MOUNTING BRACKET DETAIL



TYPICAL ELEVATION AT CHANNEL MARKERS



SECTION H-H

(PANEL 36 ONLY)

** MOUNTING SHOWN FOR MARKER LIGHTS MANUFACTURED BY FEDERAL APD TYPE I-P OR TYPE 6 PSU. BRACKETS FOR OTHER MANUFACTURER'S FIXTURES SHALL BE SIZED TO FIT PARTICULAR FIXTURE, HOWEVER MATERIAL SIZES SHALL BE SIMILAR, SUBJECT TO THE APPROVAL OF THE ENGINEER.

NOTE: MOUNTING BRACKETS, FASTENERS AND HARDWARE SHALL BE GALVANIZED STEEL PER 711.02, AND SHALL BE INCLUDED FOR PAYMENT AS INCIDENTAL TO THE PERTINENT, ITEM 625- CHANNEL CENTERLINE MARKER LIGHT OR ITEM 625 - CHANNEL MARGIN MARKER LIGHT.

NOTES

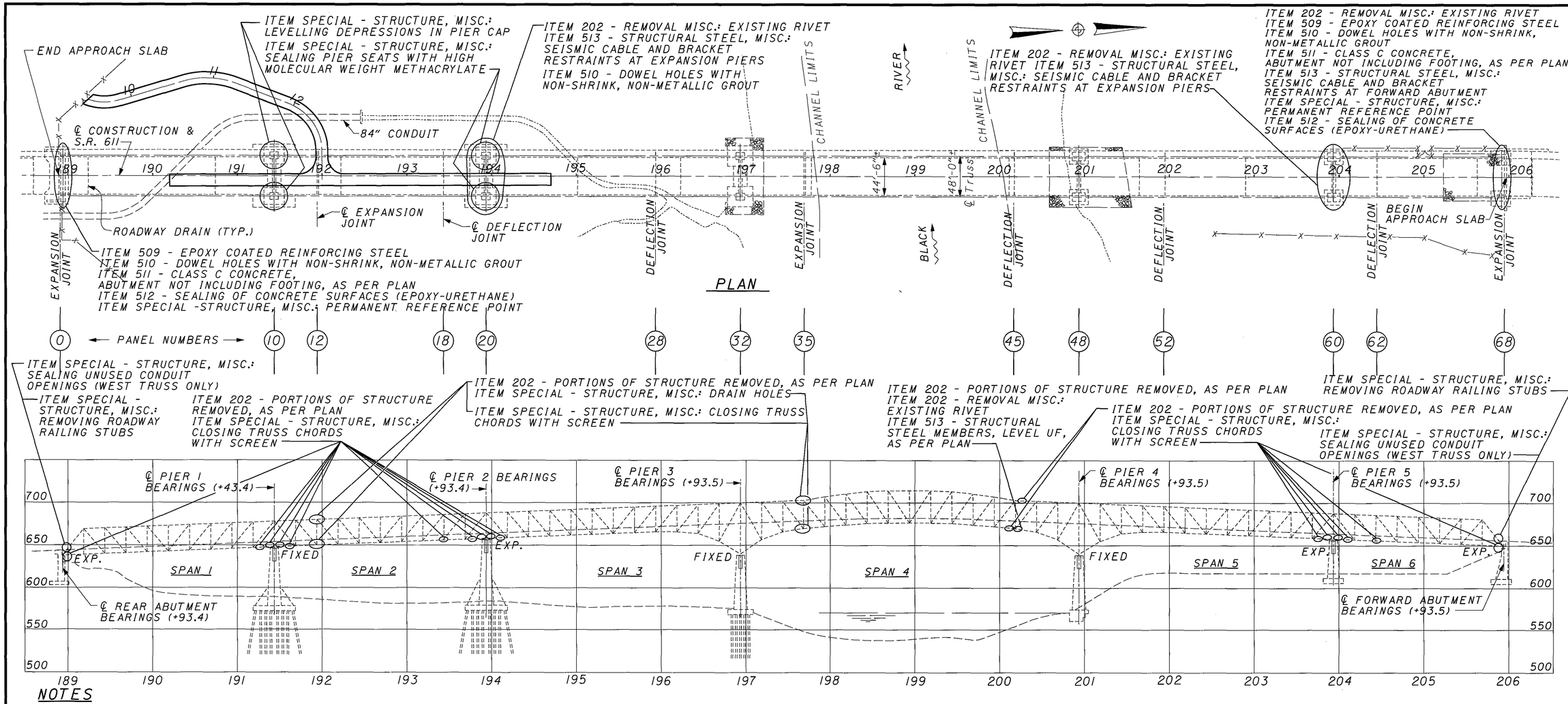
MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

CALCULATED KAK 2/06
CHECKED EEL 2/06

LIGHTING - NAVIGATION LIGHTS

LOR-611-3.58
PID 21226

98076RD3.DGN 2/14/06 SJK,RC



NOTES

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE SHEET 3/62, 23/62, 24/62 AND 29/62

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
SEE SHEET 3/62, 4/62, 11/62, 13/62, 15/62 AND 29/62

ITEM SPECIAL - STRUCTURE, MISC.: SEALING PIER SEATS WITH HIGH MOLECULAR WEIGHT METHACRYLATE
SEE SHEET 8/62 AND 12/62

ITEM SPECIAL - STRUCTURE, MISC.: DRAIN HOLES
SEE SHEET 23/62

ITEM SPECIAL - STRUCTURE, MISC.: LEVELLING DEPRESSIONS IN PIER CAP
SEE SHEET 7/62 AND 12/62

ITEM SPECIAL - STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN
SEE SHEET 7/62, 23/62 AND 24/62

ITEM SPECIAL - STRUCTURE, MISC.: SEALING UNUSED CONDUIT OPENINGS
SEE SHEET 7/62 AND 25/62

ITEM 511 - CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN SEE SHEET 3/62 AND 14/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT FORWARD ABUTMENT
SEE SHEET 4/62 AND 13/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT EXPANSION PIERS
SEE SHEET 4/62, 11/62 AND 15/62

ELEVATION

ITEM 509 - EPOXY COATED REINFORCING STEEL
SEE SHEET 14/62

ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT
SEE SHEET 11/62, 13/62, 14/62 AND 15/62

ITEM 513 - STRUCTURAL STEEL MEMBER, LEVEL UF, AS PER PLAN SEE SHEET 29/62

ITEM SPECIAL - STRUCTURE, MISC.: REMOVING ROADWAY RAILING STUBS
SEE SHEET 7/62 AND 25/62

ITEM SPECIAL - STRUCTURE, MISC.: PERMANENT REFERENCE POINT
SEE SHEET 8/62 AND 14/62

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SEE SHEET 14/62

EXISTING STRUCTURE

TYPE: CONCRETE FILLED STEEL GRID ROADWAY DECK AND SIDEWALK, CARRIED BY STEEL STRINGERS AND FLOORBEAMS, ON CANTILEVERED STEEL THROUGH TRUSSES, SUPPORTED ON REINFORCED CONCRETE PIERS AND ABUTMENTS.

SPANS: 250'±, 250'±, 300'±, 400'±, 300'± & 200'±

ROADWAY: 44'-6"±F/F GUARDRAILS W/6'-0"± SIDEWALK

LOADING: HS 20-44 & ALTERNATE MILITARY LOADING AND 150% OHIO LEGAL.

SKEW: 0°±

ALIGNMENT: TANGENT

CONDITION: FAIR

WEARING SURFACE: MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-81 (30'-0" LONG)

YEAR BUILT: 1940, REHABILITATED 1989

STRUCTURE FILE NO.: 4707443

DISPOSITION: MINOR REHABILITATION

PROPOSED STRUCTURE

TYPE: CONCRETE FILLED STEEL GRID ROADWAY DECK AND SIDEWALK, CARRIED BY STEEL STRINGERS AND FLOORBEAMS, ON CANTILEVERED STEEL THROUGH TRUSSES, SUPPORTED ON REINFORCED CONCRETE PIERS AND ABUTMENTS.

PROPOSED WORK: MINOR REHABILITATION OF EXISTING STRUCTURE INCLUDING NEW JOINT SEALS, CONCRETE REPAIR, PARTIAL CONCRETE SEALING, STEEL REPAIRS, PAINTING, SEISMIC RETROFIT, AND MISCELLANEOUS REPAIRS.

SPANS: 250'±, 250'±, 300'±, 400'±, 300'± & 200'±

ROADWAY: 44'-6"±F/F GUARDRAILS W/6'-0"± SIDEWALK

LOADING: HS 20-44 & ALTERNATE MILITARY LOADING AND 150% OHIO LEGAL.

SKEW: 0°±

ALIGNMENT: TANGENT

WEARING SURFACE: EXISTING

APPROACH SLABS: EXISTING

DESIGN AVERAGE DAILY TRAFFIC: 16190 (2022)

DESIGN AVERAGE DAILY TRUCK TRAFFIC: 405 (2022)

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	TWH	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

GENERAL PLAN

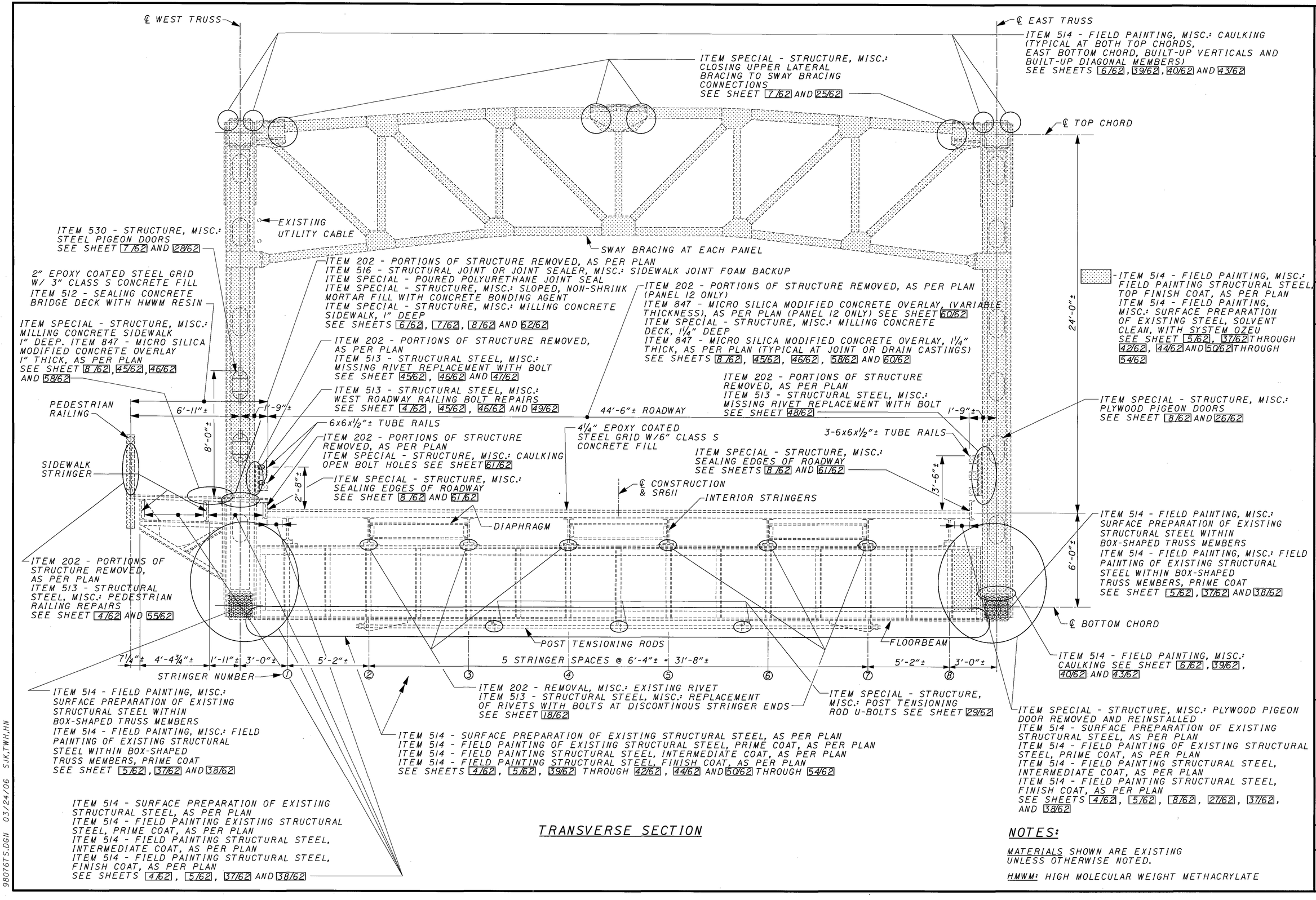
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

1/62

30/91

980766P.DGN 2/14/06 SJK,TWH



TRANSVERSE SECTION

NOTES:

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

HMWM: HIGH MOLECULAR WEIGHT METHACRYLATE

980767S.DGN 03/24/06 SJK,TWH,HN

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	TWH	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

GENERAL PLAN TRANSVERSE SECTION

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

2/62

31/91

REFERENCE:

SHALL BE MADE TO SUPPLEMENTAL SPECIFICATION:

843 (DATED 4/18/03)
847 (DATED 4/15/05)
885 (DATED 11/04/05)

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIAL, 2002, INCLUDING ALL SUBSEQUENT INTERM SPECIFICATIONS, AND THE 2004 ODOT BRIDGE DESIGN MANUAL AND INTERIMS.

EXISTING STRUCTURE PLANS:

DESIGN PLANS AND SHOP DRAWINGS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT ODOT DISTRICT 3, 906 NORTH CLARK ST., ASHLAND, OH.

DESIGN DATA:

CONCRETE CLASS C COMPRESSIVE STRENGTH f'c = 4000 psi
STRUCTURAL STEEL ASTM A572/A709 GRADE 36 - UNIT STRESS 36 ksi
GALVANIZED STRUCTURAL STRANDS ASTM A586.
GALVANIZED STRUCTURAL WIRE ROPE ASTM A603.
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60
MINIMUM YIELD STRESS = 60,000 P.S.I
SPLICES INDICATED FOR GRADE 60 STEEL
- ALL REINFORCING STEEL SHALL BE EPOXY COATED PER MATERIAL SPECIFICATION 709.00

PROPOSED STRUCTURE WORK:

1. INSTALL CAULKING AT EACH EAST LOWER CHORD PANEL POINT TO OBSTRUCT THE FLOW OF WATER INTO THE POCKETS CREATED BY THE GUSSET PLATES.
2. SEAL CRACKS AND PATCH SPALLS IN CONCRETE ROADWAY WEARING SURFACE. FULL DEPTH REPAIR IN ROADWAY AT PANEL 12.
3. SEAL STEEL CURB TO DECK INTERFACE WITH HIGH MOLECULAR WEIGHT METHACRYLATE.
4. PLACE CAULK IN EMPTY HOLES IN STEEL CURB ALONG WEST CURB LINE.
5. SEAL SIDEWALK WEARING SURFACE WITH HIGH MOLECULAR WEIGHT METHACRYLATE.
6. REPAIR BROKEN CONNECTION OF PEDESTRIAN RAILING TO POST AT PANEL 18.
7. PLUG UNUSED CONDUIT IN SIDEWALK AT REAR AND FORWARD ABUTMENTS. CUT OFF AND GRIND SMOOTH OLD RAILING STUBS ON WEST TRUSS ENDPOSTS.
8. PLACE SLOPED MORTAR ON THE UPHILL SIDE OF WEST TRUSS MEMBERS WHERE THEY PASS THROUGH SIDEWALK TO PREVENT PONDING WATER. REMOVE EXISTING AND INSTALL NEW POLYURETHANE SEALANT.
9. REPAIR SPALL IN SIDEWALK WEARING SURFACE AROUND ACCESS HATCHES.
10. PLACE NEOPRENE SHEATHING ON LOWER LATERAL BRACING IN PANEL 56 UNDER DECK DRAIN. REPLACE NEOPRENE SHEATHING ON LOWER LATERAL BRACING IN PANEL 25.
11. REHABILITATE MODULAR JOINT AT FLOORBEAM 35 AND FORWARD ABUTMENT. REPLACE STRIP SEALS.
12. TIGHTEN BOLTS IN SIDEWALK PLATE IN EXPANSION JOINT AT REAR ABUTMENT.
13. REPLACE STRIP SEAL AT REAR ABUTMENT.
14. REPLACE WOODEN PIGEON DOORS ACCESSIBLE FROM SIDEWALK AND ABUTMENTS WITH STEEL COVERS. REPLACE OTHER MISSING PIGEON DOORS WITH PLYWOOD COVERS. REMOVE AND REINSTALL PLYWOOD PIGEON DOORS FOR PAINTING ACCESS.
15. REMOVE EXISTING SCREENS AND INSTALL NEW SCREENS TO PREVENT PIGEON NESTING AT VARIOUS OPENINGS IN THE TRUSS CHORDS.
16. INSTALL SCREENS TO PREVENT PIGEON NESTING UNDER THE UPPER LATERAL BRACE TO SWAY BRACE CONNECTION GUSSET PLATES.
17. ADD DRAIN HOLES TO PANEL 12 AND 35 PREVIOUSLY REBUILT TOP AND BOTTOM TRUSS CHORD EXPANSION JOINTS TO PREVENT PONDING WATER. ADD DRAIN HOLES TO HORIZONTAL JACKING BRACKETS AT PANEL POINT L12.
18. REPLACE MISSING STITCH BOLTS IN BUILT UP VERTICAL AND DIAGONAL MEMBERS OF THE EAST TRUSS ALONG ROADWAY RAILING. REMOVE AND REPLACE LOOSE RAILING BOLTS IN ROADWAY RAILING ALONG EAST TRUSS.
19. SHIM SIDEWALK STRINGER BEARING AT PANEL 12.
20. LEVEL SEATS WITH NON-SHRINK GROUT AND THEN SEAL CONCRETE BEARING SEAT ON PIERS 1 AND 2 WITH HIGH MOLECULAR WEIGHT METHACRYLATE.
21. REPLACE RIVETS IN STRINGER-TO-FLOORBEAM CONNECTIONS AT DISCONTINUOUS STRINGER ENDS WITH NEW HIGH-STRENGTH BOLTS.
22. SPOT BLAST AND REPAIR PAINT SYSTEM. APPLY NEW TOP COAT TO THE TRUSS ABOVE THE ROADWAY INCLUDING RAILINGS AND THE EAST LOWER TRUSS CHORD. CAULKING ON TRUSS MEMBERS TO BE REMOVED AND REPLACED WITH NEW MATERIAL.
23. ADD ACCESS TO SPAN 4 CENTER NAVIGATION LIGHTS WITH A NEW CATWALK. ADD SAFETY RAILING TO LOWER CHORD PANELS WITH NAVIGATIONAL LIGHTS.
24. PLACE BOLTS IN VACANT HOLES OR REPLACE LOOSE BOLTS ALONG WEST ROADWAY RAILING SUPPORTS TO TRUSS. TIGHTEN OR WELD LOOSE BOLTS TO ROADWAY RAILING.
25. REPLACE LOOSE OR MISSING BOLTS AT PEDESTRIAN RAILING PANEL CONNECTIONS TO POSTS. REPLACE CORRODED BALUSTERS IN SIDEWALK RAILING.
26. REATTACH NEOPRENE FLASHING TO FLOORBEAM 45, AND AT LOWER LATERAL BRACING UNDER DECK DRAINS IN PANELS 2, 8, 14, 20, 30, 51 & 61.
27. INSTALL SEISMIC CABLE RESTRAINTS FOR EXPANSION STRINGER ENDS AT PANEL 12 AND 35 EXPANSION JOINTS.
28. INSTALL SEISMIC TIE ROD RESTRAINTS FOR STRINGER ENDS AT PANEL 18, 28, 45, 52 AND 62 DEFLECTION JOINTS.
29. INSTALL SEISMIC CABLE AND BRACKET RESTRAINTS FOR LATERAL FORCES ON ROCKERS AT PIERS 2 AND 5.
30. INSTALL SEISMIC CONCRETE SUPPORT BLOCKS ADJACENT TO ROCKERS AT THE REAR AND FORWARD ABUTMENT
31. INSTALL SEISMIC CABLE AND BRACKET RESTRAINTS FOR LONGITUDINAL FORCES ON THE TRUSS AT THE FORWARD ABUTMENT.
32. PATCH SCALE AND SPALLS ON PIERS AND ABUTMENTS.
33. REPLACE LOOSE OR MISSING BOLTS AT RANDOM LOCATIONS ON BRIDGE.
34. REMOVE AND REPLACE PART OF A RUSTED OUT PLATE ON THE BUILT UP WEST LOWER TRUSS CHORD NEAR PANEL POINT 45.
35. REMOVE AND REPLACE LOOSE U-BOLTS RESTRAINING POST-TENSIONING RODS AT FLOORBEAM 7, FLOORBEAM 44 AND BOTTOM CHORD PANEL 39.
36. REMOVE CORRODED RIVETS AND INSTALL NEW BOLTS IN THE EAST LOWER CHORD AS DIRECTED BY THE ENGINEER.
37. SEAL ALL EXPOSED SURFACES OF THE ABUTMENTS WITH EPOXY-URETHANE.
38. ESTABLISH NEW REFERENCE POINTS ON THE ABUTMENT SEATS.
39. REMOVE LOOSE BOLTS AND REPLACE MISSING BOLTS IN CATWALKS AT PANELS 12, 35 AND 45. REPLACE DETERIORATED TOE PLATES AND CONNECTION PLATES WITH NEW.

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.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

PORTIONS OF STRUCTURE DESIGNATED FOR REMOVAL SHALL INCLUDE, BUT ARE NOT TO LIMITED TO:

- POURED POLYURETHANE JOINT SEAL
- ALL CENTER SPRINGS, PLATES AND STRIP SEALS FROM MODULAR EXPANSION JOINTS AT FLOORBEAM 35 AND FORWARD ABUTMENT
- REAR ABUTMENT STRIP SEALS
- LOOSE BOLTS AND ANGLES AT PEDESTRIAN RAILING PANEL CONNECTION TO POST
- CORRODED VERTICALS AND LOWER VERTICAL EXTENSIONS IN SIDEWALK RAILING
- WELDS FROM LOWER VERTICAL EXTENSIONS TO SIDEWALK ANGLES (TO BE GROUND SMOOTH)
- EXISTING GALVANIZED MESH AT PANELS 12 AND 35
- EXISTING GALVANIZED MESH PIGEON SCREENS TO BE REMOVED FOR PAINTING ACCESS
- NYLON REINFORCED NEOPRENE SHEETING, ATTACHMENT BOLTS AND TIES DESIGNATED FOR REPLACEMENT.
- LOOSE COUNTERSUNK BOLTS IN WEST ROADWAY CURB
- COUNTERSUNK BOLTS IN REAR ABUTMENT SIDEWALK PLATE
- LOOSE BOLTS IN ROADWAY RAILING
- CORRODED PORTION OF WEST TRUSS LOWER CHORD PLATE.
- EXISTING TOE PLATES AND CONNECTION PLATES AT CATWALKS AT PANEL POINTS 12, 35 AND 45
- CONCRETE DECK ADJACENT TO THE FINGER JOINT AT PANEL 12. INCLUDE SAWCUT NEAT LINE AS PART OF REMOVAL.

REMOVAL LIMITATIONS AT PANEL 12 FINGER JOINT

THE CONTRACTOR SHALL ENGAGE IN CAREFUL REMOVAL OF THE EXISTING CONCRETE ONLY IN THE DECK AT PANEL 12. SEE SHEET 60/62 FOR LIMITS. REMOVAL SHALL BE BY MEANS OF CHIPPING OR HYDRODEMOLITION, PER SUPPLEMENTAL SPECIFICATION 848. THE METHOD OF REMOVAL AND WEIGHT OF THE HAMMER SHALL BE APPROVED BY THE ENGINEER PRIOR TO BEGINNING THE CONCRETE REMOVAL. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL, STEEL GRID, FINGER JOINT CASTING, STEEL STRINGERS OR OTHER MEMBERS IN THE VICINITY OF THE JOINT. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH STEEL THAT IS TO REMAIN IN THE STRUCTURE.

THE SAWCUT DEFINING THE CONCRETE REMOVAL LIMITS IN THE DECK SHALL BE MADE OVER THE STEEL GRID BEARING BAR AS SHOWN IN THE PLANS. THE LOCATION OF THIS BAR SHALL BE LOCATED BY DRILLING SMALL DIAMETER PILOT HOLES OVER THE BEARING BARS. CARE SHALL BE TAKEN NOT TO DAMAGE THE BEARING BAR IN THE STEEL GRID DURING THE DRILLING OR THE ACTUAL SAWCUT.

THE CONTRACTOR MAY REMOVE CONCRETE BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPES TOOLS. THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 90 POUNDS. REMOVAL METHODS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING OF EXISTING STEEL MEMBERS. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

LUMP SUM PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

ITEM 202 - REMOVAL, MISC.: EXISTING RIVET

EXISTING RIVETS THAT ARE IN HOLES USED TO CONNECT NEW MATERIAL TO EXISTING MATERIAL, EXISTING RIVETS THAT MUST BE REMOVED TO REMOVE EXISTING STEEL, AND RIVETS DIRECTED TO BE REMOVED BY THE ENGINEER SHALL BE REMOVED WITH CARE IN ACCORDANCE WITH CMS SECTION 202.03.

NO MORE RIVETS SHALL BE REMOVED FROM AN AREA THAN ARE NECESSARY FOR CONNECTING EACH NEW MATERIAL PIECE. RIVETS SHALL BE REMOVED FROM ONLY ONE SIDE OF A TRUSS MEMBER AT A TIME.

ALL EXISTING RIVETS TO BE REMOVED SHALL FIRST HAVE THE HEADS CUT OFF AND THEN THE REMAINDER OF THE RIVET REMOVED BY DRILLING OR BURNING. SOME RIVETS TO BE REMOVED MAY HAVE COUNTERSUNK HEADS ON ONE OR BOTH ENDS. RIVETS THAT ARE COUNTERSUNK BOTH ENDS SHALL BE REMOVED BY DRILLING OR BURNING. PUNCHING MAY BE USED TO REMOVE LOOSE FITTING SHANKS. RIVET REMOVAL METHODS SHALL NOT DAMAGE BASE MATERIAL THAT IS TO REMAIN IN PLACE. THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED RIVET REMOVAL METHOD FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK. ANY DAMAGE TO EXISTING MATERIAL TO REMAIN IN PLACE DUE TO THE CONTRACTORS REMOVAL OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE COST OF THE CONTRACTOR.

ITEM 202 - REMOVAL, MISC.: EXISTING RIVET CONTINUED ON SHEET 4/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707445

GENERAL NOTES

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

980706GN.DGN 2/10/06 SJK,TWH

ITEM 202 - REMOVAL, MISC.: EXISTING RIVET (CONTINUED)

A CONTIGENCY QUANTITY OF 120 RIVETS HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES TO BE USED AS DIRECTED BY THE ENGINEER. THE ENGINEER SHALL USE THE QUANTITY TO REPLACE RIVETS FOUND TO BE SUBSTANTIALLY CORRODED AFTER ABRASIVE BLASTING. A MAJORITY OF CORRODED RIVETS WILL LIKELY BE FOUND ON THE TOP OF THE EAST LOWER CHORD.

PAYMENT FOR SPECIAL RIVET REMOVAL PROCEDURES SHALL BE INCLUDED PER EACH RIVET, WITH ITEM 202 - REMOVAL, MISC.: EXISTING RIVET.

ITEM 511 - CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

THE COURSE AGGREGATE SHALL BE NO. 8 LIMESTONE.

ITEM 513 - STRUCTURAL STEEL, MISC.:

ALL STEEL MEMBERS USED IN THESE ITEMS SHALL BE FABRICATED UNDER ITEM 513 - UF LEVEL OF FABRICATION.

CONNECTION BOLTS ⅝ INCH DIAMETER AND LARGER SHALL BE HEX HEAD, GALVANIZED ASTM A325 HIGH STRENGTH BOLTS, UNLESS OTHERWISE NOTED. BOLTS ½ INCH DIAMETER AND SMALLER, AND COUNTERSUNK BOLTS OF ANY SIZE, SHALL BE GALVANIZED SAE J429 GRADE 5 OR GALVANIZED ASTM A449. COUNTERSUNK BOLTS SHALL HAVE FLAT, SLOTTED HEADS AND CONFORM TO ANSI 18.5. NEW CONNECTION BOLTS SHALL BE INCLUDED FOR PAYMENT WITH THE PERTINENT NEW MATERIAL PAY ITEM.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

WORK UNDER THIS ITEM SHALL INCLUDE ALL LABOR, TOOLS, MATERIALS AND INCIDENTALS, EXCEPT RIVET REMOVAL, REQUIRED FOR THE INSTALLATION OF INSPECTION CATWALK AND HANDRAIL DETAILED ON SHEETS 30/62 THROUGH 36/62. THE WORK SHALL ALSO INCLUDE THE NEW PARTIAL LENGTH WEST LOWER TRUSS CHORD PLATE AT PANEL POINT 45, AS SHOWN ON SHEET 29/62.

NEW STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 36 OR GRADE 50.

LUMP SUM PAYMENT FOR WORK SHALL BE MADE UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS

WORK UNDER THIS ITEM SHALL INCLUDE ALL TOOLS, LABOR, MATERIALS AND INCIDENTALS REQUIRED TO RE-TIGHTEN BOLTS AT SPLICES IN THE WEST ROADWAY RAILING. THOSE BOLTS THAT CAN NOT BE TIGHTED SHALL HAVE THEIR HEADS TACK WELDED TO THE TUBE RAILING.

LUMP SUM PAYMENT FOR THE WORK SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS.

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC TIE ROD FOR STRINGER ENDS AT DEFLECTION JOINTS
ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLES FOR STRINGER ENDS AT EXPANSION JOINTS

WORK UNDER THESE ITEMS SHALL INCLUDE ALL TOOLS, LABOR AND EQUIPMENT REQUIRED TO ACCESS THE WORK AREA, FIELD DRILL HOLES AND INSTALL NEW MATERIAL AS SHOWN ON THE PLANS.

NEW STEEL PLATES AT THE DEFLECTION JOINTS SHALL CONFORM WITH ASTM A572/A709, GR36 OR GR50. NEW STEEL RODS AT THE DEFLECTION JOINTS SHALL CONFORM WITH ASTM F1554 GR36 STEEL ANCHOR BOLT. NEW, NON-PRESTRETCHED, GALVANIZED WIRE ROPE AT THE EXPANSION JOINTS SHALL CONFORM WITH ASTM A603. NEW GALVANIZED WIRE ROPE CLIPS AT THE EXPANSION JOINTS SHALL CONFORM WITH FEDERAL SPECIFICATION FF-C-450 TYPE 1, CLASS 1.

THE NEW HOLES SHALL BE FIELD DRILLED. CARE SHALL BE TAKEN NOT TO DAMAGE AREAS NOT DESIGNATED FOR REMOVAL.

LUMP SUM PAYMENT FOR THE ABOVE WORK WILL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC TIE ROD FOR STRINGER ENDS AT DEFLECTION JOINTS OR ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLES FOR STRINGER ENDS AT EXPANSION JOINTS.

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT EXPANSION PIERS
ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT FORWARD ABUTMENT

WORK UNDER THESE ITEMS SHALL INCLUDE ALL TOOLS, LABOR AND MATERIALS REQUIRED TO INSTALL NEW CABLE AND BRACKET RESTRAINT SYSTEMS AT PIERS 2 AND 5 AND THE FORWARD ABUTMENT. EXISTING RIVET REMOVAL AND DOWEL HOLES ARE PAID SEPERATELY.

THE STRUCTURAL STRAND SHALL CONFORM TO ASTM A586. ZINC COATING SHALL BE CLASS A COATING FOR THE INNER WIRES AND CLASS C COATING FOR THE OUTER WIRES. THE STRUCTURAL STRAND SHALL BE NON-PRESTRETCHED. THE GROOVED OPEN SPELTER SOCKETS SHALL BE GALVANIZED AND MEET FEDERAL SPECIFICATION RR-S-550D, TYPE A. THE CONTRACTOR SHALL ORDER SPELTER SOCKETS WITH DIMENSIONS ALLOWING FOR FIT WITH THE EYE PLATES. CROSBY MODEL G416, ESCOCORP PART NO. L7002 OR SIMILAR FOR THE FORWARD ABUTMENT RESTRAINTS. CROSBY MODEL G416, ESCOCORP PART L7011 OR SIMILAR FOR PIERS 2 AND 5. ANCHOR BOLTS SHALL CONFORM TO ASTM F 1554, GRADE36 STEEL ANCHOR BOLTS.

LUMP SUM PAYMENT FOR THE WORK SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET AT EXPANSION PIERS OR ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET AT FORWARD ABUTMENT.

ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIRS

WORK UNDER THIS ITEM SHALL CONSIST OF ALL LABOR, TOOLS AND MATERIALS REQUIRED TO REPAIR THE BROKEN PEDESTRIAN RAILING CONNECTION AT PANEL 18, REPLACE LOOSE OR MISSING BOLTS AT OTHER PEDESTRIAN RAILING CONNECTIONS TO POSTS AND THE REPLACEMENT OF CORRODED BALUSTERS AT VARIOUS LOCATIONS ALONG THE PEDESTRIAN RAILING.

ALL SECTIONS OF ITEM 513 APPLY EXCEPT AS REVISED HEREIN. THE ENGINEER IS RESPONSIBLE FOR ENSURING ANY SHOP OR FIELD FABRICATED STEEL SUPPLIED UNDER THIS BID ITEM IS ACCEPTABLE. THE REQUIREMENTS FOR SUBMITTAL OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING IS WAIVED. AT THE ENGINEER'S OPTION, THE CONTRACTOR SHALL EITHER SUPPLY THE ENGINEER WITH SHOP DRAWINGS, REQUIRED IN SECTION 501.04, PRIOR TO ANY INCORPORATION OF SHOP FABRICATED STEEL AT THE PROJECT, OR SUPPLY THE ENGINEER WITH "AS FABRICATED" DRAWINGS, MEETING 501.04, AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER SHALL ASSURE THE SUBMITTED DRAWINGS MATCH THE FINAL AS BUILT STEEL INCORPORATED INTO THE WORK. IF THE ENGINEER IS SATISFIED WITH THE DRAWINGS AND THE DELIVERED MATERIALS, THE CONTRACTOR SHALL SUPPLY A COPY SET, STAMPED AND DATED AS PER 501.04, TO THE PROJECT ENGINEER FOR RECORD PURPOSES. SUBMITTAL REQUIREMENTS UNDER 501.04, MATERIALS, SHALL BE MADE TO THE PROJECT ENGINEER. THE CONTRACTOR SHALL FURNISH A COPY OF THE WRITTEN LETTER OF ACCEPTANCE, 501.04, TO THE PROJECT ENGINEER.

LUMP SUM PAYMENT FOR THE WORK SHALL BE PAID UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIRS.

ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT

WORK UNDER THIS ITEM SHALL CONSIST OF THE PLACEMENT OF BOLTS IN EXISTING HOLES PER ITEM 513. LOCATIONS INCLUDE MISSING STITCH BOLTS IN BUILT UP VERTICALS AND DIAGONALS OF THE EAST TRUSS ALONG THE ROADWAY RAILING, BOLTS IN THE ROADWAY RAILING ALONG BOTH TRUSSES, BOLTS IN THE WEST ROADWAY RAILING SUPPORTS CONNECTIONS TO TRUSS, RANDOM LOCATIONS ON BRIDGE AND A CONTIGENCY QUANTITY TO BE USED TO REPLACE CORRODED RIVETS IN THE EAST LOWER CHORD.

THE CONTINGENCY QUANTITY OF 120 ASTM A325 BOLTS HAS BEEN INCLUDED IN THE ESTIMATED QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER. THE QUANTITY SHALL BE USED TO REPLACE ANY MISSING BOLTS FOUND DURING THE REHABILITATION, BUT NOT DETAILED ON THESE PLANS, OR SHALL BE USED TO FILL ANY OPEN RIVET HOLES CREATED BY USING THE "ITEM 202 - REMOVAL MISC.; EXISTING RIVET" CONTINGENCY QUANTITY. A MAJORITY OF THIS CONTINGENCY QUANTITY WILL LIKELY BE USED TO REPLACE CORRODED RIVETS ON THE TOP OF THE EAST LOWER CHORD.

PAYMENT FOR THE BOLT PLACEMENT SHALL BE MADE PER EACH UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT.

ITEM 513 - STRUCTURAL STEEL, MISC.: REPLACEMENT OF RIVETS WITH BOLTS AT DISCONTINUOUS STRINGER ENDS

WORK UNDER THIS ITEM INCLUDES ALL TOOLS, MATERIAL AND LABOR REQUIRED TO ACCESS THE STRINGER TO FLOORBEAM CONNECTIONS, THE REAMING OF THE EXISTING RIVET HOLES TO ACCOMODATE NEW, LARGER DIAMETER BOLTS AND THE INSTALLATION OF THE BOLTS.

THE WORK SEQUENCE IS AS FOLLOWS:
1. CAREFULLY REMOVE EXISTING RIVET.
2. REAM HOLE FOR NEW 1" DIA. BOLT.
3. ADD NEW BOLT IN ACCORDANCE WITH ITEM 513.

WORK SHALL BE LIMITED TO ONE STRINGER TO FLOORBEAM CONNECTION AT ANY TIME. NO MORE THAN 4 RIVET HOLES SHALL BE OPEN AT ONE TIME.

PAYMENT FOR THE WORK DESCRIBED SHALL BE MADE PER EACH UNDER ITEM 513 - STRUCTURAL STEEL, MISC.: REPLACEMENT OF RIVETS WITH BOLTS AT DISCONTINUOUS STRINGER ENDS.

ITEM 514 - FIELD PAINTING, GENERAL

IN ADDITION TO REQUIREMENTS SHOWN IN SUPPLEMENTAL SPECIFICATION 514, THE FOLLOWING NOTES SHALL APPLY.

COLOR

THE FINISH COAT COLOR SHALL BE GREEN TO MATCH THE EXISTING GREEN FINISH PAINT EXCEPT FOR THE CURB AND TOP, TRAFFIC SIDE AND BOTTOM OF THE ROADWAY RAILINGS WHICH SHALL BE OSHA YELLOW. THE FIELD DIFFERENTIATION OF COATS SHALL BE FACILITATED BY THE PRIME COAT COLOR OBVIOUSLY DIFFERING FROM THE "NEAR-WHITE" STEEL SUBSTRATE AND BY THE INTERMEDIATE COAT COLOR OBVIOUSLY DIFFERING FROM BOTH THE PRIME COAT COLOR AND THE FINISH COAT. TINTING OF COATS SHALL NOT BE ACCEPTABLE DIFFERENTIATION. THE ENGINEER SHALL APPROVE THE COLOR OF THE PRIME, INTERMEDIATE, AND FINISH COATS PRIOR TO USE. TINTING PASTES SHALL NOT BE USED.

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN

COMPLETE SURFACE PREPARATION AND PAINTING TO INCLUDE:

A. ENTIRE EAST TRUSS LOWER CHORD INCLUDING GUSSET PLATES AND FLOORBEAM CONNECTIONS. SEE DETAIL FOR LIMITS OF WORK ON SHEET 38/62.

B. ALL ROCKER AND BOLSTER BEARINGS.

C. SELECTED FLOORBEAM CONNECTIONS TO WEST TRUSS. LIMITS FOR WORK AND LOCATIONS ARE LISTED ON SHEET 38/62.

D. PORTIONS OF THE DRAINAGE TROUGH NEAR PANEL POINT 45 AS SHOWN ON SHEET 44/62.

E. NEW STEEL MEMBERS INCORPORATED INTO THE WORK. THESE ITEMS INCLUDE: (* BLASTED AND PRIMED UNDER 513.27, INTERMEDIATE COAT ONLY)

PROPOSED STRUCTURE WORK ITEM (SEE SHEET 3/62)	DESCRIPTION
6	NEW PEDESTRIAN RAILING CONNECTION ANGLES
10	NEW BENT PLATE FOR NYLON REINFORCED NEOPRENE SHEETING
14	NEW STEEL PIGEON DOORS
23, 39	NEW ACCESS CATWALK AND RAILING
25	NEW PEDESTRIAN RAIL PIECES
28	NEW DEFLECTION JOINT SEISMIC RODS AND PLATES
29,31	NEW SEISMIC BRACKETS
34	NEW PLATES

F. THE END FLOORBEAMS AT L0 & L68.

G. THE UNDERSIDE OF THE STEEL DECK PANS TO THE OUTSIDE OF THE FASCIA STRINGERS AND THE UNDERSIDE OF SIDEWALK PANS AS SHOWN ON SHEET 2/62.

ADDITIONAL INDIVIDUAL SPOTS DESIGNATED BELOW:

H. ALL AREAS OF STEELWORK DESIGNATED ON SHEETS 39/62 TO 42/62 AND SHEETS 50/62 TO 54/62.

I. A CONTINGENCY QUANTITY OF 1088 SQ FT TO BE USED AT THE DIRECTION OF THE ENGINEER.

NOTE THAT SURFACE PREPARATION AND PRIME COATING OF THE INTERIORS OF TRUSS BOX MEMBERS AND THE INTERIORS OF THE ROCKERS AND BOLSTERS HAVE A DIFFERENT SURFACE PREPARATION AND PRIMING REQUIREMENT. SEE GENERAL NOTE FOR BOX-SHAPED MEMBERS.

FIELD PAINTING NOTES CONTINUED ON SHEET 5/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06

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GENERAL NOTES

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ITEM 514 - FIELD PAINTING NOTES (CONTINUED)

PAYMENT PER SQUARE FOOT FOR MENTIONED WORK SHALL BE INCLUDED WITH:

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

FINISH COAT PAINTING TO INCLUDE:

A. ALL AREAS OF STEELWORK ABOVE ROADWAY AND SIDEWALK AND THE ENTIRE EAST TRUSS.

B. ALL ROCKERS AND BOLSTERS

C. WEST FLOORBEAM TO TRUSS CONNECTIONS DESIGNATED FOR SPOT BLASTING AND PAINTING, AS SHOWN ON SHEET 38/62

D. PORTIONS OF THE DRAINAGE TROUGH NEAR PANEL POINT 45 AS SHOWN ON SHEET 44/62

E. NEW STEEL MEMBERS INCORPORATED INTO THE WORK. THESE ITEMS INCLUDE:

PROPOSED STRUCTURE WORK ITEM (SEE SHEET 3/62)	DESCRIPTION
6	NEW PEDESTRIAN RAILING CONNECTION ANGLES
10	NEW BENT PLATE FOR NYLON REINFORCED NEOPRENE SHEETING
14	NEW STEEL PIGEON DOORS
23, 39	NEW ACCESS CATWALK AND RAILING
25	NEW PEDESTRIAN RAIL PIECES
28	NEW DEFLECTION JOINT SEISMIC RODS AND PLATES
29, 31	NEW SEISMIC BRACKETS
34	NEW PLATES

F. THE END FLOORBEAMS AT L0 & L68.

G. THE UNDERSIDE OF THE STEEL DECK PANS TO THE OUTSIDE OF THE FASCIA STRINGERS AND THE UNDERSIDE OF SIDEWALK PANS AS SHOWN ON SHEET 2/62.

H. ALL PEDESTRIAN RAILING

ADDITIONAL INDIVIDUAL SPOTS DESIGNATED BELOW:

I. ALL AREAS OF STEELWORK DESIGNATED ON SHEETS 39/62 TO 42/62 AND SHEETS 50/62 TO 54/62 .

J. A CONTINGENCY QUANTITY OF 1088 SQ FT TO BE USED AT THE DIRECTION OF THE ENGINEER.

PAINTING OF LIGHTING CONDUIT AND BOXES IS INCLUDED AS INCIDENTAL TO THE LIGHTING PAY ITEMS. SEE "PAINTING NEW MATERIALS" NOTE SHEET 25 OF 91.

PAYMENT PER SQUARE FOOT FOR ABOVE MENTIONED WORK SHALL BE INCLUDED WITH:

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING, MISC.: POWER TOOL CLEANING OF PEDESTRIAN RAILING

WORK UNDER ITEM INCLUDES THE REMOVAL OF LOOSE SURFACE RUST FROM AREAS OF THE PEDESTRIAN RAILING ONLY USING ROTARY OR IMPACT POWER TOOLS PER STEEL STRUCTURES PAINTING COUNCIL SSPC-SP3, "POWER TOOL CLEANING". AREAS OF THE RAILING INACCESIBLE FOR CLEANING WITH POWER TOOLS, WITH THE APPROVAL THE THE ENGINEER, MAY BE CLEANED PER STEEL STRUCTURE PAINTING COUNCIL SSPC-SP2, "HAND TOOL CLEANING". THE POWER TOOL CLEANING NEED ONLY BE APPLIED TO ACTUAL AREAS OF CORROSION OR DETERIORATION ON THE SPECIFIED MEMBERS. THE AMOUNT OF CORROSION ON EACH MEMBER VARIES FROM THE COMPLETE MEMBER TO 1 IN.^{2}. TYPICAL AMOUNTS OF CORROSION ARE LESS THAN 6 IN.^{2}.

PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE MADE PER SQUARE FOOT AND IS BASED ON THE ENTIRE EXPOSED SURFACE AREA OF EACH SPECIFIED MEMBER. PAYMENT SHALL BE INCLUDED WITH:

ITEM 514 - FIELD PAINTING, MISC.: POWER TOOL CLEANING OF PEDESTRIAN RAILING

ITEM 514 - FIELD PAINTING, MISC.: BRUSH APPLIED ALUMINUM EPOXY MASTIC PRIME ON PEDESTRIAN RAILING

WORK UNDER THIS ITEM INCLUDES THE BRUSH APPLICATION OF ALUMINUM FILLED EPOXY MASTIC PRIMER TO THE AREAS OF PEDESTRIAN RAILING THAT HAVE BEEN POWER TOOL CLEANED.

THE ALUMINUM FILLED EPOXY MASTIC PRIMER SHALL BE CARBOMASTIC 15 AS MANUFACTURED BY CARBOLINE COMPANY, EPOXY MASTIC ALUMINUM II AS MANUFACTURED BY THE SHERWIN WILLIAMS COMPANY OR AND AN APPROVED EQUAL.

THE POWER TOOL CLEANING AND BRUSH APPLIED ALUMINUM FILLED EPOXY MASTIC PRIME SHALL ONLY BE APPLIED TO AREAS OF CORROSION OR DETERIORATION ON THE SPECIFIED MEMBERS. THE AMOUNT OF CORROSION ON EACH MEMBER VARIES FROM THE COMPLETE MEMBER TO 1 IN^2. TYPICAL AMOUNTS OF CORROSION ARE LESS THAN 6 IN^2.

PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE MADE PER SQUARE FOOT AND IS BASED ON THE ENTIRE EXPOSED SURFACE AREA OF EACH SPECIFIED MEMBER. PAYMENT SHALL BE INCLUDED WITH:

ITEM 514 - FIELD PAINTING, MISC.: BRUSH APPLIED ALUMINUM EPOXY MASTIC PRIME ON PEDESTRIAN RAILING

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU

SOLVENT CLEANING TO INCLUDE:

A. ALL AREAS OF EXISTING TOP COAT DESIGNATED TO RECEIVE NEW FINISH COAT, BUT ARE NOT DESIGNATED FOR SURFACE PREPARATION.

ALL GREASE, OIL, ASPHALT CEMENT, SALT, DIRT, BIRD NESTINGS, ETC. SHALL BE REMOVED BY SOLVENT CLEANING IN ACCORDANCE WITH ITEM 885. ALL SOLVENT CLEANED AREAS SHALL BE WASHED AFTER SOLVENT CLEANING. REMAINING STEELWORK SHALL BE WASHED PRIOR TO COMMENCEMENT OF TOP COAT PAINTING OR ABRASIVE BLASTING.

COMPATIBILITY OF PAINTED SURFACE

THE CONTRACTOR SHALL ENSURE COMPATIBILITY OF NEW TOP COAT PAINT SYSTEM WHEN PAINTING OVER EXISTING PAINT. THE EXISTING TOP COAT IS URETHANE.

THE CONTRACTOR SHALL APPLY A TEST COAT ON A MINIMUM OF TWO PAINTED LOCATIONS AS DIRECTED BY THE ENGINEER BEFORE ORDERING PAINTS. A CROSS-CUT TAPE TEST PER ASTM D3359 SHALL BE PERFORMED WITH A MINIMUM ADHESION CLASSIFICATION OF 3B.

SQUARE FOOT PAYMENT FOR ABOVE MENTIONED WORK, INCLUDING TESTING, SHALL BE INCLUDED WITH:

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS

ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT

THE INTERIOR OF TRUSS CHORDS AND ROCKERS AND BOLSTERS DESIGNATED FOR SURFACE PREPARATION ARE TO BE COMMERCIAL BLAST CLEANED (SSPC SP6) AND PAINTED WITH ALUMINUM FILLED EPOXY MASTIC PRIME COAT. THE ALUMINUM FILLED EPOXY MASTIC PRIMER SHALL BE CARBOMASTIC 15 AS MANUFACTURED BY CARBOLINE COMPANY, EPOXY MASTIC ALUMINUM II AS MANUFACTURED BY THE SHERWIN WILLIAMS COMPANY OR AND APPROVED EQUIVALENT. ESTIMATED BUILD UP OF EPOXY MASTIC PRIME IS TO BE 8-10 MILS.

PAYMENT PER SQUARE FOOT FOR MENTIONED WORK SHALL BE INCLUDED WITH:

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS

ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT

ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING STRUCTURAL STEEL, TOP FINISH COAT

WORK UNDER THIS ITEM INCLUDES THE APPLICATION OF THE NEW TOP URETHANE COAT TO THE EXISTING URETHANE TOP COAT IN AREAS OF THE TRUSS DESCRIBED BELOW. THESE AREAS DO NOT RECEIVE ABRASIVE BLASTING, PRIME COAT OR EPOXY INTERMEDIATE COAT. THE AREAS TO RECEIVE TOP COAT ONLY SHALL BE PREPARED PER ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU. IN AREAS RECEIVING ONLY TOP FINISH COAT, THE COSTS ASSOCIATED WITH THE PAINTING TOTAL ENCLOSURE DESCRIBED IN 514.14 F SHALL BE INCLUDED IN THE COST OF THE TOP FINISH COAT ITEM.

THE AREAS TO RECEIVE TOP COAT ONLY SHALL INCLUDE:

A. ALL AREAS OF STEEL WORK ABOVE THE ROADWAY AND SIDEWALK, AND THE ENTIRE EAST TRUSS, EXCEPT THOSE AREAS RECEIVING COMPLETE SURFACE PREPARATION AND THREE COAT PAINTING AS SHOWN ON THESE PLANS. SURFACE PREPPED AREAS INCLUDE THE ENTIRE LOWER CHORD AS SHOWN ON SHEET 38/62, AS WELL AS INDIVIDUAL SPOT AREAS SHOWN ON SHEETS 39/62 TO 42/62.

B. ALL PEDESTRIAN RAILING, EXCEPT THOSE AREAS RECEIVING POWER TOOL CLEANING AND BRUSH-APPLIED EPOXY MASTIC AS SHOWN ON SHEETS 37/62 AND 50/62 TO 54/62.

PAYMENT FOR THE ABOVE DESCRIBED WORK SHALL BE MADE PER SQUARE FOOT UNDER ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING STRUCTURAL STEEL, TOP FINISH COAT.

ITEM 514 - FIELD PAINTING, MISC.: FIELD TOUCH-UP OF NEW AND EXISTING PAINT

SEVERAL PROPOSED PLAN REPAIRS WILL CREATE MINOR DAMAGE TO THE EXISTING PAINT ON THE BRIDGE OR WILL REQUIRE THE INSTALLATION OF SMALL AMOUNTS OF NEW, UNPAINTED STEEL OR BOLTS. THESE AREAS REQUIRE FIELD PAINTING TO COVER THE DAMAGED COATING, OR UNPAINTED STEEL. THE AREAS TO BE COATED UNDER THIS ITEM INCLUDE:

PROPOSED STRUCTURE WORK ITEM (SEE SHEET 3/62)	DESCRIPTION
6	NEW BOLTS IN PEDESTRIAN RAILING
27,28	EDGES OF NEW HOLES FOR SEISMIC CABLES
18,21,24,25,33	NEW SINGLE BOLT REPLACEMENTS THROUGHOUT BRIDGE
23	ACCESS CATWALK ATTACHMENT BOLTS TO EXISTING TRUSS AND STRINGERS
25	NEW AND EXISTING PAINT DAMAGED BY FIELD WELDING THE NEW BALUSTER PIECES TO THE EXISTING PEDESTRIAN RAILING
28	NUTS ON THE SEISMIC TIE RODS AT DEFLECTION JOINTS
29,31	BOLTS AND ANCHOR BOLTS
34	BOLTS ON NEW PLATE
39	NEW TOE PLATE CONNECTION BOLTS TO EXISTING CATWALK CHANNELS AND ANGLES
-	LIGHTING CONDUIT CONNECTIONS AND SPLICES

THE FIELD TOUCH-UP SHALL INCLUDE THE FOLLOWING WORK:

1. REMOVE ALL DIRT, DEBRIS, OIL AND GREASE FROM THE AREAS TO BE PAINTED PER SSPC - SP1.

2. REMOVE ALL LOOSE MILL SCALE, RUST OR PAINT FROM THE AREAS TO BE PAINTED WITH HAND TOOLS PER SSPC - SP2.

3. BRUSH APPLY AN ALUMINUM FILLED EPOXY MASTIC PRIMER. THE ALUMINUM FILLED EPOXY MASTIC PRIMER SHALL BE CARBOMASTIC 15 AS MANUFACTURED BY CARBOLINE COMPANY, EPOXY MASTIC ALUMINUM II AS MANUFACTURED BY THE SHERWIN WILLIAMS COMPANY OR AN APPROVED EQUIVALENT. ESTIMATED BUILD OF EPOXY MASTIC PRIME IS TO BE 8-10 MILS.

4. BRUSH APPLY A URETHANE FINISH COAT. THE URETHANE FINISH COAT SHALL CONFORM TO 708.02. THE DRY FILM COATING THICKNESS SHOULD BE 2.0 TO 4.0 MILS. THE FINISH COAT SHALL BE GREEN TO CLOSELY MATCH THE EXISTING GREEN FINISH PAINT, EXCEPT FOR AREAS IN OR ADJACENT TO THE ROADWAY, WHICH SHALL BE PAINTED OSHA SAFETY YELLOW TO MATCH THE EXISTING ROADWAY CURBS AND TOP, TRAFFIC SIDE AND BOTTOM OF THE ROADWAY RAILINGS.

TEMPERATURE, RELATIVE HUMIDITY AND CURE TIME LIMITATIONS FOR THE VARIOUS TYPES OF PAINT SHALL BE PER THE MANUFACTURERS' RECOMMENDATIONS.

PAYMENT FOR THE INCIDENTAL PAINTING IN THE AREAS DESCRIBED ABOVE SHALL BE MADE PER LUMP SUM UNDER ITEM 514 - FIELD PAINTING, MISC.: FIELD TOUCH - UP OF NEW AND EXISTING PAINT.

GENERAL NOTES CONTINUED ON SHEET 6/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DATE 2/13/06
REVIEWED DAP
STRUCTURE FILE NUMBER 470443
DRAWN SJK
REVISED
DESIGNED KAK
CHECKED BLN

GENERAL NOTES
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

98076GN.DGN 3/24/06 SJK,TWH

ITEM 514 - FIELD PAINTING, MISC.: CAULKING

WORK UNDER THIS ITEM ENCOMPASSES ALL CAULKING ON THE TRUSS. CAULKING PROCEDURES AND AREAS TO BE CAULKED ARE GIVEN IN THE FOLLOWING PARAGRAPHS.

IN ADDITION TO REQUIREMENTS SHOWN IN ITEM 514, THE FOLLOWING NOTES SHALL APPLY:

DESCRIPTION

THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING CAULK, REPAIR OF PACK RUSTED AREAS AND THE CAULKING OF JOINTS BETWEEN ADJACENT STEEL PIECES OF BUILT-UP MEMBERS AS SHOWN IN THE PLANS AND DIRECTED BY THE ENGINEER. THIS ITEM SHALL ALSO INCLUDE THE ADDITION OF DEFLECTOR BEADS ON THE UPHILL SIDE OF THE GUSSETS ON THE EAST LOWER TRUSS CHORD.

EXISTING CAULK SHALL BE REMOVED PRIOR TO ABRASIVE BLASTING. ABRASIVE BLASTING OF THE MEMBER ACCORDING TO ITEM 885, IF REQUIRED, SHALL BE SUBSTANTIALLY COMPLETED BEFORE PACK RUST REPAIR AND CAULKING IS PERFORMED. PACK RUST REPAIRS SHALL COMMENCE PRIOR TO PAINTING. CAULKING SHALL TAKE PLACE AFTER THE PRIME OR INTERMEDIATE COATS HAVE BEEN APPLIED, BUT BEFORE THE FINISH COAT OF PAINT HAS BEEN APPLIED.

JOINTS THAT HAVE PACK RUST SHALL RECEIVE PREPARATION IN ADDITION TO ANY ABRASIVE BLAST REQUIRED BY THE ITEM 885 SPECIFICATION. PACK RUSTED JOINTS ARE DEFINED AS JOINTS WHERE THE ADJACENT STEEL PLATES ARE RUSTED APART 1/8" OR MORE.

SURFACE PREPARATION

PACK RUST SHALL BE REMOVED FROM THE JOINTS BY CHIPPING, HAMMERING, PUNCHING, CHISELING OR BY OTHER SUITABLE MEANS TO A DEPTH AT LEAST EQUAL TO THE WIDTH OF THE GAP. WITH ANY METHOD USED, THE FINAL SURFACE SHALL BE GROUND IN THE DIRECTION OF THE STRESS. ALL JOINTS SHALL THEN BE VACUUMED WITH A COMMERCIAL VACUUM CLEANER HAVING A NOZZLE OPENING OF 1" TO 1½". SURFACES TO BE CAULKED SHALL BE CLEAN, DRY, SOUND AND ABOVE 40 DEGREES FAHRENHEIT.

APPLICATION

THE CAULKING SHALL BE APPLIED EVENLY TO THE AREAS AS DEPICTED IN TYPICAL PLAN DETAILS. VOIDS SHALL BE COMPLETELY FILLED WITH CAULKING WHICH SHALL BE APPLIED BY TROWEL OR CAULKING GUN AND SHALL BE SPREAD SMOOTHLY USING HEAVY PRESSURE TO DISPLACE AIR BUBBLES. EXCESS MATERIAL SHALL BE REMOVED IMMEDIATELY. ALL PROCEDURES SHALL COMFORM TO THE REQUIREMENTS OF THE CAULKING MANUFACTURER, WHO SHALL PROVIDE A TECHNICAL REPRESENTATIVE AT THE SITE.

AREAS TO BE REPAIRED AND CAULKED

BOTH TOP SEAMS OF BOTH TOP CHORDS. (APPROXIMATE LENGTH = 6800 FT).
BOTH TOP SEAMS OF EAST BOTTOM CHORD. (APPROX. LT.= 3400 FT).
TOP CHORD SPLICE PLATES ON BOTH TRUSSES. AS SHOWN ON SHEET 43/62
(APPROX. LT. 285 FT)

TOP SEAMS OF DIAGONALS AND ALL SEAMS OF VERTICALS ABOVE ROADWAY OR SIDEWALK AS SHOWN ON DETAILS 3 & 4, SHEET 39/62 (APPROX. LT. 3356 FT) ALL END POST SEAMS, FULL LENGTH, AS SHOWN ON DETAIL 2, SHEET 39/62 (APPROX. LENGTH= 638 FT).

TOP SEAMS OF LO-L2 AND L65-L66 ON THE WEST TRUSS AS SHOWN ON DETAIL 5, SHEET 40/62. (APPROX. LT.= 150 FT)
BOTTOM SEAMS OF L3I-L32 AND L32-L33,EAST TRUSS. (APPROX. LT.= 237 FT) ALL SEAMS AT L3I-L32 AND L32-L33, WEST TRUSS (APPROX. LT. 475 FT). ALL SEAMS OF U32-L32 AND U48-L48 BELOW THE ROADWAY OR SIDEWALK, BOTH TRUSSES, APPROX. LT. 576 FT) SEE DETAIL 6, SHEET 40/62.

BEADS ACROSS THE TOP OF THE EAST LOWER CHORD TO DEFLECT WATER AWAY FROM POCKETS AT THE TRUSS PANEL POINTS CREATED BY THE GUSSET PLATES. (APPROXIMATE LENGTH 2091 FT).

A QUANTITY OF 1600 FT IS INCLUDED IN THE PLANS FOR USE AS DIRECTED BY THE ENGINEER. THIS SHALL BE CONSIDERED FOR USE ON BUILT UP TRUSS MEMBER SEAMS NOT DETAILED ELSEWHERE (600± FT), GUSSET PLATE TO TRUSS CONNECTION (400± FT), TOP LATERAL AND SWAY BRACING GUSSET CONNECTIONS (200± FT) AND FLOORBEAM CONNECTIONS TO THE TRUSS (400± FT).

LINEAR FOOT PAYMENT FOR THE WORK SHALL BE INCLUDED IN ITEM 514 - FIELD PAINTING, MISC.: CAULKING.

ITEM 516 - ELASTOMERIC STRIP SEAL, WITHOUT STEEL EXTRUSIONS, AS PER PLAN

THIS WORK SHALL INCLUDE ALL TOOLS, LABOR AND MATERIALS REQUIRED TO INSTALL NEW STRIP SEALS IN ALL EXPANSION JOINTS AT THE REAR ABUTMENT, PANEL 35 AND THE FORWARD ABUTMENT.

EXISTING SHOP DRAWINGS INDICATE THE EXISTING STRIP SEALS IN THE MODULAR EXPANSION JOINTS AT PANEL 35 AND THE FORWARD ABUTMENT TO BE 4" ROBEK SEALS MANUFACTURED BY D.S. TECHSTAR, INC.

EXISTING SHOP DRAWINGS INDICATE THE EXISTING STRIP SEALS IN THE REAR ABUTMENT ROADWAY AND SIDEWALK ARE 4" WB "SE400" SEALS MANUFACTURED BY WATSON BOWMAN ACME.

THESE OR AN APPROVED EQUAL THAT WILL LOCK INTO THE EXISTING EXTRUSIONS SHALL BE INSTALLED. THE CONTRACTOR SHALL INSTALL THE NEW SEALS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE EXPANSION JOINTS SHALL BE SEALED WITH AN ELASTOMERIC STRIP SEAL AT ALL TIMES. AN EXCEPTION TO THIS IS DURING THE REMOVAL OF A SEAL AND A PERIOD OF NO MORE THAN 2 DAYS IMMEDIATELY AFTER THE REMOVAL. THE EXCEPTION IS PROVIDED AS LONG AS NO TRAFFIC IS PERMITTED ON THE OPEN JOINT. TO MEET THESE REQUIREMENTS IN THE PHASED CONSTRUCTION SEQUENCES, THE CONTRACTOR MAY EMPLOY TEMPORARY, PARTIAL LENGTH SEALS.

ANY ADHESIVE BONDING A NEW STRIP SEAL TO THE STEEL JOINT EXTRUSION TYPICALLY RECOMMENDED BY THE MANUFACTURER MAY BE OMITTED FOR THE TEMPORARY SEALS, PROVIDED THEY PREVENT LEAKAGE TO THE SATISFACTION OF THE ENGINEER. ANY TEMPORARY STRIP SEAL, LABOR, TOOLS AND OTHER MATERIALS UTILIZED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM AND WILL NOT BE PAID FOR AS PART OF THE QUANTITY.

THE NEW, PERMANENT STRIP SEALS SHALL BE FURNISHED IN ONE PIECE AND CONTINUOUS ACROSS THE EXPANSION JOINTS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE PER FOOT OF PERMANENT ELASTOMERIC STRIP SEAL INSTALLED AND ACCEPTED UNER ITEM 516 - ELASTOMERIC STRIP SEAL, WITHOUT EXTRUSIONS, AS PER PLAN.

ITEM SPECIAL - POURED POLYURETHANE JOINT SEAL

THIS ITEM SHALL CONSIST OF SEALING THE SIDEWALK JOINTS AT TRUSS MEMBERS WITH POURED POLYURETHANE JOINT SEALER IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS, AND MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS, AND AS DIRECTED BY THE ENGINEER.

THE POURED POLYURETHANE MATERIAL IS A TWO-PART, COLD APPLIED CHEMICALLY CURING, SELF LEVELING ELASTOMERIC, POLYURETHANE JOINT SEALANT. IT SHALL BE "FX-551" AS MANUFACTURED BY FOX INDUSTRIES INCORPORATED; "UREXPAN NR-200" AS MANUFACTURED BY PECORA CORPORATION; OR AN APPROVED EQUAL.

ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS RECOMMENDED BY THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE FOR EACH PRODUCT SHALL BE PRESENT AT THE JOB SITE UNTIL SUCH TIME AS HE AND THE ENGINEER ARE SURE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF JOINT SEALING.

THE JOINT FACES TO WHICH THE SEAL MUST ADHERE SHALL BE CLEAN AND FREE OF FOREIGN MATERIAL SUCH AS DIRT, DUST, GREASE, FORM OIL, RELEASE AGENTS AND ANY OTHER MATERIAL DETRIMENTAL TO ADHESION OF THE SEALANT.

POLYURETHANE JOINT SEAL SHALL BE POURED OVER THE FULL LENGTH OF THE BITUMEN IMPREGNATED FOAM SEAL AND SHALL BE APPLIED ONLY WHEN THE JOINT IS DRY AND ITS TEMPERATURE IS ABOVE 50°F. THE POURED JOINT SEALER SHALL ACT AS A SECOND SEAL ON TOP OF THE BITUMEN IMPREGNATED FOAM JOINT SEAL. THE INSTALLED AND CURED MATERIAL SHALL BE FULL DEPTH AND SHALL BE BONDED TO THE SIDES OF THE JOINT. ANY UNBONDED SECTION SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. DAMS AS REQUIRED TO CONTAIN THE POURED SEALER SHALL BE INCIDENTAL TO THIS ITEM OF WORK.

THE METHOD OF MEASUREMENT FOR THIS ITEM SHALL BE THE LINEAR FEET OF JOINT SEAL ON THE BRIDGE SIDEWALK THAT ARE COMPLETE, IN PLACE AND ACCEPTED.

THE ACCEPTED QUANTITIES OF SEALED SIDEWALK JOINT SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR PREPARING THE SURFACES, FURNISHING AND PLACING ALL MATERIALS, SUPPLYING THE MANUFACTURER'S REPRESENTATIVES AND ALL OTHER MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT SEAL ACCORDING TO SPECIFICATIONS. PAYMENT WILL BE MADE UNDER ITEM SPECIAL - POURED POLYURETHANE JOINT SEAL.

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK JOINT FOAM BACKUP

A PRECOMPRESSED, SELF ADHESIVE BITUMEN IMPREGNATED FOAM MATERIAL JOINT SEALANT BETWEEN THE TRUSS MEMBERS AND SIDEWALK SHALL BE LEFT UNDISTURBED. AFTER THE REMOVAL OF THE EXISTING POURED POLYURETHANE JOINT SEALANT. MATERIAL THAT HAS CRACKED, TORN OR IS OTHERWISE NO LONGER CREATING A COMPLETE SEAL BETWEEN THE SIDEWALK AND THE TRUSS SHALL BE REPLACED.

A CONTINGENCY QUANTITY OF 150 FEET OF NEW FOAM BACKUP JOINT SEALANT HAS BEEN INCLUDED TO REPLACE FAILED EXISTING MATERIAL. WORK UNDER THIS ITEM INCLUDES THE REMOVAL OF DAMAGED EXISTING SEAL AS WELL AS THE INSTALLATION OF THE NEW SEAL. THE CONTRACTOR SHALL USE CARE IN THE REMOVAL OF THE EXISTING POURED POLYURETHANE JOINT SEAL AND SHALL NOT DAMAGE THE EXISTING FOAM JOINT SEALANT. ANY EXISTING FOAM SEAL DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT HIS EXPENSE.

THE NEW MATERIAL SHALL BE A PRECOMPRESSED, BITUMEN IMPREGNATED FOAM MATERIAL JOINT SEALANT. THE MATERIAL SHALL BE EMSEAL 20H, WILLSEAL 600 OR APPROVED EQUAL. EMSEAL U.S.A., INC. IS LOCATED AT 344 MILL ROAD IN STANFORD, CT 06903. WILLSEAL IS MANUFACTURED BY ILLBRUCK, ILLBRUCK IS LOCATED AT 3800 WASHINGTON AVE. NORTH, MINNEAPOLIS, MN 55412.

IF THE EXISTING BITUMEN IMPREGNATED FOAM MATERIAL JOINT SEAL IS DAMAGED, THE NEW MATERIAL SHALL BE INSTALLED PER THE MANUFACTURE'S RECOMMENDED INSTALLATION PROCEDURES.

A CONTINUOUS LENGTH OF BITUMEN JOINT SEAL SHALL BE ACHIEVED BY JOINING INDIVIDUAL STRIPS ONLY BY MEANS OF SCARFED JOINTS CUT AT 45° OR LESS RELATIVE TO THE SIDES OF THE JOINT. THE SCARFED ENDS MUST BE PUSHED WELL PAST ONE ANOTHER. THE SEAL SHALL NOT BE PULLED OR STRETCHED SO THAT GAPS BETWEEN SUCCESSIVE LENGTHS ARE PREVENTED.

THE ACCEPTED QUANTITIES OF SEALED SIDEWALK JOINT SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR PREPARING THE SURFACES, FURNISHING AND PLACING ALL MATERIALS, AND ALL OTHER MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT SEAL ACCORDING TO SPECIFICATIONS. PAYMENT WILL BE MADE UNDER ITEM 530 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK JOINT FOAM BACKUP.

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: ETHYLENE VINYL ACETATE CENTERING BLOCKS

WORK UNDER THIS ITEM SHALL CONSIST OF ALL TOOLS, LABOR AND MATERIALS REQUIRED TO INSTALL NEW EVA CENTERING BLOCKS IN THE MODULAR EXPANSION JOINTS AT PANEL 35 AND THE FORWARD ABUTMENT.

THE EVA BLOCKS SHALL BE EVAZOTE 50 BY EPOXY INDUSTRIES, INC., THERMAL-CHEM E.V.A. BY THERMAL-CHEM, INC., OR APPROVED EQUAL, AND SHALL BE INSTALLED WITH A BONDER PER MANUFACTURER'S RECOMMENDATION.

THE EVA MATERIAL SHALL BE FABRICATED TO A WIDTH BETWEEN THE FACES OF THE MODULAR JOINT SUPPORT CHANNELS PLUS 25%. THE BLOCKS SHALL BE PRE-COMPRESSED 25%, OR MANUFACTURER RECOMMENDATION, PRIOR TO INSERTION INTO THE JOINT. IN ORDER TO ACCOMODATE THE MAXIMUM EXPECTED THERMAL EXPANSION AND CONTRACTION AT THE JOINTS, THE EVA BLOCKS MUST BE MANUFACTURED FOR AND INSTALLED AT THE SAME TEMPERATURE. THE STEEL TEMPERATURE SELECTED FOR INSTALLATION MUST BE AT OR BELOW 95° F.

PAYMENT SHALL BE MADE PER EACH FOR EACH BLOCK INSTALLED AND ACCEPTED BY THE ENGINEER.

ITEM SPECIAL - CONCRETE REPAIR BY EPOXY INJECTION

THE PROVISIONS OF PROPOSAL NOTE 522 APPLY EXCEPT THAT THE CRACK WIDTHS TO BE REPAIRED BY INJECTION MAY EXCEED THE MAXIMUM GIVEN AS 100 MILS. THE BASIS OF PAYMENT IN SECTION 6.0 WILL BE MEASURED PER UNIT "FOOT".

GENERAL NOTES CONTINUED ON SHEET 7/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06 | CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

GENERAL NOTES
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

980T6GN.DGN 2/9/06 SJK,TWH

ITEM SPECIAL - STRUCTURE, MISC.: LEVELLING DEPRESSIONS IN PIER CAP

PREVIOUS REHABILITATIONS REQUIRED GRINDING DOWN PORTIONS OF THE PIER CAPS FOR JACKING THE TRUSS. THE EXISTING LEVELLING COMPOUND HAS FAILED OR DID NOT COMPLETELY FILL THE DEPRESSIONS. WORK UNDER THIS ITEM INCLUDES ALL LABOR, TOOLS AND MATERIALS REQUIRED TO REMOVE LOOSE, FAILED EXISTING LEVELLING COMPOUND AND FILLING THE DEPRESSIONS TO THE LEVEL OF EXISTING PIER CAP CONCRETE.

REPAIR PROCEDURE:

1. REMOVE ALL LOOSE EPOXY, DIRT, DEBRIS AND CONCRETE FROM THE DEPRESSIONS IN THE PIER CAPS BY USE OF COMPRESSED AIR OR HIGH PRESSURE WATER BLAST.

2. FILL AND LEVEL THE DEPRESSIONS ON THE TOP OF THE PIER CAP WITH AN EPOXY MORTAR CONFORMING TO ASTM C881, TYPE IV, CLASS A, B OR C MIXED WITH SAND.

PAYMENT FOR THE CLEANING AND FILLING WILL BE PER LUMP SUM FOR ITEM SPECIAL - STRUCTURE, MISC.: LEVELLING DEPRESSIONS IN PIER CAP

ITEM SPECIAL - STRUCTURE, MISC.: SHIM SIDEWALK STRINGER BEARING

WORK UNDER THIS ITEM SHALL CONSIST OF ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED FOR THE JACKING AND TEMPORARY SUPPORT OF THE SIDEWALK STRINGER AT PANEL POINT 12 AND THE INSTALLATION OF A NEW STAINLESS STEEL SHIM IN THE GAP BETWEEN THE STRINGER AND ITS BEARING.

THE STAINLESS STEEL SHIM SHALL CONFORM TO 730.09

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS, WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY A OHIO REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.

2. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTORS SELECTED JACKING POINTS.

3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.

4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.

6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.

7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.

8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS. THE ESTIMATED LOAD IS 2½ TONS.

JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK.

JACKS ALONE MAY BE USED TO SUPPORT LOADS DURING THE INSTALLATION OF THE SHIM.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM SHALL NOT BE USED.

THE JACKING HEIGHT SHALL NOT EXCEED ¼".

LUMP SUM PAYMENT FOR THE WORK PREVIOUSLY DESCRIBED WILL BE MADE UNDER ITEM SPECIAL - STRUCTURE, MISC.: SHIM SIDEWALK STRINGER BEARING.

ITEM SPECIAL - STRUCTURE, MISC.: ATTACH NEOPRENE FLASHING

ONE OR MORE CLAMPING MECHANISMS WRAPPING THE NEOPRENE SHEETING AROUND THE LOWER LATERAL BRACING ANGLES IN PANELS 2, 8 AND 30 HAVE FAILED. THE NEOPRENE SHEETING HAS TORN AWAY FROM ITS SUPPORTS ON A STIFFENER ON FLOORBEAM 45. WORK UNDER THIS ITEM SHALL INCLUDE ALL TOOLS MATERIAL AND LABOR REQUIRED TO REATTACH OR RECLAMP THE EXISTING NYLON REINFORCED NEOPRENE SHEETING INTO ITS ORIGINAL POSITION.

LUMP SUM PAYMENT FOR THE ABOVE REFERENCED WORK SHALL BE UNDER ITEM SPECIAL - STRUCTURE, MISC.: ATTACH NEOPRENE FLASHING.

ITEM SPECIAL - STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN
ITEM SPECIAL - STRUCTURE, MISC.: CLOSING UPPER LATERAL BRACING TO SWAY BRACING CONNECTION WITH SCREEN

WORK UNDER THIS ITEM SHALL INCLUDE ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL NEW PIGEON SCREEN.

THE MATERIALS SHALL CONSIST OF NO. 2 MESH GALVANIZED HARDWARE CLOTH ATTACHED WITH #4 STAINLESS STEEL SELF-TAPPING SCREWS AND WASHERS. MESH SHALL BE INSTALLED AFTER ALL PAINTING IN THE VICINITY OF THE SCREENING IS COMPLETE.

NEW GALVANIZED MESH NEED NOT BE PAINTED.

LUMP SUM PAYMENT FOR THE ABOVE REFERENCED WORK SHALL BE UNDER ITEM SPECIAL - STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN OR ITEM SPECIAL - STRUCTURE, MISC.: CLOSING UPPER LATERAL BRACING TO SWAY BRACING CONNECTION WITH SCREEN.

ITEM SPECIAL - STRUCTURE, MISC.: SLOPED, NON-SHRINK MORTAR FILL WITH CONCRETE BONDING AGENT

WORK UNDER THIS ITEM SHALL CONSIST OF CLEANING AND PREPARATION OF DEBRIS CATCHING POCKETS FORMED ON THE UPHILL SIDE OF TRUSS DIAGONALS AND VERTICALS AT THE SIDEWALK AND THE INSTALLATION OF SLOPED MORTAR FILL TO PREVENT DEBRIS ACCUMULATION IN THESE POCKETS.

MATERIAL FOR THE NON-SHRINK MORTAR FILL SHALL CONFORM TO 705.22. AN EPOXY BASED CONCRETE BONDING AGENT SHALL BE USED TO ADHERE THE NEW MORTAR TO THE EXISTING CONCRETE. THIS BONDING AGENT SHALL CONFORM TO THE ASTM C881 - TYPE V SPECIFICATION.

THE REPAIR PROCEDURE IS AS FOLLOWS:

1. DEBRIS IN POCKETS SHALL BE REMOVED AND THE SIDEWALK SURFACE THOROUGHLY CLEANED BY PRESSURE WASHING.

2. THE CONCRETE DECK SHALL BE MILLED OUT PER ITEM 530 - STRUCTURE MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP.

3. THE MILLED AREAS SHALL BE CLEANED WITH COMPRESSED AIR OR PRESSURE WASHING.

4. THE POCKETS SHALL BE FILLED WITH NON-SHRINK MORTAR AND SLOPED TO PREVENT WATER AND DEBRIS FROM ACCUMULATING IN THE POCKETS.

THIS WORK SHALL BE FINISHED PRIOR TO THE APPLICATION OF THE HMWM TO THE SIDEWALK PER ITEM 512 - SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN.

THE WORK SHALL BE COORDINATED WITH THE ITEM 516 - POURED POLYURETHANE JOINT SEAL REPAIR SO THAT EITHER'S WORK WILL NOT DAMAGE THE OTHER'S REPAIR.

LUMP SUM PAYMENT FOR THE ABOVE WORK SHALL BE PAID PER ITEM SPECIAL - STRUCTURE, MISC.: SLOPED, NON-SHRINK MORTAR FILL WITH CONCRETE BONDING AGENT.

ITEM SPECIAL - STRUCTURE, MISC.: SEALING UNUSED CONDUIT OPENINGS

WORK UNDER THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND TOOLS REQUIRED TO SEAL UNUSED LIGHTING CONDUIT PROTRUDING THROUGH THE SIDEWALK AT THE WEST TRUSS ENDPOSTS.

AN EXPANDABLE NEOPRENE RUBBER PLUG SHALL BE USED TO SEAL CONDUIT

LUMP SUM PAYMENT SHALL BE INCLUDED WITH ITEM SPECIAL - STRUCTURE, MISC.: SEALING UNUSED CONDUIT OPENINGS.

ITEM SPECIAL - STRUCTURE, MISC.: REMOVING ROADWAY RAILING STUBS

WORK UNDER THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND TOOLS REQUIRED TO COMPLETELY REMOVE THE REMAINS OF THE ORIGINAL 1940 ROADWAY RAILING AT THE WEST TRUSS ENDPOSTS.

THE CONTRACTOR SHALL CUT OFF PROTRUDING SECTIONS OF THE RAILING. ANY REMAINING WELD OR RAILING MATERIAL AFTER CUTTING SHALL BE GROUND FLUSH WITH THE SURFACE OF THE ENDPOSTS. THE CONTRACTOR SHALL USE EXTREME CARE IN REMOVING THE RAILING TO AVOID NICKING, GOUGING OR OTHERWISE DAMAGING THE TRUSS ENDPOSTS.

WORK SHALL BE COMPLETED PRIOR TO THE ABRASIVE BLASTING OF THE WEST ENDPOSTS.

LUMP SUM PAYMENT FOR THE ABOVE MENTIONED WORK SHALL BE UNDER ITEM SPECIAL - STRUCTURE, MISC.: REMOVING ROADWAY RAILING STUBS.

ITEM SPECIAL - STRUCTURE, MISC.: DRAIN HOLES

WORK UNDER THIS ITEM SHALL CONSIST OF ALL LABOR AND EQUIPMENT REQUIRED TO ADD DRAIN HOLES TO UPPER AND LOWER CHORDS AT PANEL NO. 12 AND 35 AND THE JACKING BOXES AT PANELS 12 AND 35.

CAREFUL USE OF A TORCH IS PERMITTED TO CUT THE HOLES, HOWEVER, THE OPERATION SHALL NOT DAMAGE ANY MATERIAL NOT DESIGNATED FOR REMOVAL. THE EDGES OF THE HOLES SHALL BE GROUND SMOOTH PRIOR TO TOUCH UP PAINTING.

THE EDGES OF THE NEW HOLES SHALL BE PAINTED WITH THE COMPLETE THREE COAT OZEU SYSTEM. THE EAST LOWER CHORD WILL BE COMPLETELY BLASTED AND PAINTED. THE REMAINING LOCATIONS SHALL BE PREPARED TO SSPC-SP3, "POWER TOOL CLEANING" STANDARDS AND EACH COAT OF PAINT MAY BE BRUSH APPLIED.

PAYMENT PER EACH FOR THE CUTTING OF HOLES, GRINDING OF HOLE EDGES, SURFACE PREPARATION AND PAINTING SHALL BE PAID PER ITEM SPECIAL - STRUCTURE, MISC.: DRAIN HOLES.

ITEM SPECIAL - STRUCTURE, MISC.: POST-TENSIONING ROD U-BOLTS

WORK UNDER THIS ITEM SHALL CONSIST OF ALL LABOR, TOOLS, MATERIALS AND MISCELLANEOUS ITEMS REQUIRED TO REMOVE EXISTING POST-TENSIONING ROD U-BOLTS AT FLOORBEAMS 7 AND 44, AND WEST LOWER CHORD PANEL 39 AND THE INSTALLATION OF NEW U-BOLTS.

THE NEW U-BOLTS SHALL BE CARBON STEEL WITH ZINC PLATING.

PAYMENT FOR THE NEW U-BOLTS SHALL BE PER EACH AND PAID UNDER ITEM SPECIAL - STRUCTURE, MISC.: POST TENSIONING ROD U-BOLTS.

ITEM SPECIAL - STRUCTURE, MISC.: CAULKING OPEN BOLT HOLES

WORK UNDER THIS ITEM SHALL INCLUDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO FILL OPEN BOLT HOLES IN WEST ROADWAY CURB.

OPEN HOLES SHALL BE COMPLETELY FILLED WITH CAULKING MATERIAL CONFORMING TO CMS 514.02.

PAYMENT FOR THE ABOVE REFERENCED WORK SHALL BE MADE PER EACH PER ITEM SPECIAL - STRUCTURE, MISC.: CAULKING OPEN BOLT HOLES.

ITEM SPECIAL - STRUCTURE, MISC.: PIGEON DOORS

PREVIOUS REHABILITATIONS INCLUDED THE INSTALLATION OF PLYWOOD PIGEON DOORS IN ALL OVAL SHAPED HOLES LOCATED IN THE TRUSS CHORDS, VERTICALS AND END POSTS. PAYMENT FOR REPAIR AND REPLACEMENT FOR THESE DOORS IS GIVEN BELOW.

STEEL PIGEON DOORS

ALL EXISTING PLYWOOD PIGEON DOORS WITHIN 8 FEET OF TOP OF SIDEWALK ON THE WEST TRUSS, OR EASILY ACCESSIBLE FROM THE ABUTMENTS, ARE TO BE REPLACED WITH STEEL PIGEON DOORS. PAYMENT SHALL BE AT THE UNIT PRICE BID PER EACH FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO REMOVE EXISTING PLYWOOD DOORS AND INSTALL NEW STEEL DOORS. THE DOORS SHALL BE MANUFACTURED BY A FABRICATOR PREQUALIFIED FOR "UNIQUE LEVEL OF FABRICATION" PER ODOT 513.

ITEM SPECIAL - STRUCTURE, MISC.: PIGEON DOORS CONTINUED ON SHEET 8/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06 | STRUCTURE FILE NUMBER 470443 | CHECKED BLN | REVISED

GENERAL NOTES

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

980706GN.DGN 2/3/06 SJK

ITEM SPECIAL - STRUCTURE, MISC.: PIGEON DOORS (CONTINUED)

ALL SECTIONS OF ITEM 513 APPLY EXCEPT AS REVISED HEREIN. THE ENGINEER IS RESPONSIBLE FOR ENSURING ANY SHOP OR FIELD FABRICATED STEEL SUPPLIED UNDER THIS BID ITEM IS ACCEPTABLE. THE REQUIREMENTS FOR SUBMITTAL OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING IS WAIVED. AT THE ENGINEER'S OPTION, THE CONTRACTOR SHALL EITHER SUPPLY THE ENGINEER WITH SHOP DRAWINGS, REQUIRED IN SECTION 501.04, PRIOR TO ANY INCORPORATION OF SHOP FABRICATED STEEL AT THE PROJECT, OR SUPPLY THE ENGINEER WITH "AS FABRICATED" DRAWINGS, MEETING 501.04, AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER SHALL ASSURE THE SUBMITTED DRAWINGS MATCH THE FINAL AS BUILT STEEL INCORPORATED INTO THE WORK. IF THE ENGINEER IS SATISFIED WITH THE DRAWINGS AND THE DELIVERED MATERIALS, THE CONTRACTOR SHALL SUPPLY A COPY SET, STAMPED AND DATED AS PER 501.04, TO THE PROJECT ENGINEER FOR RECORD PURPOSES. SUBMITTAL REQUIREMENTS UNDER 501.04, MATERIALS, SHALL BE MADE TO THE PROJECT ENGINEER. THE CONTRACTOR SHALL FURNISH A COPY OF THE WRITTEN LETTER OF ACCEPTANCE, 501.04, TO THE PROJECT ENGINEER.

PRIME PAINT, INTERMEDIATE AND FINISH TOP COAT IN SHOP WITH SAME MATERIALS AS BRIDGE.

PAYMENT FOR THE INSTALLED STEEL PIGEON DOORS SHALL BE PAID PER EACH UNDER ITEM SPECIAL - STRUCTURE, MISC.: STEEL PIGEON DOORS.

PLYWOOD PIGEON DOORS

ALL OTHER OPEN OVAL HOLES ON THE BRIDGE ARE TO HAVE REPLACEMENT PLYWOOD DOORS INSTALLED.

THE PLYWOOD SHALL MEET THE REQUIREMENTS OF 730.25 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE PLYWOOD SHALL BE SEALED WITH THREE (3) COATS OF EPOXY AND PAINTED WITH THE URETHANE FINISH COAT WHICH IS TO BE USED ON THE BRIDGE. THE EPOXY SHALL BE SUPPLIED FROM ONE OF THE FOLLOWING MANUFACTURERS.

GOUGEON BROTHER'S INC.
100 PATTERSON AVE.
P.O. BOX 908
BAY CITY MI 48707 USA
PHONE: 989-684-6881
EPOXY RESIN 105
HARDENER 205

CHEM-TECH
4669 LANDER ROAD
CHAGRIN FALLS, OHIO 44022
CHEM-TECH L-26

LBI INC.
973 NORTH ROAD
ROUTE 117 DEPT. 207
GROTON CT 06340
PHONE: 1-800-231-6537
LBI EPOXY 1101
LBI HARDENER 2105

THE CONTRACTOR MAY TRIM THE PIGEON DOORS, IF NECESSARY, TO FACILITATE PLACEMENT. ALL EDGES WHICH ARE TRIMMED SHALL BE RESEALED WITH THREE (3) COATS OF THE EPOXY AND PAINTED AS REQUIRED ABOVE.

THE PIGEON DOORS SHALL BE INSTALLED AFTER ALL PAINTING WORK NEAR THE INSTALLATION AREA IS COMPLETE.

SEVERAL EXISTING PLYWOOD PIGEON DOORS ARE TO BE REPLACED BY STEEL PIGEON DOORS. AT THE CONTRACTOR'S OPTION, HE MAY CAREFULLY REMOVE THESE AND RE-USE THEM AS NEW PLYWOOD PIGEON DOORS DETAILED UNDER THIS PAY ITEM. THE PIGEON DOORS SHALL BE IN A CONDITION MEETING THE APPROVAL OF THE ENGINEER PRIOR TO RE-USE.

A CONTIGENCY OF 20 PIGEON DOORS IS INCLUDED IN THE ESTIMATED QUANTITY. THIS CONTIGENCY SHALL BE USED AT THE ENGINEER'S DISCRETION TO REPLACE DETERIORATED PIGEON DOORS.

PAYMENT FOR ALL THE ABOVE SHALL BE AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL - STRUCTURE, MISC.: PLYWOOD PIGEON DOORS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

PLYWOOD PIGEON DOORS, REMOVED AND REINSTALLED

AREAS DESIGNATED IN THE PLANS FOR BLAST CLEANING AND/OR PAINTING WILL REQUIRE THE REMOVAL OF EXISTING PLYWOOD PIGEON DOORS. THESE AREAS INCLUDE, BUT ARE NOT LIMITED TO, THE BOTTOM CHORD OF THE EAST TRUSS; SELECTED FLOORBEAM CONNECTIONS TO THE WEST TRUSS; THE TOP CHORD; AND VERTICAL AND DIAGONAL TRUSS MEMBERS ABOVE THE ROADWAY SURFACE.

THE PIGEON DOORS SHALL BE CAREFULLY REMOVED, PAINTED WITH THE NEW FINAL TOP COAT AND STORED UNTIL BLASTING AND PAINTING OPERATIONS NO LONGER REQUIRE ACCESS TO THE INTERIORS OF BUILT UP TRUSS MEMBERS. THE PIGEON DOORS SHALL THEN BE REINSTALLED.

PRIOR TO REINSTALLATION, THE ENGINEER SHALL INSPECT THE PIGEON DOORS AND REJECT ANY DAMAGED DURING THE REMOVAL OPERATION. REJECTED PLYWOOD DOORS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE. AT THE OPTION OF THE CONTRACTOR, HE MAY CAREFULLY REMOVE ANY REMAINING PLYWOOD DOORS WITHIN THE LIMITS OF THE STEEL DOOR REPLACEMENT AREA AND USE ANY UNDAMAGED DOORS FROM HERE TO REPLACE ANY DAMAGED DOORS DESIGNATED FOR REINSTALLATION.

TOP COAT PAINTING OF THE DOORS SHALL BE CONSIDERED AS INCIDENTAL TO THIS ITEM.

PAYMENT FOR ITEM SPECIAL - STRUCTURE, MISC.: PLYWOOD PIGEON DOORS, REMOVED AND REINSTALLED WILL BE AT THE UNIT BID PRICE EACH. THIS SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NEEDED TO REMOVE, STORE, PAINT AND REINSTALL THE PIGEON DOORS.

ITEM SPECIAL - STRUCTURE, MISC.: PERMANENT REFERENCE POINT

PERMANENT REFERENCE POINTS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE ABUTMENT SEATS. EXISTING REFERENCE POINTS SHALL BE REFERENCED PRIOR TO THE INSTALLATION OF THE CONCRETE SEISMIC BLOCKS AT THE ABUTMENTS. THIS INFORMATION SHALL BE FORWARDED TO THE BRIDGE DEPARTMENT AT ODOT D.3. PERMANENT REFERENCE POINTS SHALL BE LOCATED FROM EXISTING REFERENCE POINTS.

THE PERMANENT REFERENCE POINTS SHALL CONSIST OF A ¾ INCH DIAMETER BY 4 INCH LONG BRASS ROD SET IN NON-SHRINK GROUT OR EPOXY ADHESIVE, IN A MINIMUM 1¼ INCH DIAMETER HOLE CORED 4½ INCHES INTO THE CONCRETE. THE TOP OF THE BRASS ROD SHALL BE SET FLUSH WITH THE EXISTING CONCRETE SURFACE. AFTER THE GROUT SETS, THE BRASS ROD SHALL BE CENTERPUNCHED AT THE EXACT REFERENCE POINT LOCATION.

GROUT SHALL CONFORM TO ITEM 510.02.

ALL MEASUREMENTS, REFERENCES AND LOCATION WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A PROFESSIONAL SURVEYOR REGISTERED IN THE STATE OF OHIO.

THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR MEASUREMENTS, REFERENCE POINTS, AND INSTALLATION SHALL BE INCLUDED FOR PAYMENT, PER EACH LOCATION, FOR ITEM SPECIAL - STRUCTURE, MISC.: PERMANENT REFERENCE POINT.

ITEM SPECIAL - STRUCTURE, MISC.: SEALING PIER SEATS WITH HIGH MOLECULAR WEIGHT METHACRYLATE

WORK UNDER THIS ITEM INCLUDES ALL MATERIALS, TOOLS AND LABOR REQUIRED TO SEAL THE TOP HORIZONTAL SURFACE OF THE CAPS AT PIERS 1 AND 2.

THE WORK SHALL BE PERFORMED ONLY AFTER WORK UNDER ITEM SPECIAL - LEVELLING DEPRESSIONS IN PIER CAPS HAS BEEN COMPLETED.

THE APPLICATION PROCEDURE WILL FOLLOW SUPPLEMENTAL SPECIFICATION 846 EXCEPT THAT THE APPLICATION RATE OF SAND SHALL BE DOUBLED AND THE PIER CAPS WILL BE BRUSHED FREE OF UNADHERED SAND AFTER CURING OF THE HMWM.

PAYMENT FOR THE ABOVE REFERENCED WORK SHALL BE MADE PER SQUARE YARD UNDER ITEM SPECIAL - STRUCTURE, MISC.: SEALING PIER SEATS WITH HIGH MOLECULAR WEIGHT METHACRYLATE.

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP

WORK UNDER THIS ITEM SHALL CONSIST OF SAWING A NEAT LINE, BY DIAMOND BLADE SAW, TO A DEPTH OF ¾" AT THE LIMITS SHOWN ON SIDEWALK REPAIR SHEET 58/62 AND 62/62. WORK SHALL ALSO INCLUDE THE REMOVAL OF 1" OF CONCRETE WITHIN THE LIMITS SHOWN BY MEANS OF MILLING, GRINDING, OR CHIPPING.

PAYMENT FOR THE ABOVE REFERENCED WORK SHALL BE MADE PER SQUARE YARD UNDER ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP.

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE DECK, 1¼" DEEP

WORK UNDER THIS ITEM SHALL CONSIST OF SAWING A NEAT LINE, BY DIAMOND BLADE SAW, TO A DEPTH OF 1", 10'-0" FROM THE EDGE OF SPECIFIED MODULAR EXPANSION JOINT CASTINGS OR 1'-0" FROM THE SPECIFIED DRAIN CASTING AND THE REMOVAL OF 1¼" OF CONCRETE FROM THE DECK BY MILLING OR CHIPPING BETWEEN THE SAWCUT AND EDGE OF JOINT CASTING.

PAYMENT FOR THE ABOVE REFERENCED WORK SHALL BE MADE PER SQUARE YARD UNDER ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1¼" DEEP.

ITEM SPECIAL - STRUCTURE, MISC.: SEALING EDGES OF ROADWAY

WORK UNDER THIS ITEM SHALL INCLUDE THE SEALING OF THE JOINTS BETWEEN THE CONCRETE DECK AND STEEL CURB CHANNELS WITH HIGH MOLECULAR WEIGHT METHACRYLATE.

WORK SHALL ADHERE TO PROVISIONS SET FORTH IN CMS 512.04

THE ACCEPTED QUANTITIES OF JOINT TREATMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT. THE PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL LABOR, MATERIALS INCLUDING CATALYSTS, TOOLS, EQUIPMENT AND INCIDENTALS, AND FOR PERFORMING ALL THE WORK INVOLVED INVOLVED IN PREPARING AND TREATING THE SURFACES ACCORDING TO THE SPECIFICATIONS.

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY (1" THICK), OR (1¼" THICK), AS PER PLAN

REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATION 847 (DATED 04-15-05) EXCEPT AS NOTED BELOW.
DUE TO THE WIDTH OF THE PROPOSED REPAIRS, A FINISHING MACHINE AND TEST SLAB ARE NOT REQUIRED. SEE SECTION 847.09, 847.10, 847.14 AND 847.21.

THE CONTRACTOR SHALL STENCIL DATE INTO REPAIRS AS SPECIFIED IN SECTION 847.22 IN A REAR CORNER OF THE OVERLAY NEAR PANEL 35.

THE LIMITS OF APPLICATION OF HIGH MOLECULAR WEIGHT METHACRYLATE SEALER SPECIFIED IN SECTION 847.23 SHALL BE MODIFIED TO INCLUDE AREAS SPECIFIED IN THESE PLANS (HMWM SEALING SHALL BE OMITTED IN SIDEWALK MICRO SILICA REPAIR). THE RIDING SURFACE SHALL BE TEXTURED TO MATCH EXISTING ROADWAY GROOVES IN LIEU OF SECTION 847.22. A BONDING AGENT CONFORMING TO ASTM 881, TYPE V WILL BE USED TO ADHERE FRESH CONCRETE TO EXISTING DECK.

WORK UNDER THIS ITEM IS DESCRIBED IN SECTION 847.01, EXCEPT THAT UNSOUND CONCRETE REMOVAL SHALL BE GOVERNED BY ITEM SPECIAL - STRUCTURE, MISC.; MILLING CONCRETE DECK 1¼" DEEP, OR ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP.

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN

THE VARIABLE THICKNESS MICRO SILICA MODIFIED CONCRETE OVERLAY IS LOCATED AT THE PANEL 12 FINGER JOINT. SEE SHEET 60/62 . THE VARIABLE DECK THICKNESS SHALL BE TAKEN AS THE ACTUAL EXISTING DECK THICKNESS, LESS THE TOP 1¼", WHICH IS PAID FOR AS PART OF THE 1¼" OVERLAY DESCRIBED ABOVE. THESE THICKNESSES ARE USED IN THE CALCULATION PAY VOLUME OF CONCRETE.

PAYMENT SHALL BE PER CUBIC YARD UNDER ITEM 847- MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED		STRUCTURE FILE NUMBER
BLN			4707443

GENERAL NOTES
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

ESTIMATED QUANTITIES

CALCULATED KAK DATED 3/06
CHECKED ALP DATED 3/06

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	STRUCTURE SUPER	STRUCTURE ABUTS.	STRUCTURE PIERS	STRUCTURE GEN'L	SEE SHEET X/62	PROPOSED STRUCTURE WORK ITEM SEE SHEET 3/62
202	11201		LUMP	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LUMP				1,2,3,16,17,22-24,29, 36,45-48,55-58,60-62	2,4,6,8,10-13,15, 18,24,25,34,39
202	98100	1120	EACH	REMOVAL MISC.: EXISTING RIVET	1000			120	1,2-4,11,13,15,16,17,18 29,30,32,34,35,36	21,23,29,31,34, 36,39
509	10000	1130	POUND	EPOXY COATED REINFORCING STEEL	115	1015			1,14,45,60	2,30
510	10000	104	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		56	48		1,11,13-15	29,30,31
511	44101	5	CU YD	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN		5			1,4,14	30
512	10100	273	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		273			1,14	37
512	10300	1637	SQ YD	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	1637				2	5
513	10001		LUMP	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	LUMP				1,4,16,17,29-36	23,34,39
513	95020		LUMP	STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS	LUMP				2,4,45,46,49	24
513	95020		LUMP	STRUCTURAL STEEL, MISC.: SEISMIC CABLES FOR STRINGER ENDS AT EXPANSION JOINTS	LUMP				4,16,19	27
513	95020		LUMP	STRUCTURAL STEEL, MISC.: SEISMIC TIE ROD FOR STRINGER ENDS AT DEFLECTION JOINTS	LUMP				4,16,17,19	28
513	95020		LUMP	STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT EXPANSION PIERS	LUMP				1,4,11,15	29
513	95020		LUMP	STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT FORWARD ABUTMENT	LUMP				1,4,13	31
513	95020		LUMP	STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIRS	LUMP				2,4,50-55	6,25
513	95030	535	EACH	STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT	415			120	2,4,16,17,20,21, 45-48	18,24,33,36
513	95030	492	EACH	STRUCTURAL STEEL, MISC.: REPLACEMENT OF RIVETS WITH BOLTS AT DISCONTINUOUS STRINGER ENDS	492				2,4,18	21
514	00051	71,473	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	70,385			1088	2,4,5,37-42,44,50-54	22
514	00057	71,473	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN	70,385			1088	2,4,5,37-42,44,50-54	22
514	00061	94,973	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN	93,885			1088	2,4,5,37-42,44,50-54	22
514	00067	94,079	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	92,991			1088	2,5,37-42,44 50-54	22
514	00504	100	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	100				2,4,5,37-42,44 50-54	22
514	10000	80	EACH	FINAL INSPECTION REPAIR	80				2,4,5,37,42,44,50-54	22
514	27700	3023	SQ FT	FIELD PAINTING, MISC.: POWER TOOL CLEANING OF PEDESTRIAN RAILING	2973			50	5,37,50-54	22
514	27700	3023	SQ FT	FIELD PAINTING, MISC.: BRUSH APPLIED ALUMINUM EPOXY MASTIC PRIME ON PEDESTRIAN RAILING	2973			50	5,37,50-54	22
514	27700	228,091	SQ FT	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU	228,091				2,5,37,42,50-54	22
514	27700	18,677	SQ FT	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS	18,677				2,5,37-40	22
514	27700	18,677	SQ FT	FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT	18,677				2,5,37-40	22
514	27700	228,091	SQ FT	FIELD PAINTING, MISC.: FIELD PAINTING STRUCTURAL STEEL, TOP FINISH COAT	228,091				2,5,37,42,50-54	22
514	27710	19808	FT	FIELD PAINTING, MISC.: CAULKING	18208			1600	2,6,39,40,43	1,22
514	27800		LUMP	FIELD PAINTING, MISC.: FIELD TOUCH-UP OF NEW AND EXISTING PAINT	LUMP				1,2,5,11,13,15-21, 29-36,45-48,50-55	6,18,21,23-25, 27-29,31,33,34,39
516	01301	244	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	244				6,45,46,56,57	11,12,13
SPECIAL	51614010	1420	FT	POURED POLYURETHANE JOINT SEAL	1420				2,6,62	8
516	14600	150	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK JOINT FOAM BACKUP				150	2,6,62	8
516	15000	40	EACH	STRUCTURAL JOINT OR JOINT SEALER, MISC.: ETHYLENE VINYL ACETATE CENTERING BLOCKS	40				6,45,46,57	11
516	25000	62	SQ FT	NYLON REINFORCED NEOPRENE SHEETING	62				16,17,22	10
519	11100	168	SQ FT	PATCHING CONCRETE STRUCTURE		24	124	20	11	32
SPECIAL	51912600	20	FT	CONCRETE REPAIR BY EPOXY INJECTION (SEE PROPOSAL NOTE)			20		6,11	32
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: LEVELLING DEPRESSIONS IN PIER CAP	LUMP				1,7,12	20
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: SHIM SIDEWALK STRINGER BEARING	LUMP				7,16,18	19
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: ATTACH NEOPRENE FLASHING	LUMP				7,16,17,22	26
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN	LUMP				1,7,23,24	15
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: CLOSING UPPER LATERAL BRACING TO SWAY BRACING CONNECTION WITH SCREEN	LUMP				2,7,25	16

INDEX OF SHEETS

BOLT LEGEND

- FIELD BOLT, NUT AND FULL HEAD. NEW MATERIAL TO NEW MATERIAL.
- INDICATES NEW MATERIAL TO EXISTING RIVET OR BOLT HOLE, WHEN ADDED TO FIELD BOLT SYMBOL ABOVE.
- INDICATES NEW MATERIAL TO FIELD DRILLED NEW OR EXISTING STEEL, WHEN ADDED TO FIELD BOLT SYMBOL ABOVE.
- REMOVE EXISTING RIVET, OR BOLT WHERE NOTED, FOR NEW BOLTED CONNECTION.
- REMOVE EXISTING RIVET.
- EXISTING RIVET TO REMAIN.

ESTIMATED QUANTITIES CONTINUED SHEET 10/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK
DRAWN SJK
CHECKED BLN
REVIEWED DAP
DATE 2/13/06
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STRUCTURE FILE NUMBER 4707443

ESTIMATED QUANTITIES AND INDEX
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

9/62

38/91

98076SSA.DGN 3/24/06 SJK,RC,TWH

ESTIMATED QUANTITIES (CONTINUED)

CALCULATED KAK DATED 3/06
CHECKED ALP DATED 3/06

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	STRUCTURE				SEE SHEET X/62	PROPOSED STRUCTURE WORK ITEM SEE SHEET 3/62
					SUPER	ABUTS.	PIERS	GEN'L		
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: SLOPED, NON-SHRINK MORTAR FILL WITH CONCRETE BONDING AGENT	LUMP				2,7,62	8
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: SEALING UNUSED CONDUIT OPENINGS	LUMP				1,7,25	7
SPECIAL	53000200		LUMP	STRUCTURE, MISC.: REMOVING ROADWAY RAILING STUBS	LUMP				1,7,25	7
SPECIAL	53000400	20	EACH	STRUCTURE, MISC.: DRAIN HOLES	20				1,7,23	17
SPECIAL	53000400	13	EACH	STRUCTURE, MISC.: POST TENSIONING ROD U-BOLTS	13				2,7,16,17,29	35
SPECIAL	53000400	11	EACH	STRUCTURE, MISC.: CAULKING OPEN BOLT HOLES	11				2,7,45,46,61	4
SPECIAL	53000400	1130	EACH	STRUCTURE, MISC.: PLYWOOD PIGEON DOORS REMOVED AND REINSTALLED	1130				2,7,8,27	14
SPECIAL	53000400	28	EACH	STRUCTURE, MISC.: STEEL PIGEON DOORS	28				2,7,8,28	14
SPECIAL	53000400	23	EACH	STRUCTURE, MISC.: PLYWOOD PIGEON DOORS	3			20	2,7,8,26	14
SPECIAL	53000400	4	EACH	STRUCTURE, MISC.: PERMANENT REFERENCE POINT		4			1,8,14	38
SPECIAL	53000800	29	SQ YD	STRUCTURE, MISC.: SEALING PIER SEATS WITH HIGH MOLECULAR WEIGHT METHACRYLATE			29		1,8,12	20
SPECIAL	53000800	24	SQ YD	STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP	24				2,8,45,46,58,62	8,9
SPECIAL	53000800	144	SQ YD	STRUCTURE, MISC.: MILLING CONCRETE DECK, 1 1/4" DEEP	144				2,8,45,46,58,59	2
SPECIAL	53001300	3400	FT	STRUCTURE, MISC.: SEALING EDGES OF ROADWAY	3400				2,8,61	3
847	10001	6	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY, 1" THICK, AS PER PLAN	6				2,8,45,46,58	9
847	10001	167	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY, 1 1/4" THICK, AS PER PLAN	167				2,8,45,46,58,59,60	2
847	20001	3	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN	3				2,8,45,60	2

98076SSA.DGN 03/24/06 SJK,RC,BH,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

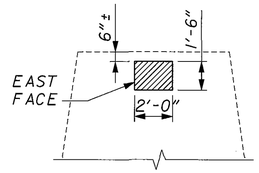
DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

ESTIMATED QUANTITIES - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

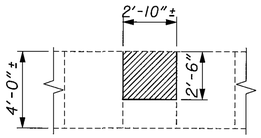
LOR-611-3.58
PID 21226

10/62

39/91



VIEW A-A
PIER 5



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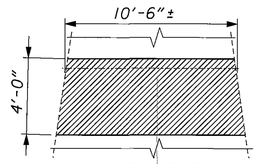

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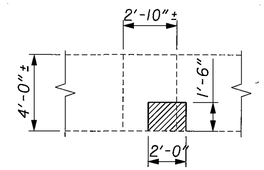
PIER 1



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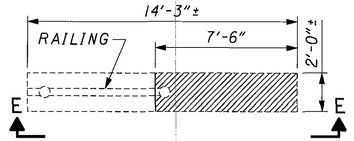
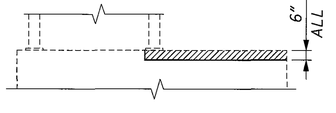
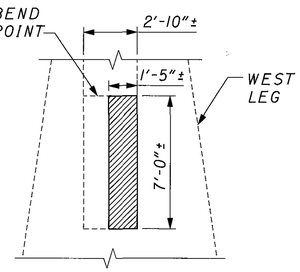
PIER 4



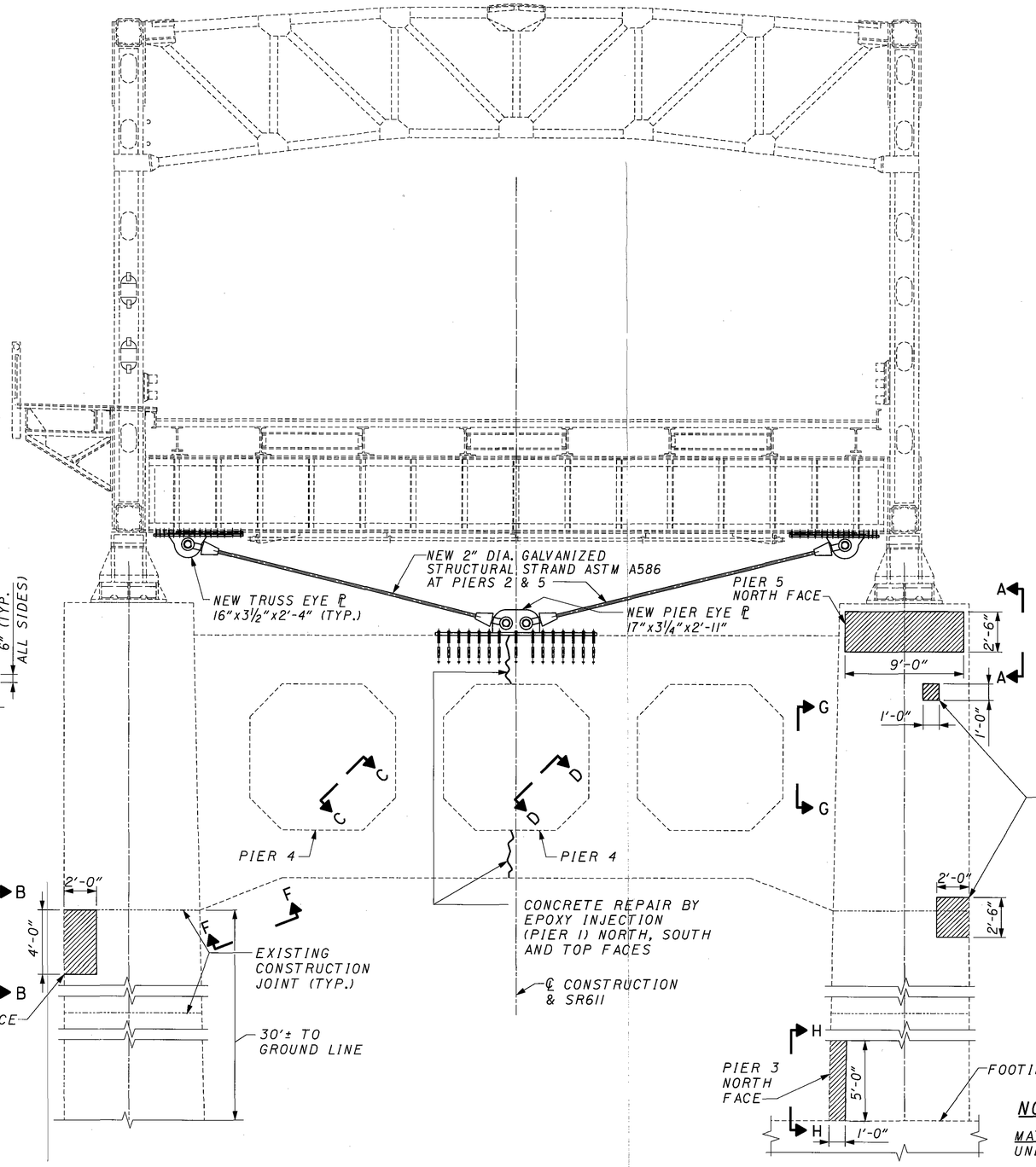
PLAN VIEW
FORWARD ABUTMENT
WEST WINGWALL

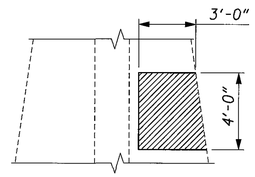


VIEW E-E

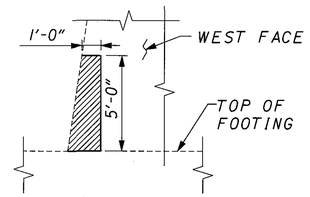


VIEW F-F
PIER 3





VIEW G-G
PIER 2



VIEW H-H
PIER 3

LEGEND

PATCHING CONCRETE STRUCTURE

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT
ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT EXPANSION PIERS
ITEM 519 - PATCHING CONCRETE STRUCTURE
ITEM SPECIAL - CONCRETE REPAIR BY EPOXY INJECTION

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

CABLE RESTRAINT DETAILS SEE SHEET 15/62

ITEM 202 - REMOVAL MISC.: EXISTING RIVET SEE GENERAL NOTE SHEET 3/62 AND 4/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT EXPANSION PIERS SEE GENERAL NOTE SHEET 4/62

ITEM SPECIAL - CONCRETE REPAIR BY EPOXY INJECTION SEE GENERAL NOTE SHEET 6/62

98076RD6.DGN 02/14/06 SJK,BH,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

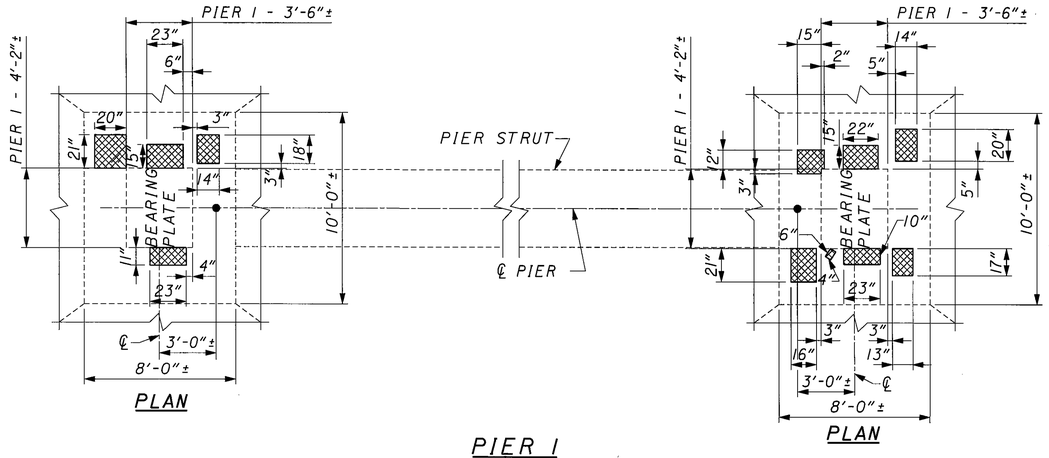
DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

SUBSTRUCTURE REPAIRS - 1
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

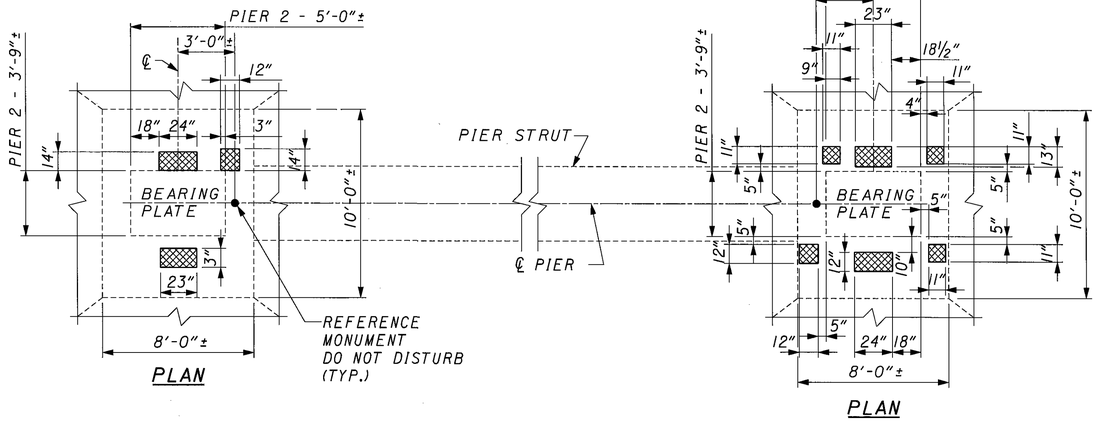
LOR-611-3.58
PID 21226

11/62

40/91

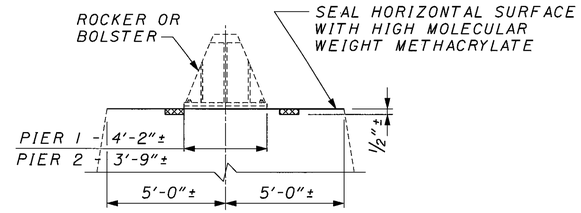


PIER 1



PIER 2

ITEM 530 - STRUCTURE, MISC.: LEVELLING DEPRESSIONS IN PIER CAPS



ELEVATION

PIER 1 OR 2

ITEM SPECIAL - STRUCTURE, MISC.: SEALING PIER SEATS WITH HIGH MOLECULAR WEIGHT METHACRYLATE

LEGEND

AREAS OF PIER CAP TO BE LEVELLED

EXISTING 3/4" DIA. BRASS REFERENCE MONUMENT (DO NOT DISTURB)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM SPECIAL - STRUCTURE, MISC.: LEVELLING DEPRESSIONS IN PIER CAPS SEE GENERAL NOTE SHEET 7/62

ITEM SPECIAL - STRUCTURE, MISC.: SEALING PIER SEATS WITH HIGH MOLECULAR WEIGHT METHACRYLATE SEE GENERAL NOTE SHEET 8/62

98076RD6.DGN 02/14/06 SJK,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

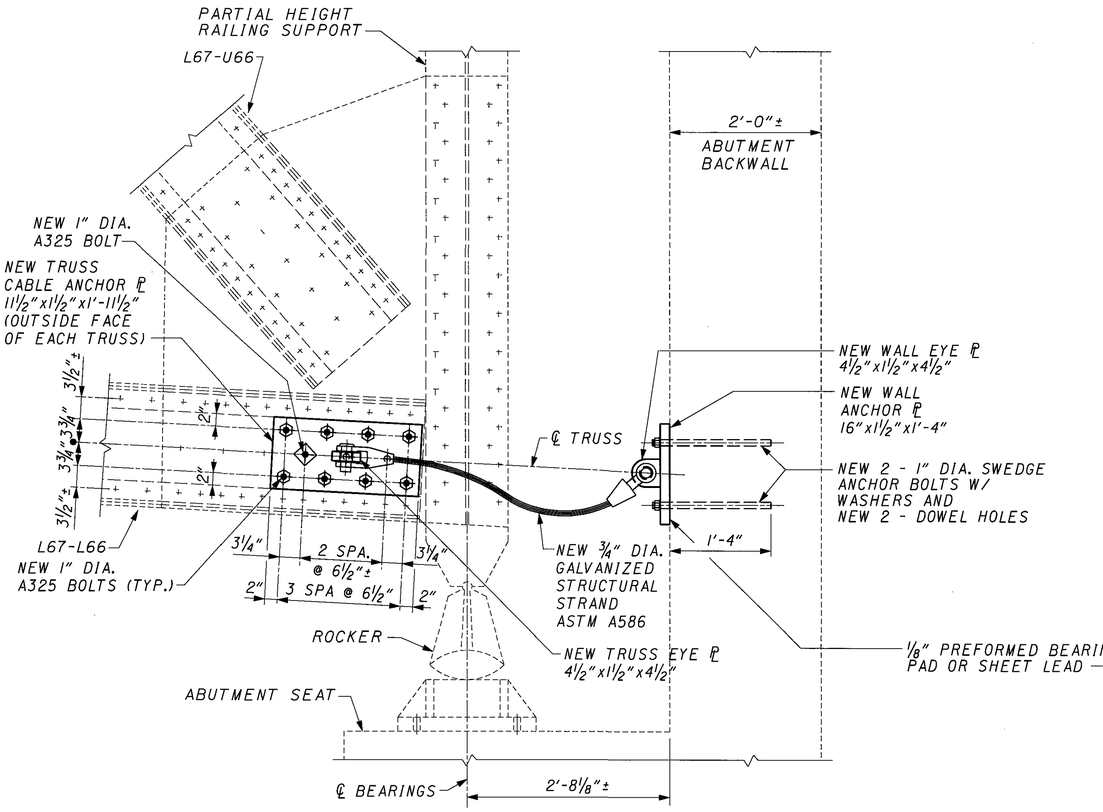
DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

SUBSTRUCTURE REPAIRS - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

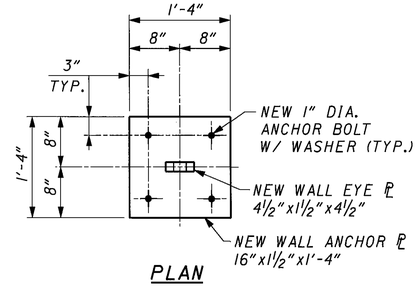
LOR-611-3.58
PID 21226

12 / 62

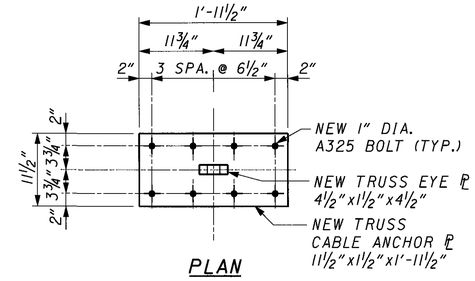
41
91



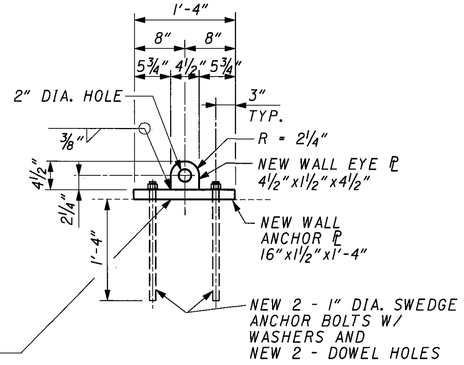
ELEVATION



PLAN

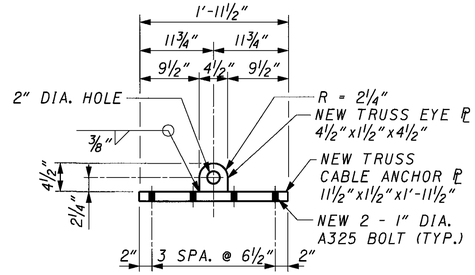


PLAN



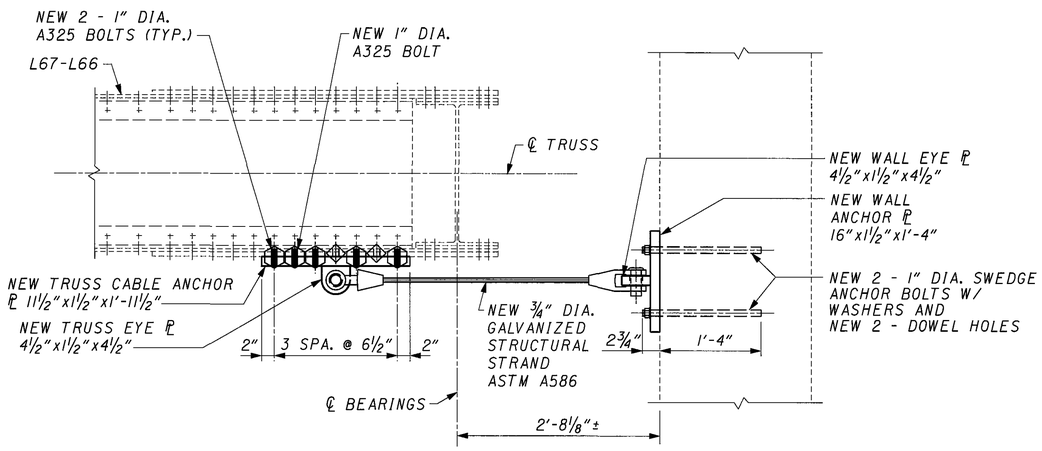
ELEVATION

NEW WALL ANCHOR PLATE AND NEW WALL EYE PLATE DETAIL



ELEVATION

NEW TRUSS CABLE ANCHOR PLATE AND NEW TRUSS EYE PLATE DETAIL



PLAN

FORWARD ABUTMENT (OUTSIDE FACES ONLY)

NEW ¾" DIA. GALVANIZED STRUCTURAL STRAND ASTM A586

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

EXISTING BOLT SPACINGS AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION OF NEW MATERIAL.

BOLT LEGEND SEE SHEET 9/62

STRUCTURAL STRAND LENGTHS AT FORWARD ABUTMENT SHALL BE DETERMINED BY CONTRACTOR FIELD MEASUREMENTS AT THE SITE PRIOR TO FABRICATION OF THE STRANDS. THE LENGTH OF STRANDS SHALL BE BASED ON THE STRAIGHT LINE DISTANCE AT 60°F BETWEEN EYES OF THE PLATES PLUS 6" TO ACCOUNT FOR NORMAL THERMAL MOVEMENT OF THE BRIDGE.

NON-SHRINK, NON-METALLIC GROUT SHALL CONFORM TO 705.20.

1" DIA. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 36 STEEL ANCHOR BOLTS.

ITEM 202 - REMOVAL MISC.: EXISTING RIVET SEE GENERAL NOTE SHEET 3/62 AND 4/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT FORWARD ABUTMENT SEE GENERAL NOTE SHEET 4/62

ITEM 202 - REMOVAL MISC: EXISTING RIVET

ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT FORWARD ABUTMENT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

ABUTMENT SEISMIC RETROFIT - 1

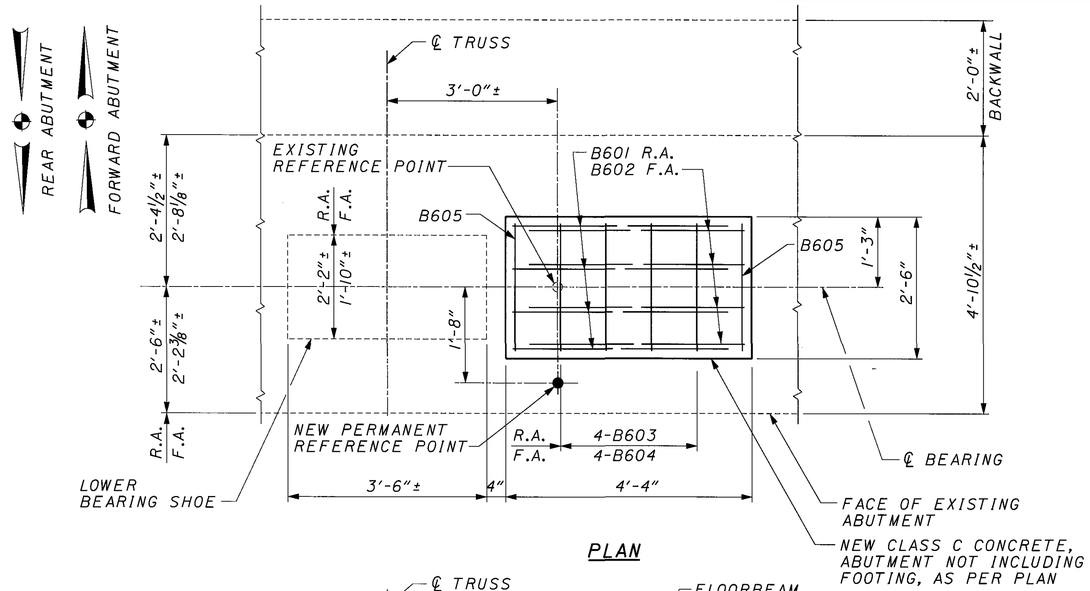
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

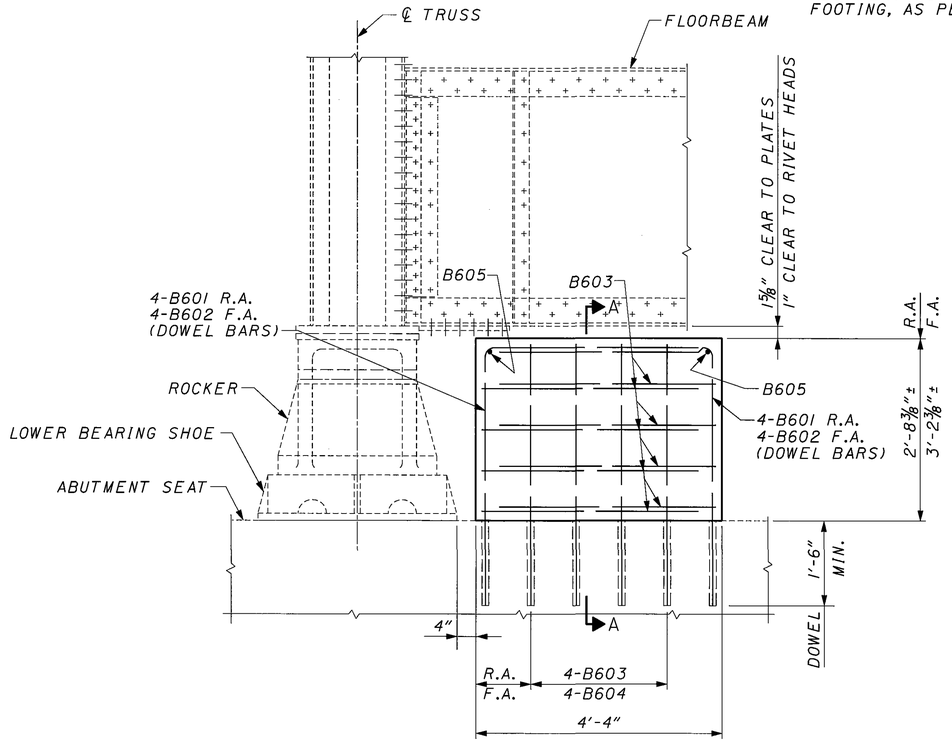
13/62

42/91

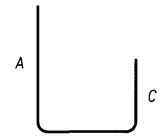
98076RD3.DGN 02/14/06 SJK,MLB



PLAN

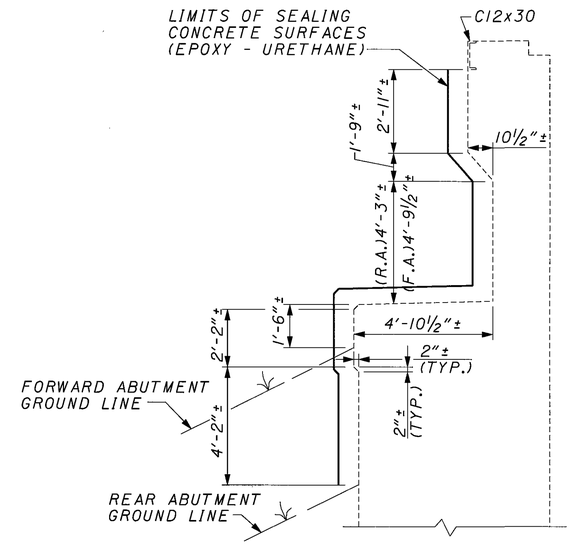


ELEVATION



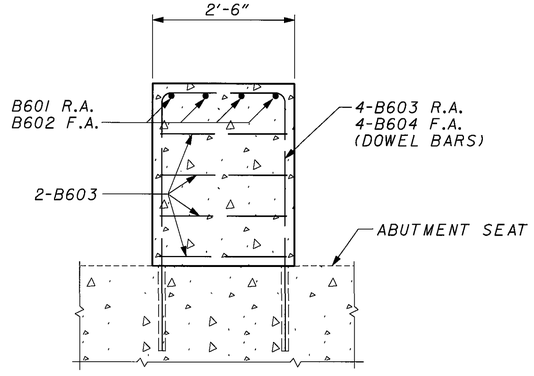
TYPE I

EPOXY COATED REINFORCING STEEL SEISMIC BLOCKS									
CALCULATED JLS DATE 4/02 CHECKED KAK DATE 4/02									
MARK	R.A.	F.A.	TOTAL	LENGTH	TYPE	A	B	C	WEIGHT (LBS.)
B601	16		16	6'-10"	1	3'-6"	3'-6"	0	164
B602		16	16	7'-4"	1	4'-0"	3'-6"	0	176
B603	24	16	40	8'-10"	1	3'-6"	2'-2"	3'-6"	531
B604		8	8	9'-10"	1	4'-0"	2'-2"	4'-0"	118
B605	4	4	8	2'-2"	STR.				26
								TOTAL WEIGHT	1015



ABUTMENT SECTION

SEALING LENGTHS:
REAR ABUTMENT - 64'-0"±
FORWARD ABUTMENT - 58'-0"±



SECTION A-A

REAR ABUTMENT (SHOWN)
FORWARD ABUTMENT (SIMILAR)

ITEM 509 - EPOXY COATED REINFORCING STEEL
ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT
ITEM 511 - CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN
ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
ITEM SPECIAL - STRUCTURE, MISC.: PERMANENT REFERENCE POINT

NOTES

NOTATION: R.A. - REAR ABUTMENT
F.A. - FORWARD ABUTMENT

MATERIALS SHOWN ARE EXISTING NOTED OTHERWISE.

GROUT FOR DOWELS SHALL BE NON-SHRINK, NON-METALLIC CONFORMING TO 705.20.

SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) - ALL BACKWALLS, SEATS, BREASTWALLS AND NEW SEISMIC BLOCKS SHALL BE SEALED.

ITEM 511 - CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING SEE GENERAL NOTE SHEET 4/62

ITEM SPECIAL - STRUCTURE, MISC.: PERMANENT REFERENCE POINT SEE GENERAL NOTE SHEET 8/62

980765BD.DGN 02/14/06 SJK,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

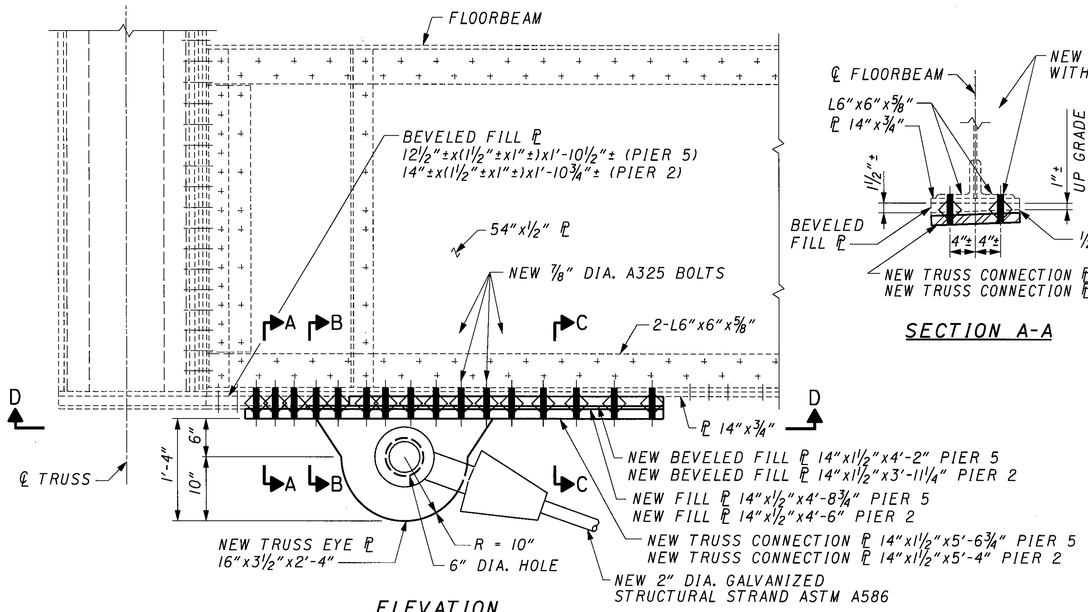
REVIEWED DAP DATE 2/13/06
STRUCTURE FILE NUMBER 4707443
DRAWN JLS REVISED
DESIGNED KAK CHECKED BLN

ABUTMENT SEISMIC RETROFIT - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

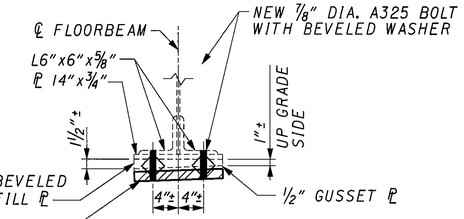
LOR-611-3.58
PID 21226

14/62

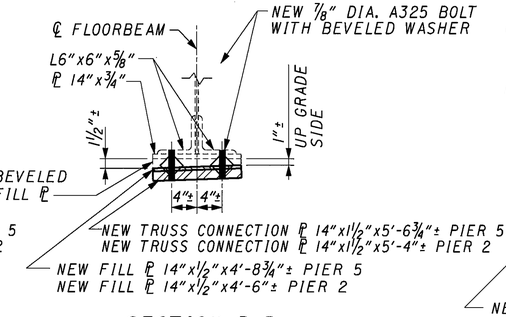
43/91



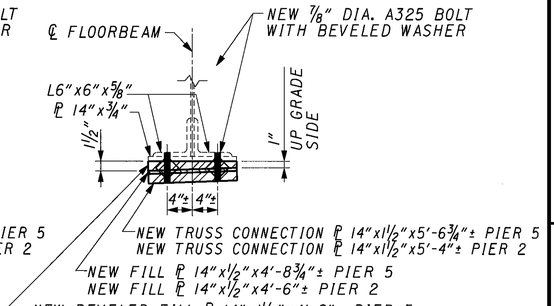
ELEVATION



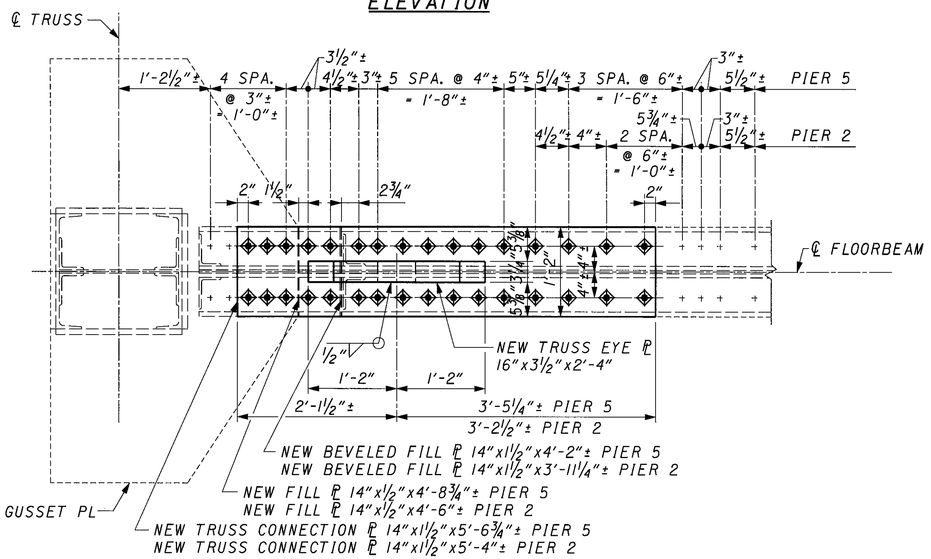
SECTION A-A



SECTION B-B

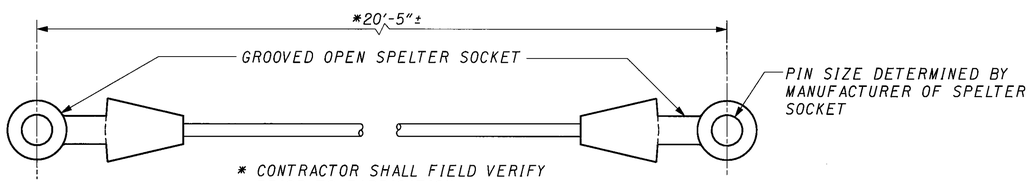


SECTION C-C

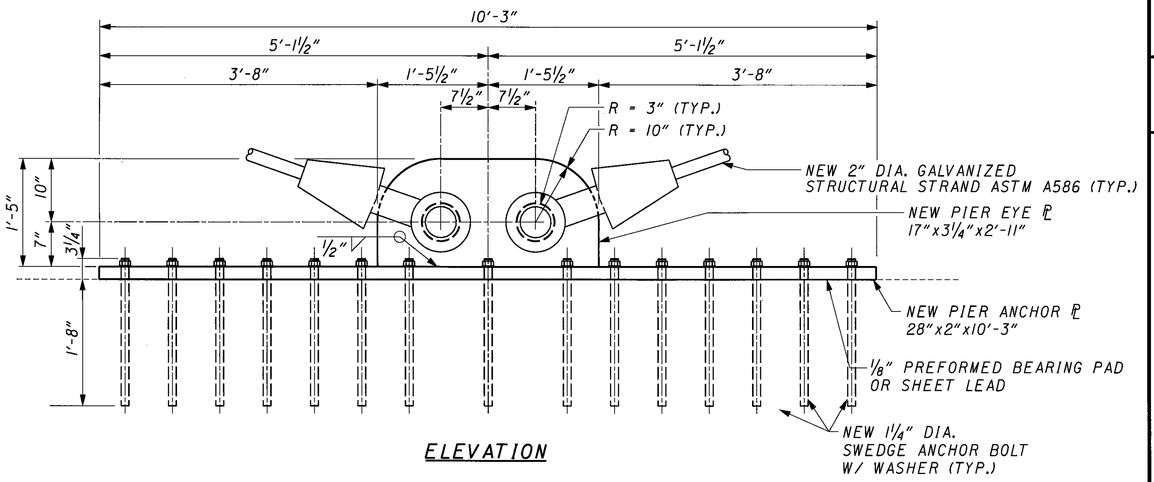


VIEW D-D

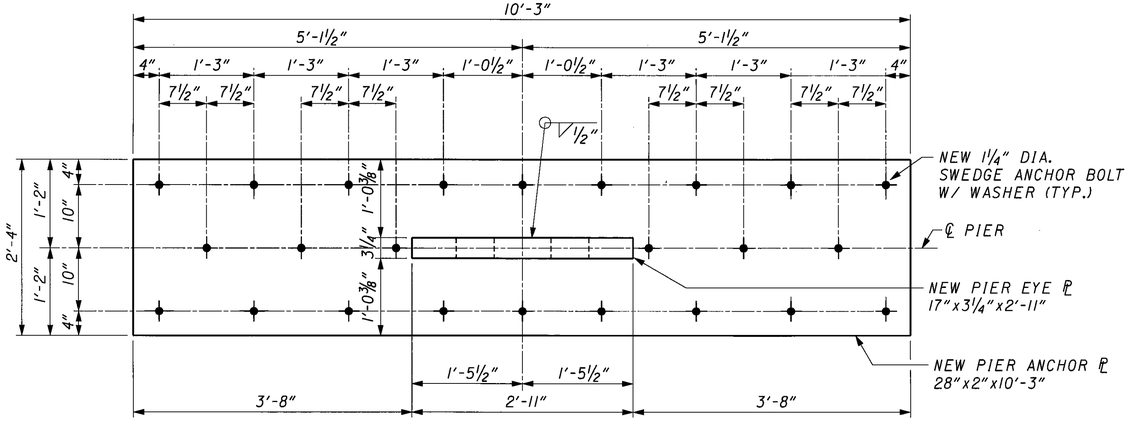
PIERS 2 & 5



NEW 2" DIA. GALVANIZED
STRUCTURAL STRAND ASTM A586



ELEVATION



PLAN

PIER STRUT AT PIERS 2 & 5

NOTES

1¼" DIA. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 55 STEEL ANCHOR BOLTS.

STRUCTURAL STRAND LENGTHS AT THE PIERS SHALL BE DETERMINED BY CONTRACTOR FIELD MEASUREMENTS AT THE SITE PRIOR TO FABRICATION OF THE STRANDS. THE LENGTH OF STRANDS SHALL BE BASED ON THE STRAIGHT LINE DISTANCE AT 60°F BETWEEN EYES OF THE PLATES PLUS A MAXIMUM OF 1" SLACK.

ADDITIONAL NOTES: SEE SHEET 13/62

ITEM 510 - DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT
ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLE AND BRACKET RESTRAINTS AT EXPANSION PIERS
ITEM 202 - REMOVAL MISC.: EXISTING RIVET

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

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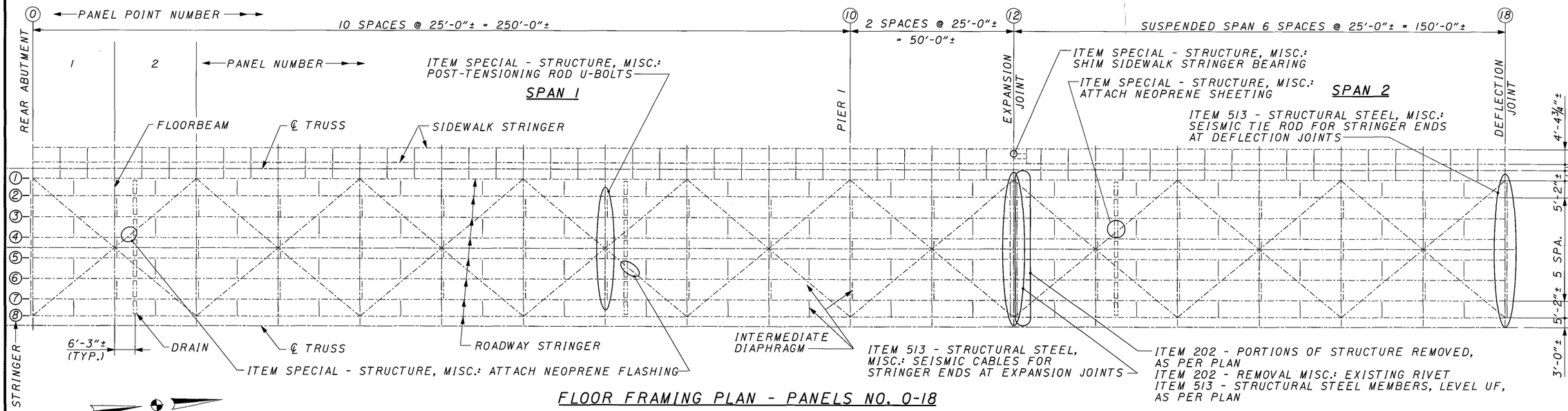
BLN		4707443	

PIER SEISMIC RETROFIT

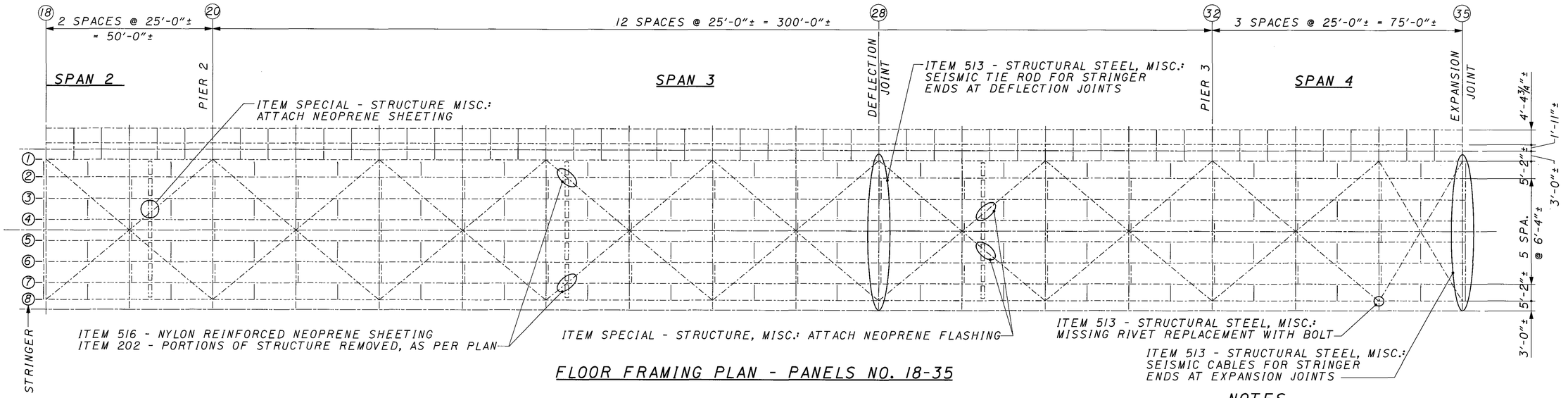
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

98076RD3.DGN 8/25/04 SJK



FLOOR FRAMING PLAN - PANELS NO. 0-18



FLOOR FRAMING PLAN - PANELS NO. 18-35

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE SHEET 22/62 AND 36/62

ITEM 202 - REMOVAL MISC.: EXISTING RIVET SEE SHEET 36/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC TIE ROD FOR STRINGER ENDS AT DEFLECTION JOINTS
SEE SHEET 19/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLES FOR STRINGER ENDS AT EXPANSION JOINTS
SEE SHEET 19/62

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN SEE SHEET 36/62

ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT
SEE SHEET 20/62

ITEM 516 - NYLON REINFORCED NEOPRENE SHEETING
SEE SHEET 22/62

ITEM SPECIAL - STRUCTURE, MISC.: SHIM SIDEWALK STRINGER BEARING
SEE SHEET 18/62

ITEM SPECIAL - STRUCTURE, MISC.: ATTACH NEOPRENE FLASHING
SEE SHEET 22/62

ITEM SPECIAL - STRUCTURE, MISC.: POST-TENSION ROD U-BOLTS
SEE SHEET 29/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

FRAMING PLAN - 1

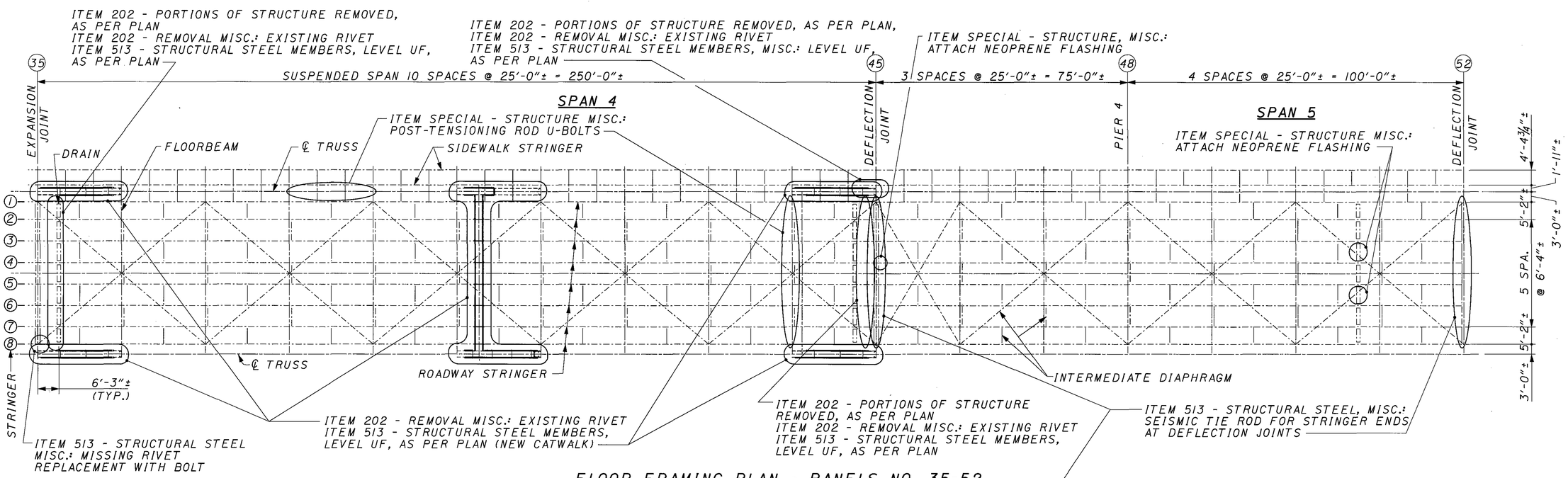
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

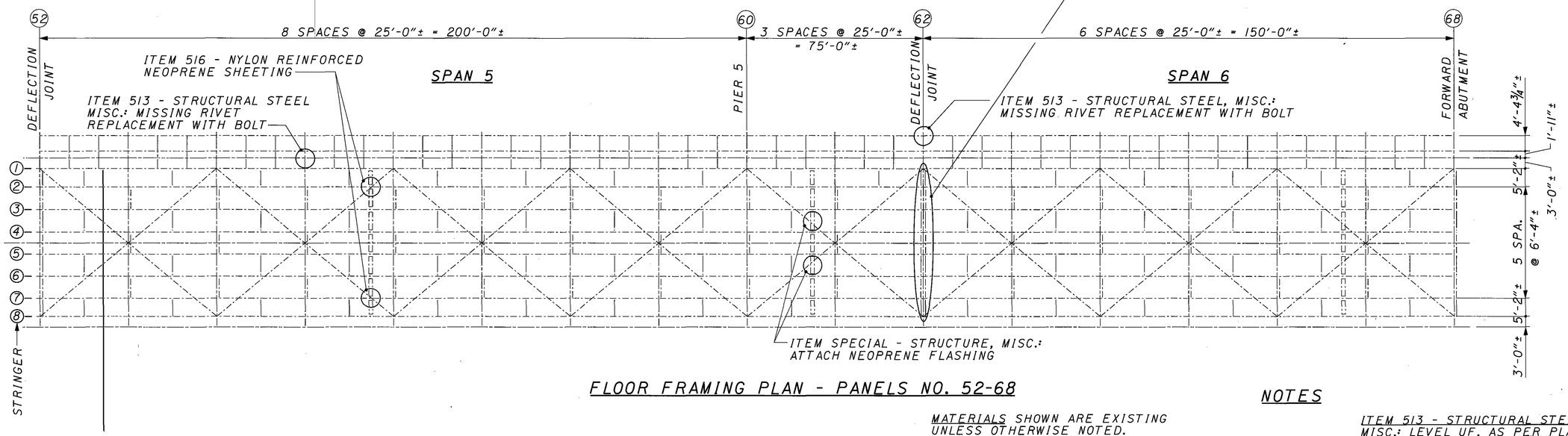
16 / 62

45 / 91

98076FP.DGN 02/14/06 SJK,MLB



FLOOR FRAMING PLAN - PANELS NO. 35-52



FLOOR FRAMING PLAN - PANELS NO. 52-68

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE SHEET 29/62 AND 36/62

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
SEE SHEET 29/62, 30/62, 32/62, 34/62 THROUGH 36/62

ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT
SEE SHEET 20/62 AND 21/62

ITEM SPECIAL - STRUCTURE, MISC.: POST-TENSIONING ROD U-BOLTS
SEE SHEET 29/62

ITEM 513 - STRUCTURAL STEEL MEMBERS, MISC.: LEVEL UF, AS PER PLAN
SEE SHEET 4/62 AND 29/62 THROUGH 36/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC TIE ROD FOR STRINGER ENDS AT DEFLECTION JOINTS
SEE SHEET 19/62

ITEM 516 - NYLON REINFORCED NEOPRENE SHEETING
SEE SHEET 22/62

ITEM SPECIAL - STRUCTURE, MISC.: ATTACH NEOPRENE FLASHING
SEE SHEET 22/62

98076FP.DGN 2/3/06 SJK

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

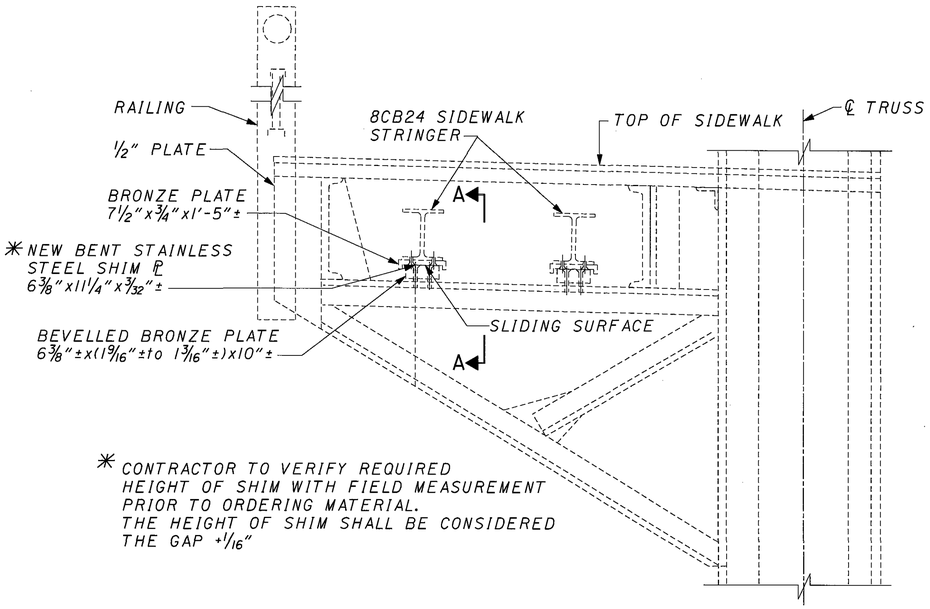
FRAMING PLAN - 2

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

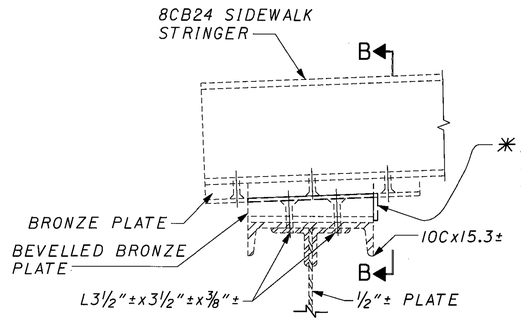
LOR-611-3.58
PID 21226

17 / 62

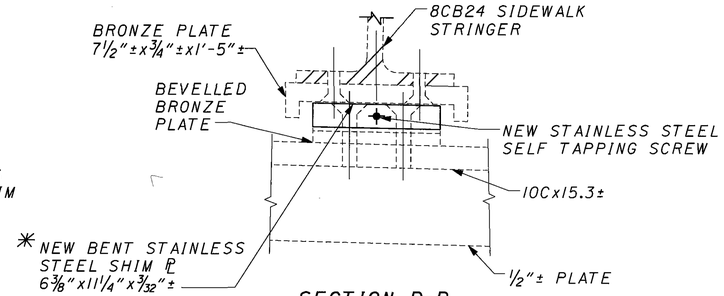
46 / 91



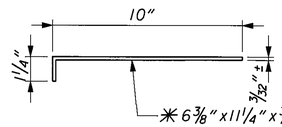
TRANSVERSE SECTION AT PANEL 12



VIEW A-A

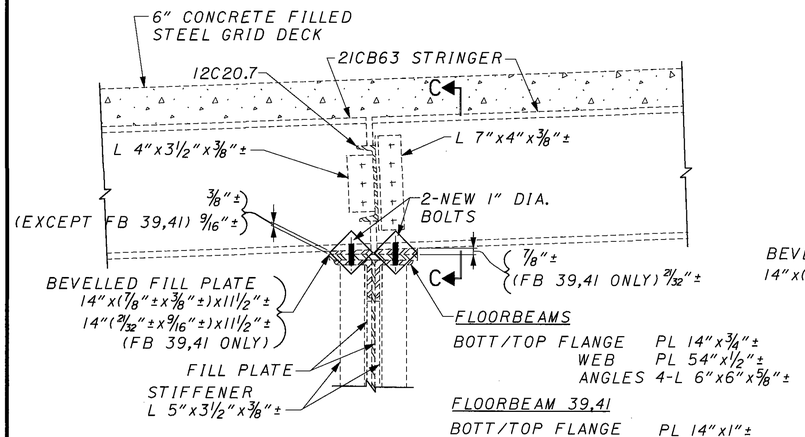


SECTION B-B

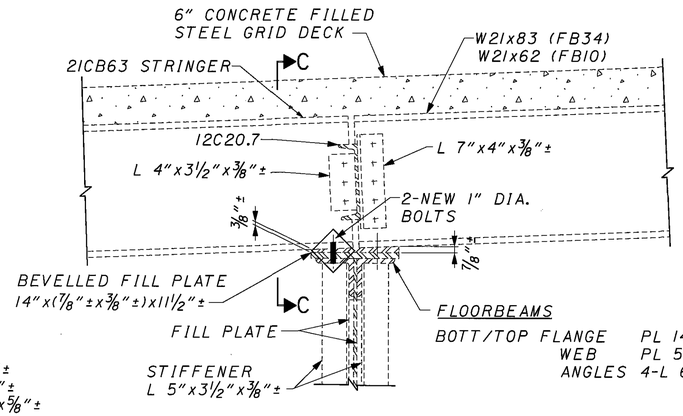


BENT STAINLESS STEEL SHIM PLATE DETAIL

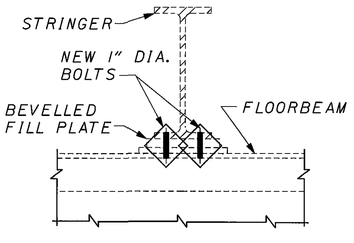
ITEM SPECIAL - STRUCTURE, MISC.; SHIM SIDEWALK STRINGER BEARING



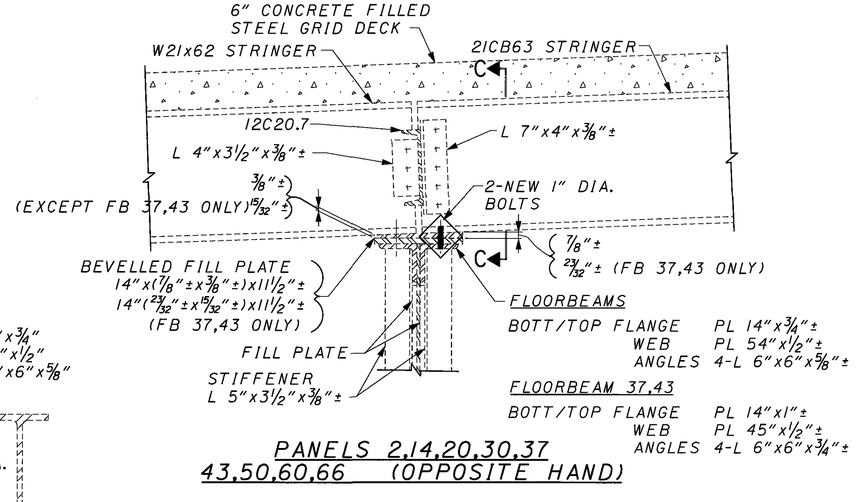
PANELS 4,6,8,16,22,24,26,32
39,41,48,54,56,58,&64



PANELS 10 & 34



SECTION C-C



PANELS 2,14,20,30,37
43,50,60,66 (OPPOSITE HAND)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND SEE SHEET 9/62

BOLTS SHALL BE 1" DIA. A325

EXISTING RIVETS ARE TYPICALLY ⅞" DIA.

ITEM 202 - REMOVAL, MISC.: EXISTING RIVET
SEE GENERAL NOTE SHEET 3/62 AND 4/62

ITEM 513 - STRUCTURAL STEEL, MISC.:
REPLACEMENT OF RIVETS WITH BOLTS
AT DISCONTINUOUS STRINGER ENDS
SEE GENERAL NOTE SHEET 4/62

ITEM SPECIAL - STRUCTURE, MISC.:
SHIM SIDEWALK STRINGER BEARING
SEE SHEET 7/62

ITEM 202 - REMOVAL, MISC.: EXISTING RIVET
ITEM 513-STRUCTURAL STEEL, MISC.: REPLACEMENT OF RIVETS WITH BOLTS AT DISCONTINUOUS STRINGER ENDS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

DETAILS - 1

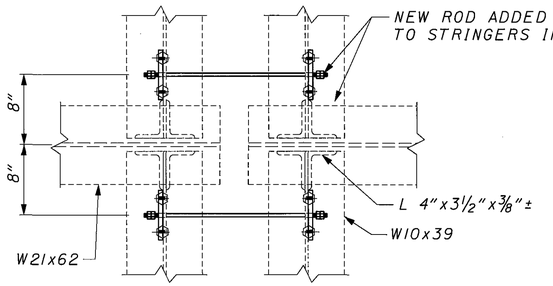
STRINGER AND FLOORBEAM DETAILS

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

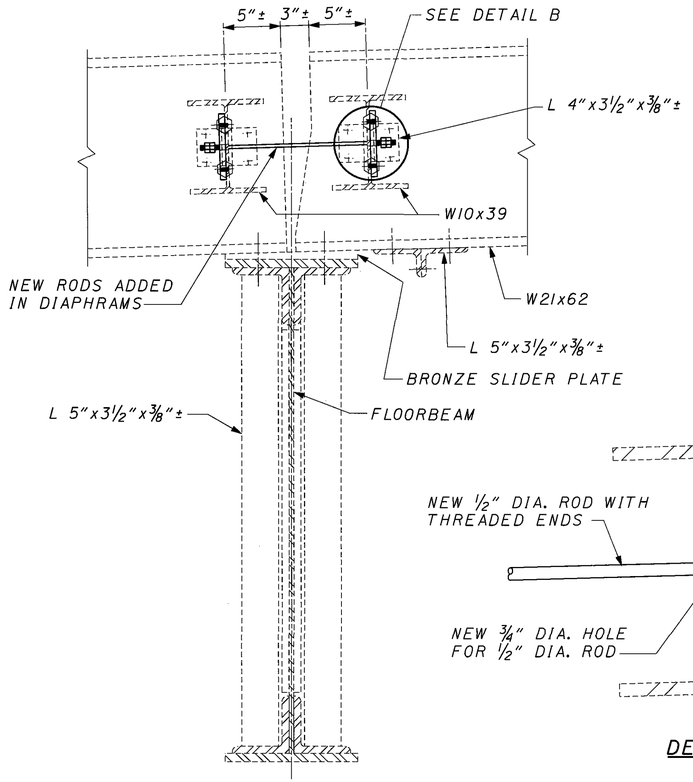
18/62

47/91

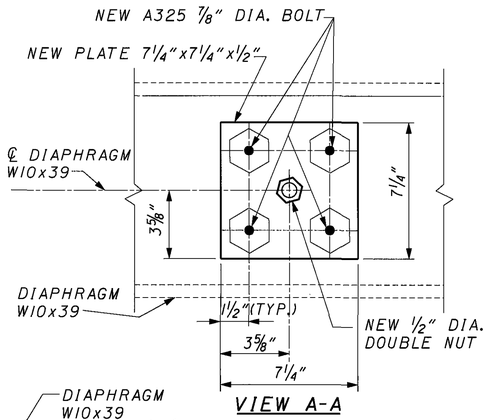


PLAN

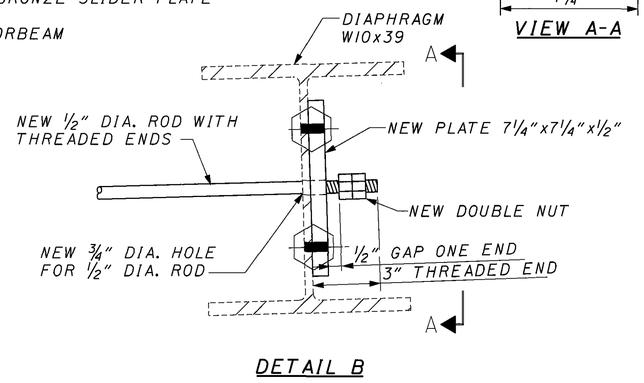
STRINGERS AT PANEL POINTS 18, 28, 45, 52, AND 62 (TYPICAL AT EACH STRINGER)



SECTION AT FLOORBEAM 18, 28, 45, 52, & 62

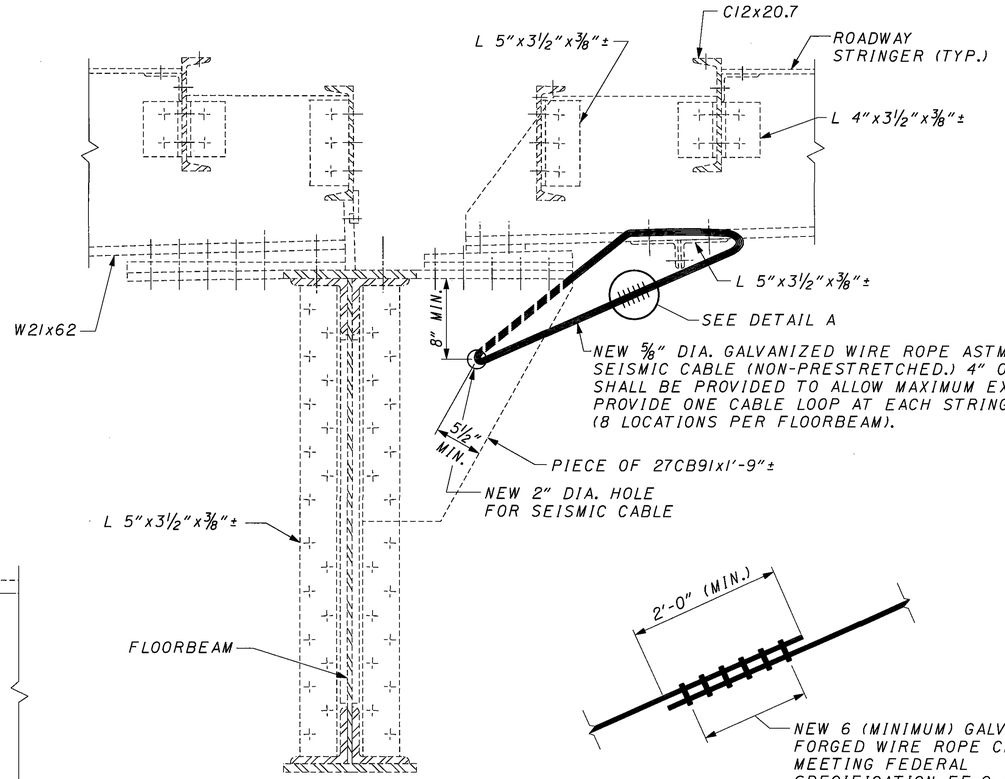


VIEW A-A

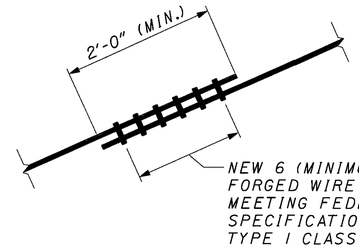


DETAIL B

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC TIE ROD FOR STRINGER ENDS AT DEFLECTION JOINTS



SECTION AT FLOORBEAM 12 & 35



DETAIL A

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLES FOR STRINGER ENDS AT EXPANSION JOINTS

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND SEE SHEET 9/62

½" DIAMETER ROD SHALL CONFORM WITH ASTM F1554 GR36 STEEL ANCHOR BOLT.

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC CABLES FOR STRINGER ENDS AT EXPANSION JOINTS SEE GENERAL NOTE SHEET 4/62

ITEM 513 - STRUCTURAL STEEL, MISC.: SEISMIC TIE ROD FOR STRINGER ENDS AT DEFLECTION JOINTS SEE GENERAL NOTE SHEET 4/62

98076RD5.DGN 1/31/06 SJK

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

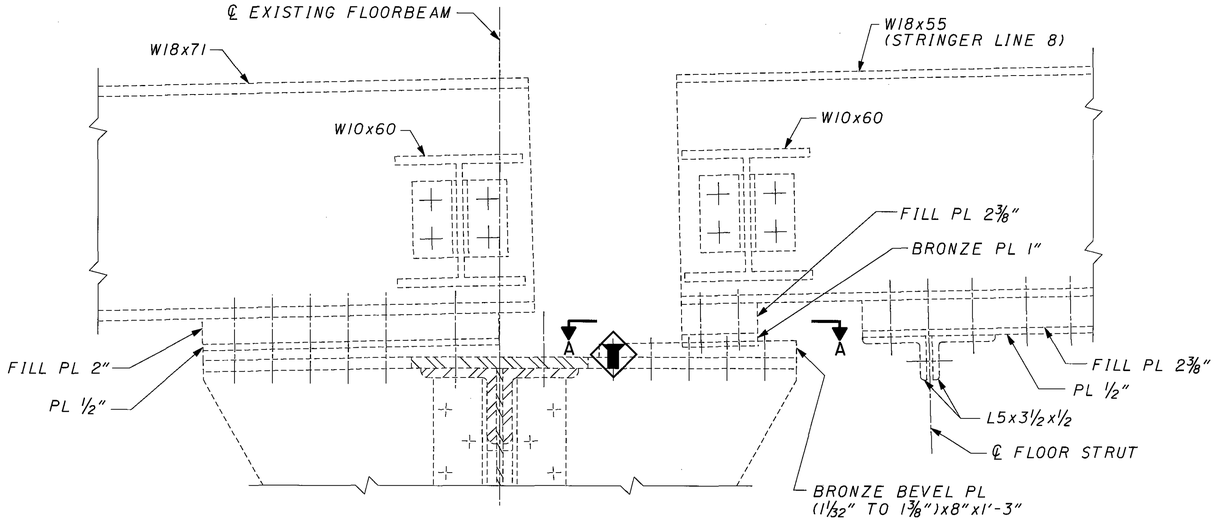
DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVISED | REVIEWED DAP | DATE 2/13/06 | STRUCTURE FILE NUMBER 4707443

STRINGER AND FLOORBEAM DETAILS - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

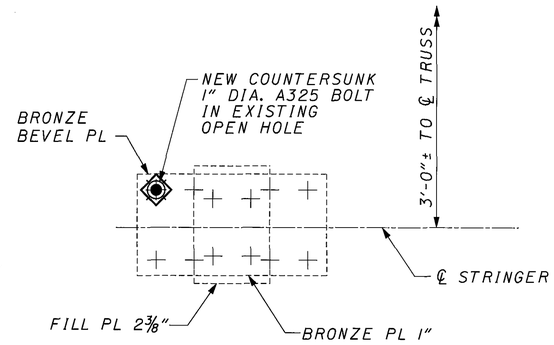
LOR-611-3.58
PID 21226

19/62

48/91

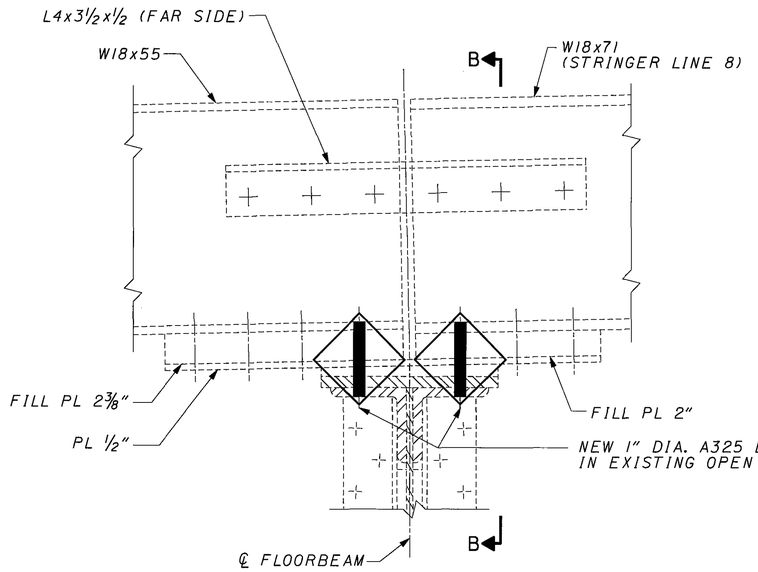


ELEVATION

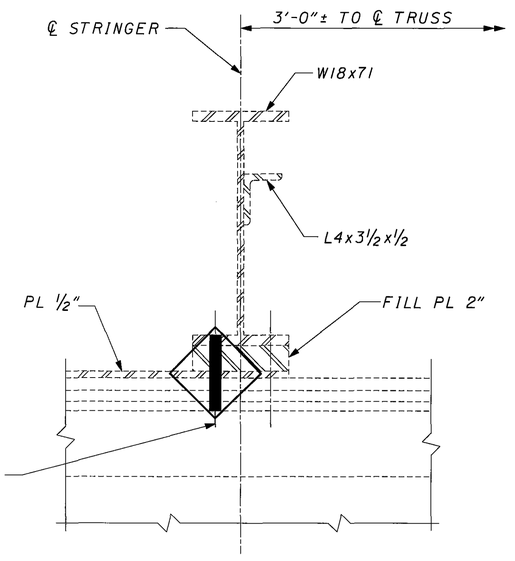


VIEW A-A

EXTERIOR STRINGER - PANEL POINT 35



ELEVATION



SECTION B-B

EXTERIOR STRINGER - PANEL POINT 34

ITEM 513 - STRUCTURE STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

BOLT LEGEND SEE SHEET 9/62

ITEM 513 - STRUCTURE STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT SEE GENERAL NOTE SHEET 4/62

98076RR.DGN 02/14/06 SJK,MLB

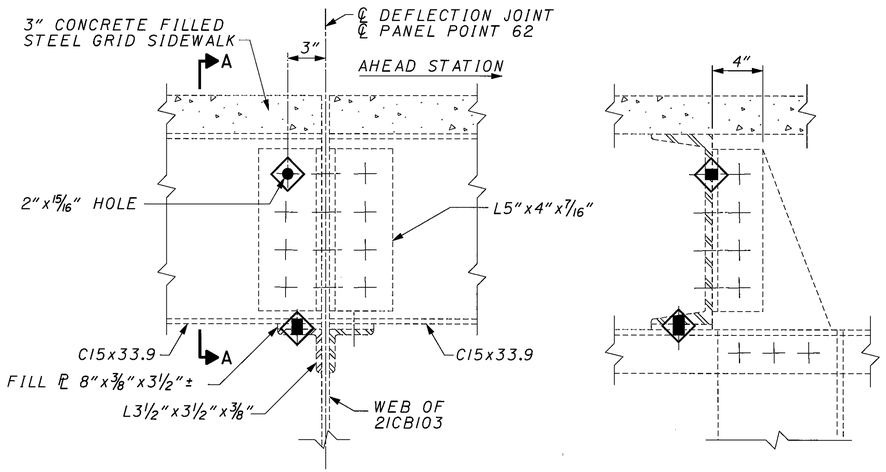
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN JLS | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

STRINGER AND FLOORBEAM DETAILS - 3
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

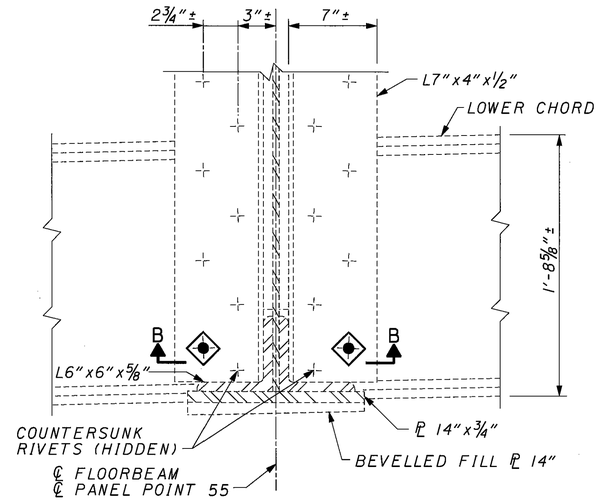
NEW BOLTS SHALL BE 7/8" DIA. A325 IN EXISTING HOLES.



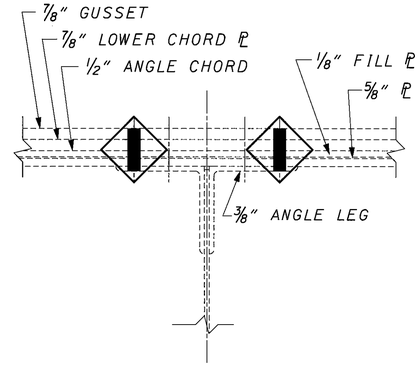
ELEVATION

SECTION A-A

NEW BOLTS SHALL BE 1" DIA. A325 IN EXISTING HOLES.



ELEVATION
GUSSET PL AND LOWER CHORD BOLT SPACING NOT SHOWN



SECTION B-B

SIDEWALK STRINGER CONNECTION TO SIDEWALK CANTILEVER
PANEL POINT 62

FLOORBEAM 55 CONNECTION TO WEST TRUSS

ITEM 513 - STRUCTURE STEEL MISC.: MISSING RIVET REPLACEMENT WITH BOLT

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

BOLT LEGEND SEE SHEET 9/62

ITEM 513 - STRUCTURE STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT SEE GENERAL NOTE SHEET 4/62

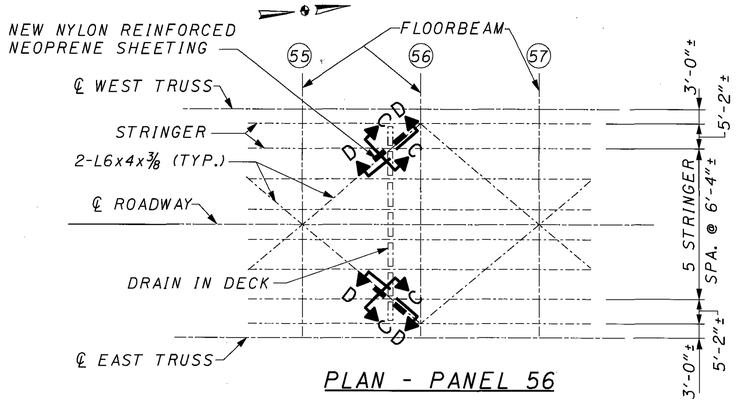
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED	DATE	STRUCTURE FILE NUMBER
DAP	2/13/06	4707443
DRAWN	REVISED	
JLS		
DESIGNED	CHECKED	
KAK	BLN	

STRINGER AND FLOORBEAM DETAILS - 4
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

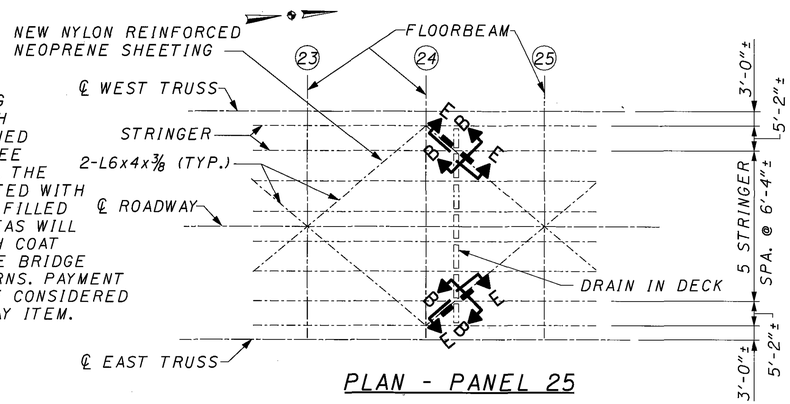
LOR-611-3.58
PID 21226

9807GRR.DGN 02/14/06 SJK,MLB



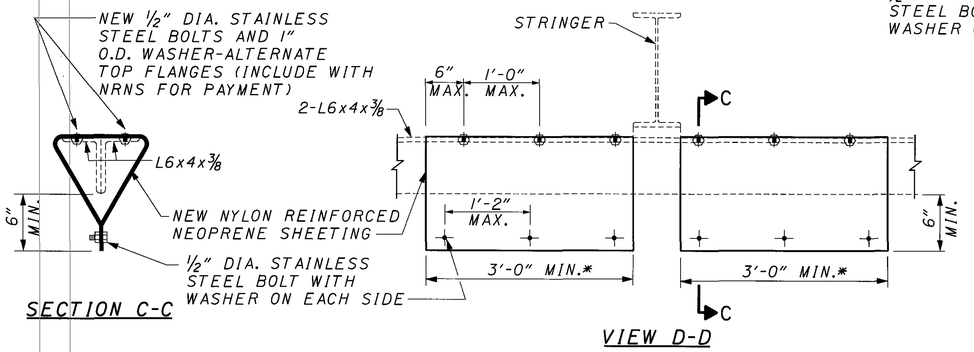
PLAN - PANEL 56

* THE LOWER LATERAL BRACING ANGLES TO BE COVERED WITH NRNS SHALL FIRST BE CLEANED WITH A WIRE BRUSH AND FREE OF LOOSE RUST AND DEBRIS. THE ANGLES SHALL THEN BE COATED WITH A BRUSH APPLIED ALUMINUM FILLED EPOXY PRIME COAT. THE AREAS WILL THEN RECIEVE A TOP FINISH COAT MATCHING THE COLOR OF THE BRIDGE PRIOR TO ATTACHING THE NRNS. PAYMENT FOR THE PAINTING SHALL BE CONSIDERED INCIDENTAL TO THE NRNS PAY ITEM.

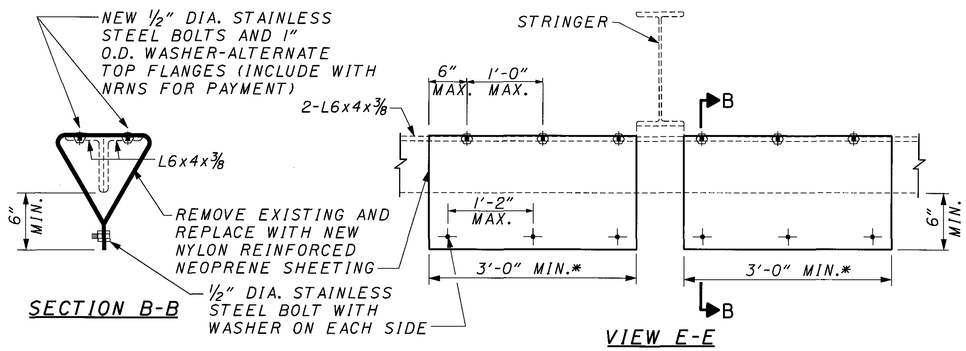


PLAN - PANEL 25

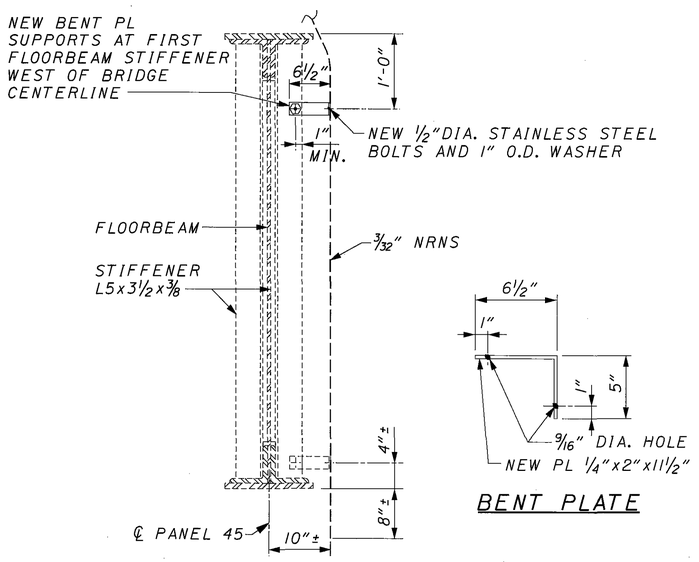
½" DIA. STAINLESS STEEL BOLT WITH WASHER ON EACH SIDE



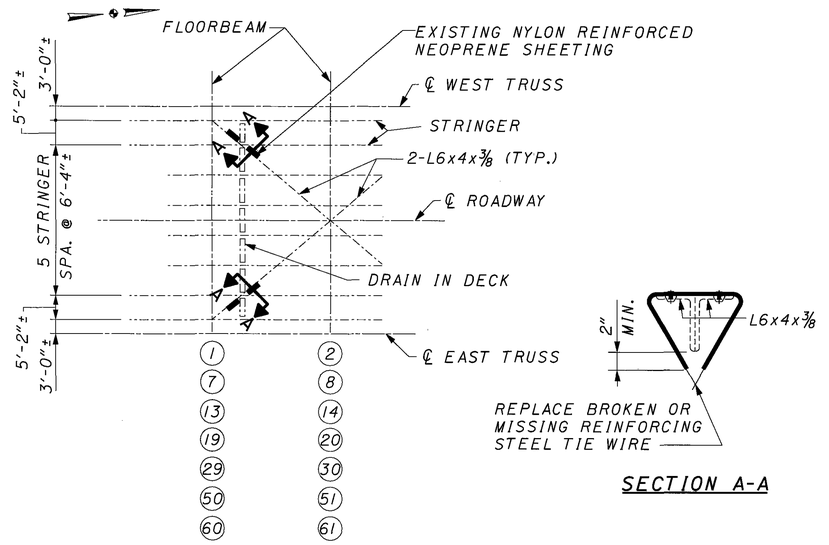
ITEM 516 - NYLON REINFORCED NEOPRENE SHEETING



ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 516 - NYLON REINFORCED NEOPRENE SHEETING



PANEL 45 - WEST OF BRIDGE CENTERLINE



PLAN - PANELS 2, 8, 14, 20, 30, 51 & 61

SECTION A-A

ITEM SPECIAL - STRUCTURE, MISC.: ATTACH NEOPRENE FLASHING

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND SEE SHEET 9/62

NRNS - NYLON REINFORCED NEOPRENE SHEETING

ALTERNATIVE CLAMPING MECHANISMS, SUCH AS STAINLESS STEEL BAND CLAMPS, MAY BE SUBSTITUTED FOR THE EPOXY COATED REINFORCING STEEL TIE WIRE ON THE NYLON REINFORCED NEOPRENE SHEETING, SUBJECT TO THE APPROVAL OF THE ENGINEER.

HOLES IN THE NYLON REINFORCED NEOPRENE SHEETING MAY BE FIELD PUNCHED AT THE CONTRACTOR'S OPTION.

BOLTS AND BOLT HOLES, AND BENT PLATE SHALL CONFORM WITH ITEM 513 AND BE CONSIDERED INCIDENTAL TO EACH REPAIR ITEM FOR PAYMENT.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE GENERAL NOTE SHEET 3/62

ITEM SPECIAL - STRUCTURE, MISC.: ATTACH NEOPRENE FLASHING
SEE GENERAL NOTE SHEET 7/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

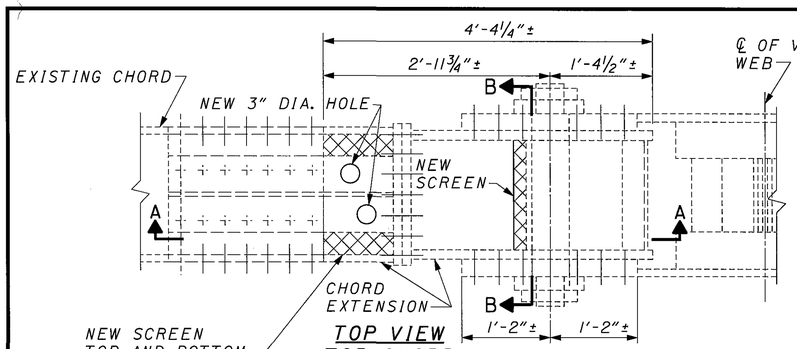
DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

TRUSS REPAIRS - 1
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

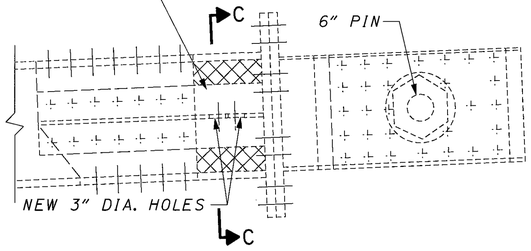
LOR-611-3.58
PID 21266

22/62

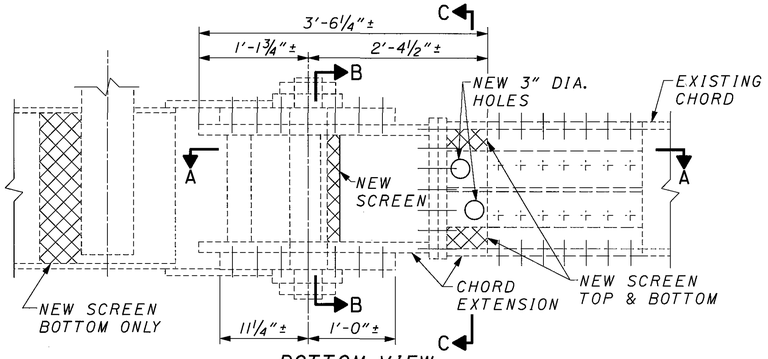
51/91



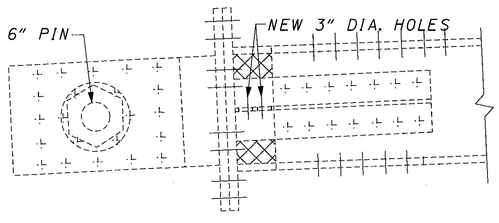
TOP VIEW
TOP CHORD
PANEL NO. 12



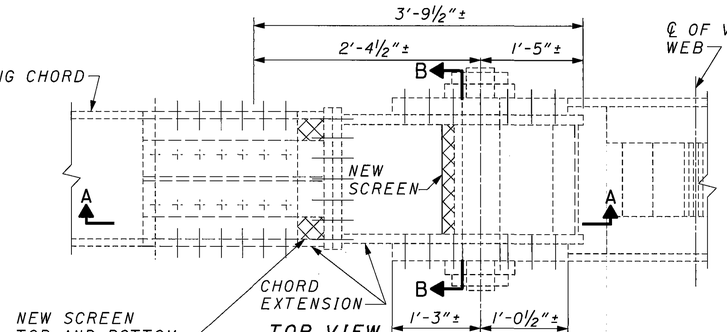
ELEVATION
TOP CHORD
PANEL NO. 12



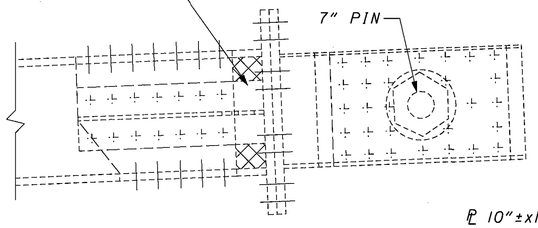
BOTTOM VIEW
BOTTOM CHORD
PANEL NO. 12



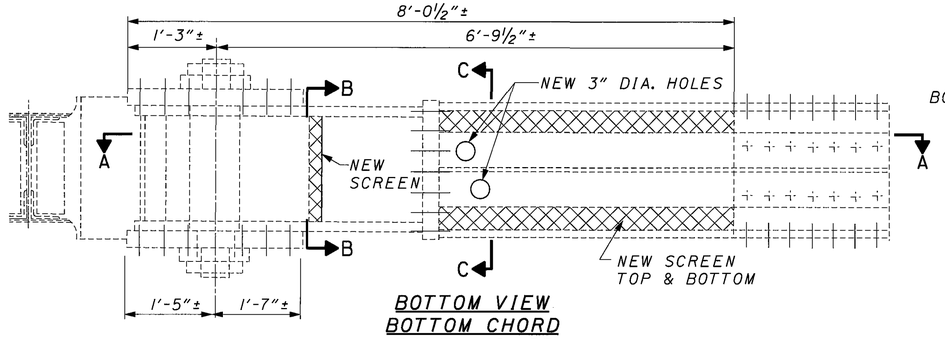
ELEVATION
BOTTOM CHORD
PANEL NO. 12



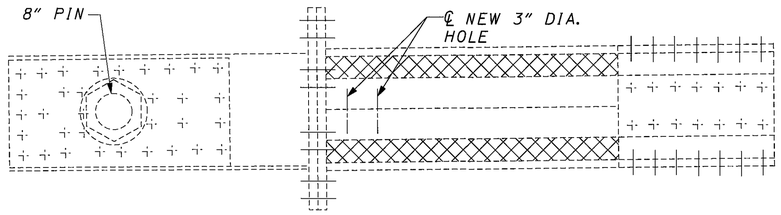
TOP VIEW
TOP CHORD
PANEL NO. 35



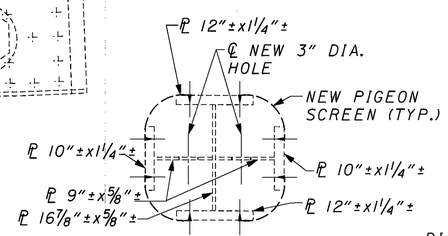
ELEVATION
TOP CHORD
PANEL NO. 35



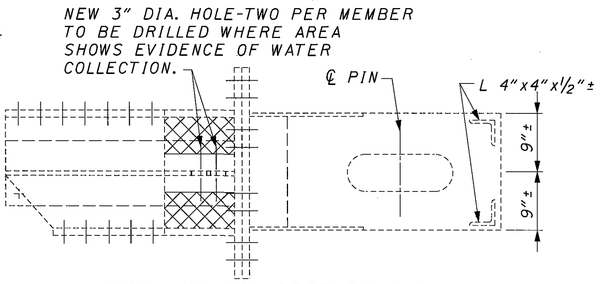
BOTTOM VIEW
BOTTOM CHORD
PANEL NO. 35



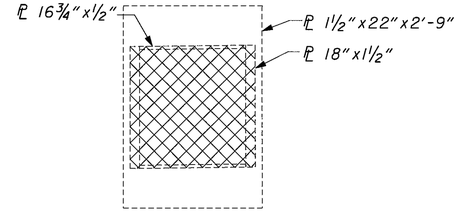
ELEVATION
BOTTOM CHORD
PANEL NO. 35



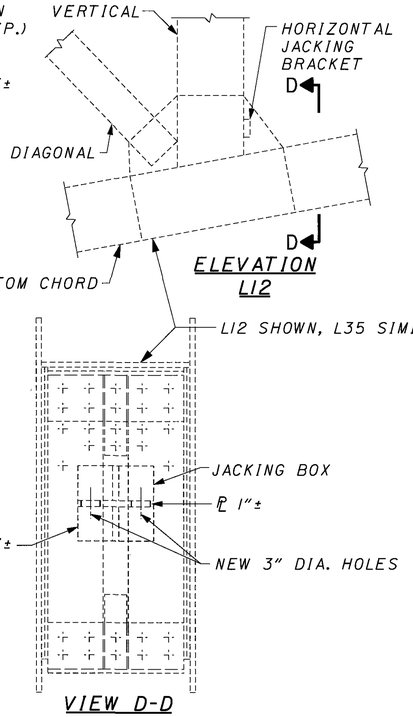
SECTION C-C



LONGITUDINAL SECTION A-A



VIEW B-B



ELEVATION
L12

VIEW D-D

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND SEE SHEET 9/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE GENERAL NOTE SHEET 3/62

ITEM SPECIAL - STRUCTURE, MISC.: DRAIN HOLES SEE GENERAL NOTE SHEET 7/62

ITEM SPECIAL - STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN SEE GENERAL NOTE SHEET 7/62

LEGEND

NEW NO. 2 MESH GALVANIZED HARDWARE CLOTH PIGEON SCREEN

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM SPECIAL - STRUCTURE, MISC.: DRAIN HOLES
ITEM SPECIAL - STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

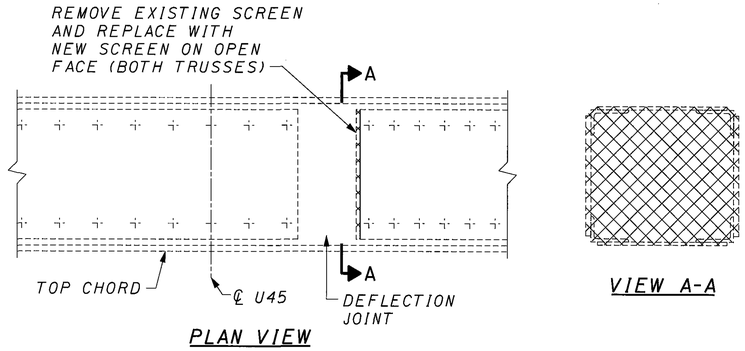
TRUSS REPAIRS - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

23/62

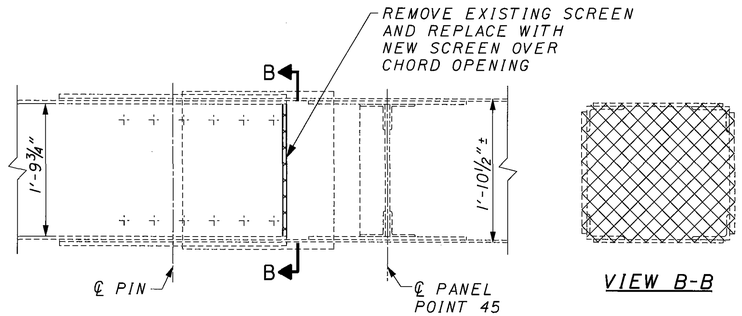
52/91

98076RD7.DGN 02/14/06 SJK,MLB



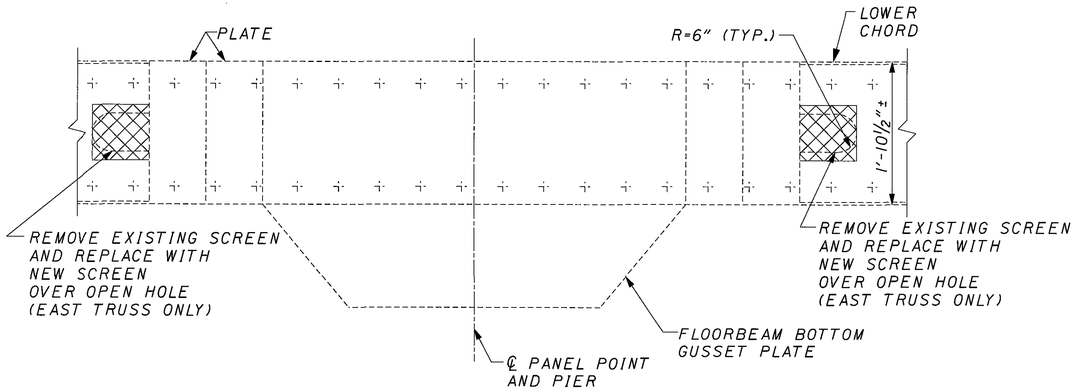
PLAN VIEW

PANEL POINT 45 - TOP CHORD



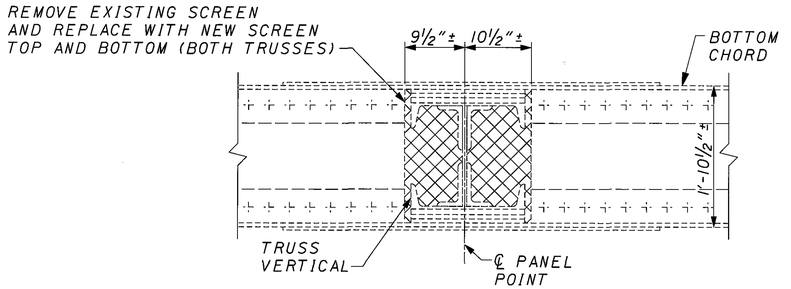
PLAN VIEW

PANEL POINT 45 - LOWER CHORD



PANEL POINTS 20 AND 60

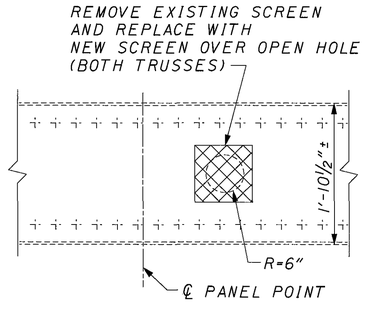
(BOTTOM FACE OF LOWER CHORD)



PLAN VIEW

PANEL POINT 10, 20, 60, REAR ABUTMENT AND FORWARD ABUTMENT

(10 SHOWN, 20 AND 60 SIMILAR)
(SCREEN ABUTMENTS TO ONE SIDE OF PANEL POINT ONLY)



PANEL POINTS 18 AND 62

(BOTTOM FACE OF LOWER CHORD)

LEGEND

NEW NO. 2 MESH
GALVANIZED HARDWARE
CLOTH PIGEON SCREEN

NOTES:

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE GENERAL NOTE SHEET 3/62

ITEM SPECIAL - STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN
SEE SHEET 7/62

ADDITIONAL NOTES SEE SHEET 23/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM SPECIAL - STRUCTURE, MISC.: CLOSING TRUSS CHORDS WITH SCREEN

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

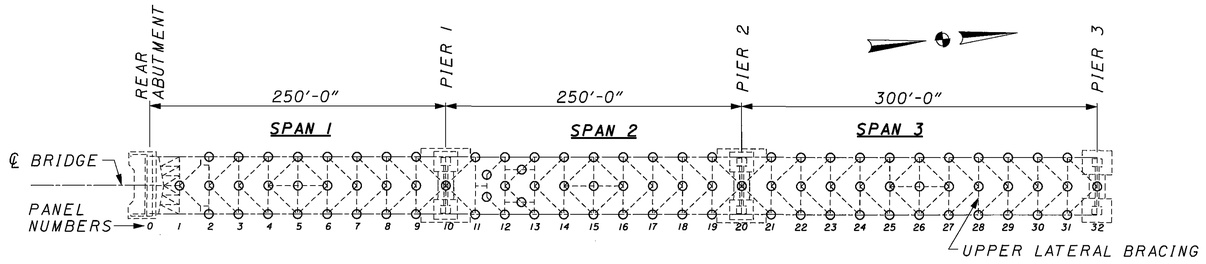
TRUSS REPAIRS - 3
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

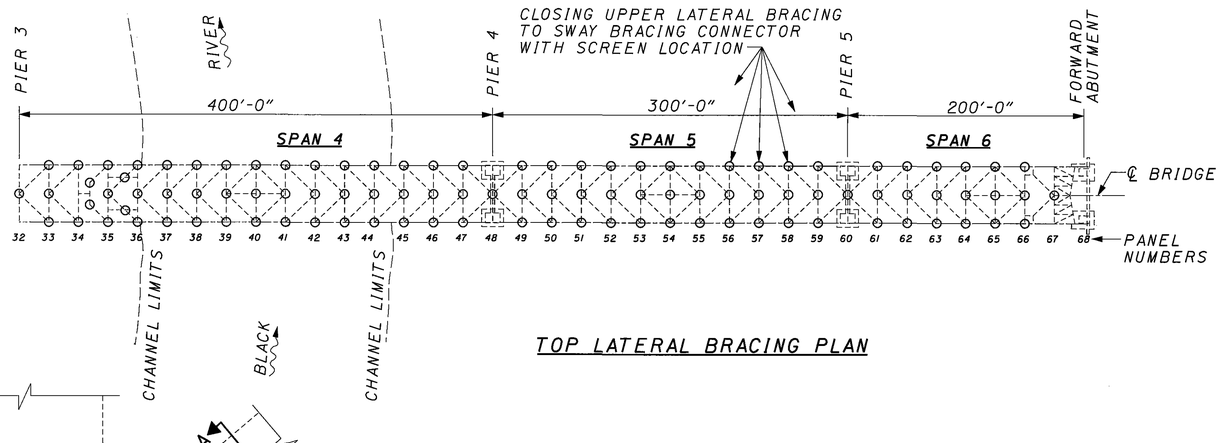
LOR-611-3.58
PID 21226

24/62

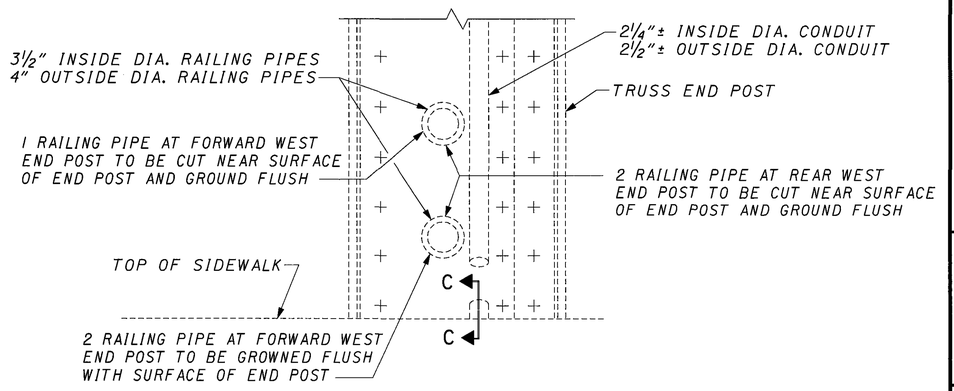
53/91

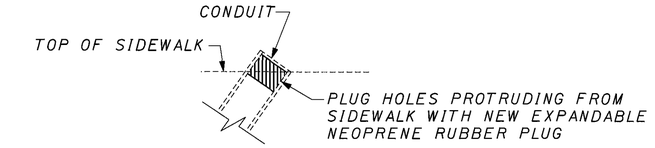
98076RDT.DGN 02/14/06 SJK,MLB





TOP LATERAL BRACING PLAN

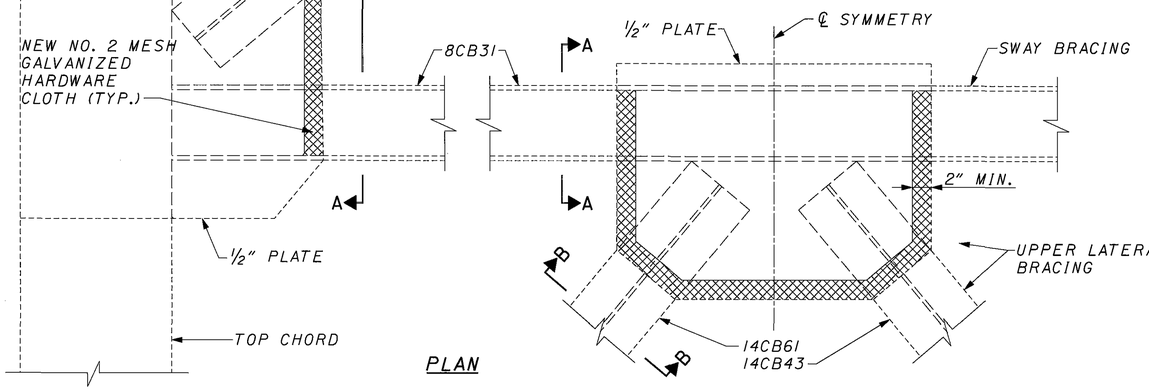




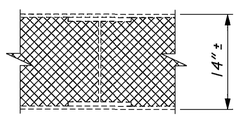
SECTION C-C

ITEM SPECIAL - STRUCTURE, MISC.: SEALING UNUSED CONDUIT OPENINGS

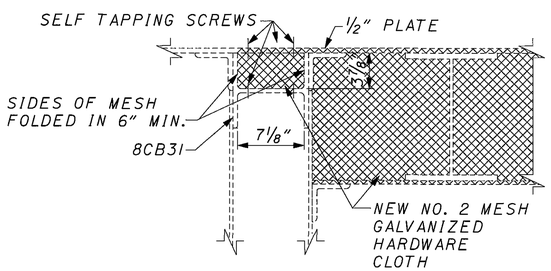
ITEM SPECIAL - STRUCTURE, MISC.: REMOVING ROADWAY RAILING STUBS



PLAN



VIEW B-B



SECTION A-A

ITEM SPECIAL - STRUCTURE, MISC.: CLOSING UPPER LATERAL BRACING TO SWAY BRACING CONNECTION WITH SCREEN

* DETAILS SHOWN ARE TYPICAL. SOME LOCATIONS MAY VARY SLIGHTLY.

LEGEND

NEW NO. 2 MESH GALVANIZED HARDWARE CLOTH PIGEON SCREEN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

DEBRIS IS TO BE REMOVED AND AREA THROUGHLY CLEANED PRIOR TO TOP COAT OF PAINT.

MESH SHALL BE INSTALLED AFTER ALL PAINTING WORK IN THE VICINITY OF SCREENING IS COMPLETE.

ITEM SPECIAL - STRUCTURE, MISC.: SEALING UNUSED CONDUIT OPENINGS SEE GENERAL NOTE SHEET 7/62

ITEM SPECIAL - STRUCTURE, MISC.: REMOVING ROADWAY RAILING STUBS SEE GENERAL NOTE SHEET 7/62

ITEM SPECIAL - STRUCTURE, MISC.: CLOSING UPPER LATERAL BRACING TO SWAY BRACING CONNECTION WITH SCREEN SEE GENERAL NOTE SHEET 7/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK
DRAWN SJK
CHECKED BLN
REVISED
REVIEWED DAP
DATE 2/13/06
STRUCTURE FILE NUMBER 4707443

TRUSS REPAIRS - 4
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

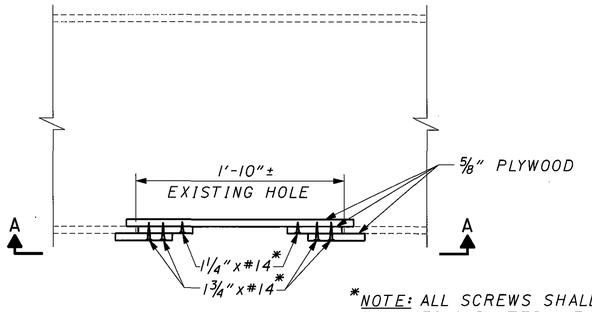
LOR-611-3.58
PID 21226

25/62

54/91

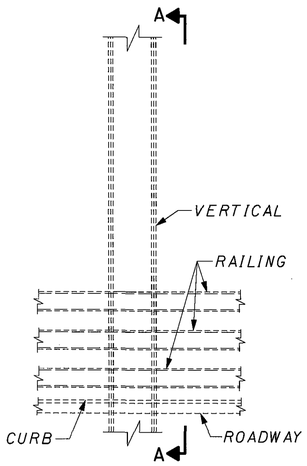
98076RD3.DGN 02/14/06 SJK,MLB

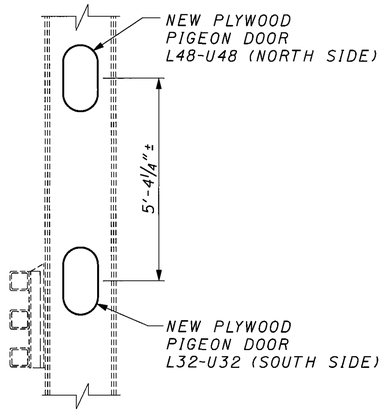
NOTE: THE CONTRACTOR SHALL TRIM THE 2'-0"x1'-1½" BOARD TO FACILITATE PLACEMENT. ALL BOARDS WHICH ARE TRIMMED SHALL BE RESEALED WITH EPOXY AS PER THE GENERAL NOTE.



ELEVATION

*NOTE: ALL SCREWS SHALL BE ZINC PLATED, HEX HEAD WITH WASHER, SELF TAPPING, SHEET METAL TYPE

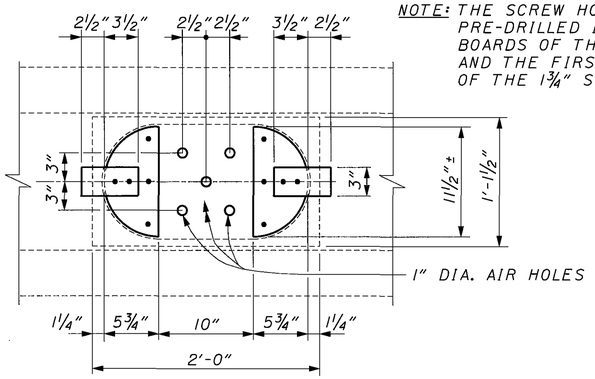




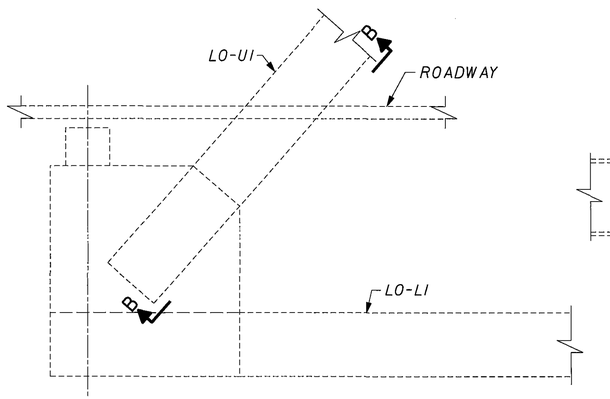
SECTION A-A

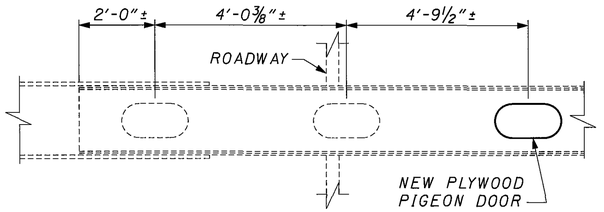
EAST TRUSS PIER 3 AND PIER 4

NOTE: THE SCREW HOLES SHALL BE PRE-DRILLED IN THE FIRST BOARDS OF THE 1¼" SCREWS. AND THE FIRST TWO BOARDS OF THE 1¾" SCREWS.



VIEW A-A





SECTION B-B

EAST TRUSS ENDPOST L68-U67

ITEM SPECIAL - STRUCTURE, MISC.: PLYWOOD PIGEON DOORS

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM SPECIAL - STRUCTURE, MISC.: PLYWOOD PIGEON DOORS
SEE GENERAL NOTE SHEET 7/62 AND 8/62

98076RD2.DGN 02/14/06 SJK,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

REVIEWED DAP DATE 2/13/06
STRUCTURE FILE NUMBER 4707443
DRAWN SJK REVISED
DESIGNED KAK CHECKED BLN

TRUSS REPAIR - 5
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

26/62
55
91

STRUCTURE, MISC.: PLYWOOD PIGEON DOORS REMOVED AND REINSTALLED

TRUSS MEMBERS	NUMBER OF DOORS PER MEMBER	DOORS TO BE REMOVED AND REINSTALLED (WEST TRUSS)	DOORS TO BE REMOVED AND REINSTALLED (EAST TRUSS)	REASON FOR REMOVAL AND REINSTALLATION
U1 - U2	5	5	5	Final Coat Painting Access
U2 - U3	5	5	5	Final Coat Painting Access
U3 - U4	5	5	5	Final Coat Painting Access
U4 - U5	5	5	5	Final Coat Painting Access
U5 - U6	5	5	5	Final Coat Painting Access
U6 - U7	5	5	5	Final Coat Painting Access
U7 - U8	5	5	5	Final Coat Painting Access
U8 - U9	5	5	5	Final Coat Painting Access
U9 - U10	5	5	5	Final Coat Painting Access
U10 - U11	5	5	5	Final Coat Painting Access
U11 - U12	4	4	4	Final Coat Painting Access
U12 - U13	5	5	5	Final Coat Painting Access
U13 - U14	5	5	5	Final Coat Painting Access
U14 - U15	5	5	5	Final Coat Painting Access
U15 - U16	5	5	5	Final Coat Painting Access
U16 - U17	5	5	5	Final Coat Painting Access
U17 - U18	5	5	5	Final Coat Painting Access
U18 - U19	5	5	5	Final Coat Painting Access
U19 - U20	5	5	5	Final Coat Painting Access
U20 - U21	5	5	5	Final Coat Painting Access
U21 - U22	5	5	5	Final Coat Painting Access
U22 - U23	5	5	5	Final Coat Painting Access
U23 - U24	5	5	5	Final Coat Painting Access
U24 - U25	5	5	5	Final Coat Painting Access
U25 - U26	5	5	5	Final Coat Painting Access
U26 - U27	5	5	5	Final Coat Painting Access
U27 - U28	5	5	5	Final Coat Painting Access
U28 - U29	5	5	5	Final Coat Painting Access
U29 - U30	5	5	5	Final Coat Painting Access
U30 - U31	5	5	5	Final Coat Painting Access
U31 - U32	5	5	5	Final Coat Painting Access
U32 - U33	5	5	5	Final Coat Painting Access
U33 - U34	5	5	5	Final Coat Painting Access
U34 - U35	4	4	4	Final Coat Painting Access
U35 - U36	5	5	5	Final Coat Painting Access
U36 - U37	5	5	5	Final Coat Painting Access
U37 - U38	5	5	5	Final Coat Painting Access
U38 - U39	5	5	5	Final Coat Painting Access
U39 - U40	4	4	4	Final Coat Painting Access
U40 - U41	4	4	4	Final Coat Painting Access
U41 - U42	5	5	5	Final Coat Painting Access
U42 - U43	5	5	5	Final Coat Painting Access
U43 - U44	5	5	5	Final Coat Painting Access
U44 - U45	5	5	5	Final Coat Painting Access
U45 - U46	5	5	5	Final Coat Painting Access
U46 - U47	5	5	5	Final Coat Painting Access
U47 - U48	5	5	5	Final Coat Painting Access
U48 - U49	5	5	5	Final Coat Painting Access
U49 - U50	5	5	5	Final Coat Painting Access
U50 - U51	5	5	5	Final Coat Painting Access
U51 - U52	5	5	5	Final Coat Painting Access
U52 - U53	5	5	5	Final Coat Painting Access
U53 - U54	5	5	5	Final Coat Painting Access
U54 - U55	5	5	5	Final Coat Painting Access
U55 - U56	5	5	5	Final Coat Painting Access
U56 - U57	5	5	5	Final Coat Painting Access
U57 - U58	5	5	5	Final Coat Painting Access
U58 - U59	5	5	5	Final Coat Painting Access

STRUCTURE, MISC.: PLYWOOD PIGEON DOORS REMOVED AND REINSTALLED

TRUSS MEMBERS	NUMBER OF DOORS PER MEMBER	DOORS TO BE REMOVED AND REINSTALLED (WEST TRUSS)	DOORS TO BE REMOVED AND REINSTALLED (EAST TRUSS)	REASON FOR REMOVAL AND REINSTALLATION
U59 - U60	5	5	5	Final Coat Painting Access
U60 - U61	5	5	5	Final Coat Painting Access
U61 - U62	5	5	5	Final Coat Painting Access
U62 - U63	5	5	5	Final Coat Painting Access
U63 - U64	5	5	5	Final Coat Painting Access
U64 - U65	5	5	5	Final Coat Painting Access
U65 - U66	5	5	5	Final Coat Painting Access
U66 - U67	5	5	5	Final Coat Painting Access
L0 - L1	5	3	3	Blast / Painting (East & West Truss)
L1 - L2	5	5	5	Blast / Painting (East & West Truss)
L2 - L3	5	2	5	Blast / Painting (East & West Truss)
L3 - L4	5	2	5	Blast / Painting (East & West Truss)
L4 - L5	5	2	5	Blast / Painting (East & West Truss)
L5 - L6	5	2	5	Blast / Painting (East & West Truss)
L6 - L7	5	1	5	Blast / Painting (East & West Truss)
L7 - L8	5	5	5	Blast / Painting (East & West Truss)
L8 - L9	5	-	5	Blast / Painting (East Truss)
L9 - L10	4	-	4	Blast / Painting (East Truss)
L10 - L11	4	-	4	Blast / Painting (East Truss)
L11 - L12	5	-	5	Blast / Painting (East Truss)
L12 - L13	4	1	4	Blast / Painting (East & West Truss)
L13 - L14	5	2	5	Blast / Painting (East & West Truss)
L14 - L15	5	1	5	Blast / Painting (East & West Truss)
L15 - L16	5	1	5	Blast / Painting (East & West Truss)
L16 - L17	5	1	5	Blast / Painting (East & West Truss)
L17 - L18	5	1	5	Blast / Painting (East & West Truss)
L18 - L19	5	1	5	Blast / Painting (East & West Truss)
L19 - L20	4	-	4	Blast / Painting (East Truss)
L20 - L21	4	-	4	Blast / Painting (East Truss)
L21 - L22	5	-	5	Blast / Painting (East Truss)
L22 - L23	5	-	5	Blast / Painting (East Truss)
L23 - L24	5	1	5	Blast / Painting (East & West Truss)
L24 - L25	5	1	5	Blast / Painting (East & West Truss)
L25 - L26	5	-	5	Blast / Painting (East Truss)
L26 - L27	5	-	5	Blast / Painting (East Truss)
L27 - L28	5	-	5	Blast / Painting (East Truss)
L28 - L29	5	-	5	Blast / Painting (East Truss)
L29 - L30	5	-	5	Blast / Painting (East Truss)
L30 - L31	5	-	5	Blast / Painting (East Truss)
L31 - L32	6	6	6	Blast / Painting (East & West Truss)
L32 - L33	6	6	6	Blast / Painting (East & West Truss)
L33 - L34	5	-	5	Blast / Painting (East Truss)
L34 - L35	3	-	3	Blast / Painting (East Truss)
L35 - L36	5	-	5	Blast / Painting (East Truss)
L36 - L37	5	-	5	Blast / Painting (East Truss)
L37 - L38	5	-	5	Blast / Painting (East Truss)
L38 - L39	5	-	5	Blast / Painting (East Truss)
L39 - L40	5	-	5	Blast / Painting (East Truss)
L40 - L41	5	-	5	Blast / Painting (East Truss)
L41 - L42	5	-	5	Blast / Painting (East Truss)
L42 - L43	5	-	5	Blast / Painting (East Truss)
L43 - L44	5	-	5	Blast / Painting (East Truss)
L44 - L45	4	1	4	Blast / Painting (East & West Truss)
L45 - L46	5	1	5	Blast / Painting (East & West Truss)
L46 - L47	5	-	5	Blast / Painting (East Truss)
L47 - L48	6	6	6	Blast / Painting (East & West Truss)
L48 - L49	6	6	6	Blast / Painting (East & West Truss)
L49 - L50	5	-	5	Blast / Painting (East Truss)

STRUCTURE, MISC.: PLYWOOD PIGEON DOORS REMOVED AND REINSTALLED

TRUSS MEMBERS	NUMBER OF DOORS PER MEMBER	DOORS TO BE REMOVED AND REINSTALLED (WEST TRUSS)	DOORS TO BE REMOVED AND REINSTALLED (EAST TRUSS)	REASON FOR REMOVAL AND REINSTALLATION
L50 - L51	5	-	5	Blast / Painting (East Truss)
L51 - L52	5	1	5	Blast / Painting (East & West Truss)
L52 - L53	5	2	5	Blast / Painting (East & West Truss)
L53 - L54	5	1	5	Blast / Painting (East & West Truss)
L54 - L55	5	1	5	Blast / Painting (East & West Truss)
L55 - L56	5	1	5	Blast / Painting (East & West Truss)
L56 - L57	5	-	5	Blast / Painting (East Truss)
L57 - L58	5	1	5	Blast / Painting (East & West Truss)
L58 - L59	5	1	5	Blast / Painting (East & West Truss)
L59 - L60	4	1	4	Blast / Painting (East & West Truss)
L60 - L61	4	1	4	Blast / Painting (East & West Truss)
L61 - L62	5	1	5	Blast / Painting (East & West Truss)
L62 - L63	5	2	5	Blast / Painting (East & West Truss)
L63 - L64	5	2	5	Blast / Painting (East & West Truss)
L64 - L65	5	1	5	Blast / Painting (East & West Truss)
L65 - L66	5	5	5	Blast / Painting (East & West Truss)
L66 - L67	5	5	5	Blast / Painting (East & West Truss)
L67 - L68	5	3	3	Blast / Painting (East & West Truss)
L0 - U1	7	3	5	Final Coat Painting Access
U67 - L68	7	3	4	Final Coat Painting Access
L32 - U32	20	4	19	Final Coat Painting Access
L48 - U48	20	4	19	Final Coat Painting Access
TOTALS	714	427	703	

NOTES

SEE GENERAL NOTE SHEET 7/62 AND 8/62

98076SSB.DGN 02/14/06 SJK,BH,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

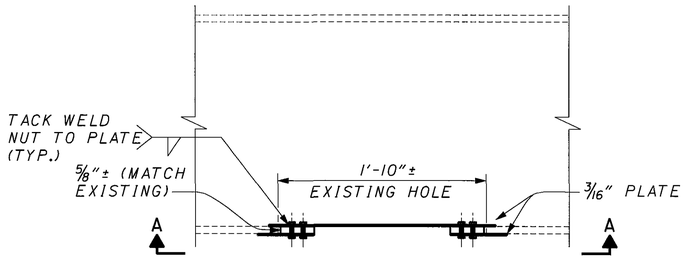
DESIGNED KAK | DRAWN SJK | REVIEWED DAP 2/13/06 | DATE | STRUCTURE FILE NUMBER 407443 | CHECKED BLN | REVISED

TRUSS REPAIRS - 6
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

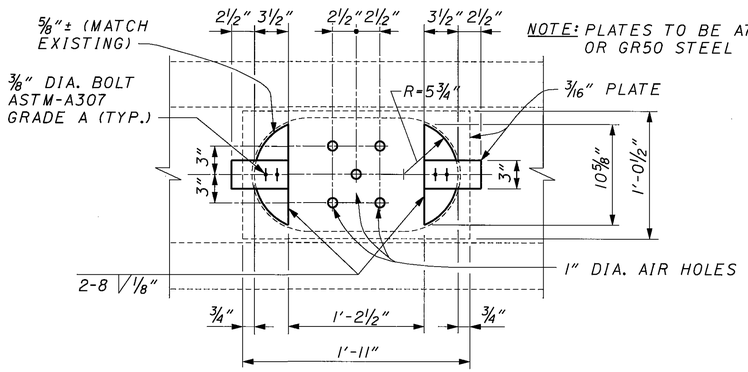
LOR-611-3.58
PID 21226

27/62

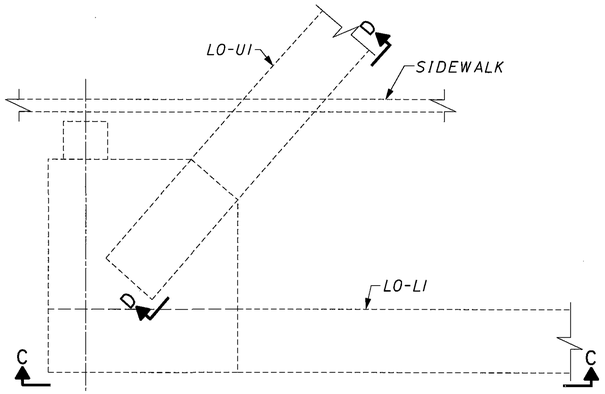
56/91



ELEVATION



VIEW A-A

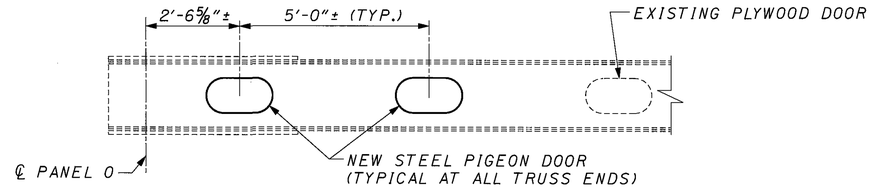


ELEVATION

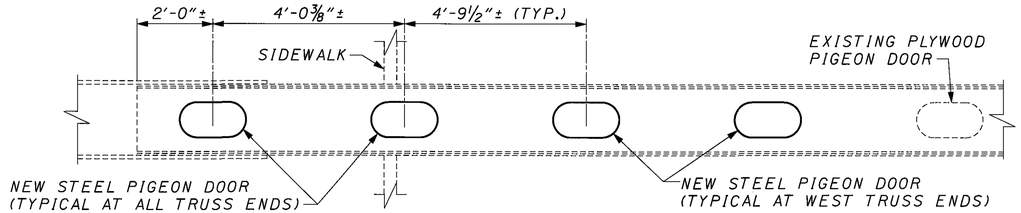
PAY QUANTITY

WEST TRUSS: LO-UI = 4 EACH
LO-LI = 2 EACH
L67-L68 = 2 EACH
U67-L68 = 4 EACH
12 EACH

EAST TRUSS: LO-UI = 2 EACH
LO-LI = 2 EACH
L67-L68 = 2 EACH
U67-L68 = 2 EACH
8 EACH

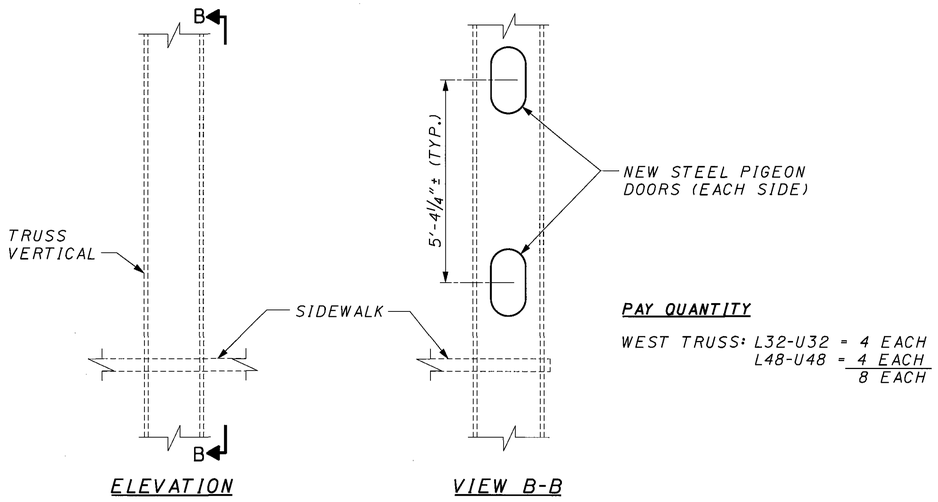


VIEW C-C



VIEW D-D

REAR ABUTMENT
(WEST TRUSS SHOWN)



ELEVATION VIEW B-B

PAY QUANTITY

WEST TRUSS: L32-U32 = 4 EACH
L48-U48 = 4 EACH
8 EACH

WEST TRUSS VERTICALS
AT PIER 3 AND PIER 4

ITEM SPECIAL - STRUCTURE, MISC.: STEEL PIGEON DOORS

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND SEE SHEET 9/62

ITEM SPECIAL - STRUCTURE, MISC.: STEEL PIGEON DOORS
SEE GENERAL NOTE SHEET 7/62 AND 8/62

980176RD2.DGN 02/14/06 SJK,MLB

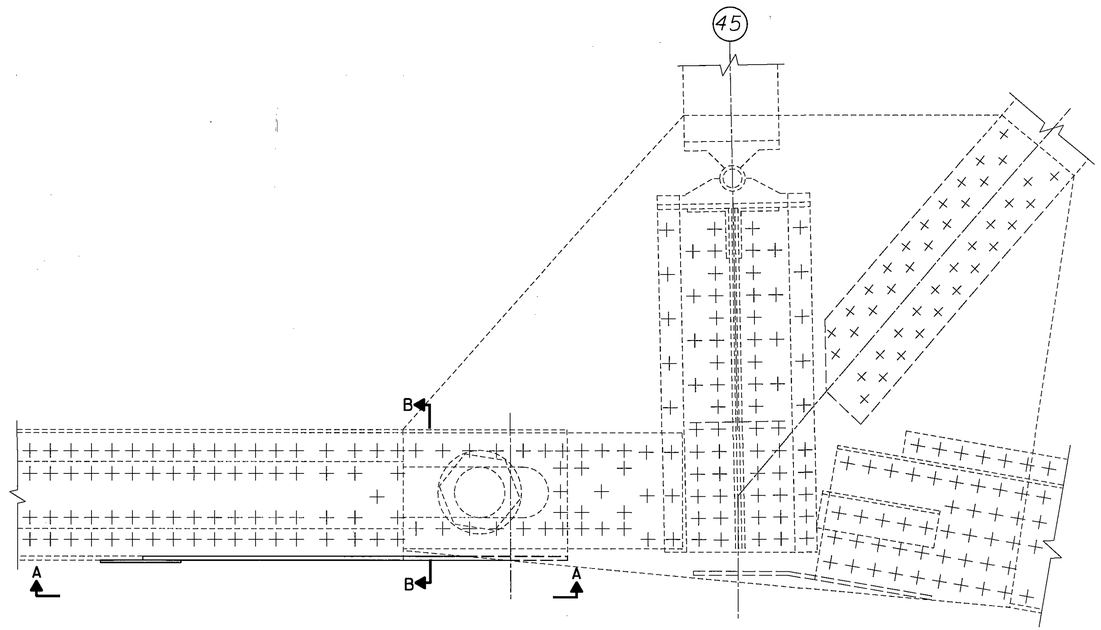
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

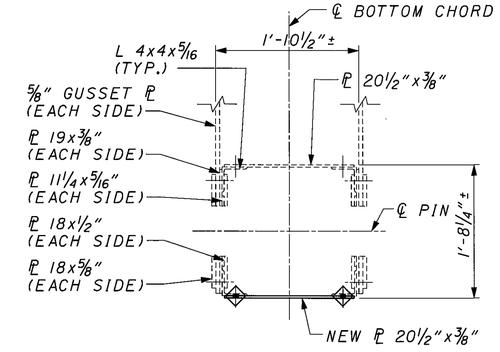
TRUSS REPAIR - 7
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

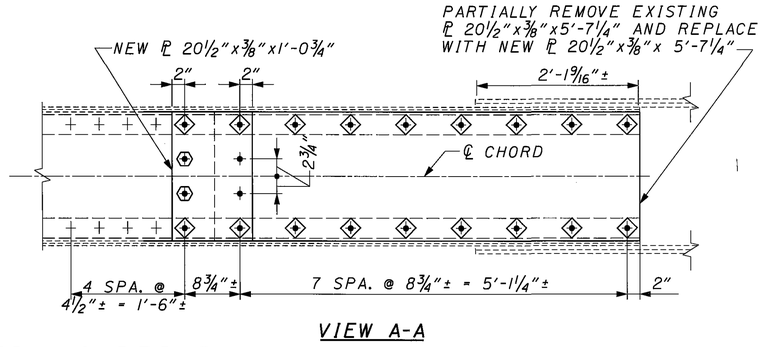
28/62
57/91



PANEL POINT 45 ELEVATION (WEST TRUSS)

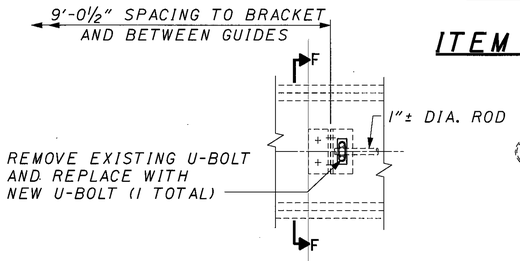


SECTION B-B

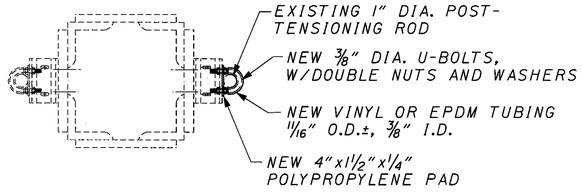


VIEW A-A

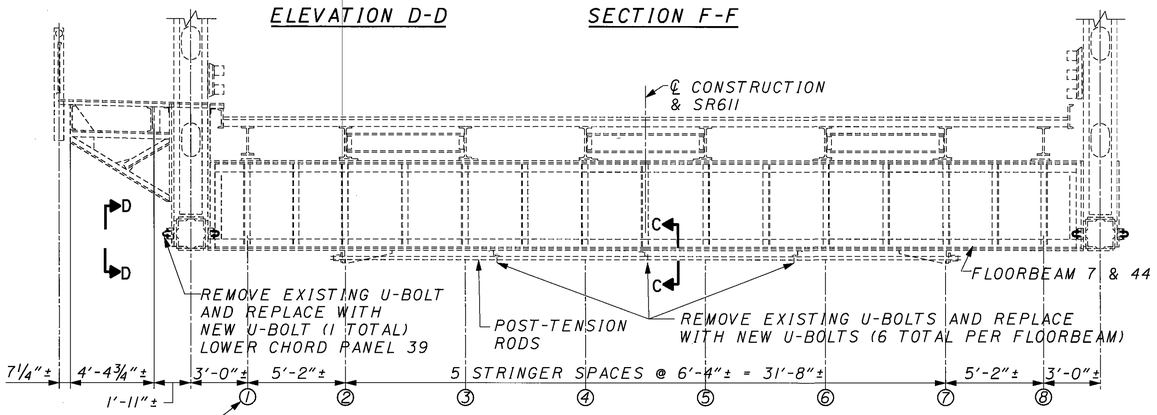
ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 202 - REMOVAL MISC.: EXISTING RIVET
ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN



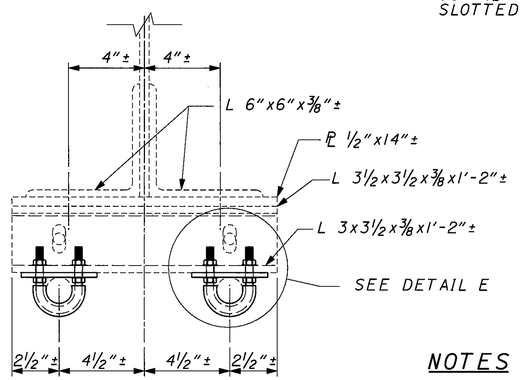
ELEVATION D-D



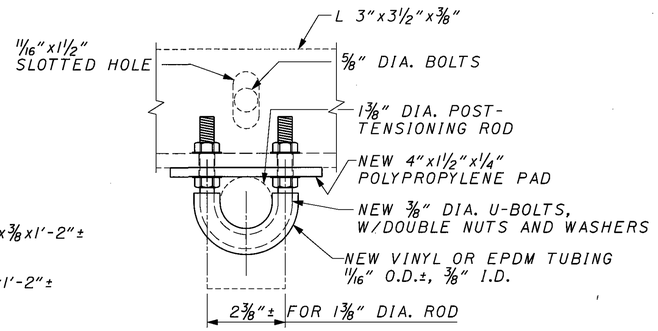
SECTION F-F



TRANSVERSE SECTION



SECTION C-C



DETAIL E

NOTES

MATERIALS SHOWN ARE NEW UNLESS OTHERWISE NOTED.

BOLTS SHALL BE ⅞" DIA. ASTM A325 UNLESS NOTED OTHERWISE.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE GENERAL NOTE SHEET 3/62 AND 4/62

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
SEE GENERAL NOTE SHEET 3/62

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN
SEE GENERAL NOTE SHEET 4/62

ITEM SPECIAL - STRUCTURE, MISC.: POST-TENSIONING ROD U-BOLTS
SEE GENERAL NOTE SHEET 7/62

FLOORBEAM 7 & 44 AND BOTTOM CHORD PANEL 39

ITEM SPECIAL - STRUCTURE, MISC.: POST-TENSIONING ROD U-BOLTS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

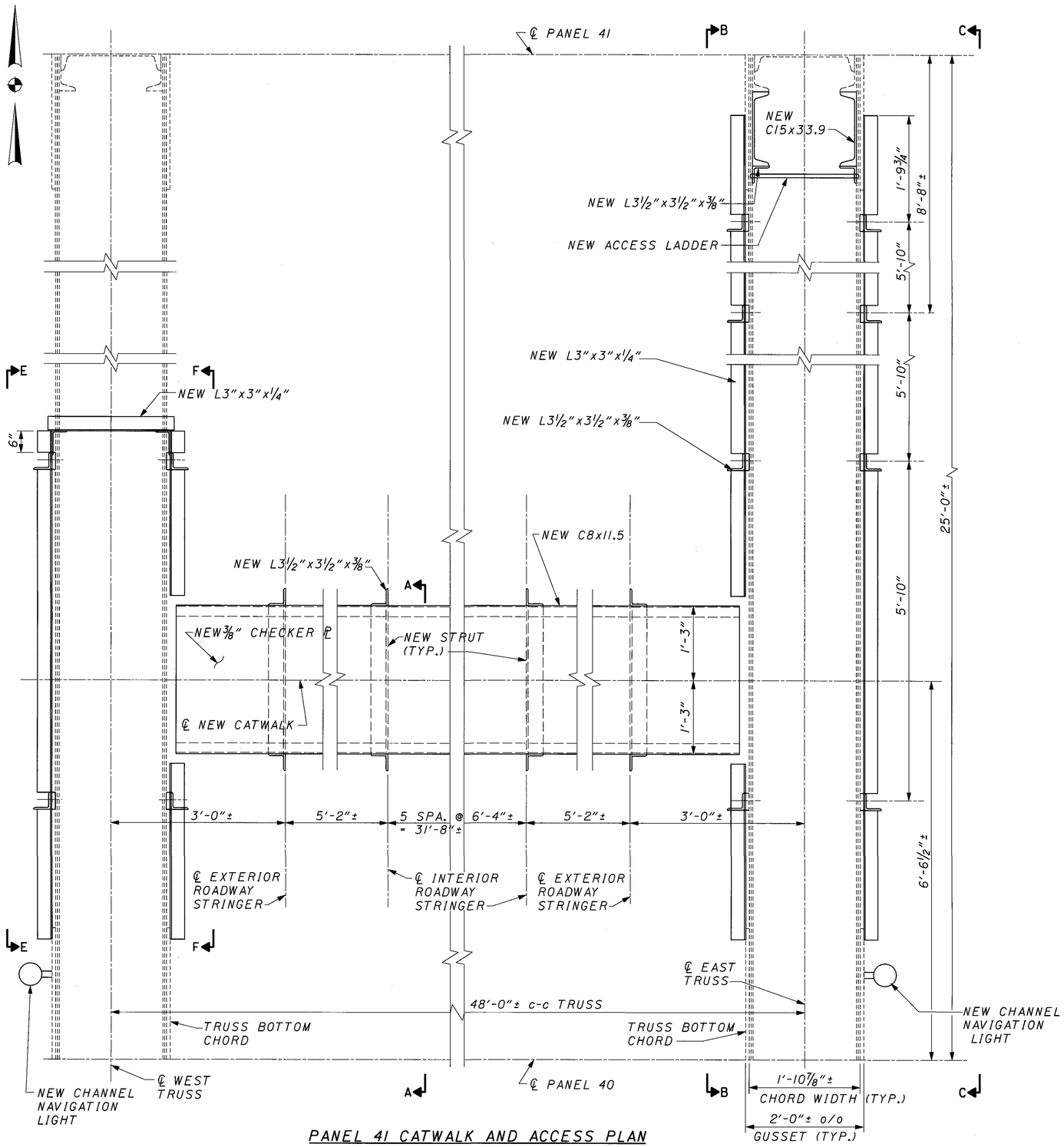
DESIGNED KAK
DRAWN SJK
CHECKED BLN
REVIEWED DAP
DATE 2/13/06
REVISED
STRUCTURE FILE NUMBER 4707443

TRUSS REPAIR - 8
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

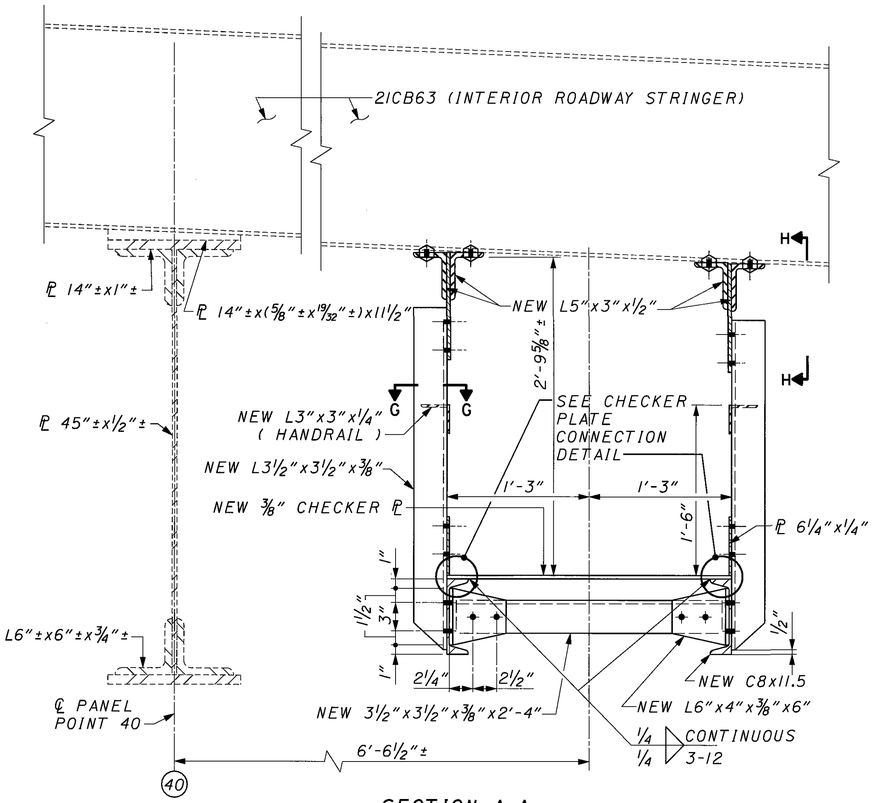
LOR-611-3.58
PID 21226

29/62
58/91

980176R09.DGN 02/14/06 SJK,TWH,BH,MLB

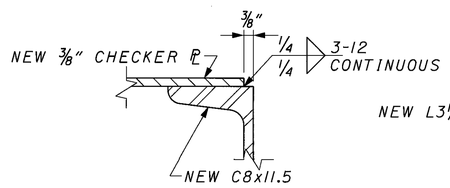


PANEL 41 CATWALK AND ACCESS PLAN

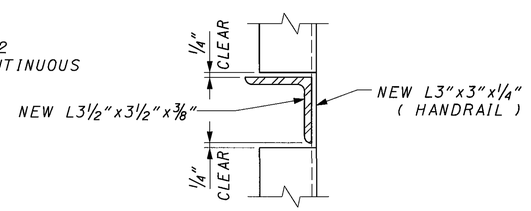


SECTION A-A

(TYPICAL AT INTERIOR STRINGER)
(SEE DETAIL I - SHEET 31/62 FOR EXTERIOR STRINGER CONNECTION TO CATWALK)



CHECKER PLATE CONNECTION DETAIL



SECTION G-G

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND: SEE SHEET 9/62

BOLT SIZE: ALL ⅞" DIA. A325 UNLESS OTHERWISE NOTED.

CATWALK ELEVATION AND DETAILS: SEE SHEET 31/62

ACCESS LADDER DETAILS: SEE SHEET 33/62

VIEW B-B, C-C, E-E, & F-F: SEE SHEET 32/62

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
SEE GENERAL NOTE SHEET 3/62 AND 4/62

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN SEE GENERAL NOTE SHEET 4/62

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK
DRAWN SJK
CHECKED BLN
REVIEWED DAP
DATE 2/13/06
REVISED
STRUCTURE FILE NUMBER 4707443

CATWALK DETAILS - 1

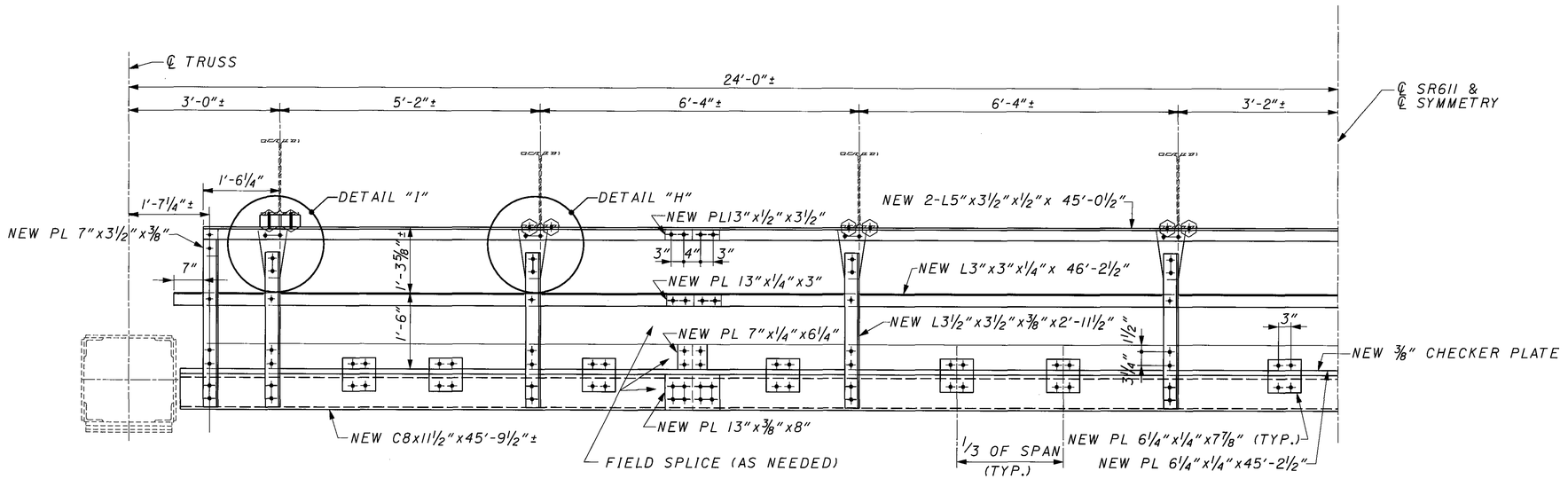
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

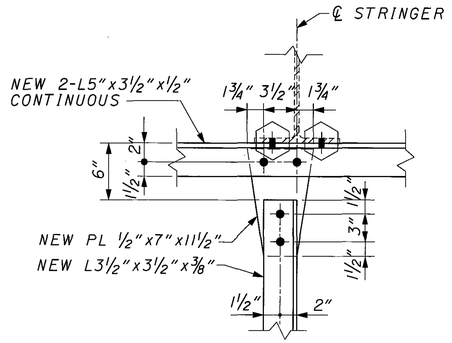
30/62

59/91

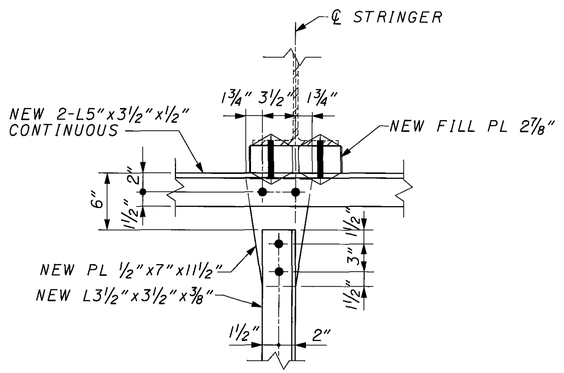
98076RD3.DGN 02/14/06 SJK,MLB



CATWALK ELEVATION



DETAIL H



DETAIL I

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND: SEE SHEET 9/62

BOLT SIZE: ⅞" DIA.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

98076CW.DGN 1/31/06 TWH

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

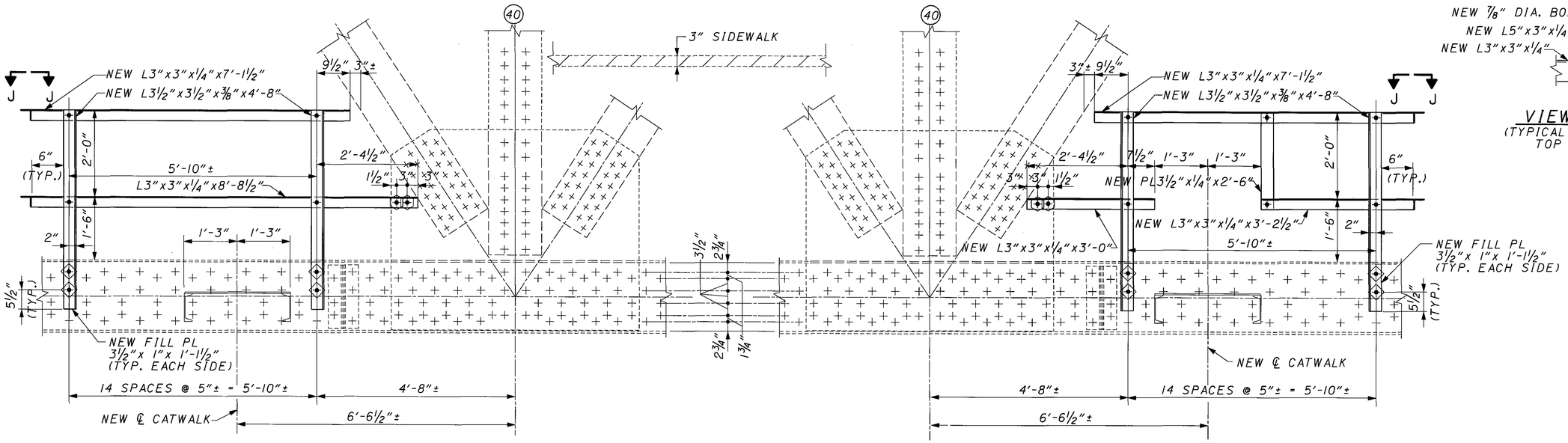
DESIGNED	DRAWN	REVIEWED	DATE
KAK	TWH	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

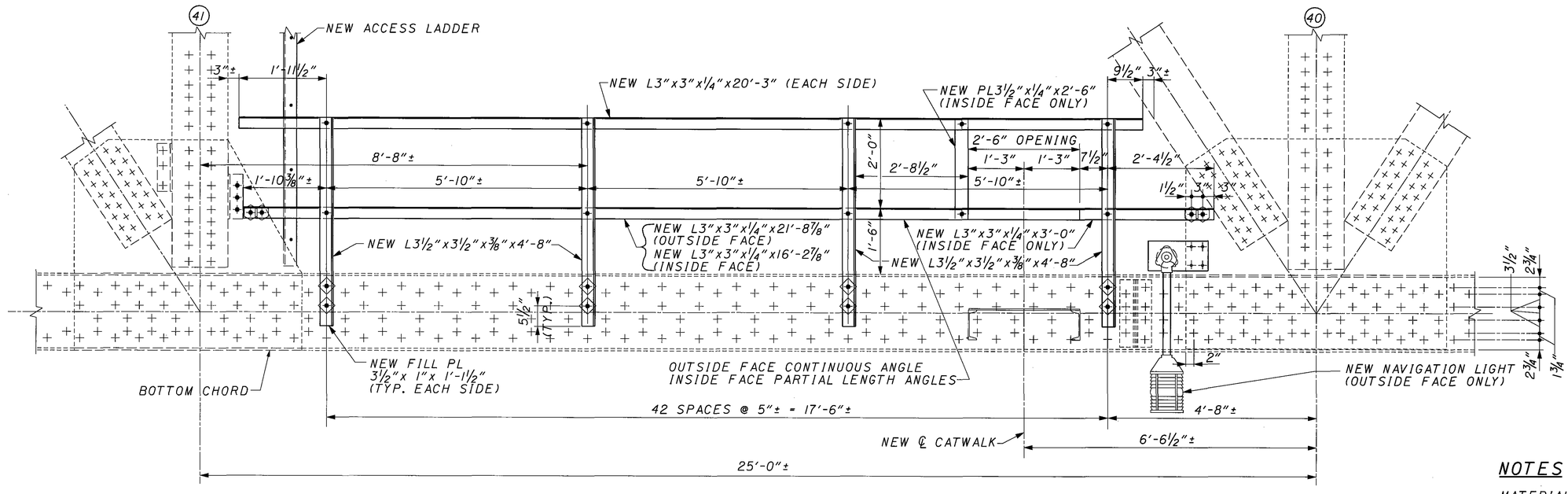
CATWALK DETAILS - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

31/62

60/91





SECTION B-B
VIEW C-C (OPPOSITE HAND)

ITEM 202 - REMOVAL MISC.: EXISTING RIVET, AS PER PLAN
ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND: SEE SHEET 9/62

BOLT SIZE: 7/8" DIA.

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

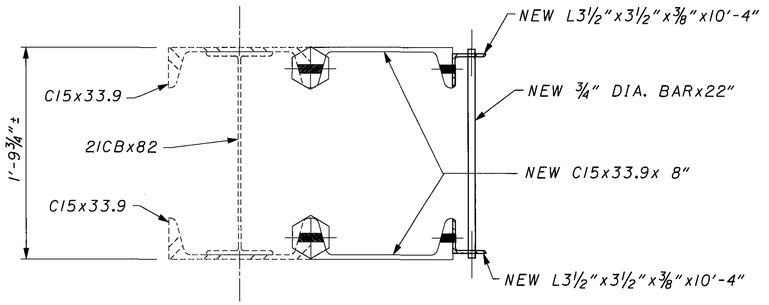
CATWALK DETAILS - 3
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

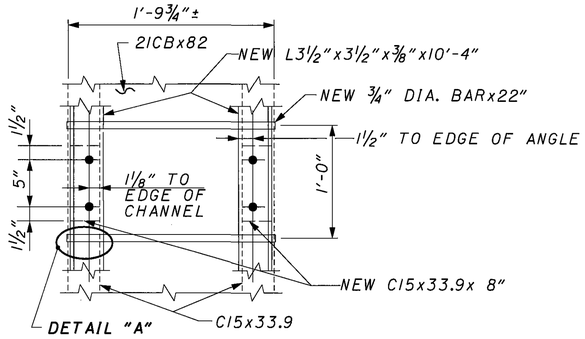
32/62

61/91

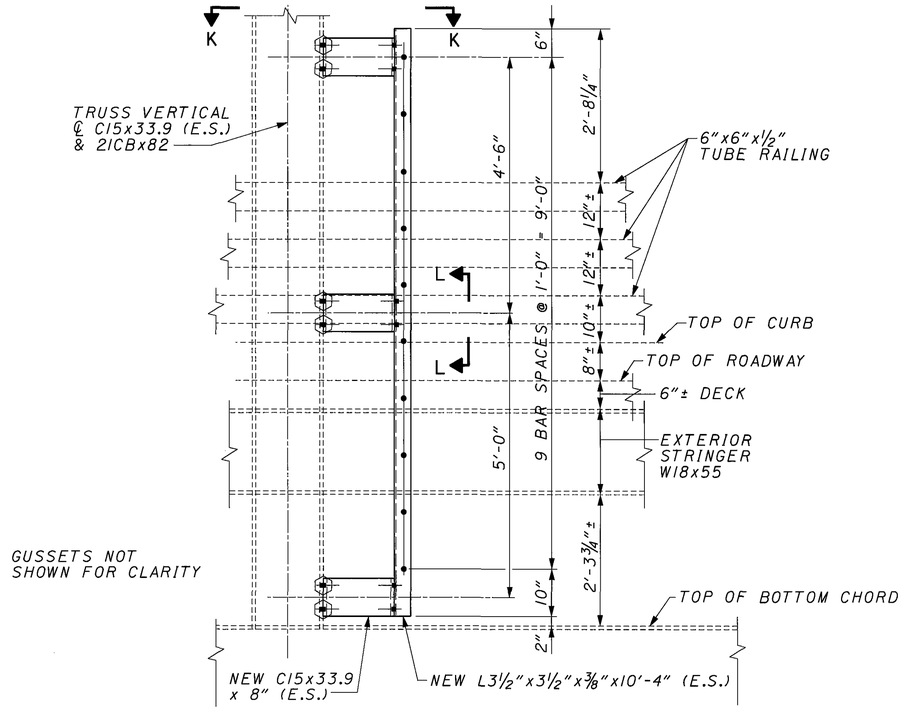
98076CW.DGN 1/31/06 TWH



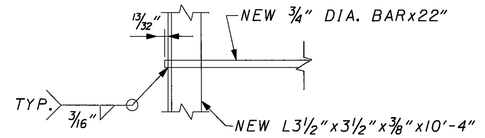
VIEW K-K



SECTION L-L



ACCESS LADDER DETAIL
(PANEL POINT 41 FOR ACCESS TO PANEL POINT 40)
(EAST TRUSS)



DETAIL "A"

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND: SEE SHEET 9/62

BOLT SIZE: ALL ¾" DIA. A325.

E.S.: EACH SIDE

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

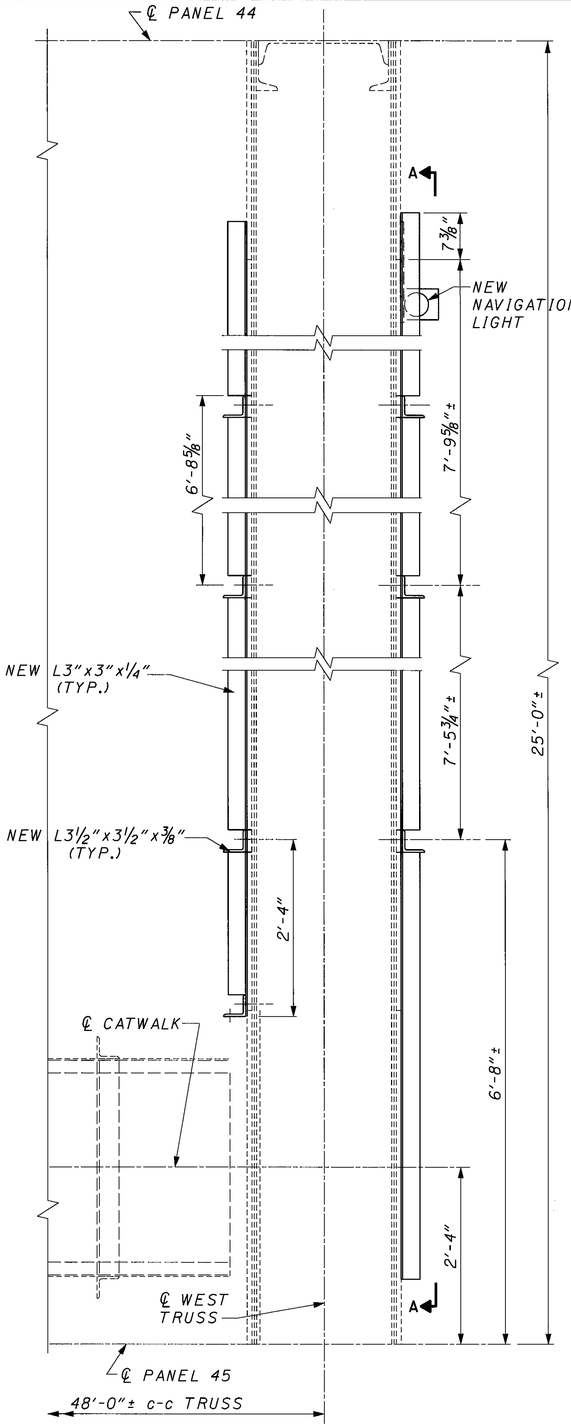
98076CW.DGN 1/31/06 TWH

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

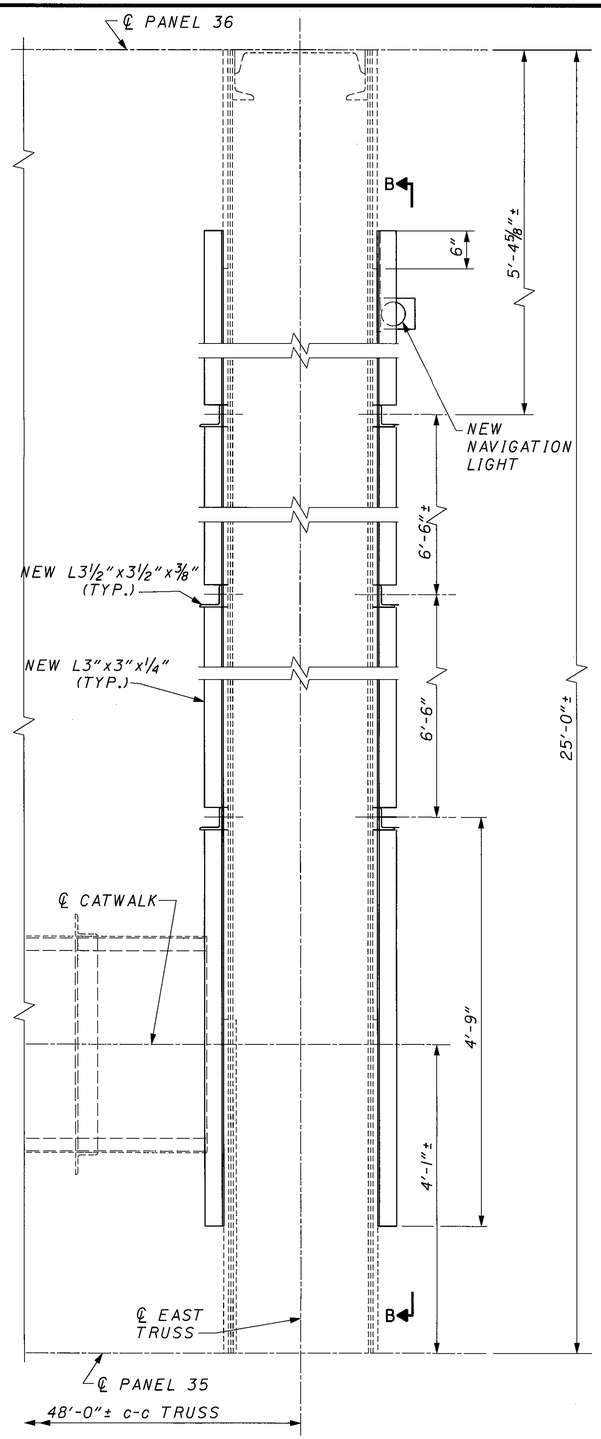
DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

CATWALK DETAILS - 4
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226



SAFETY RAILING - PANEL 45
(WEST TRUSS SHOWN)
(EAST TRUSS OPPOSITE HAND)



SAFETY RAILING - PANEL 36
(EAST TRUSS SHOWN)
(WEST TRUSS OPPOSITE HAND)

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

NOTES

VIEW A-A AND B-B: SEE SHEET 35/62

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND: SEE SHEET 9/62

98076RD3.DGN 1/31/06 SJK,TWH

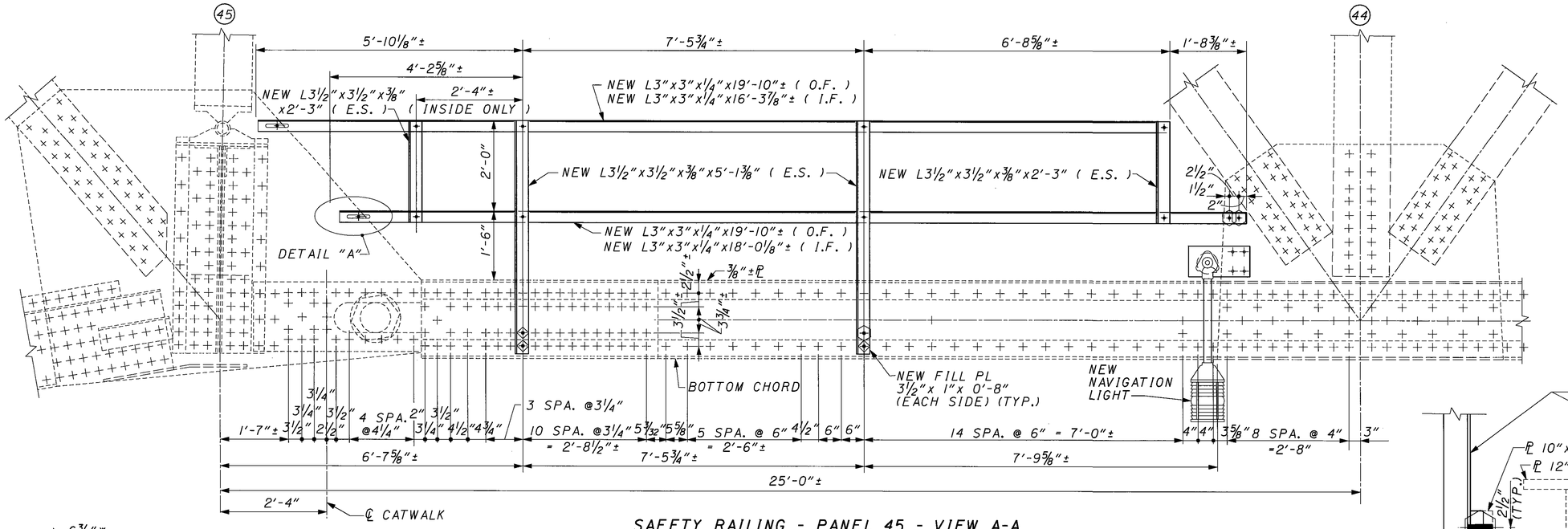
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

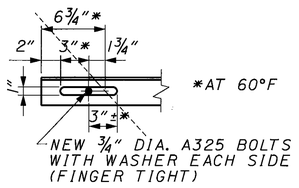
CATWALK DETAILS - 5
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

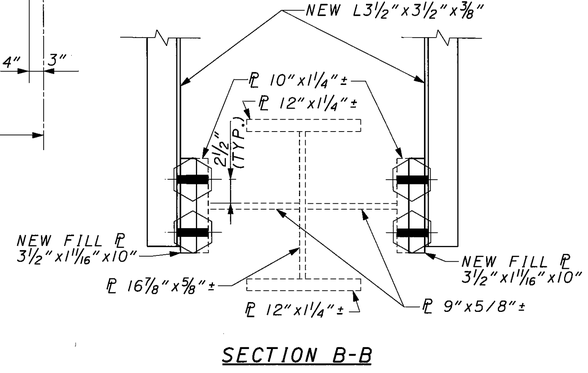
34/62
63/91



SAFETY RAILING - PANEL 45 - VIEW A-A

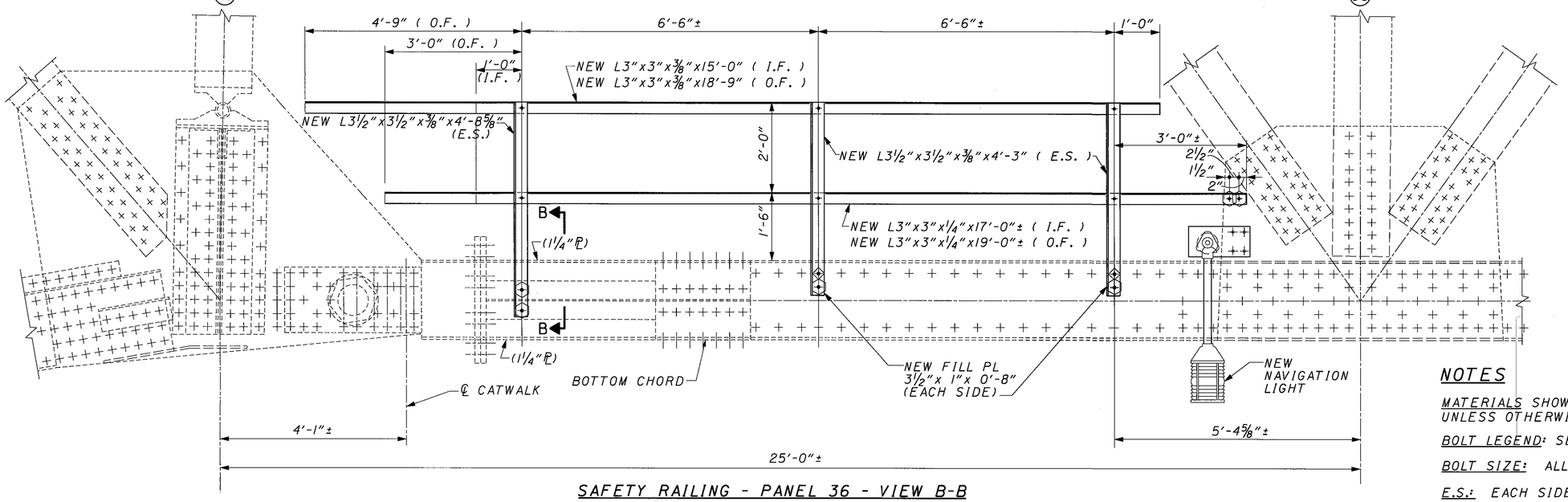


DETAIL "A"



SECTION B-B

35 36



SAFETY RAILING - PANEL 36 - VIEW B-B

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND: SEE SHEET 9/62

BOLT SIZE: ALL 7/8" DIA. A325, UNLESS NOTED.

E.S.: EACH SIDE
O.F.: OUTSIDE FACE
I.F.: INSIDE FACE

ITEM 202 - REMOVAL MISC.: EXISTING RIVET
ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

98076CW.DGN 1/31/06 TWH,JDY,RC

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

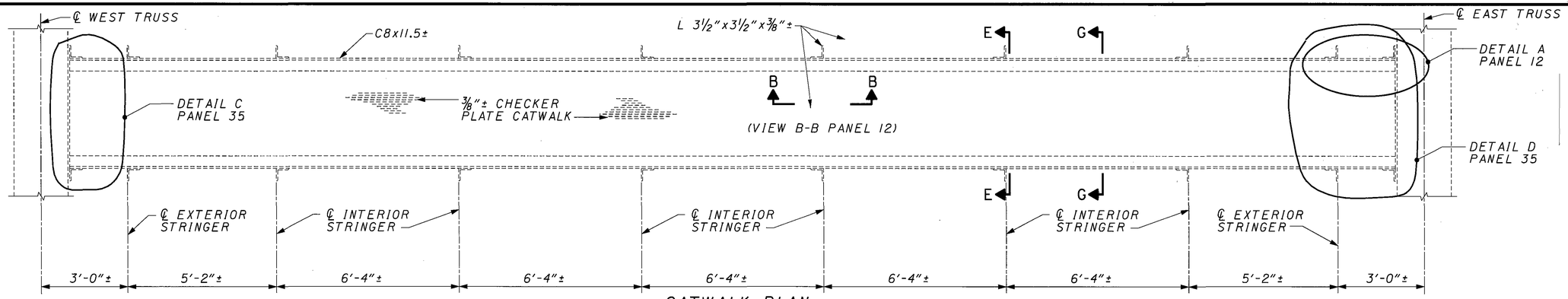
DESIGNED	DRAWN	REVIEWED	DATE
KAK	TWH	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

CATWALK DETAILS - 6
BRIDGE NO. LOR-611-03.58
OVER BLACK RIVER

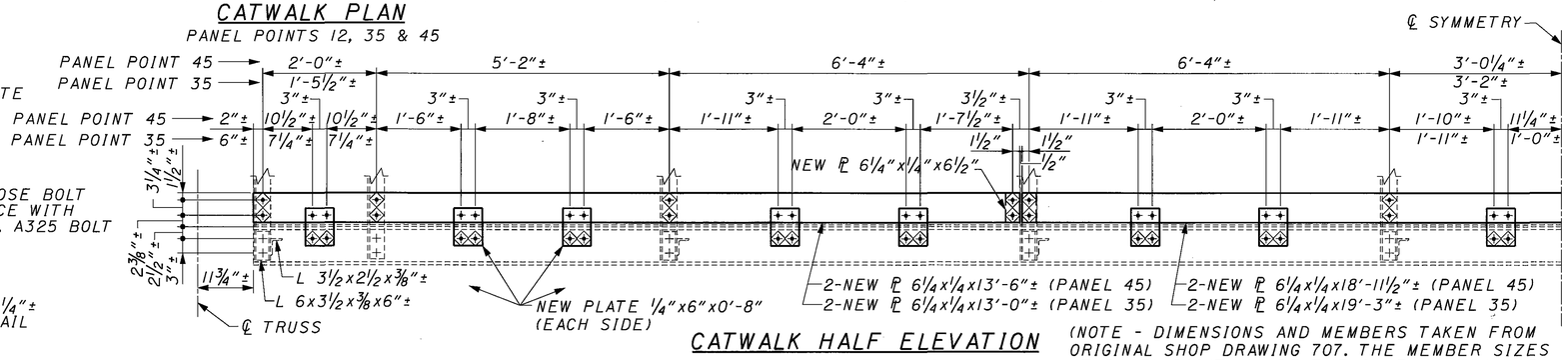
LOR-611-3.58
PID 21226

35/62

64/91

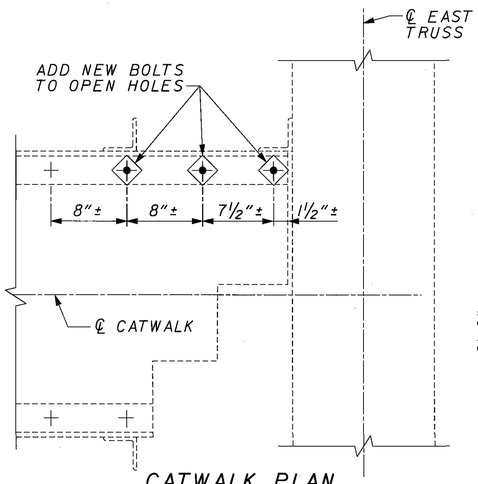


CATWALK PLAN
PANEL POINTS 12, 35 & 45

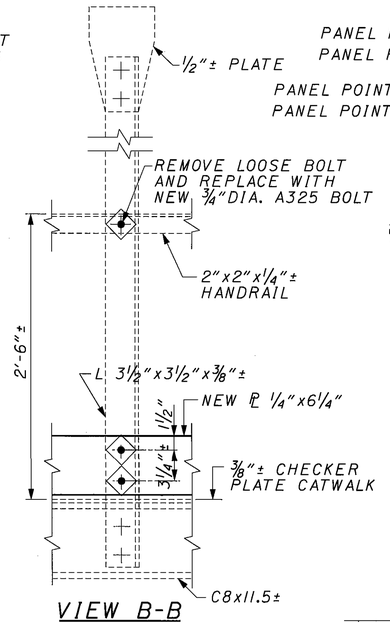


CATWALK HALF ELEVATION
PANEL POINTS 35 & 45

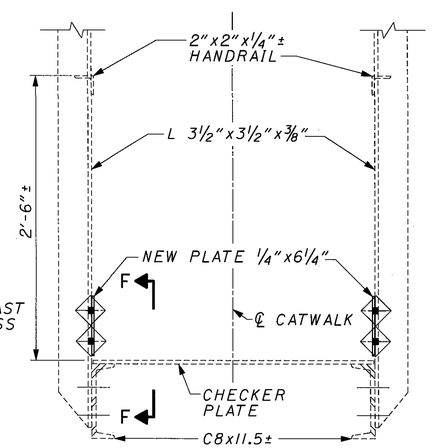
(NOTE - DIMENSIONS AND MEMBERS TAKEN FROM ORIGINAL SHOP DRAWING 707. THE MEMBER SIZES AT PANEL POINT 12 ARE THE SAME. CONTRACTOR SHALL VREIFY ALL SPACINGS AND DIMENSIONS PRIOR TO FABRICATION.)



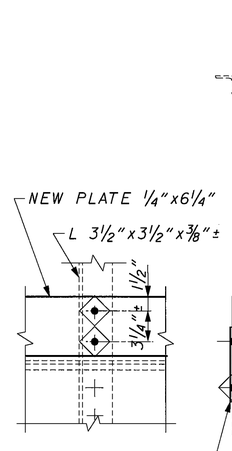
CATWALK PLAN
DETAIL A
(PANEL 12)



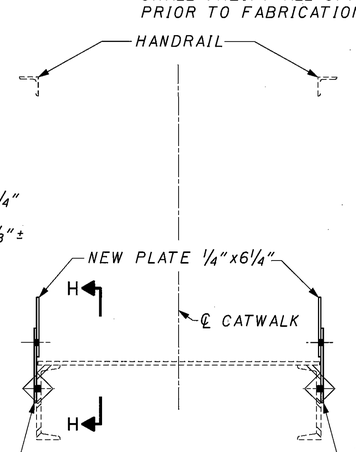
VIEW B-B
(PANEL 12)



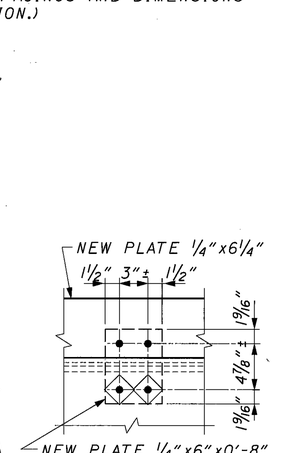
SECTION E-E



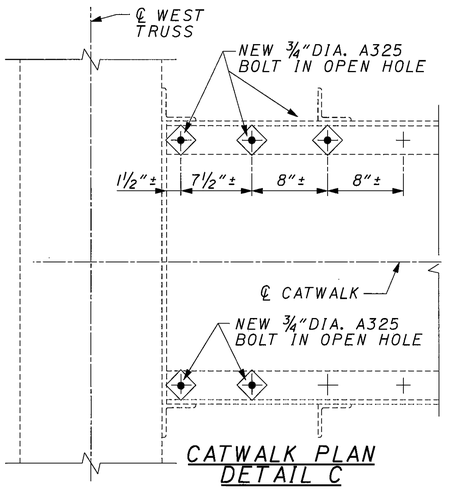
SECTION F-F



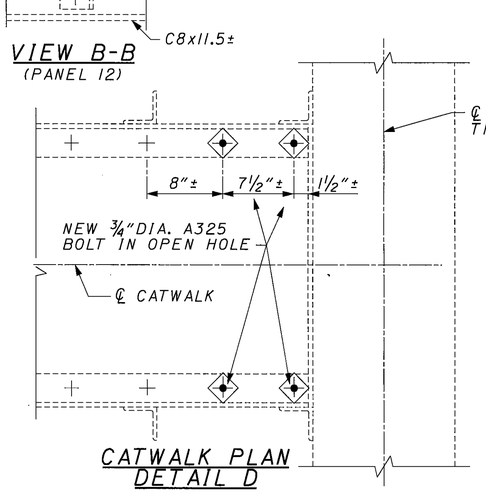
SECTION G-G



SECTION H-H



CATWALK PLAN
DETAIL C
(PANEL 35)



CATWALK PLAN
DETAIL D
(PANEL 35)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED

BOLT LEGEND: SEE SHEET 9/62

BOLT SIZE: ALL ¾" DIA. A325

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE GENERAL NOTE SHEET 3/62.

ITEM 202 - REMOVAL MISC.: EXISTING RIVET SEE SHEET 3/62 AND 4/62

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN SEE GENERAL NOTE SHEET 4/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 202 - REMOVAL MISC.: EXISTING RIVET
ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

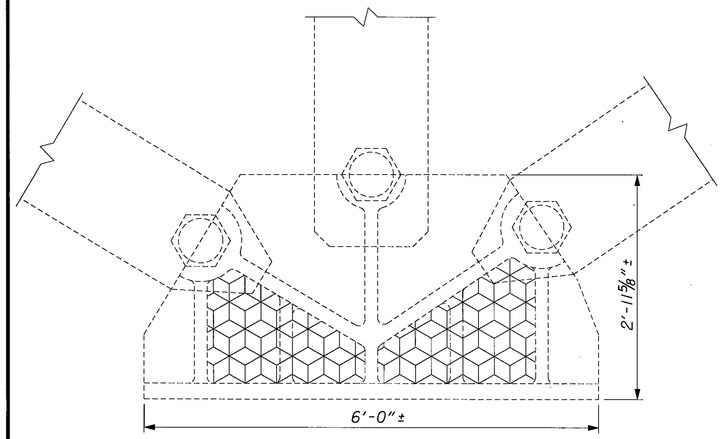
REVIEWED DAP | DATE 2/13/06 | STRUCTURE FILE NUMBER 4707443
DRAWN TWH | REVISED
DESIGNED KAK | CHECKED BLN

CATWALK DETAILS - 7
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

36/62
65/91

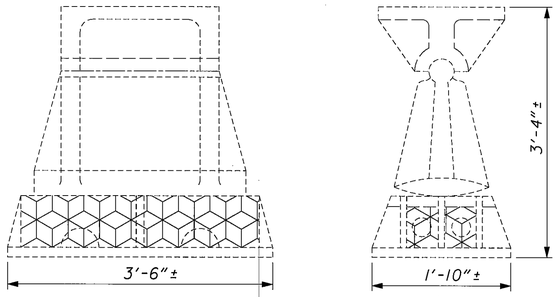
980716CW2.DGN 02/14/06 TWH, SJK, MLB



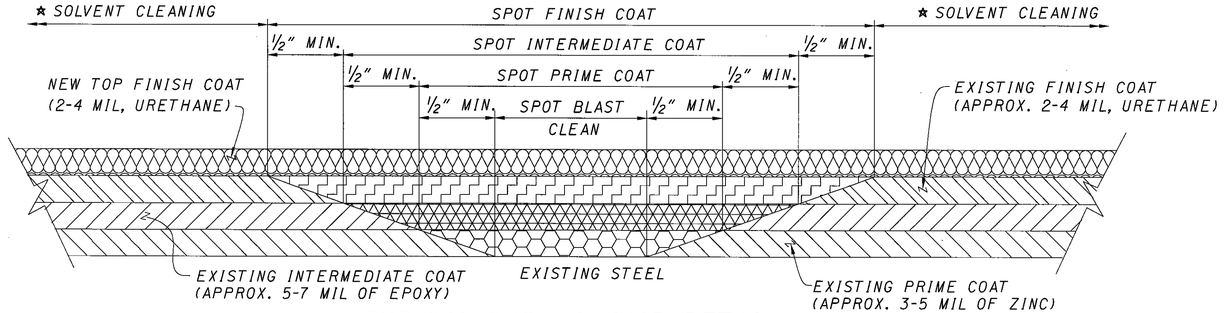
PIER 3 & 4 BOLSTER

NOTE: ALL ROCKERS AND BOLSTERS ARE TO BE BLASTED AND PAINTED.

THIS DETAIL INDICATES INACCESSIBLE PORTIONS OF STRUCTURE DESIGNATED FOR BRUSH-OFF BLASTING AND ALUMINUM FILLED EPOXY MASTIC PRIME COAT.



REAR ABUTMENT ROCKER



TYPICAL SPOT REPAIR DETAIL

★ SOLVENT CLEANING REQUIRED FOR NEW FINISH COAT IN AREAS WITHOUT BLAST CLEANING

CLEANING AND PAINTING NOTATION & PAYMENT

\+ AND

- INDICATES ITEMS FOR COMPLETE BLAST CLEANING & PAINTING. INCLUDE FOR PAYMENT WITH:
- ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN - SQ FT

≠ AND

- INDICATES ITEMS FOR SPOT BLAST CLEANING & SPOT PAINTING. INCLUDE FOR PAYMENT WITH:
- ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN - SQ FT

≠ AND

- INDICATES ITEMS FOR SOLVENT CLEANING & TOP FINISH COAT PAINTING. INCLUDE FOR PAYMENT WITH:
- ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU - SQ FT
- ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING STRUCTURAL STEEL, TOP FINISH COAT - SQ FT

* OR

- INDICATES ITEMS FOR POWER TOOL CLEANING AND PAINTING. INCLUDE FOR PAYMENT WITH:
- ITEM 514 - FIELD PAINTING, MISC.: POWER TOOL CLEANING OF PEDESTRIAN RAILING - SQ FT
- ITEM 514 - FIELD PAINTING, MISC.: BRUSH APPLIED ALUMINUM EPOXY MASTIC PRIME ON PEDESTRIAN RAILING - SQ FT

⊕ OR

- DENOTES INACCESSIBLE INTERIOR PORTIONS OF BEARINGS AND TRUSS CHORDS THAT ARE TO BE BRUSH-OFF BLAST CLEANED AND PAINTED WITH ALUMINUM FILLED EPOXY MASTIC PRIME COAT. THEN INTERMEDIATE AND FINISH COAT ARE APPLIED PER SYSTEM OZEU. INCLUDE FOR PAYMENT WITH:
- ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS - SQ FT
- ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT - SQ FT

S.F. - SQUARE FEET
L.F. - LINEAR FEET
U.N.O. - UNLESS NOTED OTHERWISE

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU
ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU
SEE GENERAL NOTE SHEET 5/62

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
SEE GENERAL NOTE SHEET 4/62 AND 5/62

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
SEE GENERAL NOTE SHEET 4/62 AND 5/62

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
SEE GENERAL NOTE SHEET 4/62 AND 5/62

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN
SEE GENERAL NOTE SHEET 5/62

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS
SEE GENERAL NOTE SHEET 5/62

ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT
SEE GENERAL NOTE SHEET 5/62

ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING STRUCTURAL STEEL, TOP FINISH COAT
SEE GENERAL NOTE SHEET 5/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVISED | REVIEWED DAP | DATE 2/13/06 | STRUCTURE FILE NUMBER 4707443

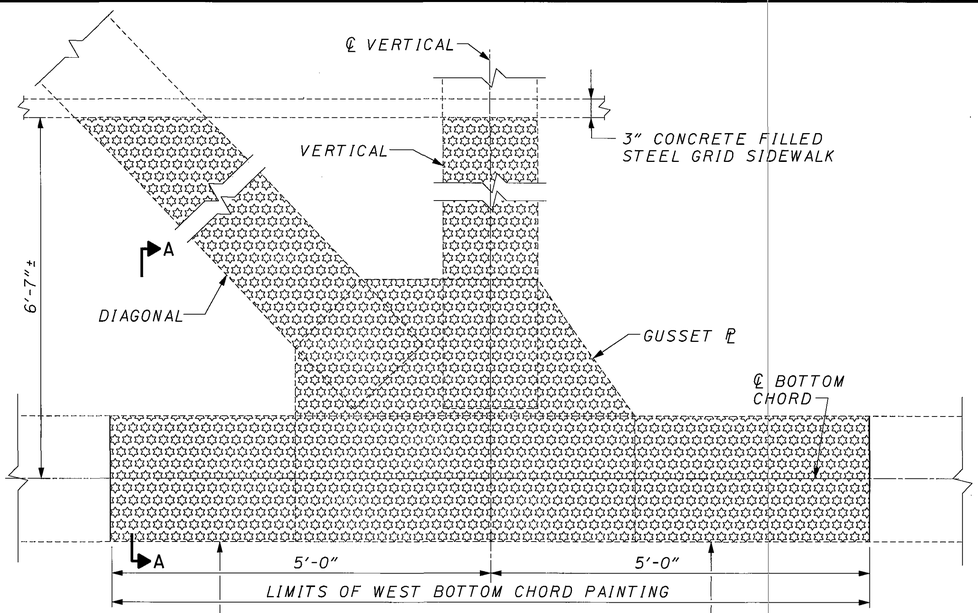
STRUCTURE PAINTING - 1
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

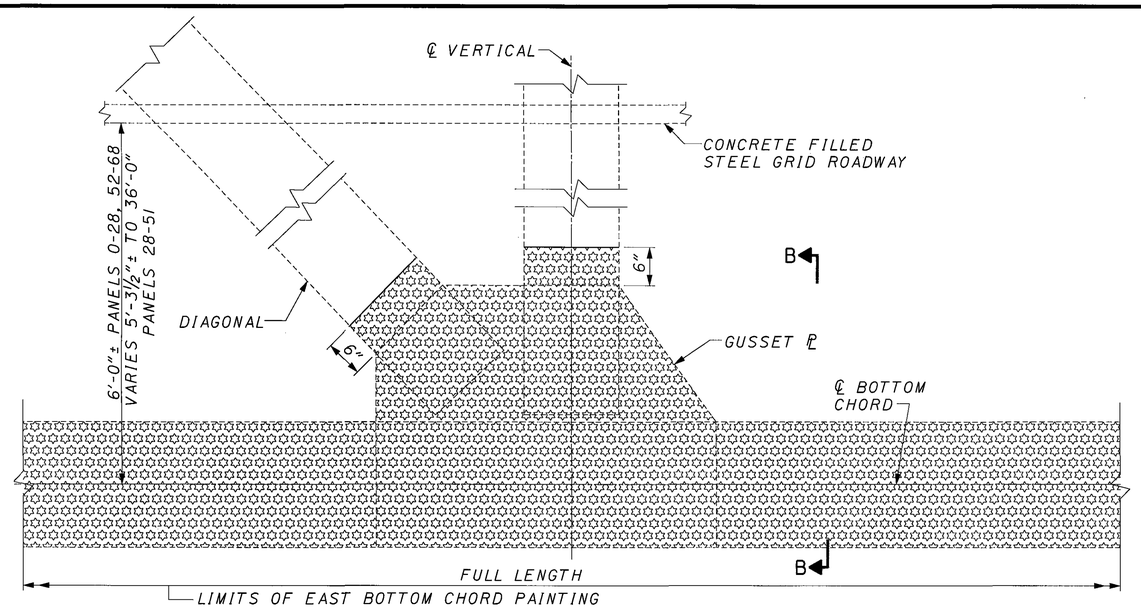
37/62

66/91

980176RD4.DGN 03/24/06 SJK,TWH,HN



ELEVATION



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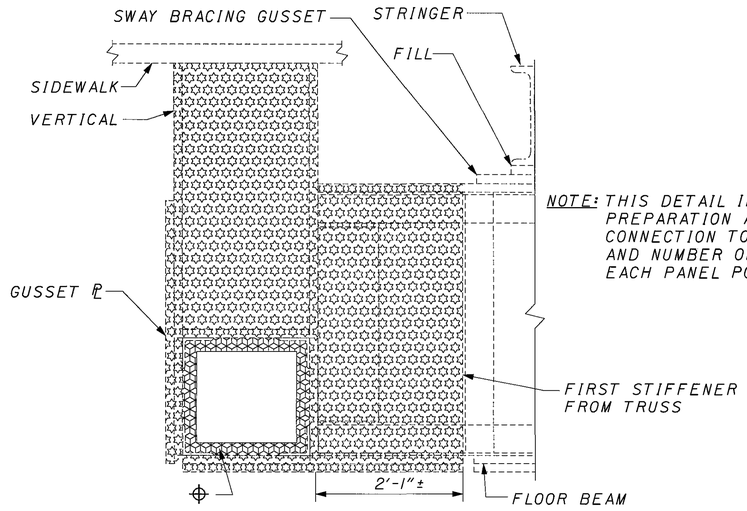
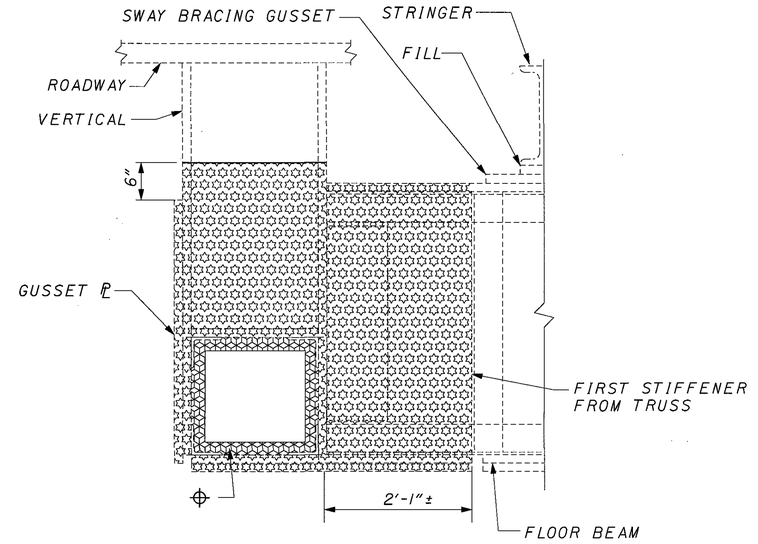


NOTE: THIS DETAIL INDICATES TYPICAL COMPLETE SURFACE PREPARATION AND PAINTING LIMITS OF WEST FLOORBEAM CONNECTION TO TRUSS. ACTUAL ARRANGEMENT, SIZE AND NUMBER OF TRUSS MEMBERS CONNECTED AT EACH PANEL POINT WILL VARY.

VIEW A-A

WEST TRUSS FLOOREAM CONNECTION TO BOTTOM CHORD

(PANEL POINTS 2, 3, 4, 5, 6, 13, 14, 16, 18, 20, 24, 45, 52, 53, 55, 58, 60, 62, 63, 64, 66)



VIEW B-B

EAST TRUSS BOTTOM CHORD

ITEM 514 - FIELD PAINTING MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS

ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT

NOTES

STEEL MEMBERS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SURFACE PREPARATION, PAINTING AND CAULKING LIMITS ARE NEW UNLESS OTHERWISE NOTED.

PAINTING LEGEND: SEE SHEET 37/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

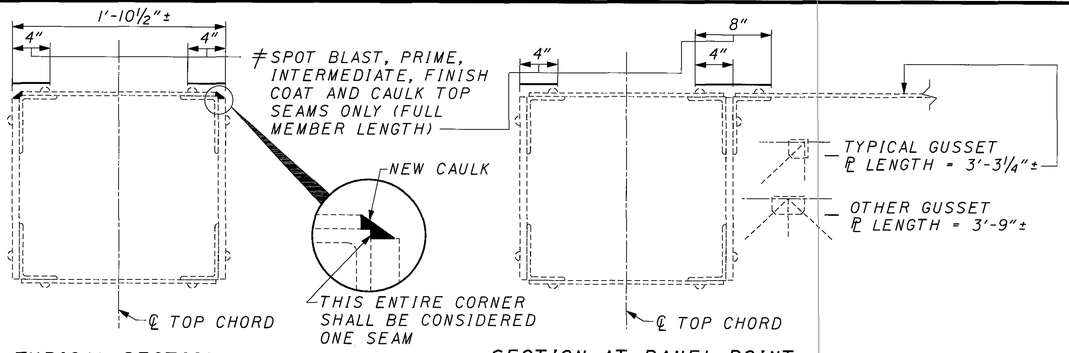
DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

STRUCTURE PAINTING - 2

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

98076RD4.DGN 03/24/06 SJK,TWH,HN

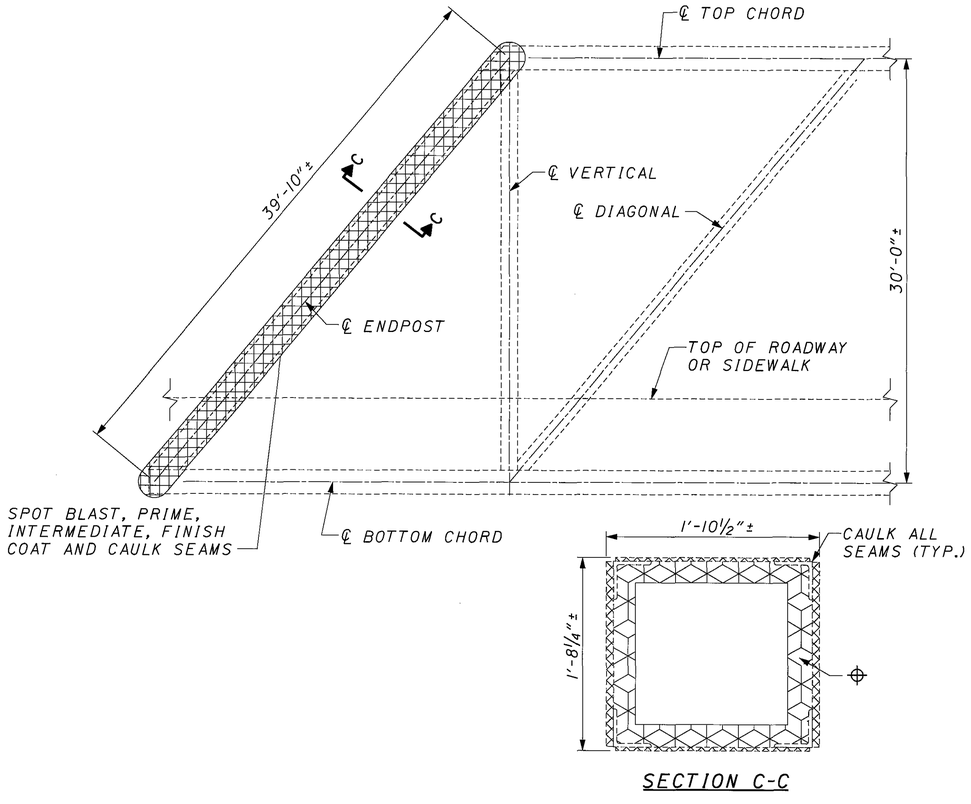


TYPICAL SECTION

SECTION AT PANEL POINT

DETAIL 1

(TOP SEAMS OF TOP CHORD - FULL LENGTH - BOTH TRUSSES)



SECTION C-C

DETAIL 2

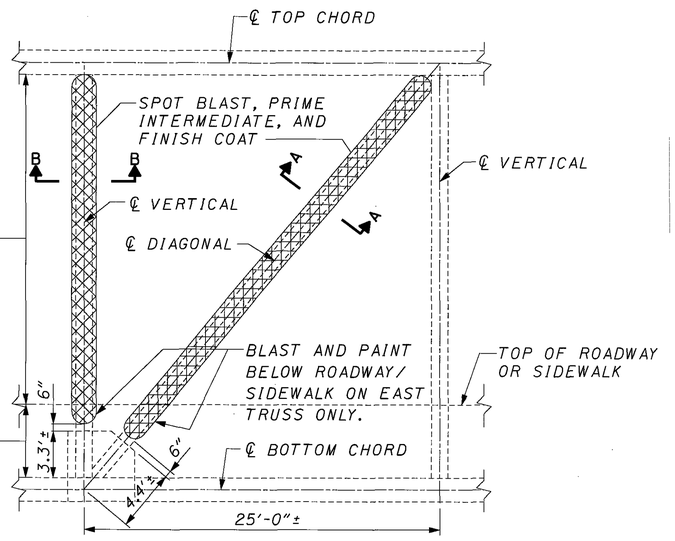
(ALL END POSTS)

EAST TRUSS
PANEL POINT 0-32, 48-68 24'-0"±
33-47 VARIES 24'-1"± TO 33'-0"±

WEST TRUSS
PANEL POINT 0-32, 48-68 23'-3"±
33-47 23'-4"± TO 32'-3"±

EAST TRUSS
PANEL POINT 0-28, 52-68 6'-0"±
29-32, 48-51 VARIES 7'-0"± TO 36'-0"±
33-47 VARIES 19'-11"± TO 5'-3½"±

WEST TRUSS
PANEL POINT 0-28, 52-68 6'-9"±
29-32, 48-51 VARIES 7'-9"± TO 36'-0"±
33-47 VARIES 20'-8"± TO 6'-0½"±

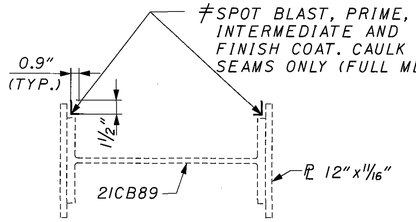


DETAIL 3 & 4

(DIAGONALS & VERTICALS - BOTH TRUSSES)

DIAGONAL MEMBERS U3-L4, U4-L5, U8-L7, U9-L8, U10-L9, U10-L11, U11-L12 L19-U20, U20-L21, U21-L22, U30-L29, U33-L34, U34-L35, U46-L45, U47-L46, U50-L51, U59-L58 U60-L59, U60-L61

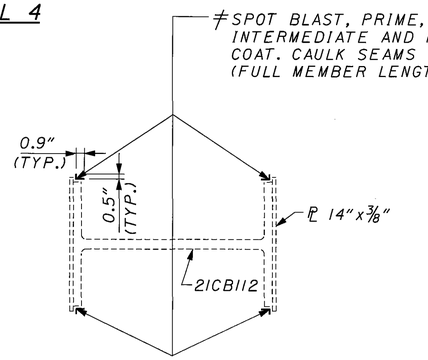
VERTICAL MEMBERS U18-L18, U32-L32, U48-L48, U62-L62



SECTION A-A

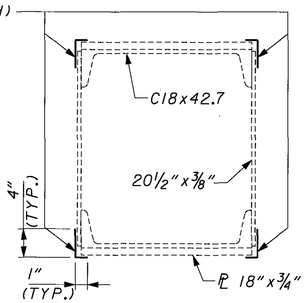
(L7-U8 SHOWN, OTHERS SIMILAR)

DETAIL 4



SECTION B-B

(U18-L18, U62-L62)



SECTION B-B

(U32-L32, U48-L48)

DETAIL 3

(VERTICALS)

NOTES

STEEL MEMBERS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SURFACE PREPARATION, PAINTING AND CAULKING LIMITS ARE NEW UNLESS OTHERWISE NOTED.

PAINTING LEGEND: SEE SHEET 37/62

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING, MISC.: CAULKING
ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS
ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

STRUCTURE PAINTING - G - 3

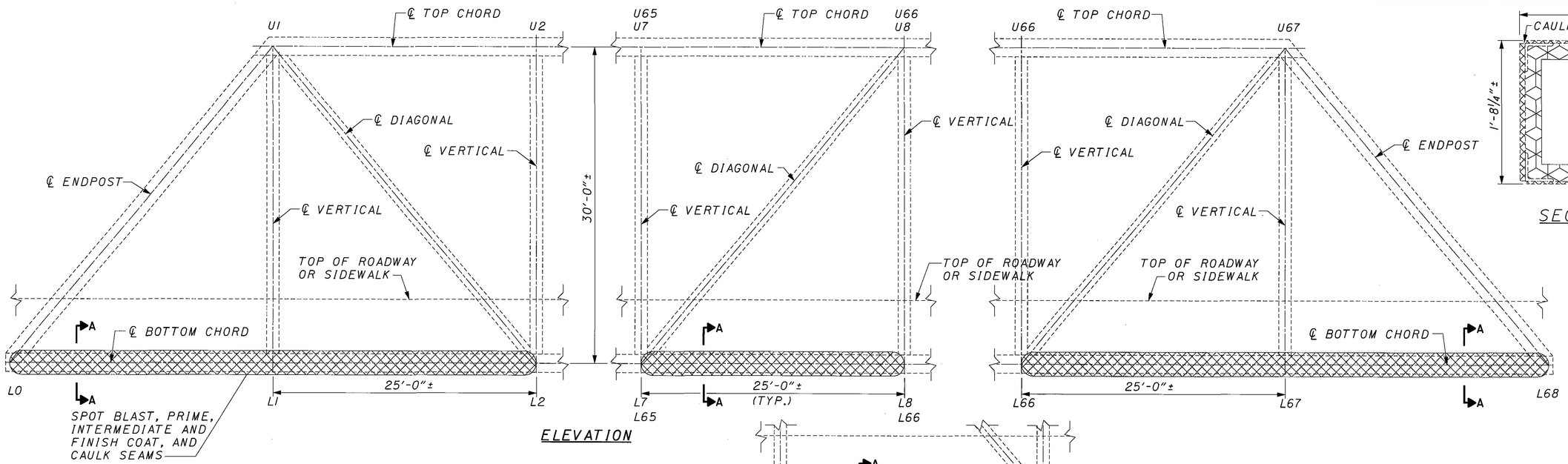
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

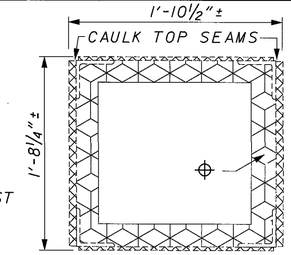
39/62

68/91

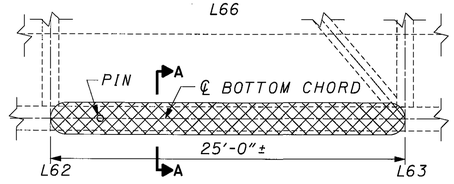
98076RD04.DGN 03/24/06 SJK,TWH,HN



ELEVATION

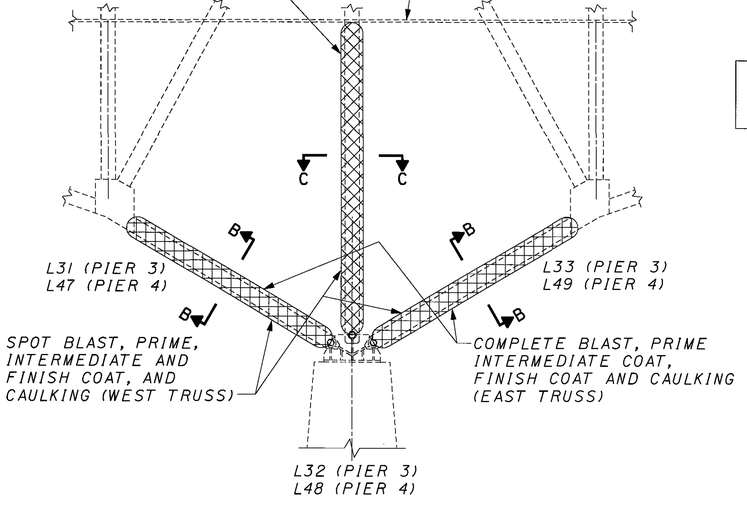


SECTION A-A

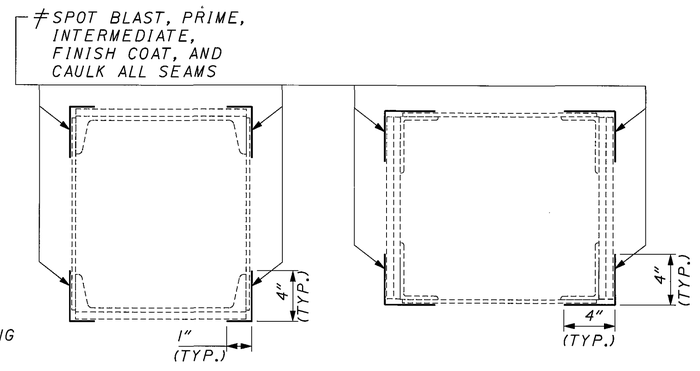


ELEVATION

DETAIL 5
(WEST TRUSS - LOWER CHORD)

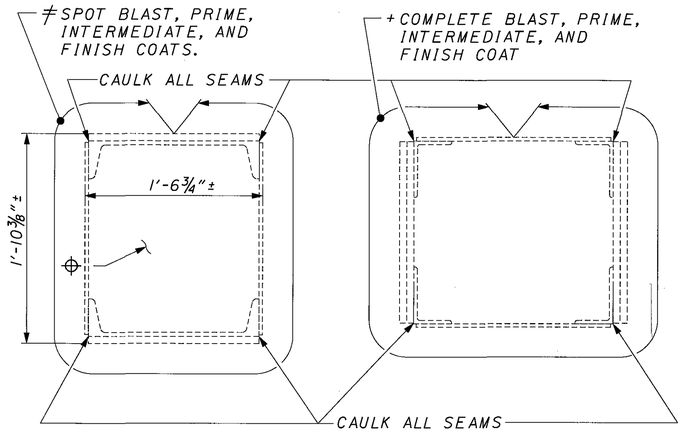


ELEVATION
(WEST TRUSS SHOWN)



SECTION C-C
WEST TRUSS
(U32-L32, U48-L48)

SECTION B-B
WEST TRUSS



SECTION C-C
EAST TRUSS

SECTION B-B
EAST TRUSS

DETAIL 6
(PIER 3 & 4)

NOTES

STEEL MEMBERS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SURFACE PREPARATION, PAINTING AND CAULKING LIMITS ARE NEW UNLESS OTHERWISE NOTED.

PAINTING LEGEND: SEE SHEET 37/62

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING, MISC.: CAULKING
ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS
ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06
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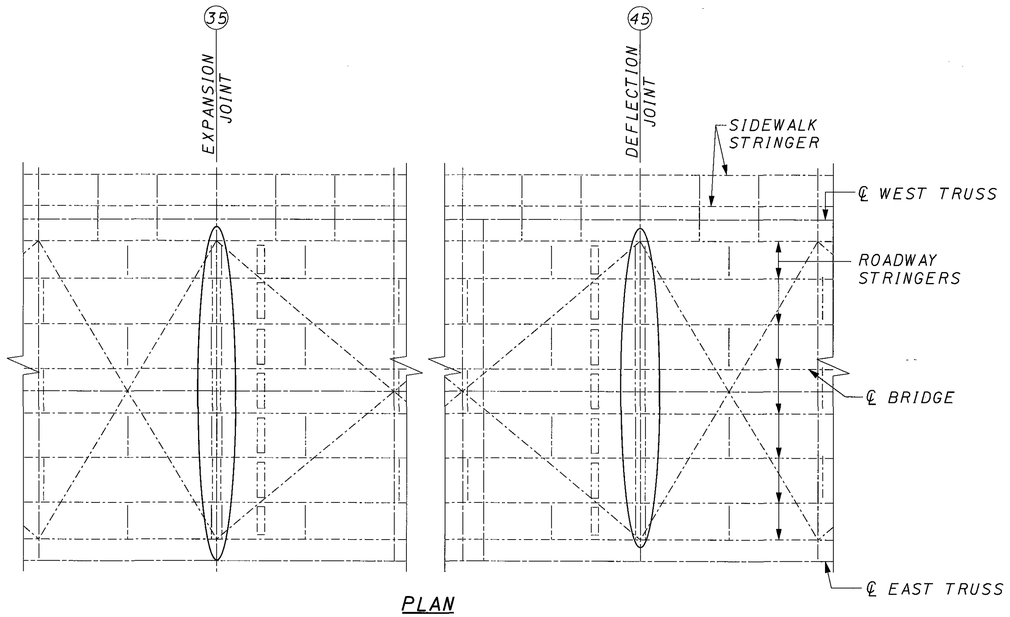
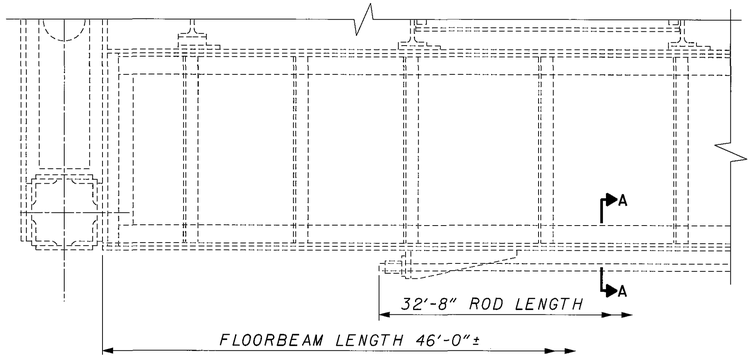
STRUCTURE PAINTING - 4
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

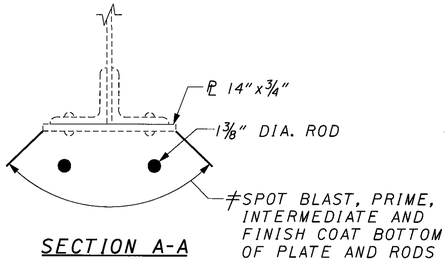
LOR-611-3.58
PID 21226



PLAN



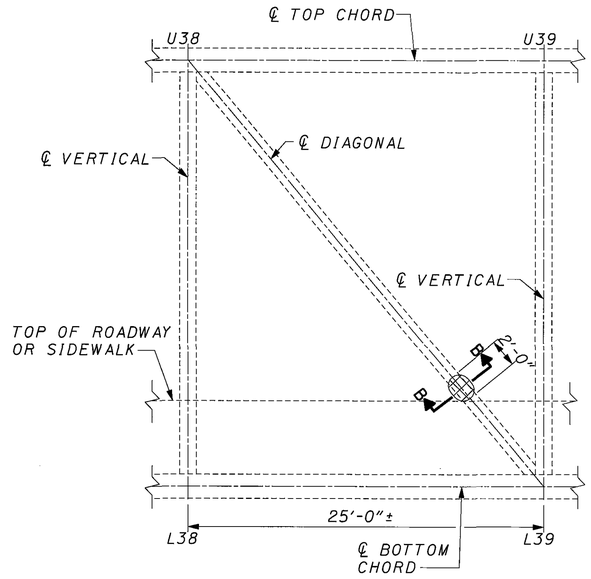
ELEVATION



SECTION A-A

DETAIL 7

(LOWER FLANGE OF FLOORBEAM 7, 35 AND 45)



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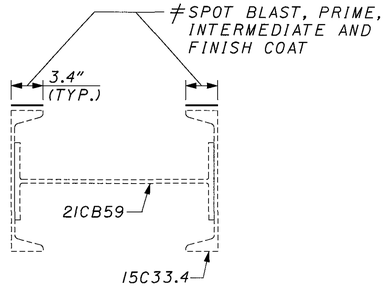


SECTION B-B

DETAIL 8

(WEST TRUSS DIAGONAL)

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

NOTES

STEEL MEMBERS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SURFACE PREPARATION, PAINTING AND CAULKING LIMITS ARE NEW UNLESS OTHERWISE NOTED.

PAINTING LEGEND: SEE SHEET 37/62

98076RD4.DGN 2/08/06 SJK,BH

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

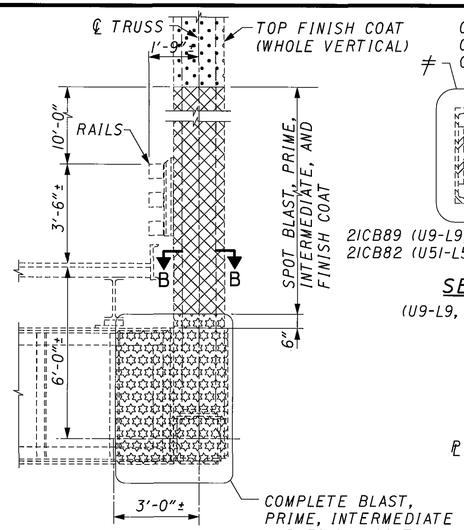
DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

STRUCTURE PAINTING - 5
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

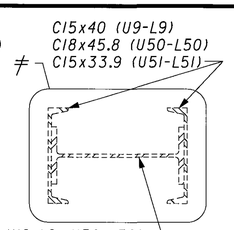
LOR-611-3.58
PID 21226

41 / 62

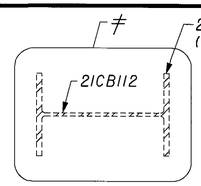
70
91



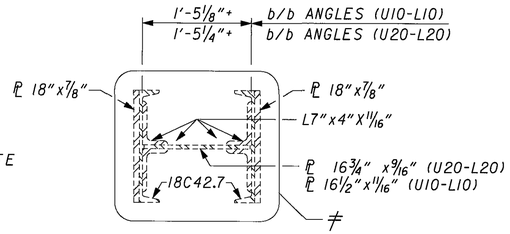
SECTION A-A



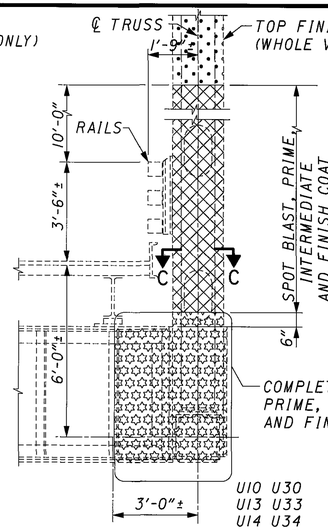
SECTION B-B
(U9-L9, U50,-L50 & U51-L51)



SECTION B-B
U13-LI3, UI4-LI4, UI7-LI7, U24-L24, U25-L25, U53-L53, U54-L54, U57-L57, U64-L64, U66-L66 & U67-L67)

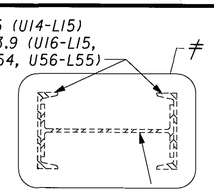


SECTION B-B
(UI0-LI0, U20-L20,)

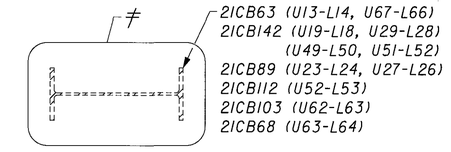


SECTION D-D

U10 U30
UI3 U33
UI4 U34
UI6 U47
UI9 U49
U2I U50
U23 U51
U27 U52
U29 U55
U56
U59
U62
U63
U67

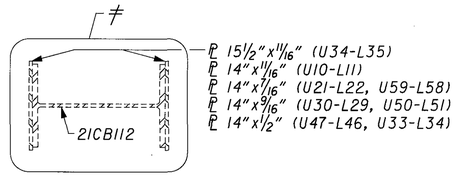


SECTION C-C
(UI4-LI5, UI6-LI5 U55-L54 & U56-L55)

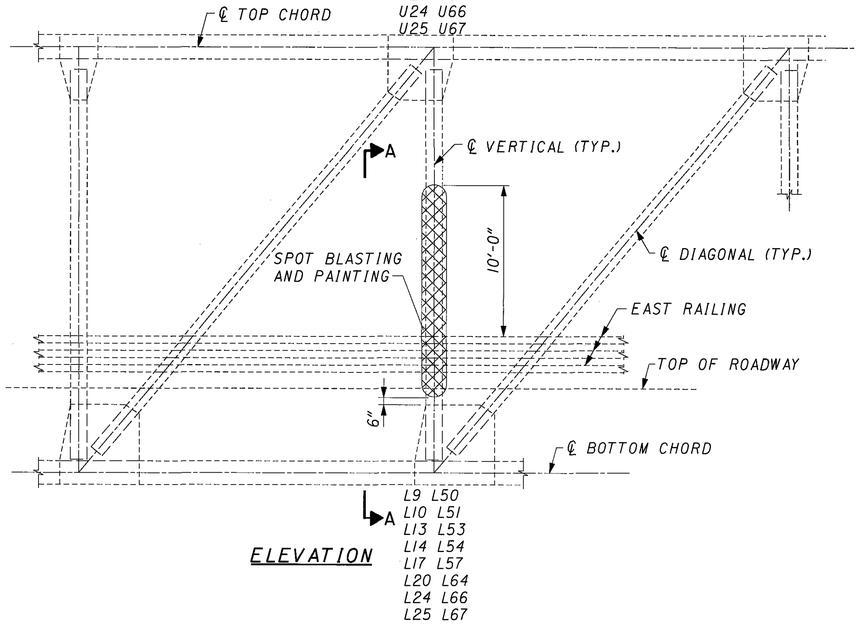


SECTION C-C
(UI3-LI4, UI9-LI8, U23-L24, U27-L26, U29-L28, U49-L50, U5I-L52, U52-L53, U62-L63, U63-L64 & U67-L66)

UII U29
UI4 U34
UI5 U35
UI5 U46
UI8 U50
U22 U5I
U24 U52
U26 U53
U29 U54
U55
U58
U63
U64
U66

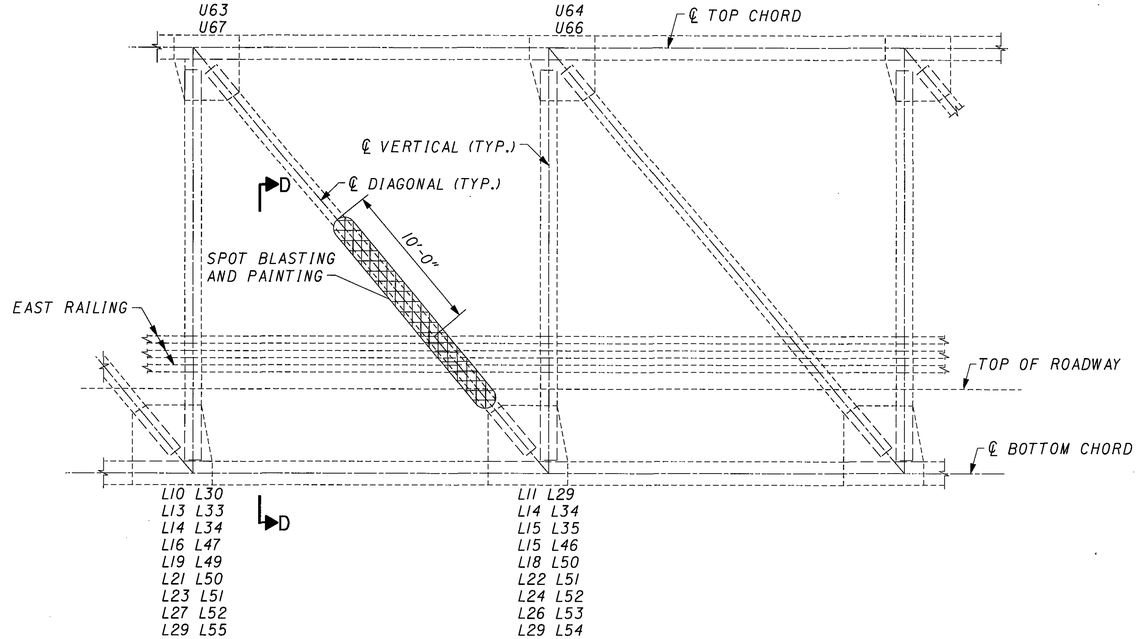


SECTION C-C
(UI0-LII, U2I-L22, U30-L29, U59-L58, U47-L46, U34-L35, U33-L34, U50-L5I)



ELEVATION

DETAIL 9
(EAST TRUSS)



ELEVATION

DETAIL 10
(EAST TRUSS)

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

NOTES

STEEL MEMBERS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SURFACE PREPARATION, PAINTING AND CAULKING LIMITS ARE NEW UNLESS OTHERWISE NOTED.

PAINTING LEGEND: SEE SHEET 37/62

98076RD4.DGN 03/24/06 SJK,TWH,HN

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

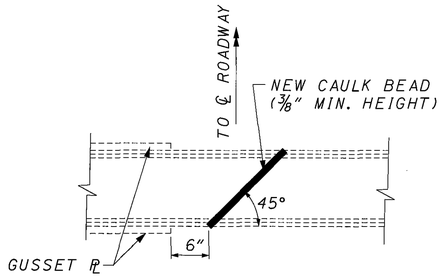
DESIGNED KAK | DRAWN KH | CHECKED BLN | REVIEWED DAP | REVISED | DATE 2/13/06 | STRUCTURE FILE NUMBER 4707443

STRUCTURE PAINTING - 6
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

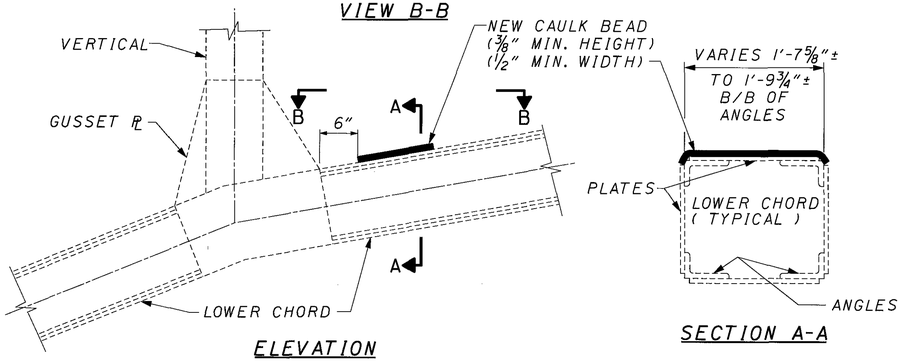
LOR-611-3.58
PID 21226

42/62

71/91



VIEW B-B

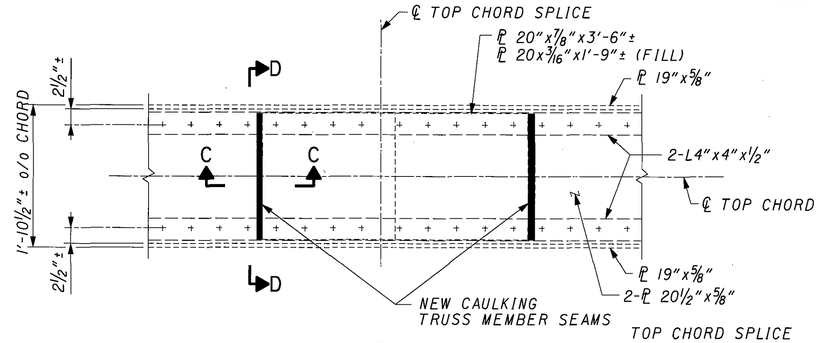


ELEVATION

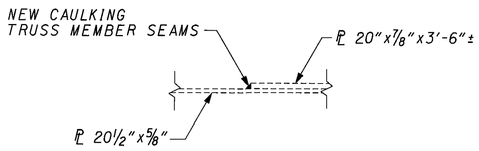
SECTION A-A

TYPICAL EAST LOWER CHORD TRUSS CONNECTION (EAST TRUSS ONLY)

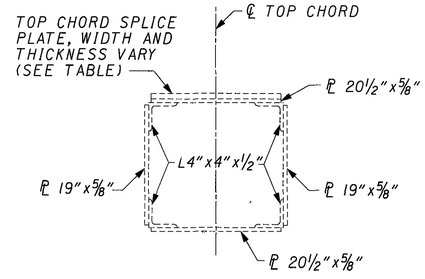
ITEM 514 - FIELD PAINTING, MISC.: CAULKING



PLAN



SECTION C-C



SECTION D-D

TOP CHORD SPLICE CAULKING DETAIL

(U2 SHOWN - OTHERS SIMILAR DIMENSION W/ VARIATIONS IN PLATE THICKNESS AND SIZE)

TOP CHORD SPLICE CAULKING LOCATION

LOCATION	SPLICE PLATE	FILL PLATE (ONE SIDE ONLY)
U1	16 1/2" x 3/8"	38 1/2" x 1/2"
U2	20" x 7/8"	20" x 3/16"
U4	20" x 7/8"	-
U6	20" x 7/8"	-
U8	20" x 1/2"	-
U10	20 1/2" x 1/2"	-
U14	20 1/2" x 3/8"	-
U16	20 1/2" x 1/2"	-
U20, U60	20 1/2" x 5/8"	-
U22, U58	20 1/2" x 3/4"	20 1/2" x 1/8"
U24, U56	20 1/2" x 3/4"	-
U26, U54	20" x 3/4"	-
U28, U52	20" x 11/16"	-
U30, U50	20" x 13/16"	20" x 1/8"
U32, U48	20" x 7/8"	20" x 1/8"
U33, U47	20" x 3/4"	-
U34, U46	20" x 9/16"	20" x 1/8"
U36, U44	20 1/2" x 3/4"	20" x 1/8"
U37, U43	20 1/2" x 3/4"	-
U38, U42	20" x 3/4"	-
U39, U41	20" x 3/4"	-
U40	20" x 3/4"	-
U64	20 1/2" x 1/2"	-
U66	20 1/2" x 1/2"	
U67	16 3/4" x 3/8"	38 5/8" x 1/2"

ITEM 514 - FIELD PAINTING, MISC.: CAULKING

(SEE TABLE FOR PANEL POINTS)

NOTES

STEEL MEMBERS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SURFACE PREPARATION, PAINTING AND CAULKING LIMITS ARE NEW UNLESS OTHERWISE NOTED.

PAINTING LEGEND: SEE SHEET 37/62

ITEM 514 - FIELD PAINTING, MISC.: CAULKING SEE GENERAL NOTE SHEET 6/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVISED | REVIEWED DAP | DATE 2/13/06 | STRUCTURE FILE NUMBER 4707443

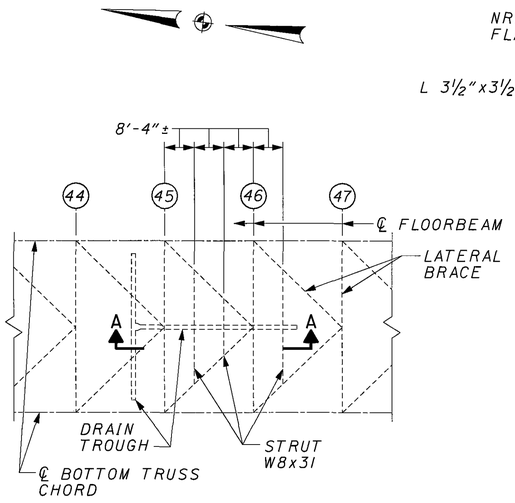
STRUCTURE PAINTING - 7
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

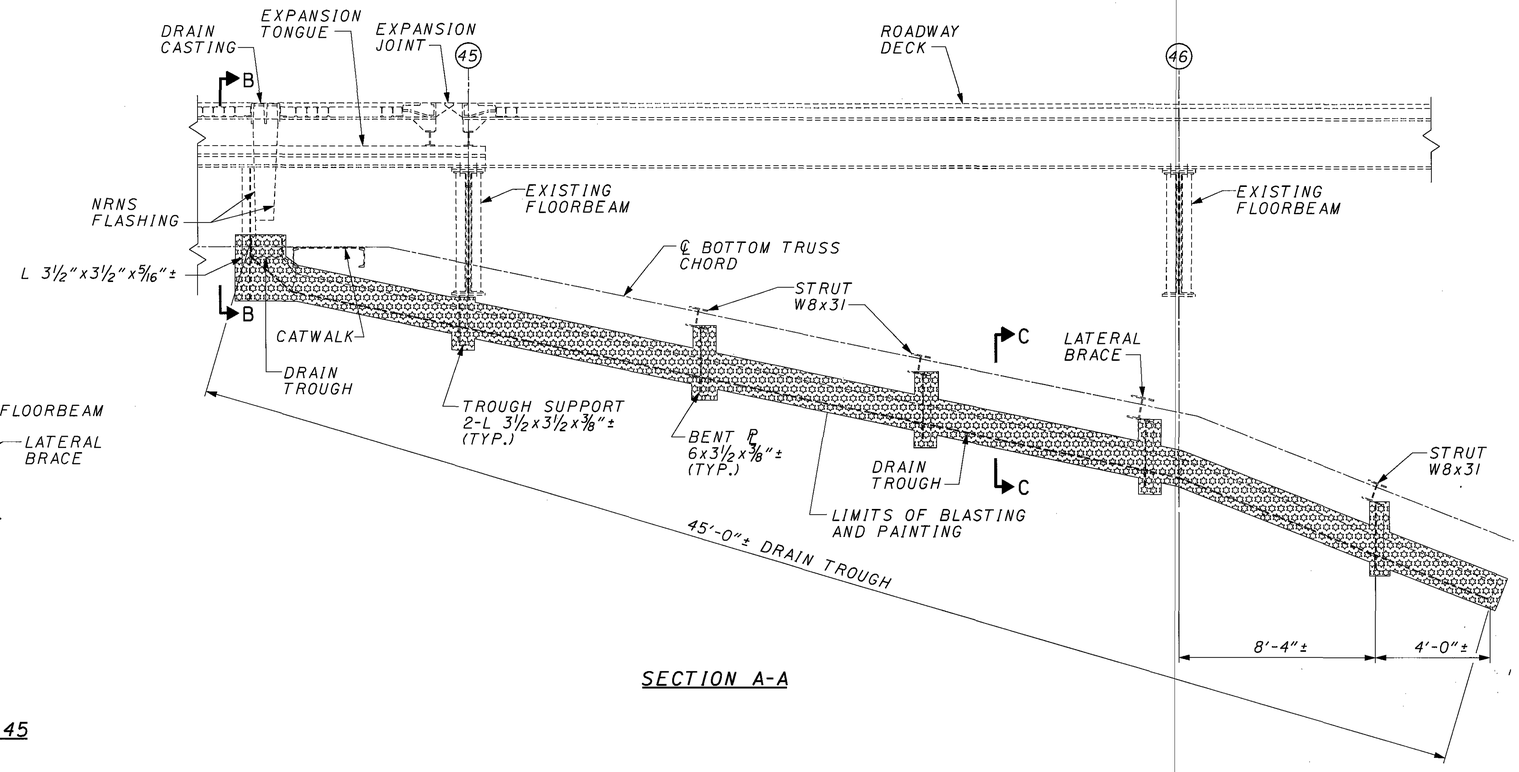
43/62

72/91

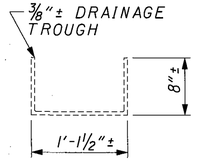
98076RD04.DGN 02/08/06 SJK,BH



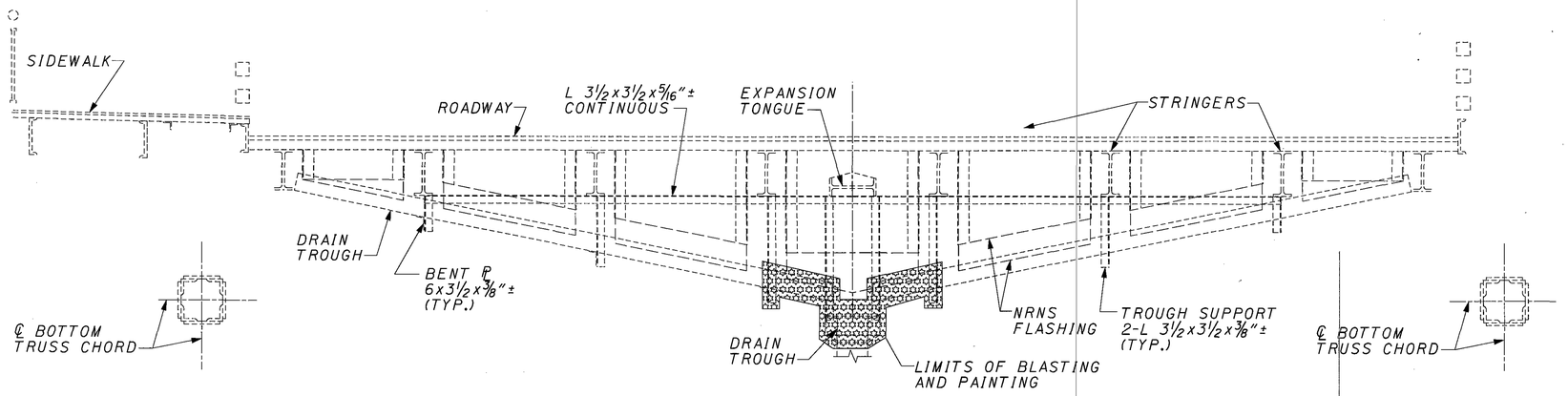
PARTIAL FRAMING PLAN AT PANEL 45



SECTION A-A



SECTION C-C



SECTION B-B

ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN
ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN
ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

NOTES

STEEL MEMBERS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

SURFACE PREPARATION, PAINTING AND CAULKING LIMITS ARE NEW UNLESS OTHERWISE NOTED

PAINTING LEGEND: SEE SHEET 37/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

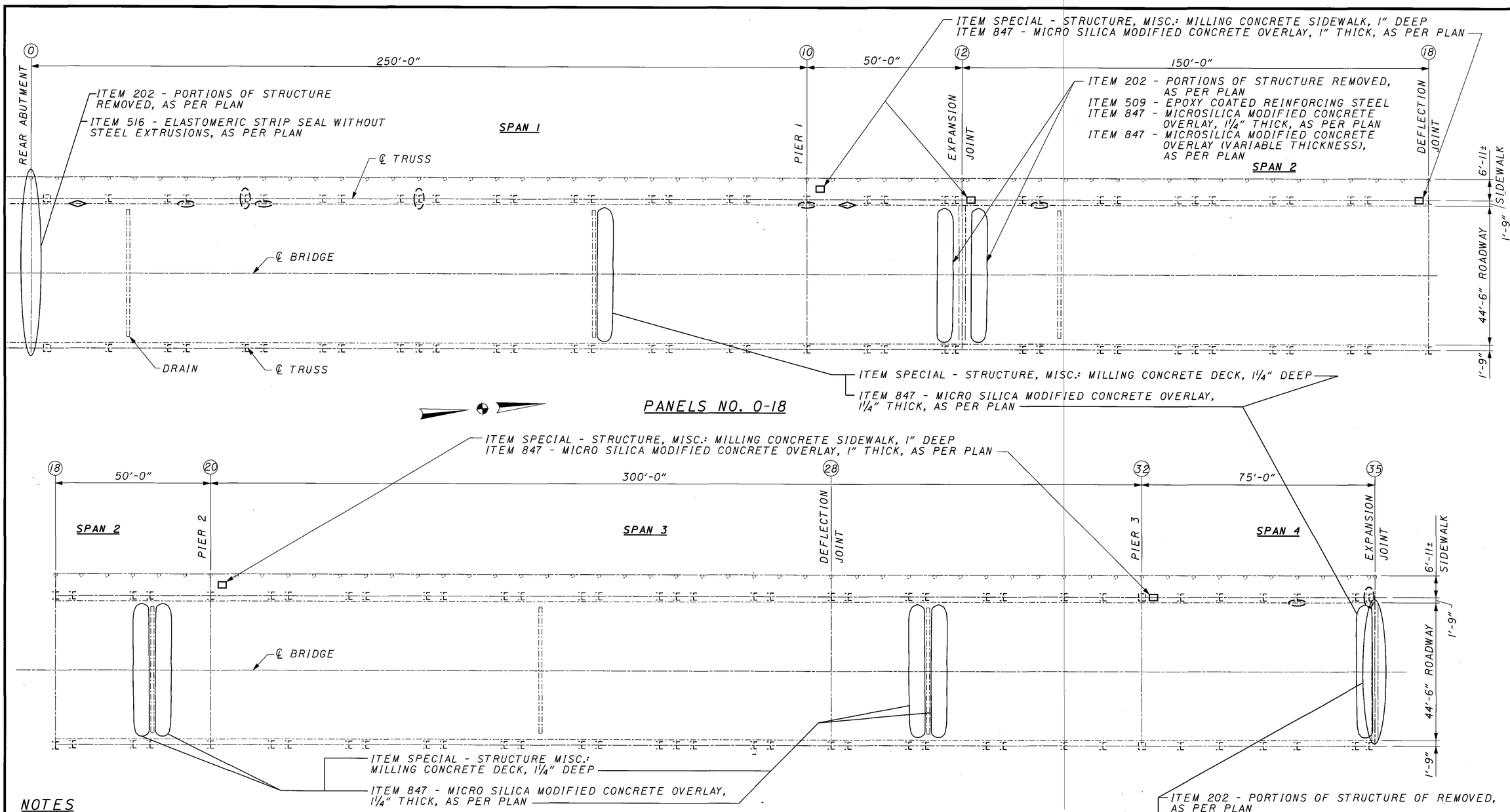
STRUCTURE PAINTING - 8
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

44 / 62

73 / 91

98076RDI0.DGN 2/08/06 TWH,BH



NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

TRANSVERSE SECTION: SEE SHEET 2/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE SHEET 3/62, 47/62, 48/62, 56/62, 57/62, 60/62 AND 61/62

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: ETHYLENE VINYL ACETATE CENTERING BLOCKS SEE SHEET 6/62 AND 57/62

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN SEE SHEET 6/62, 56/62 AND 57/62

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE DECK, 1¼" DEEP SEE SHEET 2/62, 8/62 AND 58/62

ITEM SPECIAL - STRUCTURE, MISC.: CAULKING OPEN BOLT HOLES SEE SHEET 7/62 AND 61/62

ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS SEE SHEET 4/62 AND 49/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1¼" THICK, AS PER PLAN SEE SHEET 2/62, 8/62, 58/62 AND 60/62

ITEM 513 - STRUCTURAL STEEL, MISC. MISSING RIVET REPLACEMENT WITH BOLT SEE SHEET 2/62, 4/62, 47/62 AND 48/62

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE DECK, 1" DEEP SEE SHEET 2/62, 8/62, 58/62 AND 62/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1" THICK, AS PER PLAN SEE SHEET 2/62, 8/62 AND 58/62

ITEM 847 - MICROSILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN SEE SHEET 2/62, 8/62 AND 60/62

ITEM 507 - EPOXY COATED REINFORCING STEEL SEE SHEET 60/62

LEGEND

( ) - ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT (TRUSS VERTICAL OR DIAGONAL AT ROADWAY/ SIDEWALK LEVEL

⌓ - ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS

◇ - ITEM SPECIAL - STRUCTURE, MISC.: CAULKING OPEN BOLT HOLES (ROADWAY CURB)

SEE TABLE, SHEET 48/62 FOR EAST CHORD RIVET REPLACEMENT

98076SP.DGN 02/14/06 SJK,MLB

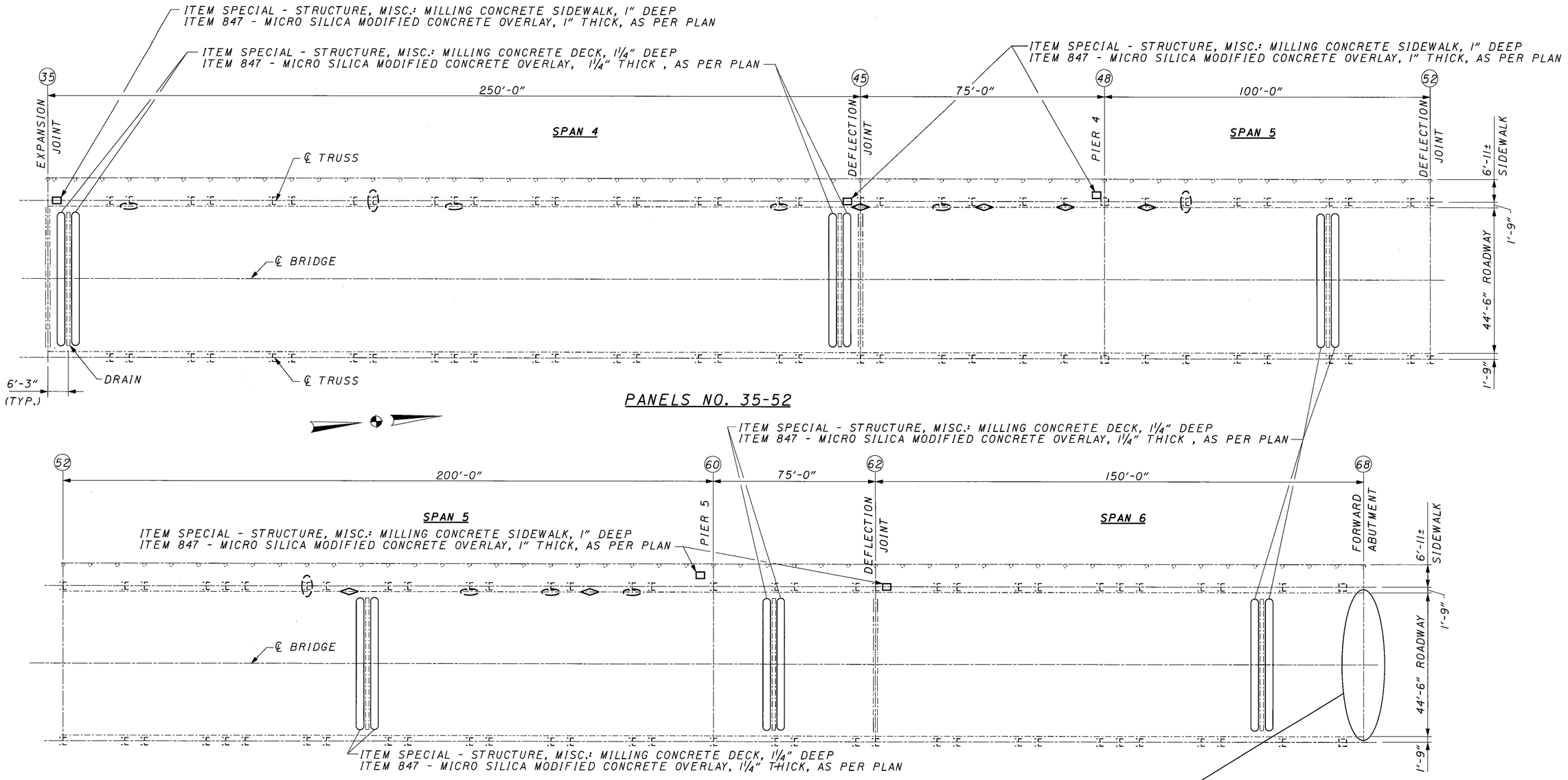
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN TWH | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

DECK PLAN - 1

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226



LEGEND

- ⬯ - ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT (TRUSS VERTICAL OR DIAGONAL AT ROADWAY/ SIDEWALK LEVEL
- ⬭ - ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS
- ◇ - ITEM SPECIAL - STRUCTURE, MISC.: CAULKING OPEN BOLT HOLES (ROADWAY CURB)

SEE TABLE, SHEET 48/62 FOR EAST CHORD RIVET REPLACEMENT

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

TRANSVERSE SECTION: SEE SHEET 2/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE SHEET 3/62, 47/62, 48/62, 57/62 AND 61/62

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: ETHYLENE VINYL ACETATE CENTERING BLOCKS SEE SHEET 6/62 AND 57/62

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN SEE SHEET 6/62, 56/62 AND 57/62

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE DECK, 1 1/4" DEEP SEE SHEET 2/62, 8/62 AND 58/62

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP SEE SHEET 2/62, 8/62, 58/62 AND 62/62

ITEM SPECIAL - STRUCTURE MISC.: CAULKING OPEN BOLT HOLES SEE SHEET 7/62 AND 61/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1 1/4" THICK, AS PER PLAN SEE SHEET 2/62, 8/62 AND 58/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1" THICK, AS PER PLAN SEE SHEET 2/62, 8/62 AND 58/62

ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT SEE SHEET 2/62, 4/62, 47/62 AND 48/62

ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS SEE SHEET 4/62 AND 49/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

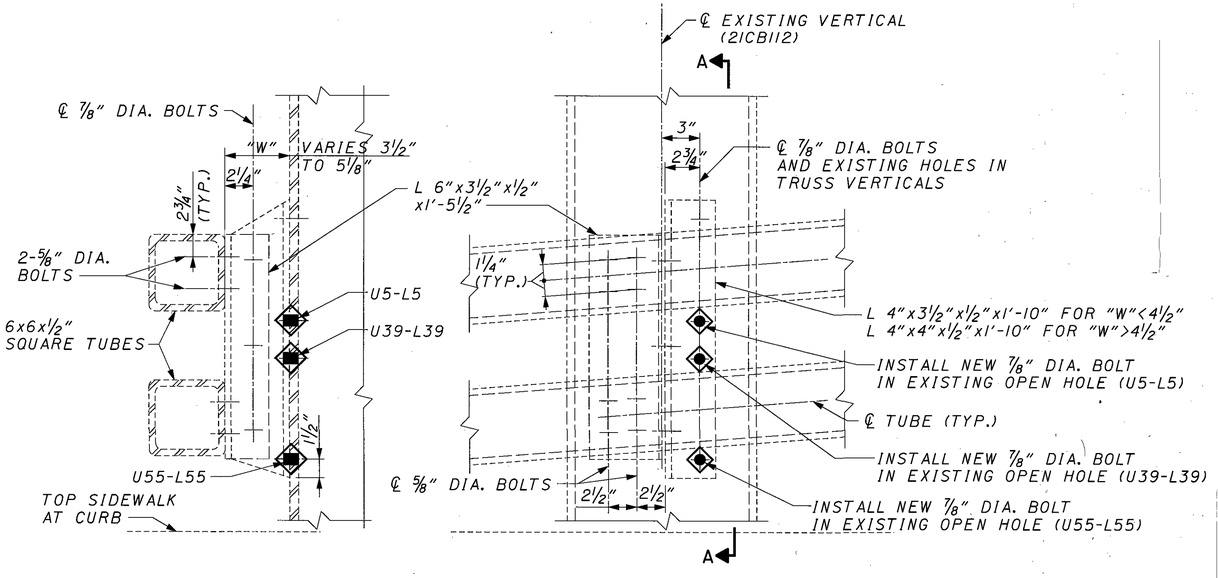
DESIGNED KAK | DRAWN TWH | CHECKED BLN | REVISED | REVIEWED DAP | DATE 2/13/06 | STRUCTURE FILE NUMBER 4707443

DECK PLAN - 2

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

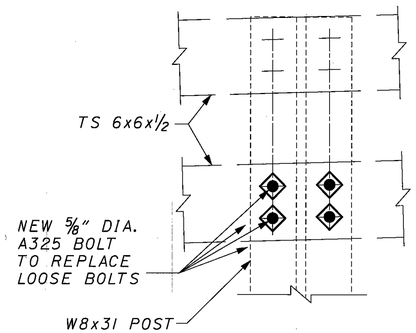
LOR-611-3.58
PID 21226

980765P.DGN 02/14/06 SJK,MLB

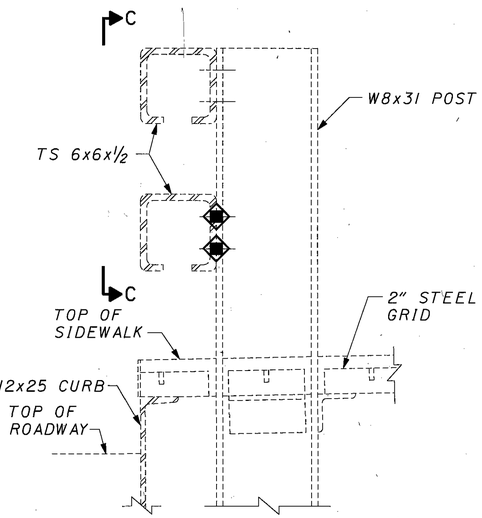


SECTION A-A ELEVATION

RAILING SUPPORT - WEST TRUSS VERTICALS U5-L5, U39-L39 & U55-L55

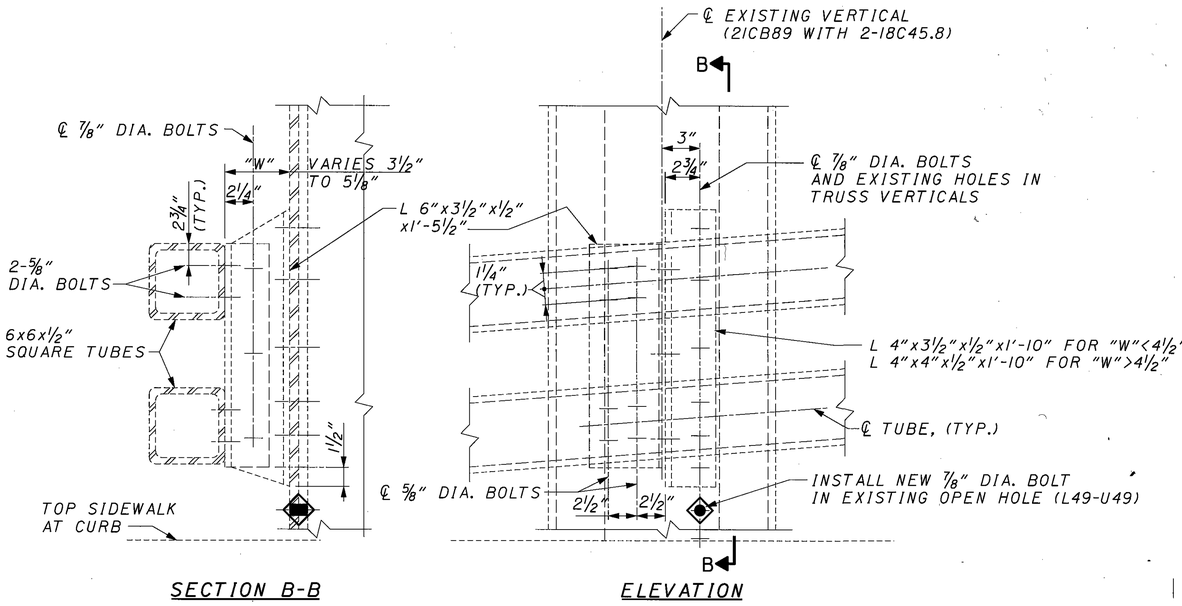


VIEW C-C



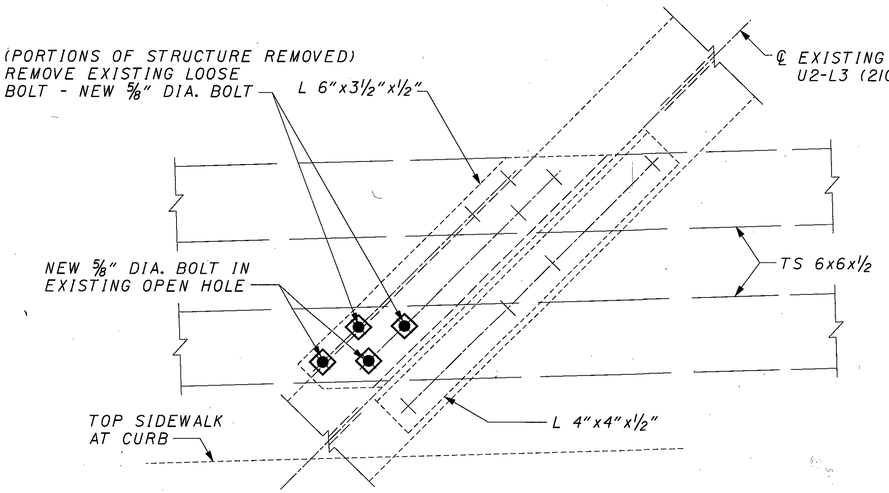
SECTION

RAILING SUPPORT AT PANEL POINT 35 - WEST TRUSS



SECTION B-B ELEVATION

RAILING SUPPORT - WEST TRUSS VERTICAL L49-U49



RAILING SUPPORT - WEST TRUSS DIAGONAL U2-L3

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 513 - STRUCTURAL STEEL, MISC.; MISSING RIVET REPLACEMENT WITH BOLT

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

BOLT LEGEND SEE SHEET 9/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE GENERAL NOTE SHEET 3/62

ITEM 513 - STRUCTURE STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT SEE GENERAL NOTE SHEET 4/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN JLS | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

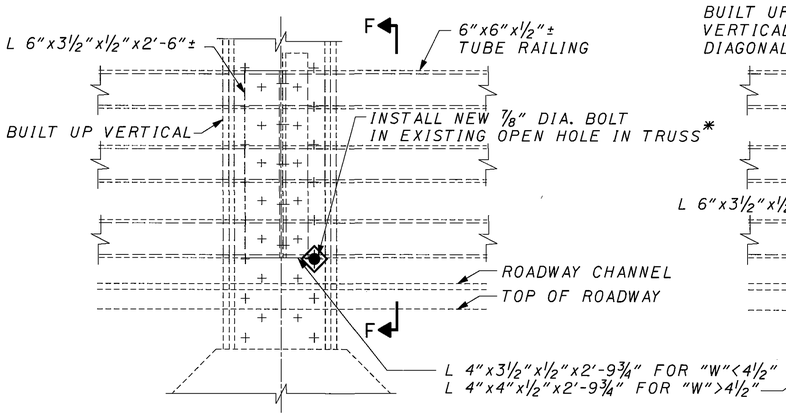
ROADWAY RAILING REPAIRS
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

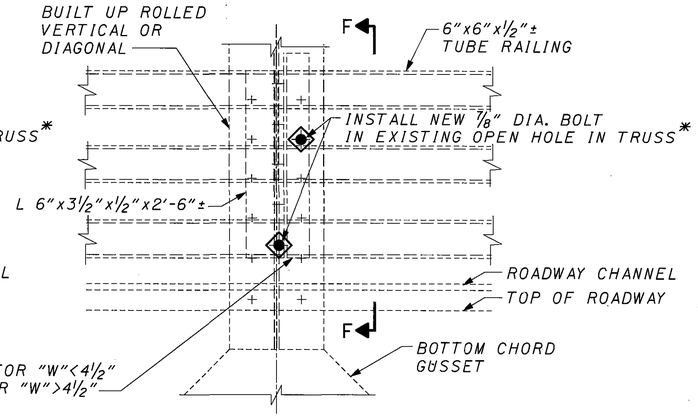
47/62

76/91

98076RR.DGN 02/14/06 SJK,BH,TWH,MLB



ELEVATION
BOX SECTION

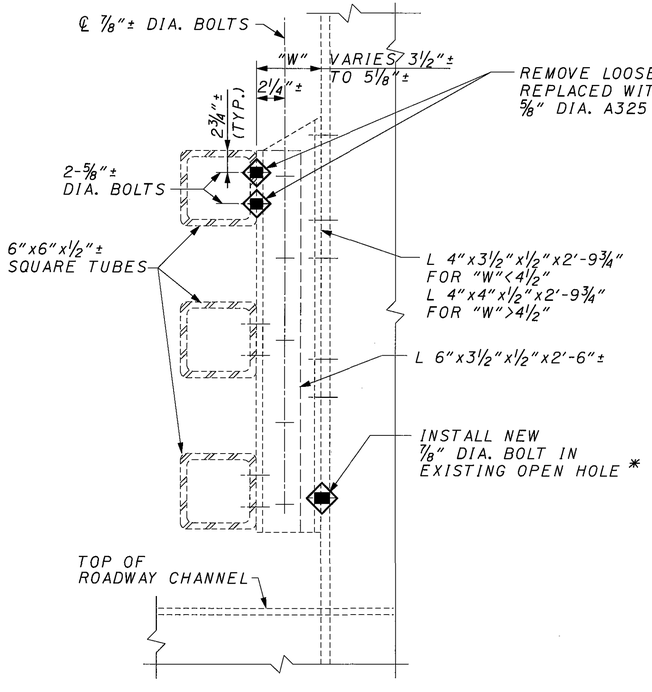


ELEVATION
ROLLED SECTION

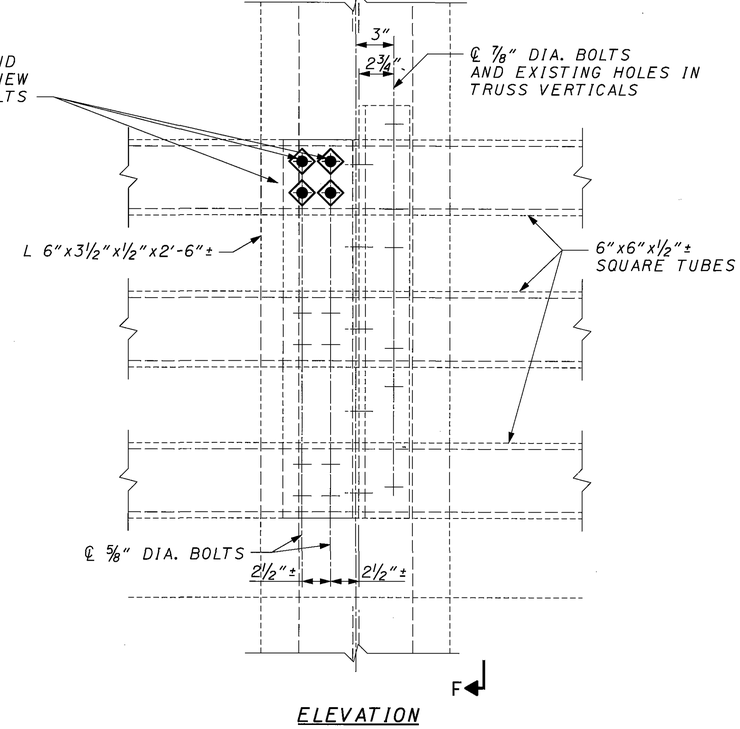
MISSING STITCH RIVET LOCATION IN VERTICALS AND DIAGONALS OF EAST TRUSS ALONG ROADWAY RAILINGS

(VERTICALS SHOWN, DIAGONALS SIMILAR)

* MISSING STITCH RIVET LOCATION IS APPROXIMATE. HOLES ARE LOCATED NEAR TOP OF ROADWAY LEVEL. SEE TABLE FOR NUMBER OF BOLTS REQUIRED AT EACH MEMBER.



SECTION F-F



ELEVATION

RAILING BOLT REPLACEMENT L43-U43 (EAST TRUSS)

EAST CHORD RAILING BOLTS					
MEMBER	MEMBER TYPE	OPEN HOLES FILLED WITH NEW BOLT	MEMBER	MEMBER TYPE	OPEN HOLES FILLED WITH NEW BOLT
L0-U1	DIAGONAL	6	L37-U37	VERTICAL	6
L4-U3	DIAGONAL	4	L38-U37	DIAGONAL	4
L5-U4	DIAGONAL	4	L38-U38	VERTICAL	6
L7-U8	DIAGONAL	4	L39-U38	DIAGONAL	4
L7-U7	VERTICAL	6	L39-U39	VERTICAL	6
L8-U9	DIAGONAL	4	L40-U39	DIAGONAL	4
L8-U8	VERTICAL	6	L40-U41	DIAGONAL	4
L9-U10	DIAGONAL	4	L41-U41	VERTICAL	6
L9-U9	VERTICAL	4	L41-U42	DIAGONAL	4
L10-U10	VERTICAL	9 *	L42-U42	VERTICAL	6
L11-U10	DIAGONAL	4	L42-U43	DIAGONAL	4
L11-U11	VERTICAL	4	L43-U43	VERTICAL	10 ⊕
L12-U11	DIAGONAL	8	L43-U44	DIAGONAL	4
L12-U12	VERTICAL	6	L44-U44	VERTICAL	6
L15-U14	DIAGONAL	4	L44-U45	DIAGONAL	4
L15-U16	DIAGONAL	5	L45-U45	VERTICAL	6
L18-U18	VERTICAL	4	L45-U46	DIAGONAL	4
L19-U19	VERTICAL	4	L46-U46	VERTICAL	4
L19-U20	DIAGONAL	4	L46-U47	DIAGONAL	4
L20-U20	VERTICAL	11	L47-U47	VERTICAL	4
L21-U20	DIAGONAL	4	L48-U48	VERTICAL	4
L21-U21	VERTICAL	6	L49-U48	DIAGONAL	4
L22-U21	DIAGONAL	4	L49-U49	VERTICAL	4
L22-U22	VERTICAL	6	L50-U50	VERTICAL	4
L25-U24	DIAGONAL	4	L51-U50	DIAGONAL	4
L26-U25	DIAGONAL	4	L51-U51	VERTICAL	6
L28-U28	VERTICAL	4	L52-U52	VERTICAL	6
L29-U29	VERTICAL	4	L54-U55	DIAGONAL	4
L29-U30	DIAGONAL	4	L55-U56	DIAGONAL	4
L30-U30	VERTICAL	4	L58-U58	VERTICAL	6
L31-U31	VERTICAL	4	L58-U59	DIAGONAL	4 *
L31-U32	DIAGONAL	4	L59-U59	VERTICAL	6
L32-U32	VERTICAL	4	L59-U60	DIAGONAL	4
L33-U33	VERTICAL	4	L60-U60	VERTICAL	8
L34-U33	DIAGONAL	4	L61-U60	DIAGONAL	4
L34-U34	VERTICAL	4	L61-U61	VERTICAL	6
L35-U34	DIAGONAL	4	L62-U62	VERTICAL	6
L35-U35	VERTICAL	4	L65-U64	DIAGONAL	4
L36-U35	DIAGONAL	4	L65-U66	DIAGONAL	4
L36-U36	VERTICAL	6	L67-U68	DIAGONAL	5
L37-U36	DIAGONAL	4	TOTAL		392

* - 1 HOLE HAS A RIVET HEAD IN IT (TO BE REMOVED)
⊕ - 4 RAILING BOLTS ARE LOOSE (SEE DETAIL THIS SHEET)

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

BOLT LEGEND SEE SHEET 9/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE GENERAL NOTE SHEET 3/62

ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT SEE GENERAL NOTE SHEET 4/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 513 - STRUCTURAL STEEL, MISC.: MISSING RIVET REPLACEMENT WITH BOLT

98076RDB.DGN 02/14/06 SJK,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

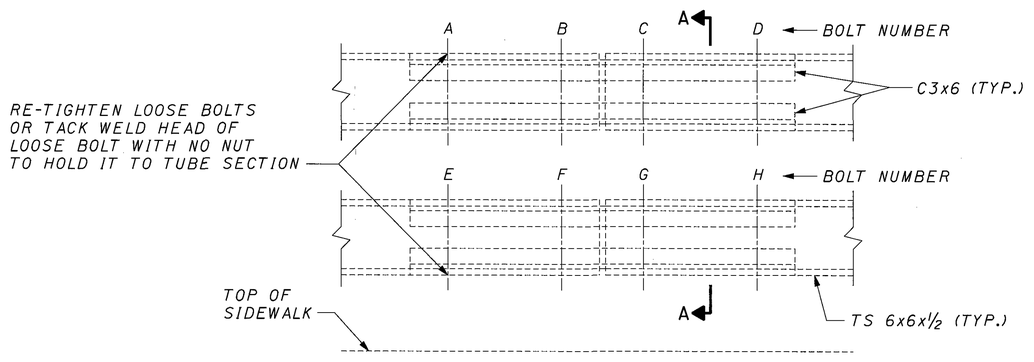
DESIGNED KAK | DRAWN JLS | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

ROADWAY RAILING REPAIRS - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

48/62

77/91



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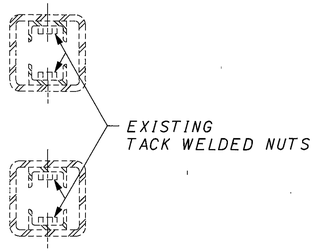


SECTION A-A

BOLTS SHALL BE 5/8" DIA. A325 WITH WASHER, UNLESS NOTED.

WEST ROADWAY RAILING BOLT REPAIRS									
PANEL NUMBER	TYPE OF REPAIR	BOLT NUMBER							
		A	B	C	D	E	F	G	H
2	RE-TIGHTEN					X	X		
3	RE-TIGHTEN			X	X	X	X		
10	RE-TIGHTEN	X							
13	RE-TIGHTEN				X				
34	RE-TIGHTEN			X					
36	TACK WELD		X						
40	RE-TIGHTEN				X				
44	RE-TIGHTEN			X	X				
46	RE-TIGHTEN				X				
57	RE-TIGHTEN	X							
58	RE-TIGHTEN								X
59	RE-TIGHTEN			X					

WEST ROADWAY RAILING SPLICE DETAIL

ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

BOLT LEGEND SEE SHEET 9/62

ITEM 513 - STRUCTURAL STEEL, MISC.: WEST ROADWAY RAILING BOLT REPAIRS
SEE GENERAL NOTE SHEET 4/62

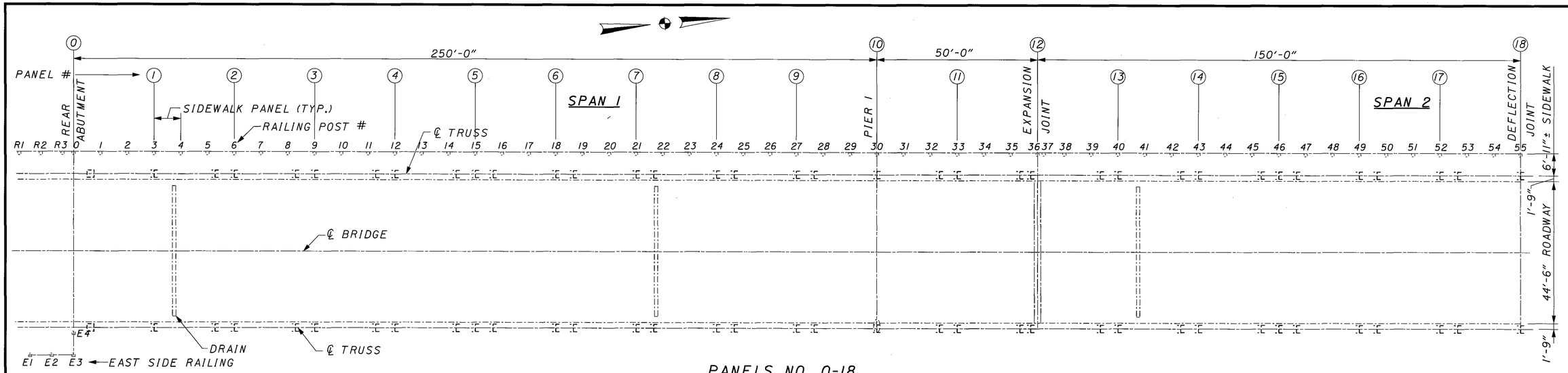
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN JLS | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

ROADWAY RAILING REPAIRS - 3
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

98076RR.DGN 8/25/04 SJK



PANELS NO. 0-18

WEST PEDESTRIAN RAILING REPAIR DETAILS

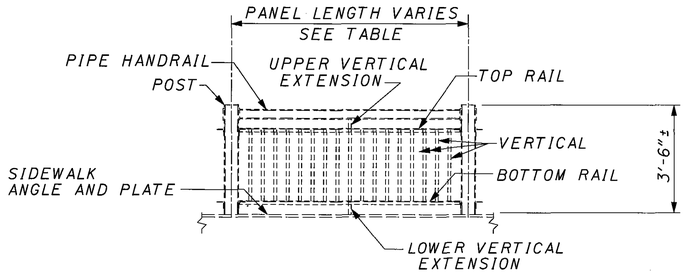
POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
R1	A								6.75
R2	A						E		6.75
R3	A								3.42
0	A						E		8.33
1	A	D	G	2	H		1		8.33
2	A	D							8.33
3	A			1			1	F	8.33
4	A			2			1		8.33
5	A			3					8.33
6	A	D					1		8.33
7	A	D	G	5			1		8.33
8	A	D		6					8.33
9	A			1		J			8.33
10	A			5		J	E		8.33
11	A	D		5			E		8.33
12	A	D		7					8.33
13	A	D		6					8.33
14	A			5					8.33
15	A			7			1		8.33
16	A	D		3			1		8.33
17	A			3					8.33
18	A			5			1		8.33
19									8.33
20			G	1		J			8.33
21	A			3			1		8.33
22		D		5			1		8.33
23	A	D		3					8.33
24	A	D					1		8.33
25	A	D		1			1		8.33
26	A			2					8.33
27	A	D					E		8.33
28	A	D		1			E		8.33
29	A	D							8.33
30	A	D		1			1		8.33
31	A			1			1		8.33
32	A	D		1			1		8.33
33	A	D		1					8.33
34	A	D	G	1					8.33
35	A						1	F	8.33
36	A							F	1.96

WEST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
37	A	D	G	1			1	F	6.38
38	A	D						F	8.33
39	A	D							8.33
40	A		G	3					8.33
41	A	D		4			1		8.33
42	A	D		K-9			1		8.33
43	A	D		3					8.33
44	A	D					1		8.33
45	A	D							8.33
46	A	D					1		8.33
47	A	D	G				1		8.33
48	A	D							8.33
49	A	D					1		8.33
50	A	D	G	4					8.33
51	A	D		1			E		8.33
52	A			1					8.33
53	A	D		2			1		8.33
54	A		G	6					8.33
55	A	D							8.33

EAST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
E1	M								6.75
E2	M								6.75
E3	M								6.83
E4	M								



TYPICAL RAILING POST & PANEL

① SINGLE NUMBER SHOWN INDICATES QUANTITY OF VERTICALS BETWEEN POSTS WITH SPOT LOCATION TO BE POWER TOOL CLEANED AND BRUSH PAINTED. INDIVIDUAL VERTICALS IN EACH PANEL SHALL BE IDENTIFIED BY THE ENGINEER PRIOR TO COMMENCEMENT OF REPAIRS.

② ALPHA- NUMERIC DESIGNATION (EXAMPLE: "K-9") INDICATES TYPE "K" REPAIR ON THE 9TH VERTICAL FROM THE REAR OF PANEL.

REPAIR DETAILS: A-H, J, M, N SEE SHEET 54/62
REPAIR DETAILS: I, K, L SEE SHEET 55/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

PLAN - 1

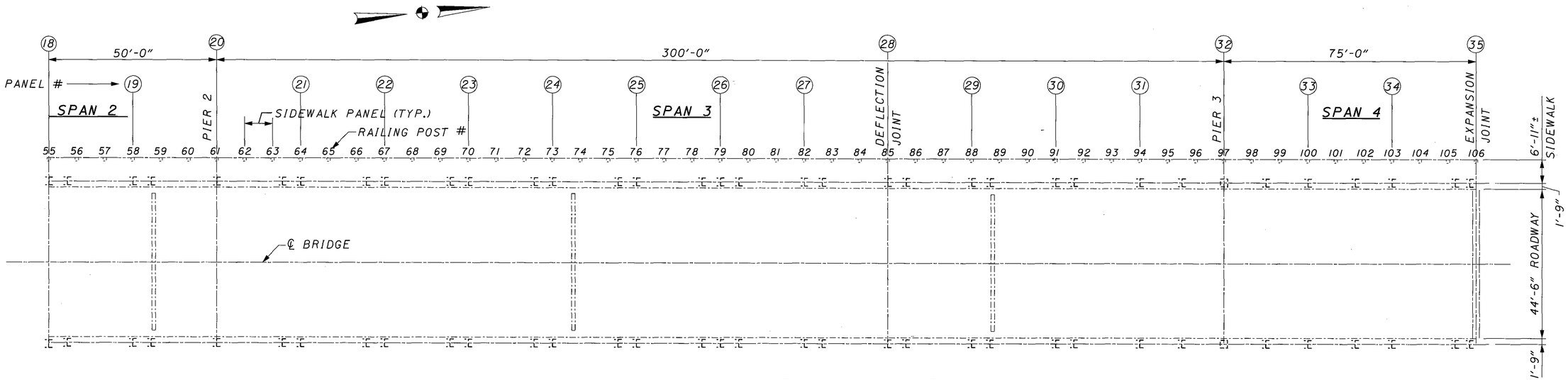
PEDESTRIAN RAILING PLAN
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

50/62

79/91

98076PR.DGN 2/06/06 SJK



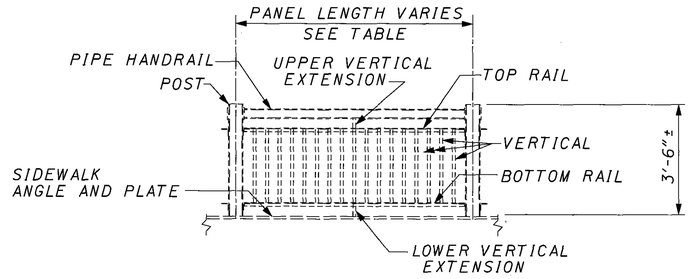
PANELS NO. 18-35

WEST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
56	A								
57	A	D					I	F	8.33
58	A	D							8.33
59	A						E		8.33
60	A						E		8.33
61	A	D						F	8.33
62	A								8.33
63		D		3					8.33
64	A			3					8.33
65	A			7				F	8.33
66	A			5			E		8.33
67	A								8.33
68	A			K-9			I		8.33
69	A	D	G	I					8.33
70	A	D							8.33
71	A		G	I			I		8.33
72	A			5,K-9	H		I		8.33
73	A	D					I	F	8.33
74	A	D		3			I	F	8.33
75	A				H			F	8.33
76	A					J	E	F	8.33
77	A			I				F	8.33
78	A			14				F	8.33
79	A	D						F	8.33
80	A	D					E		8.33
81	A			3			I		8.33
82	A	D		I					8.33
83	A	D	G	6	H			F	8.33
84	A	D		2			I	F	8.33
85	A			I			E	F	8.33
86	A	D		6				F	8.33
87	A	D		11				F	8.33
88	A			9				F	8.33
89	A			15				F	8.33
90	A			10				F	8.33
91	A			2				F	8.33
92	A	D		I				F	8.33
93	A	D						F	8.33
94	A							F	8.33
95	A						E	F	8.33
				I				F	8.33

WEST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
96	A								
97	A			3				F	8.33
98	A		G			J		F	8.33
99	A	D	G	I		J		F	8.33
100	A	D			H			F	8.33
101	A	D			H		E	F	8.33
102	A	D				J	E	F	8.33
103	A			2			E	F	8.33
104	A			8	H				8.33
105		D	G	12				F	8.33
106	A		G	8				F	8.33
							L	F	1.96



TYPICAL RAILING POST & PANEL

① SINGLE NUMBER SHOWN INDICATES QUANTITY OF VERTICALS BETWEEN POSTS WITH SPOT LOCATION TO BE POWER TOOL CLEANED AND BRUSH PAINTED. INDIVIDUAL VERTICALS IN EACH PANEL SHALL BE IDENTIFIED BY THE ENGINEER PRIOR TO COMMENCEMENT OF REPAIRS.

② ALPHA-NUMERIC DESIGNATION (EXAMPLE: "K-9") INDICATES TYPE "K" REPAIR ON THE 9TH VERTICAL FROM THE REAR OF PANEL.

REPAIR DETAILS: A-H, J, M, N SEE SHEET 54/62
REPAIR DETAILS: I, K, L SEE SHEET 55/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
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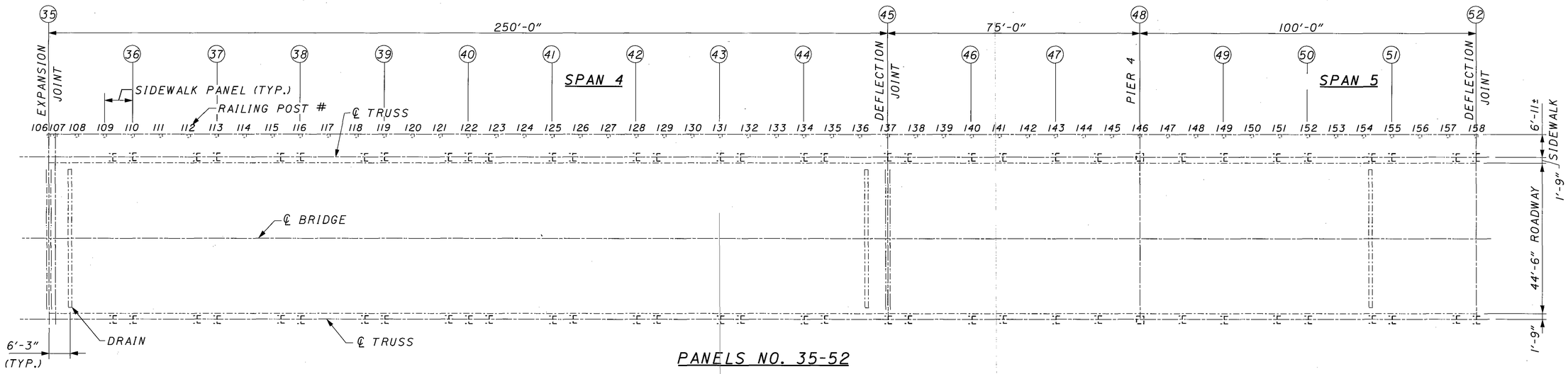
PEDESTRIAN RAILING PLAN - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

98076PR.DGN 1/31/06 SJK



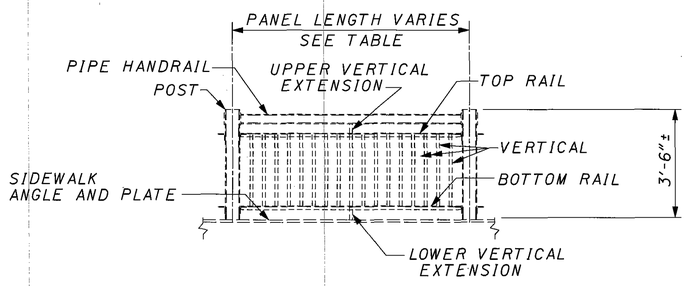
PANELS NO. 35-52

WEST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
107	A				H		E	F	6.38
108				10			E	F	8.33
109	A			11				F	8.33
110	A			2				F	8.33
111	A			2			E		8.33
112	A			2	H		E		8.33
113	A						E		8.33
114	A				H		E	F	8.33
115		D		1			E		8.33
116	A	D			H				8.33
117	A	D		1	H		E	F	8.33
118	A	D			H		1	F	8.33
119	A	D					E		8.33
120	A	D	G		H			F	8.33
121	A	D		8	H			F	8.33
122	A	D	G	1	H		E		8.33
123		D		4				F	8.33
124	A			10				F	8.33
125	A			2			1	F	8.33
126	A	D	G	4				F	8.33
127	A		G	1				F	8.33
128	A		G	2	H			F	8.33
129	A			9				F	8.33
130				8			E		8.33
131	A			6				F	8.33
132	A	D		6			E	F	8.33
133	A			1				F	8.33
134	A	D		3					8.33
135	A			1	H		E	F	8.33
136	A	D	G	9				F	8.33
137	A	D		8					8.33
138	A		G	5					8.33
139	A	D	G	3			E		8.33
140	A	D		2	H		E		8.33
141	A	D	G	6				F	8.33
142	A			3		J			8.33
143	A	D					E	F	8.33
144	A						E	F	8.33
145	A	D	G	2			1	F	8.33
146	A	D	G			J		F	8.33

WEST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
147	A	D		6					8.33
148	A						1	F	8.33
149	A						E	F	8.33
150	A	D							8.33
151	A			2	H			F	8.33
152	A			1				F	8.33
153	A			1				F	8.33
154	A			4,K-9			E	F	8.33
155	A	D					E	F	8.33
156	A	D		5				F	8.33
157	A			6			E	F	8.33
158	A	D		3	H			F	8.33
		D						F	8.33



TYPICAL RAILING POST & PANEL

① SINGLE NUMBER SHOWN INDICATES QUANTITY OF VERTICALS BETWEEN POSTS WITH SPOT LOCATION TO BE POWER TOOL CLEANED AND BRUSH PAINTED. INDIVIDUAL VERTICALS IN EACH PANEL SHALL BE IDENTIFIED BY THE ENGINEER PRIOR TO COMMENCEMENT OF REPAIRS.

② ALPHA-NUMERIC DESIGNATION (EXAMPLE: "K-9") INDICATES TYPE "K" REPAIR ON THE 9TH VERTICAL FROM THE REAR OF PANEL.

REPAIR DETAILS: A-H, J, M, N SEE SHEET 54/62
REPAIR DETAILS: I, K, L SEE SHEET 55/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	TWH	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

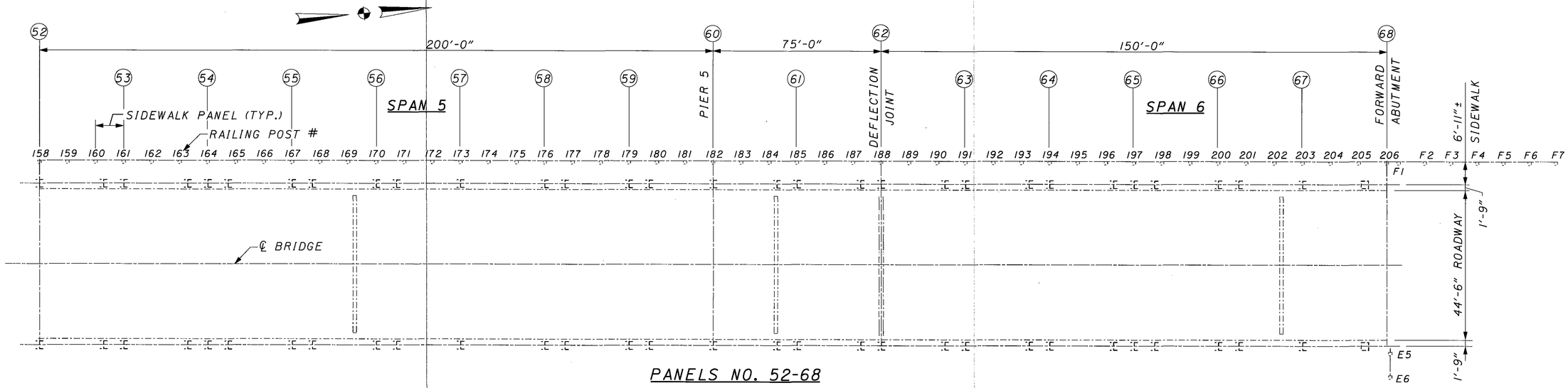
PEDESTRIAN RAILING PLAN - 3

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

52/62
81/91

98076PR.DGN 1/31/06 SJK



PANELS NO. 52-68

WEST PEDESTRIAN RAILING REPAIR DETAILS

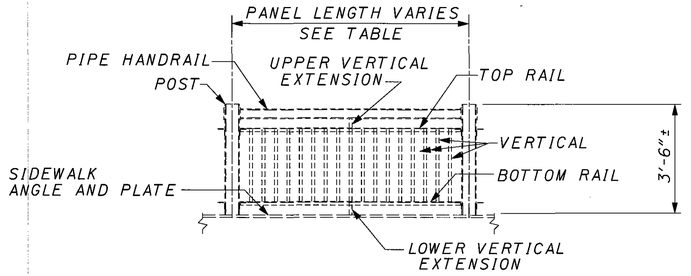
POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
159	A	D		13			E	F	8.33
160	A	D	G	2			I	F	8.33
161	A	D	G	5		J		F	8.33
162	A	D	G	I		J	E	F	8.33
163	A	D	G				E	F	8.33
164	A		G	2				F	8.33
165	A	D		I			E	F	8.33
166	A	D	G				E	F	8.33
167	A	D		I			E	F	8.33
168	A	D	G						8.33
169	A			I		J	E	F	8.33
170	A			4	H			F	8.33
171	A	D	G	2			E	F	8.33
172	A	D		2			E	F	8.33
173	A	D		7	H			F	8.33
174	A	D		4			E	F	8.33
175	A	D	G	2					8.33
176	A		G	2			E		8.33
177				8				F	8.33
178	A			I	H			F	8.33
179	A			I				F	8.33
180	A	D	G	2				F	8.33
181	A			4				F	8.33
182	A			4			E	F	8.33
183	A			2			E	F	8.33
184	A			3	H			F	8.33
185	A							F	8.33
186	A				H		E	F	8.33
187	A			I		J	E		8.33
188	A			2					8.33
189	A		G	2				F	8.33
190	A		G	3			E	F	8.33
191	A	D	G	4	H		E	F	8.33
192	A	D	G	5			E	F	8.33
193	A	D		I			E	F	8.33
194	A			6			E		8.33
195	A			3			I	F	8.33
196	A			5	H		E	F	8.33
197	A			5	H		E	F	8.33
198	A			4			I	F	8.33

WEST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
199	A			2				F	8.33
200	A			3	H			F	8.33
201	A			4			E	F	8.33
202	A	D	G	5	H		E	F	8.33
203	A	D		3			E		8.33
204	A		G	2				F	8.33
205	A		G	2			E	F	8.33
206	A	D		3		J(1OF3)	E(2)	F	3.50
F1	C	B	B	B	B	B	B		7.75
F2	C	B	B	B	B	B	B		7.75
F3	C	B	B	B	B	B	B		7.75
F4	C	B	B	B	B	B	B		7.75
F5	C	B	B	B	B	B	B		7.75
F6	C	B	B	B	B	B	B		7.75
F7	C	B	B	B	B	B	B		7.75

EAST PEDESTRIAN RAILING REPAIR DETAILS

POST NO.	POST	PIPE HANDRAIL	TOP RAIL	VERTICAL ①②	BOTTOM RAIL	UPPER VERTICAL EXTENSION	LOWER VERTICAL EXTENSION	SIDEWALK PLATE	PANEL LENGTH (FT.)
E5	N								6.92
E6	M								



TYPICAL RAILING POST & PANEL

① SINGLE NUMBER SHOWN INDICATES QUANTITY OF VERTICALS BETWEEN POSTS WITH SPOT LOCATION TO BE POWER TOOL CLEANED AND BRUSH PAINTED. INDIVIDUAL VERTICALS IN EACH PANEL SHALL BE IDENTIFIED BY THE ENGINEER PRIOR TO COMMENCEMENT OF REPAIRS.

② ALPHA-NUMERIC DESIGNATION (EXAMPLE: "K-9") INDICATES TYPE "K" REPAIR ON THE 9TH VERTICAL FROM THE REAR OF PANEL.

REPAIR DETAILS: A-H, J, M, N SEE SHEET 54/62
REPAIR DETAILS: I, K, L SEE SHEET 55/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

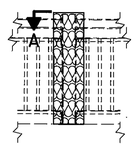
DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

PEDESTRIAN RAILING PLAN - 4

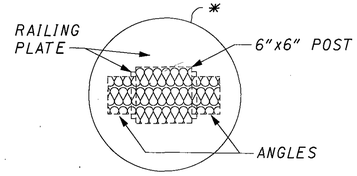
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

98076PR.DGN 1/31/06 SJK

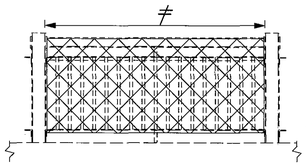


DETAIL A



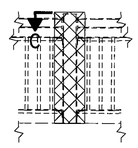
SECTION A

PAY QUANTITY = 5.4 S.F./POST

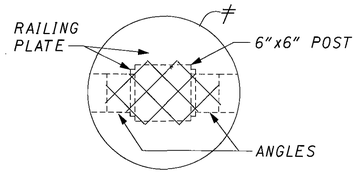


DETAIL B

PANEL LENGTH = 7'-9" PAY QUANTITY= 36 S.F.

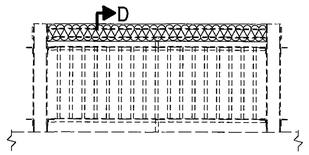


DETAIL C

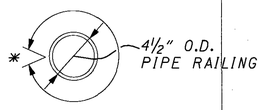


SECTION C

PAY QUANTITY = 5.4 S.F./POST

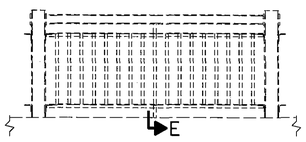


DETAIL D

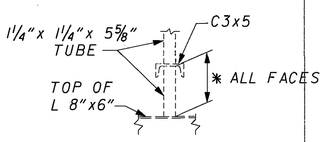


SECTION D

PANEL LENGTH = 8'-4" PAY QUANTITY = 9.2 S.F.
PANEL LENGTH = 6'-4½" PAY QUANTITY = 6.9 S.F.
PANEL LENGTH = 3'-6" PAY QUANTITY = 3.8 S.F.

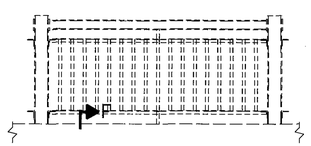


DETAIL E

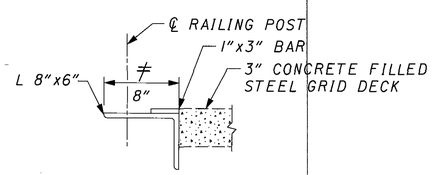


SECTION E

PAY QUANTITY = 0.2 S.F./TUBE

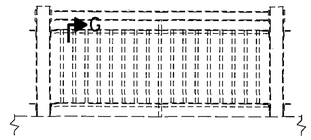


DETAIL F

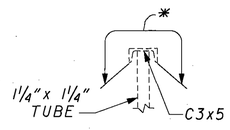


SECTION F

PANEL LENGTH = 8'-4" PAY QUANTITY = 5.6 S.F.
PANEL LENGTH = 6'-4½" PAY QUANTITY = 4.2 S.F.
PANEL LENGTH = 1'-11½" PAY QUANTITY = 1.3 S.F.
PANEL LENGTH = 3'-6" PAY QUANTITY = 2.3 S.F.

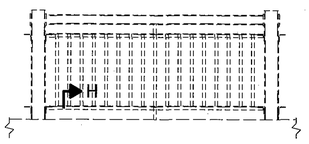


DETAIL G

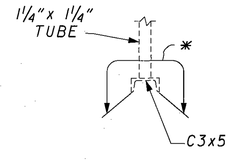


SECTION G

PANEL LENGTH = 8'-4" PAY QUANTITY = 3.7 S.F.
PANEL LENGTH = 6'-4½" PAY QUANTITY = 2.9 S.F.

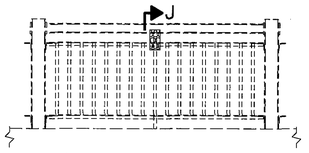


DETAIL H

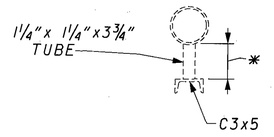


SECTION H

PANEL LENGTH = 8'-4" PAY QUANTITY = 3.7 S.F.

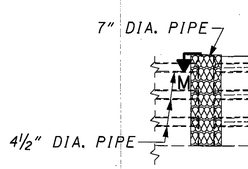


DETAIL J

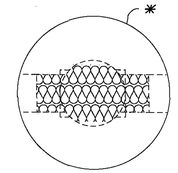


SECTION J

PAY QUANTITY = 0.1 S.F.

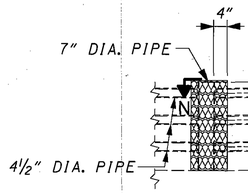


DETAIL M

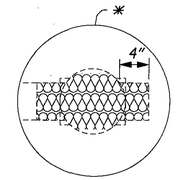


SECTION M

PAY QUANTITY = 6.1 S.F.



DETAIL N



SECTION N

PAY QUANTITY = 7.3 S.F.

PEDESTRIAN RAILING CLEANING AND PAINTING NOTATION & PAYMENT

≠ AND ▨ INDICATES ITEMS FOR BLAST CLEANING & PAINTING. INCLUDE FOR PAYMENT WITH:
- ITEM 514 - SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN - SQ FT

* OR ▨ INDICATES ITEMS FOR POWER TOOL CLEANING AND PAINTING. INCLUDE FOR PAYMENT WITH:
- ITEM 514 - FIELD PAINTING, MISC.: POWER TOOL CLEANING OF PEDESTRIAN RAILING - SQ FT
- ITEM 514 - FIELD PAINTING, MISC.: BRUSH APPLIED ALUMINUM EPOXY MASTIC PRIME ON PEDESTRIAN RAILING - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN - SQ FT
- ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN - SQ FT

S.F. - SQUARE FEET
L.F. - LINEAR FEET
U.N.O. - UNLESS NOTED OTHERWISE

NOTES

REPAIR DETAILS CONTINUED TO SHEET 55/62

ALL PEDESTRIAN RAILING SHALL BE CLEANED & FINISH COAT PAINTED. AREAS OF THE RAILING NOT DESCRIBED AND PAID FOR ABOVE SHALL BE INCLUDED FOR PAYMENT WITH:

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL, SOLVENT CLEAN, SYSTEM OZEU - SQ FT
ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING, STRUCTURAL STEEL, TOP FINISH COAT - SQ FT

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

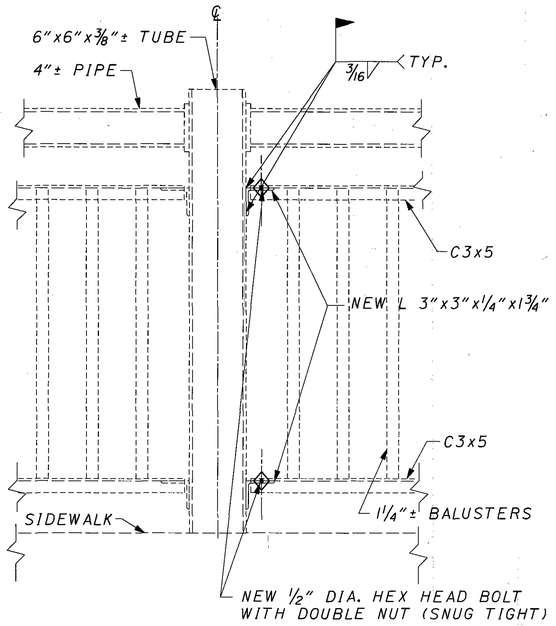
DESIGNED KAK | DRAWN TWH | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

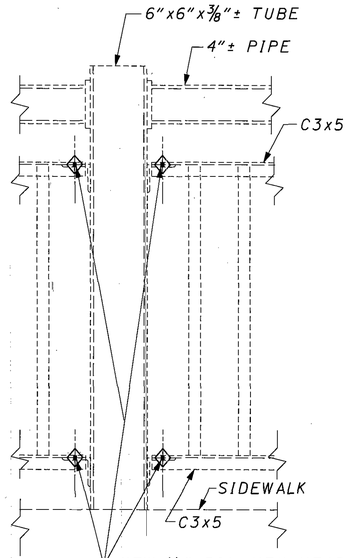
PEDESTRIAN RAILING PAINTING DETAILS

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

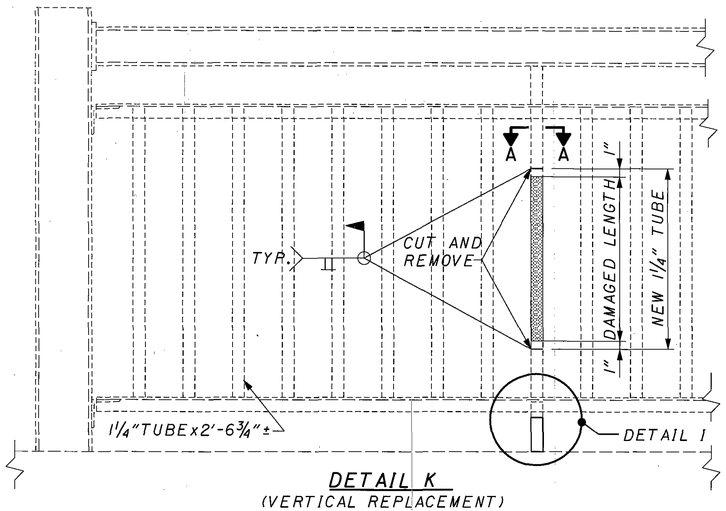
LOR-611-3.58
PID 21226

98076RD.DGN 03/24/06 SJK,MLB,HN



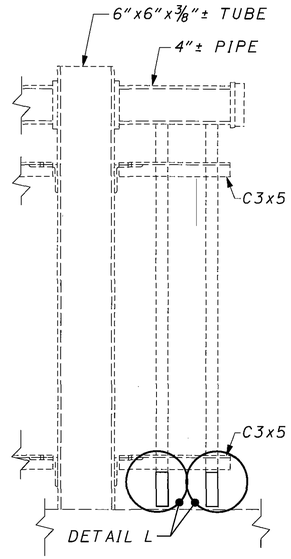


ELEVATIONS

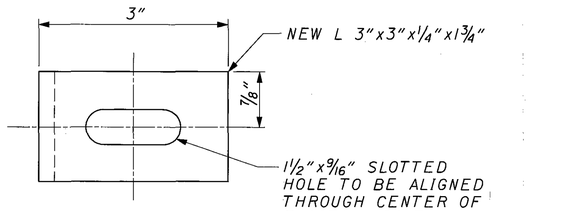


DETAIL K
(VERTICAL REPLACEMENT)

DETAIL I
(LOWER VERTICAL EXTENSION REPLACEMENT)



DETAIL L
(LOWER VERTICAL EXTENSION REPLACEMENT)



NEW ANGLE TOP LEG

REPAIR PROCEDURE

1. TEMPORARILY SUPPORT RAILING AT END TO BE REPAIRED
2. REMOVE EXISTING L 2"x2"x1/4"x1 3/4"
3. GRIND SMOOTH ANY WELD MATERIAL REMAINING ON POST.
4. REPLACE WITH L 3"x3"x1/4"x1 3/4"

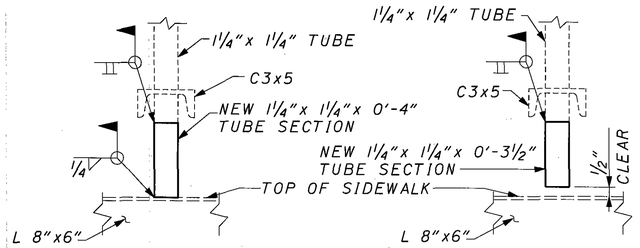
PANEL 18 REPAIRS

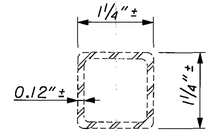
PEDESTRIAN RAILING BOLT REPLACEMENT

TRUSS PANEL POINT	POST NUMBER	NEW BOLTS REQUIRED	BOLT LOCATION			
			TOP LEFT	BOTTOM LEFT	TOP RIGHT	BOTTOM RIGHT
1	3	2			X	X
4	12	2			X	X
5	15	2			X	X
9	27	2			X	X
10	30	1			X	
16	49	2			X	X
17	52	1				X
18	55	2			X	X
20	61	2			X	X
23	70	1			X	
25	76	2			X	X
28	85	1			X	
32	97	1			X	
33	100	1				X
34	103	1			X	
37	113	1			X	
38	116	1			X	
39	119	1			X	
41	125	1	X			
44	134	2	X	X		
45	137	2	X	X		
46	140	2	X	X		
47	143	1	X			
50	152	1	X			
52	158	1	X			
54	164	1	X			
55	167	1	X			
57	173	2	X	X		
60	182	2	X	X		
62	188	2	X	X		
65	197	2	X	X		
67	203	2	X	X		
TOTAL		48				

* - ADDITIONAL REPAIRS REQUIRED. SEE DETAIL THIS SHEET

PEDESTRIAN RAILING BOLT REPLACEMENT





SECTION A-A

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND SEE SHEET 9/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE GENERAL NOTE SHEET 3/62

ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIRS SEE GENERAL NOTE SHEET 4/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIRS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN TWH | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

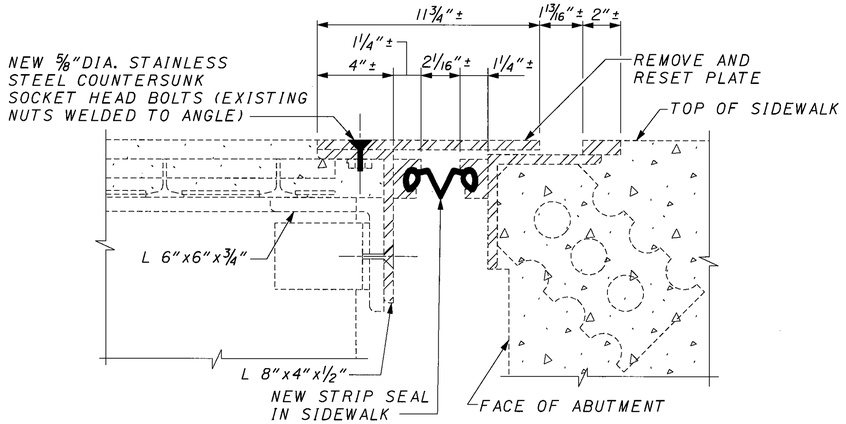
PEDESTRIAN RAILING REPAIRS
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

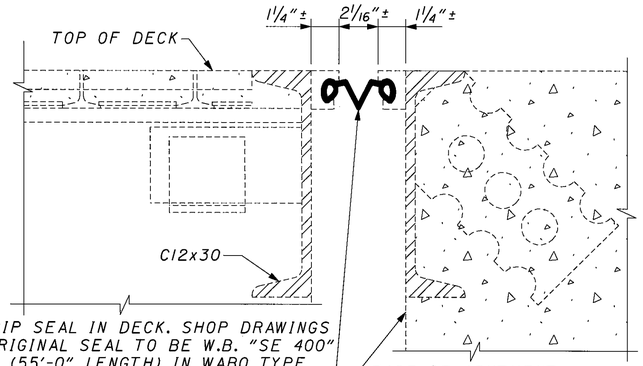
55/62

84/91

98076RD.DGN 02/13/06 SJK,BH,TWH,MLB

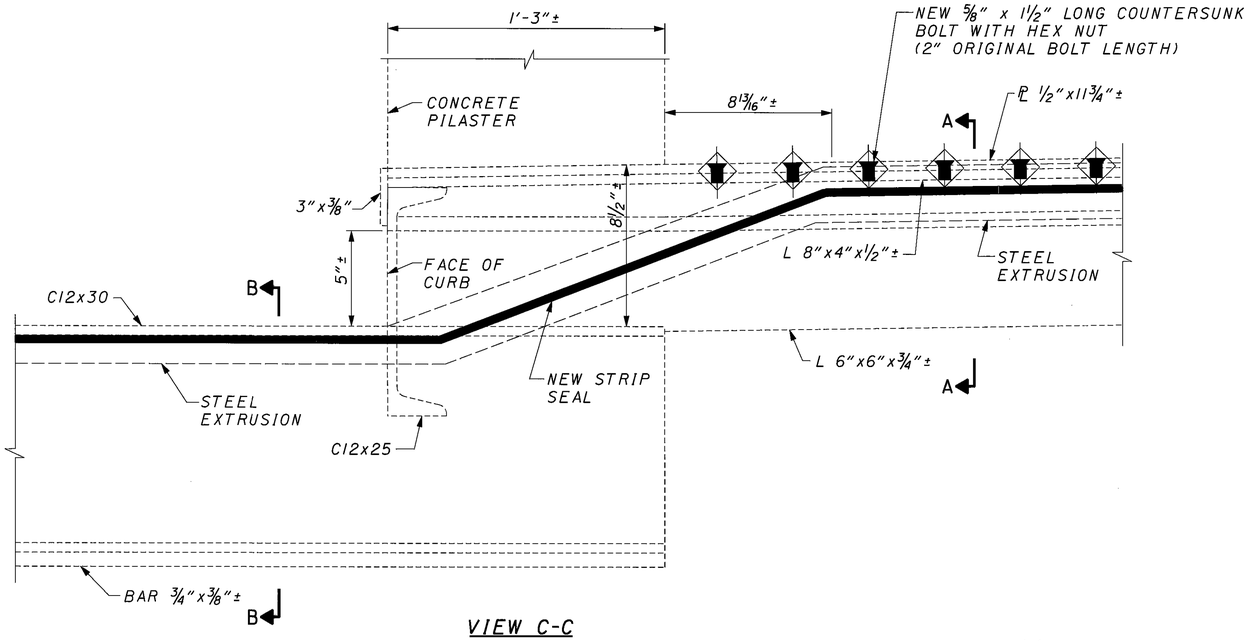


SECTION A-A

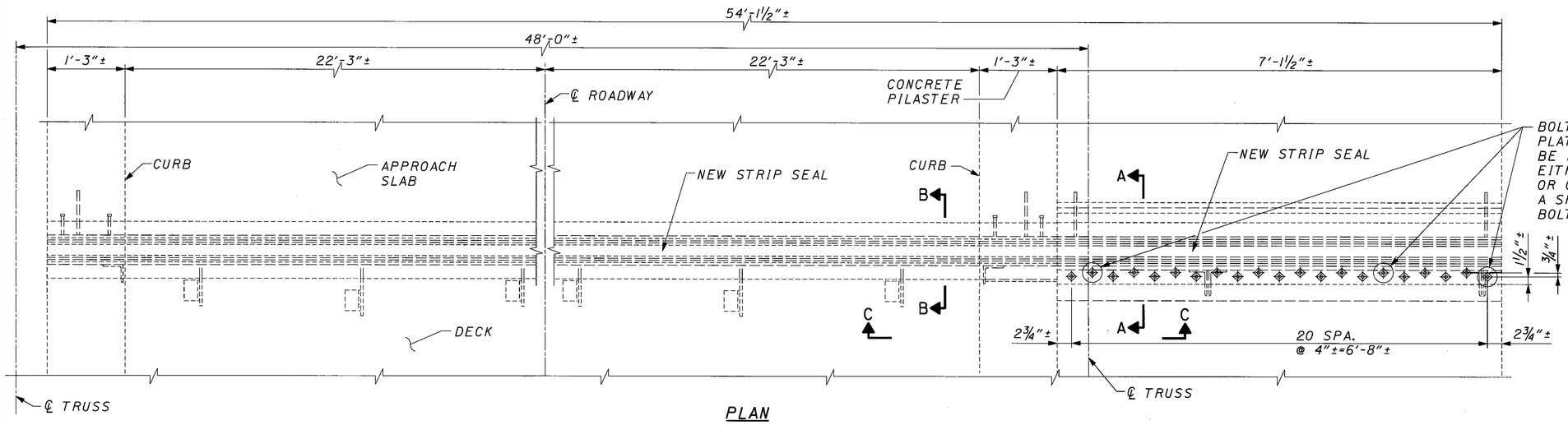


NEW 4" STRIP SEAL IN DECK. SHOP DRAWINGS INDICATE ORIGINAL SEAL TO BE W.B. "SE 400" STRIP SEAL (55'-0" LENGTH) IN WABO TYPE "A-3" EXTRUSIONS AS MANUFACTURED BY WATSON-BOWMAN ACME.

SECTION B-B



VIEW C-C



PLAN

BOLTS ARE NOT FLUSH WITH SIDEWALK PLATE. REPLACEMENT BOLTS SHALL BE FLUSH WITH SIDEWALK PLATE BY EITHER REMOVING EXISTING CONCRETE OR OBSTRUCTION FROM HOLE, OR USING A SHORTER COUNTERSUNK REPLACEMENT BOLT.

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

BOLT LEGEND SEE SHEET 9/62

NEW BOLTS RE-ATTACHING SIDEWALK PLATE SHALL BE PER ITEM 513 AND CONSIDERED INCIDENTAL TO THIS REPAIR.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE GENERAL NOTE SHEET 3/62

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN
SEE GENERAL NOTE SHEET 6/62

REAR ABUTMENT EXPANSION JOINT

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

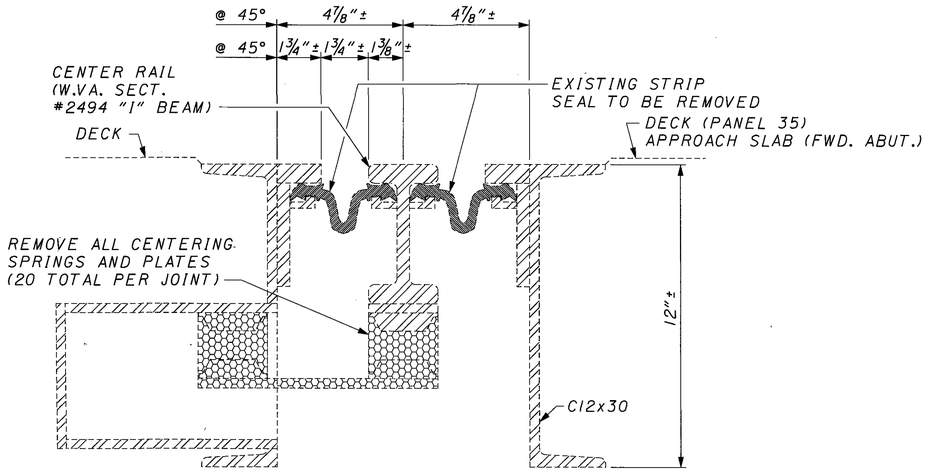
DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

DECK REPAIRS - 1

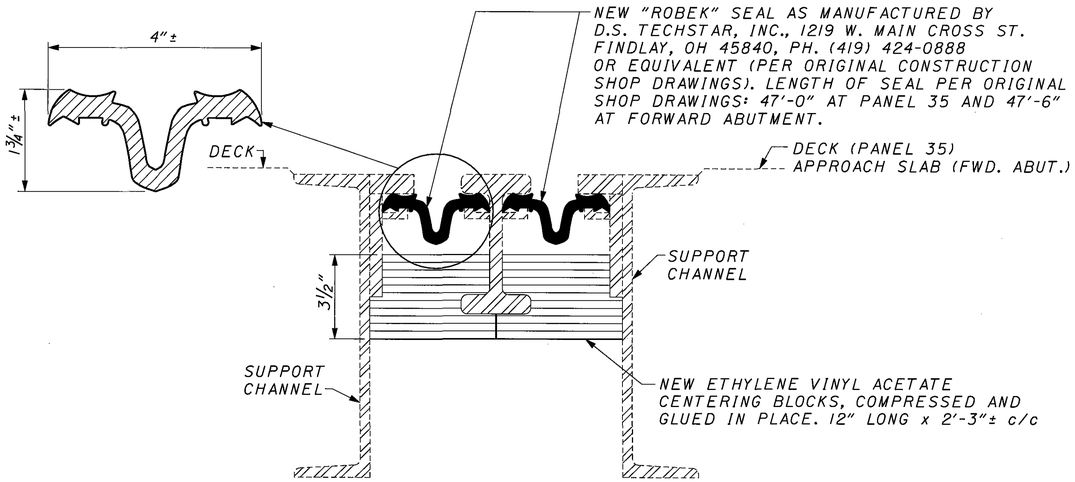
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

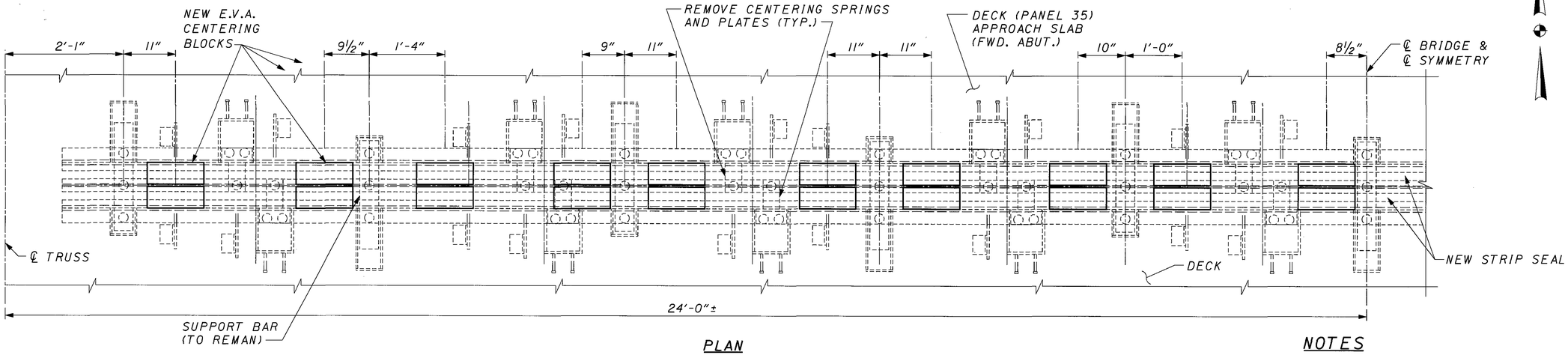
980076RD2.DGN 1/31/06 TWH



EXISTING CONDITION
SECTION A-A



PROPOSED REPAIR
SECTION B-B



PLAN

FORWARD ABUTMENT EXPANSION JOINT
PANEL 35 EXPANSION JOINT

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

THE "ROBEK" SEAL MAY BE REPLACED BY LIFTING UP ON THE END OF THE SEAL WITH THE USE OF A CROW BAR, AND ONCE THE INITIAL 1'-0" OF SEAL HAS BEEN REMOVED BY PULLING TAUTLY, THE SEAL CAN BE REMOVED COMPLETELY. THE NEW SEAL CAN THEN BE PLACED.

NEW STRIP SEALS SHALL BE CONTINUOUS. CONTRACTOR SHALL MAKE PROVISIONS IN THE PHASED CONSTRUCTION TO FACILITATE THIS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE GENERAL NOTE SHEET 3/62

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN
SEE GENERAL NOTE SHEET 6/62

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: ETHYLENE VINYL ACETATE CENTERING BLOCKS
SEE GENERAL NOTE SHEET 6/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN
ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: ETHYLENE VINYL ACETATE CENTERING BLOCKS

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVIEWED DAP | DATE 2/13/06 | REVISED | STRUCTURE FILE NUMBER 4707443

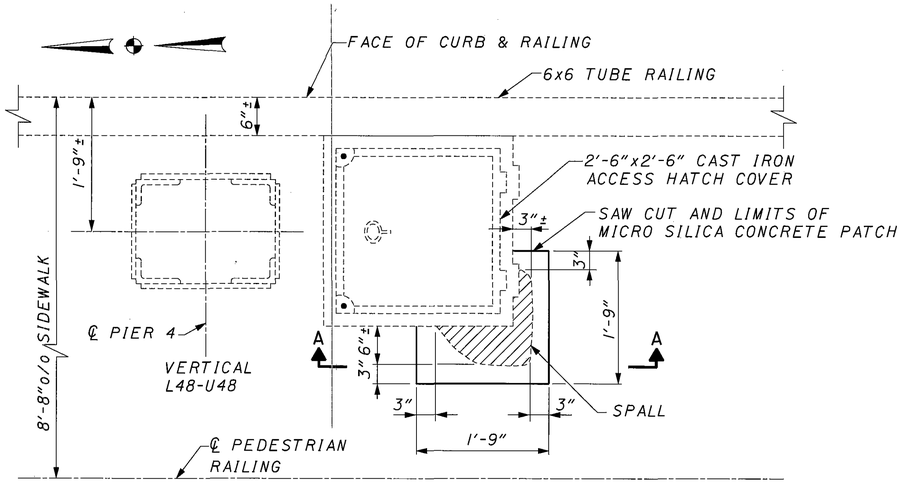
DECK REPAIRS - 2
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

57/62

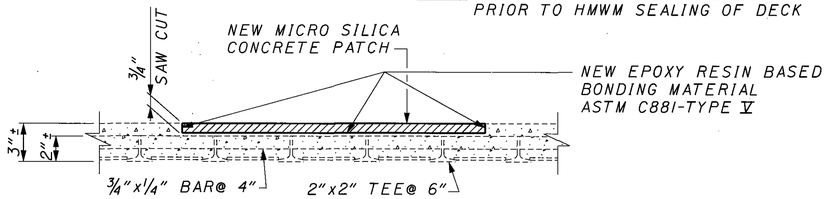
86/91

98076RD2.DGN 1/31/06 TWH



PLAN

NOTE: REPAIR SHALL BE COMPLETED PRIOR TO HMWM SEALING OF DECK

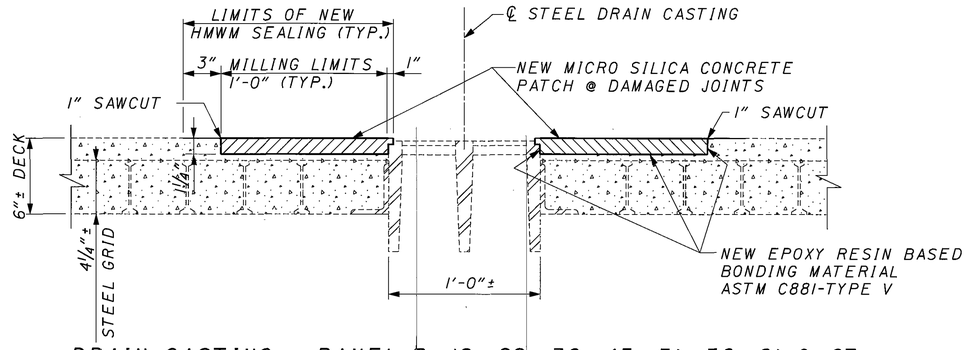


SECTION A-A

PANEL 48

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP

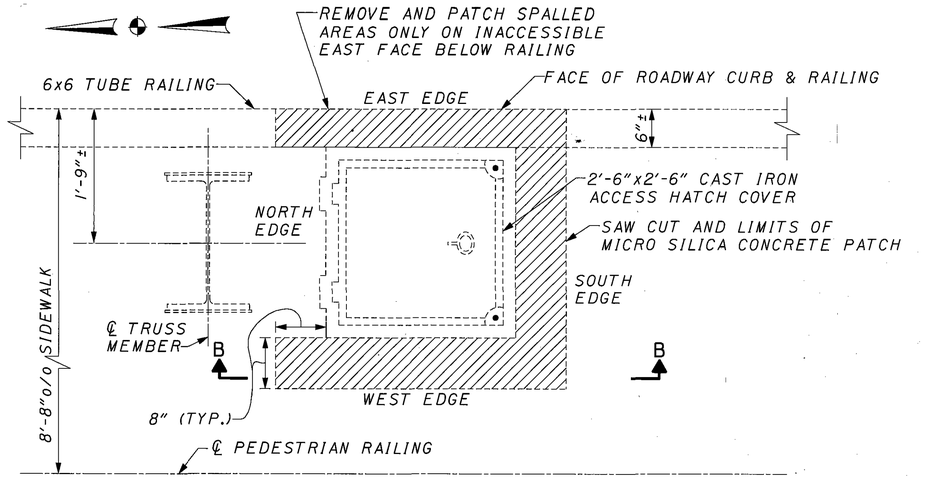
ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1" THICK, AS PER PLAN



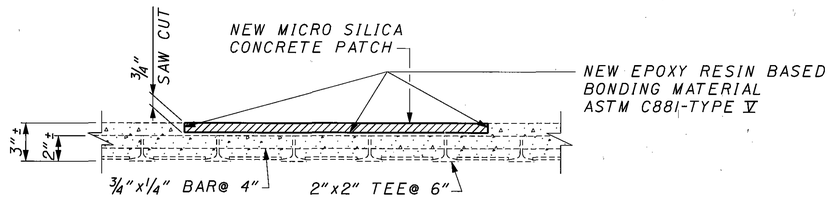
DRAIN CASTING - PANEL 8, 19, 29, 36, 45, 51, 56, 61 & 67

ITEM SPECIAL - STRUCTURE MISC.: MILLING CONCRETE DECK, 1¼" DEEP

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1¼" THICK, AS PER PLAN



PLAN
(PANEL 62 SHOWN)



SECTION B-B

SIDEWALK ACCESS HATCH REPAIRS					
TRUSS PANEL LOCATION	EDGE OF CASTING				
	NORTH	EAST	SOUTH	WEST	
11	X	X	X	X	
13				X	
18	X		X	X	
21	X	X			
33	X			X	
36	X	X			+
45		X	X		+
48		X	⊗	⊗	+
60	X	X			
63		X	X	X	+

LEGEND

X - INDICATES REPAIR TO FULL LENGTH OF EDGE OF CASTING.

⊗ - REPAIR TO FULL LENGTH OF EDGE OF CASTING NOT REQUIRED. SEE PLAN DETAILS THIS SHEET FOR LIMITS.

\+ - EAST FACE IS UNDER ROADWAY RAILING. REMOVE ONLY SPALLED AREAS. HAND CHIPPING IS PERMITED IN THESE AREAS

PANEL 11, 13, 18, 21, 33, 36, 45, 48, 60, 63

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1" THICK, AS PER PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

ITEM SPECIAL - STRUCTURE MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP
SEE GENERAL NOTE SHEET 8/62

ITEM SPECIAL - STRUCTURE MISC.: MILLING CONCRETE DECK, 1¼" DEEP
SEE GENERAL NOTE SHEET 8/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1" THICK, AS PER PLAN
SEE GENERAL NOTE SHEET 8/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1¼" THICK, AS PER PLAN
SEE GENERAL NOTE SHEET 8/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | CHECKED BLN | REVISED | REVIEWED DAP | DATE 2/13/06 | STRUCTURE FILE NUMBER 4707443

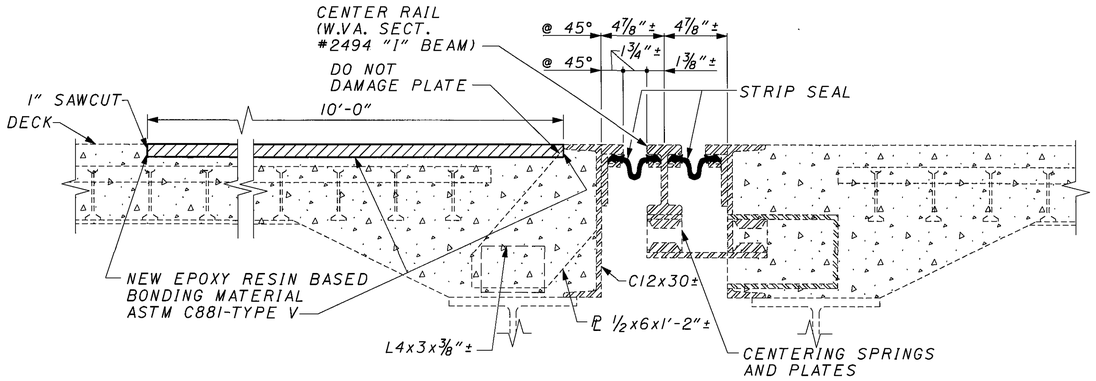
DECK REPAIRS - 3

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

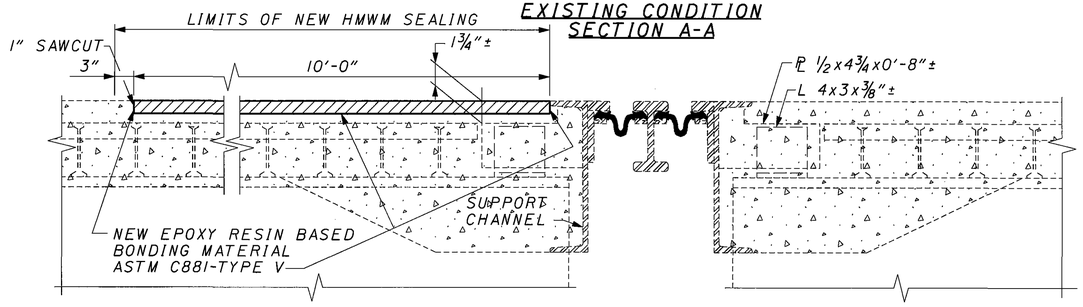
LOR-611-3.58
PID 21226

58/62

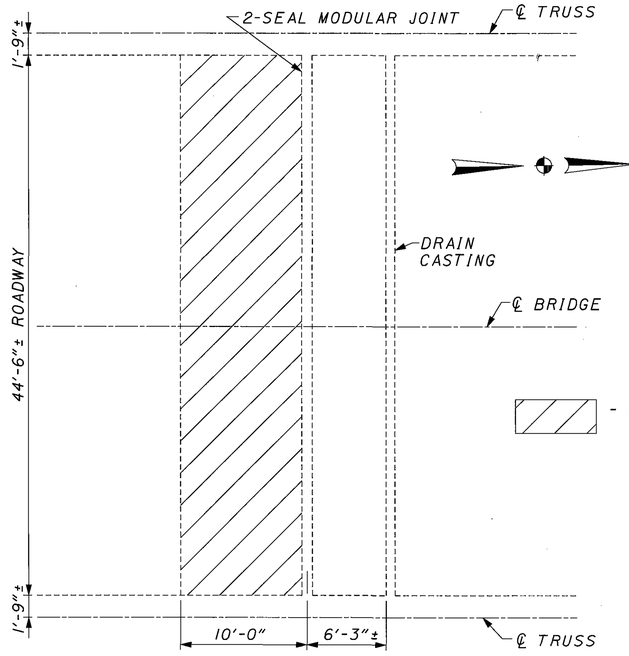
87/91



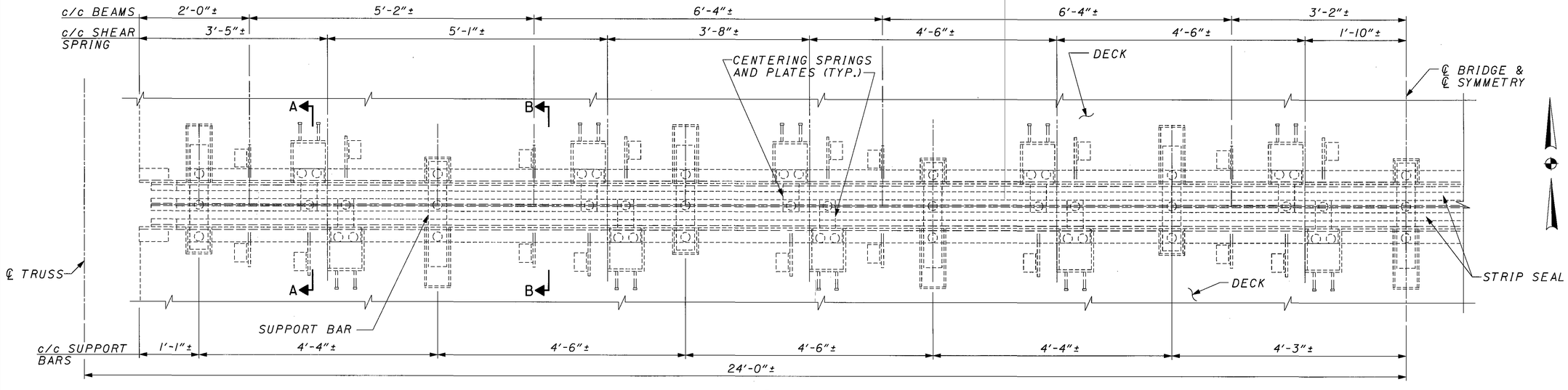
EXISTING CONDITION
SECTION A-A



PROPOSED REPAIR
SECTION B-B



DECK PLAN



PLAN

PANEL 35 EXPANSION JOINT

ITEM SPECIAL - STRUCTURE MISC.: MILLING CONCRETE DECK, 1 1/4" DEEP

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1 1/4" THICK, AS PER PLAN

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

MODULAR EXPANSION JOINT REPAIRS NOT SHOWN.

ITEM SPECIAL - STRUCTURE MISC.:
MILLING CONCRETE DECK, 1 1/4" DEEP
SEE GENERAL NOTE SHEET 8/62

ITEM 847 - MICRO SILICA MODIFIED
CONCRETE OVERLAY, 1 1/4" THICK, AS PER PLAN
SEE GENERAL NOTE SHEET 8/62

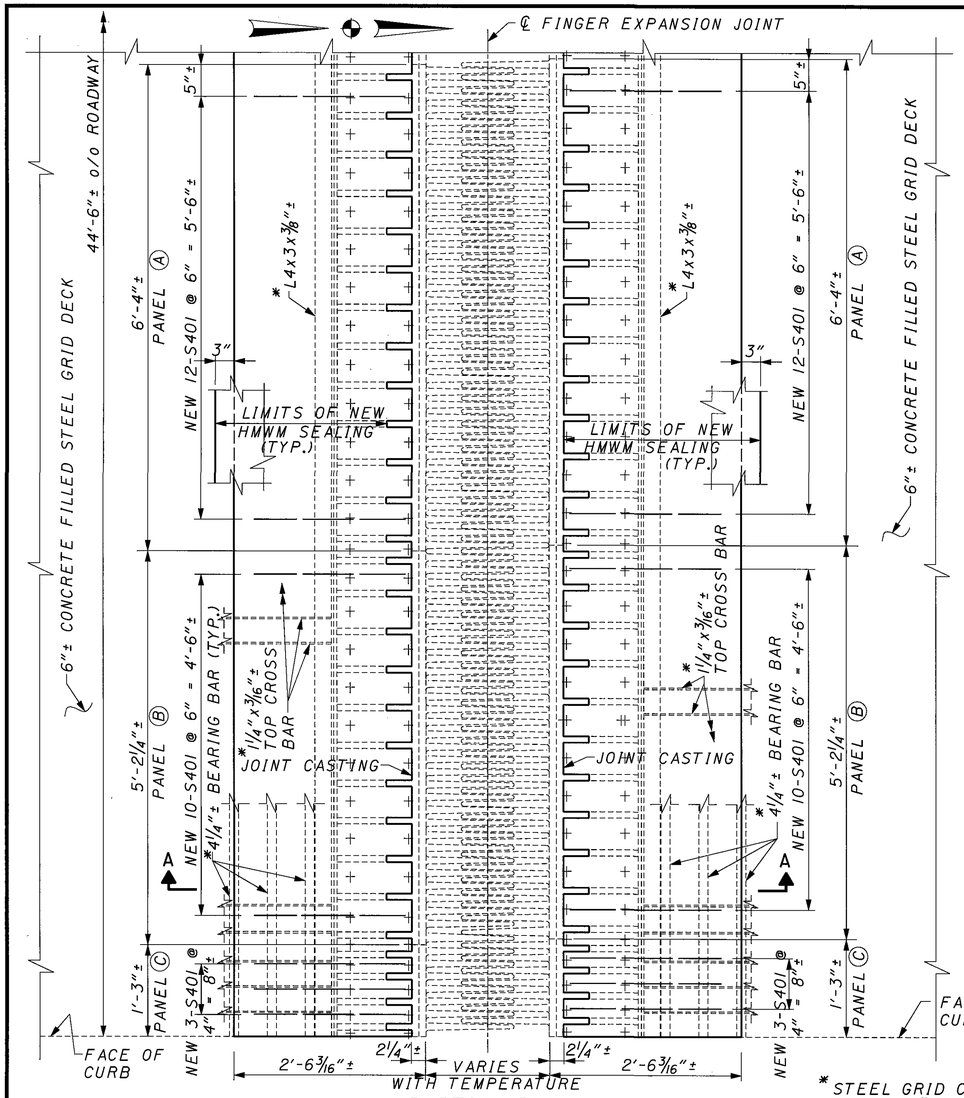
RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED	DRAWN	REVIEWED	DATE
KAK	SJK	DAP	2/13/06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BLN		4707443	

DECK REPAIRS - 4
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

98076RDII.DGN 02/14/06 SJK,MLB

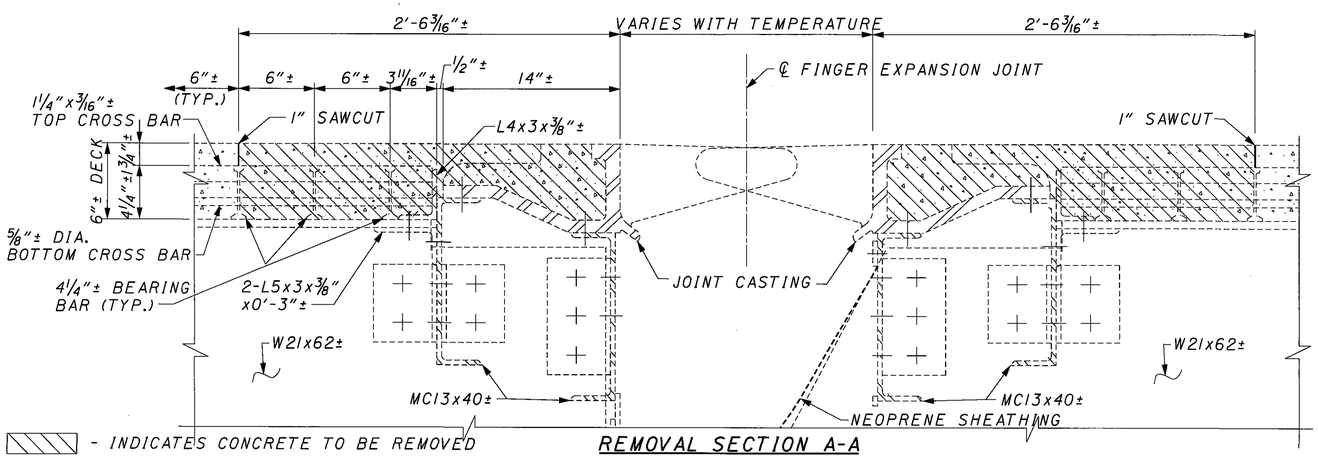


PARTIAL PLAN

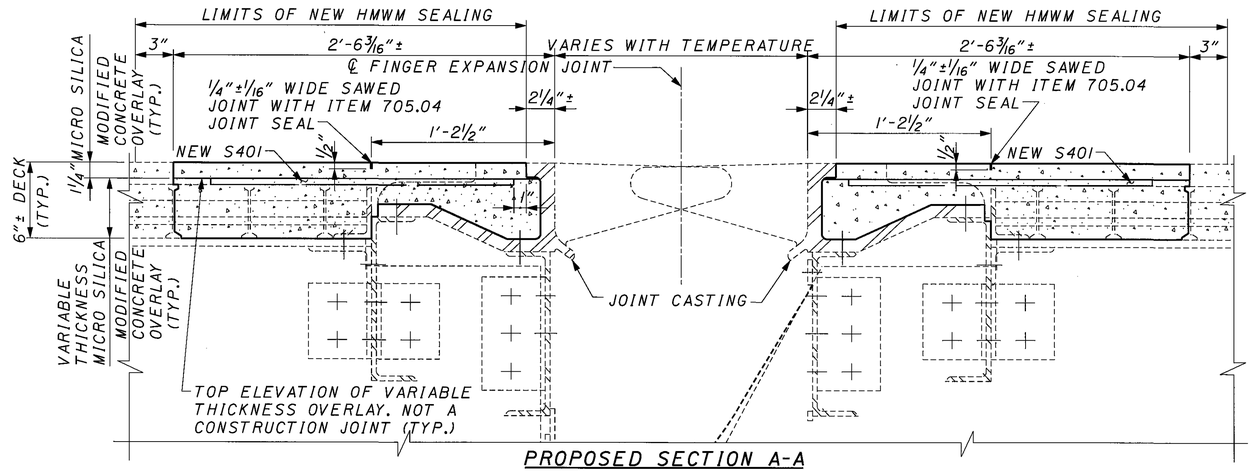
FINGER EXPANSION JOINT - PANEL 12

(SEE DECK CASTING ARRANGEMENT FOR PANEL ARRANGEMENT ACROSS DECK)

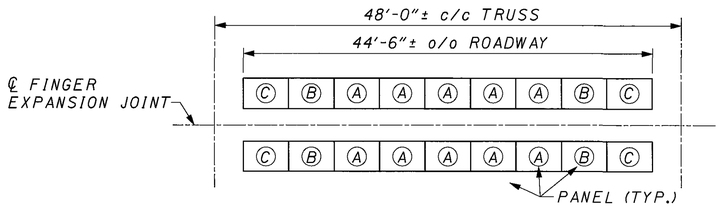
*STEEL GRID COMPONENT (LOWER 5/8"±DIA. BAR NOT SHOWN FOR CLARITY)



REMOVAL SECTION A-A

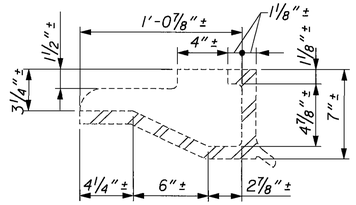


PROPOSED SECTION A-A



DECK CASTING ARRANGEMENT

(PER 1990 BRIDGE REHABILITATION SHOP DRAWINGS)



FINGER JOINT CASTING DETAIL

EPOXY COATED REINFORCING STEEL	CALCULATED KAK DATE 2/06 CHECKED TWH DATE 2/06			
MARK	TOTAL	LENGTH	TYP	WEIGHT
S401	172	2'-0"	STR.	115

NOTES

MATERIAL SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE GENERAL NOTE SHEET 3/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1 1/4" THICK, AS PER PLAN
SEE GENERAL NOTE SHEET 8/62

ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN SEE GENERAL NOTE SHEET 8/62

SAWCUT AND 705.04 JOINT SEALING ARE CONSIDERED INCIDENTAL TO THE WORK. PAYMENT SHALL BE MADE WITH ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1 1/4" THICK, AS PER PLAN

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 509 - EPOXY COATED REINFORCING STEEL
ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY, 1 1/4" THICK, AS PER PLAN
ITEM 847 - MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), AS PER PLAN

980076RD12.DGN 2/13/06 TWH,MLB

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

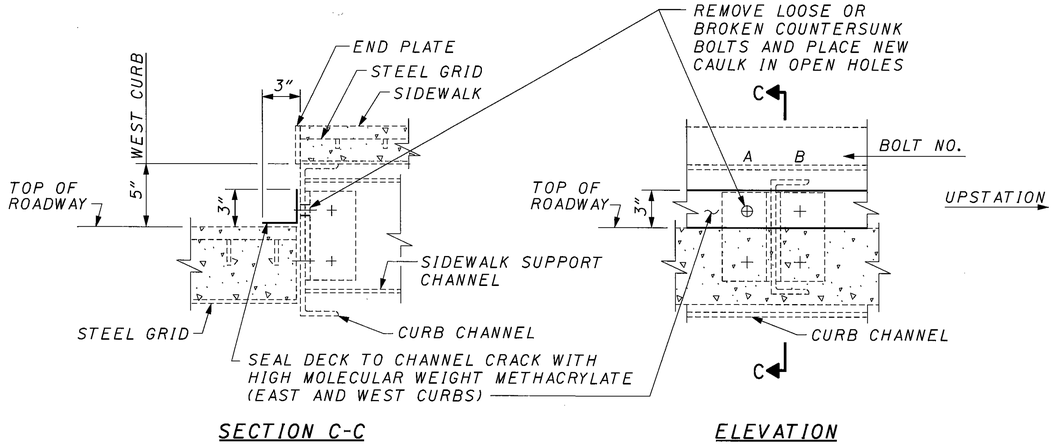
DESIGNED KAK | DRAWN TWH | REVIEWED DAP | DATE 2/13/06
CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

DECK REPAIRS - 5
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

60/62

89/91

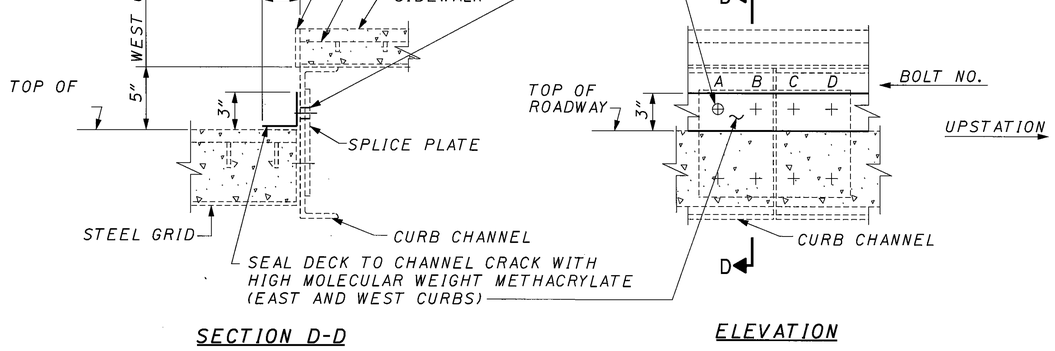


SECTION C-C ELEVATION

SIDEWALK CHANNEL SUPPORT CHANNEL CONNECTION WITH CURB

CAULKING OPEN BOLT HOLES						
PANEL NUMBER	TYPE OF CONNECTION	BOLT HOLES TO BE CAULKED				
		A	B	C	D	
I	CURB SPLICE	X				
II	CURB SPLICE				X	
45	SIDEWALK CHANNEL CONNECTION	X		N/A	N/A	*
47	CURB SPLICE	X				*
48	CURB SPLICE		X		X	*
49	CURB SPLICE		X		X	*
56	CURB SPLICE	X	X			*
59	SIDEWALK CHANNEL CONNECTION		X	N/A	N/A	*

N/A - NOT APPLICABLE
* - COUNTERSUNK BOLT IS MISSING



SECTION D-D ELEVATION

CURB CHANNEL SPLICE

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM SPECIAL - STRUCTURE, MISC.: CAULKING OPEN BOLT HOLES
ITEM SPECIAL - STRUCTURE, MISC.: SEALING EDGES OF ROADWAY

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.

BOLT LEGEND SEE SHEET 9/62

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
SEE GENERAL NOTE SHEET 3/62

ITEM SPECIAL - STRUCTURE, MISC.: SEALING EDGES OF ROADWAY
SEE GENERAL NOTE SHEET 8/62

ITEM SPECIAL - STRUCTURE MISC.: CAULKING OPEN BOLT HOLES
SEE GENERAL NOTE SHEET 7/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK
DRAWN JLS
CHECKED BLN
REVIEWED DAP
DATE 2/13/06
REVISED
STRUCTURE FILE NUMBER 4707443

DECK REPAIRS - 6
BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

61/62

90/91

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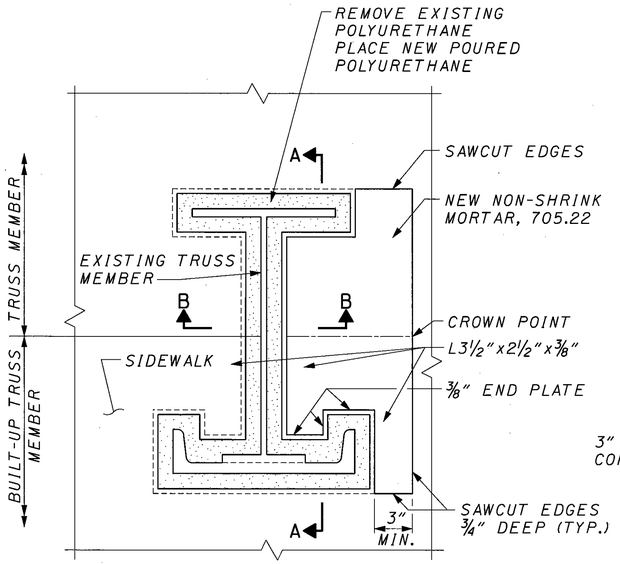
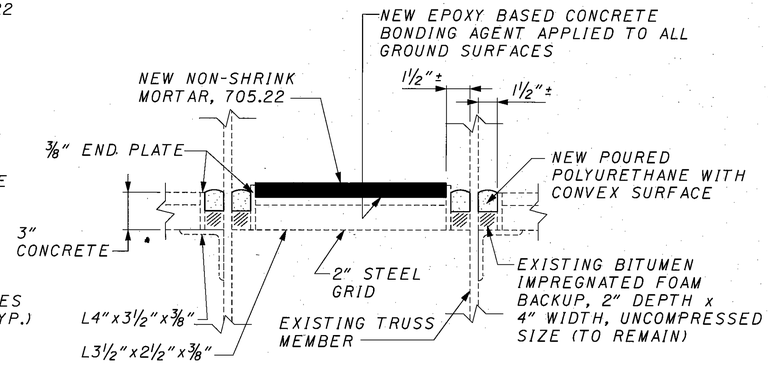
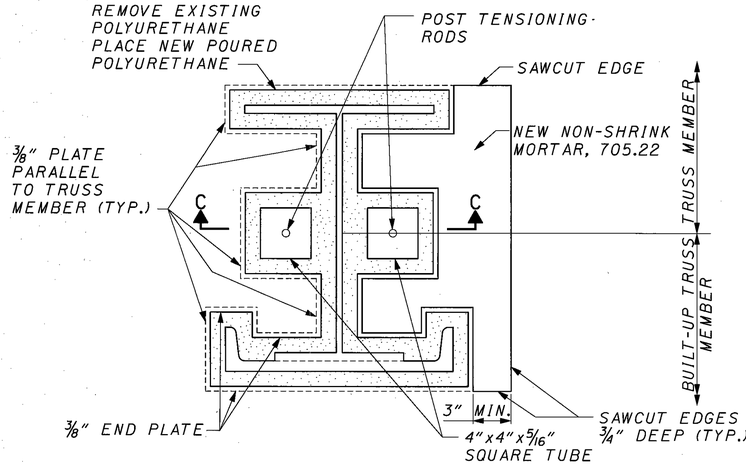


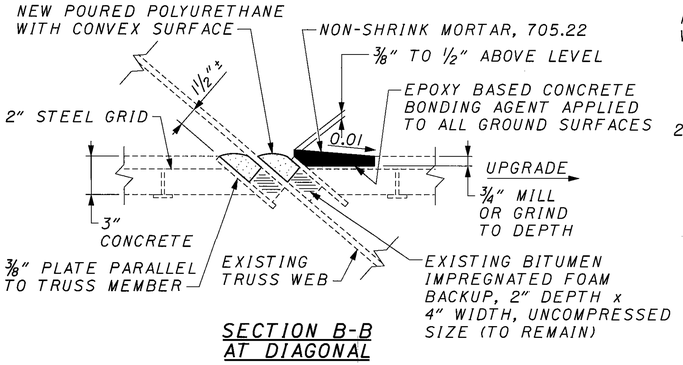
TYPICAL PLAN AT TRUSS MEMBERS



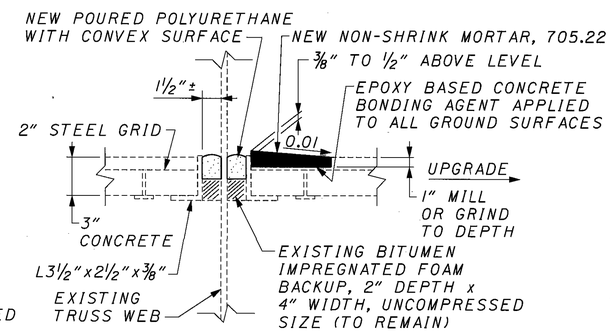
SECTION A-A



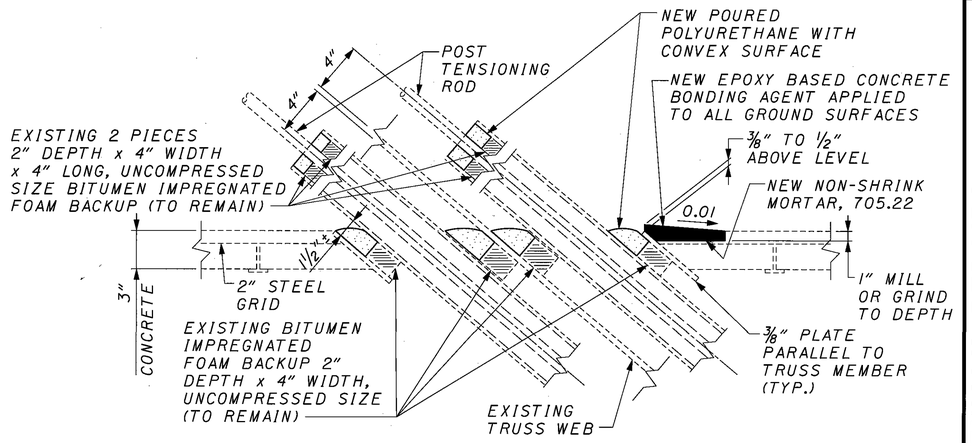
TYPICAL PLAN AT STRENGTHENED TRUSS MEMBER



SECTION B-B AT DIAGONAL



SECTION B-B AT VERTICAL



SECTION C-C AT STRENGTHENED DIAGONAL

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
ITEM 516 - POURED POLYURETHANE JOINT SEAL
ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK JOINT FOAM BACKUP
ITEM 530 - STRUCTURE MISC.: SLOPED, NON-SHRINK MORTAR FILL WITH CONCRETE BONDING AGENT
ITEM 530 - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP

NOTES

MATERIALS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.

EPOXY BASED CONCRETE BONDING AGENT SHALL CONFORM TO ASTM C881 - TYPE V SPECIFICATION. PAYMENT SHALL BE INCLUDED WITH ITEM 530 - STRUCTURE MISC.: SLOPED NON-SHRINK MORTAR FILL WITH CONCRETE BONDING AGENT.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN SEE GENERAL NOTE SHEET 3/62

ITEM SPECIAL - POURED POLYURETHANE JOINT SEAL SEE GENERAL NOTE SHEET 6/62

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK JOINT FOAM BACKUP SEE GENERAL NOTE SHEET 6/62

ITEM SPECIAL - STRUCTURE, MISC.: SLOPED, NON-SHRINK MORTAR FILL WITH CONCRETE BONDING AGENT SEE GENERAL NOTE SHEET 7/62

ITEM SPECIAL - STRUCTURE, MISC.: MILLING CONCRETE SIDEWALK, 1" DEEP SEE GENERAL NOTE SHEET 8/62

RICHLAND ENGINEERING LIMITED
29 NORTH PARK STREET
MANSFIELD, OHIO 44902

DESIGNED KAK | DRAWN SJK | REVIEWED DAP | DATE 2/13/06 | CHECKED BLN | REVISED | STRUCTURE FILE NUMBER 4707443

SIDEWALK REPAIRS

BRIDGE NO. LOR-611-0358
OVER BLACK RIVER

LOR-611-3.58
PID 21226

62 / 62

91
91

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