LOCATION MAP

LATITUDE: 39°26'40" LONGITUDE: 84°16'43"

SCALE IN MILES 0 1 2 3 4

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

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

HAM-71/562-7.52/2.55

CITY OF CINCINNATI
CITY OF NORWOOD
HAMILTON COUNTY

RAILROAD BRIDGE MAINTENANCE

INDEX OF SHEETS:

PROJECT DESCRIPTION

GENERAL BRIDGE MAINTENANCE PROJECT INCLUDING CONCRETE PATCHING & SEALING, BRIDGE PAINTING AND OTHER MINOR MAINTENANCE WORK ON SEVERAL OVERHEAD RAILROAD BRIDGES NEAR THE I-71/ SR 562 INTERCHANGE.

PROJECT EARTH DISTURBED AREA: N/A ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES
(MAINTENANCE PROJECT)

2013 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 OF THE HIGHWAY TO TRAFFIC AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATES.

APPROVED Tony K Campbell
DATE 10/20/2015 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray
DATE 10-25-15 DIRECTOR, DEPARTMENT OF TRANSPORTATION

DESIGN DESIGNATION (SEE SHEET 2 OF 53)

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS UNDERGROUND
PROTECTION SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
ENGINEERING DIVISION - BRIDGE DEPARTMENT
DISTRICT 8 LEBANON, OHIO
AND
Gannett Fleming
4151 EXECUTIVE PARKWAY, SUITE 350
WESTERVILLE, OHIO 43081

ENGINEERS SEAL:
MAINTENANCE OF TRAFFIC PLANS
STATE OF OHIO SHANE S. CAMPBELL E-70897 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 10-16-15

ENGINEERS SEAL:
ALL OTHER CONSTRUCTION PLANS
STATE OF OHIO CHRISTOPHER A. HOWARD E-62429 REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 10-8-15

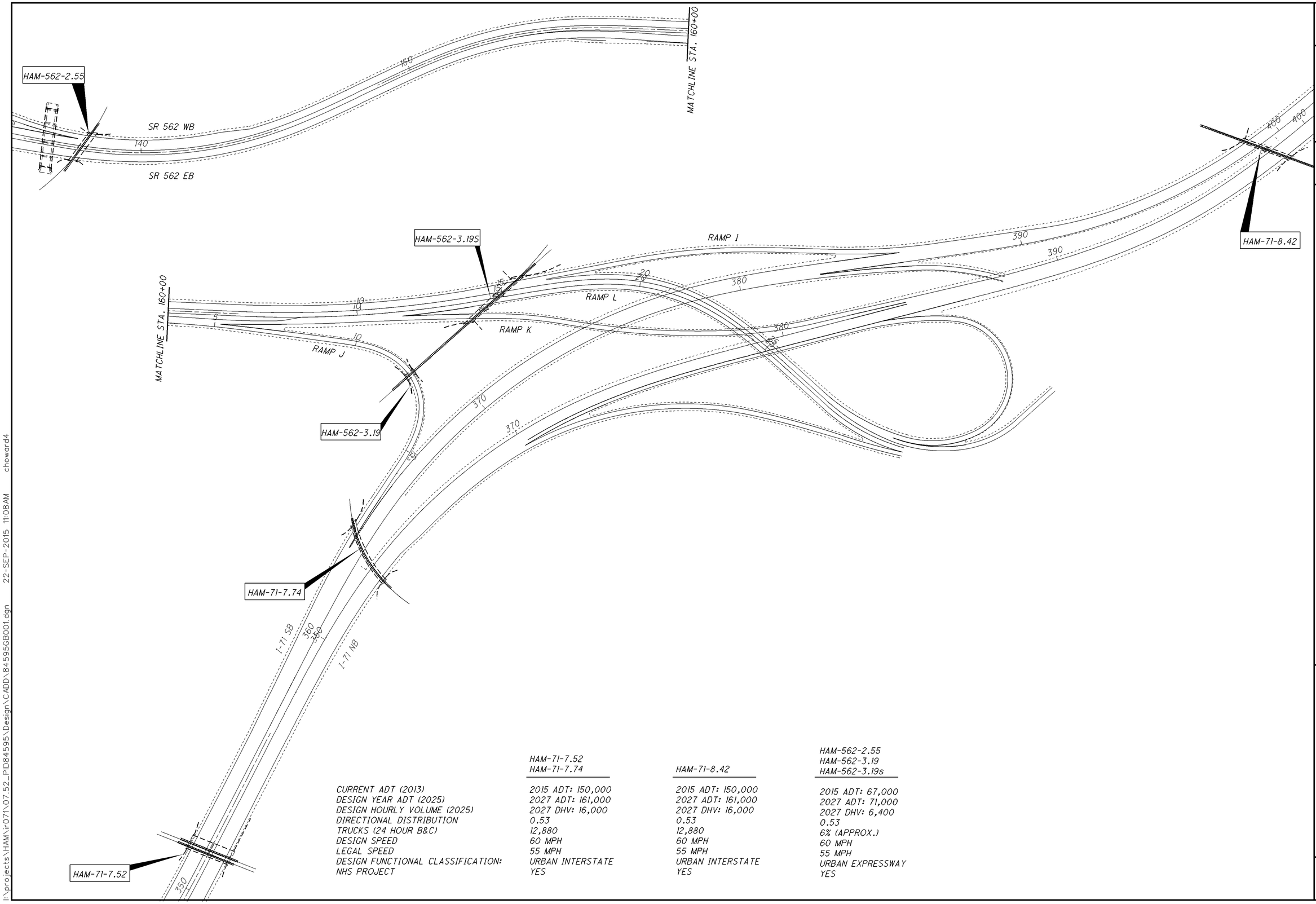
STANDARD CONSTRUCTION DRAWINGS

										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
DM-1.1	1/18/13	MGS-1.1	7/19/13	MT-95.30	7/16/14					800	10-16-15	
DM-4.1	7/19/13	MGS-2.1	7/19/13	MT-95.31	7/18/14					832	1-17-14	
DM-4.2	7/20/12	MGS-3.1	7/18/14	MT-95.32	7/18/14					821	4-20-12	
DM-4.3	7/19/13	MGS-3.2	1/18/13	MT-95.41	7/18/14					921	4-20-12	
DM-4.4	7/20/12	MGS-4.3	1/18/13	MT-98.11	7/18/14					987	1-16-09	
RM-4.2	4/18/14			MT-98.20	7/18/14							
				MT-98.22	7/18/14							
		TC-41.20	10/18/13	MT-98.28	7/18/14							
		TC-42.20	10/18/13	MT-98.29	7/19/13							
		TC-61.10	1/17/14	MT-101.60	7/19/13							
		TC-61.30	7/18/14	MT-101.70	1/17/14							
		TC-65.10	1/17/14	MT-101.90	7/17/15							
		TC-65.11	7/18/14	MT-102.20	7/18/14							
		TC-71.10	1/17/14	MT-105.10	7/19/13							
		TC-72.20	7/18/14									

FEDERAL PROJECT NO. E130 (075)
PID NO. 84595
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT INDIANA & OHIO
HAM-71/562-7.52/2.55
1/59

HAM - IR 71/SR 562-7.52/2.55
160082 PID - 84595
Dist 8 2/11/2016

I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\84595GT001.dgn 02-OCT-2015 2:26PM choward4



	HAM-71-7.52 HAM-71-7.74	HAM-71-8.42	HAM-562-2.55 HAM-562-3.19 HAM-562-3.19s
CURRENT ADT (2013)	2015 ADT: 150,000	2015 ADT: 150,000	2015 ADT: 67,000
DESIGN YEAR ADT (2025)	2027 ADT: 161,000	2027 ADT: 161,000	2027 ADT: 71,000
DESIGN HOURLY VOLUME (2025)	2027 DHV: 16,000	2027 DHV: 16,000	2027 DHV: 6,400
DIRECTIONAL DISTRIBUTION	0.53	0.53	0.53
TRUCKS (24 HOUR B&C)	12,880	12,880	6% (APPROX.)
DESIGN SPEED	60 MPH	60 MPH	60 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN INTERSTATE	URBAN INTERSTATE	URBAN EXPRESSWAY
NHS PROJECT	YES	YES	YES

HORIZONTAL SCALE IN FEET

CALCULATED | CHECKED

SCHEMATIC PLAN AND NOTES

HAM-71/562-7.52/2.55

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF:
- FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND/OR ROAD CLOSURES.
- SEVEN (7) DAYS PRIOR TO LANE CLOSURES AND/OR SHIFTS IN TRAFFIC PATTERNS.

THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (513) 933-9472 OR EMAIL AT D08.PIO.FORM@DOT.OHIO.GOV

DISTRICT PERMIT SECTION BY FAX AT (513) 933-9472 OR EMAIL AT TOM.MAKRIS@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

NON-USE OF ASBESTOS-CONTAINING MATERIALS

THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNT OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

ITEM 622 - BARRIER, MISC.: INCREASE MEDIAN BARRIER HEIGHT

EXTEND THE HEIGHT OF THE EXISTING MEDIAN BARRIER AS SHOWN IN THE PLANS. REFER TO STD. DWG. RM-4.3 AND RM-4.4 FOR ADDITIONAL INFORMATION. ROUGHEN THE TOP OF THE EXISTING CONCRETE MEDIAN FOR IMPROVED BOND WITH PROPOSED EXTENSION CONCRETE.

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

REMOVE VEGETATION ONLY AS NECESSARY TO ELIMINATE CONFLICTS WITH THE PROPOSED WORK.

ALL PROVISIONS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

REFERENCES:

REFERENCE SHALL BE MADE TO THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 2013.

EXISTING PLANS

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 8 OFFICE IN LEBANON, OHIO.

PERMANENT PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS

ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS ON THE BRIDGE SUPERSTRUCTURES AND APPROACH PAVEMENTS SHALL BE REPLACED AS SHOWN IN THE PLANS. PROPOSED EDGE LINE, CENTER LINE AND LANE LINE PAVEMENT MARKINGS SHALL BE ITEM 642, PAINT.

THE CONTRACTOR SHALL REFERENCE ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS BEFORE THE START OF ANY PAVEMENT REMOVAL. THIS WILL BE NECESSARY TO ASSURE CORRECT REPLACEMENT IN THEIR ORIGINAL AND/OR RECONFIGURED LOCATIONS. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO THE RESPECTIVE PROPOSED PAVEMENT MARKING AND RPM PAY ITEMS.

DEMOLITION DEBRIS

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING STREAMS.

WHILE PAINTING OR SEALING ANY PORTION OF THE BRIDGE STRUCTURES, AN APPROPRIATE APRON WILL BE UTILIZED TO PREVENT DEBRIS, PAINT OVER SPRAY, AND SEALANTS FROM ENTERING INTO THE STREAMS OR AFFECTING VEHICULAR/PEDESTRIAN TRAFFIC AND/OR PROTECTED AREAS.

ANY MATERIAL THAT DOES FALL INTO STREAMS OR AFFECTS VEHICULAR/PEDESTRIAN TRAFFIC AND/OR PROTECTED AREAS SHALL BE IMMEDIATELY REMOVED AT THE CONTRACTOR'S EXPENSE.

WORK LIMITS

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

ITEM 626 - BARRIER REFLECTOR

AN ESTIMATED QUANTITY OF 8 EACH HAS BEEN PROVIDED FOR THE PLACEMENT OF BARRIER REFLECTORS. THE CONTRACTOR SHALL PLACE BARRIER REFLECTORS ALONG THE NEWLY CONSTRUCTED GUARDRAIL, ANCHOR ASSEMBLIES AND/OR CONCRETE BARRIER AT THE LOCATIONS SHOWN IN THE PLANS. THIS QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

UTILITIES

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

ELECTRIC
DUKE ENERGY
139 EAST 4TH STREET,
ROOM 467A
CINCINNATI, OHIO 45202
513-287-3674
(AARON WRIGHT)

GAS
DUKE ENERGY
139 EAST 4TH STREET
ROOM 460A
CINCINNATI, OHIO 45202
513-287-2730
(RALPH PFISTER)

WATER
CINCINNATI WATER WORKS
1600 GEST STREET
CINCINNATI, OHIO 45204
513-557-5799
(JON HUNSEDER)

SEWER/SANITARY
METROPOLITAN SEWER DISTRICT
OF GREATER CINCINNATI
1600 GEST STREET
CINCINNATI, OHIO 45204
513-557-7188
(ROB FRANKLIN)
(PLEASE SEND PLANS TO
THE FOLLOWING E-MAIL ADDRESS:
ROB.FRANKLIN@CINCINNATI-OH.GOV)

CINCINNATI STORMWATER
MANAGEMENT
1600 GEST STREET
CINCINNATI, OHIO 45204
513-244-1393
(ANDY STORER)
(PLEASE SEND PLANS FOR
DISTRIBUTION/REVIEW
TO E-MAIL BOX:
SMUPLANREVIEW@CINCINNATI-OH.GOV)

PUBLIC WORKS
CITY OF CINCINNATI
TRANSPORTATION
AND ENGINEERING
801 PLUM STREET, ROOM 450
CITY HALL
CINCINNATI, OHIO 45202
PHONE: 513-352-1518
(DON GINDLING)
PHONE: 513-352-3419
(RICHARD SZEKERESH - BRIDGES)

CITY OF NORWOOD
PUBLIC WORKS DEPARTMENT
4645 MONTGOMERY ROAD
NORWOOD, OHIO 45212
513-458-4615 (PETE TEPE)

TELEPHONE
CINCINNATI BELL TELEPHONE
221 EAST 4TH STREET
BLDG. 121-900
CINCINNATI, OHIO 45201
513-565-7043
(MARK CONNER)

TRAFFIC
CITY OF CINCINNATI
TRAFFIC ENGINEERING
801 PLUM STREET, ROOM 320
CINCINNATI, OHIO 45202
513-352-3730
(LINDA KISER)

ARTIMIS
508 W. THIRD STREET
CINCINNATI, OHIO 43202
513-933-6597
(ANDY FLUEGEMANN)

CABLE
TIME WARNER CABLE
11252 CORNELL PARK DRIVE
CINCINNATI, OHIO 45242
513-386-5499
(KENT RIEGER)

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

ALL UTILITY RELOCATIONS SHALL BE COORDINATED BETWEEN THE CONTRACTOR AND THE UTILITY OWNERS IN SUCH A WAY AS TO AVOID AND/OR MINIMIZE ANY INCONVENIENCE TO POTENTIALLY AFFECTED CUSTOMERS.

ALL UTILITY RELOCATIONS NOT INCLUDED IN THIS CONTRACT SHALL BE ONGOING THOUGHOUT THE CONSTRUCTION PERIOD. UPON THE CONTRACT AWARD, THE COORDINATION OF ALL NECESSARY RELOCATION WITH THE UTILITIES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

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

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

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

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

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

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS ESPECIALLY THOSE DISTURBED BY GUARDRAIL AND/OR OTHER SITE ACCESS/CONSTRUCTION ACTIVITIES:

659, SEEDING AND MULCHING _____ 1,100 SQ YD

659, COMMERCIAL FERTILIZER _____ 0.15 TON

659, WATER _____ 6.0 M. GAL.

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

ITEM 623 - CONSTRUCTION LAYOUT STAKES & SURVEYING, AS PER PLAN

PRIOR TO THE START OF CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL REFERENCE THE LENGTH OF THE PROJECT ON BOTH SIDES OF THE ROADWAY, IN A MANNER SATISFACTORY TO THE ENGINEER. THE PAVEMENT SHALL BE REFERENCED IN 25 FOOT INCREMENTS, OR IN INCREMENTS ACCEPTABLE TO THE ENGINEER, IN A SEMI-PERMANENT CONDITION.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

CALCULATED | CHECKED

GENERAL NOTES 1

HAM-71/562-7.52/2.55

ITEM 614, MAINTAINING TRAFFIC

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

1. ALL RAMPS AND LANES ARE TO REMAIN OPENED TO TRAFFIC UNLESS OTHERWISE SPECIFIED IN THESE PLANS OR PERMITTED BY ODOT'S PERMITTED LANE CLOSURE TIMES.

2. SHORT-TERM SHOULDER CLOSURES ON I-71 ARE NOT PERMITTED BETWEEN THE HOURS OF 6AM TO 9AM AND 3PM TO 7PM. SHORT TERM SHOULDER CLOSURES ARE NOT PERMITTED ON SR-562.

3. TRUCK MOUNTED ATTENUATOR - WHEN THE CONTRACTOR IS SETTING SHORT TERM WORK ZONES, THE SHOULDERS RIGHT OR LEFT SHOULDER) ARE LESS THAN 10FT IN WIDTH AND ON A ROAD WITH SPEEDS 45 MH OR HIGHER, A TRUCK MOUNTED ATTENUATOR (TMA) MUST TRAIL THE OPERATION OF SETTING THE ADVANCE WARNING SIGNS UP OR TAKING THEM DOWN. THIS SAME TRUCK MUST HAVE A TYPE B FLASHING ARROW PANEL MOUNTED ON IT FACING THE REAR OF THE TRUCK.
THE CONTRACTOR SHALL USE A TMA FOR ANY APPLICATION WHERE THE OMUTCD OR STANDARD CONSTRUCTION DRAWINGS USES THE PHRASE "OPTIONAL" OR "WHEN SPECIFIED IN THE PLAN".
THE TMA MUST BRING A VEHICLE WEIGHING 1800 TO 4500 LBS. AND TRAVELLING AT 60 MPH TO A SAFE, CONTROLLED STOP, PER NCHRP 350 CRITERIA. THE MANUFACTURER'S SPECIFICATION MUST BE FOLLOWED CONCERNING THE SIZE OF THE TRUCK AND THE CONNECTIONS TO THE TMA.

4. ANY WORK (FALSEWORK, TRAFFIC PROTECTION, CONTAINMENT, ETC.) OVER LIVE TRAFFIC BY THE CONTRACTOR THAT REDUCES THE EXISTING VERTICAL CLEARANCE IS PROHIBITED UNLESS 30 DAYS ADVANCED NOTICE IS PROVIDED TO THE ENGINEER WITH NEW PROPOSED VERTICAL CLEARANCES. THE CONTRACTOR SHALL PROVIDE FIELD MEASUREMENTS BEFORE ALLOWING TRAFFIC UNDERNEATH. IF ANY WORK IS TO OCCUR BELOW 14'-6", THEN SIGNS ON THE STRUCTURE AND ADVANCE WARNING SIGNS SHALL BE INSTALLED A MINIMUM OF 2 WEEKS PRIOR TO PERFORMING SUCH WORK. SIGNING SHALL BE IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (OMUTCD) AND THE OHIO "TRAFFIC ENGINEERING MANUAL" (TEM). NO WORK OVER TRAFFIC SHALL OCCUR WITH A VERTICAL CLEARANCE LESS THAN 14'-0". LOWERING THE VERTICAL CLEARANCE DURING CONSTRUCTION IS CONSIDERED THE CONTRACTOR'S MEANS AND METHODS OF ACCOMPLISHING THE WORK, AND THEREFORE THE STATE IS NOT RESPONSIBLE FOR ANY DAMAGE FROM VEHICULAR IMPACTS THAT MAY RESULT AS PER 107.10.

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

6. NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING
EASTER	ALLSTAR BASEBALL EVENTS

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

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

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $125 (IR-71) / $75 (SR-562) FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

ITEM 614, MAINTAINING TRAFFIC (CONT.)

7. NOTICE OF CLOSURE SIGNS, AS NOTED ON THE DETOUR SHEETS, SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOURS SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

PERMITTED LANE CLOSURE TIMES

SHORT TERM LANE CLOSURES ARE THOSE WHICH ARE PERMITTED BY THE "PERMITTED LANE CLOSURE" NOTE AND THE LANE VALUE CONTRACT TABLE. THESE TIMES SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL FROM THE DISTRICT EIGHT WORK ZONE TRAFFIC CONTROL ENGINEER. SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOUSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED. PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE "DISTRICT EIGHT, PERMITTED LANE CLOSURE TIMES" WHICH ARE LOCATED ON THE ODOT WEBSITE: HTTP://PLCM.DOT.STATE.OH.US/ THE LATEST REVISION, AND THE LANE VALUE CONTRACT TABLE INCLUDED IN THESE PLANS AT 14 DAYS PRIOR TO THE BID, SHALL BE IN EFFECT FOR THIS PROJECT. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

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 GENERAL SUMMARY.

FLOODLIGHTING

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

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

SEQUENCE OF CONSTRUCTION

ALL LANE CLOSURES OR RESTRICTIONS SHALL CONFORM TO THE PERMITTED LANE CLOSURE TIMES AS INDICATED IN THE ABOVE NOTE OR IN THE LANE VALUE CONTRACT TABLE PROVIDED IN SHEET 5. ALL RAMPS SHALL REMAIN OPENED TO TRAFFIC UNLESS INDICATED BELOW:

HAM-71-0752
- NORTHBOUND DOUBLE RIGHT LANE CLOSURE: SEE SHEETS 10-11
- SOUTHBOUND DOUBLE RIGHT LANE CLOSURE: THE DOUBLE RIGHT LANE CLOSURE FROM THE HAM-71-0774 STRUCTURE SHALL BE EXTENDED TO THIS LOCATION PER SHEET 11.

- NORTHBOUND DOUBLE LEFT LANE CLOSURE: SEE TABLE ON SHEET 9
- SOUTHBOUND DOUBLE LEFT LANE CLOSURE: SEE SHEETS 14-15

HAM-71-0774
- NORTHBOUND DOUBLE RIGHT LANE CLOSURE: THE DOUBLE RIGHT LANE CLOSURE FROM THE HAM-71-0752 STRUCTURE SHALL BE EXTENDED TO THIS LOCATION PER SHEET 11.
- SOUTHBOUND DOUBLE RIGHT LANE CLOSURE: SEE SHEETS 11 & 13

DURING THE SOUTHBOUND DOUBLE RIGHT LANE CLOSURE, THE EB SR-562 TO SB IR-71 RAMP MAY BE CLOSED FOR CONCURRENT WORK ON THE HAM-562-0319S STRUCTURE. CLOSURE OF THE EB SR-562 TO SB IR-71 RAMP IS NOT PERMITTED OUTSIDE THE HOURS OF 9PM TO 6AM. ONCE WORK ON THE HAM-562-0319S STRUCTURE IS COMPLETE, THE RAMP SHALL BE REOPENED AND TRAFFIC SHALL BE MAINTAINED PER "RAMP ALTERNATE" DRAWING ON SHEET 12 OR AS NOTED ON SHEET 11.

- NORTHBOUND DOUBLE LEFT LANE CLOSURE: SEE TABLE ON SHEET 9
- SOUTHBOUND DOUBLE LEFT LANE CLOSURE: SEE SHEETS 14-15

HAM-71-0842
- NORTHBOUND INSIDE RIGHT LANE CLOSURE: SEE SHEETS 16-17 (DURING THIS SET UP, RAMP J IS CLOSED AND DETOURED PER SHEET 8A)
- NORTHBOUND OUTSIDE RIGHT LANE CLOSURE: SEE SHEET 17A
- SOUTHBOUND SINGLE RIGHT LANE CLOSURE: SEE SHEET 17

- NORTHBOUND DOUBLE LEFT LANE CLOSURE: SEE SHEETS 18-19
- SOUTHBOUND DOUBLE LEFT LANE CLOSURE: SEE TABLE ON SHEET 9

HAM-562-0255
- EASTBOUND SINGLE RIGHT LANE CLOSURE: SEE SHEET 20
- WESTBOUND RIGHT LANE & NORWOOD AVE EXIT RAMP CLOSURE: SEE SHEETS 20-21

LANE AND RAMP CLOSURE SHALL CONFORM TO THE PERMITTED LANE CLOSURE TIMES AND THE HOURS INDICATED IN SHEET 5. DURING THE RAMP CLOSURE, TRAFFIC SHALL BE DETOURED PER SHEET 6.

- EASTBOUND LEFT LANE CLOSURE: SEE TABLE ON SHEET 9
- WESTBOUND LEFT LANE CLOSURE: SEE TABLE ON SHEET 9

HAM-562-0319
RAMP J & K (EASTBOUND DIRECTION):
- MAINTAIN A MINIMUM 2' SHOULDER AND 11' LANE ON THE RIGHT SIDES OF RAMPS J & K PER SHEET 23.
- MAINTAIN A MINIMUM 2' SHOULDER AND 11' LANE ON THE LEFT SIDES OF RAMPS J & K PER SCD MT-98.28. LANE RESTRICTIONS NOTED ABOVE SHALL BE RESTRICTED TO THE HOURS INDICATED ON SHEET 5.

RAMP I & L (WESTBOUND DIRECTION):
- CLOSE RAMP I (SB IR-71 TO WB SR-562) TO TRAFFIC BETWEEN 9PM AND 6AM PER SCD MT-98.29 AND PERFORM STRUCTURE WORK UNDER THE WESTBOUND RIGHT LANE. RAMP L (NB IR-71 TO WB SR-562) SHALL BE MAINTAINED USING THE EXISTING WESTBOUND LEFT LANE. RAMP I SHALL BE DETOURED PER SHEET 7.
- MAINTAIN RAMP L VIA A LANE SHIFT AS SHOWN ON SHEET 22 AND PERFORM STRUCTURE WORK UNDER THE WESTBOUND LEFT LANE. RAMP I SHALL BE CLOSED TO TRAFFIC PER SCD MT-98.29. THE RAMP L LANE SHIFT AND RAMP I CLOSURE SHALL BE LIMITED TO THE TIME BETWEEN 9PM TO 6AM. RAMP I SHALL BE DETOURED PER SHEET 7.

HAM-562-0319S
CLOSE THE SR-562 EB TO IR-71SB RAMP (RAMP E) BETWEEN THE HOURS OF 9PM TO 6AM AND PERFORM THE STRUCTURE WORK. RAMP CLOSURE SHALL BE PER SHEET 21. DETOUR RAMP TRAFFIC PER SHEET 8. THIS WORK SHALL BE CONCURRENT WITH THE WORK AT THE HAM-71-0752 AND HAM-71-0774 LOCATIONS.

CALCULATED AT | CHECKED PRS

MOT GENERAL NOTES

HAM-71/562-7.52/2.55

CALCULATED AT | CHECKED PRS

MOT GENERAL NOTES

HAM-71/562-7.52/2.55

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE (OFFICE OF MATERIALS MANAGEMENT WEB PAGE). THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FEET AND 475 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

THE PCMS SHALL BE PLACED AT EACH END OF THE PROJECT AREA AND AS SHOWN ON THE DETOUR PLANS ON SHEETS 6-8A. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

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

THE MESSAGES TO BE DISPLAYED ON THE SIGNS WILL BE: "ROAD WORK AHEAD" "RIGHT/LEFT LANE CLOSED AHEAD" OR AS PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

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

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

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 3 SIGN MONTH

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

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

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

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

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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

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

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

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

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

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 1500 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

SCHEDULE OF THRU LANES TO BE MAINTAINED

I-71 NORTHBOUND & SOUTHBOUND; HAM-71-0752/0774		
SECTION	PERMITTED LANE REDUCTION	
	ONE LANE CLOSED	TWO LANES CLOSED
3-LANE SECTION	WEEKDAY 9:00 PM TO 6:00 AM WEEKEND 7:00 PM TO 6:00 AM	WEEKDAY 11:00 PM TO 5:00 AM WEEKEND 10:00 PM TO 5:00 AM
4-LANE SECTION	WEEKDAY 7:00 PM TO 6:00 AM WEEKEND 6:00 PM TO 7:00 AM	WEEKDAY 8:00 PM TO 6:00 AM WEEKEND 7:00 PM TO 6:00 AM

I-71 SOUTHBOUND; HAM-71-0842		
SECTION	PERMITTED LANE REDUCTION	
	ONE LANE CLOSED	TWO LANES CLOSED
3-LANE SECTION	WEEKDAY 9:00 PM TO 6:00 AM WEEKEND 7:00 PM TO 6:00 AM	WEEKDAY 11:00 PM TO 5:00 AM WEEKEND 10:00 PM TO 5:00 AM

I-71 NORTHBOUND; HAM-71-0842		
SECTION	PERMITTED LANE REDUCTION	
	ONE LANE CLOSED	TWO LANES CLOSED
EXIT ONLY LANE TO RIDGE AVE NORTH (EXIT 8C)	WEEKDAY 7:00 PM TO 6:00 AM WEEKEND 6:00 PM TO 7:00 AM	N/A
I-71 MAINLINE LANES; RAMP J*	WEEKDAY 9:00 PM TO 6:00 AM WEEKEND 7:00 PM TO 6:00 AM	WEEKDAY 11:00 PM TO 5:00 AM WEEKEND 10:00 PM TO 5:00 AM
I-71 MAINLINE LANES; RAMP J - MERGE CONDITION	WEEKDAY 11:00 PM TO 5:00 AM WEEKEND 10:00 PM TO 5:00 AM	N/A

*DURING ONE LANE CLOSED, RAMP J SHALL BE IN AN ADD LANE CONDITION; DURING TWO LANES CLOSED, RAMP J SHALL BE CLOSED TO TRAFFIC.

I-71 AND SR-562 RAMPS		
SECTION	SHORT-TERM PERMITTED RAMP CLOSURES, LANE REDUCTIONS	
	FULL CLOSURE WITH DETOUR	PARTIAL-WIDTH CLOSURE (MAINTAIN ONE 11' LANE)
ALL RAMPS**	WEEKDAY OR WEEKEND 9:00 PM TO 6:00 AM	WEEKDAY 7:00 PM TO 6:00 AM WEEKEND PERMITTED ALL HOURS

**NOTES:
- RAMP E, RAMP J AND RAMP FROM WB 562 TO US22/3 ARE LIMITED TO A MAXIMUM OF 7 CLOSURES EACH.
- RAMP I IS LIMITED TO A MAXIMUM OF 14 CLOSURES EACH.
- ONLY ONE RAMP IS PERMITTED TO BE CLOSED AT A TIME.

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE DOLLAR PER TIME UNIT PER LANE
I-71 AND RAMPS	SEE SCHEDULE OF THRU LANES TO BE MAINTAINED	15 MIN. PERIOD	$1,875
SR-562	SEE PLCM	15 MIN. PERIOD	$1,125

NOTE: NO CLOSURES 2 HOURS BEFORE TO 2 HOURS AFTER EVENTS AT GREAT AMERICAN BALL PARK, PAUL BROWN STADIUM, OR US BANK ARENA.

NOT TO SCALE

562 TO NORWOOD AVE RAMP CLOSURE
DETOUR PLAN

CALCULATED AT
CHECKED PRS

WB SR-562 TO

HAM-71/562-7.52/2.55

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

ONE WEEK PRIOR TO CLOSURE

NIGHTLY RAMP CLOSURE

BEGIN *date* 9PM-6AM

DURING THE CLOSURE

RAMP CLOSED 9PM-6AM

DETOUR EXIT #

OR

DETOUR NEXT EXIT

① DETOUR 22 3
M4-8-24
M1-4-36/M1-5-36
M6-3-21

② DETOUR 22 3
M4-8-24
M1-4-36/M1-5-36
M5-2R-21

③ DETOUR 22 3
M4-8-24
M1-4-36/M1-5-36
M6-2-21

④ DETOUR 22 3
M4-8-24
M1-4-36/M1-5-36
M5-1L-21

⑤ DETOUR 22 3
M4-8-24
M1-4-36/M1-5-36
M6-1L-21

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

ONE WEEK PRIOR TO CLOSURE

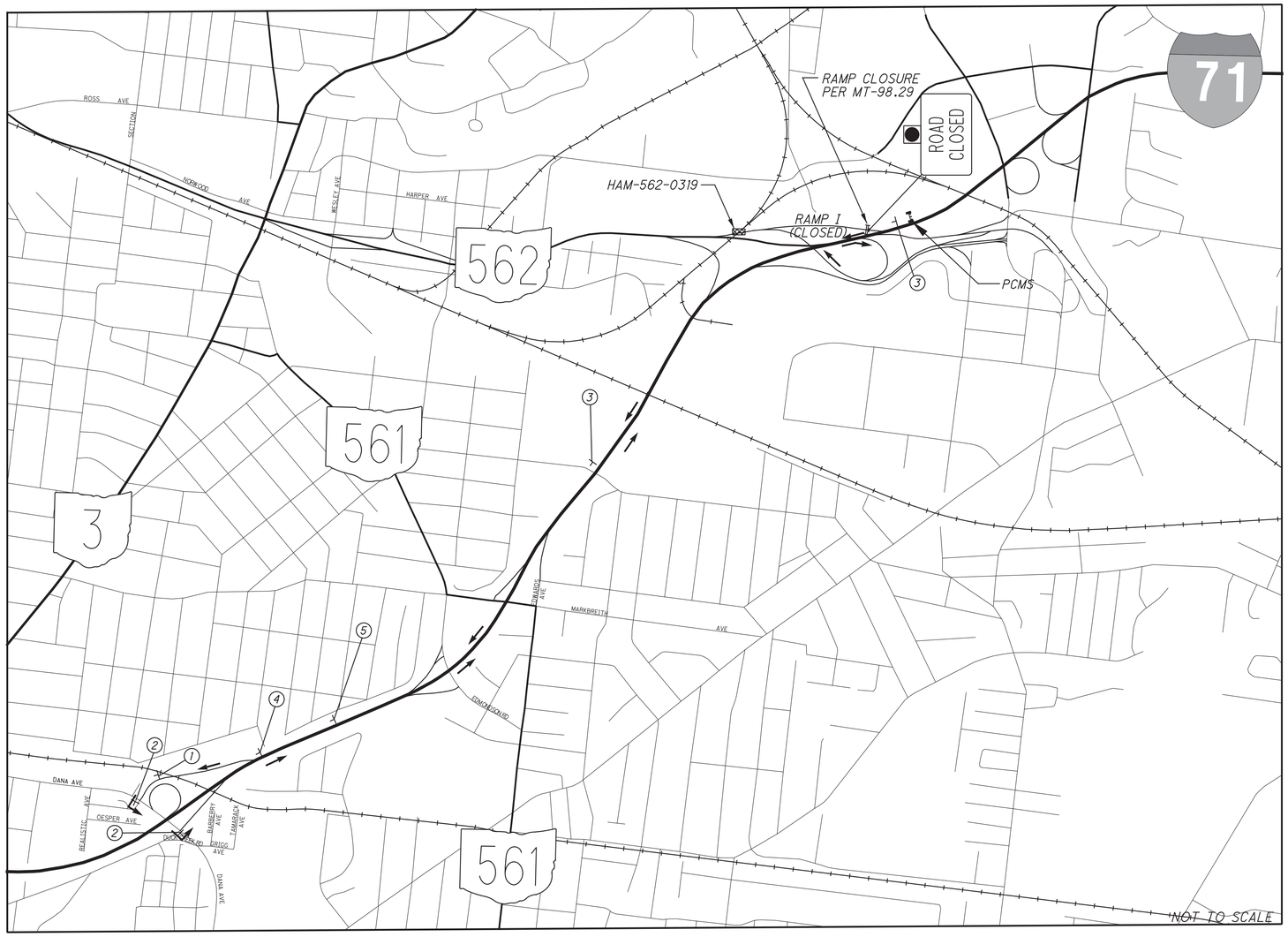
NIGHTLY RAMP CLOSURE	BEGIN *date* 9PM-6AM

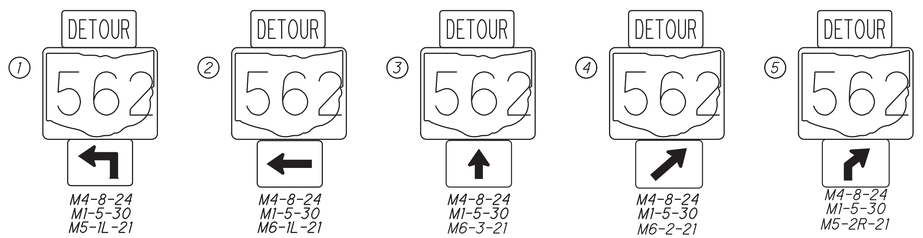
DURING THE CLOSURE

RAMP CLOSED 9PM-6AM	DETOUR EXIT #	OR	DETOUR NEXT EXIT

DYNAMIC MESSAGE SIGNS (DMS)

THE PROJECT ENGINEER OR DWZTE SHALL COORDINATE WITH THE TMC TO UTILIZE THE DMS BOARDS TO SUPPLEMENT THE DETOUR PLAN.



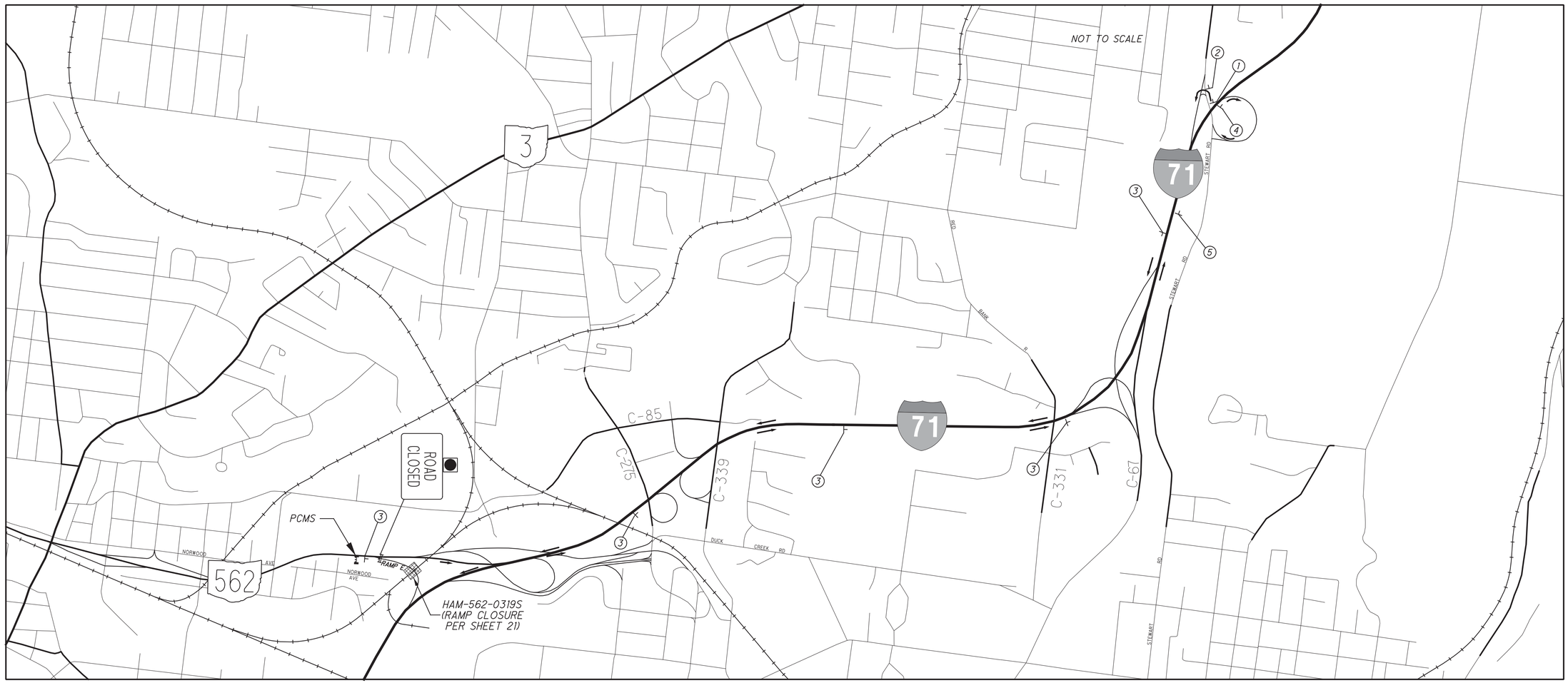


CALCULATED AT
CHECKED PRS

SB IR-71 TO WB SR-562 (RAMP I) CLOSURE
DETOUR PLAN

HAM-71/562-7.52/2.55

7
59



PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

ONE WEEK PRIOR TO CLOSURE

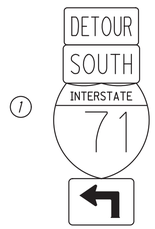
NIGHTLY RAMP CLOSURE	BEGIN *date* 9PM-6AM

DURING THE CLOSURE

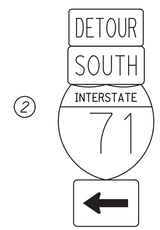
RAMP CLOSED 9PM-6AM	DETOUR EXIT #	OR	DETOUR NEXT EXIT

DYNAMIC MESSAGE SIGNS (DMS)

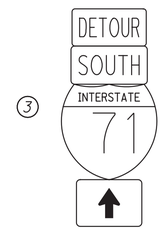
THE PROJECT ENGINEER OR DWZTE SHALL COORDINATE WITH THE TMC TO UTILIZE THE DMS BOARDS TO SUPPLEMENT THE DETOUR PLAN.



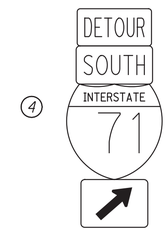
M4-8-24
M3-3-24
M1-5-36
M5-1L-21



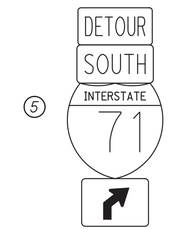
M4-8-24
M3-3-24
M1-5-36
M6-1L-21



M4-8-24
M3-3-24
M1-5-36
M6-3-21



M4-8-24
M3-3-24
M1-5-36
M6-2-21



M4-8-24
M3-3-24
M1-5-36
M5-2R-21

CALCULATED AT
CHECKED PRS

SR-562 TO SB IR-71 (RAMP E) CLOSURE DETOUR PLAN

HAM-71/562-7.52/2.55

8
59

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

ONE WEEK PRIOR TO CLOSURE

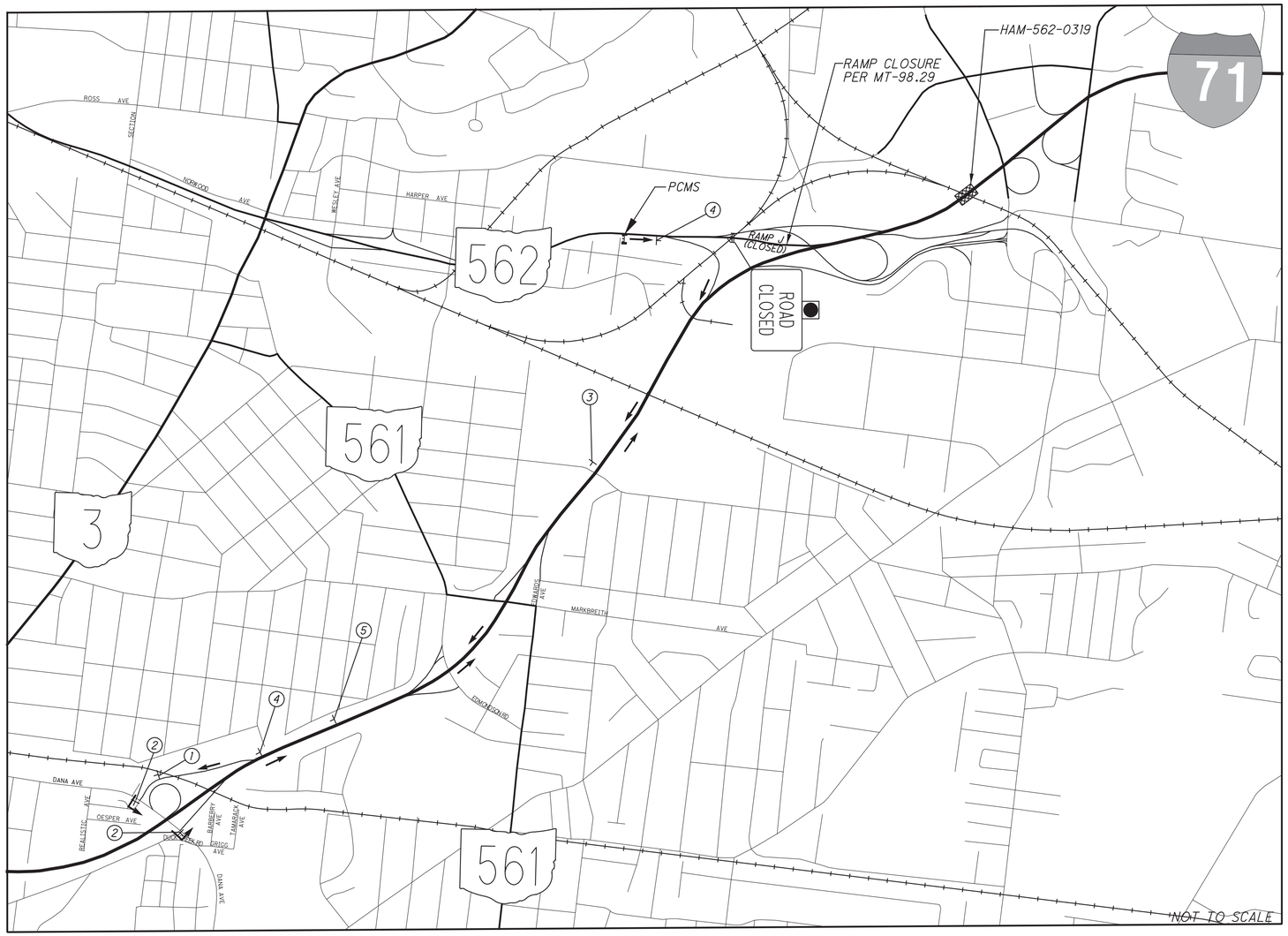
NIGHTLY RAMP CLOSURE	BEGIN *date* 9PM-6AM

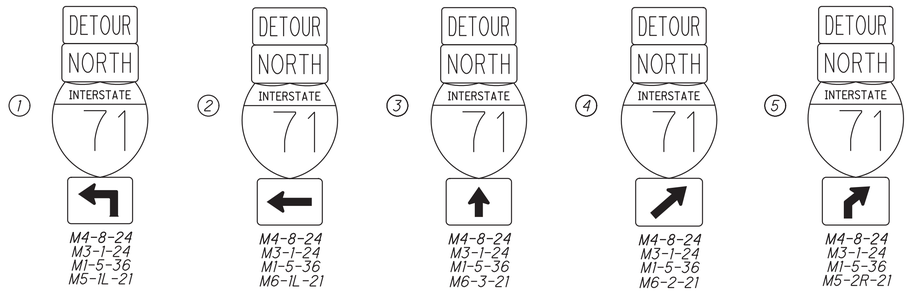
DURING THE CLOSURE

RIDGE LT LANE ONLY	NB & SB 1-71 RT LANE

DYNAMIC MESSAGE SIGNS (DMS)

THE PROJECT ENGINEER OR DWZTE SHALL COORDINATE WITH THE TMC TO UTILIZE THE DMS BOARDS TO SUPPLEMENT THE DETOUR PLAN.





CALCULATED AT
CHECKED PRS

EB SR-562 TO NB IR-71 (RAMP J) CLOSURE
DETOUR PLAN

HAM-71/562-7.52/2.55

8A
59

NB DOUBLE LEFT LANE CLOSURE DETAIL LOCATION: HAM-71-0752 & HAM-71-0774 POSTED SPEED LIMIT: 55 MPH				
	BEGIN STA.	END STA.	TAPER RATE	DRUM SPACING (FT)
ROAD WORK AHEAD 1 MILE w/ Type A Warning Light (W20-1-48, W16-3aP-30)	273+00	-	-	-
2 LEFT LANES CLOSED ½ MILE w/ Type A Warning Light (W20-5a-48)*	279+60	-	-	-
LEFT LANE CLOSED (W4-2L-48)	312+60	-	-	-
FLASHING ARROW 1	322+70	-	-	-
LEFT LANE CLOSED (W4-2L-48)	341+30	-	-	-
FLASHING ARROW 2	342+40	-	-	-
SHOULDER TAPER	320+90	322+60	19:1	20
MERGING TAPER (1)	322+60	329+20	55:1	50
TANGENT SECTION	329+20	342+40	-	50
MERGING TAPER (2)	342+40	349+00	55:1	50
LONGITUDINAL BUFFER TO THE END OF WORK AREA	349+00	363+50	-	20
END ROAD WORK (G20-2-48)	409+00	-	-	-

* PLACE A LEFT LANE CLOSED AHEAD (W20-5-48) SIGN WHEN ONLY CLOSING ONE LANE.

SB DOUBLE LEFT LANE CLOSURE DETAIL LOCATION: HAM-71-0842 POSTED SPEED LIMIT: 55 MPH				
	BEGIN STA.	END STA.	TAPER RATE	DRUM SPACING (FT)
ROAD WORK AHEAD 1 MILE w/ Type A Warning Light (W20-1-48, W16-3aP-30)	479+80	-	-	-
2 LEFT LANES CLOSED ½ MILE w/ Type A Warning Light (W20-5a-48)*	453+40	-	-	-
LEFT LANE CLOSED (W4-2L-48)	438+40	-	-	-
FLASHING ARROW 1	428+30	-	-	-
LEFT LANE CLOSED (W4-2L-48)	407+50	-	-	-
FLASHING ARROW 2	408+60	-	-	-
SHOULDER TAPER	430+30	428+40	19:1	20
MERGING TAPER (1)	428+40	421+80	55:1	50
TANGENT SECTION	421+80	408+60	-	50
MERGING TAPER (2)	408+60	402+00	55:1	50
LONGITUDINAL BUFFER TO THE END OF WORK AREA	402+00	398+50	-	20
END ROAD WORK (G20-2-48)	341+00	-	-	-

* PLACE A LEFT LANE CLOSED AHEAD (W20-5-48) SIGN WHEN ONLY CLOSING ONE LANE.

EB SINGLE LEFT LANE CLOSURE DETAIL LOCATION: HAM-562-0255 POSTED SPEED LIMIT: 55 MPH				
	BEGIN STA.	END STA.	TAPER RATE	DRUM SPACING (FT)
ROAD WORK AHEAD 1 MILE w/ Type A Warning Light (W20-1-48, W16-3aP-30)	77+00	-	-	-
LEFT LANE CLOSED AHEAD w/ Type A Warning Light (W20-5-48)	103+40	-	-	-
LEFT LANE CLOSED (W4-2L-48)	118+40	-	-	-
FLASHING ARROW 1	128+50	-	-	-
FLASHING ARROW 2	-	-	-	-
SHOULDER TAPER	126+90	128+40	19:1	20
MERGING TAPER (1)	128+40	135+00	55:1	50
TANGENT SECTION	-	-	-	-
MERGING TAPER (2)	-	-	-	-
LONGITUDINAL BUFFER TO THE END OF WORK AREA	135+00	138+50	-	20
END ROAD WORK (G20-2-48)	SEE SHEET 23	-	-	-

WB SINGLE LEFT LANE CLOSURE DETAIL LOCATION: HAM-562-0255 POSTED SPEED LIMIT: 55 MPH				
	BEGIN STA.	END STA.	TAPER RATE	DRUM SPACING (FT)
ROAD WORK AHEAD 1 MILE w/ Type A Warning Light (W20-1-48, W16-3aP-30)	199+00	-	-	-
LEFT LANE CLOSED AHEAD w/ Type A Warning Light (W20-5-48)	172+60	-	-	-
LEFT LANE CLOSED (W4-2L-48)	157+60	-	-	-
FLASHING ARROW 1	147+50	-	-	-
FLASHING ARROW 2	-	-	-	-
SHOULDER TAPER	149+10	147+60	19:1	20
MERGING TAPER (1)	147+60	141+00	55:1	50
TANGENT SECTION	-	-	-	-
MERGING TAPER (2)	-	-	-	-
LONGITUDINAL BUFFER TO THE END OF WORK AREA	141+00	137+50	-	20
END ROAD WORK (G20-2-48)	118+00	-	-	-

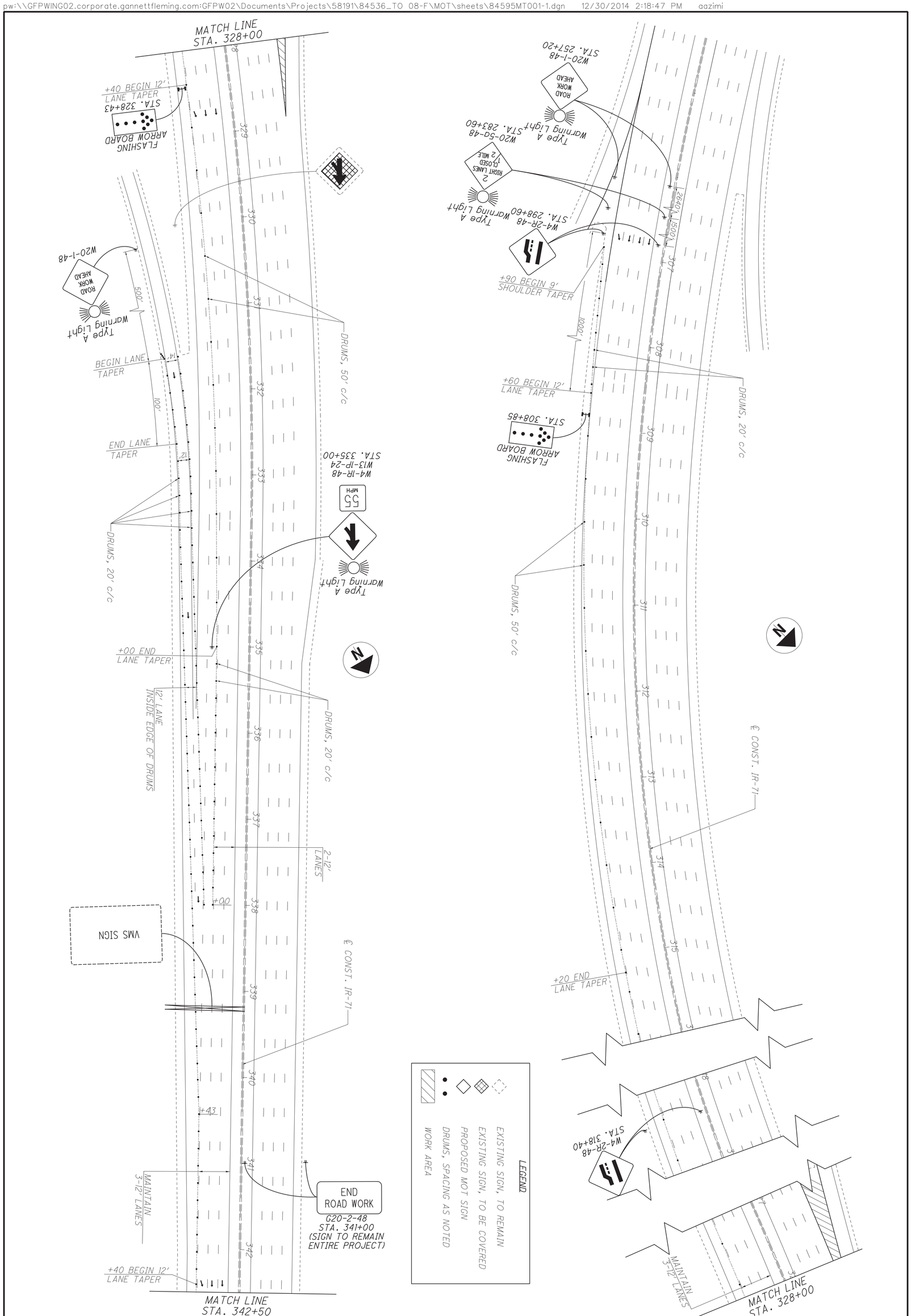
NOTES: ALL SIGNS SHALL BE DUAL MOUNTED ON LEFT AND RIGHT SIDES.

THE PERIMETER SIGNAGE ON 71 AND 562 ("ROAD WORK AHEAD" AND "END ROAD WORK" SIGNS) IS TO REMAIN IN PLACE AT ALL TIMES FROM THE START OF WORK TO THE WORK COMPLETION.

CALCULATED AA CHECKED AT

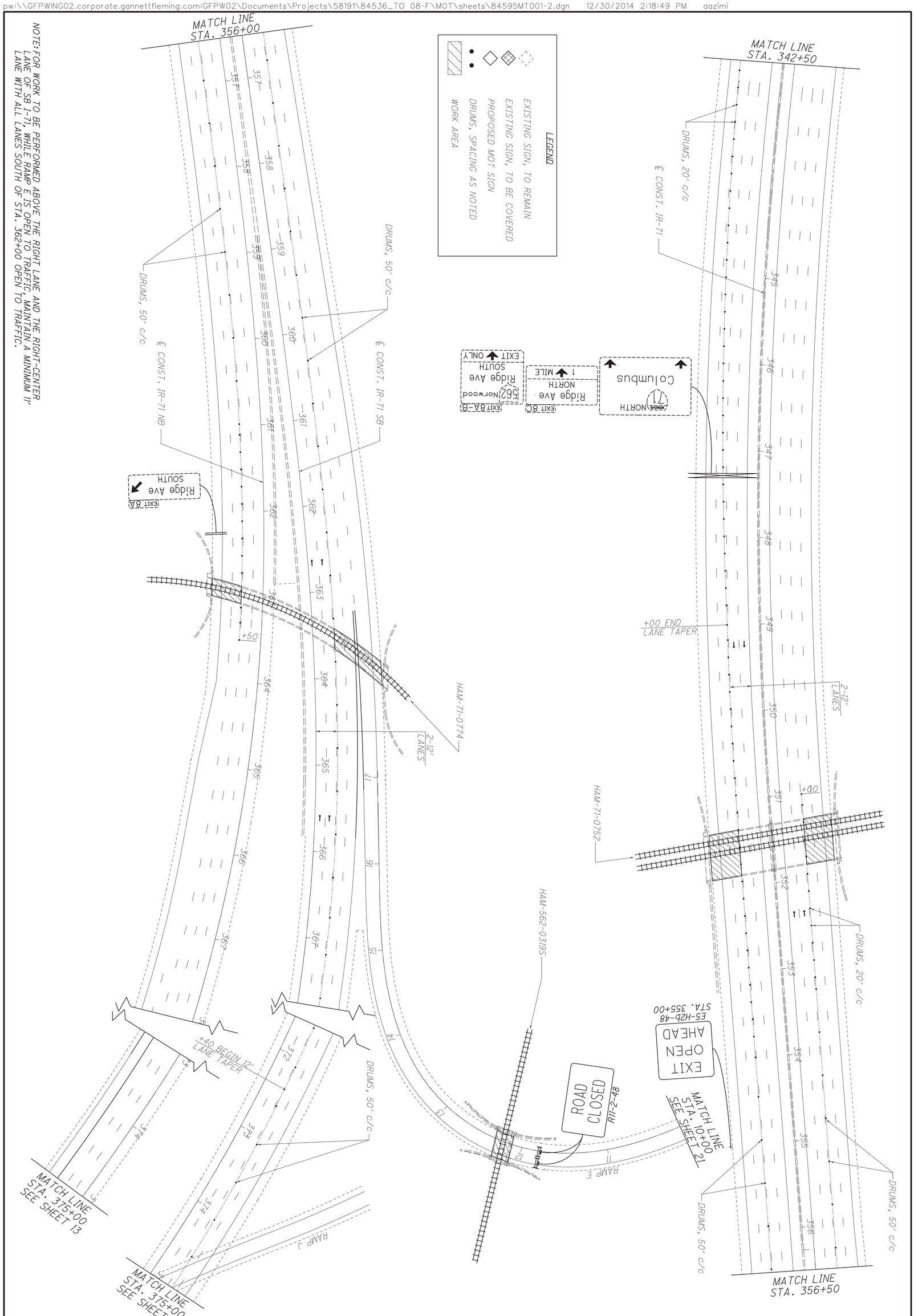
MAINTENACE OF TRAFFIC PLAN
LANE CLOSURE DETAIL

HAM-71/562-7.52/2.55

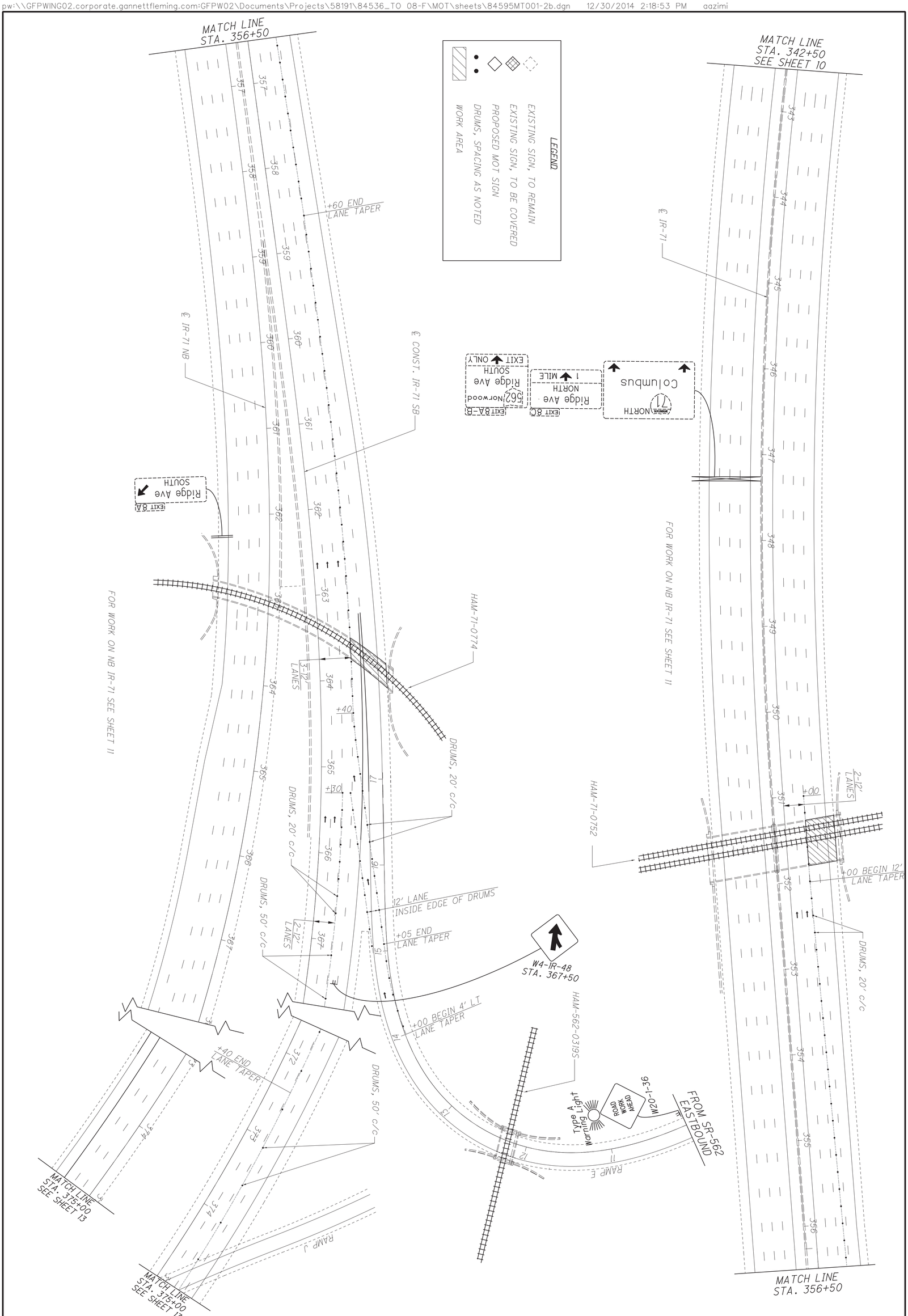


69 / 10	HAM-71/ 562-7.52/ 2.55	MAINTENANCE OF TRAFFIC PLAN HAM-71-0752 & HAM-71-0774 RT LANE CLOSURE	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET

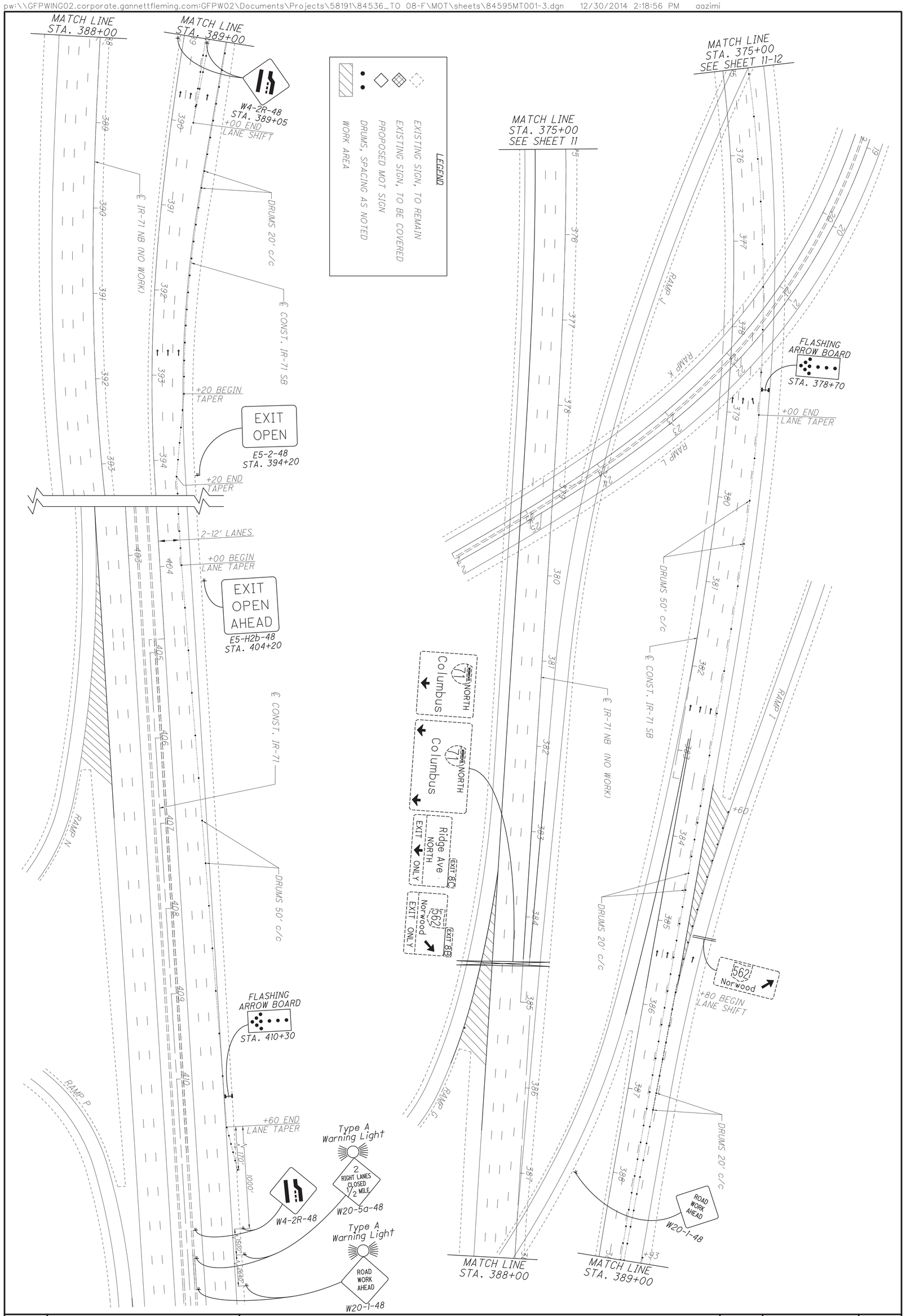
NOTE: FOR WORK TO BE PERFORMED ABOVE THE RIGHT LANE AND THE RIGHT-CENTER LANE OF SB I-71, WHILE RAMP E IS OPEN TO TRAFFIC, MAINTAIN A MINIMUM 11' LANE WITH ALL LANES SOUTH OF STA. 362+00 OPEN TO TRAFFIC.



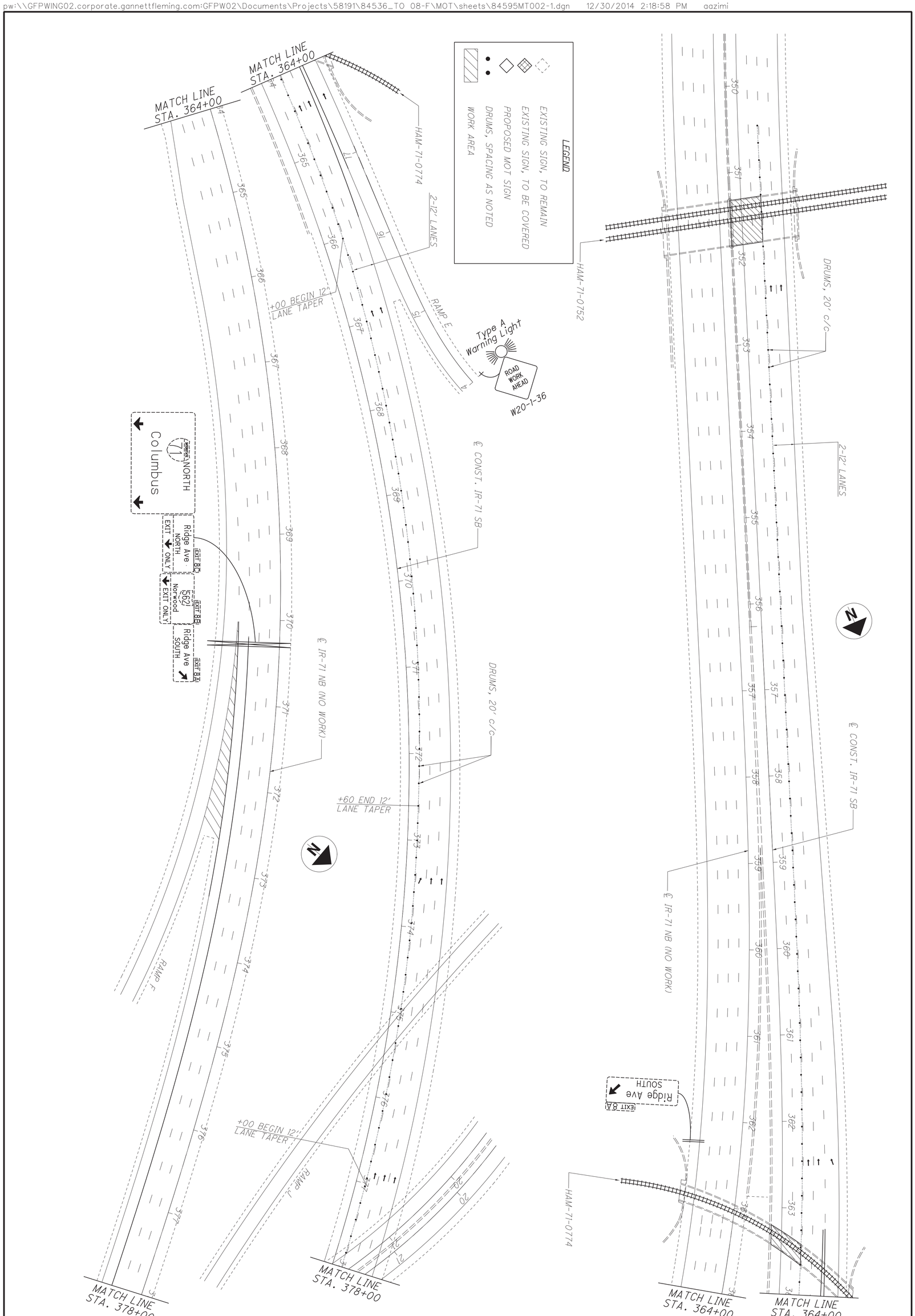
11 / 59	HAM-71/ 562-7.52/ 2.55	MAINTENANCE OF TRAFFIC PLAN HAM-71-0752 & HAM-71-0774 RT LANE CLOSURE	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET	N



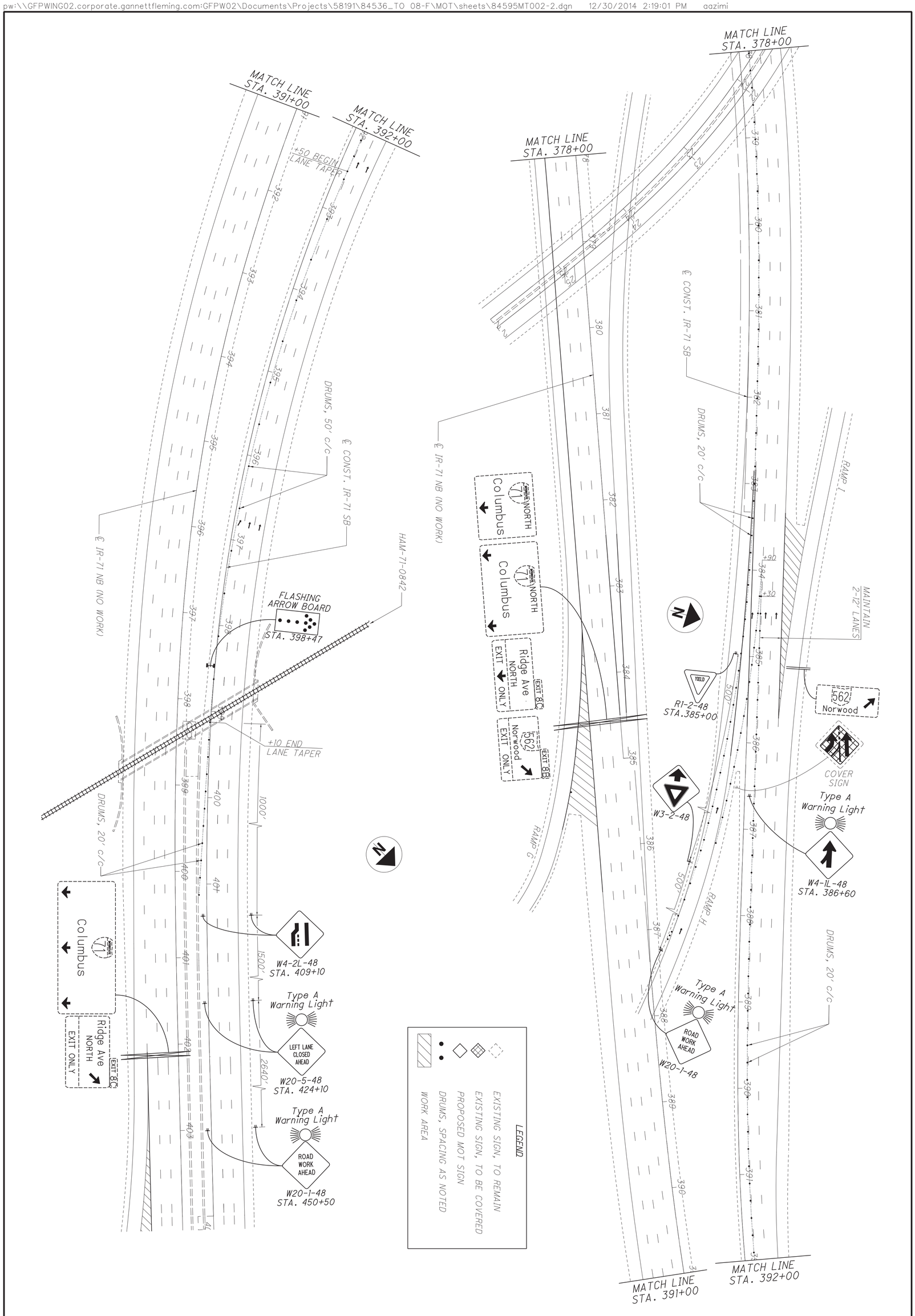
59 / 12	HAM-71/ 562-7.52/ 2.55	MAINTENANCE OF TRAFFIC PLAN HAM-71-0752 & HAM-71-0774 RAMP ALTERNATE	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET



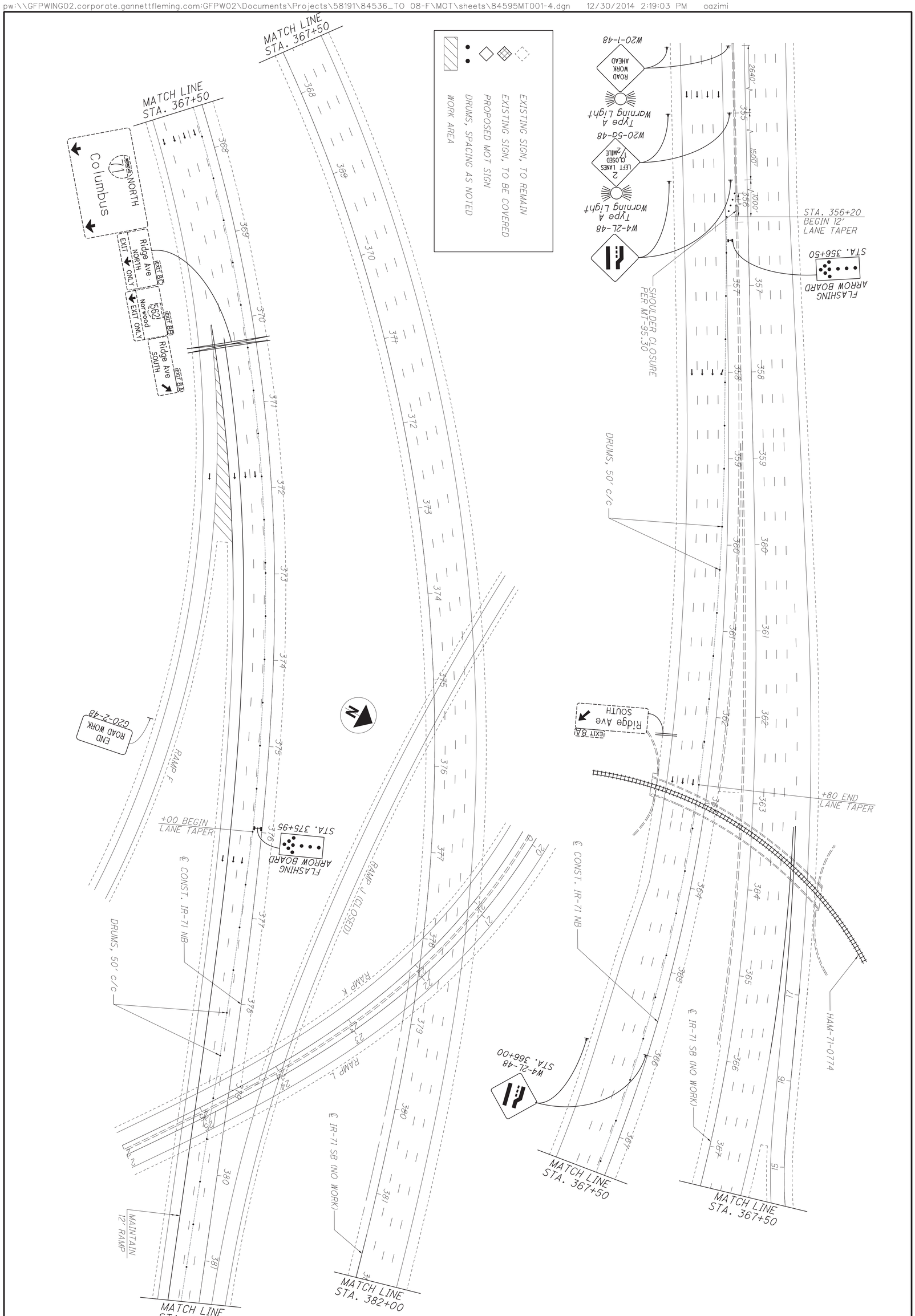
59 / 13	HAM-71/ 562-7.52/ 2.55	MAINTENANCE OF TRAFFIC PLAN HAM-71-0752 & HAM-71-0774 RT LANE CLOSURE	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET	N



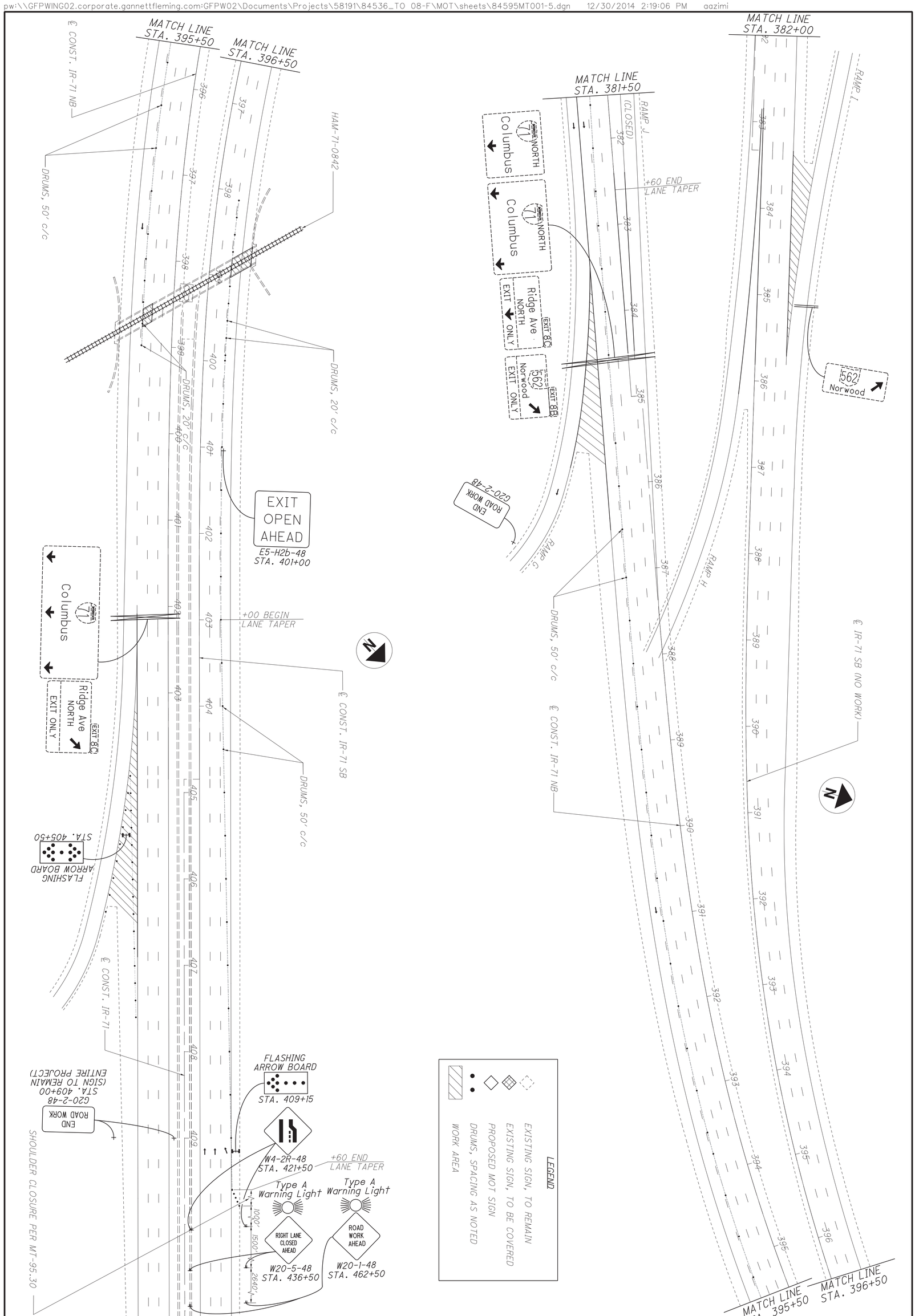
14/59	HAM-71/ 562-7.52/ 2.55	MAINTENACE OF TRAFFIC PLAN HAM-71-0752 & HAM-71-0774 LT LANE CLOSURE	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET



69 / 15	HAM-71/ 562-7.52/ 2.55	MAINTENACE OF TRAFFIC PLAN HAM-71-0752 & HAM-71-0774 LT LANE CLOSURE	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET



59 / 16	HAM-71/562-7.52/2.55	MAINTENANCE OF TRAFFIC PLAN HAM-71-0842 (NB INSIDE RT LANE CLOSURE)	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET



17 / 69	HAM-71/ 562-7.52/ 2.55	MAINTENACE OF TRAFFIC PLAN HAM-71-0842 (NB INSIDE/ SB RT LANE CLOSURE)	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET

pw:\\GFPWINC02.corporate.gannettfleming.com:GFPW02\Documents\Projects\58191\84536_TO 08-F\MOT\sheets\84595MT001-6.dgn 12/30/2014 2:19:09 PM aazimi

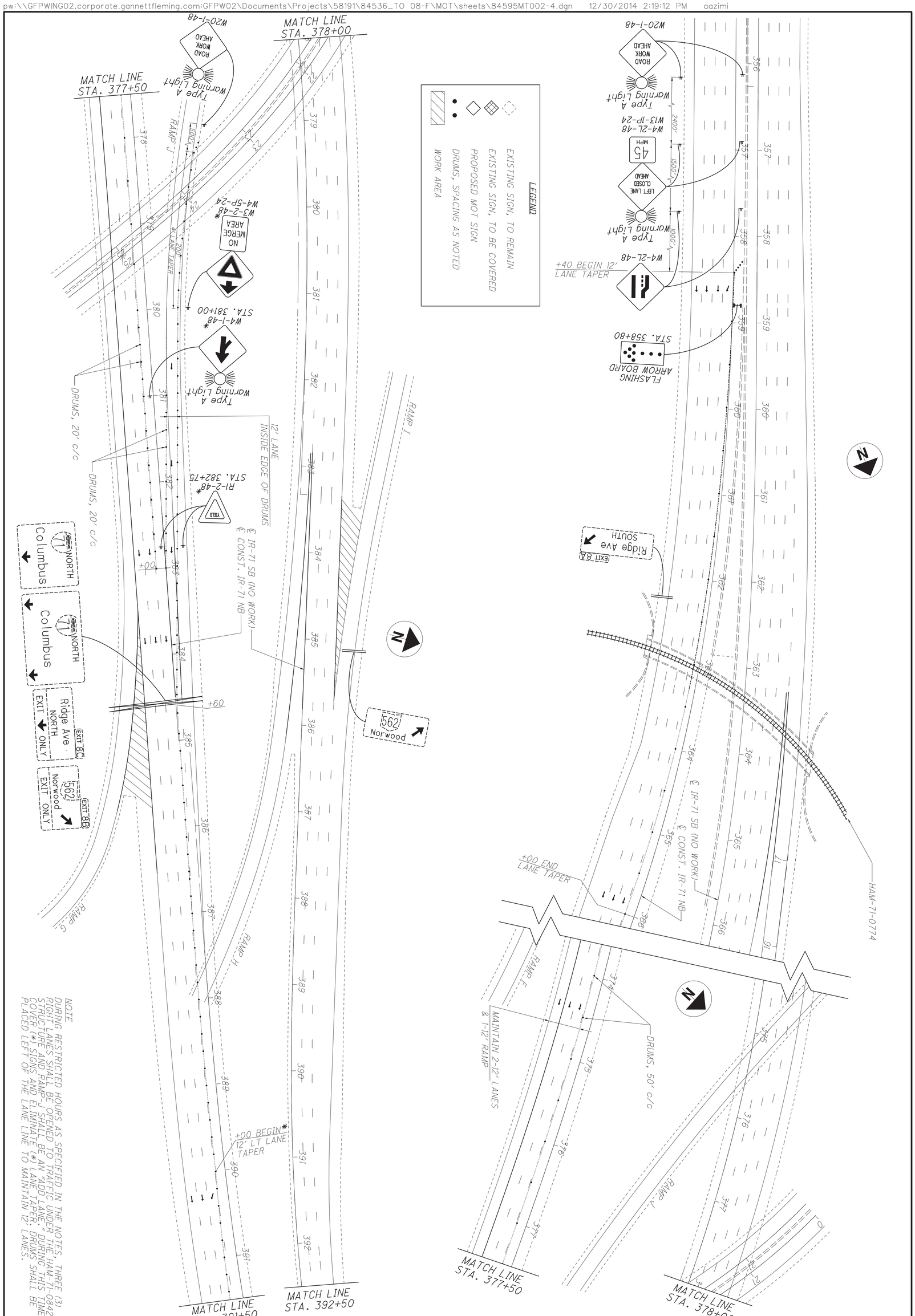
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AA
CHECKED AT

MAINTENANCE OF TRAFFIC PLAN
HAM-71-0842 (NB RT LANE CLOSURE)

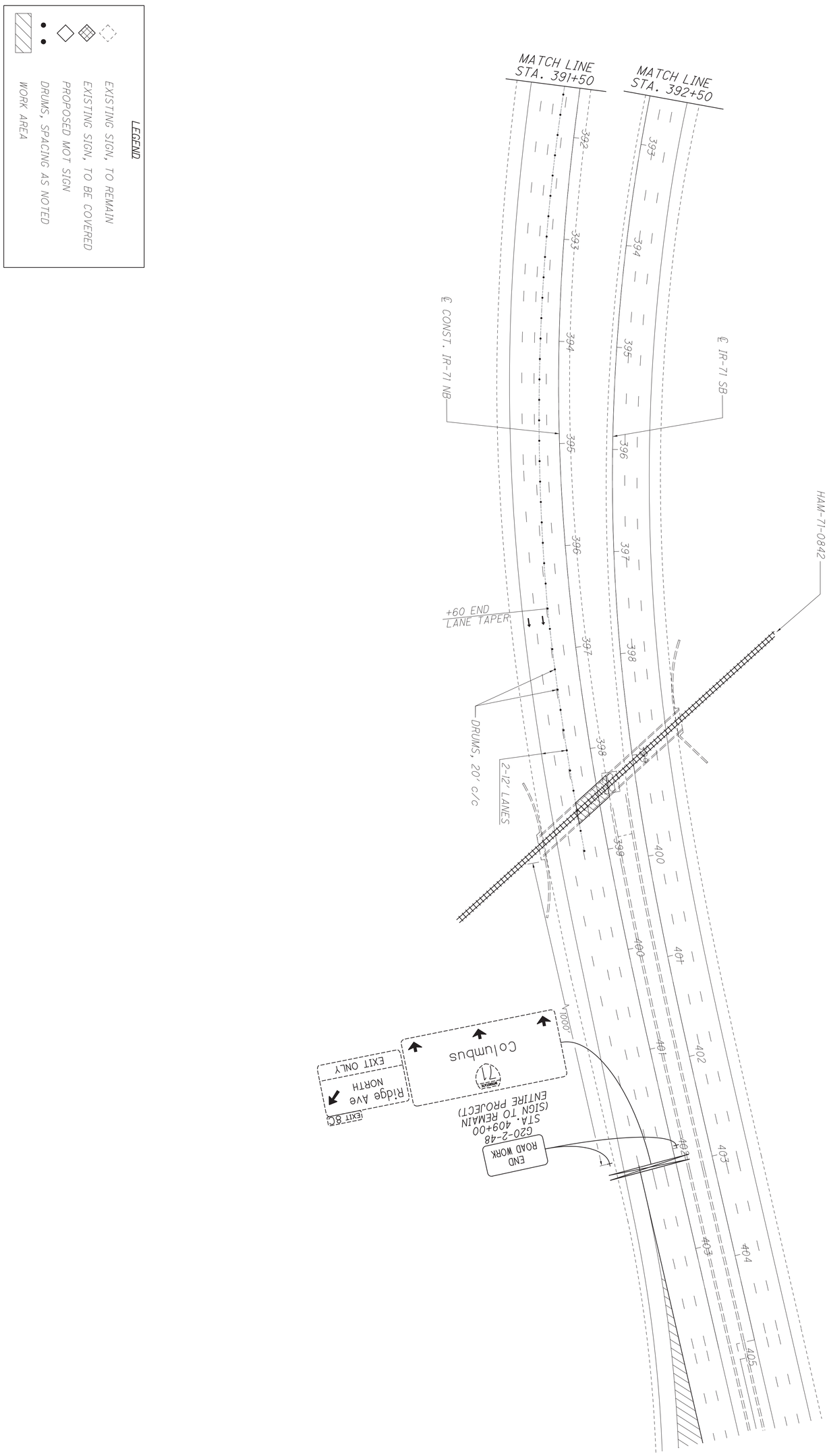
HAM-71/ 562-7.52/ 2.55

17A
59

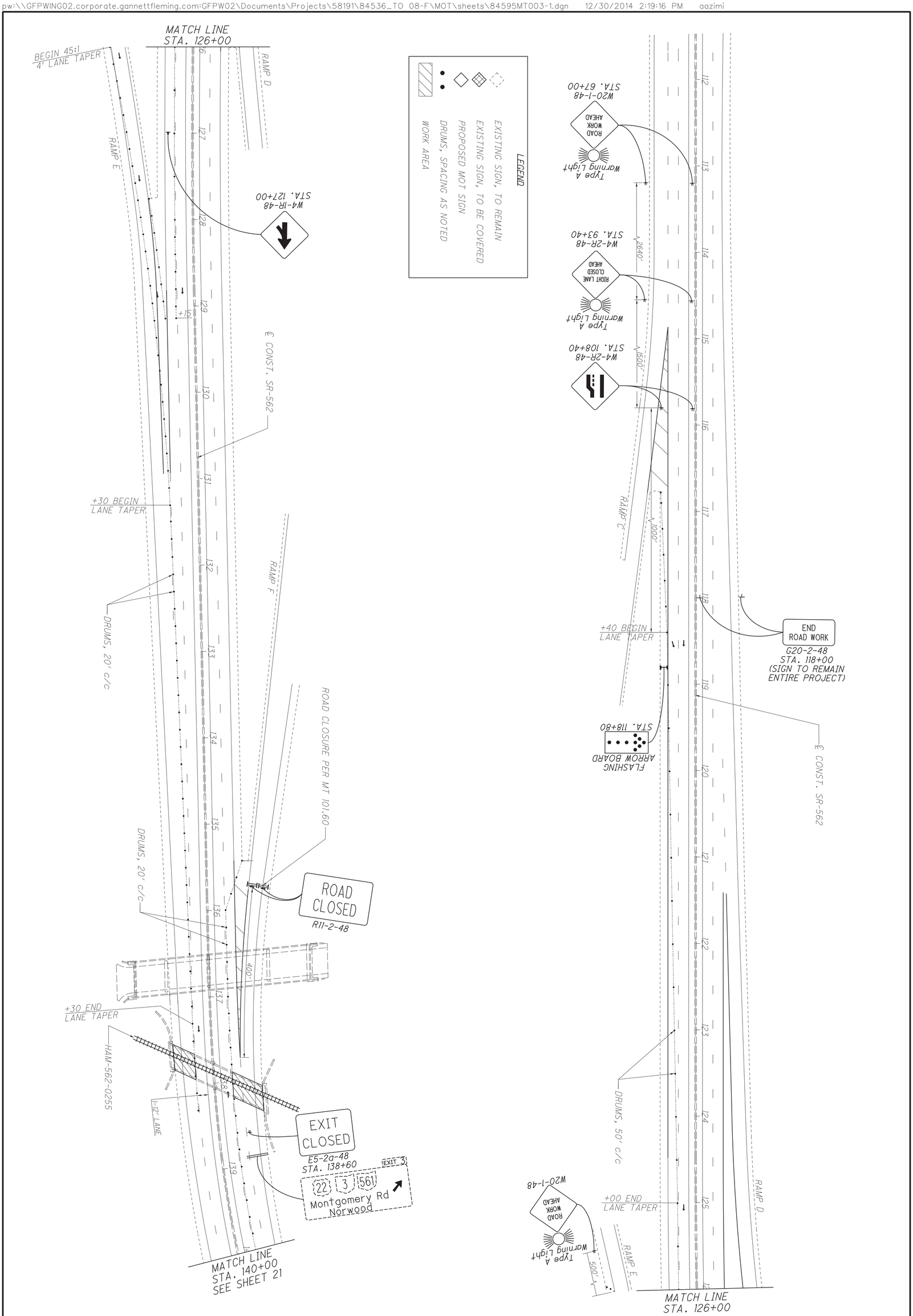


NOTE
DURING RESTRICTED HOURS AS SPECIFIED IN THE NOTES, THREE (3) RIGHT LANES SHALL BE OPENED TO TRAFFIC UNDER THE HAM-71-0842 STRUCTURE AND RAMP-J SHALL BE AN "ADD LANE" DURING THIS TIME. COVER (*) SIGNS AND ELIMINATE (*) LANE TAPER. DRUMS SHALL BE PLACED LEFT OF THE LANE LINE TO MAINTAIN 12' LANES.

59 / 18	HAM-71/ 562-7.52/ 2.55	MAINTENANCE OF TRAFFIC PLAN HAM-71-0842 (LT LANE CLOSURE)	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET	.

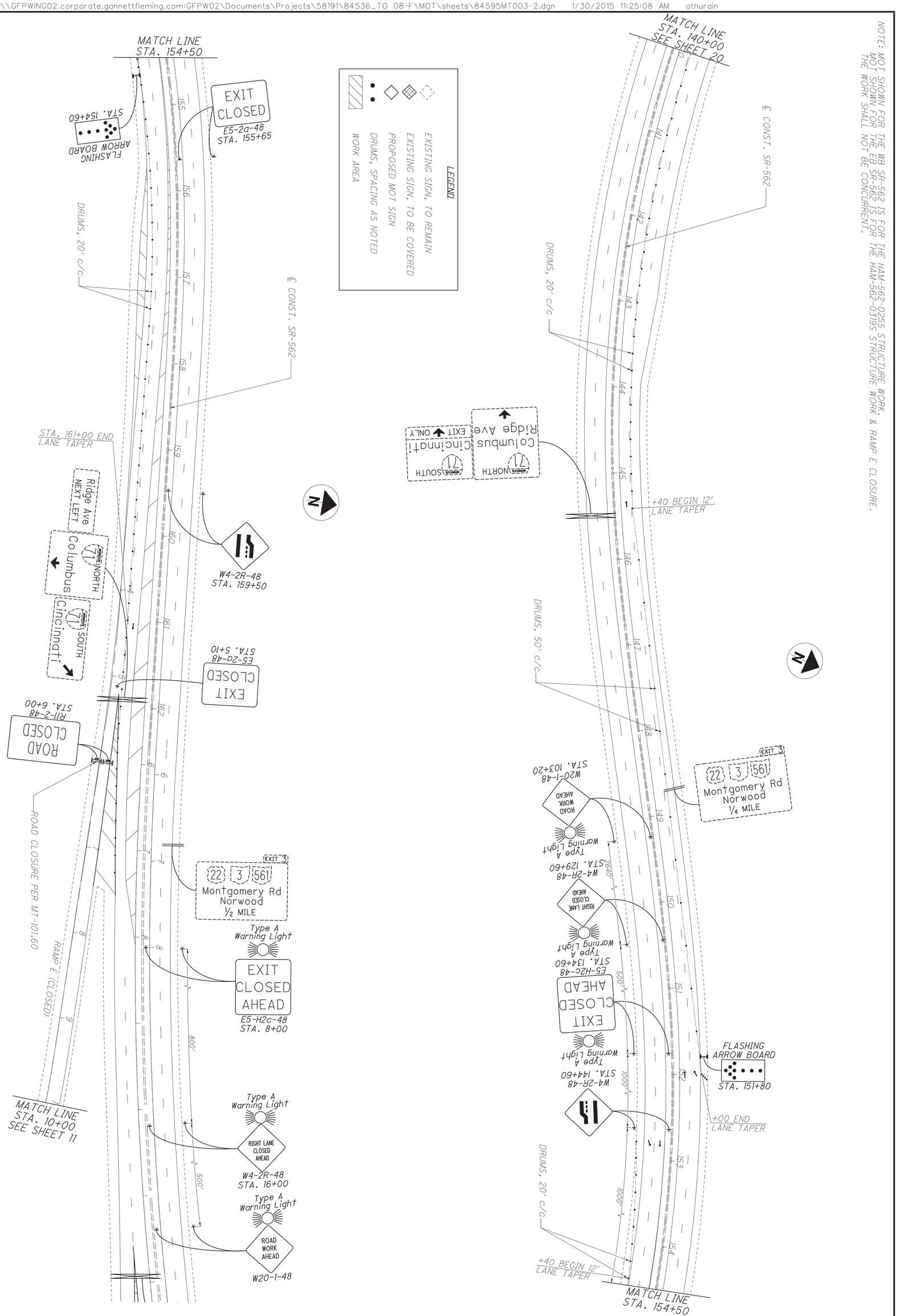


69 / 19	HAM-71/ 562-7.52/ 2.55	MAINTENANCE OF TRAFFIC PLAN HAM-71-0842 (LT LANE CLOSURE)	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET	N

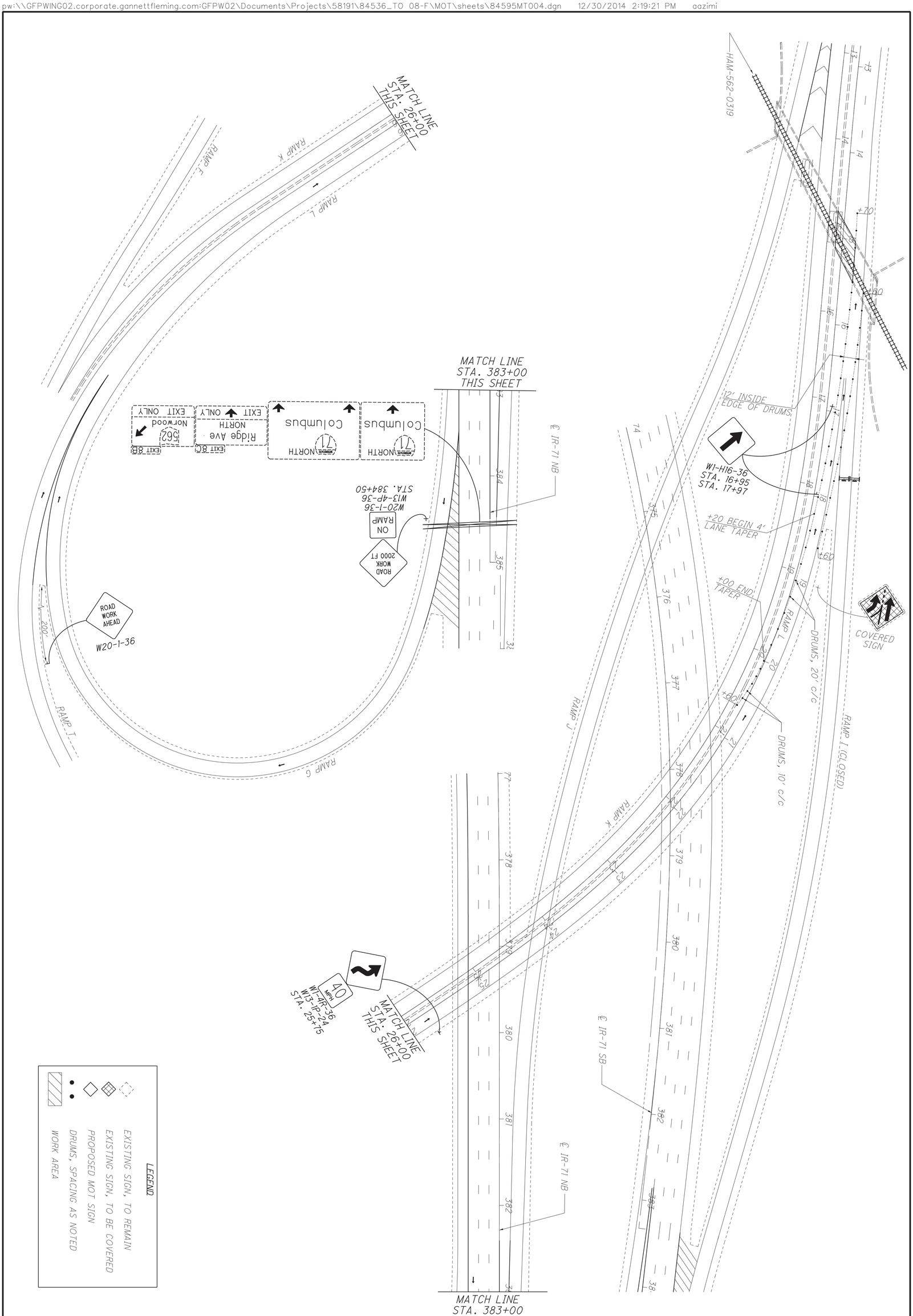


20 / 59	HAM-71/ 562-7.52/ 2.55	**MAINTENACE OF TRAFFIC PLAN** **HAM-562-0255 RT LANE CLOSURE**	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET

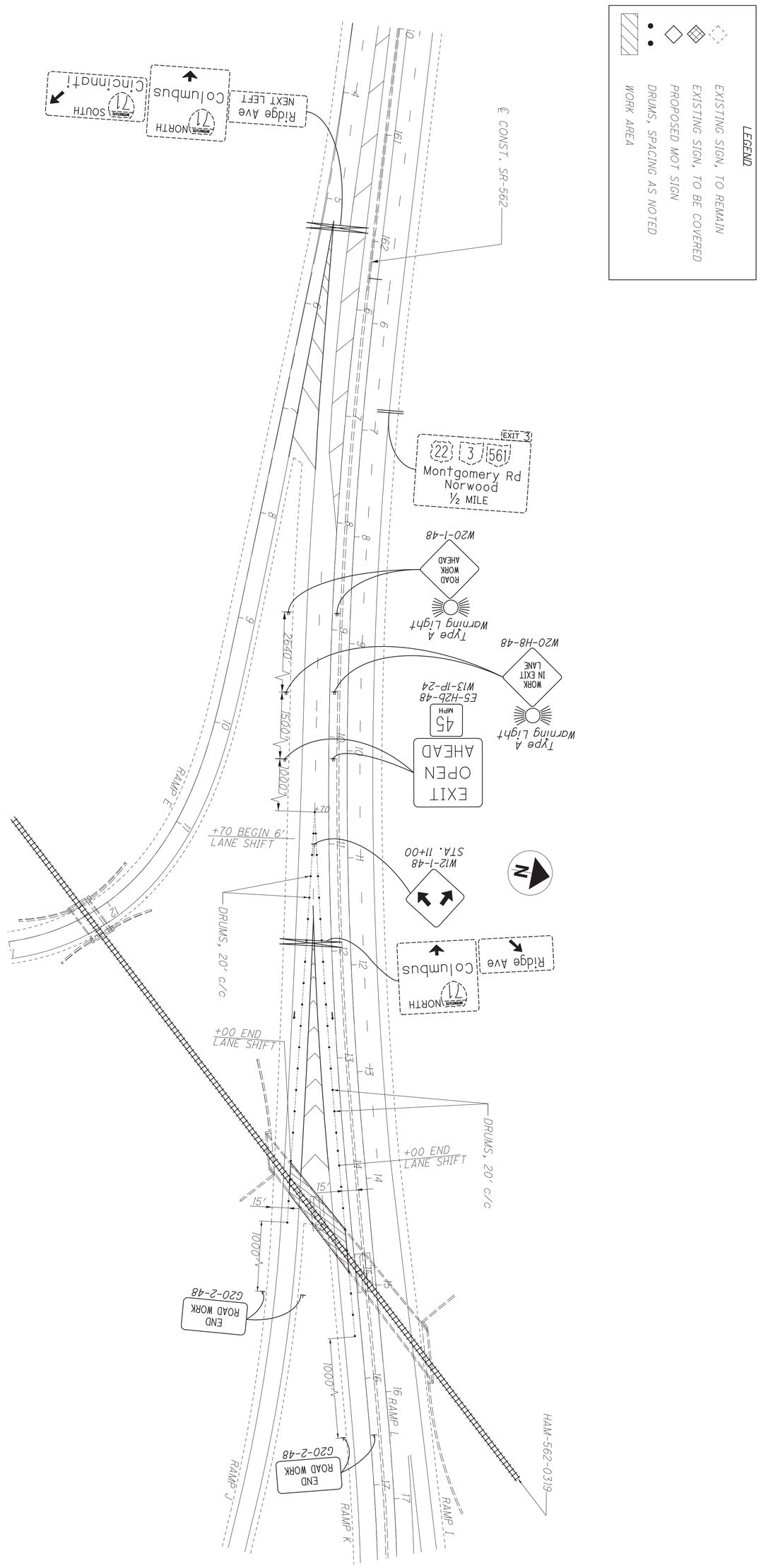
NOTE: MOT SHOWN FOR THE WB SR-562 IS FOR THE HAM-562-0255 STRUCTURE WORK. MOT SHOWN FOR THE EB SR-562 IS FOR THE HAM-562-0319S STRUCTURE WORK & RAMP E CLOSURE. THE WORK SHALL NOT BE CONCURRENT.



21/59	HAM-71/562-7.52/2.55	MAINTENACE OF TRAFFIC PLAN HAM-562-0255 & HAM-562-0319S	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET



22/59	HAM-71/562-7.52/2.55	MAINTENACE OF TRAFFIC PLAN HAM-562-0319 RAMP L	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET



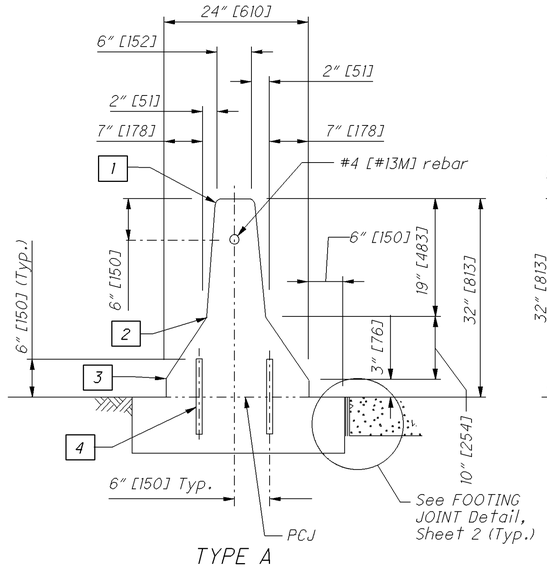
23 / 69	HAM-71/ 562-7.52/ 2.55	MAINTENACE OF TRAFFIC PLAN HAM-562-0319 RAMP J & K	CALCULATED AA CHECKED AT	0 50 25 100 HORIZONTAL SCALE IN FEET

SHEET NUMBER										PARTICIPATION				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	57							01/NHS/BR	02/IMS/BR								
																		ROADWAY	
LUMP										LUMP	LUMP			201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN	3
			135								135			202	38000	135	FT	GUARDRAIL REMOVED	
			15								15			203	10000	15	CY	EXCAVATION	
			50								50			606	15050	50	FT	GUARDRAIL, TYPE MGS	
			1								1			606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
			1								1			606	35002	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			1								1			606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
			125								125			622	24000	125	FT	CONCRETE BARRIER, TYPE D	
																		EROSION CONTROL	
1100										660	440			659	10000	1100	SY	SEEDING AND MULCHING	
0.15										0.1	0.05			659	20000	0.15	TON	COMMERCIAL FERTILIZER	
6										4	2			659	35000	6	MGAL	WATER	
										6000	6000			832	30000	12000	EACH	EROSION CONTROL	
																		TRAFFIC CONTROL	
8										8				626	00100	8	EACH	BARRIER REFLECTOR	
																		MAINTENANCE OF TRAFFIC	
		1500								1000	500			614	11110	1500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	LUMP									LUMP	LUMP			614	12420	LS		DETOUR SIGNING	
	50									20	30			614	12600	50	EACH	REPLACEMENT DRUM	
		3								2	1			614	18600	3	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN	
																		STRUCTURE REPAIR (HAM-71-0752)	30
																		STRUCTURE REPAIR (HAM-71-0774)	30
																		STRUCTURE REPAIR (HAM-71-0842)	30
																		STRUCTURE REPAIR (HAM-562-0255)	31
																		STRUCTURE REPAIR (HAM-562-0319)	31
																		STRUCTURE REPAIR (HAM-562-0319s)	31
																		INCIDENTALS	
	LUMP									LUMP	LUMP			614	11000	LS		MAINTAINING TRAFFIC	4
LUMP										LUMP	LUMP			623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	3
LUMP										LUMP	LUMP			624	10000	LS		MOBILIZATION	

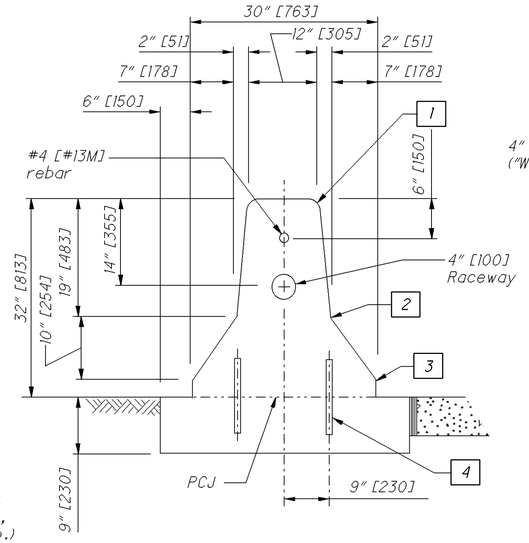
CALCULATED | CHECKED

GENERAL SUMMARY

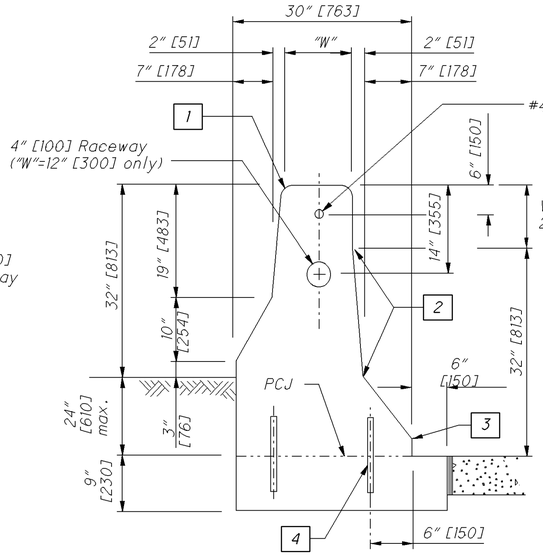
HAM-71/562-7.52/2.55



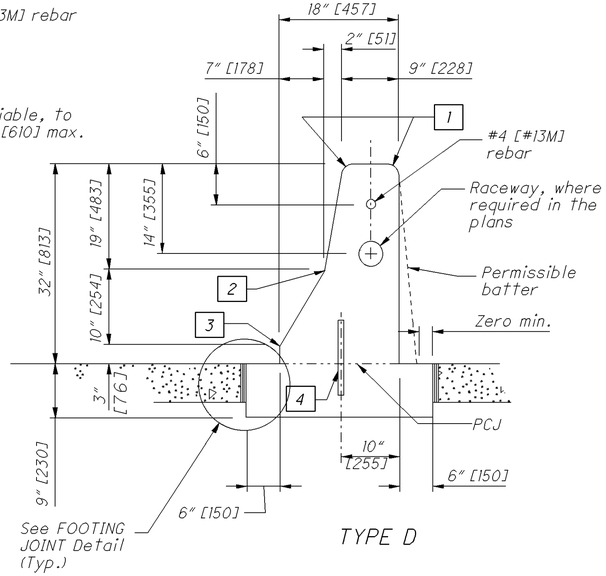
TYPE A



TYPE B



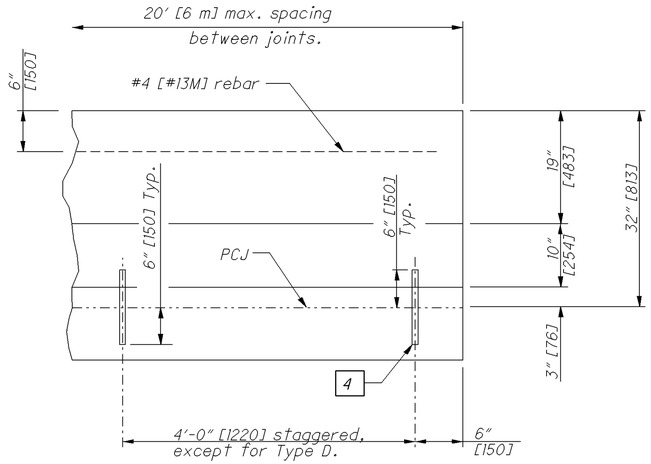
TYPE C



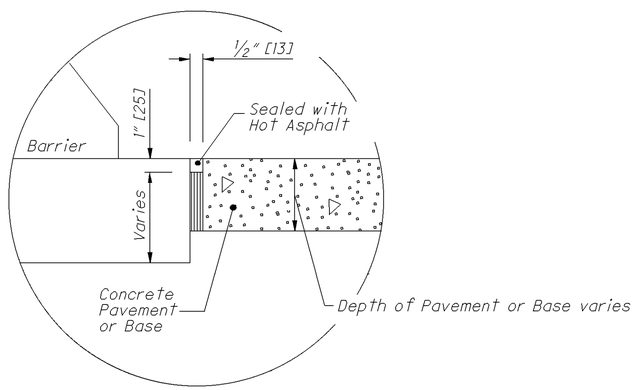
TYPE D

NORMAL 32 INCH SECTIONS

"W" = 6" [152] or 12" [305] barrier width, as specified in the plans.



32" [813-mm] BARRIER
BARRIER ELEVATION



FOOTING JOINT DETAIL

JOINTS: Unsealed contraction joints spaced at 20' [6 m] maximum shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports, inlets and light pole foundations. If the inlet top is slip formed, the expansion joints adjacent to it may be omitted.

Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts, tooled joints, and sawed joints shall have a 3" [75] minimum depth. All joints shall be constructed for the full height of the barrier including the footing. Sawing shall be done as soon as curing will allow, to prevent spalling.

Start and end dowels 6" [150] from barrier contraction joints.

FOOTING JOINTS: The vertical walls between the barrier footing and a concrete pavement or concrete base shall be provided with a sealed joint as shown on this sheet. Sealing material shall conform to CMS 705.04.

PCJ = Permissible Construction Joint

MEASUREMENT: Item 622, Concrete Barrier, including transitions and pier sections as detailed on the New Jersey Shape Barrier Transition drawing, is paid for in linear feet [meters] as one of the four types (A, B, C or D) or as Type A1 and B1, (for 50" [1270] high barrier), with appropriate deductions for other items such as:

Item 604 - I-3 Median Inlet	20 Lin Ft. [6 Meters].
Item 625 - Light Pole Foundation or Pullbox	2.5 Lin. Ft. [1 Meter].
Item 630 - Overhead Sign Support Foundation	10 Lin. Ft. [3 Meters].
Item 630 - Barrier Wall Assembly	10 Lin. Ft. [3 Meters].

NOTES

TRANSITIONS: Linear transitions between the different types of barrier detailed on this Standard Drawing shall occur between contraction joints spaced no closer than 10' [3 m].

RACEWAY: The contractor shall ensure that the electrical raceway is clear of internal obstructions. Cost of the 4" [100] polyvinyl chloride raceway and No. 10 AWG copper-clad or aluminum-clad wire if needed for future installation of circuits shall be included in the unit cost per Linear Foot [Meter] for Item 622 - Concrete Barrier, Type B.

STATION MARKING: The Station marking shall be impressed in the "green" concrete on both sides at the top of the barrier if specified in the plans. The cost shall be incidental to the unit cost per Linear Foot [Meter] bid for Item 622 - Concrete Barrier, Type B or Item 622 - Concrete Barrier, Type D.

REFLECTORIZATION: Barrier reflectorization shall be installed in accordance with CMS 626.

DIMENSIONS: Barrier dimensions shall vary and be adjusted as necessary to match existing barrier.

PAYMENT: All materials, labor, equipment and any miscelaneous items such as sawcutting, joint filler and joint sealer shall be included with Item 622 - Concrete Barrier, Type B or Item 622 - Concrete Barrier, Type D for payment.

LEGEND

1. 1" [25] radius or ¾" [19] chamfer.
2. Permissible 10" [250] radius.
3. Permissible 1" [25] radius.
4. #8 [#25M] epoxy coated Deformed Steel Bars, 1'-0" [305] long, spaced 4'-0" [1220] between successive Bars on a staggered pattern except in Type D. Omit Dowels when the top is constructed integrally with the Base.

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

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 10-20-06 | CHECKED

PLAN INSERT SHEET

NEW JERSEY SHAPE CONCRETE BARRIER

HAM-71/562-7.52/2.55

1 / 1

25
59

DESIGN SPECIFICATIONS

THESE STRUCTURES CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH ED. , AND THE 2004 ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE AND/OR CONCRETE MEDIAN BARRIER)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 , MINIMUM YIELD STRENGTH 50,000 PSI

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. MINIMUM WATER PRESSURE SHALL BE 1,500 PSI.

ITEM 514 - FIELD PAINTING EXISTING STRUCTURAL STEEL

THIS ITEM INCLUDES THE WORK NECESSARY FOR PAINTING THE EXISTING STRUCTURAL STEEL OF SPECIFIED BRIDGES AS SHOWN ON THE PLANS USING SYSTEM OZEU. THE NEW PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).

PAYMENT FOR THIS WORK SHALL INCLUDE ALL EQUIPMENT, TOOLS, MATERIALS AND LABOR NECESSARY TO PERFORM THIS TASK. PAYMENT SHALL BE MADE AT A UNIT BID PRICE OF SQUARE FEET.

POWER WASHING STRUCTURE CONCRETE

REMOVE DIRT AND DEBRIS FROM ABUTMENT SEATS AND POWER WASH ABUTMENT SEATS PRIOR TO PAINTING, OR CONCRETE PATCHING/SEALING WORK WORK. MINIMUM WATER PRESSURE SHALL BE 1,500 PSI.

THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF CMS 107.19. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE ITEM 512 CONCRETE SEALING.

CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

THE CLASS QC2 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:

WATER/CEMENT RATIO = 0.40 MAXIMUM; MICRO-SILICA ADMIXTURE (7% BY WEIGHT OF CEMENT ADDED TO THE TOTAL CEMENTITIOUS CONTENT); 2 LBS./C. Y. POLYPROPYLENE FIBERS (1.25" MIN.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE CORROSION INHIBITOR DOSAGE RATE SHALL BE WITHIN THE MANUFACTURES RECOMMENDED LIMITS. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST NEED NOT APPLY.

THE FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX A T THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, FIBERS AND MICRO-SILICA PRIOR TO THE ADDITION OF WATER AND ADMIXTURES.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3/4 OF ITS RATED CAPACITY OR 6 CUBIC YARDS, WHICHEVER IS SMALLER, UNLESS A LARGER SIZE IS APPROVED BY THE ENGINEER. CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AND EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CONCRETE SUPPLIERS CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS.

RAILROAD STRUCTURE REPAIRS

ALL WORK SHALL PROCEED IN ACCORDANCE WITH THE WORK AGREEMENT BETWEEN ODOT AND THE RAILROAD.

THE CONTRACTOR SHALL ARRANGE HIS WORK TO IMPOSE MINIMAL IMPACT ON RAILROAD ACTIVITIES.

FINAL ACCEPTANCE OF THE REHABILITATIVE WORK SHALL BE SUBJECT TO A POST CONSTRUCTION INSPECTION BY THE RAILROAD AND/OR ODOT.

EXISTING BRIDGE PLANS

EXISTING BRIDGE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT EIGHT OFFICE IN LEBANON, OHIO.

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

THIS WORK CONSISTS OF THE REMOVAL OF PORTIONS OF THE EXISTING STRUCTURES, ETC. AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING BACKWALL/APPROACH SLAB REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS.

EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. CHIPPING HAMMERS NOT HEAVIER THAN THE NOMINAL 35-POUND CLASS SHALL BE USED FOR REMOVALS AT THE TOP OF ABUTMENT BACKWALLS AND APPROACH SLABS. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY PORTION OF THE STRUCTURE THAT WILL REMAIN IN SERVICE. ANY PORTION OF THE REMAINING STRUCTURE DAMAGED AS A RESULT OF CONTRACTOR ACTIONS SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY ALL REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

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

ITEM 202 - BRIDGE RAILING REMOVED, AS PER PLAN

THIS WORK CONSISTS OF THE REMOVAL AND DISPOSAL OF THE EXISTING RAILING ON BOTH SIDES OF THE BRIDGE. EXISTING RAILING ANCHOR BOLTS SHALL BE CUT FLUSH WITH THE TOP OF THE EXISTING CONCRETE PARAPET. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING RAILING REMOVALS TO PROTECT PORTIONS OF PARAPET THAT ARE TO REMAIN. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05. CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF CMS 107.19.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - BRIDGE RAILING REMOVED, AS PER PLAN.

CONCRETE PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 4" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE TOP OF THE EXISTING PARAPET. PLACE THE SAWCUTS TO MATCH EXISTING VERTICAL PARAPET JOINT SPACING. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE TILE NUMBER
CAH	CAH	SCS	12-1-14	3114937
CHECKED	REVISED			
CAH				

STRUCTURE NOTES 1
BRIDGE NO. VARIES

HAM-71/562-7.52/2.55
PID No. 84595

1 / 4

26
59

ITEM SPECIAL - STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM

DESCRIPTION:

THIS WORK SHALL CONSIST OF PROVIDING A GLASS FIBER REINFORCED COMPOSITE (GFRC) STRENGTHENING AND PROTECTION SYSTEM. THE GFRC SYSTEM IS TO BE APPLIED TO THE UNDERSIDE OF THE DECK AS DESIGNATED BY THE PROJECT DRAWINGS.

THE CONCRETE IS TO BE PATCHED PER ITEM 530, THEN CLEANED AND PREPARED TO THE INSTALLERS SATISFACTION PRIOR TO THE INSTALLATION OF THE GFRC SYSTEM.

DESIGN:

THE GFRC SYSTEM SHALL BE DESIGNED TO PROVIDE MINIMUM FACTORED SHEAR AND FLEXURAL CAPACITIES FOR THE AREAS LISTED ON THE DRAWINGS. THE FACTORED SHEAR CAPACITY SHALL BE DESIGNED ACCORDING TO ACI-440.2R-08 WITH A STRAIN LIMITED TO 0.0029 FOR TWO LAYER APPLICATIONS AND 0.004 FOR SINGLE LAYER APPLICATIONS. THE FACTORED FLEXURAL CAPACITY SHALL BE DESIGNED ACCORDING TO ACI-440.2R-08 WITH A STRAIN LIMITED TO 0.006.

A MINIMUM E X A VALUE FOR THE INSTALLED GFRC SYSTEM IS 151.5 KIPS/INCH WIDTH OF INSTALLED GFRC SYSTEM FOR THE DECK SECTIONS.

MATERIALS:

10,000-HOUR DURABILITY TESTS FOR 140°F FOR WATER, SALT WATER, ALKALINE SOIL AND OTHER FACTORS (REFER TO TABLE.)

FRP MATERIALS SHALL HAVE A CURRENT INTERNATIONAL CODE COUNCIL EVALUATION SERVICE REPORT (ICC ESR #) COMPLIANT WITH THE 2012 IBC. MATERIALS MUST PROVIDE STRUCTURAL AND DURABILITY TESTING AS DEFINED IN ICC AC 125.

TO BE AN APPROVED EQUAL THE INSTALLER MUST PROVIDE A HISTORY OF A MINIMUM OF 5 INSTALLATIONS OF COMPARABLE SIZE COMPLETED IN THE LAST 5 YEARS, DURABILITY TESTING, INDEPENDENT LABORATORY TESTING FOR CORRODED CONCRETE REPAIRS, DESIGN EQUIVALENCE TO THE SPECIFIED SYSTEM, AND ALL PROPOSED MATERIAL DATA.

POLYESTER OR OTHER RESINS WILL NOT BE ALLOWED AS A SUBSTITUTE TO EPOXY RESINS. CARBON COMPOSITE SYSTEMS WILL NOT BE ALLOWED AS A SUBSTITUTE TO GLASS COMPOSITE SYSTEMS

MATERIALS MANUFACTURER:

ONE MANUFACTURER SHALL SUPPLY ALL MATERIALS REQUIRED FOR THE GFRC SYSTEM. THE MANUFACTURER SHALL BE ONE OF THE THREE LISTED BELOW OR APPROVED EQUAL FOR THE GLASS FIBER REINFORCED COMPOSITE (GFRC) STRENGTHENING AND PROTECTION SYSTEM.

TYFO FIBERWRAP COMPOSITE SYSTEM MANUFACTURER: FYFE COMPANY, LLC
3940 RUFFIN RD, SUITE C
SAN DIEGO, CA 92123
(858) 642-0694
APPLICATOR: FIBRWRAP CONSTRUCTION

MBRACE COMPOSITE STRENGTHENING SYSTEM
MANUFACTURER: BASF CONSTRUCTION CHEMCIALS
BUILDING SYSTEMS
889 VALLEY PARK DRIVE
SHAKOPEE, MN 55379
WWW.BUILDINGSYSTEMS.BASF.COM
CUSTOMER SERVICE 800-433-9517

COMPOSITE GLASS FIBER WRAP
SIKA CORPORATION
201 POLITO AVENUE
LYNDHURST, NJ 07071
TELEPHONE: 1-800-933-SIKA
WWW.USA.SIKA.COM

LOCAL CONTACT: SEAN GALLAGHER
(513) 403-5742

THE GFRC MATERIAL SUPPLIER SHALL HAVE SPECIFIED MATERIALS FOR 5 PROJECTS OF COMPARABLE SIZE WITHIN THE LAST 5 YEARS. THE MANUFACTURER MUST SUBMIT THE NAME OF THE APPLICATORS COMPANY AND THEIR APPROVAL WITH THE BID DOCUMENTS.

SURFACE PREPARATION:

THE REPAIRED CONCRETE SURFACES SHALL BE ALLOWED TO CURE A MINIMUM OF 14 DAYS. THE SURFACES SHALL BE CLEAN AND FREE OF FINS, DEPRESSIONS, OR OTHER CONDITIONS THAT MAY AFFECT THE INTENDED PERFORMANCE OF THE GFRC SYSTEM.

CORNERS PERPENDICULAR TO THE STRONG FIBER DIRECTION SHALL BE ROUNDED TO A MINIMUM RADIUS OF ¾".

WHERE FIBER WRAP EXTENDS ON TO STEEL BEAMS/GIRDERS, COMPLETELY REMOVE PAINT TO BARE STEELS ONLY IN LOCATIONS WHERE APPLICATION IS NECESSARY. ONCE GFRC REPAIR IS MADE, ALL BARE STEEL SHOWN SHALL BE REPAINTED PER REPAIR TYPE 514.A1.

THE CERTIFIED AND EXPERIENCED INSTALLER RESPONSIBLE SHALL VERIFY THAT ALL REQUIRED SURFACE PREPARATION HAS BEEN COMPLETED PROPERLY AND THAT THE GFRC SYSTEM IS CLEARED FOR INSTALLATION.

COMPOSITE APPLICATION:

THE GFRC SYSTEM SHALL ONLY BE INSTALLED BY INDIVIDUALS CERTIFIED IN WRITING BY THE MATERIAL SUPPLIER. INSTALLERS WITHOUT THE PROPER CERTIFICATIONS WILL NOT BE ALLOWED TO COMPLETE THIS WORK.

TEMPERATURES OF THE SUBSTRATE TO RECEIVE THE COMPOSITE, AMBIENT TEMPERATURES, AND THE TEMPERATURE OF THE GFRC MATERIALS SHALL BE BETWEEN 50°F AND 95°F AT THE TIME OF MIXING OF EPOXY. THE GFRC SYSTEM SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SUBSTRATE TEMPERATURE IS MORE THAN 5°F ABOVE THE DEW POINT. APPLICATIONS OF THE GFRC SHALL BEGIN WITHIN ONE HOUR OF THE MIXING OF EPOXIES.

THE MANUFACTURER SHALL DESIGNATE THE PROPER MIXING PROCEDURE FOR THE EPOXY RESINS.

APPLY A PRIMER COATING OF EPOXY TO SURFACES OF THE SUBSTRATE TO RECEIVE THE GFRC SYSTEM.

SATURATE THE GLASS FIBER IN A DOCUMENTED SUCCESSFUL MANNER THAT ENSURES FULL SATURATION OF THE CARBON FIBER PRIOR TO THE INSTALLATION OF THE GFRC. SATURATION OF THE GLASS FIBER IN PLACE IS NOT ALLOWED. APPLY THE GFRC TO THE PREPARED AND PRIMERED SUBSTRATE USING METHODS THAT PROVED A UNIFORM TENSILE FORCE OVER THE WIDTH OF THE SATURATED GLASS FABRIC. STRONG FIBERS SHALL NOT DEVIATE FROM THE INTENDED FIBER DIRECTION MORE THAN ½" PER 12" LENGTH OF COMPOSITE. INSPECTION OF THE INSTALLED COMPOSITE SHALL BE COMPLETED PRIOR TO THE CURING OF THE GFRC TO ENSURE THAT ALL EDGES, SEAMS, AND OTHER AREAS ARE PROPERLY ADHERED. DURING THIS INSPECTION PROCESS, RELEASING OF ENTRAPPED AIR AND OTHER IDENTIFIED DEFICIENCIES SHALL BE ADDRESSED.

AFTER THE GFRC SYSTEM HAS BEEN INSTALLED, USE THICKENED EPOXY TO DETAIL ALL EDGES AND SEAMS TO PROVIDE A SMOOTH FINISH. APPLY A FINAL LAYER OF THICKENED EPOXY TO THE INSTALLED GFRC SYSTEM FOR PROTECTION.

COATING SYSTEM APPLICATION:

AREAS AFTER THE EPOXY SETS YET PRIOR TO THE APPLICATION OF THE URETHANE TOP COAT, ALL DEFECTS (INCLUDING BUBBLES, DELAMINATIONS, AND FABRIC TEARS) MORE THAN 1 SQUARE INCH OF THE SURFACE AREA, OR AS SPECIFIED BY THE PROJECT ENGINEER, SHALL BE REPAIRED AS SUCH:

1. SMALL DEFECTS (ON THE ORDER OF 6" DIAMETER) SHALL BE INJECTED OR BACK FILLED WITH EPOXY.

2. BUBBLES LESS THAN 12" IN DIAMETER SHALL BE REPAIRED BY INJECTING THE EPOXY. TWO HOLES SHALL BE DRILLED INTO THE BUBBLE TO ALLOW INJECTION OF THE EPOXY AND ESCAPE OF THE ENTRAPPED AIR.

3. BUBBLES, DELAMINATIONS, AND FABRIC TEARS GREATER THAN 12" IN DIAMETER SHALL BE REPAIRED BY REMOVING AND REAPPLYING THE REQUIRED NUMBER OF LAYERS OF THE COMPOSITE AND THE REQUIRED FINISH COATINGS. ALL REPAIRS SHALL BE APPROVED BY THE PROJECT ENGINEER.

4. THE URETHANE TOP COAT SHALL THEN BE APPLIED TO THE FINAL EPOXY COAT, AS DETERMINED BY MANUFACTURER.

QUALITY CONTROL:

INSTALLER MUST FOLLOW THE QUALITY CONTROL MANUAL FOR THE INSTALLATION OF THE GFRC SYSTEMS, PRODUCED BY THE MANUFACTURER.

MEASUREMENT AND PAYMENT:

THIS ITEM WILL BE PAID FOR BY (SQUARE FOOTAGE COVERED X NUMBER OF LAYERS) AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

ITEM	EXTENSION	UNIT	DESCRIPTION
530	00600	SF	SPECIAL - STRUCTURE, MISC.: GLASS FIBER WRAP

PROPERTY	REQUIREMENT	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI, MIN. IN PRIMARY FIBER DIRECTION	60,000 PSI	D309, AVERAGE OF 7 1" BY 10" NORMALIZED TO 0.80" THICK .01" PER MIN TESTING SPEED
ULTIMATE TENSILE STRENGTH, PSI, MIN. IN ORTHOGONAL FIBER DIRECTION	3,000 PSI	D309, AVERAGE OF 7 1" BY 10" NORMALIZED TO 0.80" THICK .01" PER MIN TESTING SPEED
10,000 HOURS EXPOSURE TO 100% HUMIDITY	60,000 PSI	C 581
TENSILE STRENGTH (MIN AFTER TEST) 10,000 HOURS EXPOSURE TO OZONE	60,000 PSI	D1149 EXCEPT NOT UNDER STRESS DURING OZONE EXPOSURE
TENSILE STRENGTH (MIN AFTER TEST) 10,000 HOURS EXPOSURE TO ALKALI	60,000 PSI	D 3083 USING SOIL BURIAL BURIAL - WATER CONTENT
TENSILE STRENGTH (MIN AFTER TEST) 10,000 HOURS EXPOSURE TO SALT	60,000 PSI	C 581 AND D 1141 OMITTING ADDITION OF HEAVY METAL
TENSILE STRENGTH (MIN AFTER TEST) 10,000 HOURS EXPOSURE AT 140 DEGREES F.	60,000 PSI	D 3045
TENSILE STRENGTH (MIN AFTER TEST) ULTRAVIOLET (UV) EXPOSURE	60,000 PSI	G 53 USING FS 40 UV-B BULBS FOR A MINIMUM 38 CYCLES. THE CYCLE SHALL BE 4 HOURS OF CONDENSATE EXPOSURE AT 40 DEGREES C.
ELONGATION PERCENT, MIN PERCENT, MAX	1.7% 5.0%	
TENSILE MODULUS, PSI MIN, OF PRIMARY FIBERS, E	3,000,000 PSI	D3039, AVERAGE OF 7 1" BY 10" NORMALIZED TO 0.80" THICK .01" PER MIN TESTING SPEED
VISUAL DEFECTS	ACCEPTANCE LEVEL III	D 2563
COEFFICIENT OF THERMAL EXPANSION IN PRIMARY DIRECTION	4,300,000 PPM/DEG F (+ 15%)	E 11E42

ABBREVIATIONS:

BRG. - BEARINGS
℄ - BASELINE
℄ - CENTERLINE
CONSTR. - CONSTRUCTION
EB - EAST BOUND
E.F. - EACH FACE
EX. - EXISTING
GFR - GRAVITY FED RESIN
LT. - LEFT
O/O - OUT TO OUT
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
RT. - RIGHT
SPA. - SPACE
SRS - SOLUBLE REACTIVE SILICATE
STA. - STATION
TYP. - TYPICAL
T/T - TOE TO TOE
WB - WEST BOUND

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	9-15-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSK		VARIES	

STRUCTURE NOTES 2
BRIDGE NO. VARIES

HAM-71/562-7.52/2.55
PID No. 84595

2 / 4

27
59

ITEM 512 SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)

UNLESS NOTED OTHERWISE, APPLY GRAFFITI RESISTANT COATING TO ALL EXPOSED SURFACES OF PIERS AND ABUTMENTS AND ALL PARAPET/BARRIER SURFACES FACING TRAFFIC BELOW. SEALING LIMITS SHALL BE AS SHOWN IN THE PLANS.

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

THE COLOR OF THE URETHANE COATING SHALL BE FEDERAL COLOR STANDARD NO. 17778 (LIGHT NEUTRAL)

ITEM SPECIAL - URETHANE TOP COAT SEALER

THIS ITEM SHALL CONSIST OF THE APPLICATION OF A URETHANE TOP COAT SEALER OVER CONCRETE AREAS PREVIOUSLY COATED WITH FIBER WRAP. AREAS TO BE SEALED SHALL BE DRY AND FREE FROM DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE AND OTHER FOREIGN MATERIALS WITH THE EXCEPTION OF THE FIBER WRAP.

THE URETHANE TOP COAT SHALL BE APPLIED ACCORDING TO CMS 512. THE URETHANE TOP COAT SHALL BE APPLIED BY BRUSH OR ROLLER AS DIRECTED BY THE ENGINEER.

THE COATING SHALL BE APPLIED BEFORE THE FINAL THICKENED EPOXY LAYER HAS BEEN ALLOWED TO CURE (AS DETERMINED BY THE MANUFACTURER) TO BETTER ADHERE TO THE GFRC COMPOSITE SYSTEM.

IF THE INSTALLED GFRC IS ALLOWED TO COMPLETELY CURE PRIOR TO THE APPLICATION OF THE FINAL COATING, THE SURFACE GLOSS MUST BE BROKEN BY HAND SANDING OR LIGHT ABRASIVE BLASTING FOR PROPER ADHERENCE OF THE FINAL COATING.

THE COATING SYSTEM SHALL CONSIST OF THE APPLICATION OF A URETHANE TOP COAT SEALER OVER THE INSTALLED GFRC SYSTEM. THE COLOR SHALL SHALL BE FEDERAL COLOR STANDARD NO. 16515 (GREY) AND THE MATERIAL AND APPLICATION SHALL CONFORM TO CMS 512.

THE COATING MATERIAL SUPPLIER MUST PROVIDE A LETTER VERIFYING THAT THE FINAL COATING SYSTEM IS COMPATIBLE WITH THE INSTALLED GFRC SYSTEM.

THE CERTIFIED AND EXPERIENCED INSTALLER SHALL SUBMIT A QUALITY CONTROL AND QUALITY ASSURANCE PLAN FOR THE GFRC INSTALLATION.

THE GFRC SYSTEM SHALL BE INSTALLED UNDER THE DIRECT SUPERVISION OF A MANUFACTURER QUALIFIED TECHNICIAN UNTIL THE INSTALLER HAS DEMONSTRATED HIS ABILITY TO PERFORM THE INSTALLATION TO SATISFACTION OF THE ENGINEER AND THE MANUFACTURER.

THE COST OF THE LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE PAID UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL, SEALING MISC.	SQ. YD.	URETHANE TOP COAT SEALER

PROPOSED WORK

BRIDGE NO. HAM-IR 71-0752 (SFN 3114937) INDIANA & OHIO RAILROAD OVER IR 71.

1. COORDINATE WITH RAILROAD AS REQUIRED.
2. PAINT THE STRUCTURAL STEEL USING OZEU SPECIFICATIONS. THE NEW COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
3. SEAL CONCRETE SURFACES PER SECTION 900 OF THE BDM. COLOR SHALL BE LIGHT NEUTRAL, FEDERAL COLOR 17778. REMOVE EXISTING GRAFFITI AS NECESSARY. APPLY GRAFFITI RESISTANT COATING TO ALL VERTICAL ABUTMENT SURFACES FACING TRAFFIC, ALL PIER SURFACES, AND ALL BARRIER SURFACES FACING TRAFFIC BELOW.

BRIDGE NO. HAM -IR 71-0774 (SFN 3114996) SPUR FROM INDIANA & OHIO RAILROAD TO MILLICRON LLC OVER IR 71.

1. COORDINATE WITH RAILROAD AS REQUIRED.
2. PAINT THE STRUCTURAL STEEL USING OZEU SPECIFICATIONS. THE NEW COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
3. SEAL CONCRETE SURFACES PER SECTION 900 OF THE BDM. COLOR SHALL BE LIGHT NEUTRAL, FEDERAL COLOR 17778. REMOVE EXISTING GRAFFITI AS NECESSARY. APPLY GRAFFITI RESISTANT COATING TO ALL VERTICAL ABUTMENT SURFACES FACING TRAFFIC, ALL PIER SURFACES, AND ALL EXTERIOR BARRIER SURFACES.
4. REPLACE ALUMINUM RAIL WITH CAST-IN-PLACE CONCRETE RAIL TO THE SAME HEIGHT AS PREVIOUS RAIL HEIGHT.

BRIDGE NO. HAM -IR 71-0842 (SFN 3115208) INDIANA & OHIO RAILROAD OVER IR 71.
(ARCHIVE 08C1625)

1. COORDINATE WITH RAILROAD AS REQUIRED.
2. PAINT THE STRUCTURAL STEEL USING OZEU SPECIFICATIONS. THE NEW COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
3. SEAL CONCRETE SURFACES PER SECTION 900 OF THE BDM. COLOR SHALL BE LIGHT NUETRAL, FEDERAL COLOR 17778. REMOVE EXISTING GRAFFITI AS NECESSARY. APPLY GRAFFITI RESISTANT COATING TO ALL VERTICAL ABUTMENT SURFACES FACING TRAFFIC, ALL PIER SURFACES, AND ALL EXTERIOR BARRIER SURFACES.
4. REPLACE ALUMINUM RAIL WITH CAST-IN-PLACE CONCRETE RAIL TO THE SAME HEIGHT AS PREVIOUS RAIL HEIGHT.

BRIDGE NO. HAM-562-0255 (SFN 3114058) INDIANA & OHIO RAILROAD OVER SR 562

1. REPAIR THE DETERIORATED PORTION OF THE EAST COLUMN WITH EPOXY INJECTION AS FOLLOWS:
   A. CLEAN AND PREPARE DETERIORATED SURFACE WITH CAPPING/SEALING MATERIAL PER MANUFACTURER'S RECOMMENDATION.
   B. INSTALL INJECTION PORTS AT 6" SPACES.
   C. INJECT AT EACH HOLE, UNLESS EPOXY IS FILLED BY EPOXY FROM NEIGHBORING HOLES.
   D. ONCE ALL PORTS HAVE BEEN FILLED, GRIND SURFACE SMOOTH.
   E. PAY FOR INJECTION BY VOLUME.
2. STRENGTHEN THE DETERIORATED PORTIONS OF THE COLUMN USING FIBER REINFORCED POLYMER (FRP) WRAP.
3. ADD ADDITIONAL HEIGHT TO THE MEDIAN BARRIER ALONG SR 562 PROTECTING THE PIER COLUMNS. SEAL BARRIER EXTENSION WITH SILANE.
4. PATCH SPALLED CONCRETE AT THE NORTH ABUTMENT, WEST SIDE.
5. PAINT DETERIORATED PIER BEARINGS WITH AN EEU SYSTEM. PAINT COLOR TO MATCH EXISTING.
6. SEAL BOTH PIER COLUMNS WITH URETHANE TOP COAT SEALER. COLOR SHALL BE GREY 16515.

BRIDGE NO. HAM-SR 562-0319 (SFN 3114120) INDIANA & OHIO RAILROAD OVER SR 562.

1. COORDINATE WITH RAILROAD AS REQUIRED.
2. PAINT THE STRUCTURAL STEEL USING OZEU SPECIFICATIONS. THE NEW COLOR SHALL BE FEDERAL COLOR 14277 (GREEN). REMOVE EXISTING GRAFFITI AS NECESSARY.
3. SEAL CONCRETE SURFACES PER SECTION 900 OF THE BDM. COLOR SHALL BE LIGHT NEUTRAL, FEDERAL COLOR 17778. APPLY GRAFFITI RESISTANT COATING TO ALL VERTICAL ABUTMENT SURFACES FACING TRAFFIC, ALL PIER SURFACES, AND ALL EXTERIOR BARRIER SURFACES.
4. REPLACE ALUMINUM RAIL WITH CAST-IN-PLACE CONCRETE RAIL TO THE SAME HEIGHT AS PREVIOUS RAIL HEIGHT.

BRIDGE NO. HAM-SR 562-0319S (SFN 3114112) INDIANA & OHIO RAILROAD OVER SR 562 (SOUTHBOUND RAMP TO IR 71).

1. COORDINATE WITH RAILROAD AS REQUIRED.
2. PAINT THE STRUCTURAL STEEL USING OZEU SPECIFICATIONS. THE NEW COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
3. SEAL CONCRETE SURFACES PER SECTION 900 OF THE BDM. COLOR SHALL BE LIGHT NEUTRAL, FEDERAL COLOR 17778. REMOVE EXISTING GRAFFITI AS NECESSARY. APPLY GRAFFITI RESISTANT COATING TO ALL VERTICAL ABUTMENT SURFACES FACING TRAFFIC, ALL PIER SURFACES, AND ALL EXTERIOR BARRIER SURFACES.
4. REPLACE ALUMINUM RAIL WITH CAST-IN-PLACE CONCRETE RAIL TO THE SAME HEIGHT AS PREVIOUS RAIL HEIGHT.
5. REPLACE THE RUN OF GUARDRAIL ON THE SOUTH SIDE WITH A COMBINATION OF CONCRETE BARRIER AND NEW GUARDRAIL INCLUDING ASSEMBLIES.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSK		VARIES	

STRUCTURE NOTES 3
BRIDGE NO. VARIES

HAM-71/562-7.52/2.55
PID No. 84595

ITEM 514 FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STEEL, USING EPOXY AND URETHANE (EEU)

THIS ITEM INCLUDES PAINTING CRITICAL PORTIONS OF STRUCTURAL STEEL AT LOCATIONS SHOWN IN THE PLANS. THESE CRITICAL AREAS CANNOT UNDERGO FULL CONTAINMENT AS NORMALLY UTILIZED IN THE OZEU PAINT PROCESS. (i.e. BEARINGS). ALL OTHER PORTIONS OF THE STRUCTURAL STEEL SHALL UNDERGO THE STANDARD OZEU PAINT PROCESS WITH FULL CONTAINMENT.

ANY SPECIAL EQUIPMENT OR PROCEDURES NECESSARY TO COMPLETE THIS WORK SHALL BE AT NO ADDITIONAL COST TO THE STATE AND SHALL BE INCLUDED IN THE APPROPRIATE BID ITEMS. THE PAINT MAY BE APPLIED TO THE GIRDER SURFACES BY BRUSHES OR ROLLERS. AIRLESS SPRAY IS ALLOWED ONLY IF OVERSPRAY IS CONTAINED BY END CLOSURES.

EXTERIOR PAINT AT THE EXISTING STEEL BEAMS SHALL MATCH THE EXISTING PAINT COLOR.

THIS ITEM SHALL CONSIST OF:

1. A COMPLETE WASHDOWN OF ALL STEEL USING A POWER WASHER WITH 7,000 PSI MINIMUM AT NOZZLE WITH A FLOW RATE OF 3-4 GAL/MIN. THE NOZZLE IS TO BE HELD PERPENDICULAR TO AND NO MORE THAN 12" FROM THE STEEL SURFACE.

2. SOLVENT CLEANING AS NEEDED.

3. SPOT CLEANING TO REMOVE ALL RUST, MILL SCALE, UNSOUND PAINT, ETC., USING POWER TOOLS SUCH AS: NEEDLE GUNS, DESCALERS, ABRASIVE WHEELS, DISCS, ROTARY IMPACT FLAPS, WIRE BRUSHES, ETC. (SEE SSPC-SP 11) THE APPEARANCES OF THE SURFACE AFTER POWER TOOL CLEANING SHALL CORRESPOND TO THE PICTORIAL STANDARDS OF SSPC-SP 11.

4. A TEST SECTION TO VERIFY COMPATIBILITY OF PRIMER WITH EXISTING PAINT.

5. A SPOT PRIME USING AN APPROVED EPOXY MASTIC (5 MILS MINIMUM).

6. A FULL PRIME (5 MILS MIN.) USING EPOXY MASTIC OVER ALL AREAS OF THE BRIDGE INCLUDING OVER THE SPOT PRIME. SPOT PRIME OR FULL PRIME SHALL BE TINTED TO CONTRAST WITH PREVIOUS COAT.

7. A COMPLETE TOP COAT USING A URETHANE (3 MILS MIN.).

8. ALL PROVISIONS OF OZEU PROPOSAL NOTE WILL APPLY TO THIS PROJECT, EXCEPT THOSE WHICH DIRECTLY CONFLICT WITH THIS NOTE.

9. THE FOLLOWING EXCEPTIONS APPLY TO THIS PROJECT:

a. AREAS OF RUST, UNSOUND (I.E., PEELING, FLAKING) PAINT, ETC. SHALL BE REMOVED BY HAND TOOL OR POWER TOOL CLEANING. THE REMOVAL SHALL EXTEND OUT ADEQUATELY TO LEAVE ONLY SOUND, WELL-BONDED EXISTING PAINT, AND SHALL BE FEATHER-EDGED 2" MINIMUM FROM THE BARE STEEL TO THE SOUND TOP COAT AROUND THE PERIMETER OF EACH SPOT CLEANED.

THE INTENT OF THIS SPECIFICATION IS TO PROVIDE FOR CLEANING AND PAINTING OF THE BRIDGE(S) WITHOUT THE USE OF ABRASIVE BLASTING. THE CONTRACTOR MAY CHOOSE TO USE SELECTIVE ABRASIVE BLASTING ON THIS PROJECT IN CONJUNCTION WITH HAND TOOL CLEANING. HOWEVER, ANY ABRASIVE BLASTING MUST BE ACCOMPANIED WITH CONTAINMENT, COLLECTION, STORAGE, TESTING, AND DISPOSAL OF ALL BLASTING DEBRIS IN ACCORDANCE WITH THE PROVISIONS OF OZEU AND WASTE CONTROL PROPOSAL NOTES, EXCEPT NO SEPARATE PAYMENT WILL BE MADE FOR WASTE CONTROL. VACUUM BLASTING WILL ALSO BE CONSIDERED ACCEPTABLE, PROVIDING ALL ABRASIVE MATERIAL IS RECYCLED.

b. MINIMUM MIL THICKNESS OF EACH COAT OF PAINT SHALL BE VERIFIED WITH A POSITECTOR.

PAINT COMPATIBILITY TEST SECTION:

BEFORE ANY PAINTING CAN BEGIN ON THIS BRIDGE (AND AT LEAST 24 HOURS PRIOR TO PAINTING), A 2' x 2' SECTION OF EXISTING SOUND PAINT SHALL BE REMOVED DOWN TO BARE METAL. THE PRIMER TO BE USED SHALL BE APPLIED TO THE TEST SECTION MAKING SURE THAT PRIMER OVERLAPS EXPOSED EDGES OF SOUND PAINT. ANY LIFTING, WRINKLING, OR OTHER DETRIMENTAL EFFECTS ON THE SURROUNDING SOUND PAINT WITHIN THE FIRST 24 HOURS SHALL BE GROUNDS FOR DISAPPROVAL OF THE SELECTED PRIMER AND ANOTHER PRIMER SHALL BE SELECTED FOLLOWED BY ANOTHER TEST SECTION. THE COST OF THESE SECTIONS SHALL BE INCLUDED FOR PAYMENT WITH SURFACE PREPARATION.

THE FOLLOWING COATINGS OR APPROVED EQUAL WHICH WILL BE ACCEPTABLE (PENDING ACCEPTABILITY OF TEST SECTIONS) ARE:

THE CARBOLINE CO.
350 HANLEY INDUSTRIAL CT.
ST. LOUIS, MO 63144
(314) 644-1000

PRIMER - CARBOMASTIC 15
TOP COAT - CARBOTHANE 134 HS

AMERON PROTECTIVE LINING DIV.
201 N BERRY STREET
BREA, CA 92821
(714) 256-9344

PRIMER - AMERLOCK 400 OR 400 AL
TOP COAT - AMERCOAT 450 HS

POLY-CARB, INC.
33095 BAINBRIDGE ROAD
SOLON, OH 44139
(440) 248-1223

PRIMER - MARK 60.1: ULTRAPOX 11
TOP COAT - MARK 73: ULTRAKOTE

VALSPAR CORP.
901 NORTH GREENWOOD AVE.
KANKAKEE, IL 60901
(815) 933-5561

PRIMER - ALUMAPOXY V75A1
TOP COAT - V40 SERIES URETHANE

THE SHERWIN - WILLIAMS CO.
101 PROSPECT AVENUE NW
CLEVELAND, OH 44115
(216) 566-2000

PRIMER - EPOXY MASTIC ALUMINUM II
B62S100/B60V100
TOP COAT - POLYURETHANE B65 SERIES/B60 V2

PRIMER AND TOP COAT MUST BE BY SAME MANUFACTURER.

BASIS OF PAYMENT: UNLESS INCLUDED WITH OTHER ITEMS FOR PAYMENT, THE FOLLOWING PAY ITEMS SHALL BE USED.

ITEM	UNIT	DESCRIPTION
514	SQUARE FOOT	FIELD PAINTING, MISC.: SURFACE PREPARATION (EEU)
514	SQUARE FOOT	FIELD PAINTING, MISC.: SPOT PRIME (EPOXY)
514	SQUARE FOOT	FIELD PAINTING, MISC.: FULL PRIME (EPOXY)
514	SQUARE FOOT	FIELD PAINTING, MISC.: COMPLETE COAT FINISH (URETHANE)

INTERIM COMPLETION DATE

ALL BRIDGE PAINTING AND CONCRETE PARAPET REPAIRS SHALL BE COMPLETED BY JULY, 30, 2016.

STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	12-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSK		VARIES	

STRUCTURE NOTES 4
BRIDGE No.: VARIES

HAM-71/562-7.52/2.55
PID No. 84595

4 / 4

29
59

ESTIMATED QUANTITIES FOR BRIDGE No.: HAM-71-0752									100% O2/IM/BR FUNDING
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
512	10101	1,477	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	892	262	323		28
512	74000	313	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	52	17	244		
514	00050	40,083	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			40,083		
514	00056	40,083	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			40,083		
514	00060	40,083	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			40,083		
514	00066	40,083	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			40,083		
514	00504	23	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			23		
514	10000	34	EACH	FINAL INSPECTION REPAIR			34		

ESTIMATED QUANTITIES FOR BRIDGE No.: HAM-71-0774									100% O2/IM/BR FUNDING
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	38501	483	FT	BRIDGE RAILING REMOVED, AS PER PLAN			483		26
510	10000	528	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			528		
511	34411	20	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN			20		26
512	10101	1641	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	990	172	479		28
512	74000	170	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	120	32	18		
514	00050	25,394	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			25,394		
514	00056	25,394	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			25,394		
514	00060	25,394	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			25,394		
514	00066	25,394	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			25,394		
514	00504	8	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			8		
514	10000	22	EACH	FINAL INSPECTION REPAIR			22		

ESTIMATED QUANTITIES FOR BRIDGE No.: HAM-71-0842									100% O2/IM/BR FUNDING
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	38501	250	FT	BRIDGE RAILING REMOVED, AS PER PLAN			250		26
510	10000	772	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			772		
511	34411	29	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN			29		26
512	10101	1,232	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	717	101	413		28
512	74000	138	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	120	5	13		
514	00050	13,732	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			13,732		
514	00056	13,732	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			13,732		
514	00060	13,732	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			13,732		
514	00066	13,732	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			13,732		
514	00504	7	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			7		
514	10000	12	EACH	FINAL INSPECTION REPAIR			12		

DESIGN AGENCY
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 8 BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	8-15-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSK		VARIES	

ESTIMATED QUANTITIES 1
BRIDGE No: VARIES

HAM-71/562-7.52/2.55
PID No. 84595

1 / 2

30
59

03-NOV-2015 2:01PM choward4
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\071_0752CEQ001.dgn

ESTIMATED QUANTITIES FOR BRIDGE No.: HAM-562-0255									100% 01/NHS/BR FUNDING
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LUMP				26
510	10000	474	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT				474	
512	10050	249	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)				249	
512	10600	105	FT	CONCRETE REPAIR BY EPOXY INJECTION		105			
SPECIAL	51275500	54	SQ YD	SEALING, MISC.: URETHANE SEALER TOP COAT		54			
514	00504	1	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			1		
514	10000	2	EACH	FINAL INSPECTION REPAIR			2		
514	27700	31	SQ FT	FIELD PAINTING, MISC.: SURFACE PREPARATION (EEU)			31		29
514	27700	31	SQ FT	FIELD PAINTING, MISC.: SPOT PRIME (EPOXY)			31		29
514	27700	31	SQ FT	FIELD PAINTING, MISC.: FULL PRIME (EPOXY)			31		29
514	27700	31	SQ FT	FIELD PAINTING, MISC.: COMPLETE COAT FINISH (URETHANE)			31		29
519	11101	6	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	6				26
SPECIAL	53000600	911	SQ FT	STRUCTURE, MISC.: COMPOSITE FIBER WRAP SYSTEM		911			27
622	90000	236	FT	BARRIER, MISC.: INCREASE MEDIAN BARRIER HEIGHT				236	3

ESTIMATED QUANTITIES FOR BRIDGE No.: HAM-562-0319									100% 01/NHS/BR FUNDING
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	38501	502	FT	BRIDGE RAILING REMOVED, AS PER PLAN			502		26
510	10000	1,008	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			1,008		
511	34411	38	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN			38		26
512	10101	2,018	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	1,093	339	586		28
512	74000	311	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	219	78	14		
514	00050	21,811	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			21,811		
514	00056	21,811	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			21,811		
514	00060	21,811	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			21,811		
514	00066	21,811	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			21,811		
514	00504	11	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			11		
514	10000	19	EACH	FINAL INSPECTION REPAIR			19		

ESTIMATED QUANTITIES FOR BRIDGE No.: HAM-562-0319S									100% 01/NHS/BR FUNDING
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
202	38501	82	FT	BRIDGE RAILING REMOVED, AS PER PLAN			82		26
510	10000	164	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT			164		
511	34411	6	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN			6		26
512	10101	516	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	434				28
512	74000	142	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	122		20		
514	00050	2,091	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			2,091		
514	00056	2,091	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			2,091		
514	00060	2,091	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			2,091		
514	00066	2,091	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			2,091		
514	00504	3	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			3		
514	10000	2	EACH	FINAL INSPECTION REPAIR			2		

DESIGN AGENCY

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	8-15-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RSK		VARIES	

ESTIMATED QUANTITIES 1

BRIDGE No: VARIES

HAM-71/562-7.52/2.55

PID No. 84595

2 / 2

31 / 59

BRIDGE PAINTING DATA

PART NO.	1	2	3	4	5
BRIDGE NO.	HAM-71-0752	HAM-71-0774	HAM-71-0842	HAM-562-0319	HAM-562-0319s
LOCATION	INDIANA & OHIO RAILROAD OVER I.R. 71	INDIANA & OHIO RAILROAD OVER I.R. 71	INDIANA & OHIO RAILROAD OVER I.R. 71	INDIANA & OHIO RAILROAD OVER SR 562	INDIANA & OHIO RAILROAD OVER SR 562
STRUCTURE FILE NO.	3114937	3114996	3115208	3114120	3114112
MINIMUM VERTICAL CLEARANCE	15′-2½″	15′-2½″	15′-1¼″	15′-1¼″	15′-1¼″
MINIMUM VERTICAL CLEARANCE REQUIRED FOR BRIDGE PAINTING	14′-6″	14′-6″	14′-6″	14′-6″	14′-6″
BRIDGE LENGTH	157′	242.67′	191.43′	256.12′	36′
SPAN LENGTHS	75′-0″, 75′-0″	122′- 3 1/2″, 104′-7 5/8″	89′-6″, 92′-6″	GIRDER 1 96.75′, 67.34′, 70.44′ GIRDER 2 94.26′, 69.17′, 72.34′ GIRDER 3 91.77′, 71.00′, 74.25′	34′-0″
GIRDER SIZES	85″ DEEP PLATE GIRDER (INCL. 3.5″ MAX THICKNESS FLANGE) 18″ WIDE FLANGE	145″ DEEP PLATE GIRDER (INCL. 3.5″ MAX THICKNESS FLANGE) 24″ WIDE FLANGE	100.5″ DEEP PLATE GIRDER (INCL. 3.25″ MAX THICKNESS FLANGE) 22″ WIDE FLANGE	97.5″ DEEP PLATE GIRDER (INCL. 2.75″ MAX THICKNESS FLANGE) 18″ WIDE FLANGE	W36x230 12″ WIDE FLANGE
RAILWAY WIDTH ON BRIDGE	51′-4″ F/F OF PARAPETS BRIDGE CARRIES 2 TRACKS	18′-0″ F/F OF PARAPETS BRIDGE CARRIES 1 TRACK	16′-0″ F/F OF PARAPETS BRIDGE CARRIES 1 TRACK	VARIES 16′-3″± TO 24′-7″± F/F OF PARAPETS BRIDGE CARRIES 1 TRACK	18′-6″ F/F OF PARAPETS BRIDGE CARRIES 1 TRACK
NUMBER OF LANES UNDER BRIDGE	4 LANES NORTHBOUND & 4 LANES SOUTHBOUND	4 LANES NORTHBOUND & 4 LANES SOUTHBOUND + 1 RAMP LANE MERGING SR 562 EB WITH I-71 SB	4 LANES NORTHBOUND & 3 LANES SOUTHBOUND	2 LANES EASTBOUND 2 LANES WESTBOUND	1 RAMP LANE MERGING SR 562 EB WITH I-71 SB
UTILITIES CARRIED BY STRUCTURE	NONE	NONE	NONE	NONE	NONE
NUMBER OF GIRDERS	9	2	2	3	4
% MISCELLANEOUS STEEL	10%	10%	10%	10%	10%
TOTAL STEEL SURFACE AREA (INCLUDING CROSSFRAMES, STIFFENERS AND LATERAL BRACING)	40,083± SQ. FT.	25,394± SQ. FT.	13,732± SQ. FT.	21,811± SQ. FT.	2,091± SQ. FT.

NOTES:
1. THE PERCENT MISCELLANEOUS STEEL FOR EACH BRIDGE REPRESENTS, APPROXIMATELY, THE PERCENTAGE OF THE TOTAL STEEL SURFACE AREA THAT IS MISCELLANEOUS STEEL (i.e. BEARINGS AND SCUPPERS).

2. QUANTITIES CARRIED TO THE STRUCTURE QUANTITY TABLE

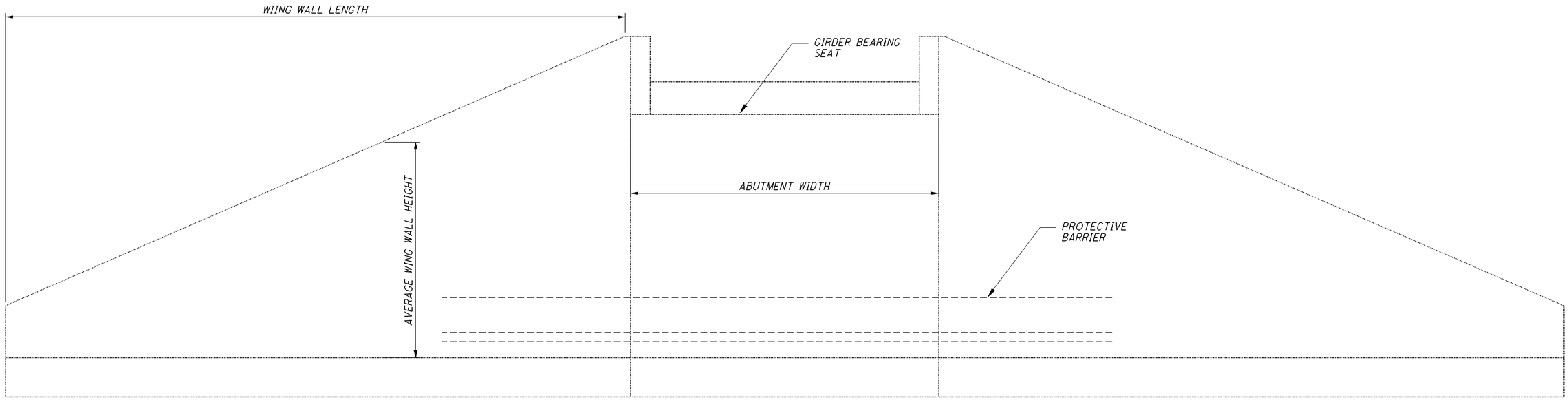
DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		

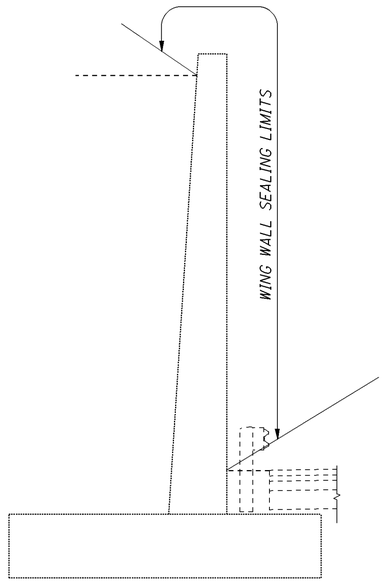
CHECKED	REVISED	STRUCTURE FILE NUMBER
CAH		VARIES

BRIDGE PAINTING DATA

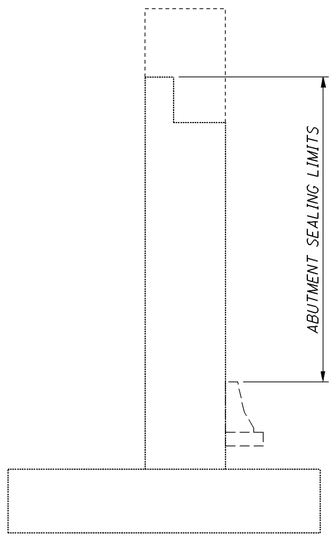
HAM-71/562-7.52/2.55
PID No. 84595



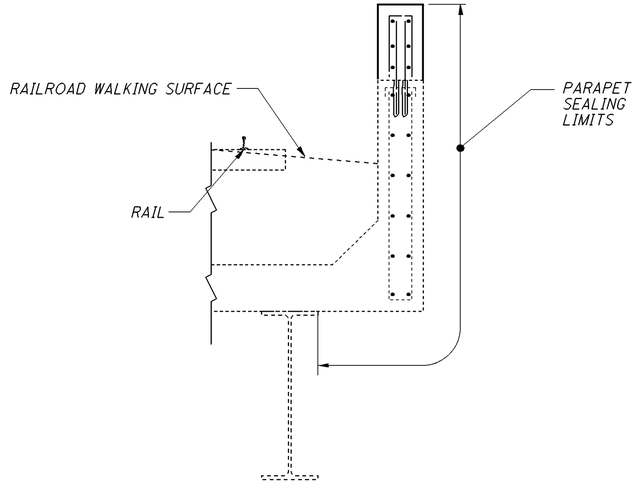
TYPICAL ABUTMENT ELEVATION
NOT TO SCALE



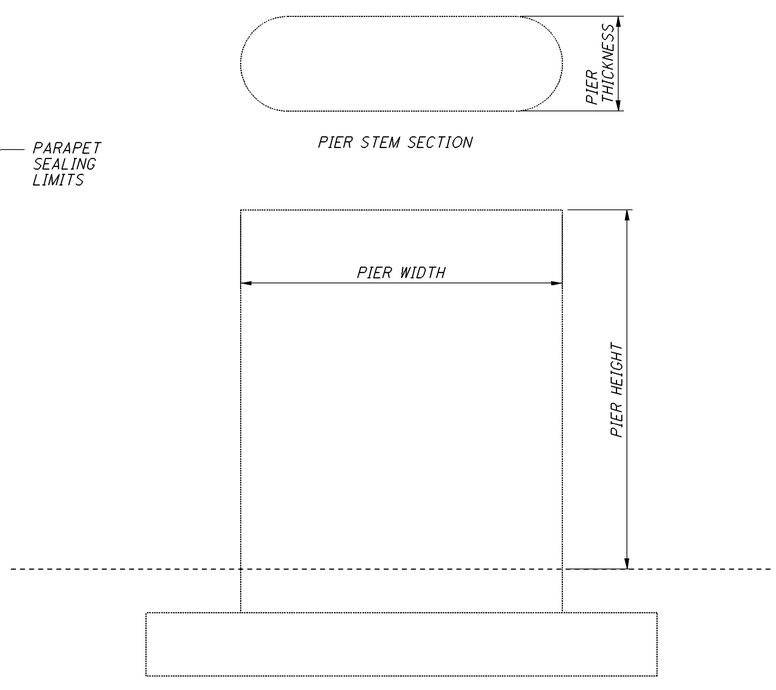
TYPICAL WING WALL SECTION
NOT TO SCALE



TYPICAL ABUTMENT SECTION
NOT TO SCALE



REHABILITATED PARAPET SECTION
NOT TO SCALE



TYPICAL BRIDGE PIER ELEVATION
NOT TO SCALE

NOTES:

1. SEAL ALL VERTICAL ABUTMENT SURFACES FACING TRAFFIC, ALL PIER SURFACES, AND ALL EXTERIOR BARRIER SURFACES WITH A GRAFITTI RESISTANT EPOXY-URETHANE SEALER. COLOR SHALL BE LIGHT NEUTRAL, FEDERAL COLOR 17778.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		VARIES	

CONCRETE SEALING DETAILS
BRIDGE No.: VARIES

HAM-71/562-7.52/2.55
PID No. 84595

1 / 2

33
59

I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\071_MD002_STRUCTURE SEALING.dgn 02-NOV-2015 2:40PM chward4

BRIDGE CONCRETE SEALING DATA

PART NO.	1	2	3	4	5
BRIDGE NO.	HAM-71-0752	HAM-71-0774	HAM-71-0842	HAM-562-0319	HAM-562-0319s
LOCATION	INDIANA & OHIO RAILROAD OVER I.R. 71	INDIANA & OHIO RAILROAD OVER I.R. 71	INDIANA & OHIO RAILROAD OVER I.R. 71	INDIANA & OHIO RAILROAD OVER SR 562	INDIANA & OHIO RAILROAD OVER SR 562
STRUCTURE FILE NO.	3114937	3114996	3115208	3114120	3114112
BRIDGE LENGTH	157′	242.67′	191.43′	256.12′	40.54
PARAPET LENGTHS	LEFT PARAPET = 157′ RIGHT PARAPET = 157′	LEFT PARAPET = 242.63′ RIGHT PARAPET = 240.33′	LEFT PARAPET = 191.43′ RIGHT PARAPET = 191.43′	LEFT PARAPET = 244.47′ RIGHT PARAPET = 257.75′	LEFT PARAPET = 40.54′ RIGHT PARAPET = 40.54′
PARAPET SEALING PERIMETER (EXTERIOR ONLY)	8.83′	8.83′	9.25′	10′	8.5′
ABUTMENT SEALING WIDTH	ABUTMENT #1 = 23.7′ ABUTMENT #2 = 23.7′	ABUTMENT #1 = 38.5′ ABUTMENT #2 = 31′	ABUTMENT #1 = 26.3′ ABUTMENT #2 = 25.5′	ABUTMENT #1 = 59′ ABUTMENT #2 = 44.1′	ABUTMENT #1 = 23.7′ ABUTMENT #2 = 23.7′
ABUTMENT SEALING HEIGHT	ABUTMENT #1 STEM = 18′ ABUTMENT #2 STEM = 15.4′ ABUTMENT SEAT = 3′ ABUTMENT BACKWALL = 8.55	ABUTMENT #1 STEM = 14.6′ ABUTMENT #2 STEM = 22.8′ ABUTMENT SEAT = 4′ ABUTMENT BACKWALL = 14.6′	ABUTMENT #1 STEM = 18′ ABUTMENT #2 STEM = 15′ ABUTMENT SEAT = 4′ ABUTMENT BACKWALL = 10′	ABUTMENT #1 STEM = 18′ ABUTMENT #2 STEM = 15′ ABUTMENT SEAT = 4′ ABUTMENT BACKWALL = 10′	ABUTMENT #1 STEM = 15.5′ ABUTMENT #2 STEM = 17.6′ ABUTMENT SEAT = 4′ ABUTMENT BACKWALL = 3.3′
ABUTMENT WING WALL LENGTH	WING WALL #1 = 44′ WING WALL #2 = 44′ WING WALL #3 = 40′ WING WALL #4 = 42.4′	WING WALL #1 = 48′ WING WALL #2 = 60′ WING WALL #3 = 56′ WING WALL #4 = 51.5′	WING WALL #1 = 56′ WING WALL #2 = 52′ WING WALL #3 = 68′ WING WALL #4 = 39′	WING WALL #1 = 125′ WING WALL #2 = 40′ WING WALL #3 = 59′ WING WALL #4 = 67′	WING WALL #1 = 40′ WING WALL #2 = 35′ WING WALL #3 = 48′ WING WALL #4 = 47′
ABUTMENT WING WALL AVERAGE HEIGHT	WING WALL #1 = 18.25′ WING WALL #2 = 18.25′ WING WALL #3 = 17.25′ WING WALL #4 = 23.5′	WING WALL #1 = 22.8′ WING WALL #2 = 24.8′ WING WALL #3 = 23.6′ WING WALL #4 = 24.1′	WING WALL #1 = 15.5′ WING WALL #2 = 15.0′ WING WALL #3 = 22.0′ WING WALL #4 = 19.6′	WING WALL #1 = 19.2′ WING WALL #2 = 21.3′ WING WALL #3 = 17.8′ WING WALL #4 = 15.5′	WING WALL #1 = 12.2′ WING WALL #2 = 13.0′ WING WALL #3 = 13.4′ WING WALL #4 = 12.4′
PIER SEALING WIDTH	57′	22.5′	17.3′	35′	N/A
PIER SEALING HEIGHT	15.83′	22′	17.5′	16′	N/A
PIER THICKNESS	5′	7.33′	5′	5′	N/A
NUMBER OF PIERS	1	1	1	2	N/A
% CONTINGENCY	5%	5%	5%	5%	5%
TOTAL CONCRETE SEALING AREA (INCL. TOPS OF PIERS AND ABUTMENTS & TOP + 6″ DOWN BACKSIDE OF WINGWALLS)	1,477± SQ. YD.	1,641± SQ. YD.	1,232± SQ. YD.	2,018± SQ. YD.	516± SQ. YD.

NOTE: QUANTITIES CARRIED TO THE STRUCTURE QUANTITY TABLE

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		

CHECKED	REVISED	STRUCTURE FILE NUMBER
CAH		VARIES

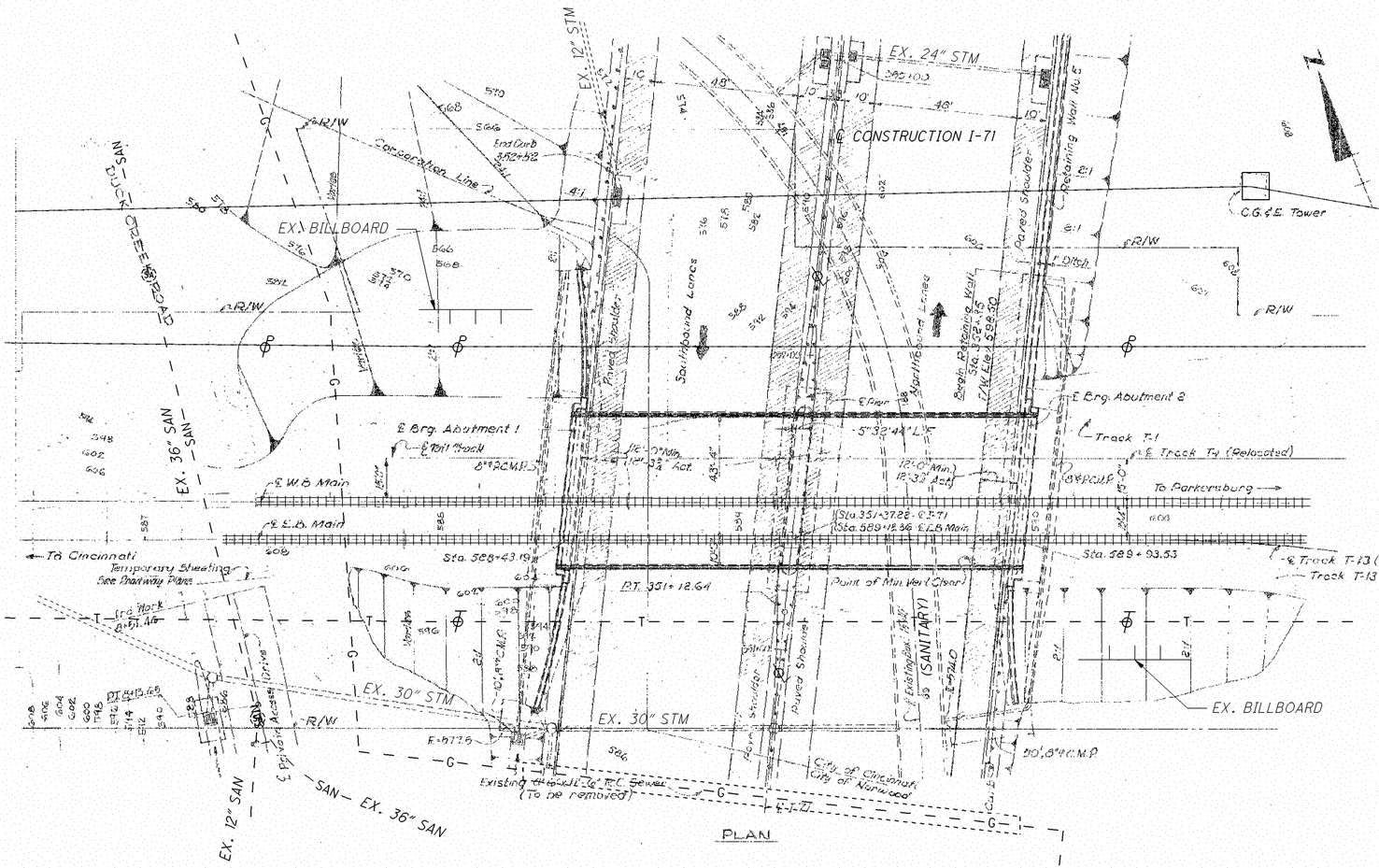
BRIDGE CONCRETE SEALING DATA

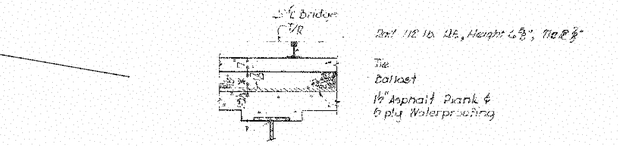
HAM-71/562-7.52/2.55
PID No. 84595

2 / 2

34
59

I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\071_MD002_STRUCTURE SEALING.dgn 02-NOV-2015 2:40PM choward4





TYPICAL SECTION

DETAIL "A"

NOTE:

1. SEE SHEET 30 OF 59 FOR STRUCTURE QUANTITIES.
2. THE MAJORITY OF THE NOTES AND DETAILS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

EXISTING STRUCTURE

TYPE: SIMPLE-SPAN WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 74'-6" ; 74'-6"
ROADWAY: 51'-4" FACE/FACE OF PARAPET
LOADING: RAILWAY, E-72 COOPER WITH DIESEL IMPACT
SKEW: 5° 32' 44" L.F.
ALIGNMENT: TANGENT
STRUCTURAL FILE NUMBER: 3114937
DATE BUILT: 1972
COORDINATES: LATITUDE N39°09'33" LONGITUDE W84°26'16"

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114937	

HAMILTON COUNTY
STA. 588+39.93
STA. 589+96.79

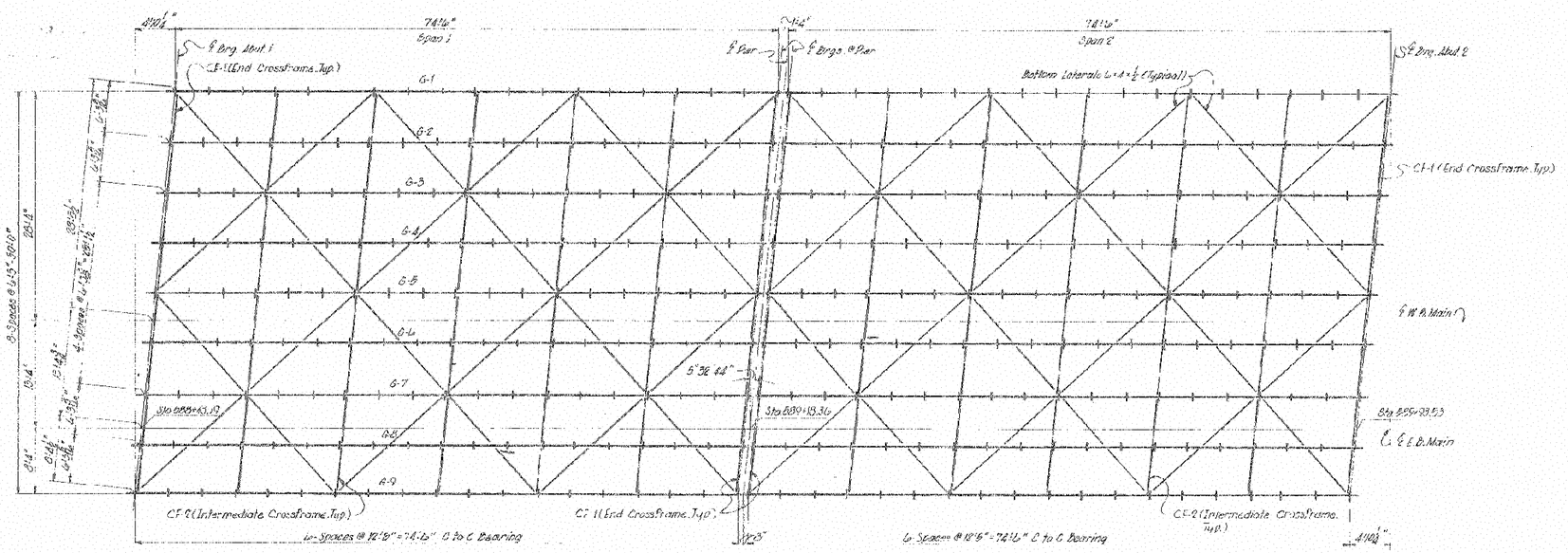
SITE PLAN
BRIDGE NO. HAM-71-0752
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

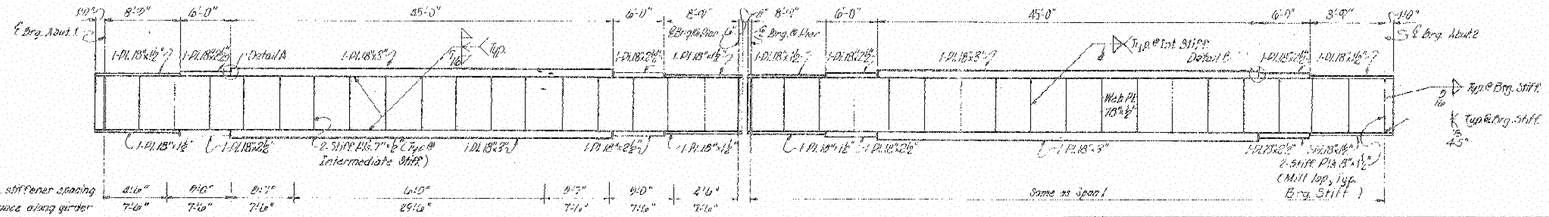
1 / 4

35
59

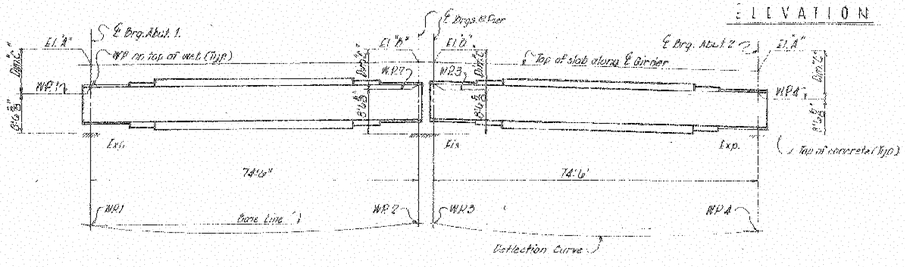
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-71-0752\071_0752CGP001.dgn 02-NOV-2015 2:40PM choward4



PLAN



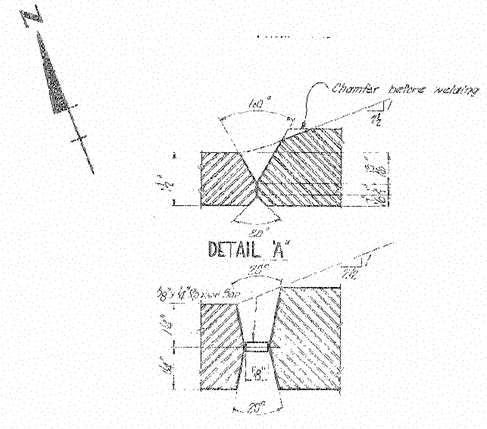
ELEVATION



ELEVATION LAYOUT

	℄ Brg. Abut 1	¼	½	¾	℄ Brg. @ Pier, Span 1	℄ Brg. @ Pier, Span 2	¼	½	¾	℄ Brg. Abut 2
Deflection due to weight of steel	0	5"	8"	5"	0	0	5"	8"	5"	0
Deflection due to remaining Dead Load	0	1¼"	2"	1¼"	0	0	1¼"	2"	1¼"	0
Total Dead Load Deflection	0	6¼"	10"	6¼"	0	0	6¼"	10"	6¼"	0

Shop Camber not required
Base line is a straight line passing thru indicated working points.



NOTE:
All of the full penetration welds shall be back gouged and welded after welding that side. Butt welds on girder flange plates shall be ground flush, the finish grinding being parallel to the direction of stress.

NOTES:

1. For typ. pier, bolster, Crossframe and Lateral Bracing details, see Sh. A4.
2. All bolted connections require ⅞" High Tensile Strength Bolts.
3. All welds connecting flange plate to web plate must be made by automatic submerged arc welding. All grinding shall be done in the direction of applied stresses. Transverse fair welds will not be permitted on the tension flange plates. All splice welds in flange plates to be radiographed. 90% of web to flange weld to be subjected to magnetic particle inspection. Mill scale to be ground off of flange plates at web to flange weld. Bottom flange plate must be perpendicular to web plate at bearings.
4. Extension of slot surface where girder lies outside of gutter line.
5. Steel for flange, web plates and stiffeners shall be fully killed fine grain practice.

STRESS TABLE FOR GIRDERS (SPAN = 74'-6")

	Moment at ℄ in Foot-Kips	Shear ℄ Reaction in Kips
DL	2419	120
LL	3483	212
I	1576	96
DL+LL+I	7478	427
Section	2-Pls 18" x 3" I-Web 78" x ½"	—
Moment of Inertia	197,128 in.⁴	—
Section Modulus furnished	4,601 in.³	—
Allowable Stress, Axial Stress	21.0 ksi 19.1 ksi	—
Web Area, $P_{req'd} \div F_v$ = 12.8 ksi		39.00 in.²
Web Area Furnished	—	39.00 in.²

ASSUMED DEAD LOAD

Rail & Fastenings	80 lb. per ft.
Ballast	1500
Deck	1060
Steel	600
Total	3440 lb. per ft.

LOCATION	GIRDERS								
	G-1	G-2	G-3	G-4	G-5	G-6	G-7	G-8	G-9
Elev. "A"	6016.732	6016.398	6016.473	6016.859	6016.964	6016.849	6016.473	6016.398	6016.732
Elev. "B"	6016.648	6016.730	6016.796	6016.861	6016.947	6016.861	6016.796	6016.730	6016.648
Elev. "C"	1'0"	1'0½"	1'0⅞"	1'2⅝"	1'3⅜"	1'2⅝"	1'0⅞"	1'0½"	1'0"

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

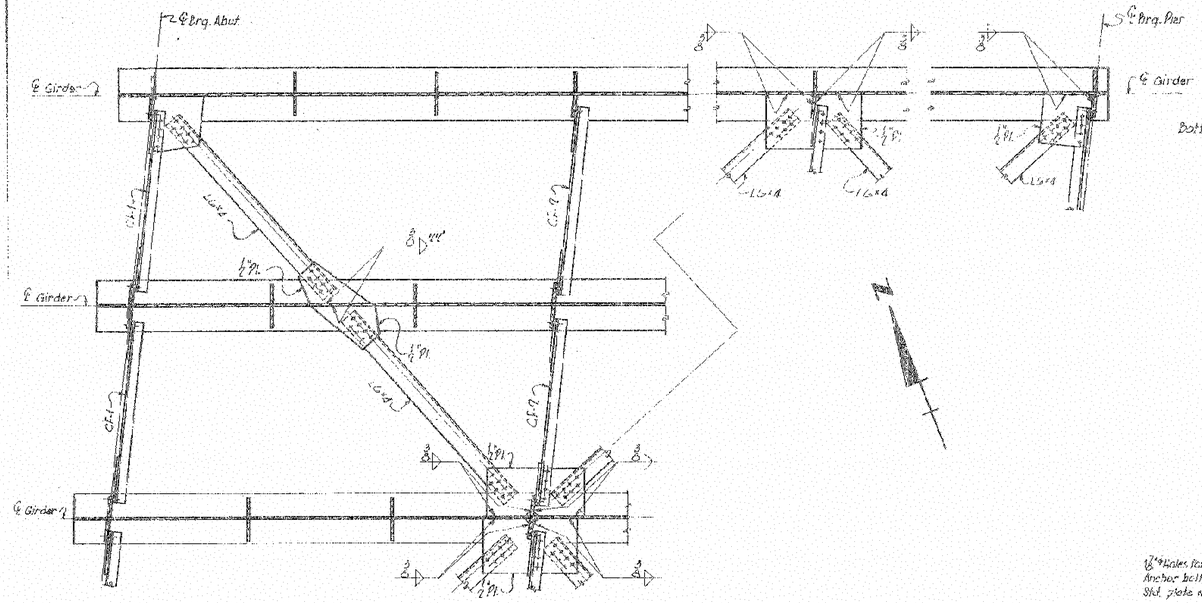
DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114937	

FRAMING PLAN
BRIDGE No. HAM-71-0752
I & O RAILROAD OVER I-71

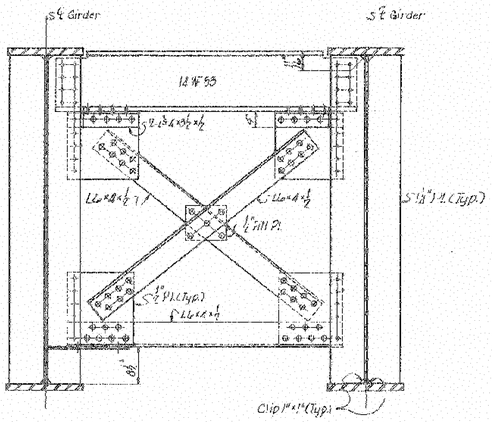
HAM-71/562-7.52/2.55
PID No. 84595

2 / 4

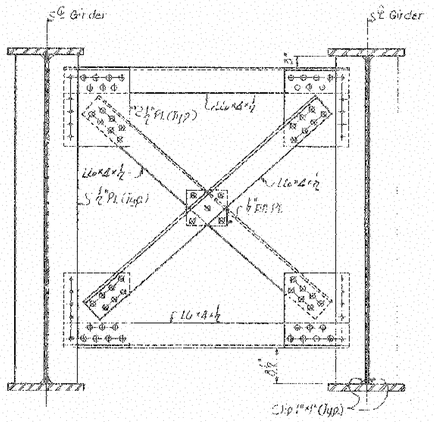
36
59



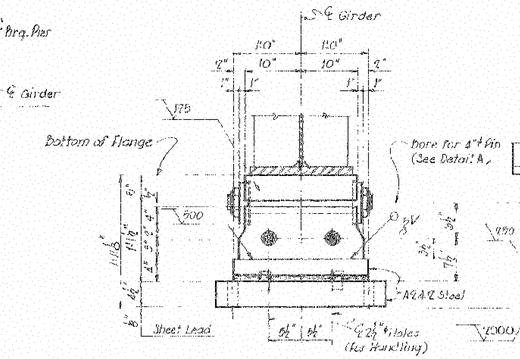
PLAN - LATERAL BRACING



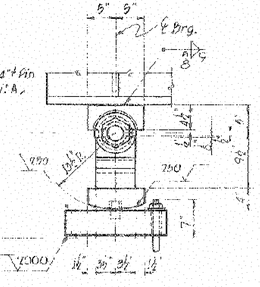
CROSSFRAME CF-1



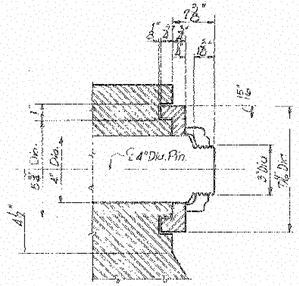
CROSSFRAME CF-2



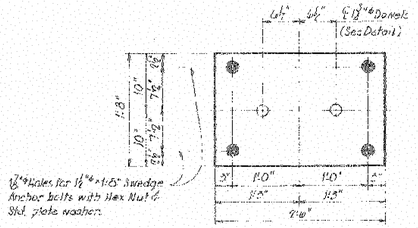
END ELEVATION



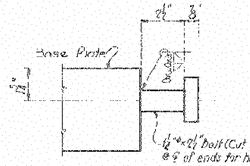
SIDE VIEW



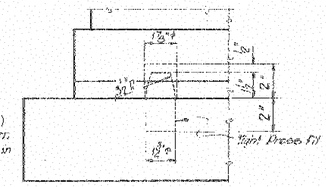
DETAIL A



BASE PLATE DETAIL

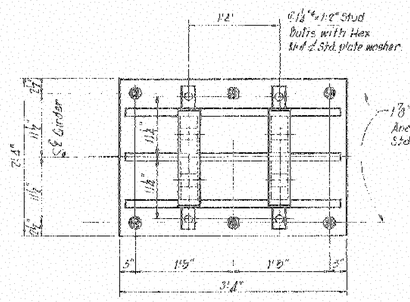


HANDLING BOLT DETAIL

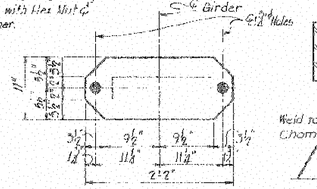


DOWEL DETAIL

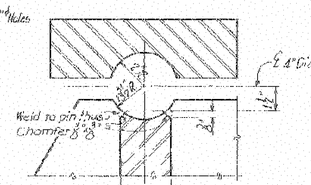
ABUTMENT ROCKER DETAIL



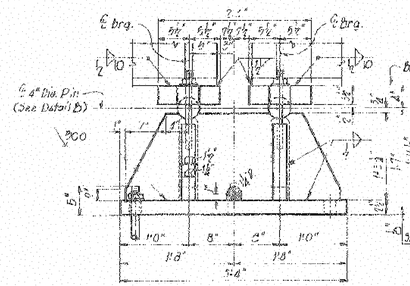
BASE PLATE DETAIL



SOLE PLATE DETAIL



DETAIL B



SIDE VIEW

END ELEVATION

PIER BOLSTER DETAIL

NOTE:

1. Pins to be cold finished carbon steel shafting conforming to the requirements for 1020 steel in ASTM Specification A108.
2. Plates and rods shall conform to ASTM Specification A36 except as noted.

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).

2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

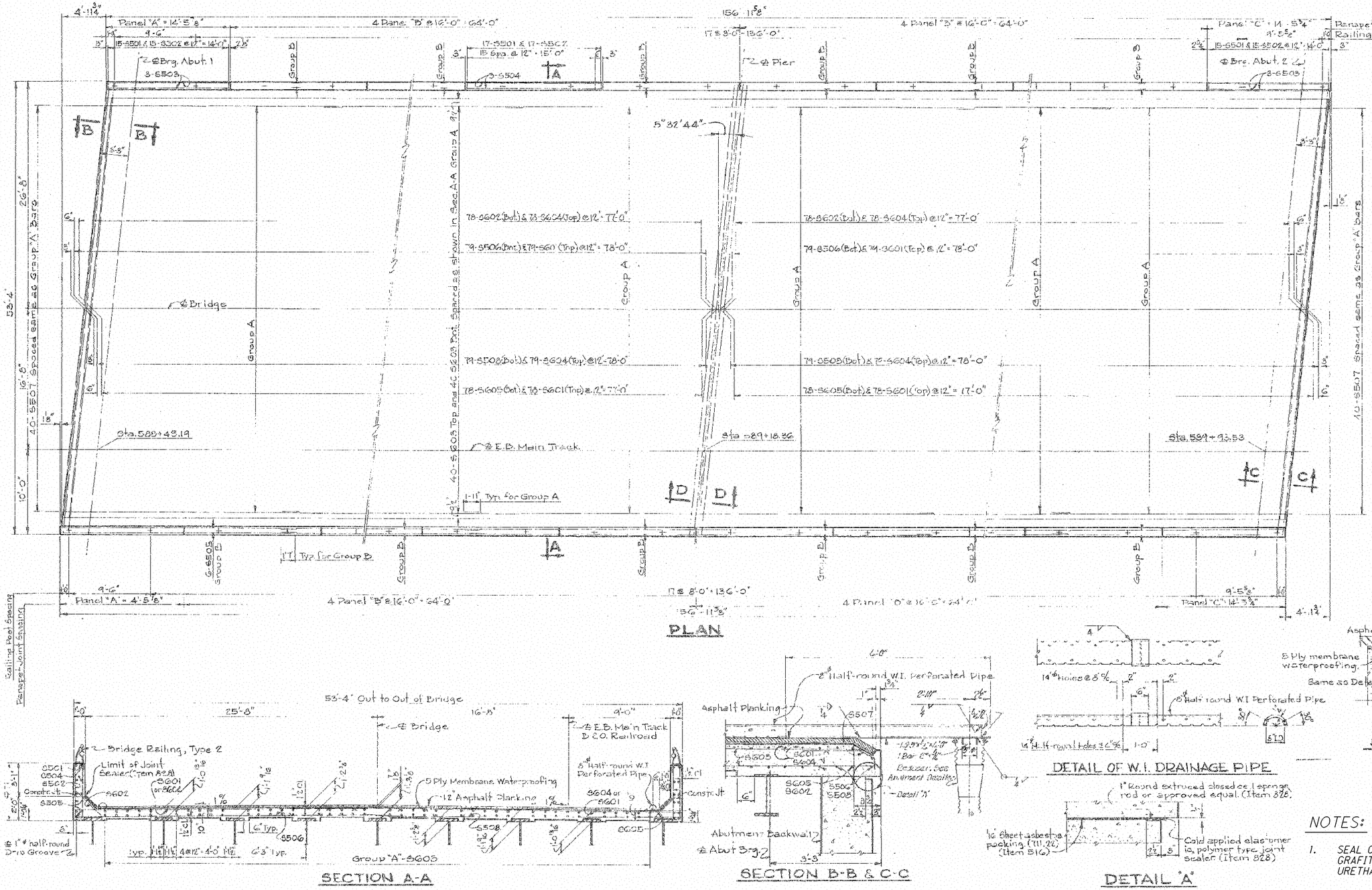
DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114937	

FRAMING DETAILS
BRIDGE No. HAM-71-0752
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

3 / 4

37
59



NOTES:
1. For Railing and Parapet Joint Details see Standard Drwg. BR-1-58 Sh. 2 of 2.
2. For Reinforcing Steel List see Sheet 427.

NOTES:

1. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE.
2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

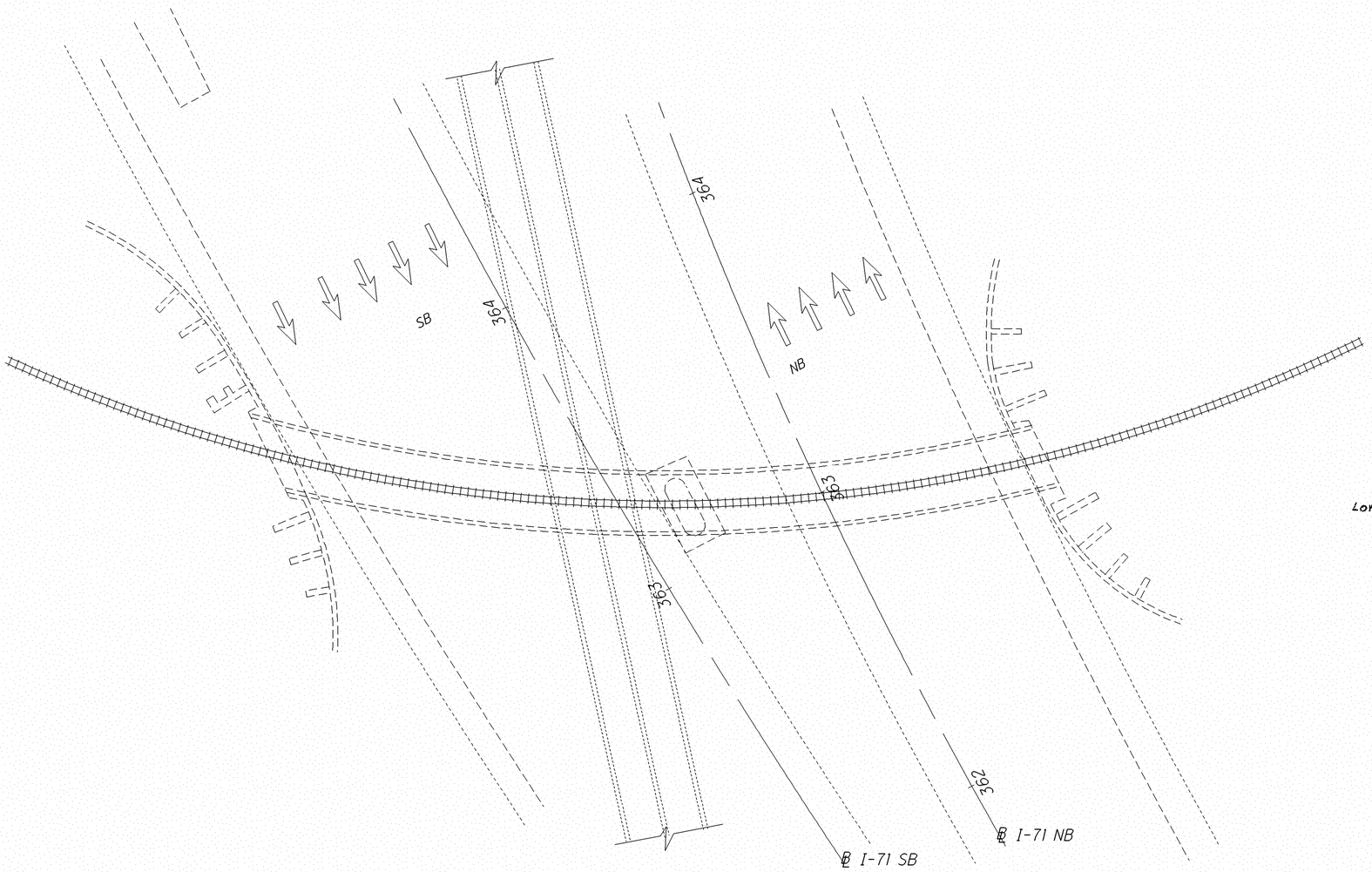
DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114937	

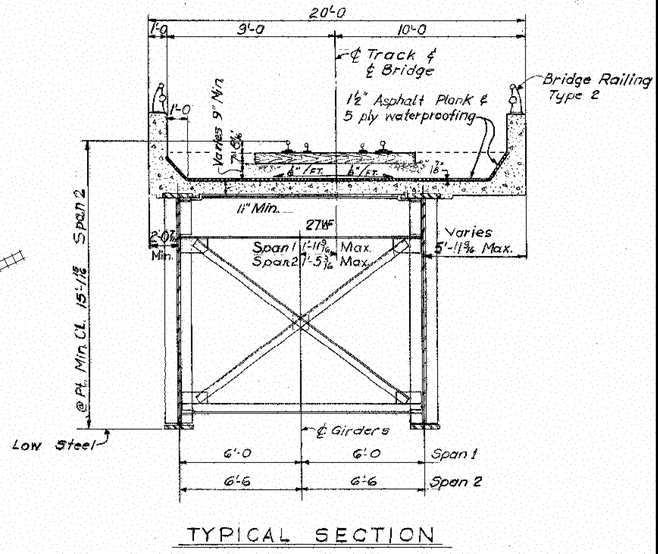
SUPERSTRUCTURE DETAILS

BRIDGE No. HAM-71-0752
I & O RAILROAD OVER I-71

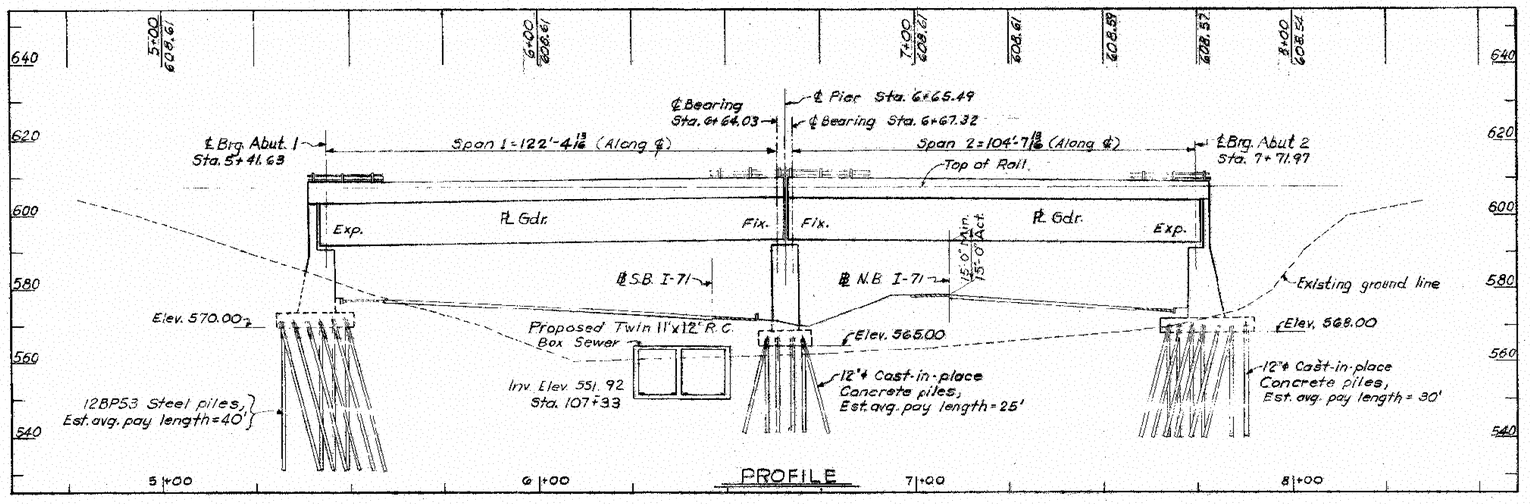
HAM-71/562-7.52/2.55
PID No. 84595



HAM-71-7.45



TYPICAL SECTION



PROFILE

NOTES:

1. SEE SHEET 30 OF 59 FOR STRUCTURE QUANTITIES.
2. THE MAJORITY OF THE NOTES AND DETAILS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

EXISTING STRUCTURE

TYPE: SIMPLE SPAN STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 122.27', 104.60'
ROADWAY: 19'-0" F/F SAFETY CURB
LOADING: RAILWAY, E-65 COOPER WITH DIESEL IMPACT
SKEW: VARIES
APPROACH SLABS: N/A
ALIGNMENT: 12° CURVE RT.
SUPERELEVATION: NONE
STRUCTURAL FILE NUMBER: 3114996
DATE BUILT: 1972
DISPOSITION:
COORDINATES: LATITUDE N 39°09'45"
LONGITUDE W 84°26'09"

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114996	

HAMILTON COUNTY
STA.
STA.

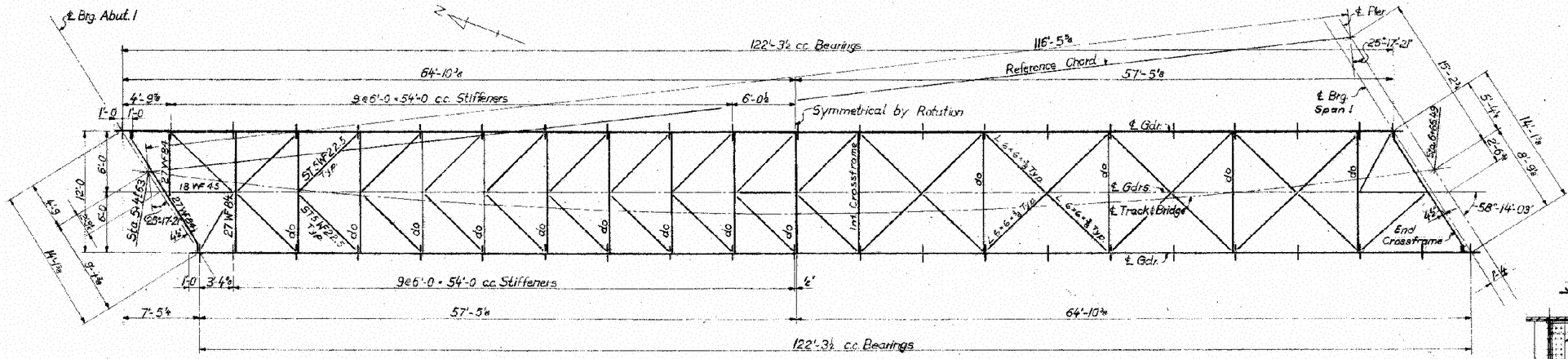
SITE PLAN
BRIDGE No: HAM-71-0744
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

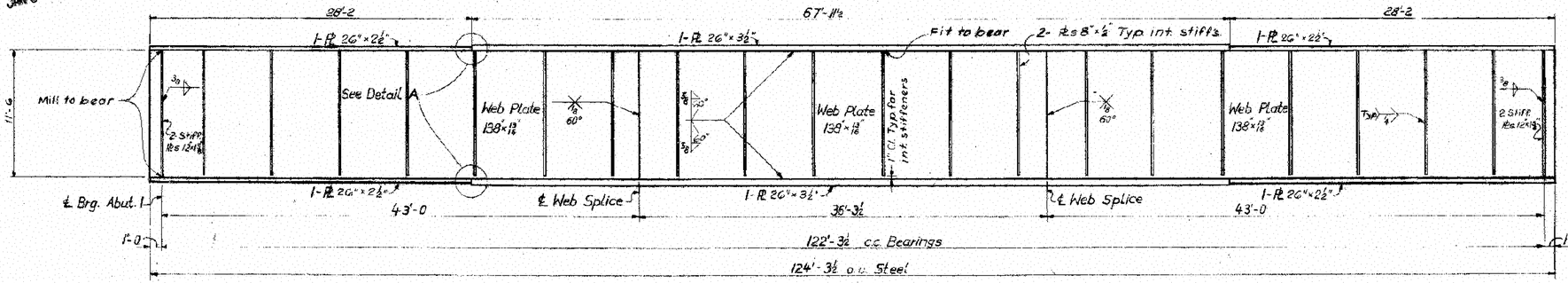
1 / 6

39 / 59

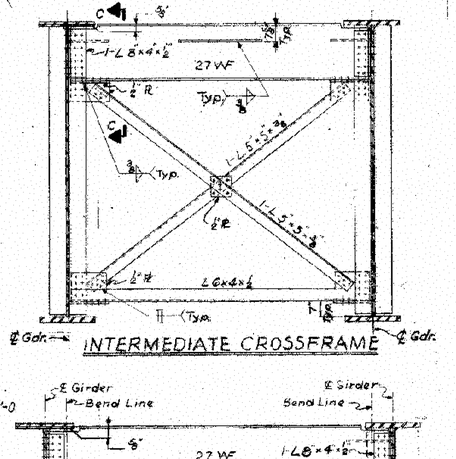
02-NOV-2015 2:41PM choward4
I:\projects\HAM\ir071.07.52_PID84595\Design\CADD\Bridge\HAM-71-0774\071-0744CSP001.dgn



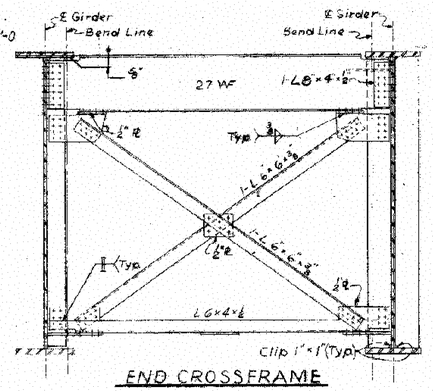
HALF PLAN OF TOP LATERALS



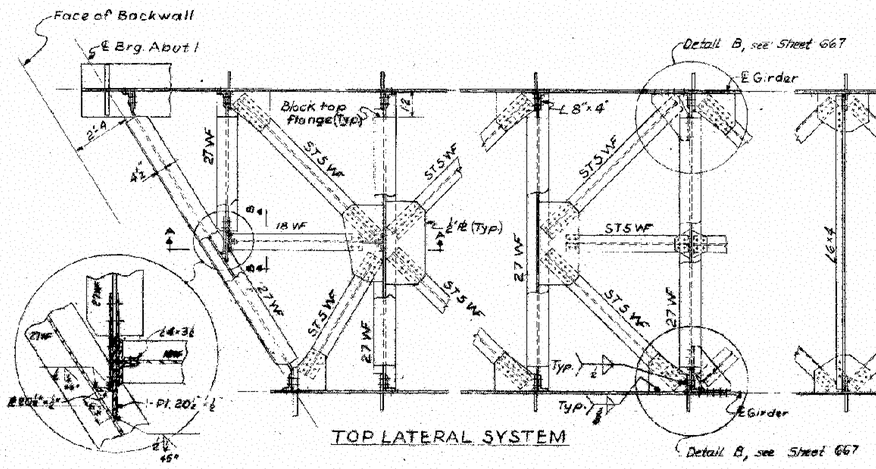
HALF PLAN OF BOTTOM LATERALS



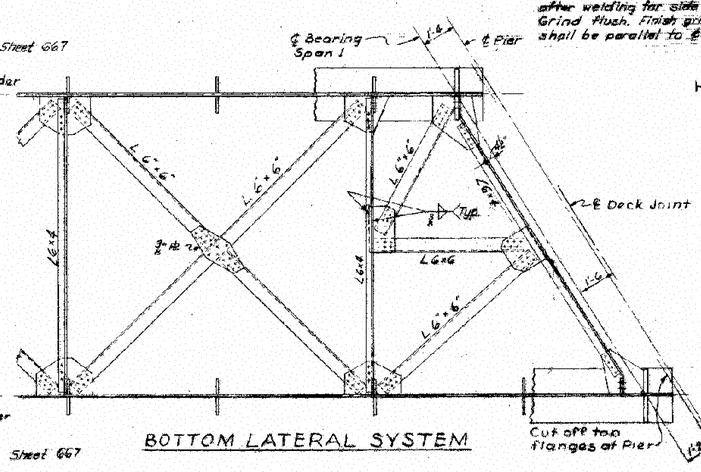
INTERMEDIATE CROSSFRAME



END CROSSFRAME

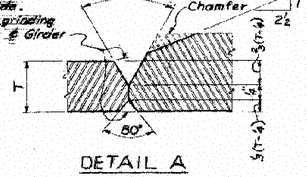


TOP LATERAL SYSTEM



BOTTOM LATERAL SYSTEM

ELEVATION



DETAIL A

All full penetration welds shall be back gouged and welded after welding for side. Grind flush. Finish grinding shall be parallel to ℄ Girder

NOTES:

1. For Elevation Layout, see Sheet 667
2. For Shoe Details, see Sheet 668
3. All welds connecting flange plate to web plate must be made by automatic submerged arc welding. All grinding shall be done in the direction of applied stresses. Transverse tack welds will not be permitted on the tension flange plates. All splice welds in flange and webs to be radiographed. 50% of web to flange weld to be subjected to magnetic particle inspection. Mill scale to be ground off flange plates at web to flange weld. Bottom flange plate must be perpendicular to web plate at bearings.
4. All bolts to be ⅞" dia. high strength bolts with a hole size of 15/16" dia.
5. Steel for flange, web plate and stiffeners should be fully killed fine grain practices.

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

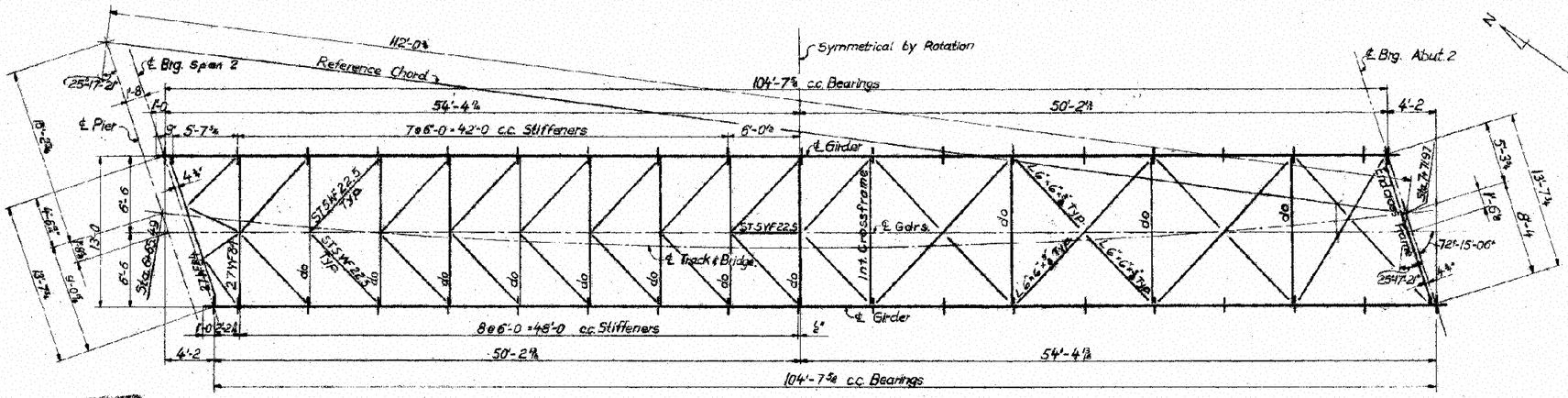
DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114996	

FRAMING PLAN – 1
BRIDGE NO. HAM-71-0774
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

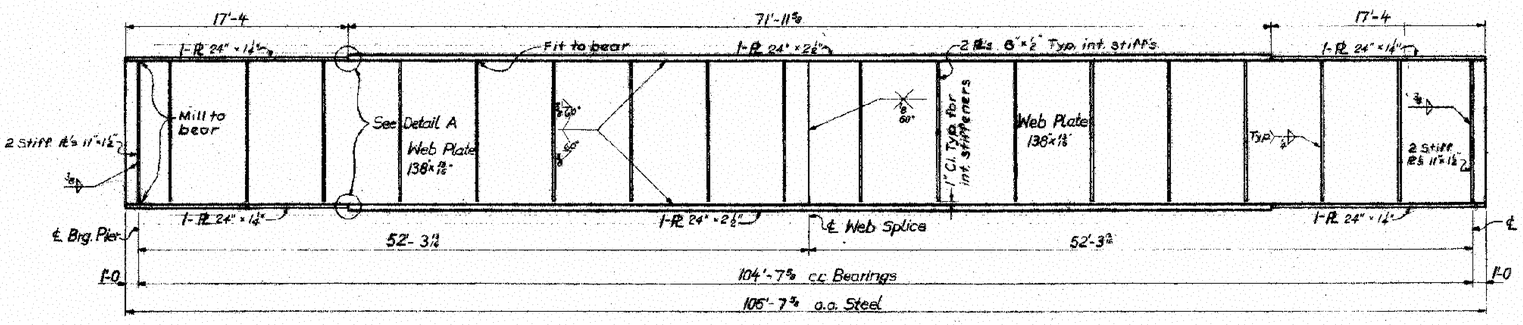
2 / 6

40 / 59

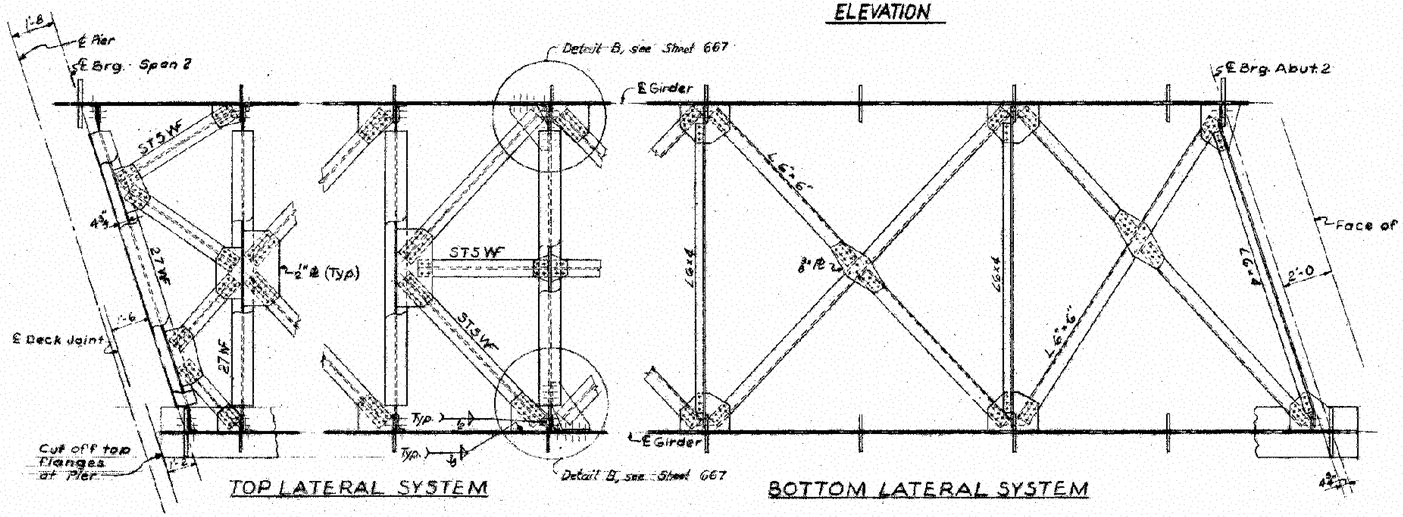


HALF PLAN OF TOP LATERALS

HALF PLAN OF BOTTOM LATERALS

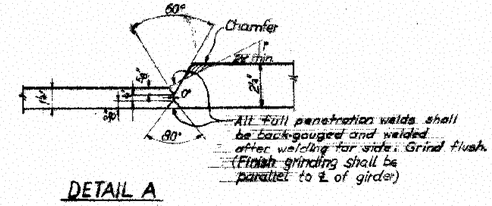


ELEVATION

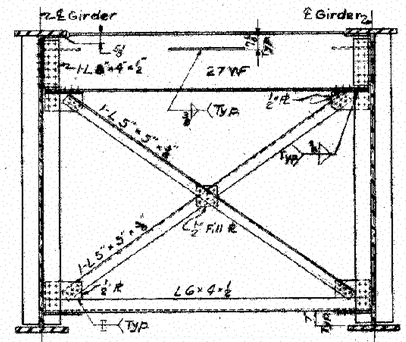


TOP LATERAL SYSTEM

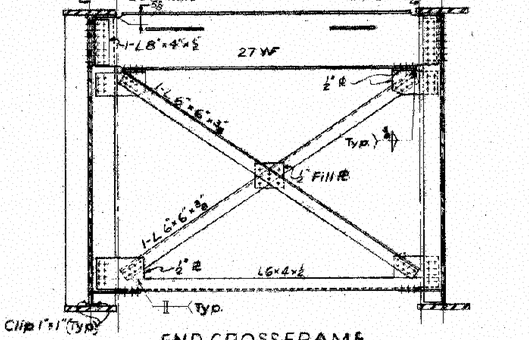
BOTTOM LATERAL SYSTEM



DETAIL A



INTERMEDIATE CROSSFRAME



END CROSSFRAME

NOTES:

1. For Elevation Layout, see Sheet 667
2. For Shoe Details, see Sheet 668
3. All welds connecting flange plate to web plate must be made by automatic submerged arc welding. All grinding shall be done in the direction of applied stresses. Transverse tack welds will not be permitted on the tension flange plates. All splice welds in flange plates and webs to be radiographed. 50% of web to flange weld to be subjected to magnetic particle inspection. Mill scale to be ground off flange plates at web to flange weld. Bottom flange plate must be perpendicular to web plate at bearings.
4. All bolts to be ⅞" ø H.S. bolts with ⅞" dia. holes.
5. Steel for flange, web plate and stiffeners should be fully killed fine grain practices.

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).

2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

MICROFILMED JAN 08 '16

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114937	

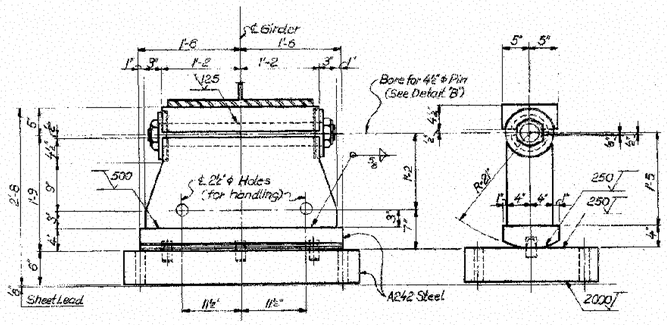
FRAMING PLAN - 2

BRIDGE NO. HAM-71-0774
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

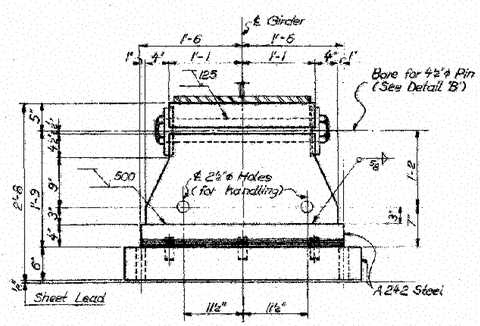
3 / 6

41 / 59

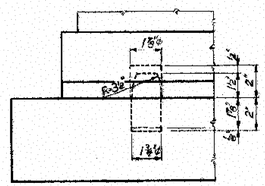


END ELEVATION SPAN 1

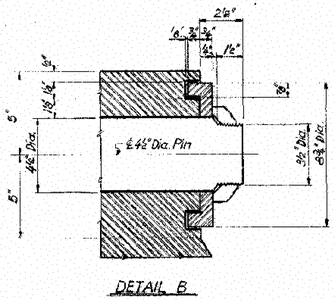
SIDE VIEW SPAN 1&2



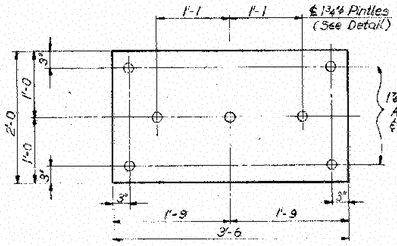
END ELEVATION SPAN 2



DOWEL DETAIL

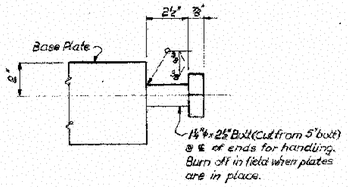


DETAIL B

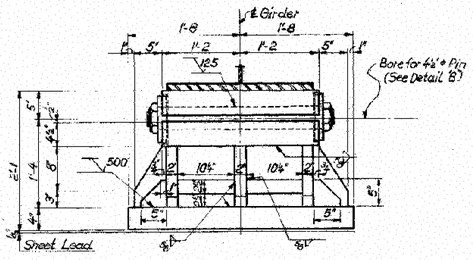


BASE PLATE SPAN 1&2

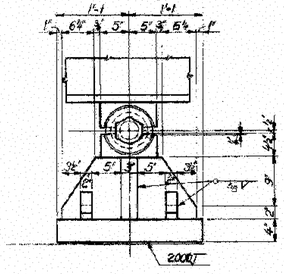
DETAILS OF EXPANSION SHOES



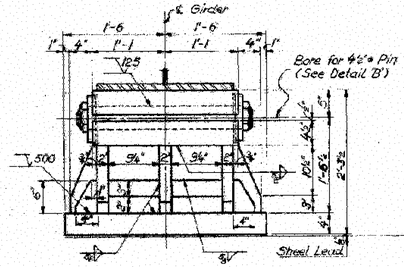
HANDLING BOLT DETAIL



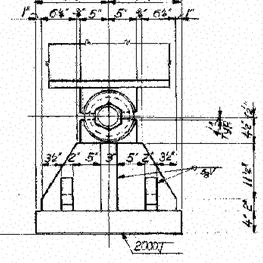
END ELEVATION SPAN 1



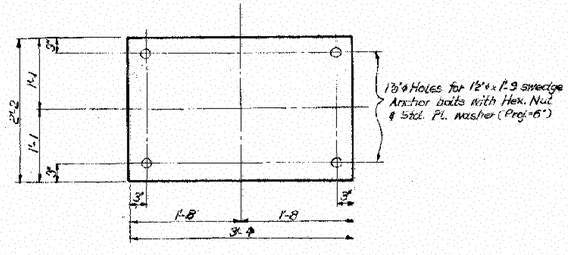
SIDE VIEW SPAN 1



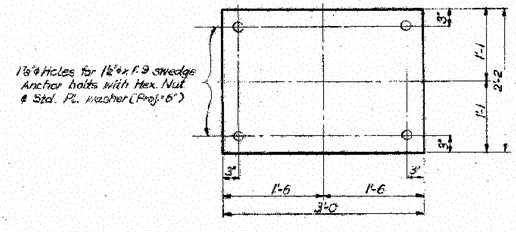
END ELEVATION SPAN 2



SIDE VIEW SPAN 2



BASE PLATE SPAN 1



BASE PLATE SPAN 2

DETAILS OF FIXED SHOES

NOTES

1. Pins to be cold finished carbon steel shafting conforming to the requirements for grade 1030 steel in ASTM Specification A108.
2. Plates and rods shall conform to ASTM Designation: A36.
3. The Top plate shall be field welded to the bottom flange plate with ½" fillet weld.

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114996	

FRAMING DETAILS
BRIDGE NO. HAM-71-0774
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

4 / 6

42
59

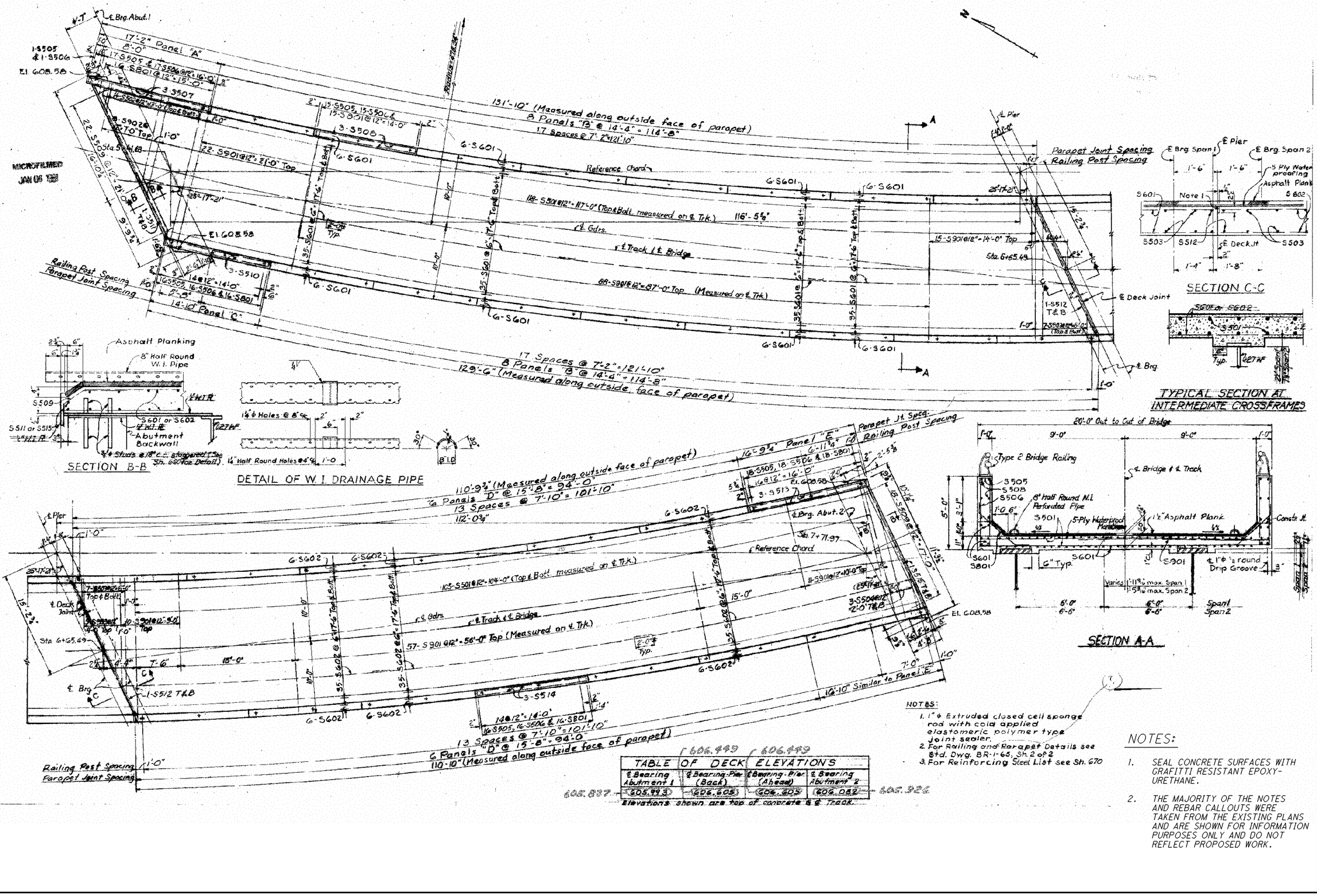


TABLE OF DECK ELEVATIONS			
℄ Bearing Abutment 1	℄ Bearing-Pier (Back)	℄ Bearing-Pier (Ahead)	℄ Bearing Abutment 2
605.993	606.605	606.605	606.082

Elevations shown are top of concrete ℄ ℄ Track

NOTES:

1. 1" ϕ Extruded closed cell sponge rod with cold applied elastomeric polymer type joint sealer.
2. For Railing and Parapet Details see Std. Dwg. BR-1-65, Sh. 2 of 2
3. For Reinforcing Steel List see Sh. 670

NOTES:

1. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE.
2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14

CHECKED	REVISED	STRUCTURE FILE NUMBER
CAH		3114996

SUPERSTRUCTURE DETAILS
BRIDGE NO. HAM-71-0774
I & O RAILROAD OVER I-71

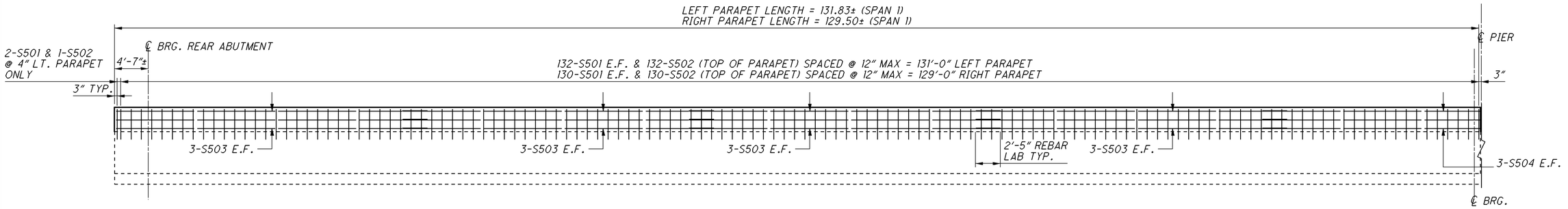
HAM-71/562-7.52/2.55
PID No. 84595

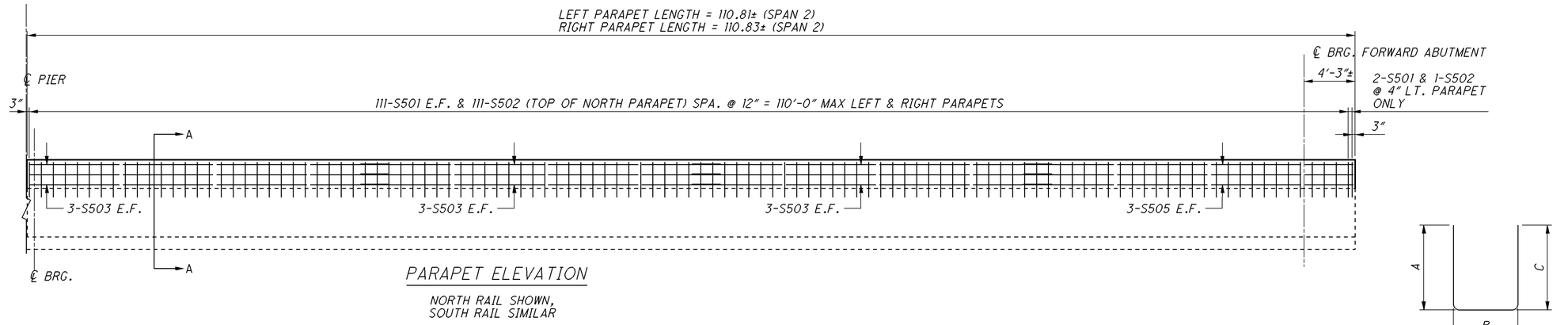
5 / 6

43 / 59

MICROFILMED JAN 09 1981

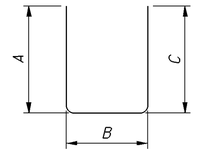
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-71-0774\071-0744CSD002.dgn 02-NOV-2015 2:43PM choward4



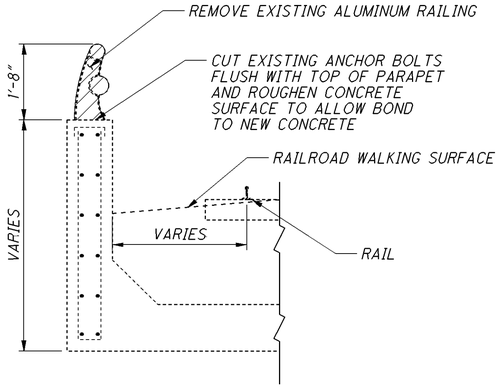


PARAPET ELEVATION

NORTH RAIL SHOWN,
SOUTH RAIL SIMILAR

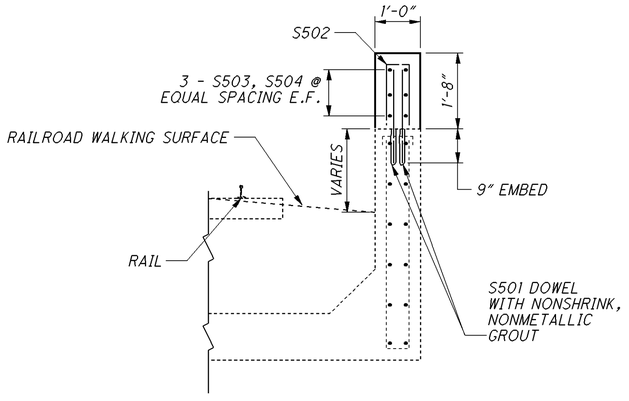


TYPE-2



EXIST. PARAPET SECTION

NOT TO SCALE



REHABILITATED NORTH PARAPET SECTION A-A

NOT TO SCALE

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
S501	968	2'-3"	2,272	STR							
S502	158	3'-5"	1,725	2	1'-6"	0'-8"	1'-6"				
S503	96	30'-0"	3,004	STR							
S504	12	20'-11"	262	STR							
S505	12	27'-6"	244	STR							
		SUB-TOTAL	7,507								

NOTES:

1. SAW CUT ANY REMAINING EXISTING ANCHOR BOLTS FLUSH WITH TOP OF EXISTING CONCRETE PARAPET.
2. ROUGHEN THE TOP OF THE EXISTING CONCRETE PARAPET FOR IMPROVED BOND WITH PROPOSED PARAPET EXTENSION. INCLUDED WITH ITEM 202 - BRIDGE RAILING REMOVED, AS PER PLAN FOR PAYMENT.
3. SAW CUTTING OF PARAPET JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE PARAPET CONCRETE.
4. ADDITIONAL REINFORCING STEEL PROVIDED TO ACCOMMODATE PARAPET EXTENSIONS BEYOND DECK LIMITS.
5. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE SEALER.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

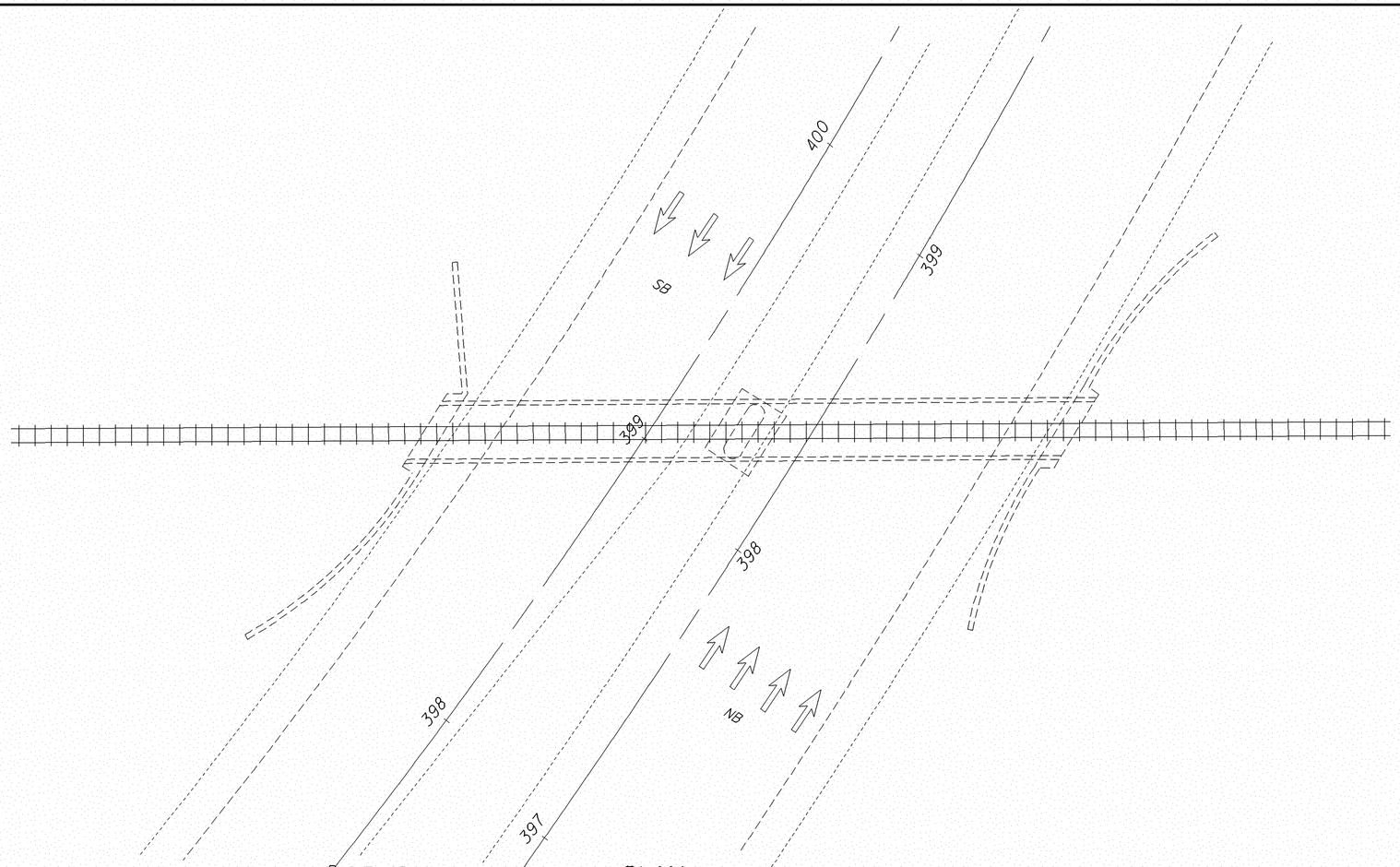
DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114996	

PARAPET DETAILS
BRIDGE NO. HAM-71-0774
I & O RAILROAD OVER I-71

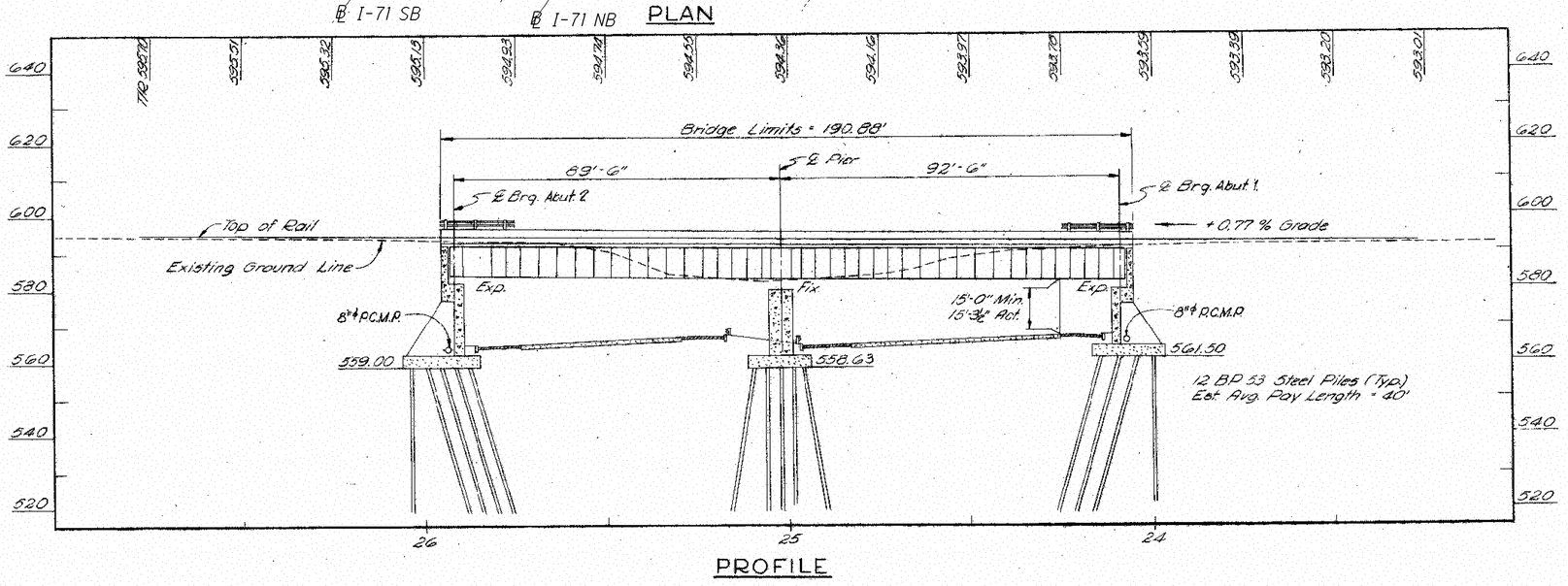
HAM-71/ 562-7.52/ 2.55
PID No. 84595

6 / 6

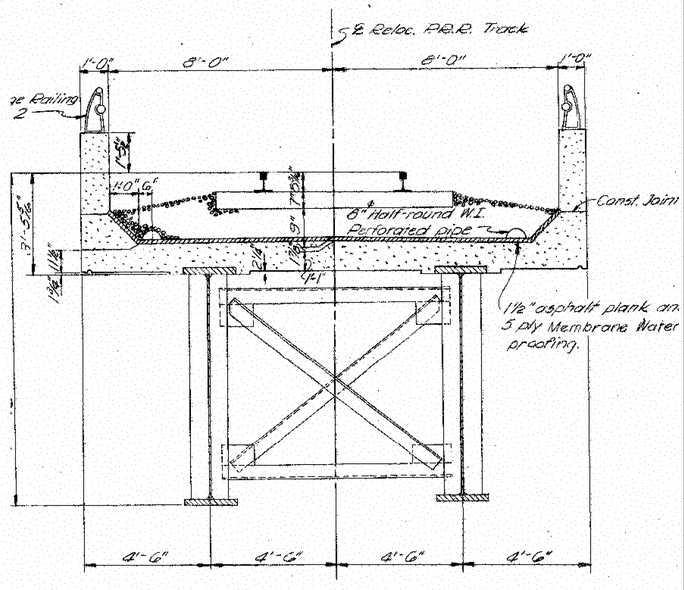
44
59



PLAN



PROFILE



SECTION

NOTES:

1. SEE SHEET 30 OF 59 FOR STRUCTURE QUANTITIES.
2. THE MAJORITY OF THE NOTES AND DETAILS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

EXISTING STRUCTURE

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

SPANS: 89'-6", 92'-6"
ROADWAY: 16'-0" F/F OF PARAPET
LOADING: RAILWAY, E-72 COOPER WITH DIESEL IMPACT
SKEW: 32°30'00" LT. FWD.
APPROACH SLABS: N/A
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
STRUCTURAL FILE NUMBER: 3115208
DATE BUILT: 1972
DISPOSITION:
COORDINATES: LATITUDE N 39°09'58"
LONGITUDE W 84°25'30"

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

REVIEWED	DATE	STRUCTURE FILE NUMBER
		3115208
DRAWN	REVISED	
CAH		
DESIGNED		
CAH		
CHECKED		
CAH		

HAMILTON COUNTY
STA.
STA.

SITE PLAN
BRIDGE No: HAM-71-0842
I & O RAILROAD OVER I-71

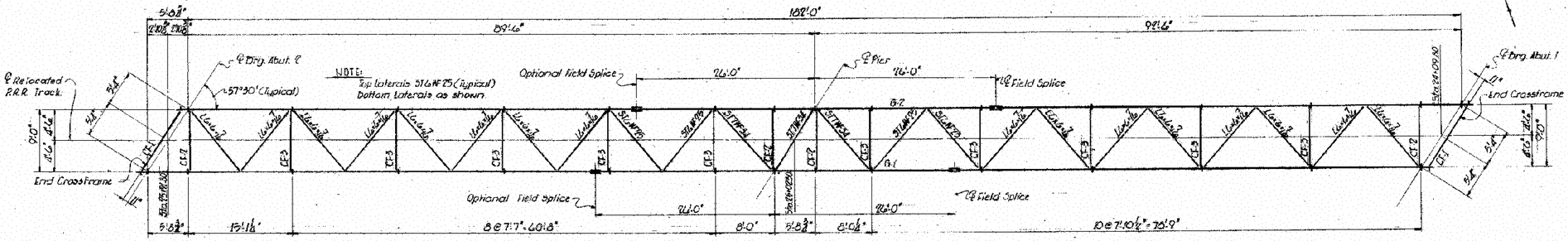
HAM-71/ 562-7.52/ 2.55
PID No. 84595

1 / 5

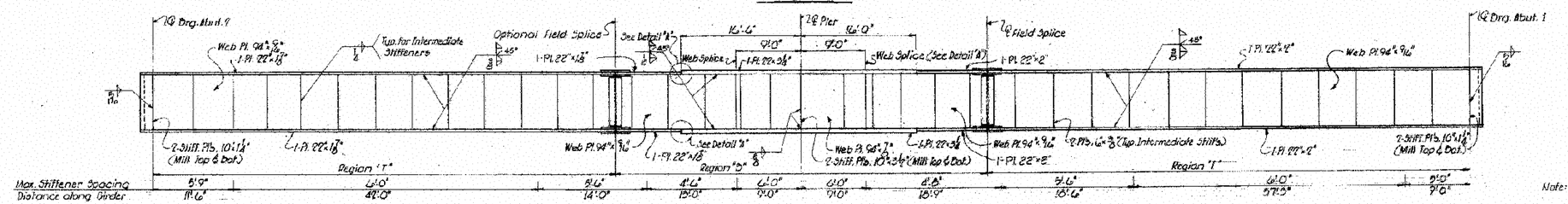
45
59

MICROFILMED
JAN 06 1981

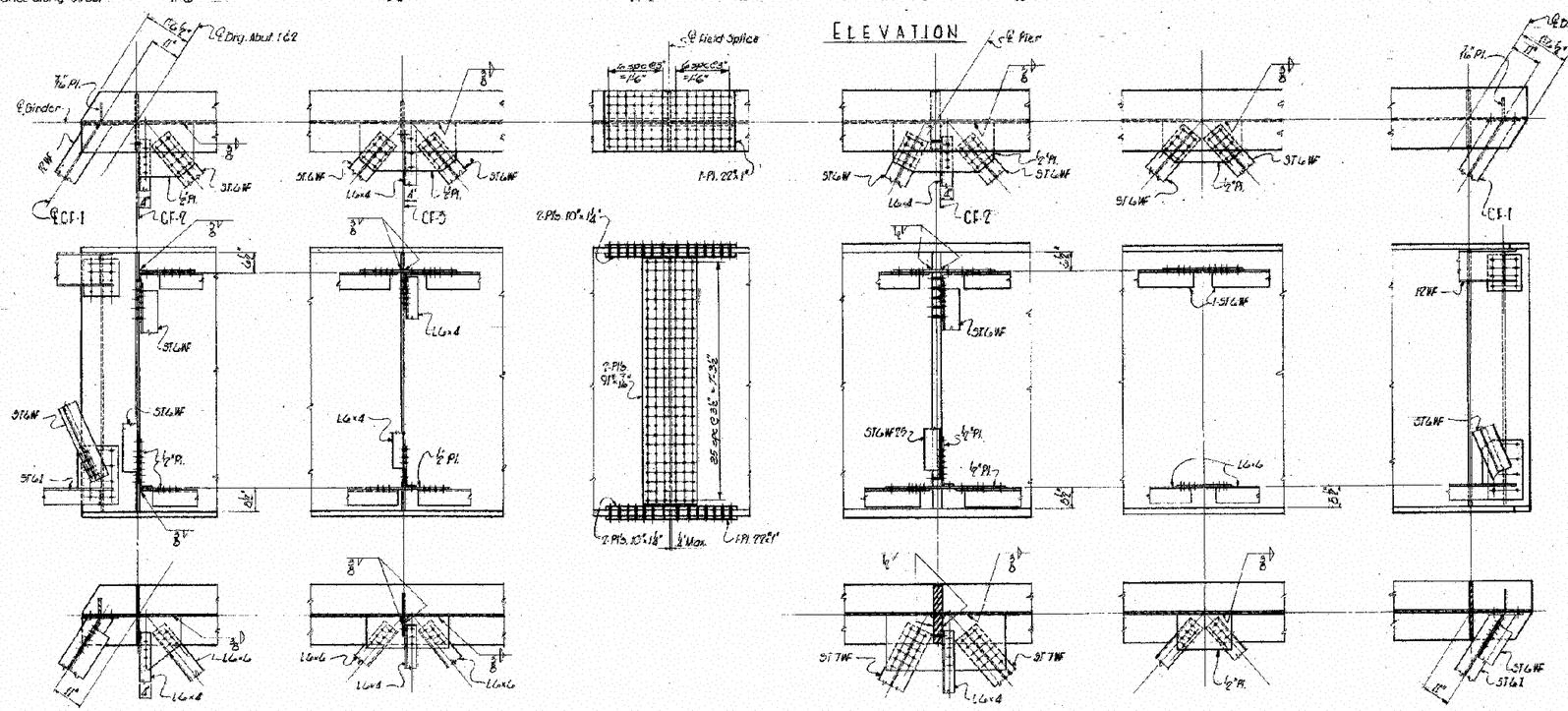
MICROFILMED
JAN 06 1981

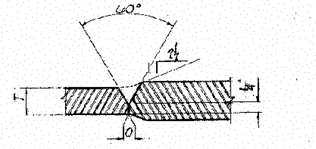


PLAN



ELEVATION





DETAIL "A"

Note: All of the full penetration welds shall be back-gouged and welded after welding far side.
Butt welds on girder flange plates shall be ground flush; the finish grinding being parallel to the direction of stress.

NOTES

1. For Rocker & Bolster Details, see Sheet 893.
2. 50% of web to flange weld to be subjected to magnetic particle inspection.
3. For Crossframe Details, see Sheet 734.
4. For Elevation Layout, see Sheet 734.
5. All bolted connections shall be ⅞" ϕ High Tensile Strength Bolts.
6. Steel for flange, web plates and stiffeners shall be fully killed fine grain practice.

LEGEND:
Region "T" Stiffeners shall have contact bearing with the top flange.
Region "B" Stiffeners shall have contact bearing with the bottom flange.

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).

2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3115208	

FRAMING PLAN
BRIDGE NO. HAM-71-0842
I & O RAILROAD OVER I-71

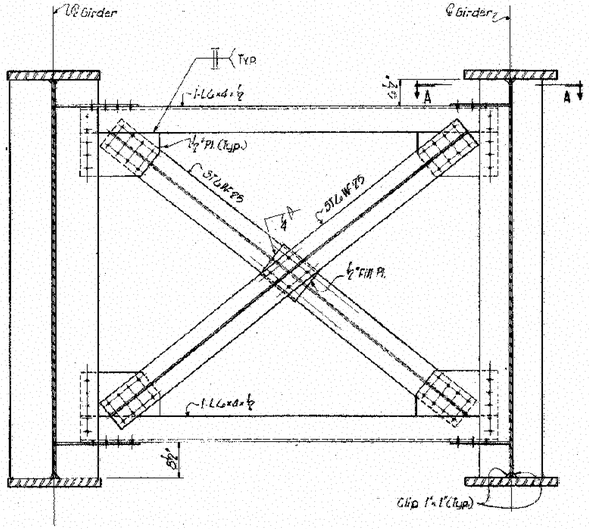
HAM-71/562-7.52/2.55
PID No. 84595

2 / 5

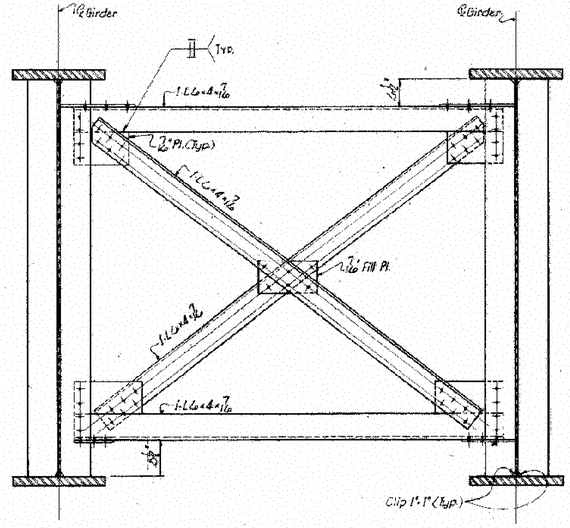
46
59

02-NOV-2015 2:45PM choward4
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-71-0842\071-0842CSD002.dgn

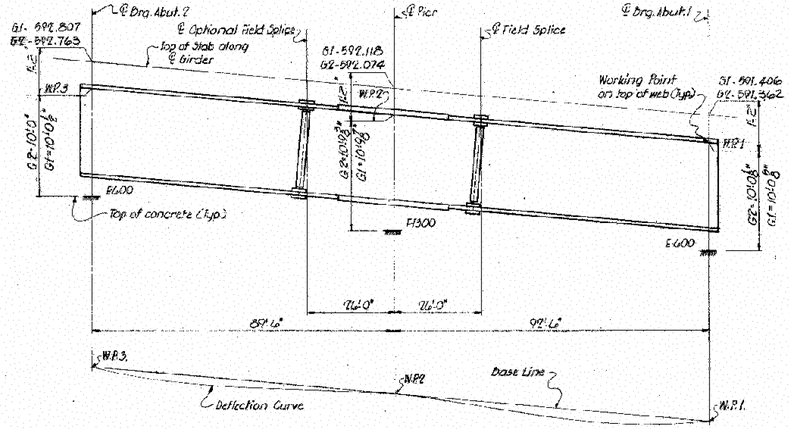
MICROFILMED
JAN 06 1981



CROSSFRAME CF-2



CROSSFRAME CF-3



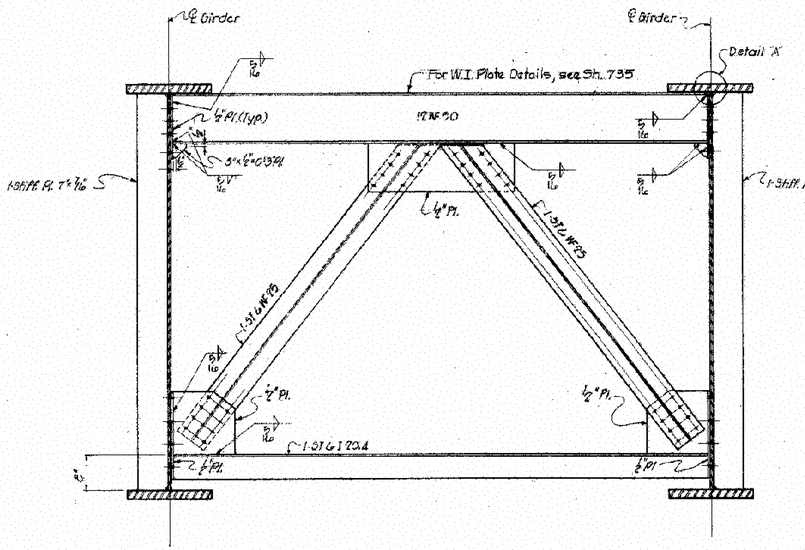
ELEVATION LAYOUT

	℄ Brg. Abut. 2	¾	½	℄ Optional Field Splice	℄ Pier	℄ Field Splice	¼	¼	℄ Brg. Abut. 1
Deflection due to weight of steel	0	1/16"	1/16"	1/16"	0	1/16"	1/16"	1/16"	0
Deflection due to Remaining D.L.	0	7/16"	1/2"	9/16"	0	3/8"	7/16"	9/16"	0
Total deflection	0	1/2"	9/16"	5/8"	0	7/16"	1/2"	5/8"	0

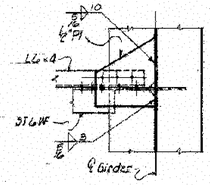
Shop Camber not Required
Base Line is a straight line passing thru indicated working points.

NOTES:

1. For Framing Notes and Framing Plan Details, see Sheet 733.



CROSSFRAME CF-1

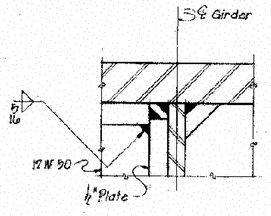


VIEW A-A

STRESS TABLE FOR STEEL

	Moment In Ft Kips			Shears And Reactions In Kips				
	Span 1	Pier Support	Span 2	Abut. 1	Pier Right (Span 1)	Pier Left (Span 2)	Pier Max. React.	Abut. 2
D.L.	2 997	-9 895	7 660	177	504	498	607	167
L.L.	5 789	-4 709	2 967	224	497	493	496	216
I	1 995	-1 733	1 319	83	109	108	169	80
D.L.+L.L.+I	+8,781	-16,337	+7,840	484	710	699	1280	463
SECTION	2-Pls. 22"x⅞ 1-Web 96"x7/16	2-Pls. 22"x15/16 1-Web 96"x½	2-Pls. 22"x⅞ 1-Web 96"x7/16					
MOM. OF I	741,735 in⁴	398,847 in.⁴	276,546 in⁴					
SEC. MOD. FURN.	4,933 in³	7,956 in³	4,676 in³					
SEC. MOD. REQ. AT Fb=22	4,909 in³	7,980 in³	4,924 in³					
WEB AREA REQ. AT Fv=12.5				36.7 in²	56.8 in²			37.1 in²
WEB AREA FURN.				92.88 in² **	87.75 in² *			92.38 in²

* Required by principal stresses
** Required by AREA Specs. 9L+170=0.555 min. thickness



DETAIL "A"

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).
2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3115208	

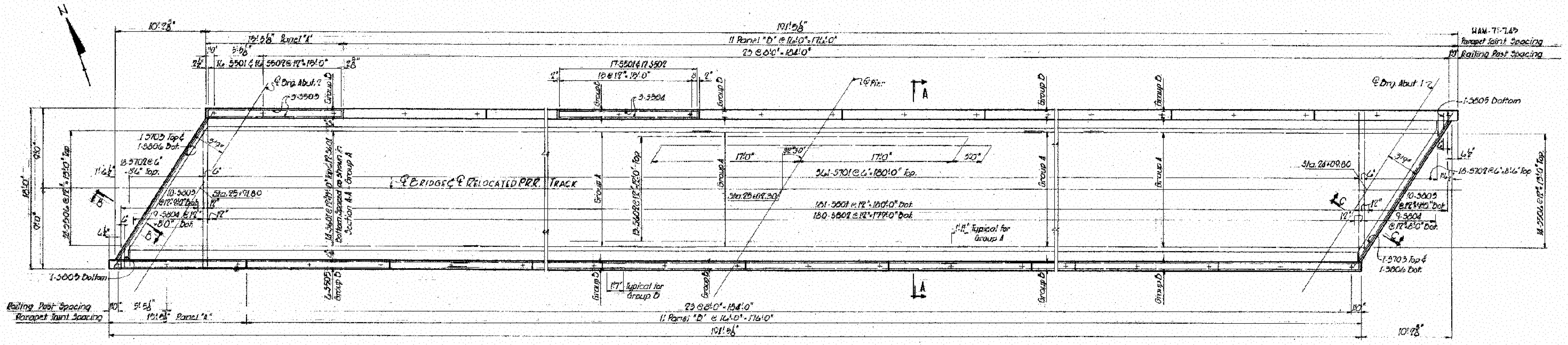
FRAMING DETAILS
BRIDGE NO. HAM-71-0842
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

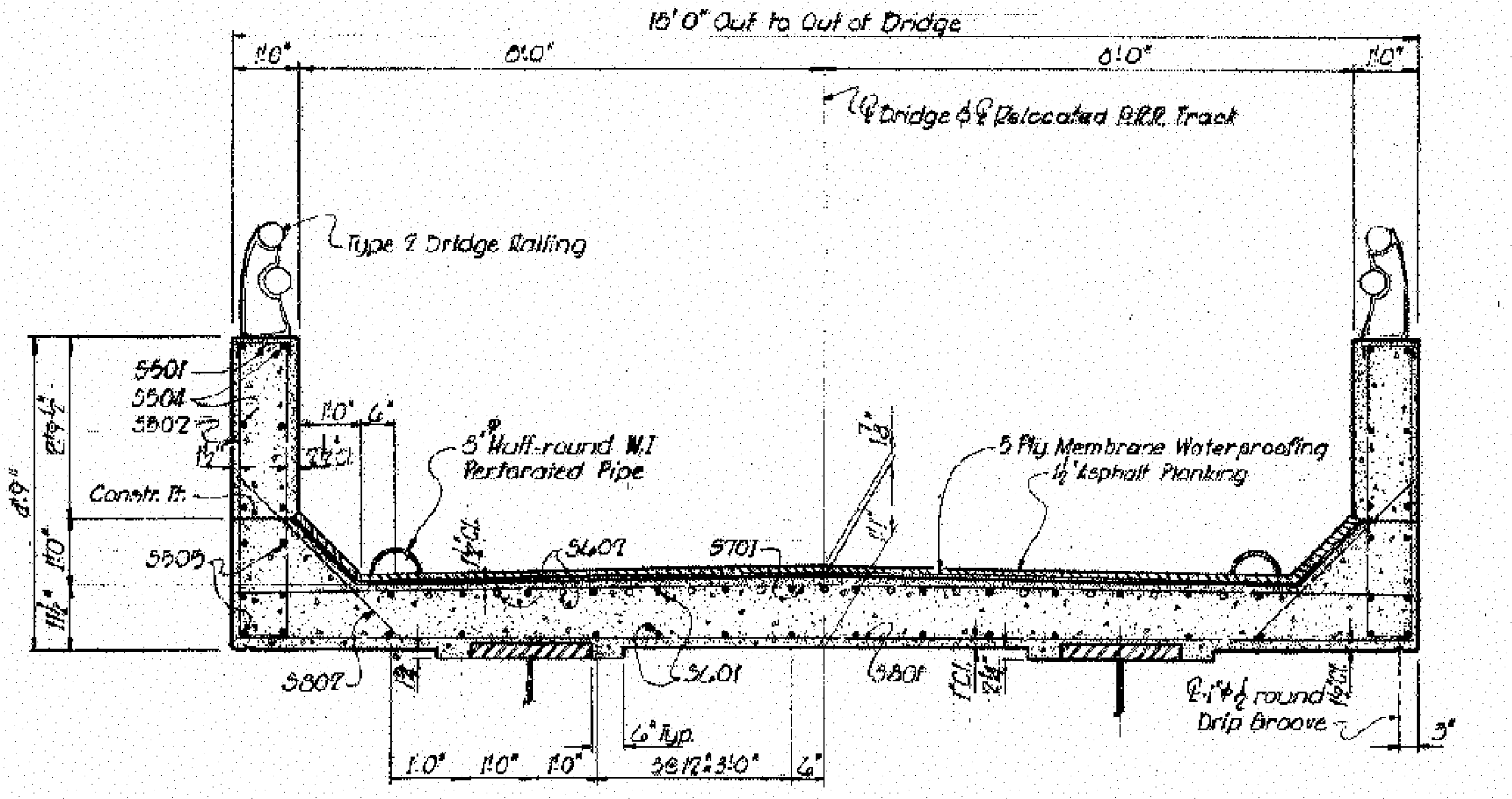
3 / 5

47
59

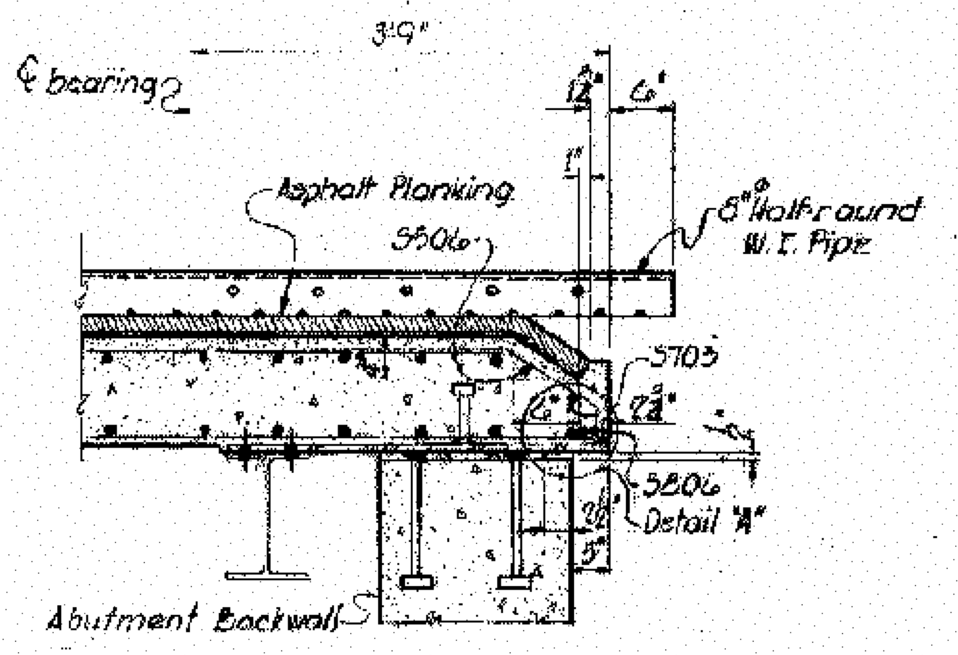
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-71-0842\071-0842CSD002.dgn 02-NOV-2015 2:45PM choward4



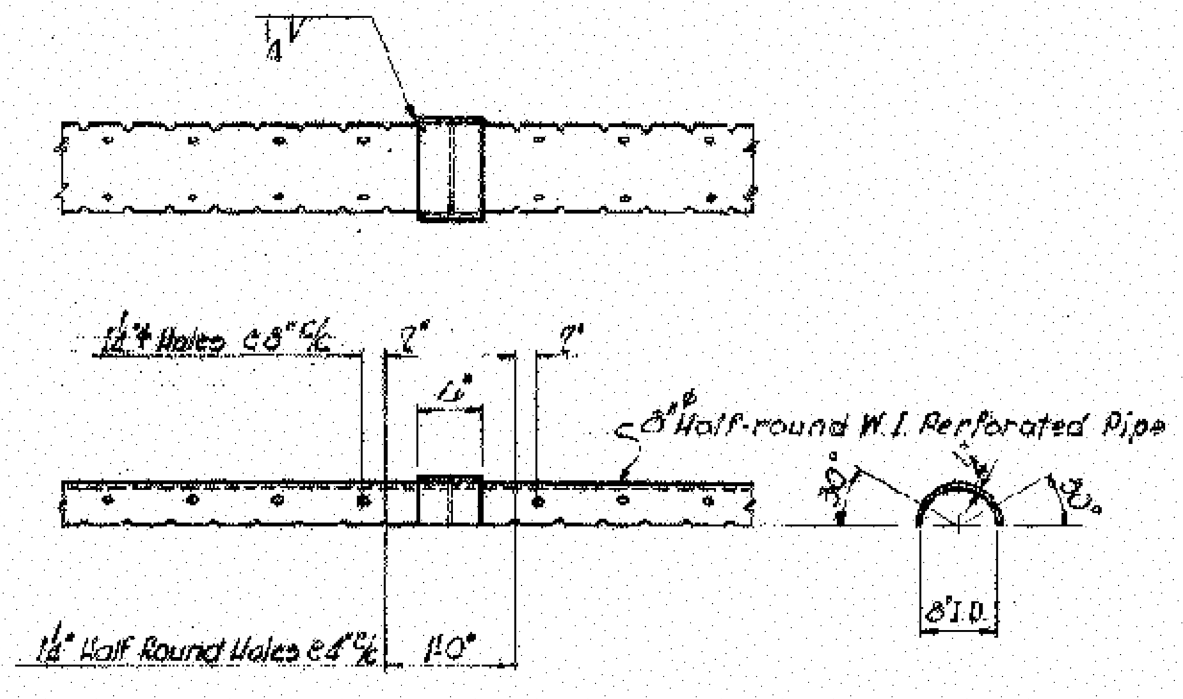
PLAN



SECTION A-A



SECTION D-D



DETAIL OF W.I. DRAINAGE PIPE

NOTES:

1. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE.

2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

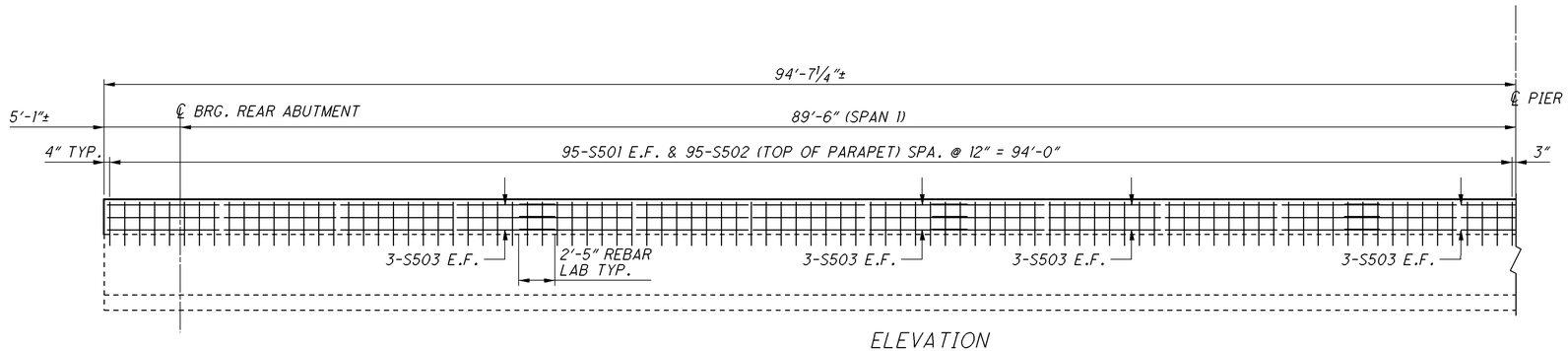
DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3115208	

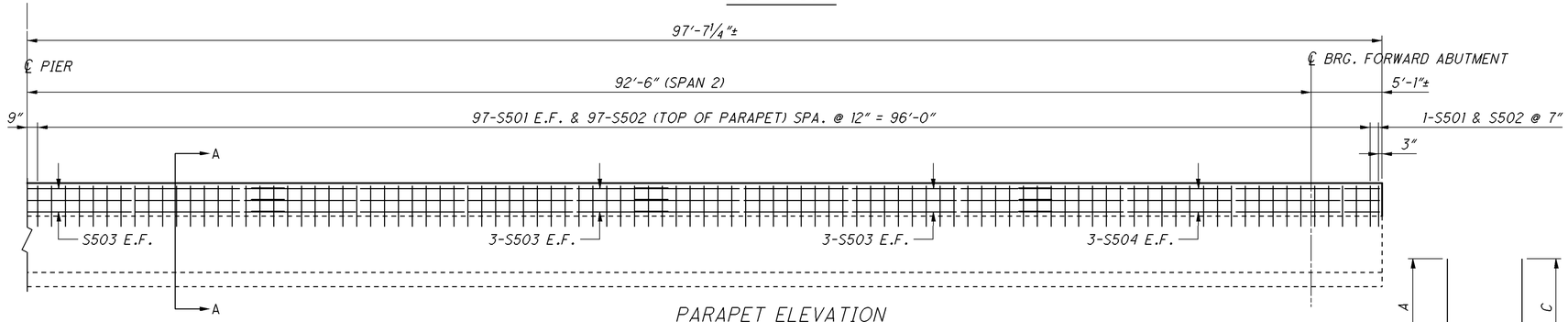
SUPERSTRUCTURE DETAILS

BRIDGE NO. HAM-71-0842
I & O RAILROAD OVER I-71

HAM-71/562-7.52/2.55
PID No. 84595

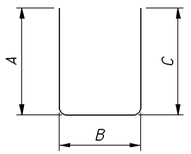


ELEVATION

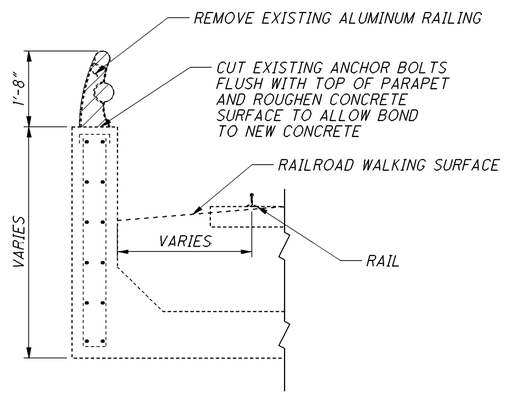


PARAPET ELEVATION

NORTH RAIL SHOWN,
SOUTH RAIL SIMILAR

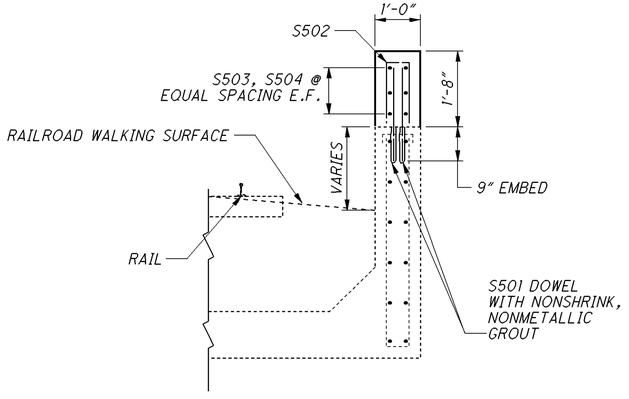


TYPE-2



EXIST. PARAPET SECTION

NOT TO SCALE



REHABILITATED NORTH PARAPET SECTION A-A

NOT TO SCALE

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
S501	772	2'-3"	1,812	STR							
S502	386	4'-7"	1,845	2	1'-5"	0'-8"	1'-5"				
S503	72	30'-0"	2,253	STR							
S504	12	26'-0"	313	STR							
SUB-TOTAL			6,223								

NOTES:

1. SAW CUT ANY REMAINING EXISTING ANCHOR BOLTS FLUSH WITH TOP OF EXISTING CONCRETE PARAPET.
2. ROUGHEN THE TOP OF THE EXISTING CONCRETE PARAPET FOR IMPROVED BOND WITH PROPOSED PARAPET EXTENSION. INCLUDED WITH ITEM 202 - BRIDGE RAILING REMOVED, AS PER PLAN FOR PAYMENT.
3. SAW CUTTING OF PARAPET JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE PARAPET CONCRETE.
4. ADDITIONAL REINFORCING STEEL PROVIDED TO ACCOMMODATE PARAPET EXTENSIONS BEYOND DECK LIMITS.
5. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE SEALER.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3115208	

PARAPET DETAILS
BRIDGE NO. HAM-71-0842
I & O RAILROAD OVER I-71

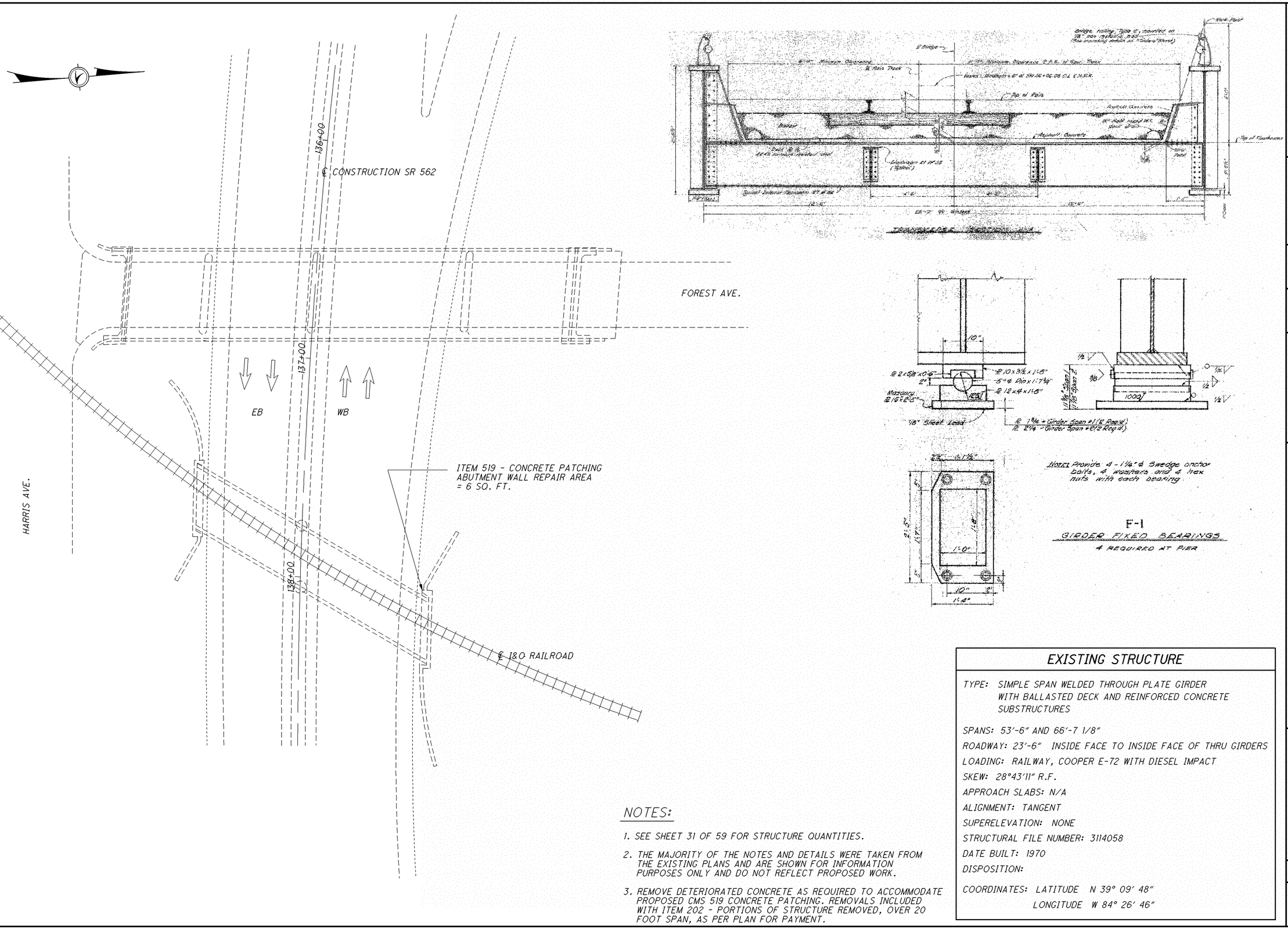
HAM-71/562-7.52/2.55
PID No. 84595

5 / 5

49
59

02-NOV-2015 2:45PM choward4

I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-71-0842\071-0842CSD001.dgn



NOTE: Provide 4 - 1 1/4" ϕ Swedge anchor bolts, 4 washers and 4 hex nuts with each bearing.

F-1
GIRDER FIXED BEARINGS
4 REQUIRED AT PIER

NOTES:

1. SEE SHEET 31 OF 59 FOR STRUCTURE QUANTITIES.
2. THE MAJORITY OF THE NOTES AND DETAILS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.
3. REMOVE DETERIORATED CONCRETE AS REQUIRED TO ACCOMMODATE PROPOSED CMS 519 CONCRETE PATCHING. REMOVALS INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN FOR PAYMENT.

EXISTING STRUCTURE

TYPE: SIMPLE SPAN WELDED THROUGH PLATE GIRDER WITH BALLASTED DECK AND REINFORCED CONCRETE SUBSTRUCTURES

SPANS: 53'-6" AND 66'-7 1/8"

ROADWAY: 23'-6" INSIDE FACE TO INSIDE FACE OF THRU GIRDERS

LOADING: RAILWAY, COOPER E-72 WITH DIESEL IMPACT

SKEW: 28°43'11" R.F.

APPROACH SLABS: N/A

ALIGNMENT: TANGENT

SUPERELEVATION: NONE

STRUCTURAL FILE NUMBER: 3114058

DATE BUILT: 1970

DISPOSITION:

COORDINATES: LATITUDE N 39° 09' 48"
LONGITUDE W 84° 26' 46"

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114058	

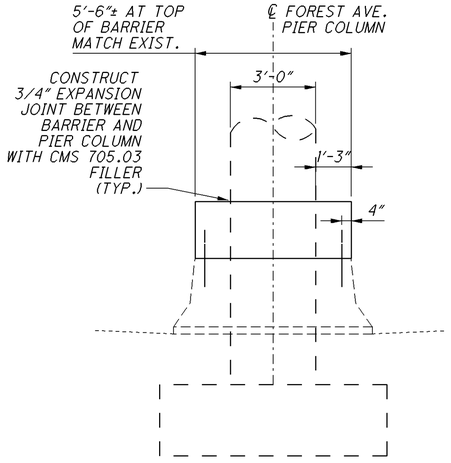
HAMILTON COUNTY
STA.
STA.

SITE PLAN
BRIDGE No: HAM-562-0255
I & O RAILROAD OVER SR 562

HAM-71/562-7.52/2.55
PID No. 84595

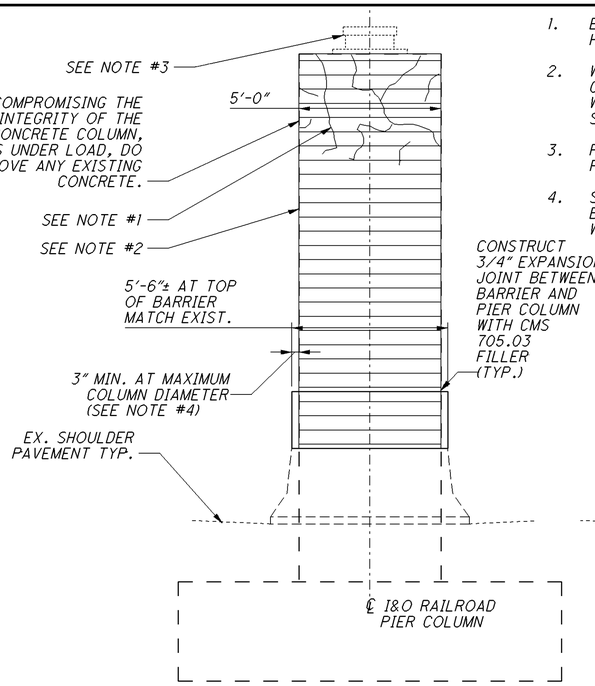
1 / 2

50
59



SR 562 MEDIAN BARRIER EXTENSION

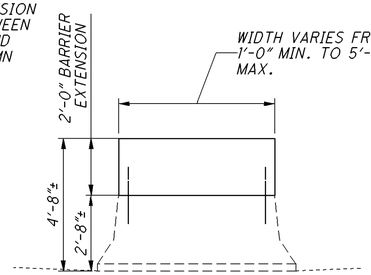
BARRIER SECTION AT FOREST AVE. PIER COLUMNS

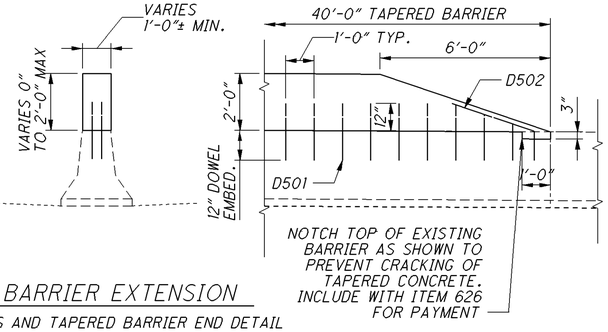


SR 562 MEDIAN BARRIER EXTENSION

BARRIER SECTION AT I&O RAILROAD PIER COLUMNS

1. EPOXY INJECT CRACKS IN THE EAST PIER COLUMN OF THE HAM-562-0255 BRIDGE. INJECT AT 6" SPACING.
2. WRAP THE HAM-562-0255 PIER COLUMNS WITH FOUR LAYERS OF GLASS FIBER REINFORCED COMPOSITE MATERIAL. SEAL THE WRAP MATERIAL WITH A URETHANE SURFACE TOP COAT. COLOR SHALL BE FEDERAL NUMBER 16515 (GREY)
3. PAINT THE HAM-562-0255 PIER BEARINGS USING SYSTEM EEU. PAINT COLOR SHALL MATCH EXISTING.
4. SEAL ALL EXPOSED SURFCES OF THE MEDIAN CONCRETE BARRIER AND EXTENSION FROM STA. 136+12 TO STA. 138+48 WITH CLEAR SILANE (NON-EPOXY) SEALER.
5. RAISE THE HEIGHT OF THE EXISTING MEDIAN CONCRETE BARRIER FROM 32"± TO 56". PAID FOR UNDER ITEM 622 - BARRIER, MISC.: INCREASE MEDIAN BARRIER HEIGHT. INSTALL #5 REBAR DOWELS SPACED AT 12" ON CENTER ALONG EACH SIDE OF THE BARRIER FACING TRAFFIC. DOWELS SHALL BE INSTALLED PER CMS 510 USING NON-SHRINK, NON-METALLIC GROUT. FIELD TRIM DOWELS AS NECESSARY AT TAPERED END AND REPAIR EPOXY COATING PER CMS 509. COST FOR FIELD TRIMMING AND REBAR COATING REPAIR SHALL BE CONSIDERED INCIDENTIAL TO ITEM 509. REFERENCE SHEET 3 OF 59 FOR MORE DETAILS.
6. THE CONTRACTOR MAY OMIT MEDIAN BARIER REBAR DOWELS AT THE HAM-562-0255 PIER COLUMNS ONLY WHERE THE THICKNESS OF THE MEDIAN EXTENSION CONCRETE PLACED ADJACENT TO THE PIER COLUMN IS LESS THAN 4" IN THICKNESS (i.e. MAXIMUM COLUMN DIAMETER). GLASS FIBER COMPOSITE WRAP MATERIAL SHALL BE IN PLACE PRIOR TO PLACEMENT OF THE MEDIAN BARRIER EXTENSION CONCRETE.

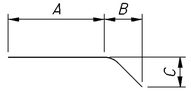




SR 562 MEDIAN BARRIER EXTENSION

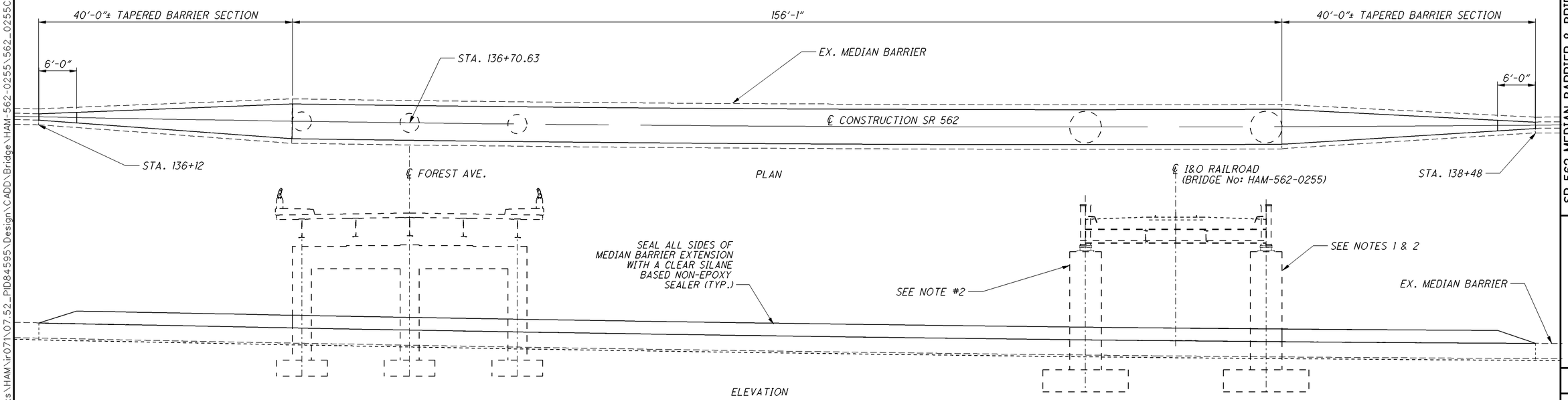
TYPICAL BARRIER SECTIONS AND TAPERED BARRIER END DETAIL

NOTE: COST FOR CMS 705.03 FILLER SHALL BE CONSIDERED INCIDENTAL TO RESPECTIVE CMS 511 CONCRETE ITEM(S). REFER TO STD. DWG. RM-4.4 FOR ADDITIONAL DETAILS.



TYPE-19

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
MEDIAN BARRIER REINFORCING STEEL LIST											
D501	470	2'-0"	980	STR							
D502	4	4'-1"	17	19	1'-0"	2'-11"	1'-0"				
SUB-TOTAL			997								



SR 562 MEDIAN BARRIER EXTENSION

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114058	

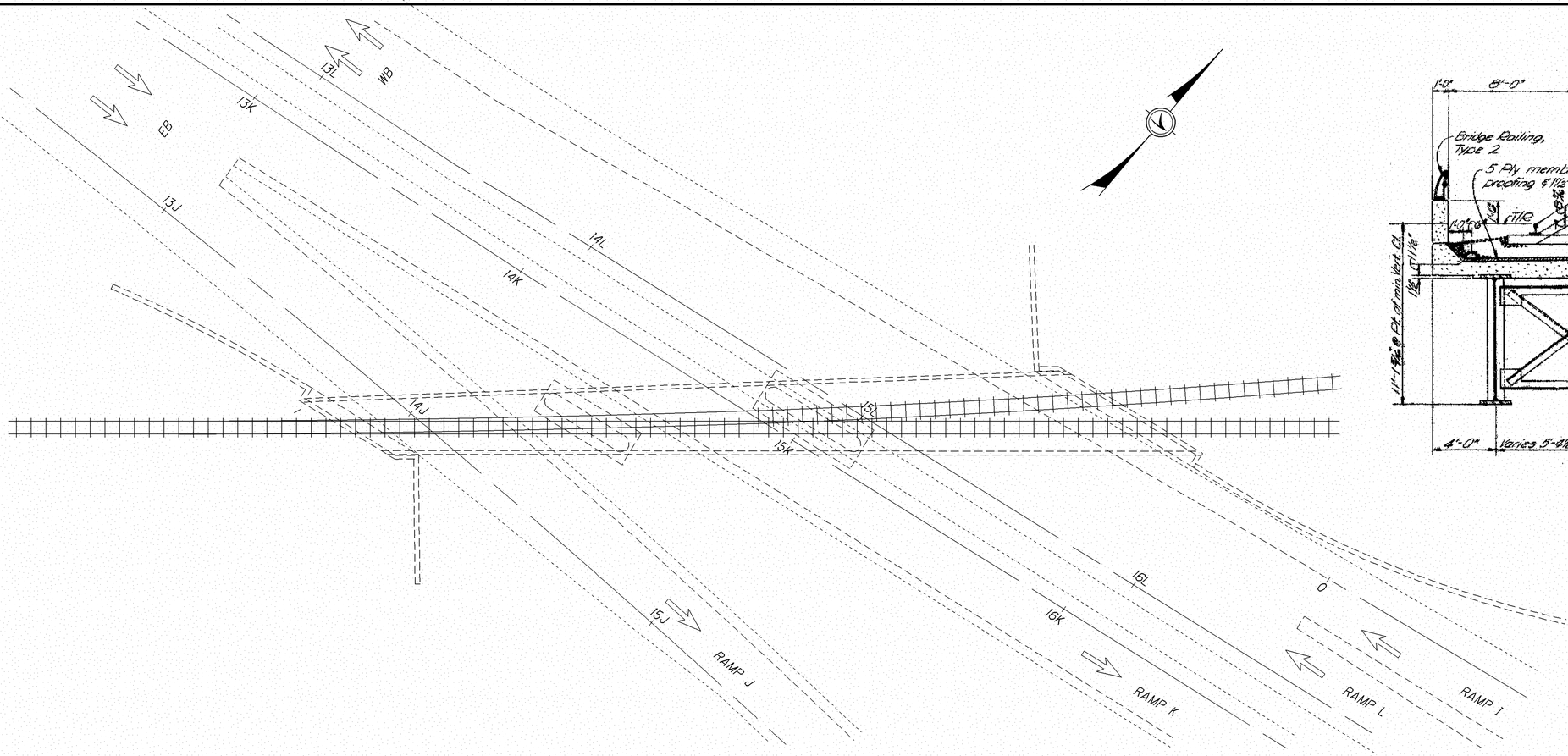
SR 562 MEDIAN BARRIER & BRIDGE PIER REHABILITATION DETAILS
BRIDGE No.: HAM-562-0255
I&O RAILROAD BRIDGE OVER SR 562

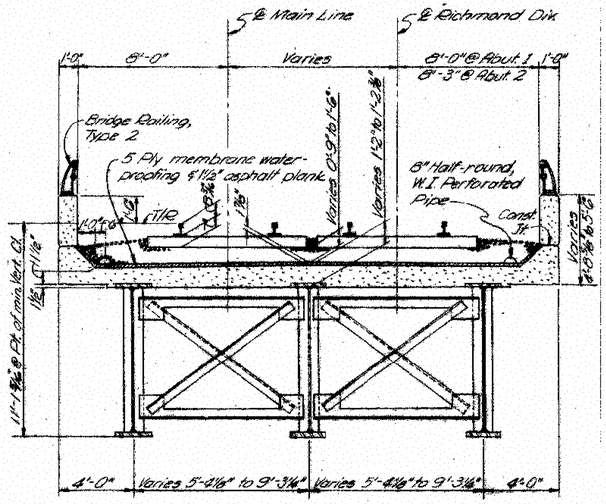
HAM-71/562-7.52/2.55
PID No. 84595

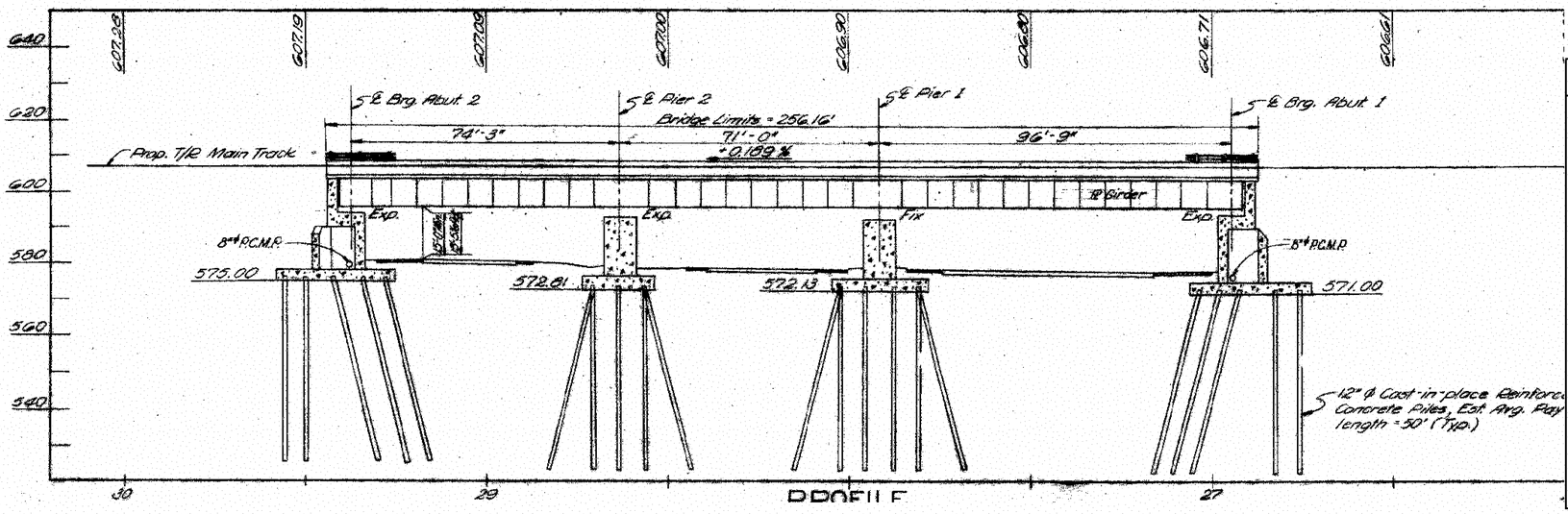
2 / 2

51
59

02-NOV-2015 2:46PM choward4
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-562-0255\562_0255CGR001.dgn







NOTES:

1. SEE SHEET 31 OF 59 FOR STRUCTURE QUANTITIES.
2. THE MAJORITY OF THE NOTES AND DETAILS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

EXISTING STRUCTURE

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

SPANS: 96'-9", 71'-0", 74'-3"

ROADWAY: F/F SAFETY CURB

LOADING: RAILWAY, COOPER E-72 WITH DIESEL IMPACT

SKEW: 58°00'15" RT. FWD.

APPROACH SLABS: N/A

ALIGNMENT: MAIN LINE TANGENT AND SPUR CURVED RT

CROWN:

STRUCTURAL FILE NUMBER: 3114120

DATE BUILT: 1972

DISPOSITION:

COORDINATES: LATITUDE N 39°09'52"
LONGITUDE W 84°26'05"

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114120	

HAMILTON COUNTY
STA.
STA.

SITE PLAN
BRIDGE No: HAM-562-0319
I&O RAILROAD OVER SR 562

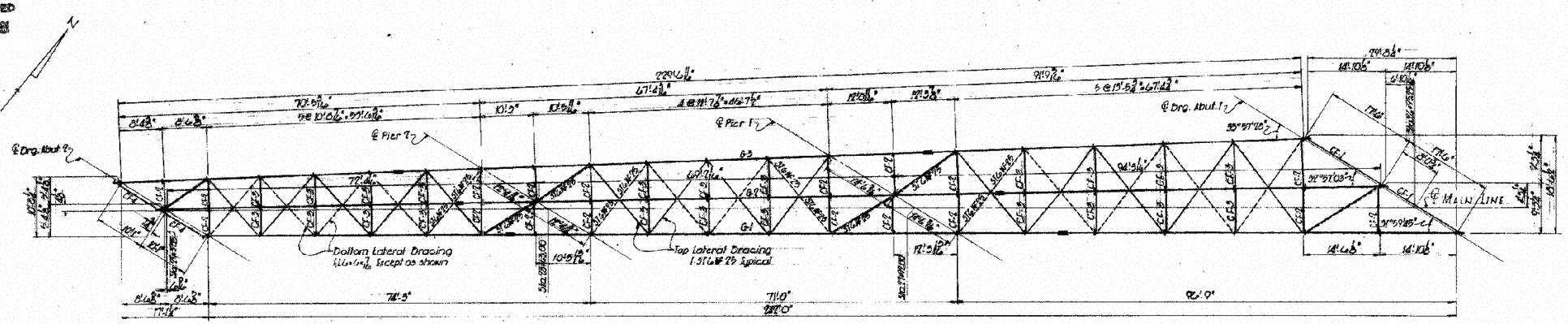
HAM-71/562-7.52/2.55
PID No. 84595

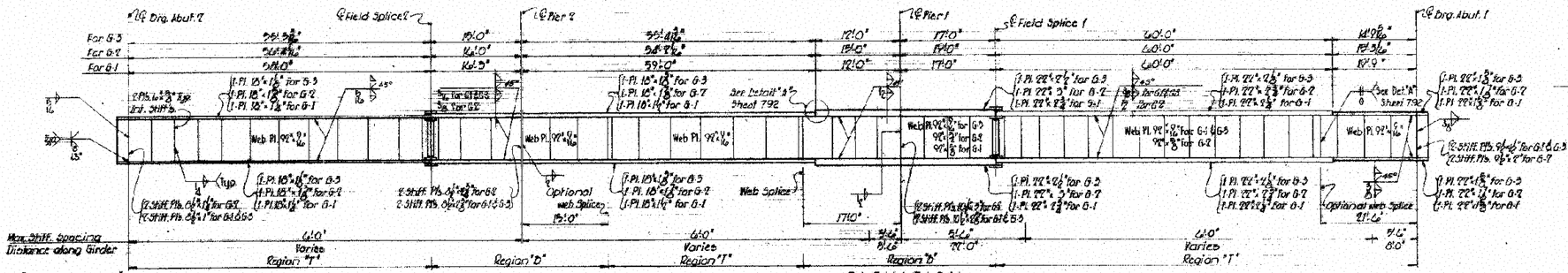
1 / 5

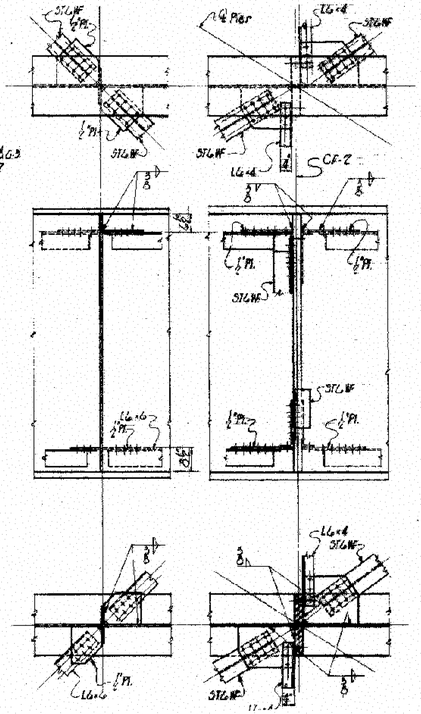
52
59

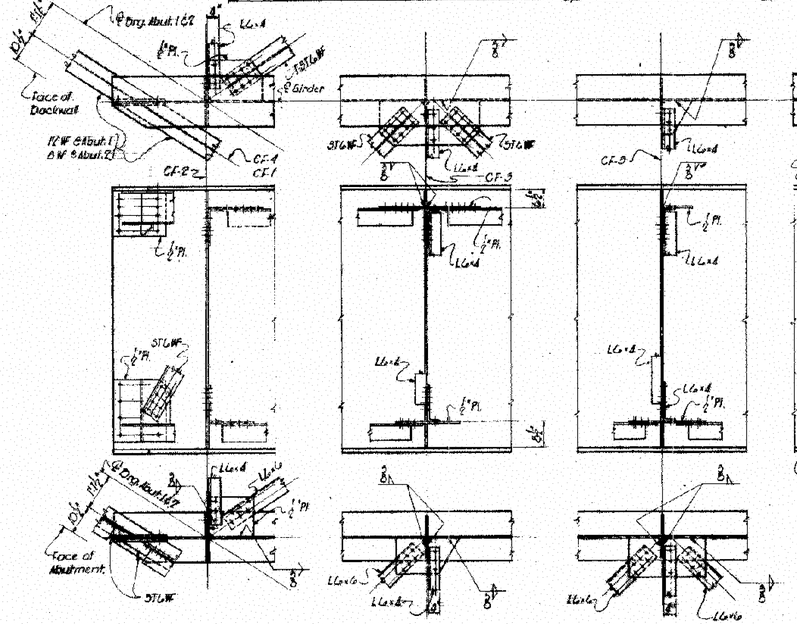
I:\projects\HAM\r071\07.52_PID84595\Design\CADD\Bridge\HAM-562-0319\562-0319CSP001.dgn 02-NOV-2015 2:47PM chowar44

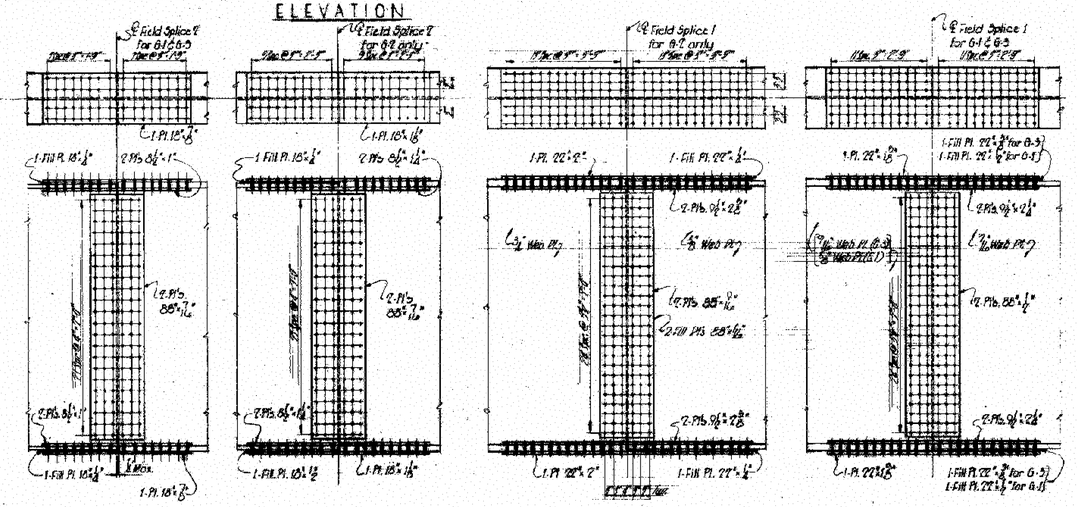
MICROFILMED
JAN 07 19[illegible]











Notes:
1. For framing Notes, Crossframe Details, and Elevation Layout, see Sheet 792.

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).

2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114120	

FRAMING PLAN

BRIDGE NO. HAM-562-0319
I&O RAILROAD OVER SR 562

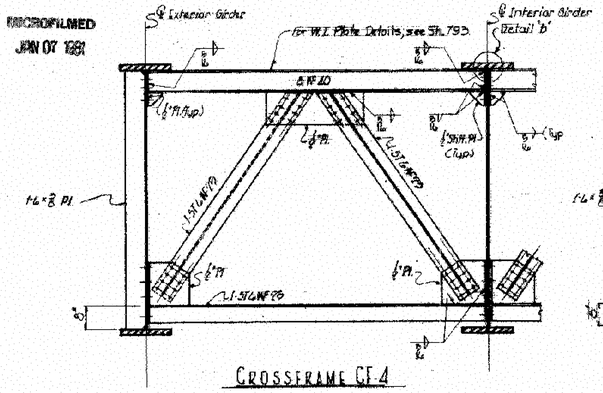
HAM-71/562-7.52/2.55
PID No. 84595

2 / 5

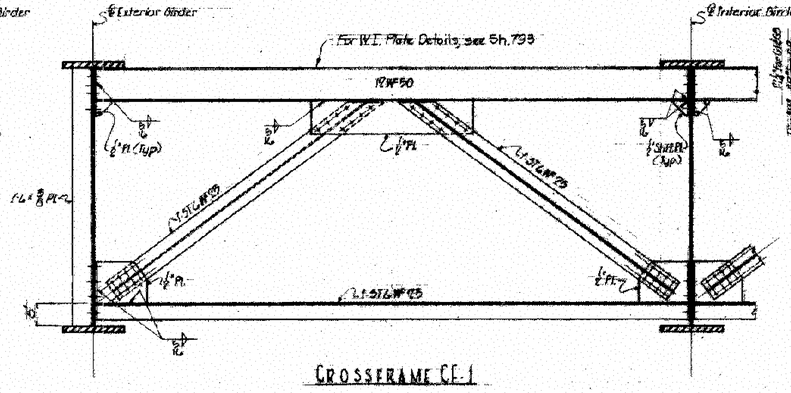
53
59

I:\projects\HAM\nr071\07.52_PID84595\Design\CADD\Bridge\HAM-562-0319\562-0319CSD002.dgn 02-NOV-2015 2:47PM choward4

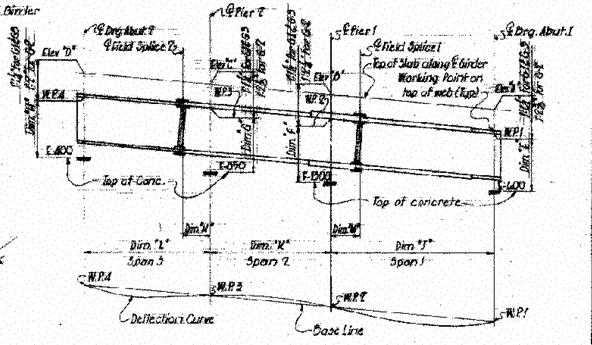
MICROFILMED
JAN 07 1981



CROSSFRAME CF-4

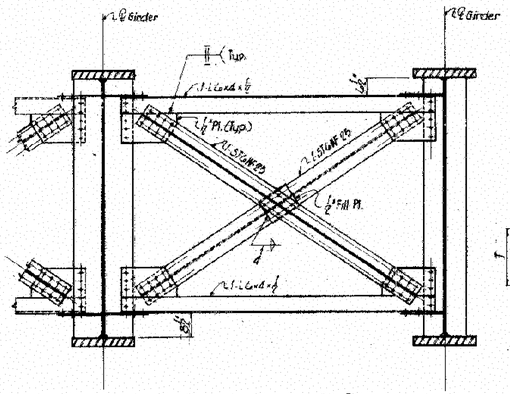


CROSSFRAME CF-1

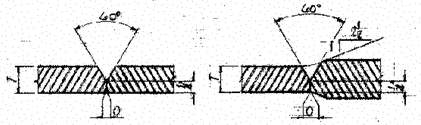


ELEVATION LAYOUT

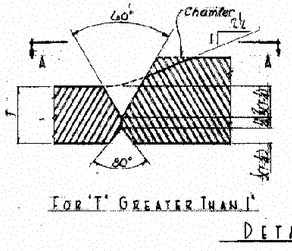
LOCATION	GIRDERS		
	G-1	G-2	G-3
Elev. "A"	600.688	600.834	600.883
Elev. "B"	604.149	604.315	604.390
Elev. "C"	604.924	604.648	604.626
Elev. "D"	608.870	608.499	608.819
Dim. "E"	9'-0⅜"	9'-10⅜"	9'-0⅜"
Dim. "F"	10'-4½"	10'-7⅛"	11'-2⅛"
Dim. "G"	10'-5⅜"	10'-6⅛"	10'-5⅛"
Dim. "H"	9'-10⅜"	9'-9⅛"	9'-9⅛"
Dim. "I"	9'-0⅜"	9'-2⅛"	9'-0⅜"
Dim. "K"	71'-0"	70'-11⅞"	71'-0⅛"
Dim. "L"	76'-1"	77'-1⅛"	76'-10⅜"
Dim. "M"	17'-0"	19'-0"	17'-0"
Dim. "N"	16'-0"	16'-0"	19'-0"



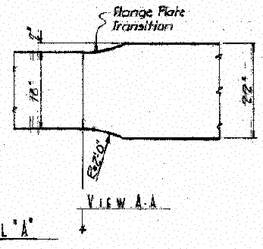
CROSSFRAME CF-2



FOR 'T' OVER ½" TO 1" INCL.



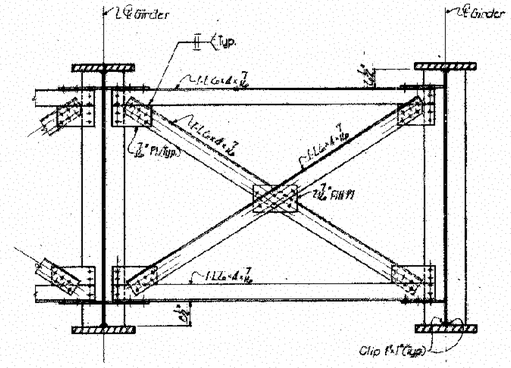
FOR 'T' GREATER THAN 1"



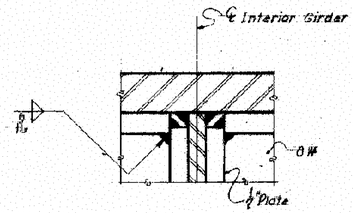
VIEW A-A

DETAIL "A"

NOTE:
All of the above full penetration welds shall be back-gouged and welded after welding far side. Butt welds on girder flange plates shall be ground flush, the finish grinding being parallel to the direction of stress.



CROSSFRAME CF-3



DETAIL "B"

		℄ Drg. Abut. 2	a_4	t_2	t_4	℄ Splice 2	℄ Drg. Pier 2	a_4	t_2	t_4	℄ Drg. Pier 1	℄ Splice 1	a_4	t_2	t_4	℄ Drg. Abut. 1
G-1	Deflection due to weight of steel	0	1¼"	1⅜"	1⅜"	1⅜"	0	0	0	0	0	0	0	1⅜"	1⅜"	0
	Deflection due to Remaining D.L.	0	⅝"	⅝"	⅝"	⅝"	0	-⅝"	-⅝"	-⅝"	0	0	⅝"	⅝"	⅝"	0
G-2	Deflection due to weight of steel	0	1¼"	1⅜"	1⅜"	1⅜"	0	0	0	0	0	0	0	1⅜"	1⅜"	0
	Deflection due to Remaining D.L.	0	⅝"	⅝"	⅝"	⅝"	0	-⅝"	-⅝"	-⅝"	0	0	⅝"	⅝"	⅝"	0
G-3	Deflection due to weight of steel	0	1¼"	1⅜"	1⅜"	1⅜"	0	0	0	0	0	0	0	1⅜"	1⅜"	0
	Deflection due to Remaining D.L.	0	⅝"	⅝"	⅝"	⅝"	0	-⅝"	-⅝"	-⅝"	0	0	⅝"	⅝"	⅝"	0

Shop: Camber not Required
Base Line is a straight line passing thru indicated working points.

STRESS TABLE FOR STEEL

MOMENTS IN FOOT-KIPS

	SPAN 1			PIER 1			SPAN 2			PIER 2			SPAN 3		
	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3
D.L.	2788	2771	2878	-2941	-2886	-2987	-1165	-1148	-1171	-2,025	-1,681	-1,865	2095	1746	1879
L.L.	2801	2953	2980	-2638	-2695	-2419	893	1190	791	-2230	-2,046	-2,155	1767	2427	1691
I	1215	1287	1190	-1166	-1206	-1095	286	381	254	-715	-981	-692	966	778	942
D.L.+L.L.+I	+6804	+6811	+6814	-6745	-6787	-7999	+1016	+1407	+794	-4,980	-5,722	-4,680	+4,986	+4,951	+4,512
Sections	2 Pls. 22"×¾" Web 92"×⅜"	2 Pls. 22"×¾" Web 92"×⅜"	2 Pls. 22"×⅞" Web 92"×⅜"	2 Pls. 22"×¾" Web 92"×⅜"	2 Pls. 22"×⅞" Web 92"×⅜"	2 Pls. 22"×1½" Web 92"×⅜"	2 Pls. 18"×1½" Web 92"×⅜"	2 Pls. 18"×1⅜" Web 92"×⅜"	2 Pls. 18"×1⅜" Web 92"×⅜"	2 Pls. 18"×1½" Web 92"×⅜"	2 Pls. 18"×1⅜" Web 92"×⅜"	2 Pls. 18"×1⅜" Web 92"×⅜"	2 Pls. 18"×1½" Web 92"×⅜"	2 Pls. 18"×1⅜" Web 92"×⅜"	2 Pls. 18"×1⅜" Web 92"×⅜"
Mom. of I	278,901 in⁴	282,215 in⁴	282,451 in⁴	282,215 in⁴	340,598 in⁴	282,151 in⁴	194,967 in⁴	159,235 in⁴	144,411 in⁴	194,967 in⁴	159,235 in⁴	144,411 in⁴	194,221 in⁴	144,411 in⁴	124,309 in⁴
Sect. Mod. for Bot.	5,344 in³	6,404 in³	5,042 in³	6,404 in³	* 7,079 in³	* 5,817 in³	5,299 in³	5,569 in³	5,048 in³	*5,299 in³	* 5,868 in³	*5,048 in³	5,845 in³	5,048 in³	4,638 in³
Sect. Mod. Top @ F = 20.0 ksi	5,284 in³	6,167 in³	4,870 in³	5,747 in³	4,016 in³	4,800 in³	609 in³	845 in³	476 in³	2,988 in³	3,440 in³	2,818 in³	4,995 in³	2,467 in³	

SHEARS AND REACTIONS IN KIPS

	ADUTMENT 1			PIER 1						PIER 2						ADUTMENT 2		
				RIGHT (SPAN 1)			LEFT (SPAN 1)			MAX. REACT.			RIGHT (SPAN 2)			LEFT (SPAN 2)			MAX. REACT.					
	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3	G-1	G-2	G-3
D.L.	130.7	129.8	130.1	272.9	272.3	276.7	103.9	178.1	177.3	456.4	454.4	459.1	179.6	114.9	179.4	169.8	159.7	177.8	348.4	274.9	284.2	129.7	114.1	126.0
L.L.	290.6	292.0	293.7	259.9	272.0	254.4	208.10	269.7	196.4	502.6	542.5	377.9	170.0	229.0	141.8	159.1	244.4	177.1	300.8	400.2	286.8	119.1	167.4	112.6
I	72.7	93.6	69.8	80.9	104.6	79.7	66.9	86.5	62.6	127.1	164.2	119.5	54.5	72.1	51.9	99.5	78.9	56.8	96.8	126.5	91.9	38.7	52.0	36.9
D.L.+L.L.+I	493.2	515.4	493.6	613.9	708.9	560.8	378.4	534.1	436.3	986.1	1161.2	956.5	354.1	416.5	373.1	428.2	482.4	411.7	746.6	809.6	662.9	286.9	328.5	275.4
Web Area Req'd @ F_v = 12.0 ksi	20.6"	46.2**	27.8"	48.9"	57.5**	46.8"	—	—	—	—	—	—	—	—	—	34.4"	36.6"	22.9"	—	—	—	23.1"	26.4	22.1"
Web Area Furn.	** 51.75	51.75	** 51.75	57.50*	48.00	** 51.75	—	—	—	—	—	—	—	—	—	** 51.75	** 51.75	** 51.75	—	—	—	** 51.75	** 51.75	** 51.75

* Required by principal stresses
** Required by AREA Specs. 92 - 7.20.4 @ 0.5411" min thickness

NOTES:
1. For Rocker and Bobbler Details, see Sh. 843.
2. 50% of web to flange welds to be subjected to magnetic particle inspection.
3. Steel for flanges, web plates, and stiffeners shall be fully killed fine grain practice.
4. All bolted connections shall be ⅞" ϕ High Tensile Strength Bolts.

NOTES:

1. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL COLOR 14277 (GREEN).

2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGNED CAH | DRAWN CAH | REVIEWED SCS 10-1-14 | DESIGN AGENCY STATE OF OHIO DEPT. OF TRANSPORTATION DISTRICT 8 BRIDGE DEPT.
CHECKED CAH | REVISED | STRUCTURE FILE NUMBER 3114120

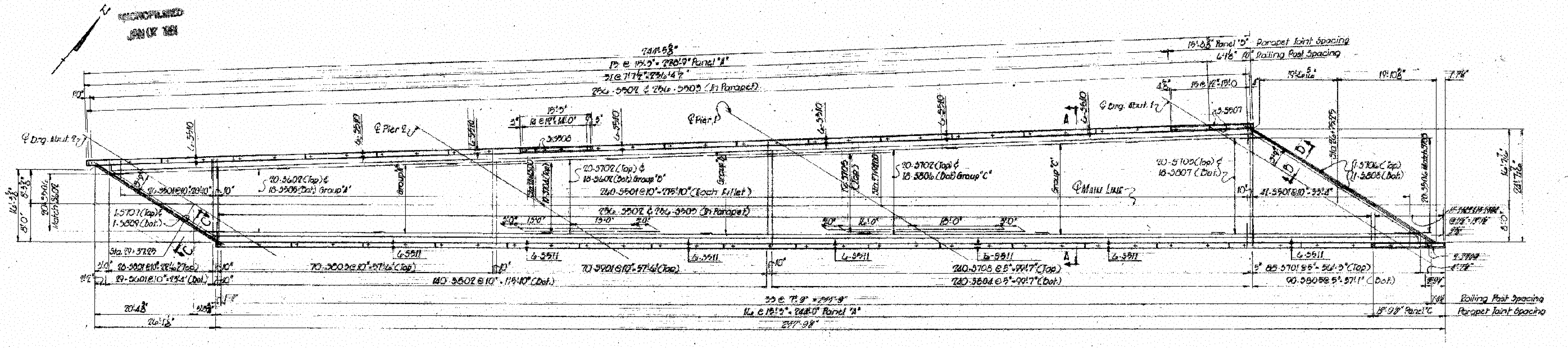
FRAMING DETAILS
BRIDGE NO. HAM-562-0319
I&O RAILROAD OVER SR 562

HAM-71/562-7.52/2.55
PID No. 84595

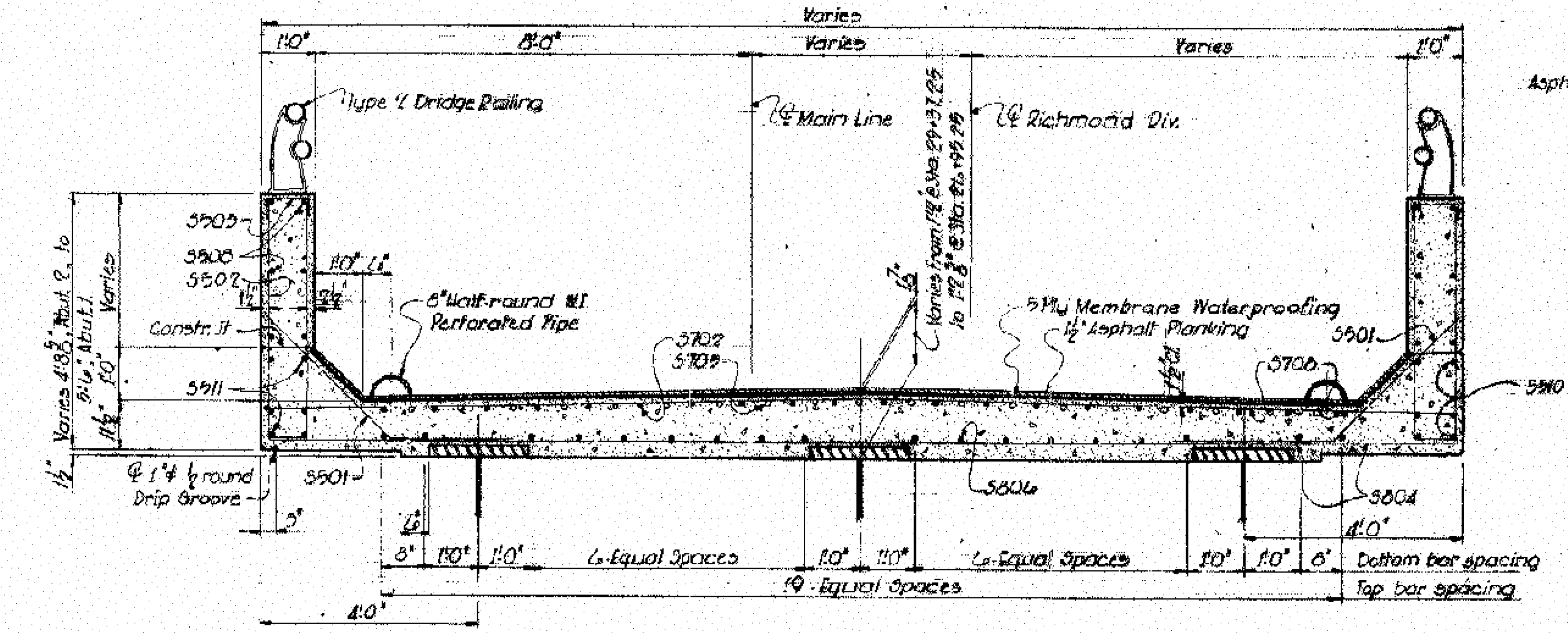
3 / 5

54
59

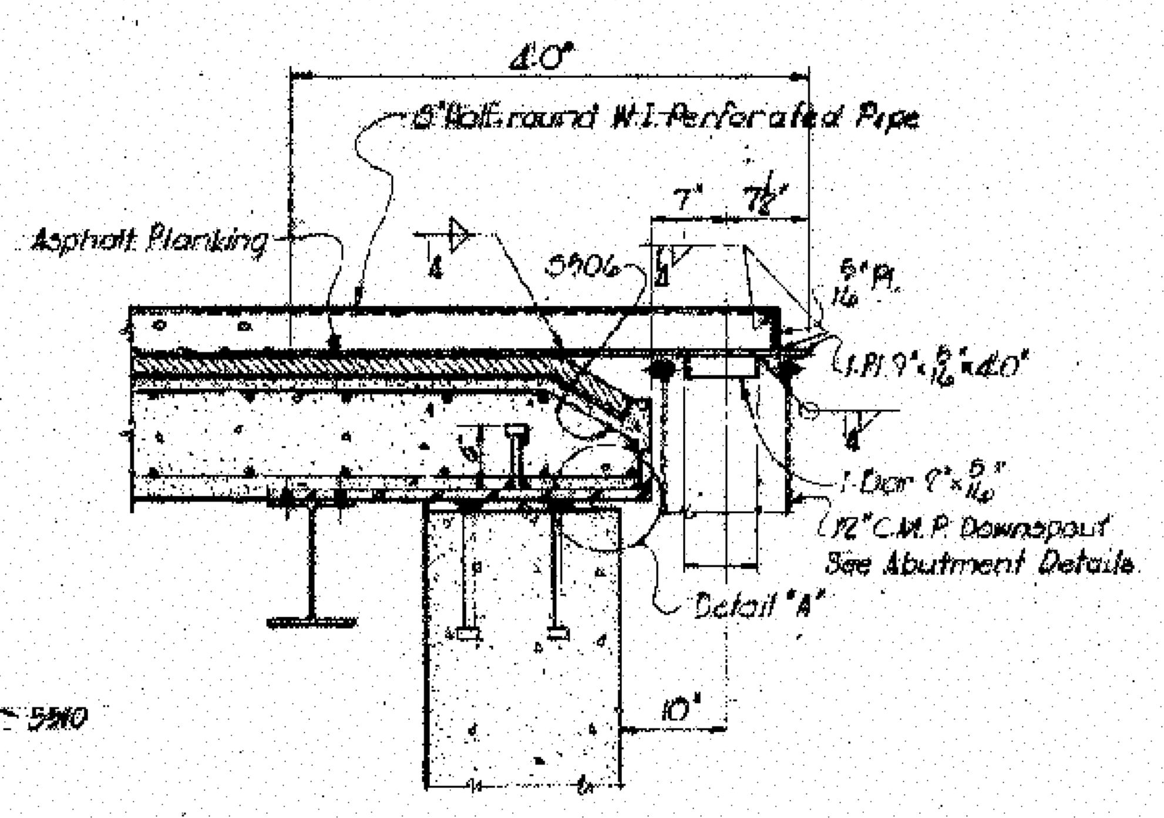
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-562-0319\562-0319CSD002.dgn 02-NOV-2015 2:47PM choward4



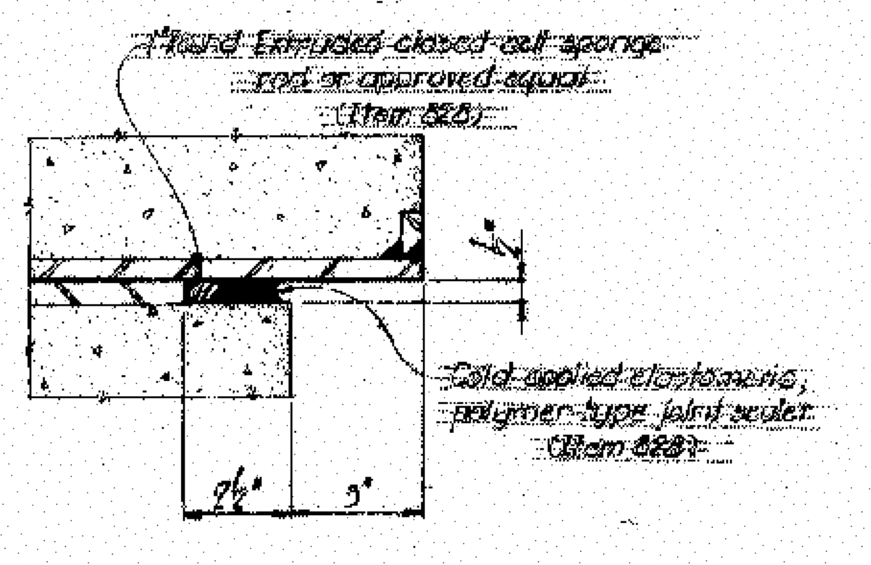
PLAN



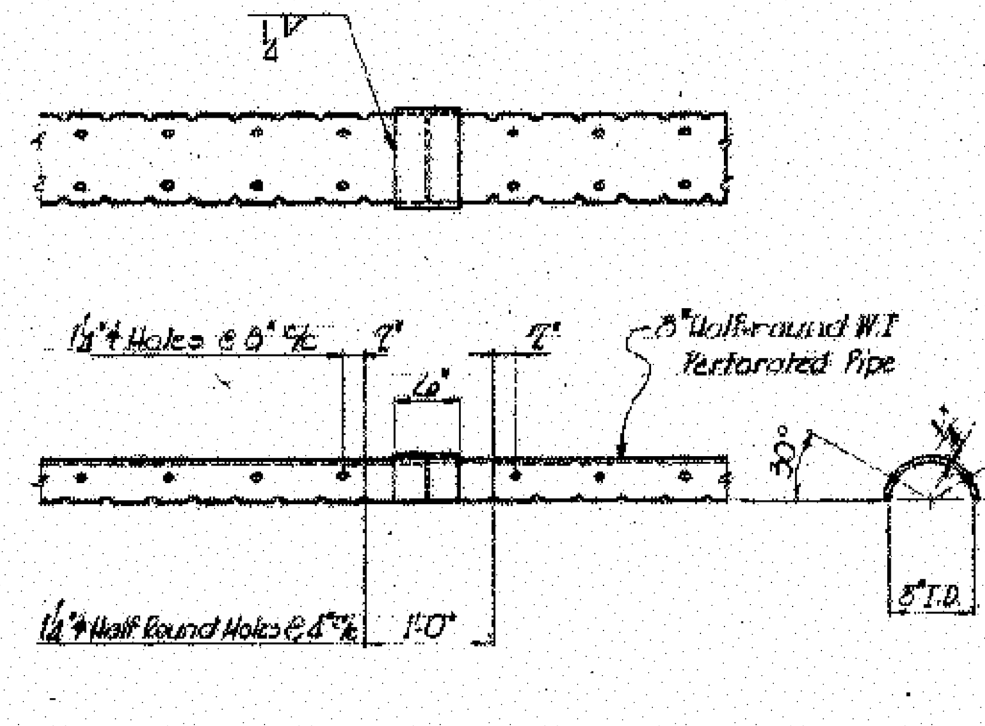
SECTION A-A



SECTION D-D



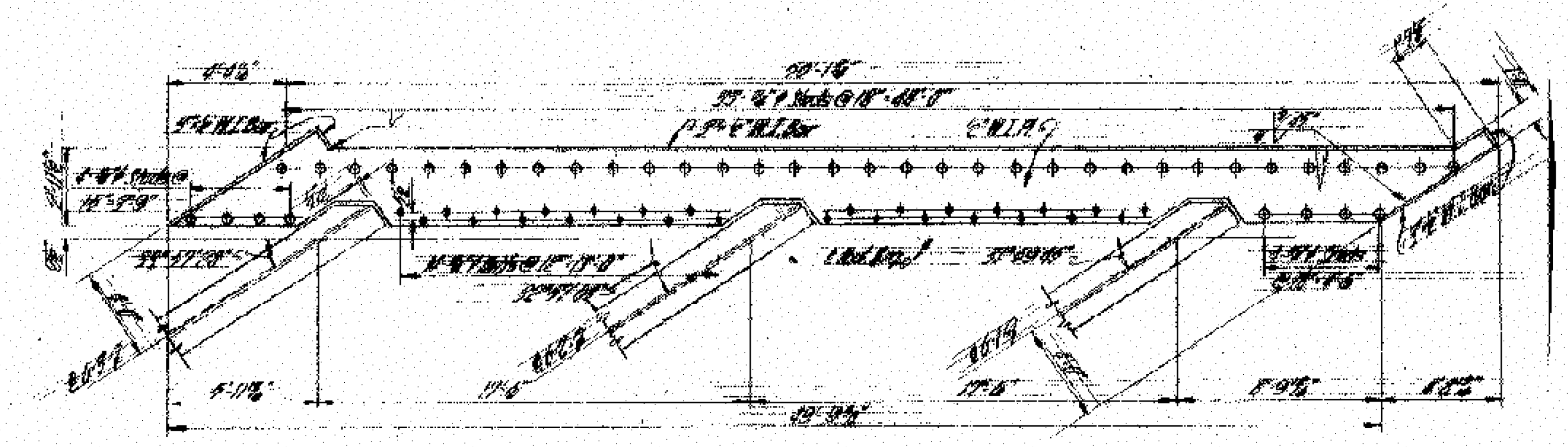
DETAIL "A"



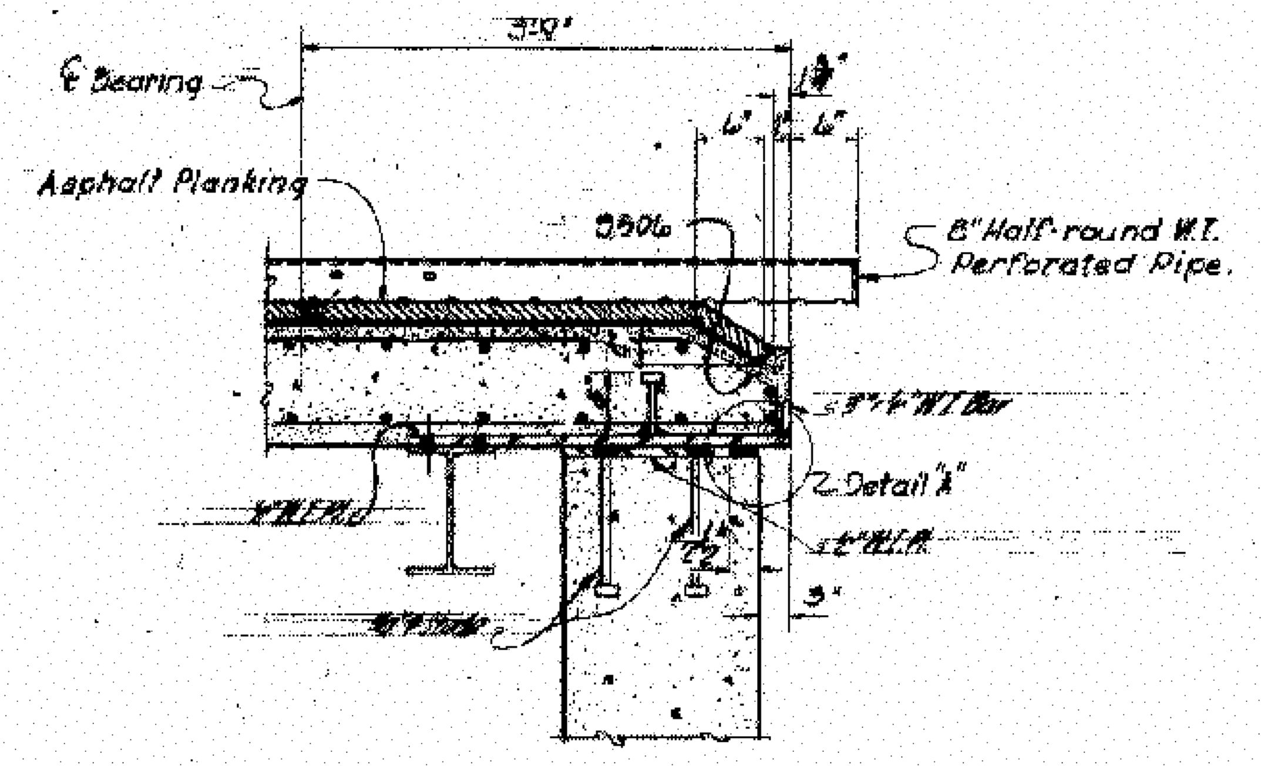
DETAIL OF W.I. DRAINAGE PIPE

NOTES:

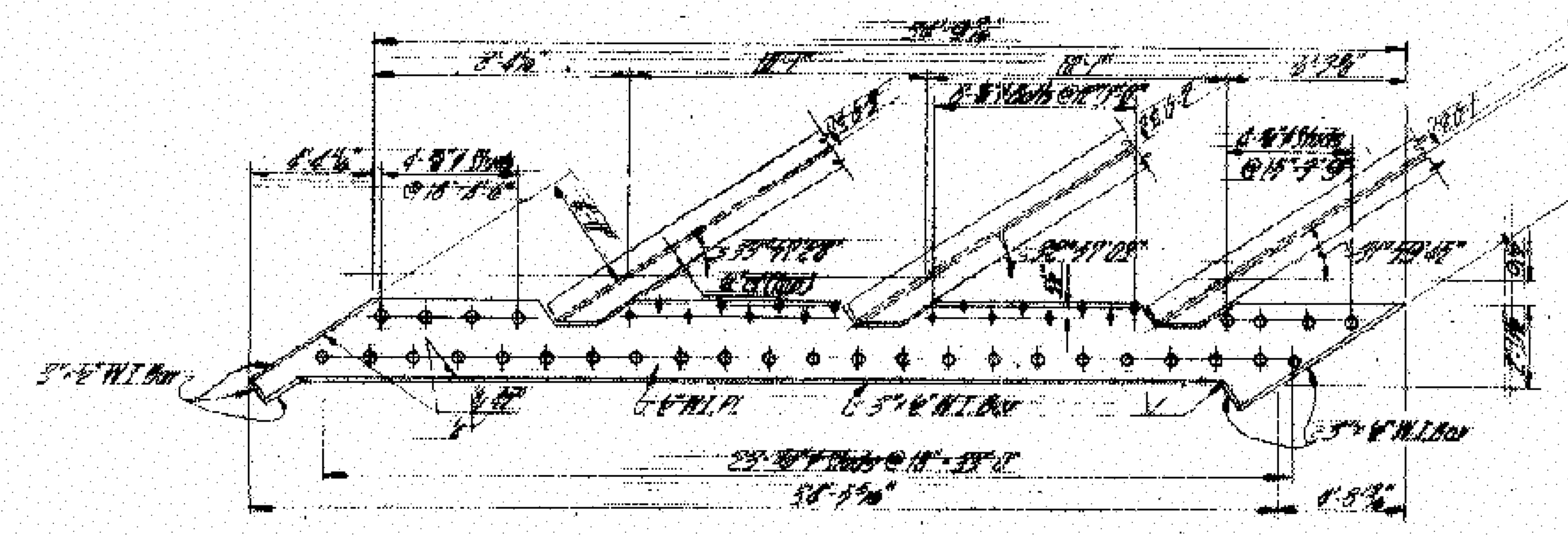
1. For Railing and Parapet Joint Details see Std. Dwg. BR-1-65, Sh. 2 of 2.
2. For Reinforcing Steel List, see Sh. 794.



W.I. PLATE DETAIL AT ABUT. 1



SECTION C-C



W.I. PLATE DETAIL AT ABUT. 2

NOTES:

1. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE.

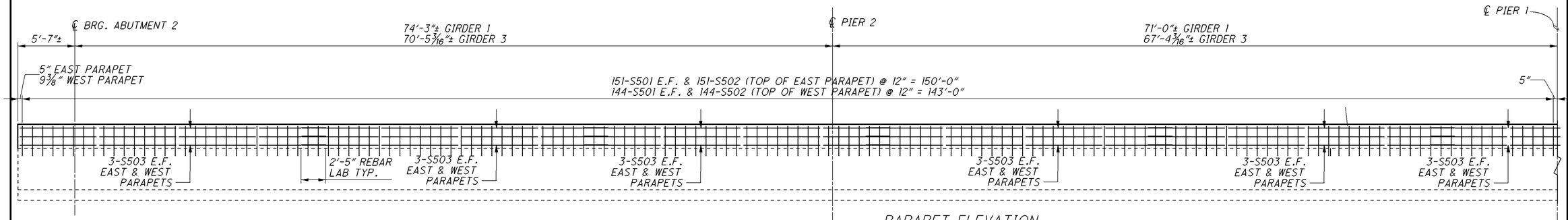
2. THE MAJORITY OF THE NOTES AND REBAR CALLOUTS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSES ONLY AND DO NOT REFLECT PROPOSED WORK.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

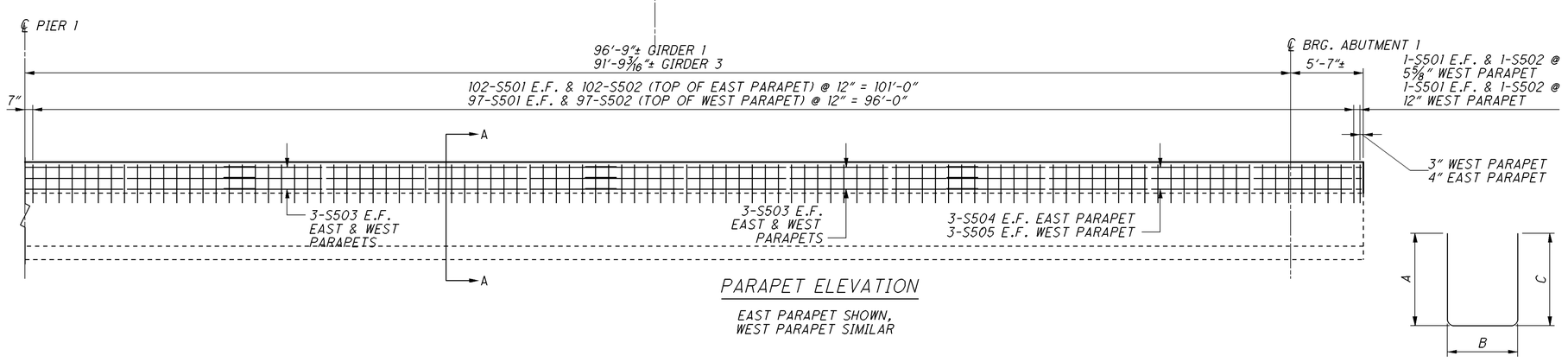
DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114120	

SUPERSTRUCTURE PLAN & DETAILS
BRIDGE NO. HAM-562-0319
I&O RAILROAD OVER SR 562

HAM-71/562-7.52/2.55
PID No. 84595



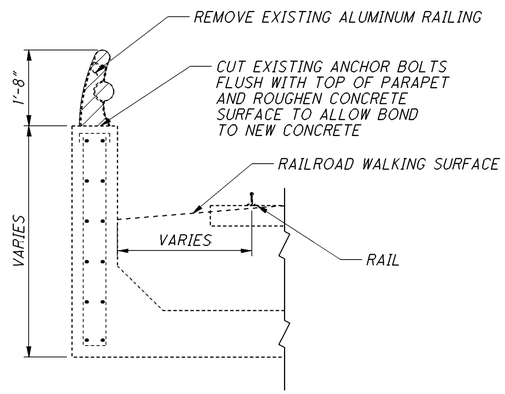
PARAPET ELEVATION



PARAPET ELEVATION

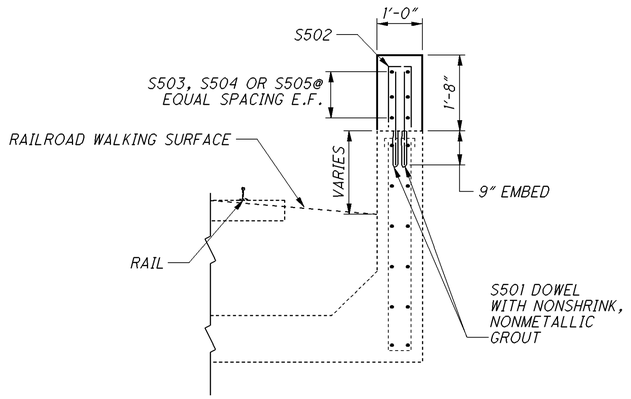
EAST PARAPET SHOWN,
WEST PARAPET SIMILAR

TYPE-2



EXIST. PARAPET SECTION

NOT TO SCALE



REHABILITATED NORTH PARAPET SECTION A-A

NOT TO SCALE

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
S501	1006	2'-3"	2,361	STR							
S502	503	4'-7"	2,405	2	1'-5"	0'-8"	1'-5"				
S503	96	30'-0"	3,004	STR							
S504	6	33'-8"	211	STR							
S505	6	20'-6"	128	STR							
	SUB-TOTAL		8,109								

NOTES:

1. SAW CUT ANY REMAINING EXISTING ANCHOR BOLTS FLUSH WITH TOP OF EXISTING CONCRETE PARAPET.
2. ROUGHEN THE TOP OF THE EXISTING CONCRETE PARAPET FOR IMPROVED BOND WITH PROPOSED PARAPET EXTENSION. INCLUDED WITH ITEM 202 - BRIDGE RAILING REMOVED, AS PER PLAN FOR PAYMENT.
3. SAW CUTTING OF PARAPET JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE PARAPET CONCRETE.
4. ADDITIONAL REINFORCING STEEL PROVIDED TO ACCOMMODATE PARAPET EXTENSIONS BEYOND DECK LIMITS.
5. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE SEALER.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

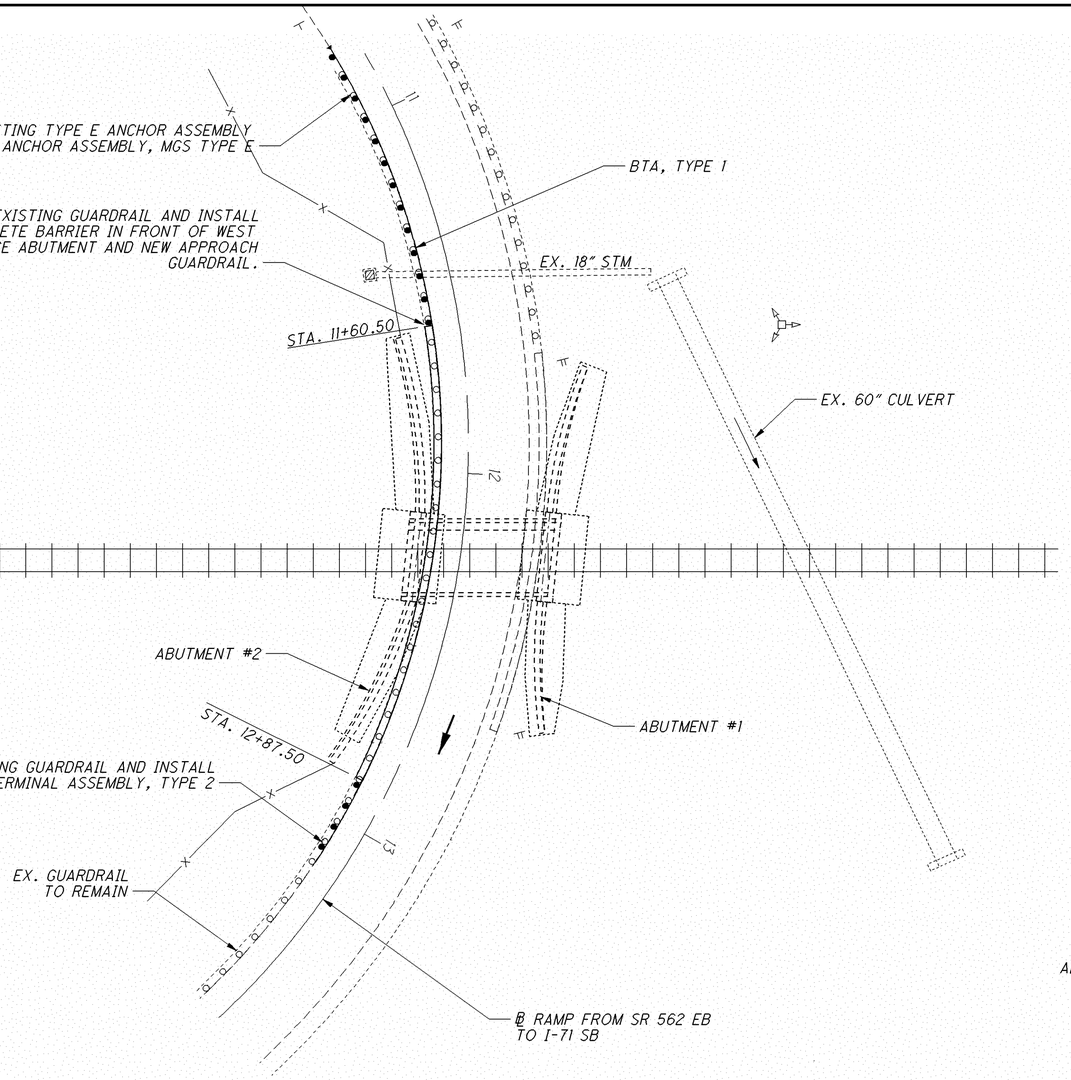
DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH	SCS	10-1-14
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114120	

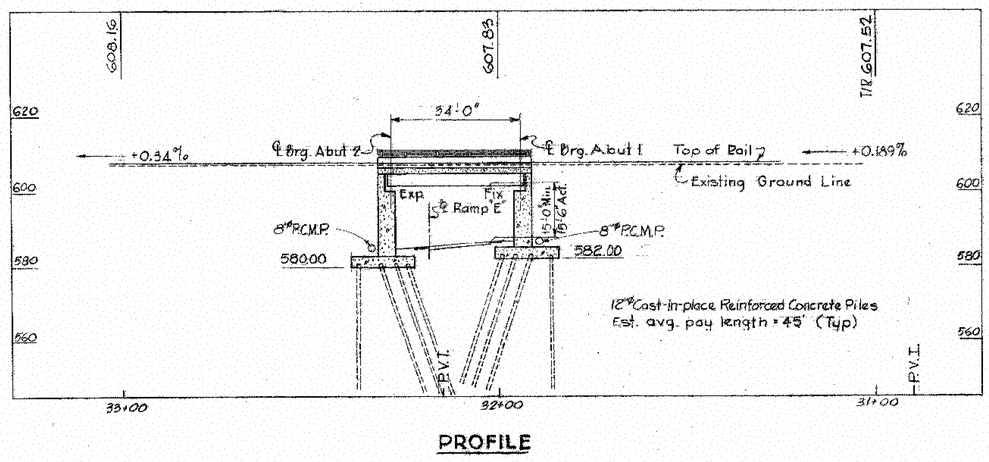
PARAPET DETAILS
BRIDGE NO. HAM-562-0319
I & O RAILROAD OVER SR 562

HAM-71/562-7.52/2.55
PID No. 84595

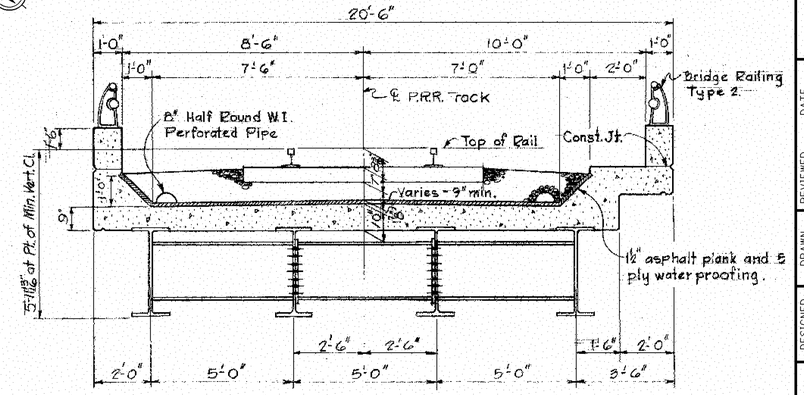
5 / 5

56
59

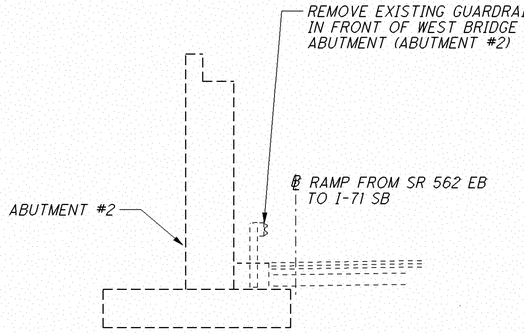




PROFILE



SECTION A-A



ROADWAY QUANTITIES CARRIED TO THE GENERAL SUMMARY:

ITEM 202 - GUARDRAIL REMOVED = 135 FT
ITEM 203 - EXCAVATION = 15 CU YD
ITEM 606 - GUARDRAIL, TYPE MGS = 50 FT
ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 = 1 EACH
ITEM 606 - MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 = 1 EACH
ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E = 1 EACH
ITEM 622 - CONCRETE BARRIER, TYPE D = 125 FT

NOTES:

1. ANY PAVEMENT OR EARTHWORK NECESSARY TO ACCOMMODATE THE INSTALLATION OF THE NEW CONCRETE BARRIER SHALL BE CONSIDERED INCIDENTAL AND INCLUDED WITH THE CONCRETE BARIER FOR PAYMENT. ANY DAMAGE TO THE EXISTING PAVEMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. SEE SHEET 31 OF 59 FOR STRUCTURE QUANTITIES.
3. THE MAJORITY OF THE NOTES AND DETAILS WERE TAKEN FROM THE EXISTING PLANS AND ARE SHOWN FOR INFORMATION PURPOSEE ONLY AND DO NOT REFLECT PROPOSED WORK.
4. PROVIDE STANDARD BARRIER TRANISTIONS FOR CONNECTION TO GUARDRAIL.

EXISTING STRUCTURE

TYPE: SIMPLE SPAN ROLLED BEAM WITH REINFORCED CONCRETE DECK SUPPORTED ON REINFORCED CONCRETE WALL TYPE ABUTMENTS

SPANS: 34'-0"
ROADWAY: 18'-0" F/F OF PARAPETS
LOADING: RAILWAY, E-72 COOPER DEISEL + IMPACT
SKEW: 16°00'00" LT. FWD.
APPROACH SLABS:
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
STRUCTURAL FILE NUMBER: 3114112
DATE BUILT: 1972
DISPOSITION:

COORDINATES: LATITUDE N 39°09'50"
LONGITUDE W 84°26'08"

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114112	

HAMILTON COUNTY
STA.
STA.

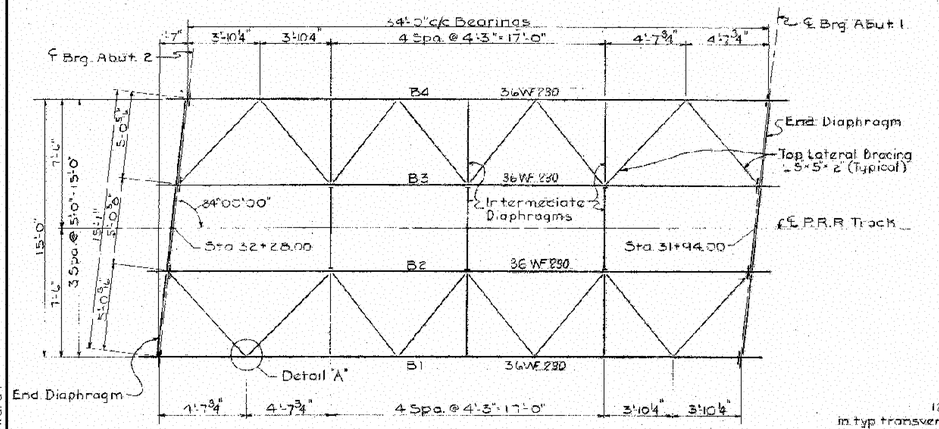
SITE PLAN
BRIDGE No.: HAM-562-319s
I & O RR OVER SR 562 EB RAMP TO SB I-71

HAM-71/562-7.52/2.55
PID No. 84595

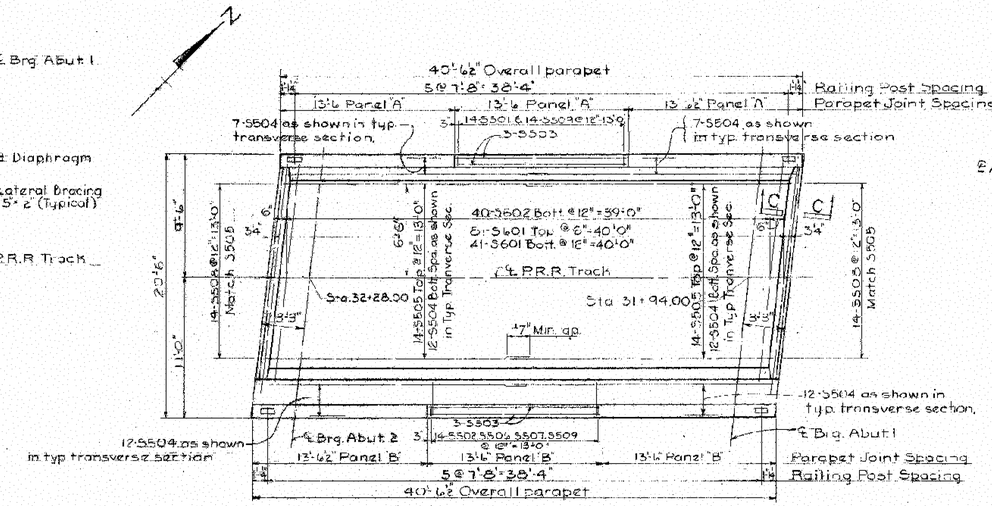
1 / 3

57
59

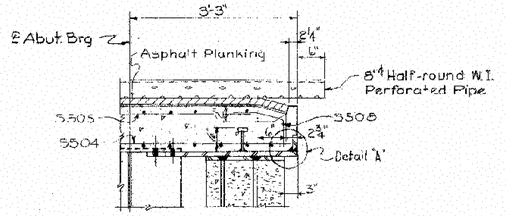
02-NOV-2015 2:49PM choward4
I:\projects\HAM\ir071\07.52_PID84595\Design\CADD\Bridge\HAM-562-0319s\562-0319SGP001.dgn 02-



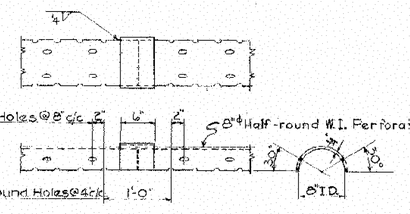
FRAMING PLAN



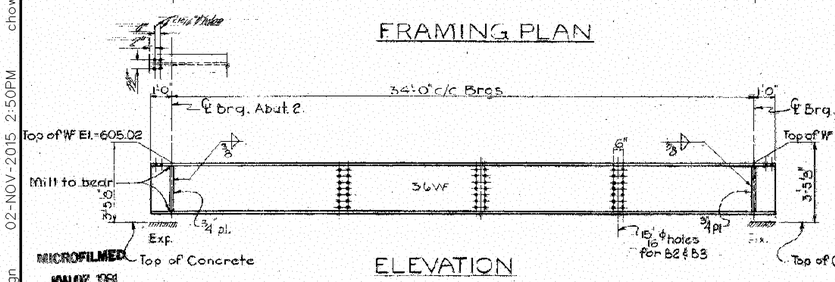
SLAB PLAN



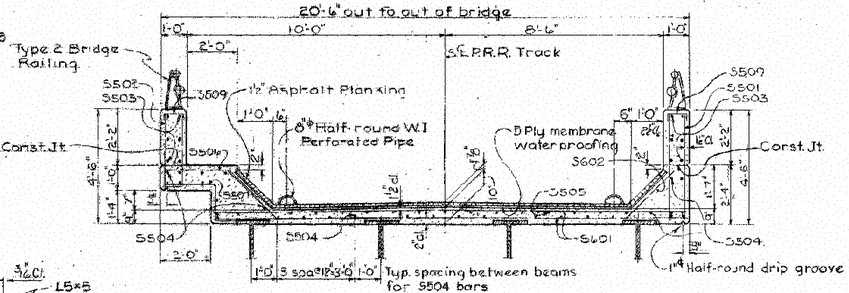
SECTION C-C



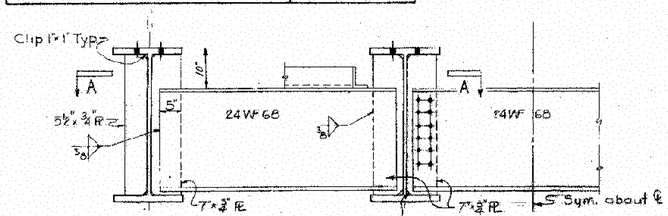
DETAIL OF W.I. DRAINAGE PIPE



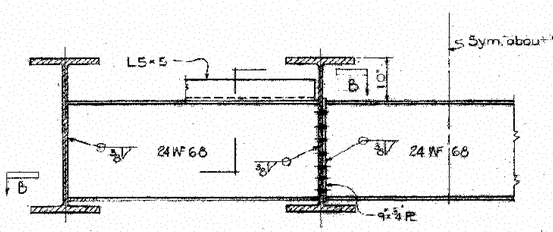
ELEVATION



TYPICAL TRANSVERSE SECTION



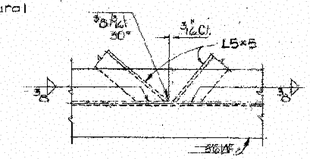
END DIAPHRAGM



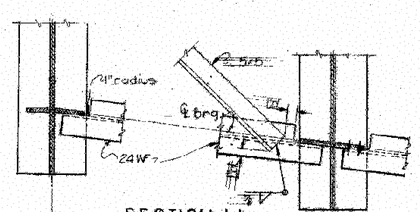
INTERMEDIATE DIAPHRAGM

	Midspan
Deflection due to weight of steel	0
Deflection due to remaining Dead Load	3/16"
Total Dead Load Deflection	3/16"

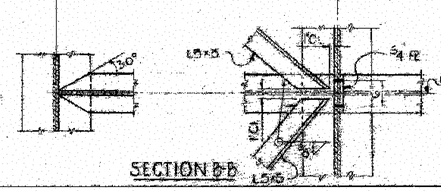
NOTE: Shop camber not required. Place beams with natural camber up.



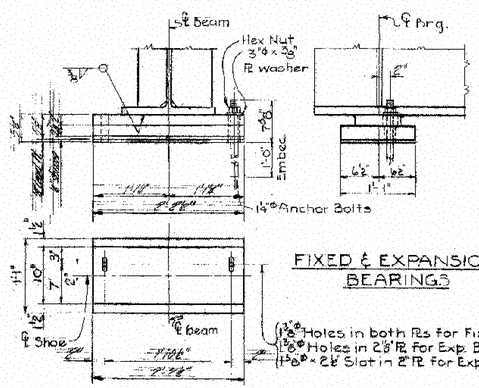
DETAIL "A"



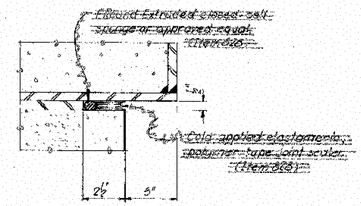
SECTION A-A



SECTION B-B



FIXED & EXPANSION BEARINGS



DETAIL "A"

NOTES:

1. For Railing and Parapet Joint Details see Std. Dwg. BR-1-65, sh 2 of 2.
2. All bolted connections shall be ⅞" ϕ high Tensile strength Bolts.
3. For Reinforcing Steel List, see sheet 773.
4. For W.I. Plate Details, see Sheet 772A.

NOTE:

1. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE.
2. INFORMATION SHOWN WAS TAKEN FROM EXISTING PLANS. NO PROPOSED WORK IS SHOWN ON THIS SHEET.
3. SURFACE PREP AND PAINT ALL STRUCTURAL STEEL INCLUDING BEARINGS USING OZEU SPECIFICATIONS. PAINT COLOR SHALL BE FEDERAL NUMBER 14277 (GREEN).

MICROFILMED JAN 07 1981

I:\projects\HAM\r071\07-52_PID84595\Design\CADD\Bridge\HAM-562-0319s\562-0319SSD002.dgn 02-NOV-2015 2:50PM choward4

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 - BRIDGE OFFICE

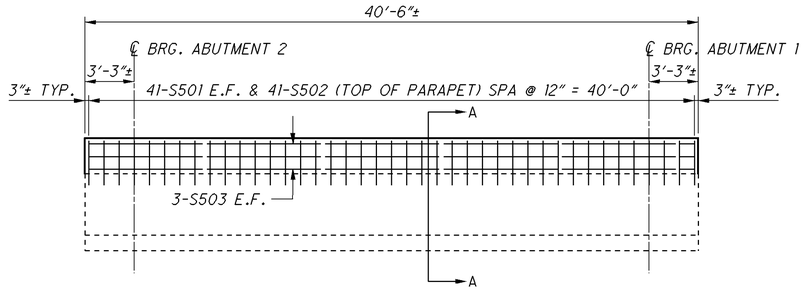
DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114112	

SUPERSTRUCTURE DETAILS
BRIDGE No.: HAM-562-0319S
I & O RR OVER SR 562 EB RAMP TO SB I-71

HAM-71/562-7.52/2.55
PID No. 84595

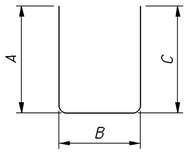
2 / 3

58
59

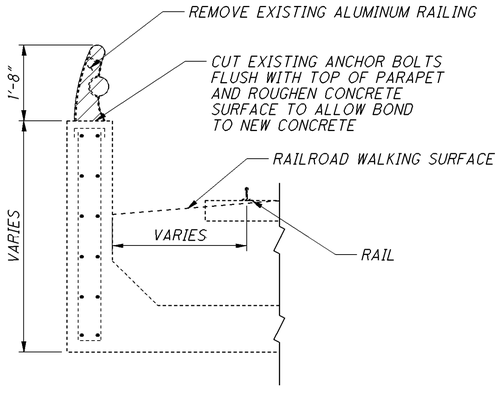


PARAPET ELEVATION

NORTH RAIL SHOWN,
SOUTH RAIL SIMILAR

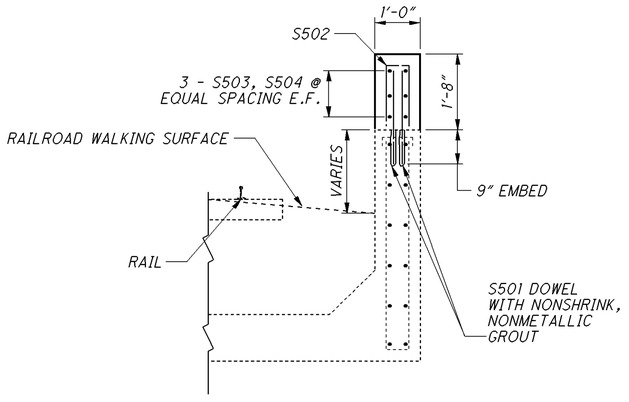


TYPE-2



EXIST. PARAPET SECTION

NOT TO SCALE



REHABILITATED NORTH PARAPET SECTION A-A

NOT TO SCALE

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
S501	164	2'-3"	385	STR							
S502	82	4'-7"	392	2	1'-5"	0'-8"	1'-5"				
S503	12	40'-0"	501	STR							
SUB-TOTAL			1,278								

NOTES:

1. SAW CUT ANY REMAINING EXISTING ANCHOR BOLTS FLUSH WITH TOP OF EXISTING CONCRETE PARAPET.
2. ROUGHEN THE TOP OF THE EXISTING CONCRETE PARAPET FOR IMPROVED BOND WITH PROPOSED PARAPET EXTENSION. INCLUDED WITH ITEM 202 - BRIDGE RAILING REMOVED, AS PER PLAN FOR PAYMENT.
3. SAW CUTTING OF PARAPET JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE PARAPET CONCRETE.
4. ADDITIONAL REINFORCING STEEL PROVIDED TO ACCOMMODATE PARAPET EXTENSIONS BEYOND DECK LIMITS.
5. SEAL CONCRETE SURFACES WITH GRAFITTI RESISTANT EPOXY-URETHANE SEALER.

DESIGN AGENCY
STATE OF OHIO
DEPT. OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPT.

DESIGNED	DRAWN	REVIEWED	DATE
CAH	CAH		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAH		3114112	

PARAPET DETAILS
BRIDGE No: HAM-562-0319S
I & O RR OVER SR 562 EB RAMP TO SB I-71

HAM-71/562-7.52/2.55
PID No. 84595

3 / 3

59
59