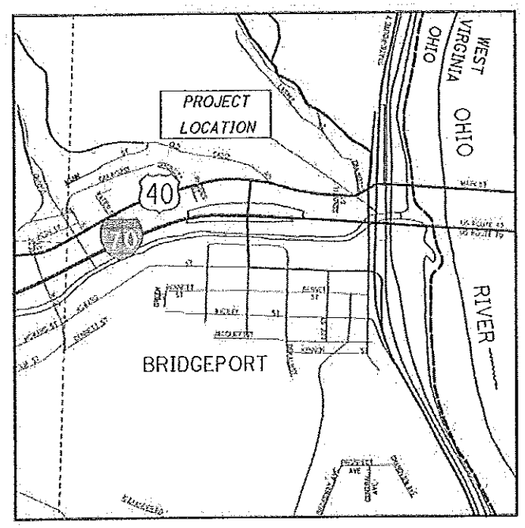
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BEL-7-19.75

BELMONT COUNTY

VILLAGE OF BRIDGEPORT



LOCATION MAP

LATITUDE: N 40° 04' 10" *LONGITUDE: W 80° 44' 25"*

SCALE IN FEET

400 0 400 800 1200 1600

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

DESIGN DESIGNATION

CURRENT ADT (2018)	*45890*
DESIGN YEAR ADT (2030)	*68840*
DESIGN HOURLY VOLUME (2030)	*6200*
DIRECTIONAL DISTRIBUTION	*56%*
TRUCKS (24 HOUR B & C)	*7%*
DESIGN SPEED	*62 MPH*
LEGAL SPEED	*50 MPH*

DESIGN FUNCTIONAL CLASSIFICATION -
URBAN PRINCIPAL ARTERIAL/EXPRESSWAY

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

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

PLAN PREPARED BY:
BURGESS & NIPLE
5085 REED ROAD
COLUMBUS, OH 43220

ENGINEER'S SEAL:

STATE OF OHIO JAN H. LEE E-70217 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Jan H. Lee
DATE: 4/19/18

INDEX OF SHEETS:

PROJECT DESCRIPTION

PROJECT INCLUDES EXTERNAL POST-TENSIONING INSTALLATION FOR PIER STRENGTHENING AT PIER 8E, 8W, 11E, 11W, 16E AND 16W ON BEL-7-1975 BRIDGE.

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*

STANDARD CONSTRUCTION DRAWINGS

MT-97.10 7/18/14	DM-4.3 1/15/16				
MT-105.10 7/19/13	DM-4.4 1/15/16				
TC-41.20 10/18/13					
TC-42.20 10/18/13					
TC-52.10 10/18/13					
TC-52.20 1/19/18					

SUPPLEMENTAL SPECIFICATIONS	*SPECIAL PROVISIONS*
800 7/20/18	NONE
832 1/17/14	

2016 SPECIFICATIONS

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

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

APPROVED Roxanne Kane, P.E.
DATE 6/11/18 *DISTRICT DEPUTY DIRECTOR*

APPROVED Jerry Wray II
DATE 6-28-18 *DIRECTOR, DEPARTMENT OF TRANSPORTATION*

FEDERAL PROJECT NO. E171(343)

PID NO. 105324

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

BEL-7-19.75

1 / 12

BEL - SR 7-19.75
180484 PID - 105324
Dist 11 9/13/2018

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

F:\PR56046\BEL\105324\Design\Bridge\Pier Cap Strengthening\CADD\Stage 3\

GENERAL NOTES:

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION 2002, AND THE ODOT BRIDGE DESIGN MANUAL, 2004.

DESIGN LOADING: HS20

DESIGN DATA:

STRUCTURAL STEEL: ASTM A709 50W OR A709 GRADE 50 - YIELD STRENGTH 50,000 PSI

CLASS QC5 CONCRETE: COMPRESSIVE STRENGTH 4.5 KSI

POST TENSIONING ALL-THREAD BAR: ASTM A722
YIELD STRESS 120 KSI
ULTIMATE STRESS 150 KSI

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

BASE CONTRACT BID PRICES UPON 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.

EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE ODOT DISTRICT 11 OFFICE, 2201 REISER AVENUE, NEW PHILADELPHIA, OHIO 44663. PHONE: 330-339-6633.

ORIGINAL CONSTRUCTION: BEL-7-19.86 (1966)
BACKWALL REPAIR AND PARAPET REFACING (1988 METRIC)

THESE EXISTING PLANS CAN ALSO BE DOWNLOADED FROM THE FOLLOWING WEBSITE:

http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/designfiles.aspx

UTILITIES:

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

ELECTRIC:	GAS:
SOUTH CENTRAL POWER CO.	COLUMBIA GAS OF OHIO
37801 BARNESVILLE-BETHESDA ROAD	P.O. BOX 2318
BARNESVILLE, OH 43713	COLUMBUS, OH 43216-2318
OFFICE: 740-425-4018	OFFICE: 1-800-344-4077

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

THE CONTRACTOR SHALL GIVE A 48-HOUR NOTICE TO THE OHIO UTILITIES PROTECTION SERVICE (OUPS) BY CALLING (800) 362-2764. 48-HOUR NOTICE SHALL BE GIVEN TO THE OWNERS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE ABOVE-MENTIONED NOTICE SHALL BE GIVEN AT LEAST TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

UTILITY LINES:
THE UTILITY(IES) SHALL BEAR ALL EXPENSES INVOLVED IN RELOCATING (INSTALLING THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ASBESTOS NOTIFICATION: AN ASBESTOS SURVEY OF THE BRIDGE STRUCTURE SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE AND SUBMIT THE FORMS VIA OHIO EPA'S WEBSITE OR MAIL HARD COPIES TO THE ADDRESS BELOW AT LEAST TEN WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATIONS.

ASBESTOS PROGRAM
OHIO EPA, DAPC
P.O. BOX 1049
COLUMBUS, OH 43216-1049

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION ON THE FORM WILL INCLUDE: 1) THE CONTRACTOR'S NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND METHOD(S) TO BE USED. COPIES OF THE OPEA FORM AND BRIDGE INSPECTION REPORTS ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 11 OFFICE, 2201 REISER AVENUE, NEW PHILADELPHIA, OHIO 44663.

BASIS FOR PAYMENT - THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN.

WATERS OF THE UNITED STATES: WATERS OF THE UNITED STATES HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT NO IMPACTS OCCUR TO WATERS OF THE UNITED STATES. NO TEMPORARY OR PERMANENT FILL OF ANY TYPE MAY BE PLACED IN ANY STREAM OR WETLAND AS PART OF THIS PROJECT. ANY ACTIVITIES OCCURRING IN STREAMS OR WETLANDS WOULD REQUIRE PERMITS FROM THE US ARMY CORPS OF ENGINEERS AND/OR THE OHIO EPA.

ANY OTHER SITE PROPOSED BY THE CONTRACTOR FOR OFF PROJECT ANCILLARY CONSTRUCTION (STAGING AREAS, WASTE LOCATIONS, AND/OR BORROW LOCATIONS) MUST MEET THE REQUIREMENTS OF C&MS 105.16.

ITEM 202 - REMOVAL MISC.: REMOVE AND REINSTALL MISCELLANEOUS ITEMS: VARIOUS EXISTING ITEMS ARE LOCATED ADJACENT TO THE EXISTING PIERS THAT REQUIRE EXTERNAL POST TENSIONING. THE CONTRACTOR SHALL REMOVE ONLY THE ITEMS REQUIRED TO PROVIDE ACCESS TO ADEQUATELY PERFORM THE WORK. AFTER THE EXTERNAL POST TENSIONING IS ACCEPTED, THE CONTRACTOR SHALL REERECT OR REPLACE THE ITEMS IN THEIR ORIGINAL LOCATION.

BASED ON DESIGN PHASE FIELD VISITS, THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR ESTIMATING PURPOSES ONLY.

202, GUARDRAIL REMOVED FOR REUSE	310 FT
606, GUARDRAIL REBUILT	310 FT
202, REMOVAL MISC.: WOOD GUARD POST REMOVAL AND RE-ERECTION	2 EACH
606, GUARDRAIL POST	23 EACH
607, FENCE REMOVED AND REBUILT	80 FT
202, REMOVAL MISC.: PARKING METER REMOVAL AND RE-ERECTION	14 EACH
202, REMOVAL MISC.: LIGHT POLE REMOVAL AND RE-ERECTION	1 EACH
630, REMOVAL OF GROUND MOUNTED SIGN AND RE-ERECTION	3 EACH

THE ITEM OF WORK SHALL INCLUDE THE REMOVAL OF, AND SUBSEQUENT REPLACEMENT OR RE-ERECTION OF, ONLY THE ITEMS THAT DIRECTLY INHIBIT THE CONTRACTOR'S ACCESS TO PERFORM THE NECESSARY WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING THE LOCATION OF EACH ITEM PRIOR ITS REMOVAL.

PARKING METERS ARE ASSUMED TO BE OWNED BY:

THE VILLAGE OF BRIDGEPORT
301 MAIN STREET
BRIDGEPORT, OH 43912
OFFICE: 740-635-2424

VILLAGE REPRESENTATIVES SHOULD BE CONTACTED PRIOR TO REMOVAL AND MAY REQUIRE SECURE STORAGE OF METERS AFTER REMOVAL AND PRIOR TO RE-INSTALLATION. INSTALL METER POSTS IN 2'-0" DEEP BY 10" DIAMETER HOLES FILLED WITH CONCRETE. THE HEIGHT OF THE POSTS ABOVE GROUND LINE TO THE BOTTOM OF THE METER HEAD SHOULD BE APPROXIMATELY 3'-4". VERIFY INSTALLATION REQUIREMENTS WITH VILLAGE REPRESENTATIVES PRIOR TO RE-INSTALLATION.

THE CONTRACTOR AND ENGINEER SHALL MEET ON SITE A MINIMUM OF 14 DAYS BEFORE ANY REMOVALS AND MUTUALLY AGREE UPON THE REQUIRED REMOVALS BEFORE WORK BEGINS.

THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 202, REMOVAL MISC.: REMOVE AND REINSTALL MISCELLANEOUS ITEMS: LUMP SUM.

ITEM 513 - STRUCTURAL STEEL, MISC: LEVEL UF, PIER CAP STRENGTHENING BY EXTERNAL POST TENSIONING: THIS ITEM CONSISTS OF FURNISHING ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL EXTERNAL POST TENSIONING ASSEMBLIES TO STRENGTHEN THE PIER CAPS AT PIERS 8E, 8W, 11E, 11W, 16E AND 16W.

WELDING TO EXISTING STRUCTURAL STEEL IS PROHIBITED. ANY DAMAGE CAUSED TO THE PAINT SYSTEM DURING CONSTRUCTION SHALL BE REPAIRED PER C&MS ITEM 514.

THE 1 INCH DIAMETER (NOMINAL) ALL-THREAD BARS WITH A CROSS SECTIONAL AREA OF 0.85 SQUARE INCHES AND A MODULUS OF ELASTICITY OF 29,700 KSI SHALL BE ASTM A722 (TYPE II) GRADE 150 MANUFACTURED IN THE UNITED STATES. BAR COUPLERS WILL NOT BE PERMITTED. THE ANCHOR (SPHERICAL HEX) NUTS SHALL BE ASTM A536. ANCHOR (DISHED) PLATES SHALL BE ASTM A572 GRADE 50.

GALVANIZED DISHED ANCHOR PLATES AND GALVANIZED SPHERICAL HEX NUTS SHALL BE COMPATIBLE WITH THE GALVANIZED ALL-THREAD BARS AND SHALL MEET THE REQUIREMENTS OF THE ALL-THREAD BAR MANUFACTURER'S POST TENSIONING SYSTEM. DISHED ANCHOR PLATES, SPHERICAL HEX NUTS AND ALL-THREAD BARS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A-153. ALL-THREAD BARS SHALL BE MECHANICALLY CLEANED (NOT ACID WASHED) TO AVOID PROBLEMS ASSOCIATED WITH HYDROGEN EMBRITTLEMENT.

END PLATE ASSEMBLIES SHALL BE HOT DIP GALVANIZED ACCORDING TO C&MS 711.02.

FABRIC PADS SHALL MEET THE REQUIREMENTS OF C&MS 711.21, PREFORMED BEARING PADS.

BAR CLAMPS SHALL BE 1⅛ INCH INSIDE DIAMETER VIBRATION-DAMPING ROUTING CLAMPS MADE FROM 304 STAINLESS STEEL WITH SBR (STYRENE-BUTADIENE) RUBBER CUSHIONS. PART NUMBER 8981T36 FROM McMASTER-CARR. SEE https://www.mcmaster.com FOR ADDITIONAL INFORMATION. ¼ INCH DIAMETER HOLES IN CLIPS SHALL BE MODIFIED/GROUND OUT TO ACCEPT ⅜ INCH DIAMETER EXPANSION ANCHORS. ENGINEER APPROVED EQUALS MAY BE CONSIDERED IF ALL REQUIREMENTS ARE SATISFIED.

EXPANSION ANCHORS SHALL BE ⅜ INCH DIAMETER BY 3 INCH LONG 304 STAINLESS STEEL WEDGE ANCHORS FOR CRACKED CONCRETE, KB-TZ PART NUMBER 387523 FROM HILTI. SEE https://www.hilti.com FOR ADDITIONAL INFORMATION. EXPANSION ANCHORS WITH EQUAL SPECIFICATIONS SUPPLIED BY OTHER MANUFACTURERS MAY BE CONSIDERED PENDING APPROVAL BY THE ENGINEER.

ALL-THREAD BARS SHALL BE TENSIONED BY HYDRAULIC JACKS SO AS TO PRODUCE THE INDICATED

EACH JACK USED TO TENSION THE BARS SHALL BE EQUIPPED WITH A PRESSURE GAUGE HAVING AN ACCURATE READING DIAL AT LEAST SIX INCHES IN DIAMETER FOR DETERMINING JACK PRESSURE. WITHIN 30 DAYS PRIOR TO USE FOR TENSIONING ON THE PROJECT, EACH JACK AND ITS GAUGE SHALL BE CALIBRATED AS A UNIT BY A TESTING LABORATORY APPROVED BY THE ENGINEER. CALIBRATION SHALL BE DONE WITH THE CYLINDER EXTENSION APPROXIMATELY IN THE POSITION THAT IT WILL BE WHEN APPLYING THE FINAL JACKING FORCE AND WITH THE JACK ASSEMBLY IN AN IDENTICAL CONFIGURATION TO THAT WHICH WILL BE USED AT THE JOB SITE (I.E. SAME LENGTH HYDRAULIC LINES). PERFORM THE CALIBRATION WITH THE JACK APPLYING LOAD TO THE TESTING MACHINE OR LOAD CELLS CALIBRATED WITHIN THE PAST 12 MONTHS. FURNISH CERTIFIED CALIBRATION CALCULATIONS AND CALIBRATION CHART, BOTH IN ENGLISH UNITS OF MEASURE, TO THE ENGINEER FOR EACH JACK. THESE CERTIFICATIONS SHALL STATE THAT THE CALIBRATION TESTING WAS PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE PROJECT. PRESSURE GAUGE READINGS ARE TO BE WITHIN THREE PERCENT OF THE ACTUAL APPLIED FORCE DURING CALIBRATION. IF PRESSURE GAUGE READINGS ARE NOT WITHIN THREE PERCENT OF THE APPLIED FORCE, THE SOURCE OF ERROR IS TO BE DETERMINED AND CORRECTED AND THE GAUGE RECALIBRATED.

RECALIBRATION OF EACH JACK SHALL BE DONE AS REQUESTED BY THE ENGINEER (SIX MONTH MINIMUM INTERVAL). AT THE OPTION OF THE CONTRACTOR, CALIBRATIONS SUBSEQUENT TO THE INITIAL LABORATORY CALIBRATION MAY BE ACCOMPLISHED BY USE OF A MASTER GAUGE. THE MASTER GAUGE SHALL BE SUPPLIED BY THE CONTRACTOR IN A PROTECTIVE WATERPROOF CONTAINER CAPABLE OF PROTECTING THE CALIBRATION OF THE MASTER GAUGE DURING SHIPMENT TO A LABORATORY. THE CONTRACTOR SHALL PROVIDE A QUICK-ATTACH COUPLER NEXT TO THE PERMANENT GAUGE IN THE HYDRAULIC LINES, WHICH ENABLES THE QUICK AND EASY INSTALLATION OF THE MASTER GAUGE TO VERIFY THE PERMANENT GAUGE READINGS. THE MASTER GAUGE SHALL REMAIN IN THE POSSESSION OF AND BE CALIBRATED BY THE ENGINEER FOR THE DURATION OF THE PROJECT. IF ANY REPAIR TO OR MODIFICATION OF A JACK IS ACCOMPLISHED, SUCH AS REPLACING THE SEALS OR CHANGING THE LENGTH OF HYDRAULIC LINES, THE JACK SHALL BE RECALIBRATED BY THE APPROVED TESTING LABORATORY. JACKS AND GAUGES SHALL NOT BE INTERCHANGED WITHOUT RECALIBRATION OR PROOF LOADING USING LOAD CELLS, MASTER GAUGES OR OTHER METHODS APPROVED BY THE ENGINEER. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THE INITIAL OR SUBSEQUENT JACK CALIBRATIONS OR FOR USE AND REQUIRED CALIBRATION OF A MASTER GAUGE.

A QUALIFIED REPRESENTATIVE OF THE BAR POST TENSIONING SYSTEM MANUFACTURER WHO IS SKILLED AND EXPERIENCED IN THE PROPOSED WORK SHALL BE PHYSICALLY ON SITE DURING BAR TENSIONING OPERATIONS FOR INSTALLATION OF THE FIRST TWELVE INDIVIDUAL BARS TENSIONED. THE REPRESENTATIVE SHALL HAVE A CURRENT LEVEL 2 CERTIFICATION UNDER THE POST-TENSIONING INSTITUTE'S (PTI) TRAINING AND CERTIFICATION OF FIELD PERSONNEL FOR BONDED POST-TENSIONING PROGRAM, HAS THREE YEARS VERIFIABLE JOB-SITE EXPERIENCE IN BRIDGE RELATED POST-TENSIONING OPERATIONS AND HAS EXPERIENCE ON AT LEAST FOUR PREVIOUS AND SATISFACTORILY COMPLETED PROJECTS OF A SIMILAR SIZE AND SCOPE IN THE SAME CAPACITY. FURNISH THE NAME OF THE REPRESENTATIVE, EXPERIENCE, AND CERTIFICATION ALONG WITH A DETAILED DESCRIPTION OF PROJECTS WORKED ON, ROLE IN THESE PROJECTS, AND OWNER REFERENCES WHICH CAN BE VERIFIED FOR APPROVAL BY THE ENGINEER THREE WEEKS PRIOR TO ANY POST TENSIONING STRESSING. THE REPRESENTATIVE SHALL PROVIDE CLOSE OBSERVATION (IMMEDIATE SUPERVISION), SHALL EXERCISE RIGID CONTROL OF THE OPERATION AS NECESSARY, BE EMPOWERED TO CONTROL ALL BAR TENSIONING OPERATIONS AS NECESSARY FOR FULL COMPLIANCE WITH THE SPECIFICATIONS AND TRAIN CONTRACTOR PERSONNEL TO OPERATE EQUIPMENT IN REPRESENTATIVE'S ABSENCE. THE REPRESENTATIVE SHALL FULLY FAMILIARIZE THE CONTRACTOR AND ENGINEER WITH ALL COMPONENTS AND THEIR PROPER INSTALLATION.

INITIALLY TIGHTEN ANCHOR NUTS TO A SNUG TIGHT CONDITION. THEN TENSION BARS BY JACKING USING TWO INCREMENTS. FIRST JACK EACH BAR TO 15 KIPS. FINISH BY JACKING EACH BAR TO 60 KIPS. USE A PATTERN AS DESCRIBED IN THE PROPOSED WORK/CONSTRUCTION SEQUENCE ON SHEET 3 OF 12 TO EQUALLY ENGAGE ALL ANCHOR NUTS AT EACH INCREMENTAL JACKING.

THE FOLLOWING VALUES WERE CALCULATED:

ELONGATION AT 15 KIP JACKING TENSION = 0.242 INCHES

FINAL JACKING TENSION = 60 KIPS
ELONGATION = 1.05 INCHES
ANCHOR SET = 0.07 INCHES
LONG TERM RELAXATION = 0.02%
SERVICE TENSION AFTER ALL LOSSES = 55 KIPS

CALCULATED CAS CHECKED JHL

GENERAL NOTES

BEL-7-19.75

GENERAL NOTES (CONTINUED):

MEASURE AND RECORD THE GAUGE PRESSURES AND ACTUAL BAR ELONGATION FOR EACH BAR AT EACH STAGE OF STRESSING. ELONGATIONS WILL BE MEASURED TO THE NEAREST 1/16 INCH USING A RIGID RULE. FLEXIBLE TAPES ARE NOT ALLOWED. COMPARE THE ACTUAL ELONGATION WITH THE PREDICTED ELONGATION SHOWN IN THE PLANS. A SIGNIFICANT DIFFERENCE IN ACTUAL ELONGATION VERSES PREDICTED ELONGATION COULD INDICATE IMPROPER JACKING OR TORQUEING TECHNIQUES, IMPROPER MATERIAL, FAULTY JACK, OR IMPROPER CALIBRATED JACK. IF THE DIFFERENCE IS MORE THAN 15% THE JACK WILL BE RECALIBRATED AND THE JACKING TECHNIQUES EVALUATED. IF, AFTER RECALIBRATION OF THE JACK AND ASSURANCES THE JACKING TECHNIQUES ARE SATISFACTORY, THE ELONGATION DIFFERENCE IS MORE THAN 10% FROM THE PREDICTED ELONGATION ALL WORK SHALL CEASE AND THE ENGINEER SHALL BE NOTIFIED. NO WORK SHALL BE RESUMED UNTIL THE ENGINEER HAS REVIEW THE SITUATION AND APPROVED THE CONTRACTORS REMEDY PLAN.

AFTER ALL STRESSING, A STRESSING REPORT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE STRESSING REPORT SHALL INCLUDE A RECORD OF THE FOLLOWING POST-TENSIONING OPERATIONS FOR EACH INSTALLATION:

1. PROJECT NAME, STATE PROJECT NUMBER;
2. CONTRACTOR AND/OR SUBCONTRACTOR;
3. BAR LOCATION, SIZE AND TYPE;
4. DATE BAR WAS FIRST INSTALLED;
5. HEAT NUMBER OF BARS;
6. TENDON CROSS-SECTIONAL AREA (ASSUMED AND ACTUAL);
7. MODULUS OF ELASTICITY (ASSUMED AND ACTUAL);
8. DATE STRESSED;
9. JACK AND GAUGE NUMBERS WITH BAR TENSIONED;
10. REQUIRED JACKING FORCE;
11. GAUGE PRESSURES;
12. ELONGATIONS (THEORETICAL AND ACTUAL);
13. ANCHOR SETS (ANTICIPATED AND ACTUAL);
14. STRESSING SEQUENCE;
15. STRESSING MODE;
16. WITNESS TO STRESSING OPERATION (CONTRACTOR AND INSPECTOR);
17. DATE OF APPROVED ELONGATIONS;
18. RECORD OF ANY OTHER RELEVANT INFORMATION

AFTER THE BARS HAVE BEEN TENSIONED, ANY DAMAGED GALVANIZING ON THE BARS OR ASSOCIATED HARDWARE SHALL BE REPAIRED IN ACCORDANCE WITH C&MS 711.02.

BASIS OF PAYMENT: THE WORK SHALL BE PAID FOR BY LUMP SUM FOR STRUCTURAL STEEL, MISC.: LEVEL UF, PIER CAP STRENGTHENING BY EXTERNAL POST TENSIONING. THE LUMP SUM UNIT SHALL INCLUDE ALL WORK NECESSARY TO STRENGTHEN THE PIER CAPS BY EXTERNAL POST TENSIONING, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ALL-THREAD BARS, DISHED ANCHOR PLATES, SPHERICAL HEX NUTS, END PLATE ASSEMBLIES, FABRIC PADS, GALVANIZING, BAR CLAMPS, EXPANSION ANCHORS, JACKING EQUIPMENT, CALIBRATING AND CERTIFYING JACKS, ON SITE MANUFACTURER REPRESENTATIVE SUPERVISION AND TRAINING AND ALL OTHER WORK NECESSARY TO PERFORM THE WORK AS SHOWN ON THE PLANS AND SPECIFIED HEREIN.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF ITEM 519, SAW CUTS SHALL BE PROVIDED AROUND THE PERIMETER OF THE REMOVAL LIMITS AS INDICATED ON THE PLANS. ALSO, AT THE PIER CAP END REPAIRS THE DELAMINATED CONCRETE SHALL BE REMOVED TO PROVIDE UNDERCUT SHOULDERS AS SHOWN ON THE PLANS.

THIS ITEM SHALL ALSO INCLUDE FIELD VERIFICATION THAT THE CONCRETE SURFACES UNDER THE PROPOSED END PLATES ARE FLAT AND SMOOTH. IF GAPS GREATER THAN 1/16 INCH EXIST BETWEEN FLAT VERTICAL AND HORIZONTAL SURFACES BETWEEN THE LOCATION OF THE END PLATE AND THE CONCRETE SURFACE, THE CONCRETE SHALL BE GROUND TO PROVIDE A SMOOTH, FLAT SURFACE.

SEE ASBESTOS NOTIFICATION NOTE ON SHEET 2 OF 12 FOR ADDITIONAL WORK INCLUDED IN THIS ITEM.

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

ITEM 607 - FENCE, MISC.: TEMPORARY WORK ZONE FENCE: THIS ITEM CONSISTS OF FURNISHING ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO FURNISH, INSTALL AND REMOVE TEMPORARY FENCING AROUND THE PERIMETER OF THE WORK ZONE. PUBLIC PARKING AND A PUBLIC PARK ARE LOCATED UNDER THE STRUCTURE ADJACENT TO THE PIERS TO BE STRENGTHENED.

TEMPORARY FENCING SHALL BE CONSTRUCTED AROUND THE WORK ZONE TO DETER THE PUBLIC FROM ENTERING THE WORK AREA. TEMPORARY FENCING SHALL CONSIST OF 6'-0" HIGH (MINIMUM) CHAIN LINK FENCING. THE CONTRACTOR AND THE ENGINEER SHALL DETERMINE THE LIMITS OF THE WORK ZONE AREA. THE WORK ZONE AREA SHALL BE CLOSED OFF BY GATES OR OTHER MEANS WHEN THE CONTRACTOR IS NOT WORKING. TEMPORARY FENCING MAY BE ERECTED WITHOUT CONCRETE FOOTINGS, PULL POSTS, CORNER POSTS, ETC. REMOVE THE TEMPORARY FENCING AND APPURTENANCES FROM THE PROJECT SITE, WHEN DIRECTED BY THE ENGINEER. TEMPORARY FENCING MATERIALS WILL REMAIN THE PROPERTY OF THE CONTRACTOR. POST HOLES SHALL BE FILLED WITH SIMILAR MATERIAL THAT WAS DISTURBED (I.E. ASPHALT, CONCRETE, SOIL) AFTER CONSTRUCTION IS COMPLETED.

TRAFFIC CONTROL DEVICES (ORANGE REFLECTIVE CONES, BARRELS, ETC. AS APPROVED BY THE ENGINEER) SHALL BE PLACED AROUND THE PERIMETER OF THE FENCING AT LOCATIONS WHERE PARKING LOT TRAFFIC WILL BE ADJACENT TO THE FENCE.

BASIS OF PAYMENT: THE WORK SHALL BE PAID FOR BY LUMP SUM FOR FENCE, MISC.: TEMPORARY WORK ZONE FENCE. THE LUMP SUM UNIT SHALL INCLUDE ALL WORK NECESSARY TO FURNISH, INSTALL AND REMOVE TEMPORARY FENCING, TO THE SATISFACTION OF THE ENGINEER.

ITEM 614 - MAINTAINING TRAFFIC: THE BEL-7-1975 BRIDGES CAN REMAIN OPEN TO NORTH BOUND AND SOUTH BOUND S.R. 7 TRAFFIC DURING THE PIER CAP STRENGTHENING WORK.

LOCAL STREETS SHOULD NOT REQUIRE ANY CLOSURES, HOWEVER, IF NECESSARY DUE TO CONTRACTORS WORK ZONE REQUIREMENTS, ITEM 614 - MAINTENANCE OF TRAFFIC HAS BEEN PROVIDED. LANE CLOSURES AND SIGNING, IF NECESSARY, SHALL BE PERFORMED AS REQUIRED BY THE MT AND TC STANDARD DRAWINGS LISTED ON THE TITLE SHEET. IF ANY LOCAL STREETS ARE TO BE CLOSED, THE CONTRACTOR MUST PROVIDE NOTIFICATION TO THE ODOT DISTRICT OR PROJECT ENGINEER A MINIMUM OF FOURTEEN(14) DAYS PRIOR TO ANY LANE RESTRICTIONS. ALSO, THE CONTRACTOR SHALL NOTIFY TO THE VILLAGE OF BRIDGEPORT REPRESENTATIVES.

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

ITEM 642 - NOTIFICATION OF TRAFFIC RESTRICTIONS:

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (Hauling.Permits@dot.ohio.gov) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE

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

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

PROPOSED WORK/CONSTRUCTION SEQUENCE:

WORK SHALL CONSIST OF BUT NOT BE LIMITED TO THE FOLLOWING AT PIERS 8E, 8W, 11E, 11W, 16E AND 16W:

1. CONSTRUCT TEMPORARY FENCING AND TRAFFIC CONTROL DEVICES AROUND WORK AREAS TO PROTECT PUBLIC FROM CONSTRUCTION ACTIVITIES (PUBLIC PARKING IS ADJACENT TO ALL PIERS AND LINCOLN AVENUE PARK IS UNDER THE BRIDGE ADJACENT TO PIERS 11E AND 11W). INSTALL EROSION CONTROL.
2. REMOVE MISCELLANEOUS ITEMS AS NECESSARY (I.E. STEEL BEAM GUARD RAIL, LIGHT POLES, ETC.).
3. PATCH SPALLED AND DELAMINATED CONCRETE AT THE PIER ENDS TO PROVIDE SOUND CONCRETE UNDER THE PROPOSED END PLATES (SEE DETAILS ON SHEET 8 / 8). ALSO PATCH SPALLED AND DELAMINATED CONCRETE ON NORTH AND SOUTH FACES OF PIER CAPS (SEE DETAILS ON SHEETS 5 - 7 / 8). CONCRETE PATCHES MUST OBTAIN DESIGN STRENGTH (4500 PSI) PRIOR TO TENSIONING IN STEP 10.
4. SEAL AREAS THAT HAVE BEEN PATCHED IN STEP 3 WITH EPOXY-URETHANE SEALER.
5. FIELD VERIFY THAT SURFACES UNDER PROPOSED END PLATES ARE FLAT AND SMOOTH. NO GAPS GREATER THAN 1/16 INCH MEASURED BETWEEN FLAT VERTICAL AND HORIZONTAL SURFACES BETWEEN THE END PLATES AND THE CONCRETE WILL BE PERMITTED. HIGH LOCATIONS SHALL BE GROUND TO PROVIDE A FLAT SURFACE.
6. PREPARE SHOP DRAWINGS ACCORDING TO THE REQUIREMENTS OF C&MS 513.06 AND 501.04.
7. ASSEMBLE THE ALL-THREAD BARS AND THE END PLATE ASSEMBLIES ON THE GROUND AROUND THE PIER. INSTALL ANCHOR PLATES AND NUTS. CAREFULLY LIFT AND HOLD THE ENTIRE ASSEMBLY TO THE REQUIRED, LEVEL POSITION ON THE PIER CAP.
8. INSTALL THE FABRIC PADS. SNUG TIGHTEN NUTS (AT THE WEST END OF THE WEST PIERS AND AT THE EAST END OF THE EAST PIERS) IN AN ALTERNATING PATTERN (TOP LEFT, BOTTOM RIGHT, BOTTOM LEFT, TOP RIGHT, MIDDLE LEFT AND MIDDLE RIGHT) TO FIRMLY HOLD ASSEMBLY ON THE PIER CAP. REMOVE TEMPORARY LIFTING AND HOLDING DEVICES.
9. REPEAT STEPS 7 AND 8 AT OTHER REQUIRED PIER CAPS.
10. AT THE OUTER END PLATE ASSEMBLIES (AT THE WEST END OF THE WEST PIERS AND AT THE EAST END OF THE EAST PIERS), INITIALLY TENSION THE BARS TO 15 KIPS IN AN ALTERNATING PATTERN (AS DESCRIBED IN STEP 8). THEN, TENSION TO A FINAL TENSION OF 60 KIPS IN AN ALTERNATING PATTERN.
11. INSTALL VIBRATION-DAMPING ROUTING CLAMPS.
12. REINSTALL ITEMS PREVIOUSLY REMOVED IN STEP 2.
13. REMOVE TEMPORARY WORK ZONE FENCE.

CALCULATED CAS CHECKED JHL

GENERAL NOTES

BEL-7-19.75

SHEET NUMBER								PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	2	3		9	10	11			01/NHS/BR						
														EROSION CONTROL	
									1000	832	30000	1000	EACH	EROSION CONTROL	
														STRUCTURES OVER 20 FOOT SPAN (SFN: 0700541)	
	LS								LS	202	98000	LS		REMOVAL MISC.: REMOVE AND REINSTALL MISCELLANEOUS ITEMS	2
				23	20	5			48	512	10100	48	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
		LS							LS	513	95020	LS		STRUCTURAL STEEL, MISC: LEVEL UF, PIER CAP STRENGTHENING BY EXTERNAL POST TENSIONING	2, 3
				205	176	45			426	519	11101	426	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	3
														MAINTENANCE OF TRAFFIC	
		LS							LS	607	98200	LS		FENCE, MISC.: TEMPORARY WORK ZONE FENCE	3
														INCIDENTALS	
		LS							LS	614	11000	LS		MAINTAINING TRAFFIC	3
									3	619	16000	3	MNTH	FIELD OFFICE TYPE A	
									LS	624	10000	LS		MOBILIZATION	

CALCULATED CAS CHECKED JHL

GENERAL SUMMARY

BEL-7-19.75

4
12

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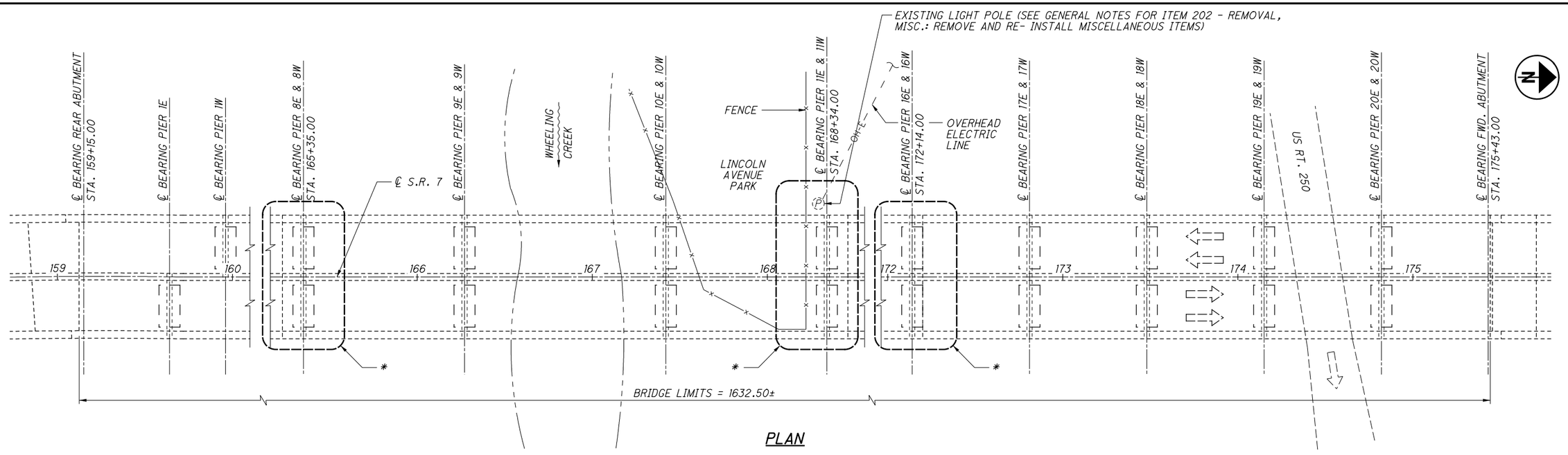
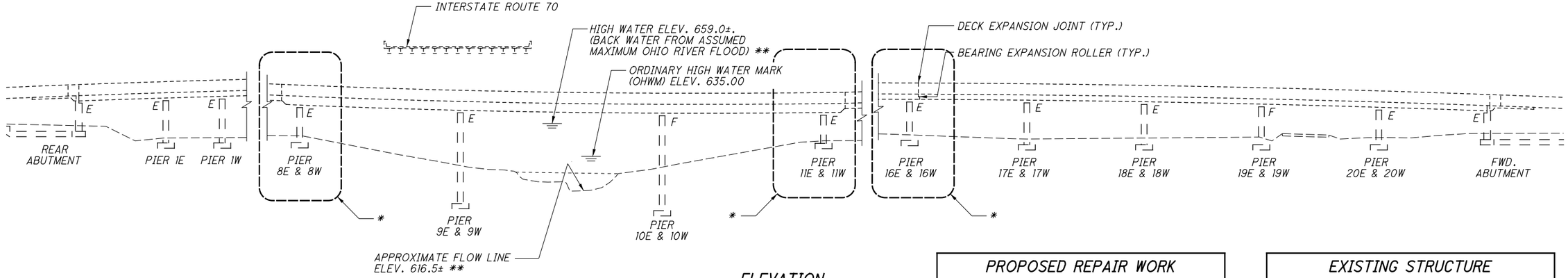


PLAN



ELEVATION

PROPOSED REPAIR WORK

PROJECT INCLUDES EXTERNAL POST-TENSIONING INSTALLATION FOR PIER STRENGTHENING AT PIER 8E, 8W, 11E, 11W, 16E AND 16W ON THE BEL-7-1975 BRIDGE.

LEGEND:

* = PIER CAPS TO BE STRENGTHENED
** = INFORMATION FROM ORIGINAL 1959 PLANS

E = EXPANSION
F = FIXED

EXISTING STRUCTURE

TYPE: CONTINUOUS ROLLED BEAM AND WELDED GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES

SPANS: 21-SPAN (SB), 22-SPAN (NB)

ROADWAY: 62'-0" f/f CURB

LOADING: CF 200 (57)

SKEW: NONE

WEARING SURFACE: 1¾"± MICRO-SILICA MODIFIED CONCRETE ON 1"± MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-54, 25'-0"± LONG

ALIGNMENT: VARIES

SUPERELEVATION: VARIES

DATE BUILT: 1968 REHABILITATED: 1998

DISPOSITION: PIERS 8E, 8W, 11E, 11W, 16E AND 16W TO BE STRENGTHENED

COORDINATES: 40°04'08.55" N
80°44'25.99" W

STRUCTURE FILE NUMBER: 0700541

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CAS		0700541	

BELMONT COUNTY
STA. 165+35.00
STA. 172+14.00

SITE PLAN
BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

BEL-7-19.75
PID No. 105324

1 / 8

5
12

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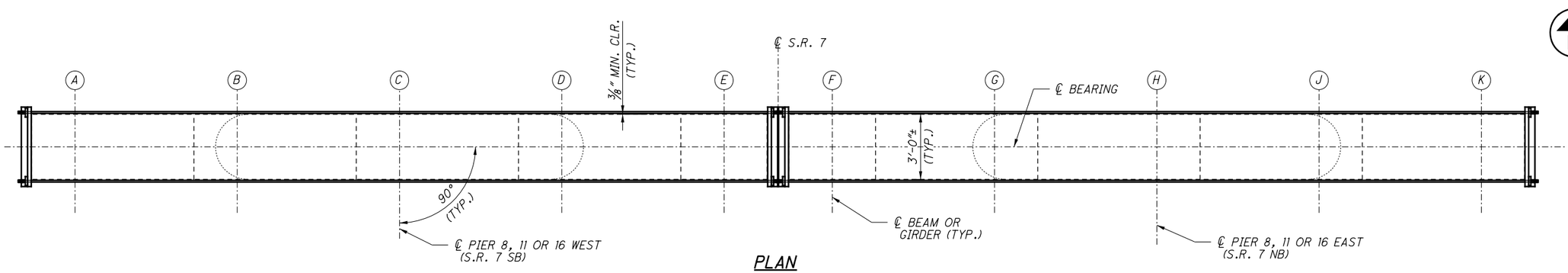

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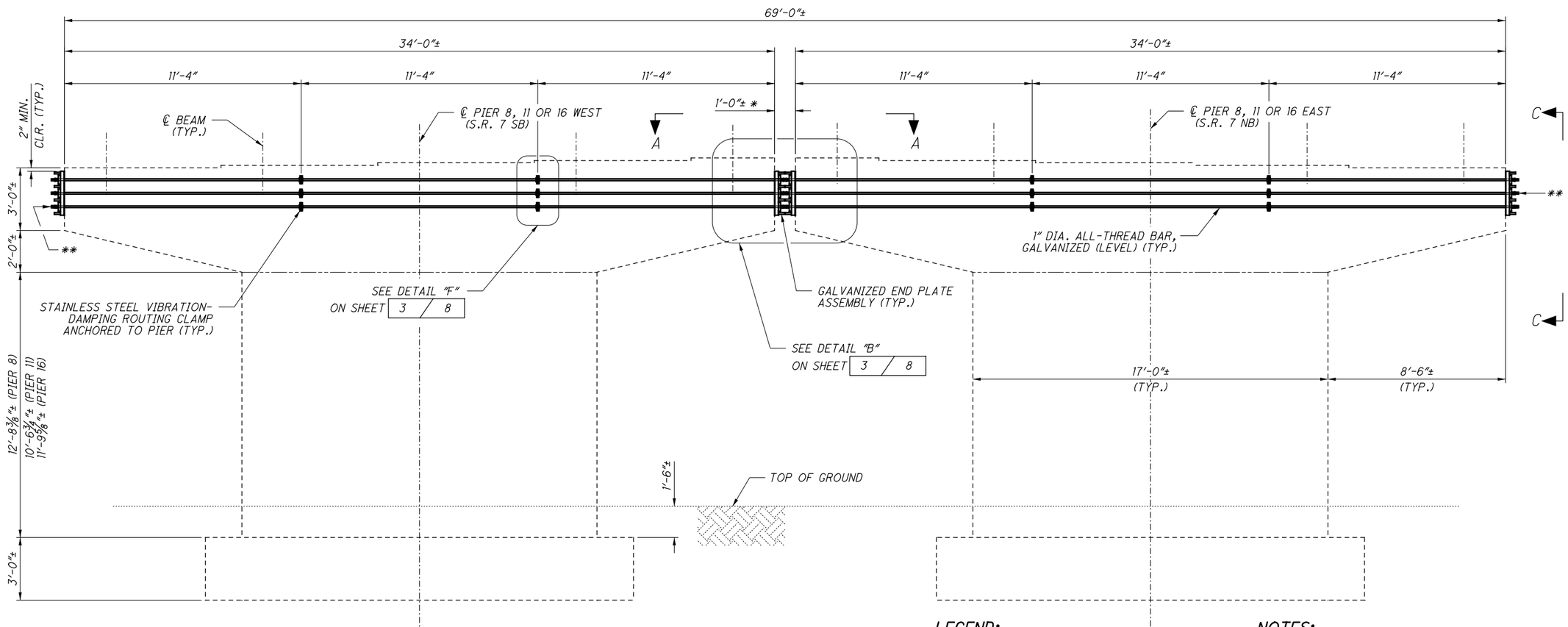

ELEVATION

LEGEND:

* = FIELD VERIFY
** = BARS TENSIONED FROM THIS END. PROVIDE BAR LENGTH BEYOND NUT AS NECESSARY TO ATTACH JACKS
(_) = EXISTING BEAM OR GIRDER DESIGNATION

CLR. = CLEAR
DIA. = DIAMETER
NB = NORTHBOUND
SB = SOUTHBOUND
S.R. = STATE ROUTE

NOTES:

1. SEE SHEET 3 / 8 FOR VIEW A-A.
2. SEE SHEET 4 / 8 FOR VIEW C-C.
3. SEE SHEETS 5 - 7 / 8 FOR PATCHING DETAILS.
4. SEE SHEET 8 / 8 FOR PIER CAP END PATCHING AND GRINDING DETAILS.

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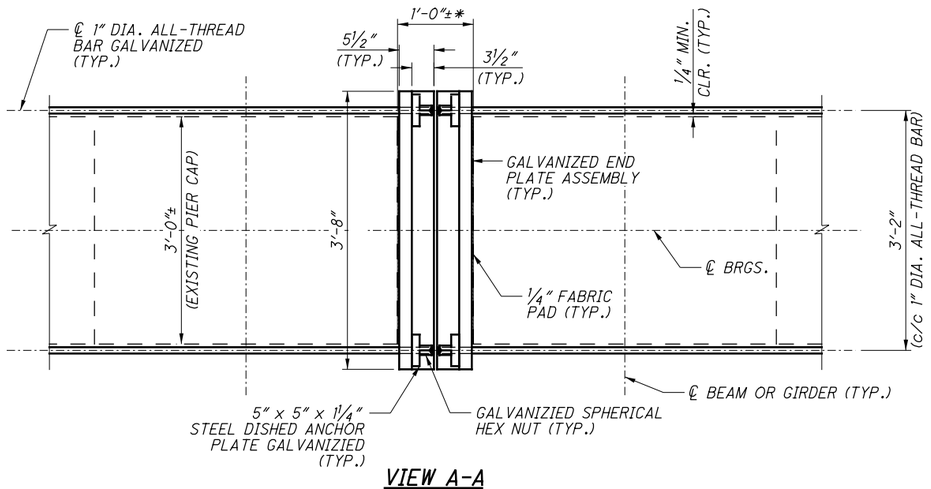
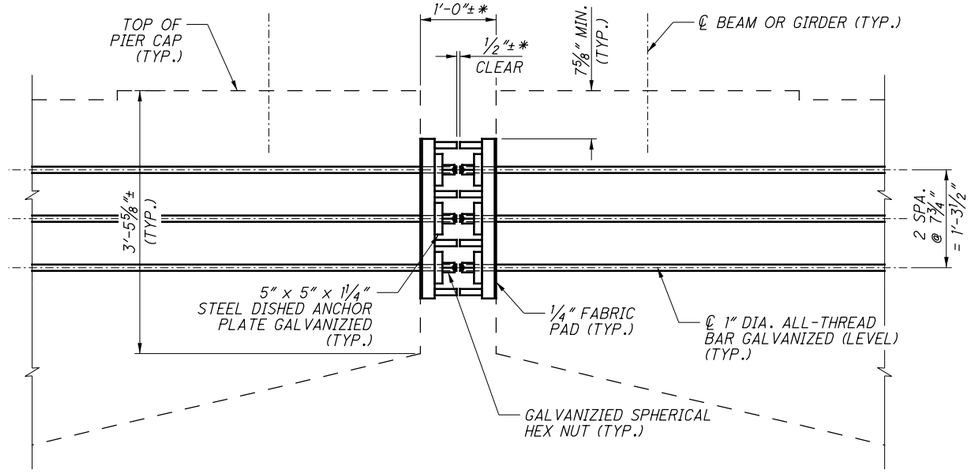
PIER 8, 11 & 16 PLAN & ELEVATION
BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

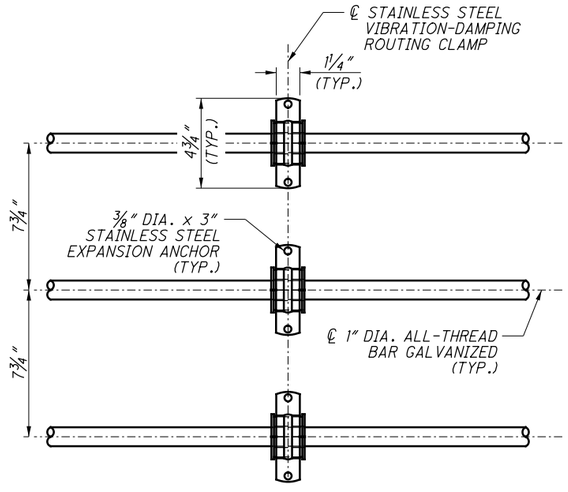
BEL-7-19.75
PID No. 105324



VIEW A-A



DETAIL "B"



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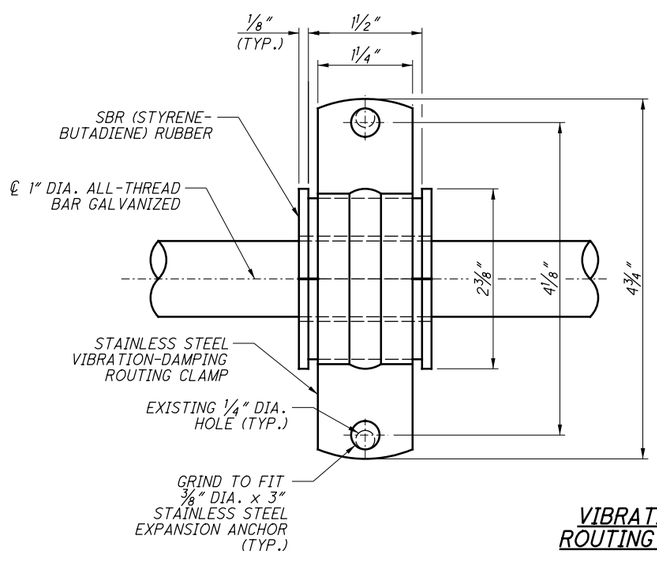

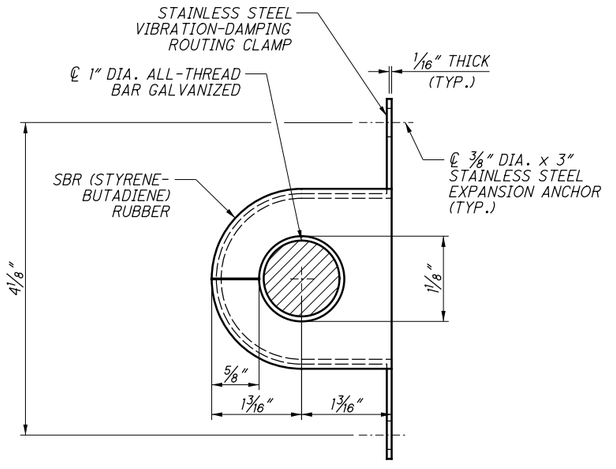

VIBRATION-DAMPING ROUTING CLAMP DETAIL

LEGEND:

* = FIELD VERIFY

CLR. = CLEAR
DIA. = DIAMETER
MIN. = MINIMUM

NOTES:

1. VIBRATION-DAMPING ROUTING CLAMPS SHALL BE INSTALLED AFTER THE ALL-THREAD BARS HAVE BEEN TENSIONED. SEE PROPOSED WORK/CONSTRUCTION SEQUENCE NOTE ON SHEET 3 OF 12. CARE SHALL BE TAKEN NOT TO DAMAGE THE ALL-THREAD BAR WHEN INSTALLING CLAMPS.

2. VIBRATION-DAMPING ROUTING CLAMP (PART NUMBER 8981T36) SHOWN HAS AN INSIDE RUBBER DIAMETER OF 1⅛". IF THIS OPENING IS NOT COMPATIBLE WITH THE ALL-THREAD BARS USED BY THE CONTRACTOR, OTHER DIAMETERS ARE AVAILABLE (1 1/16", 1¼", 1 5/16", 1⅜", ETC.) AND CAN BE SUBSTITUTED FOR BETTER FITMENT.

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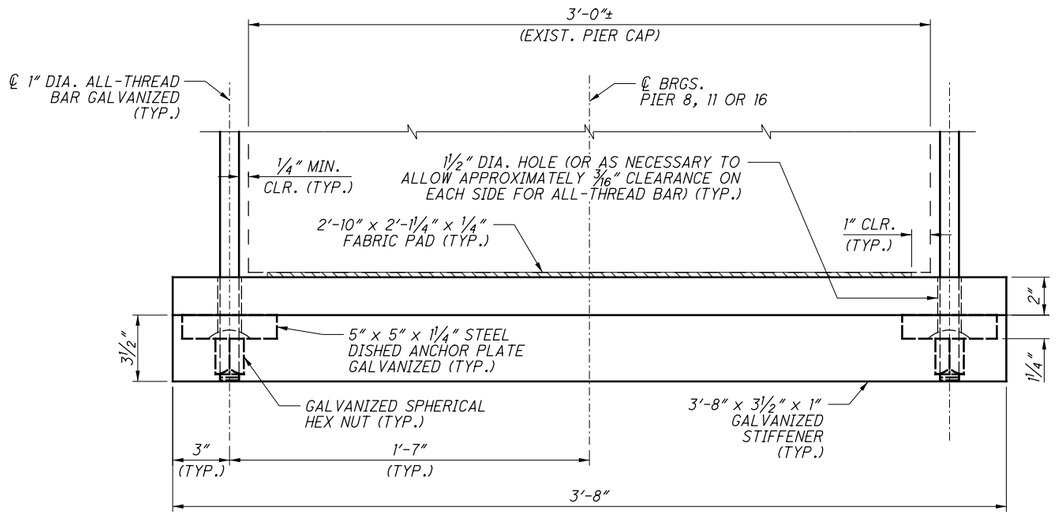
EXTERNAL POST-TENSIONING DETAILS - 1

BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

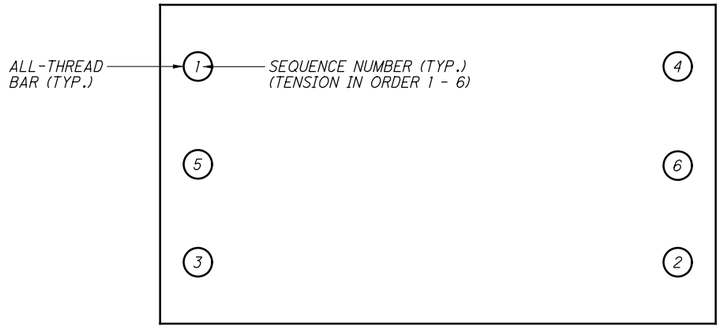
BEL-7-19.75
PID No. 105324

3 / 8

7 / 12



VIEW D-D

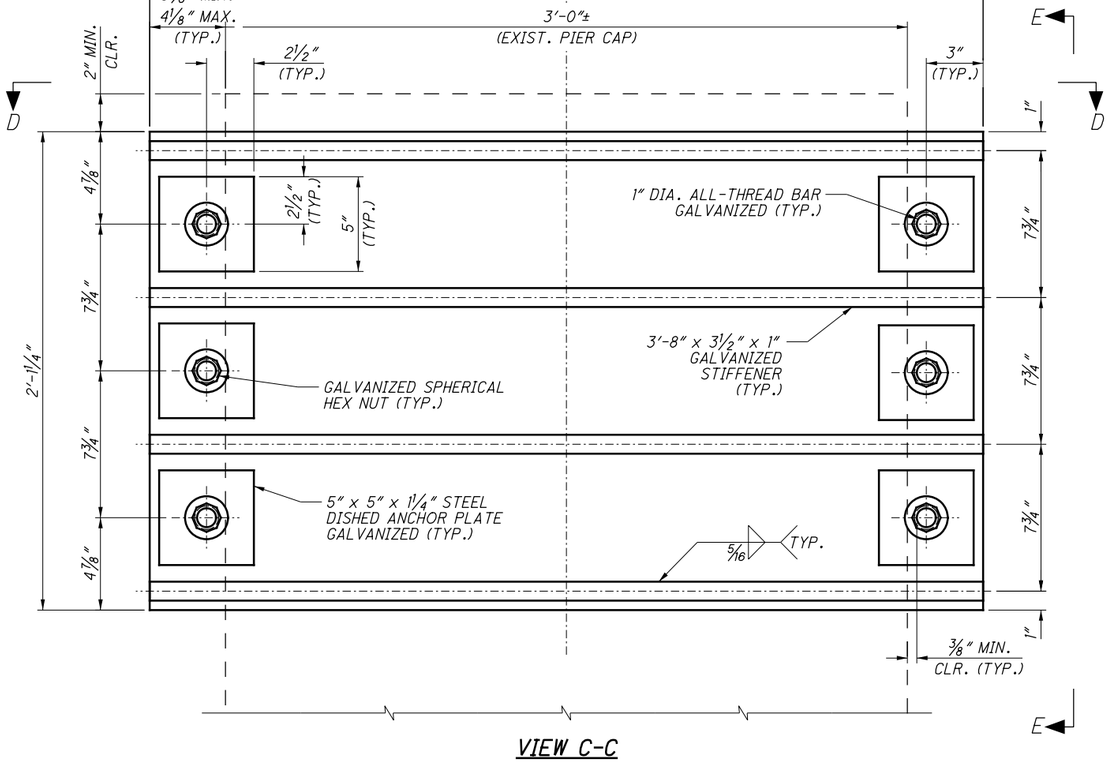


TENSIONING SEQUENCE

(INITIAL, INTERMEDIATE AND FINAL)
(SEE SHEETS 2 AND 3 OF 12 FOR ADDITIONAL NOTES AND REQUIREMENTS)

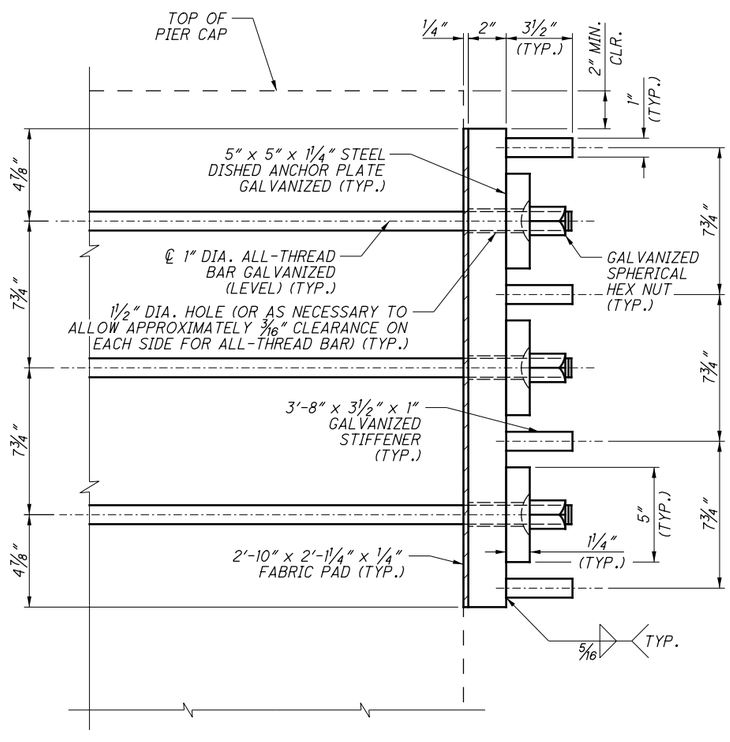
LEGEND:

CLR. = CLEAR
DIA. = DIAMETER
MIN. = MINIMUM



VIEW C-C

(END PLATE ASSEMBLY)



VIEW E-E

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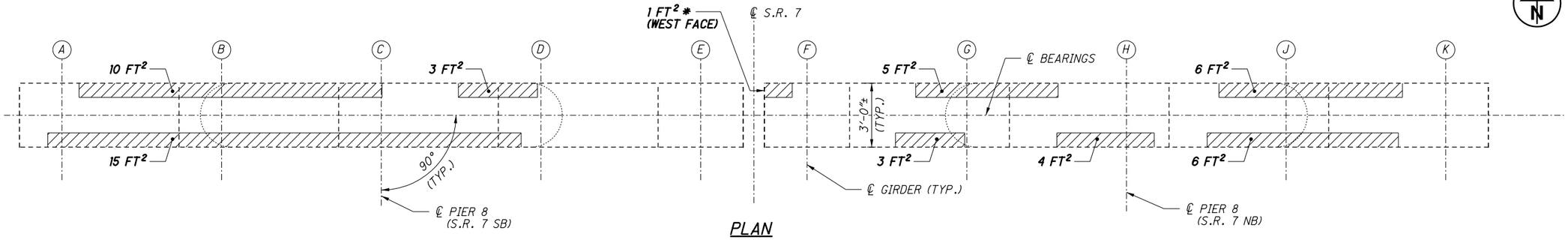
EXTERNAL POST-TENSIONING DETAILS - 2

BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

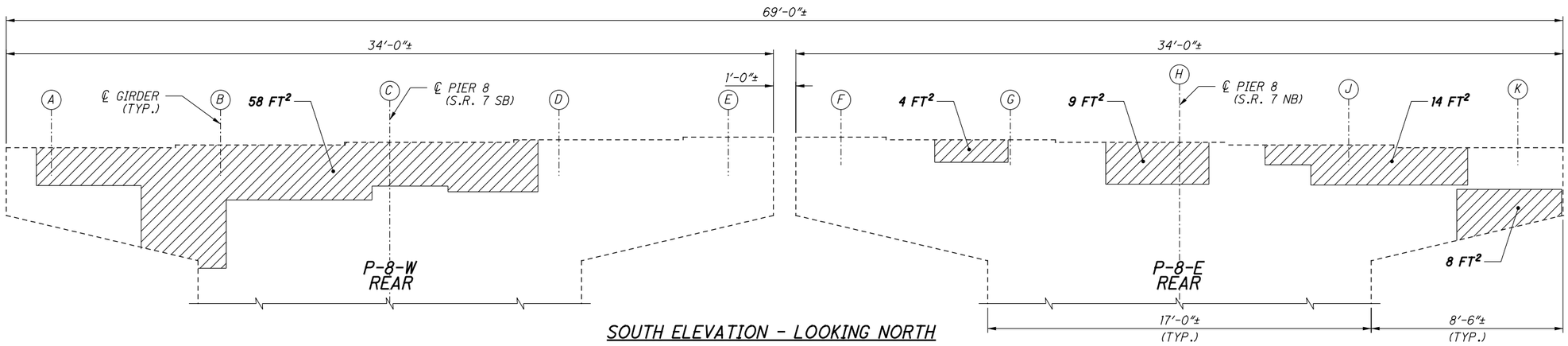
BEL-7-19.75
PID No. 105324

4 / 8

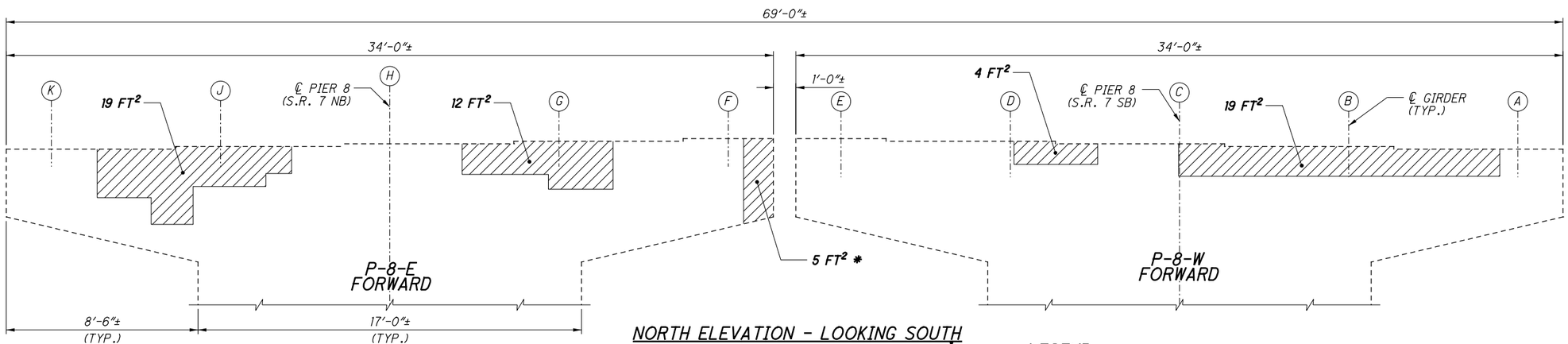
8 / 12



PLAN



SOUTH ELEVATION - LOOKING NORTH



NORTH ELEVATION - LOOKING SOUTH

PIER CAP 8			
ITEM	ITEM DESCRIPTION	UNIT	QUANTITY
512	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	SY	23
519	PATCHING CONCRETE STRUCTURE, AS PER PLAN	SF	205

LEGEND:

= DENOTES AREA OF DETERIORATED CONCRETE TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN.

* = SEE SHEET 8 / 8 FOR ADDITIONAL DETAILS AT END PATCH.

(_) = EXISTING GIRDER DESIGNATION

NOTES:

1. PROVIDE 1" DEEP SAW CUTS AROUND THE PERIMETER OF THE AREAS TO BE PATCHED.
2. SEAL ALL SURFACES THAT HAVE BEEN PATCHED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). SURFACES OUTSIDE OF PATCHING AREAS ARE NOT TO BE RE-SEALED.

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DESIGNED CAS | DRAWN AAA | REVIEWED TAB | DATE 4/19/18
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PIER CAP 8 PATCHING DETAILS
BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

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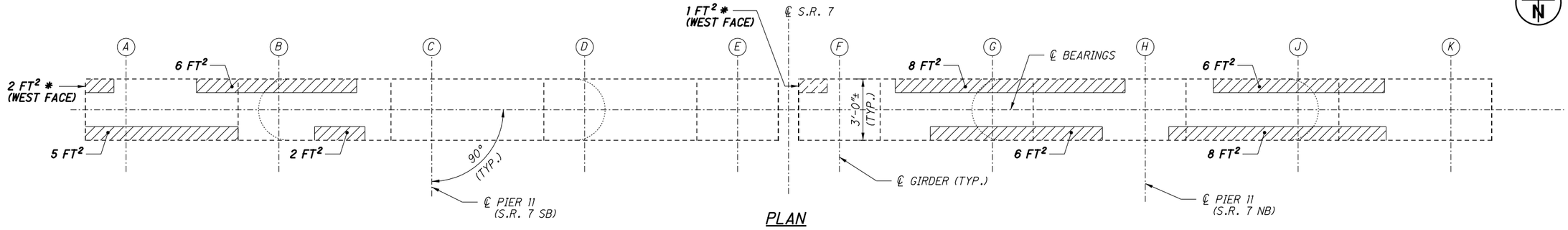
PID No. 105324

5 / 8

9 / 12



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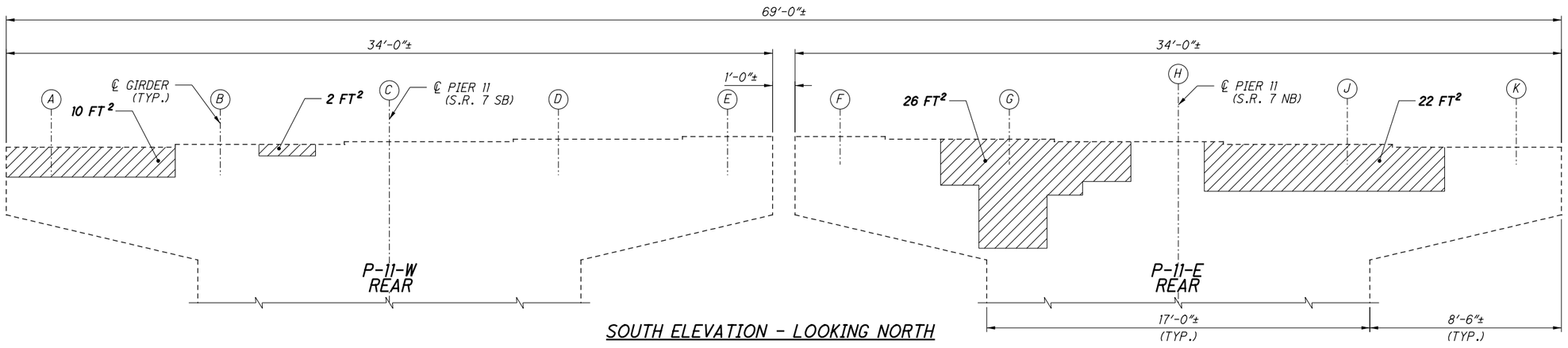
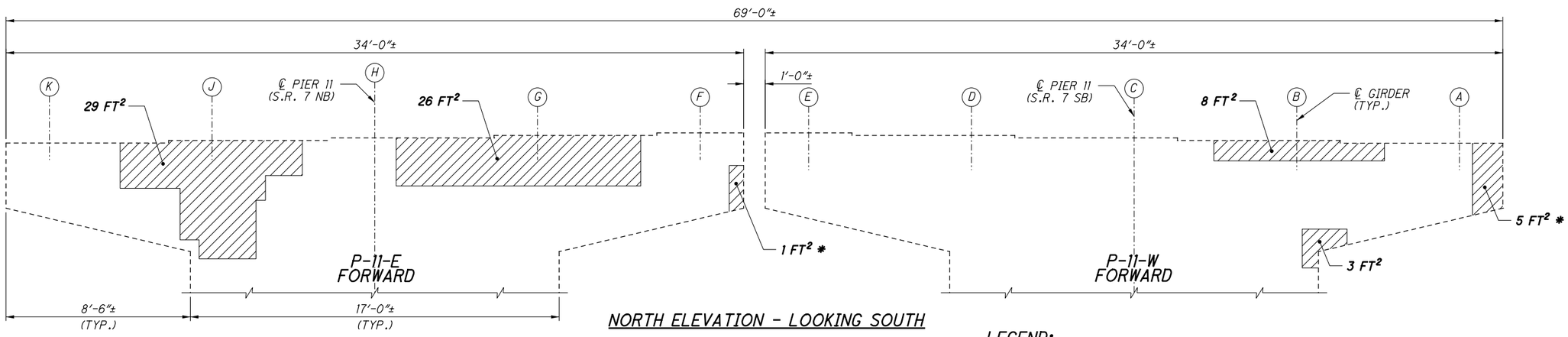


SOUTH ELEVATION - LOOKING NORTH



NORTH ELEVATION - LOOKING SOUTH

PIER CAP 11			
ITEM	ITEM DESCRIPTION	UNIT	QUANTITY
512	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	SY	20
519	PATCHING CONCRETE STRUCTURE, AS PER PLAN	SF	176

LEGEND:

▨ = DENOTES AREA OF DETERIORATED CONCRETE TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN.

* = SEE SHEET 8 / 8 FOR ADDITIONAL DETAILS AT END PATCH.

(_) = EXISTING GIRDER DESIGNATION

NOTES:

1. PROVIDE 1" DEEP SAW CUTS AROUND THE PERIMETER OF THE AREAS TO BE PATCHED.
2. SEAL ALL SURFACES THAT HAVE BEEN PATCHED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). SURFACES OUTSIDE OF PATCHING AREAS ARE NOT TO BE RE-SEALED.

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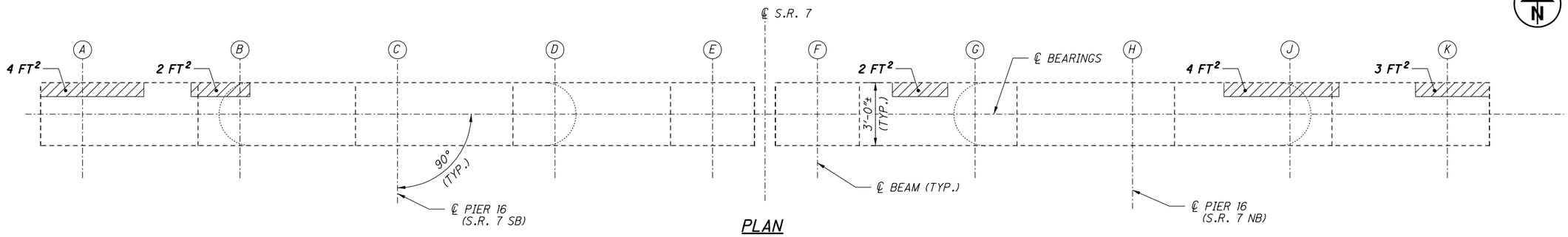
PIER CAP 11 PATCHING DETAILS
BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

BEL-7-19.75
PID No. 105324

6 / 8

10 / 12



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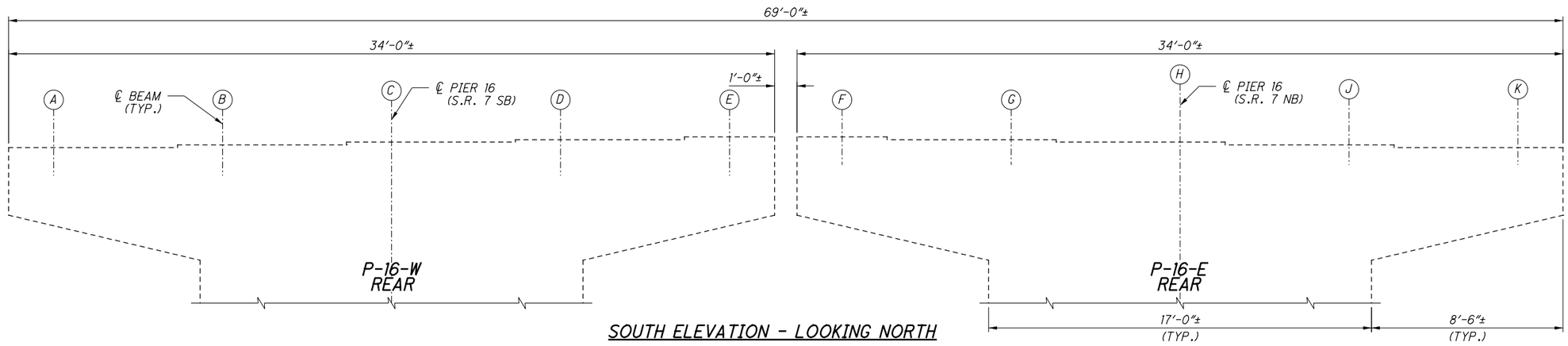
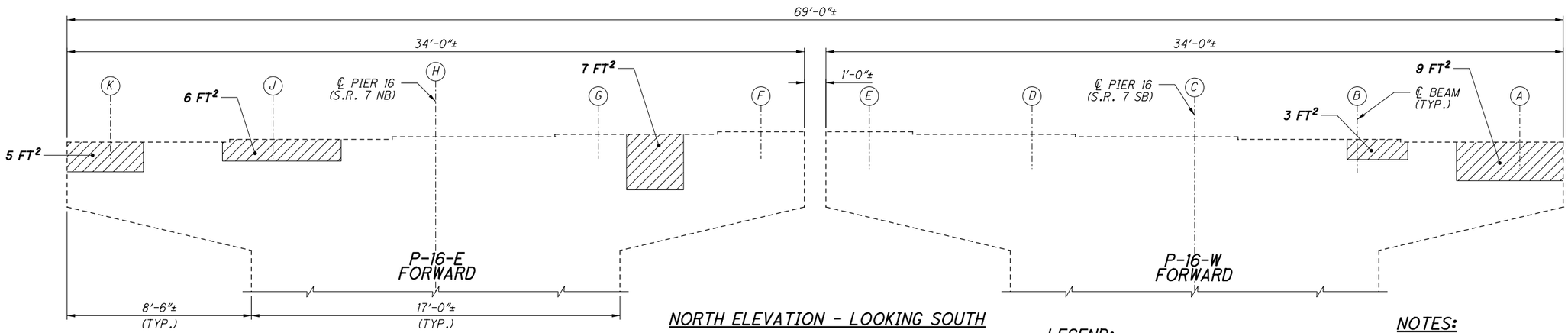


SOUTH ELEVATION - LOOKING NORTH



NORTH ELEVATION - LOOKING SOUTH

PIER CAP 16			
ITEM	ITEM DESCRIPTION	UNIT	QUANTITY
512	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	SY	5
519	PATCHING CONCRETE STRUCTURE, AS PER PLAN	SF	45

LEGEND:

= DENOTES AREA OF DETERIORATED CONCRETE TO BE PATCHED AS PER ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN.

(_) = EXISTING BEAM DESIGNATION

NOTES:

1. PROVIDE 1" DEEP SAW CUTS AROUND THE PERIMETER OF THE AREAS TO BE PATCHED.
2. SEAL ALL SURFACES THAT HAVE BEEN PATCHED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). SURFACES OUTSIDE OF PATCHING AREAS ARE NOT TO BE RE-SEALED.

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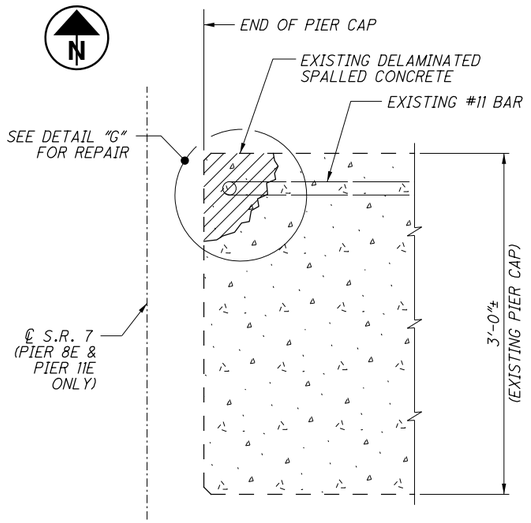
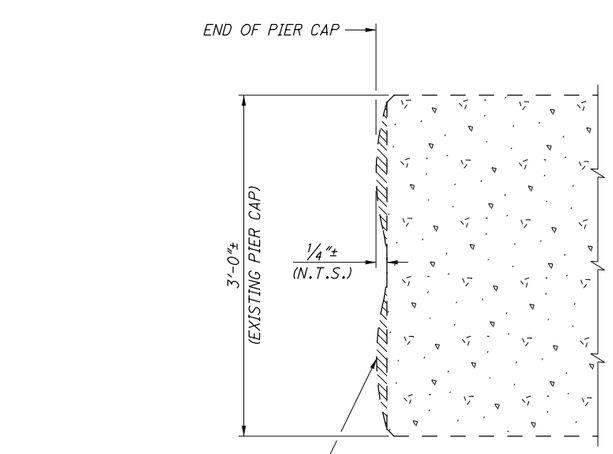
PIER CAP 16 PATCHING DETAILS
BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

BEL-7-19.75
PID No. 105324



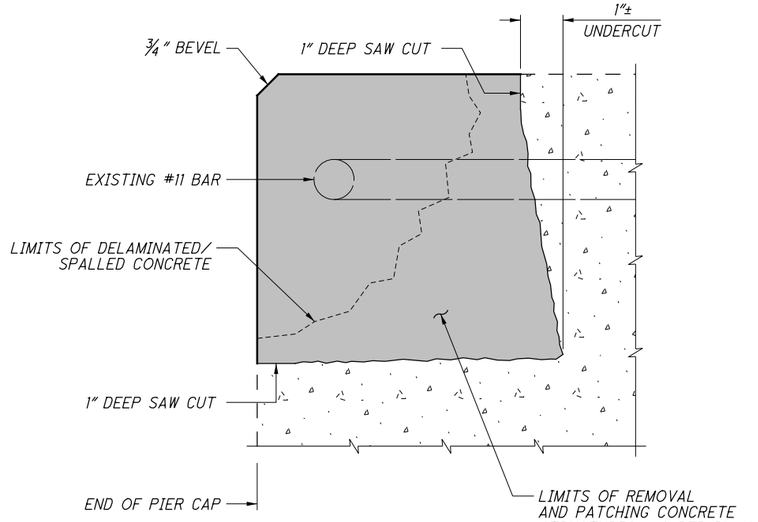
PIER CAP END PATCHING DETAIL - PLAN

(PIER 11W - FORWARD - WEST END - SHOWN,
PIER 11E - FORWARD - WEST END - SIMILAR
PIER 8E - FORWARD - WEST END - SIMILAR)



GRINDING DETAIL - PLAN

(PIER 11W - WEST END - SHOWN,
OTHERS MAY BE SIMILAR)



DETAIL "G"

(N.T.S.)

LEGEND:

N.T.S. = NOT TO SCALE

BURGESS & NIPLE
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DESIGNED	DRAWN	REVIEWED	DATE
CAS	AAA	TAB	4/19/18
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JHL		0700541	

PIER CAP REPAIR DETAILS
BRIDGE NO. BEL-7-1975
OVER US40, SR767 AND WHEELING CREEK

BEL-7-19.75
PID No. 105324

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