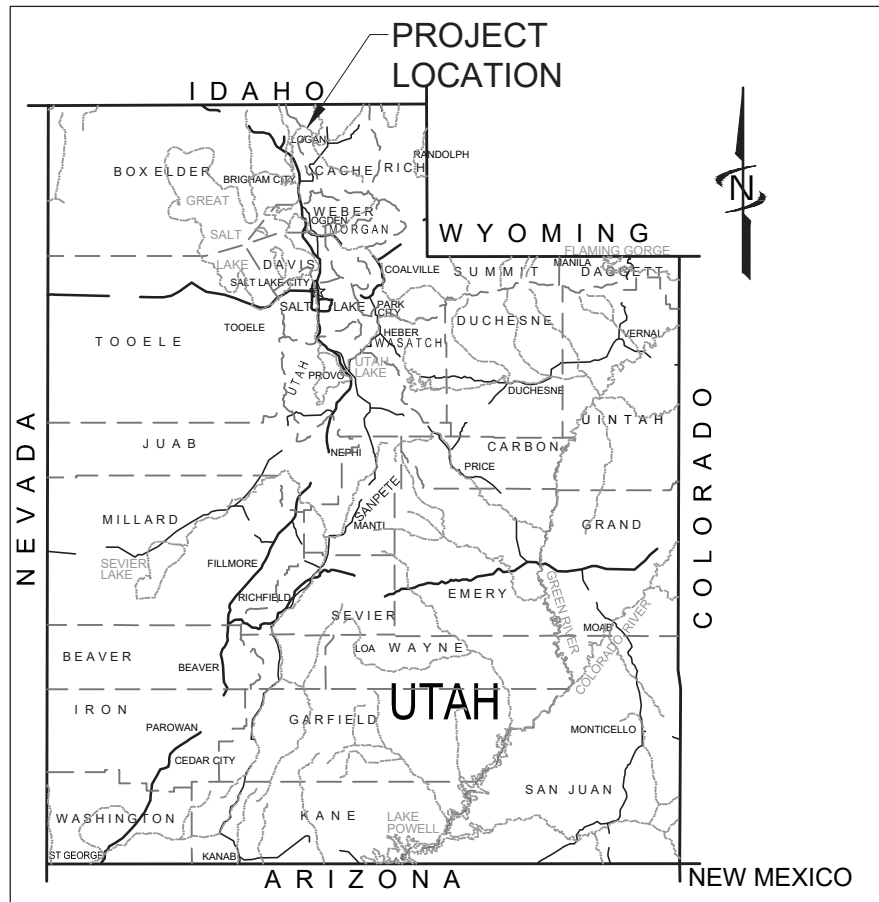


CACHE COUNTY, UTAH

BENSON BRIDGE REHABILITATION

AUGUST 2019



AREA MAP

90%
MILESTONE

INDEX OF SHEETS

GENERAL

- G-001 COVER SHEET
- G-002 GENERAL NOTES

STRUCTURAL

- S-101 SUMMARY AND GENERAL NOTES
- S-102 PLAN AND DETAILS
- S-103 SUPERSTRUCTURE REPAIR DETAILS
- S-104 SUBSTRUCTURE REPAIR DETAILS
- S-105 EXPANSION JOINT REPLACEMENT DETAILS

PROJECT NO. 57-19-001



J-U-B ENGINEERS, INC.

1047 South 100 West, Suite 180, Logan, UT 84321
p 435 713 9514 f 435 713 9503 w www.jub.com

OTHER J-U-B COMPANIES



THE
LANGDON
GROUP



GATEWAY
MAPPING
INC.

NOTICE AND DISCLAIMER

J-U-B grants to CLIENT a nonexclusive, non-transferable license to use the Drawings, Specifications and/or Contract Documents (Documents) as follows:

CLIENT may make and retain copies of the Documents for reference, but J-U-B shall retain all common law, statutory and other reserved rights, including the copyright thereto, and the same shall not be reused on this Project or any other Project without J-U-B's prior written consent. Distribution of Documents to meet regulatory or permitting requirements, or for similar purposes, in connection with the Project, including but not limited to distribution to contractors or subcontractors for the performance of their work, is not to be construed as publication adversely affecting the reserved rights of J-U-B. The Documents are not intended for use in creating dtm for grading or earthwork, survey staking layout (unless specifically identified as such in the documents), or property boundary layouts.

Any reuse without written consent by J-U-B, or without verification or adoption by J-U-B for the specific purpose intended by the reuse, will be at CLIENT's sole risk and without liability or legal exposure to J-U-B. The CLIENT shall release, defend, indemnify, and hold J-U-B harmless from any claims, damages, actions or causes of action, losses, and expenses, including reasonable attorneys' and expert fees, arising out of or resulting from such reuse.

If the Documents are provided in electronic format, the electronic documents are subject to the provisions of J-U-B's "electronic document/data limited license" found at edocs.jub.com.

Plot Date: 8/13/2019 \\LOGAN\PUBLIC\PROJECTS\SUB\CACHE\COUNTY\57-19-001\CACHE\COUNTY_GENERAL_SERVICES\001_ENGINEERING\001_BENSON_BRIDGE\CAD\SHEET\GENERAL\57-19-001_G-001X.DWG

LAST UPDATED: 8/13/2019

SHEET NUMBER:

G-001

GENERAL NOTES

- CACHE COUNTY AND THE ENGINEER HAVE JURISDICTION OVER THIS PROJECT. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND BUSINESS LICENSES PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR DUST ABATEMENT AND ANY LIABILITY ISSUES RELATED TO DUST AT ANY LOCATION WHICH MAY BE CAUSED BY THIS PROJECT.
- ANY WORK DONE WITHIN A PUBLIC RIGHT-OF-WAY SHALL BE COORDINATED WITH THE APPROPRIATE TRANSPORTATION AGENCY AND SHALL MEET THE REQUIREMENTS OF THAT AGENCY AND, IN PARTICULAR, REQUIREMENTS OF ANY RIGHT-OF-WAY SPECIAL USE PERMIT, OR OTHER PERMIT. ALL WORK SHALL MEET CURRENT OSHA REQUIREMENTS.
- WHERE WORK IS PERFORMED ON EASEMENTS, THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO ELIMINATE ANY ADVERSE EFFECTS ON THE ADJACENT PROPERTY AND/OR TO RESTORE IT TO ITS ORIGINAL CONDITION.
- ALL DISTANCES AND DATA SHALL BE CHECKED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. IN CASE OF CONFLICT THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY SO THAT CLARIFICATION MAY BE MADE PRIOR TO THE START OF THE WORK.
- THE CONTRACTOR SHALL ARRANGE FOR, SECURE AND PAY FOR DIRECTLY, ANY AND ALL TEMPORARY UTILITY SUPPLIES (E.G. WATER POWER, AND TELEPHONE) IT MAY REQUIRE FOR PROSECUTION OF ITS WORK. THE COST OF SUCH UTILITIES SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM WITH WHICH IT IS ASSOCIATED.
- SHOULD CONSTRUCTION BE HALTED BECAUSE OF INCLEMENT WEATHER CONDITIONS, THE CONTRACTOR WILL COMPLETELY CLEAN UP ALL AREAS AND MAINTAIN THE SURFACE IN GOOD CONDITION DURING THE SHUT-DOWN PERIOD.
- THE CONTRACTOR'S PERSONNEL, EQUIPMENT, AND OPERATIONS SHALL COMPLY FULLY WITH ALL APPLICABLE STANDARDS, REGULATIONS, AND REQUIREMENTS OF EXISTING FEDERAL, UTAH STATE, AND LOCAL GOVERNMENTAL AGENCIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL LOCAL, STATE, AND FEDERAL PERMITS REQUIRED FOR STORM WATER POLLUTION PREVENTION AS A RESULT OF CONSTRUCTION ACTIVITIES. WHEN CALLED FOR IN THE CONTRACT DOCUMENTS, CONTRACTOR SHALL PREPARE A STORM WATER POLLUTION PREVENTION PLAN FOR APPROVAL BY THE ENGINEER AND FOR SUBMITTAL TO LOCAL AUTHORITIES FOR REVIEW AND APPROVAL. IF THE CONSTRUCTION WILL DISTURB MORE THAN ONE ACRE, CONTRACTOR SHALL FILE A "NOTICE OF INTENT" FOR PERMIT COVERAGE UNDER THE STATE'S UPDES STORM WATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES (UTR300000) AND PAY ALL ASSOCIATED FEES. THE NOI MAY BE OBTAINED ELECTRONICALLY AT THE FOLLOWING WEBSITE:
[HTTP://WWW.DEQ.UTAH.GOV/PERMITS/WATER/UPDES/STORMWATERCON.HTM#BMP](http://www.deq.utah.gov/permits/water/updes/stormwatercon.htm#BMP) AND CLICKING ON THE LINK FOR NOTICE OF INTENT UNDER THE GENERAL CONSTRUCTION HEADING. ONCE THE NOI IS COMPLETED A PERMIT CAN BE OBTAINED BY FOLLOWING THE "ACCESS STORM WATER PERMIT DATABASE" LINK AT THE SAME URL ADDRESS. THE CGP DOES NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH OTHER REGULATIONS OR CONTRACT REQUIREMENTS REGARDING STORM WATER POLLUTION PREVENTION INCLUDING BUT NOT LIMITED TO: PROTECTION OF SURFACE WATERS, PREVENTION OF SOIL RUNOFF INTO DRAINS, DUST CONTROL, PREVENTION OF TRACKING SOILS TO ADJACENT STREETS, FUEL CONTAINMENT, SPILL CONTROL, ETC.
- CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES AND BE RESPONSIBLE FOR DAMAGES TO EXISTING UTILITIES AND EXISTING IMPROVEMENTS AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION ACTIVITIES.

EXISTING UTILITIES

- APPROXIMATE LOCATIONS OF UTILITIES ARE SHOWN ON THE PLANS. THEY ARE TO BE USED FOR GENERAL INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE APPROPRIATE UTILITY COMPANIES WHEN CONSTRUCTION MIGHT INTERFERE WITH NORMAL OPERATION OF ANY UTILITIES. IT SHALL ALSO BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE APPROPRIATE UTILITY COMPANY FIELD-LOCATE ANY UTILITY INSTALLATIONS WHICH MIGHT BE AFFECTED BY CONSTRUCTION PRIOR TO BEGINNING WORK IN THAT AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY UTILITIES DAMAGED DUE TO CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. DEPTHS AND ELEVATIONS OF UTILITIES ARE UNKNOWN UNLESS OTHERWISE SHOWN. CONTRACTOR SHALL FIELD VERIFY UTILITY DEPTHS, ELEVATIONS, ANY DISCREPANCIES AND/OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

INSPECTION AND TESTING

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS TESTING. ALL TESTS SHALL MEET MINIMUM ENGINEER REQUIREMENTS. SEE THE CONTRACT DOCUMENTS AND DRAWINGS FOR FREQUENCY OF TESTING. RESULTS ARE TO BE DELIVERED TO SPECIAL INSPECTOR, OWNER AND ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ENGINEER FOR INSPECTIONS OF WORK AT APPROPRIATE INTERVALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PAY FOR ADDITIONAL INSPECTIONS THAT ARE THE RESULT OF HIS WORKMANSHIP.

CONTACT PHONE NUMBERS

JOSH RUNHAAR	435-755-1640	CACHE COUNTY PROJECT MANAGER
ZAN MURRAY	435-713-9514	J-U-B PROJECT MANAGER
JOEY LAPREVOTE	435-713-9514	J-U-B PROJECT ENGINEER



Know what's below.
Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES



J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC.
1047 South 100 West,
Suite 180
Logan, UT 84321
Phone: 435.713.9514
Fax: 435.713.9503
www.jub.com

90%

MILESTONE

NO.	DESCRIPTION	BY	DATE

BENSON BRIDGE REHABILITATION
CACHE COUNTY, UTAH

STRUCTURAL PRESERVATION PROJECT
STRUCTURE 005031F
GENERAL NOTES

FILE: 57-19-001_001_G-001X
JUB PROJ. #: 57-19-001
DRAWN BY: ALL
DESIGN BY: JPL
CHECKED BY: AJC

LAST UPDATED: 8/13/2019
SHEET NUMBER:

G-002



J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC.
1047 South 100 West,
Suite 180
Logan, UT 84321
Phone: 435.713.9514
Fax: 435.713.9503
www.jub.com

90%

MILESTONE

NO.	DESCRIPTION	BY	DATE

BEENSON BRIDGE REHABILITATION
CACHE COUNTY, UTAH

STRUCTURAL PRESERVATION PROJECT
STRUCTURE 005031F
SUMMARY AND GENERAL NOTES

FILE: 57-19-001_001_S-101
JUB PROJ. #: 57-19-001
DRAWN BY: ALL
DESIGN BY: JPL
CHECKED BY: AJC

ONE INCH
AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY
LAST UPDATED: 8/13/2019

SHEET NUMBER:

S-101

QUANTITIES

STRUCTURE NUMBER	STRUCTURE NAME	REINFORCING STEEL - COATED*	STRUCTURAL CONCRETE (LS)	BRIDGE DECK JOINT CLOSURE	THIN BONDED POLYMER OVERLAY, TYPE I	BENT CAP REPAIR	DIAPHRAGM REPAIR	GIRDER END REPAIR	PARAPET REPAIR	CRACK REPAIR	STRIP SEAL EXPANSION JOINT MODIFICATION
		LB	CU YD	FT	SQ FT	EACH	EACH	EACH	FT	FT	FT
005031F	BEAR RIVER BRIDGE, NORTH OF BENSON	280	71	68	6110	2	10	8	126	150	68

* REINFORCING STEEL QUANTITY IS FOR REPLACEMENT OF DETERIORATED DECK REINFORCEMENT. ESTIMATED QUANTITY SHOWN. SEE SECTION 03545.

INDEX OF SHEETS

- SUMMARY AND GENERAL NOTES
- PLAN AND DETAILS
- SUPERSTRUCTURE REPAIR DETAILS
- SUBSTRUCTURE REPAIR DETAILS
- EXPANSION JOINT REPLACEMENT AND CLOSURE DETAILS

DESIGN DATA

PRESERVATION WORK ONLY. NO DESIGN CHECKS PERFORMED.

STRUCTURAL CONCRETE

ALL LOCATIONS UNLESS INDICATED OTHERWISE: 145 PCF $f'c = 4.0$ KSI $n = 8$ CLASS AA(AE)

STRUCTURAL CONCRETE - LOW SHRINKAGE

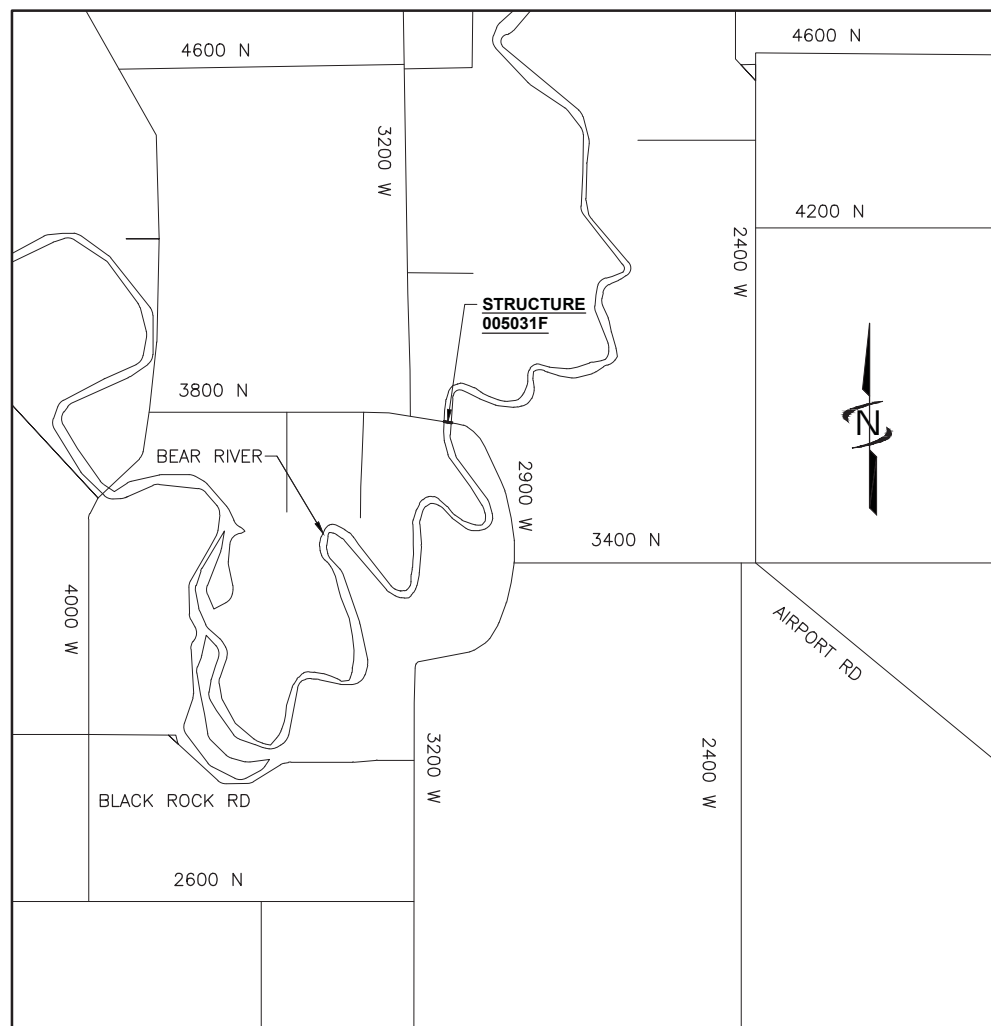
DECK: 145 PCF $f'c = 4.0$ KSI $n = 8$ CLASS AA(LS)

REINFORCING STEEL

ALL LOCATIONS UNLESS INDICATED OTHERWISE $f_y = 60$ KSI

GENERAL NOTES

- USE COATED DEFORMED CARBON STEEL BARS CONFORMING TO AASHTO M111 OR ASTM A775, AND AASHTO M31 GRADE 60, UNLESS SHOWN OTHERWISE.
- CHAMFER EXPOSED CONCRETE CORNERS 3/4 INCH UNLESS SHOWN OTHERWISE.
- PROVIDE 2 INCH MINIMUM CONCRETE COVER TO REINFORCING STEEL UNLESS SHOWN OTHERWISE.
- VERIFY UTILITY LOCATIONS BEFORE CONSTRUCTION. PROTECT EXISTING UTILITIES IN PLACE UNLESS SHOWN OTHERWISE.
- RE-ESTABLISH PAVEMENT MARKING PAINT THAT IS DAMAGED OR REMOVED DURING WORK ON STRUCTURES. MATCH EXISTING PAINT LINE CONFIGURATIONS. DO NOT GRIND IN PAINT ON STRUCTURES.
- DIMENSIONS SHOWN ARE BASED ON AS BUILT DRAWINGS AND A SITE SURVEY. VERIFY ALL DIMENSIONS BEFORE FABRICATION OF HARDWARE OR COMPONENTS REQUIRED FOR PRESERVATION. COMPLETE VERIFICATION BEFORE BEGINNING CONSTRUCTION.
- DO NOT SCALE DRAWINGS. HORIZONTAL DIMENSIONS ARE PLAN. VERTICAL DIMENSIONS ARE PLUMB.



005031F LOCATION PLAN

90%

MILESTONE

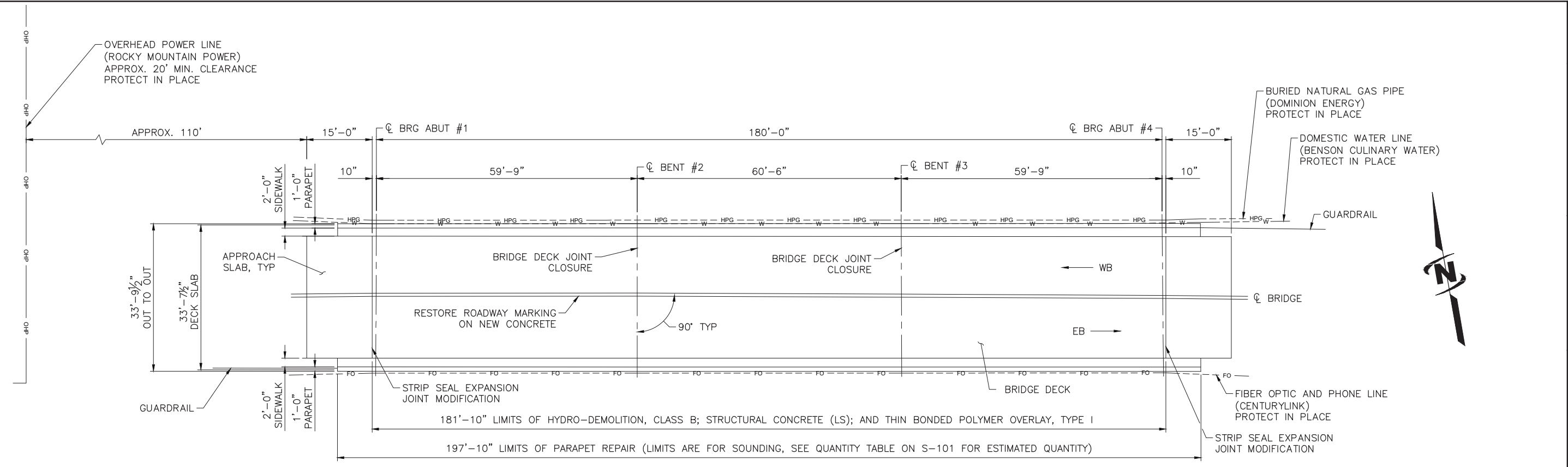
NO.	REVISION	DATE

BENSON BRIDGE REHABILITATION
CACHE COUNTY, UTAH
STRUCTURAL PRESERVATION PROJECT
STRUCTURE 005031F
PLAN AND DETAILS

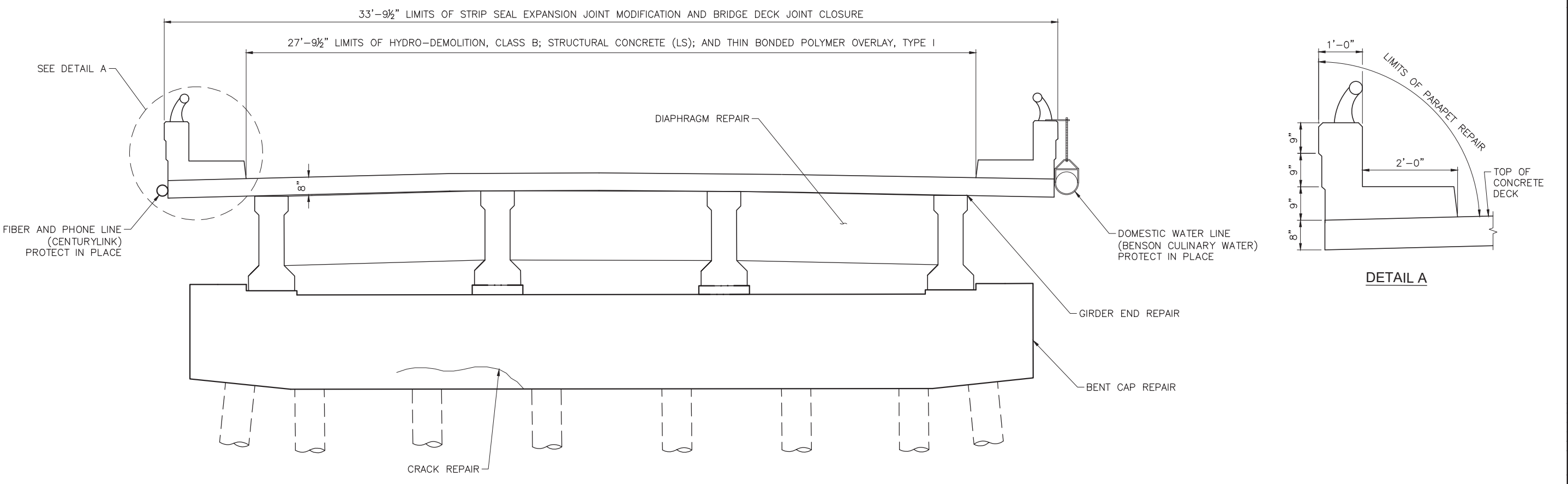
FILE: 57-19-001_001_S-102
JUB PROJ #: 57-19-001
DRAWN BY: ALL
DESIGN BY: JPL
CHECKED BY: AJC

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY
LAST UPDATED: 8/13/2019

SHEET NUMBER:
S-102



005031F PLAN



TYPICAL SECTION

Plot Date: 8/13/2019 3:56 PM, Plotted By: Adam Lambert
 Date Created: 8/13/2019 11:00 AM, PROJECT: JUB/CACHE COUNTY/57-19-001, CACHE COUNTY GENERAL SERVICES/001 ENGINEERING/001 BENSON BRIDGE/CAD SHEET/STRUCTURAL/S-102.DWG

NO.	DESCRIPTION	BY	DATE

REUSE OF DRAWINGS INCORPORATED
 THIS DOCUMENT AND THE DRAWINGS INCORPORATED
 HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS THE
 PROPERTY OF JUB ENGINEERS, INC. AND IS NOT TO BE USED, IN
 WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE EXPRESS
 WRITTEN AUTHORIZATION OF JUB ENGINEERS, INC.

**BENSON BRIDGE REHABILITATION
 CACHE COUNTY, UTAH**

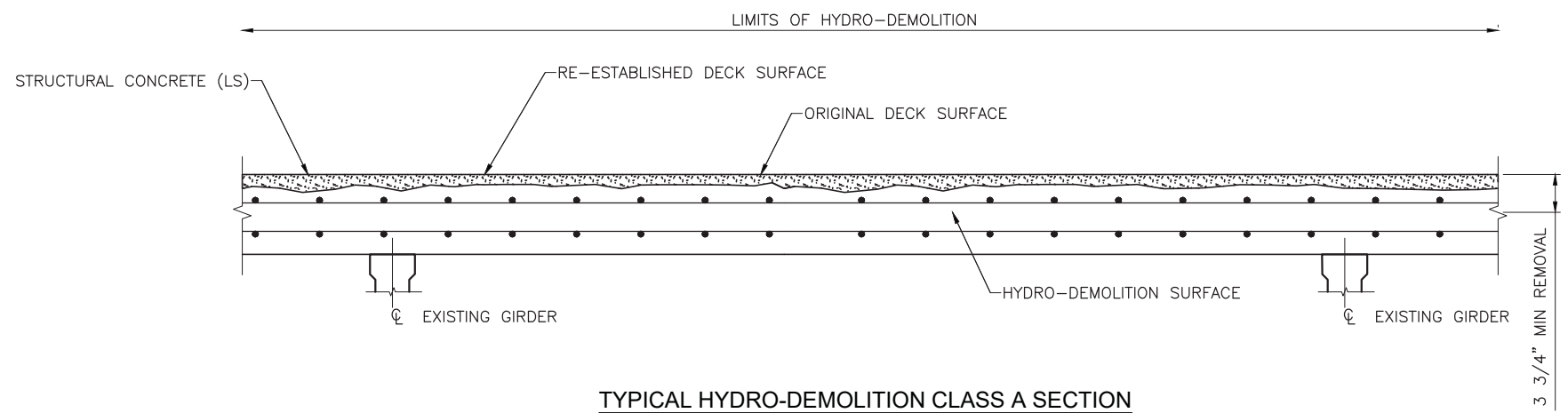
STRUCTURAL PRESERVATION PROJECT
 STRUCTURE 005031F
 SUPERSTRUCTURE REPAIR DETAILS

FILE: 57-19-001_001_S-103
 JUB PROJ. #: 57-19-001
 DRAWN BY: ALL
 DESIGN BY: JPL
 CHECKED BY: AJC

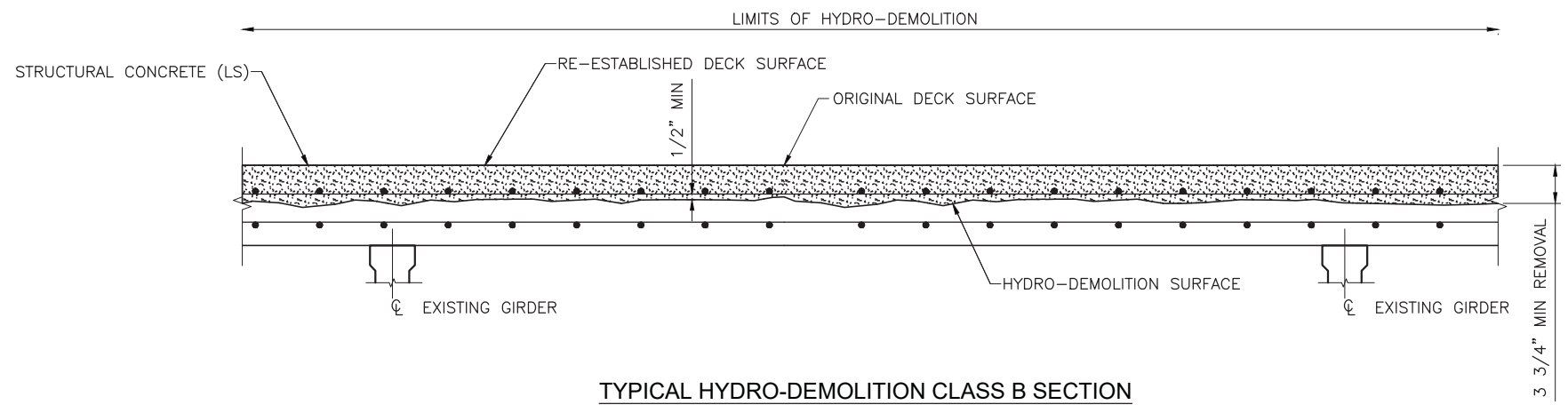
ONE INCH
 AT FULL SIZE, IF NOT ONE
 INCH, SCALE ACCORDINGLY

LAST UPDATED: 8/13/2019

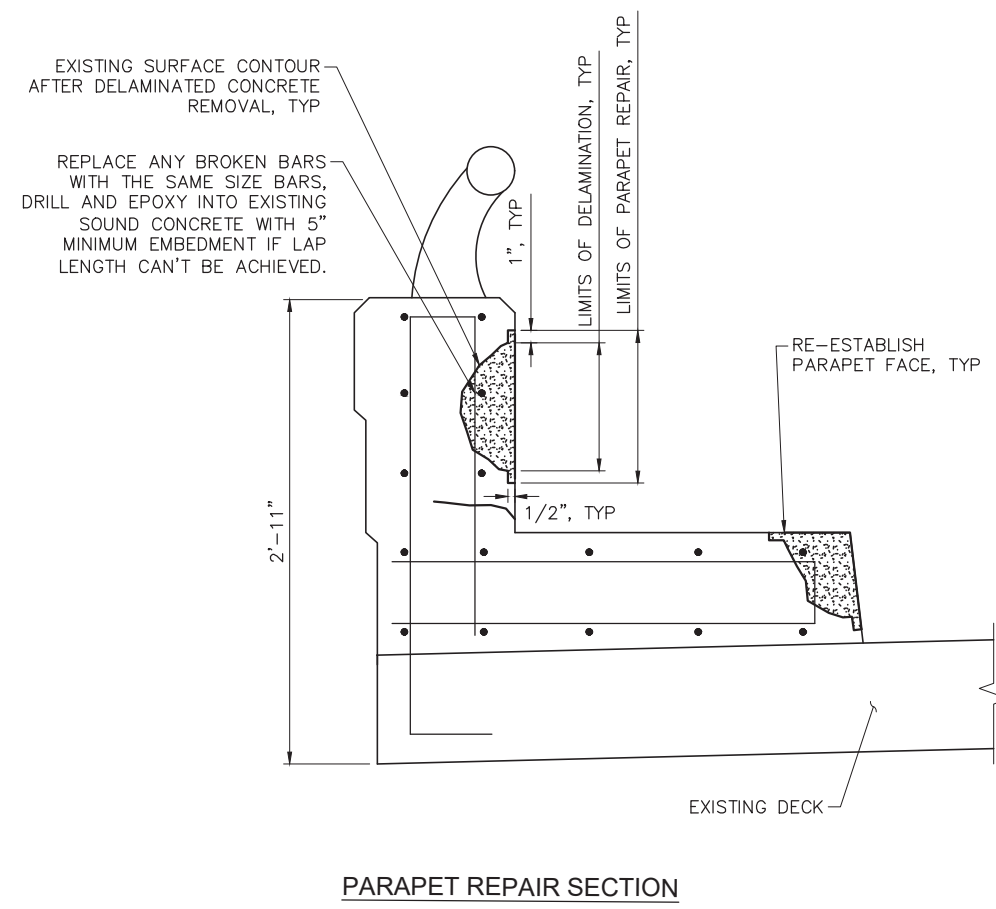
SHEET NUMBER:
S-103



TYPICAL HYDRO-DEMOLITION CLASS A SECTION



TYPICAL HYDRO-DEMOLITION CLASS B SECTION



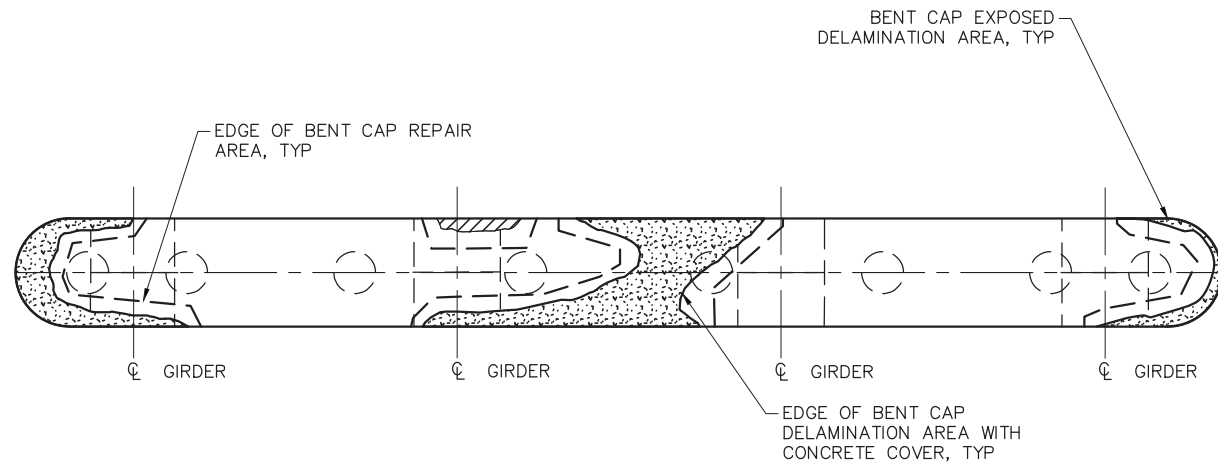
PARAPET REPAIR SECTION

NOTES

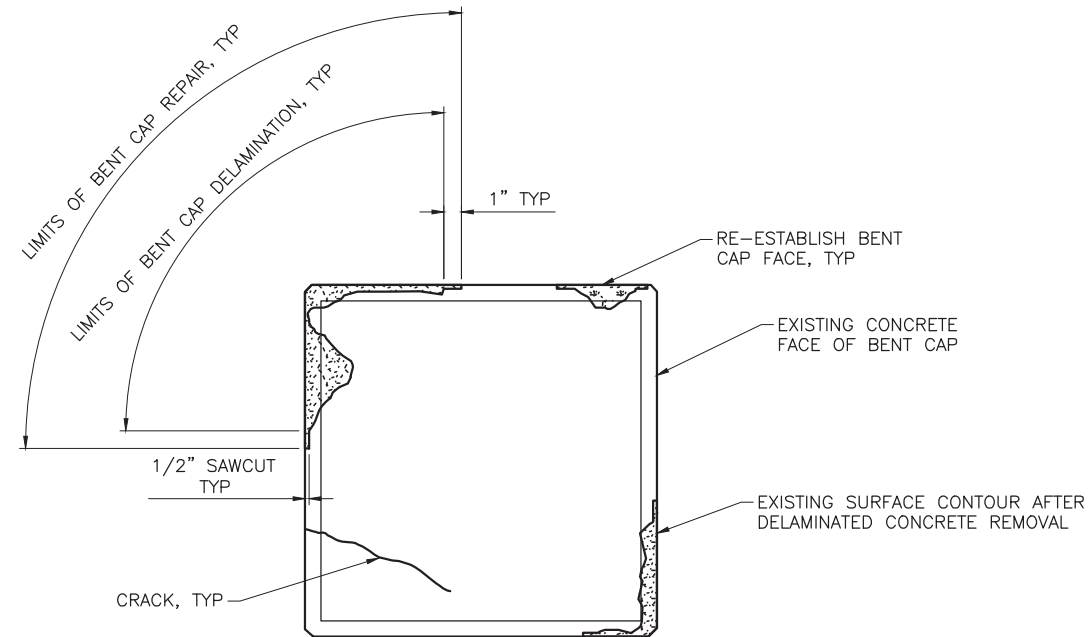
1. DETAILS SHOWN ARE SCHEMATIC IN NATURE, ARE SHOWN FOR ILLUSTRATIVE PURPOSES, AND DO NOT REPRESENT ACTUAL CONDITIONS.
2. KEEP THE EXPOSED REINFORCING STEEL AND CONCRETE SURFACE CLEAN OF ALL DIRT, DUST, ETC., UNTIL NEW CONCRETE HAS BEEN PLACED.
3. CONTACT THE ENGINEER IF THE TOP MAT OF REINFORCEMENT IS NOT ENCOUNTERED WITHIN THE DEPTH OF REMOVAL SHOWN. ADDITIONAL REMOVAL BY HAND METHODS MAY BE REQUIRED.

Plot Date: 8/13/2019 3:56 PM, Plotted By: Adam Lambert
 Date Created: 8/13/2019 1:02:19 PM, Project: \\\\LOGAN\PUBLIC\PROJECTS\JUB\CACHE COUNTY\57-19-001 - CACHE COUNTY GENERAL SERVICES\001 ENGINEERING\001 BENSON BRIDGE\CAD\SHETS\STRUCTURAL\57-19-001_S-103.DWG

NO.	REVISION	DESCRIPTION	BY	DATE

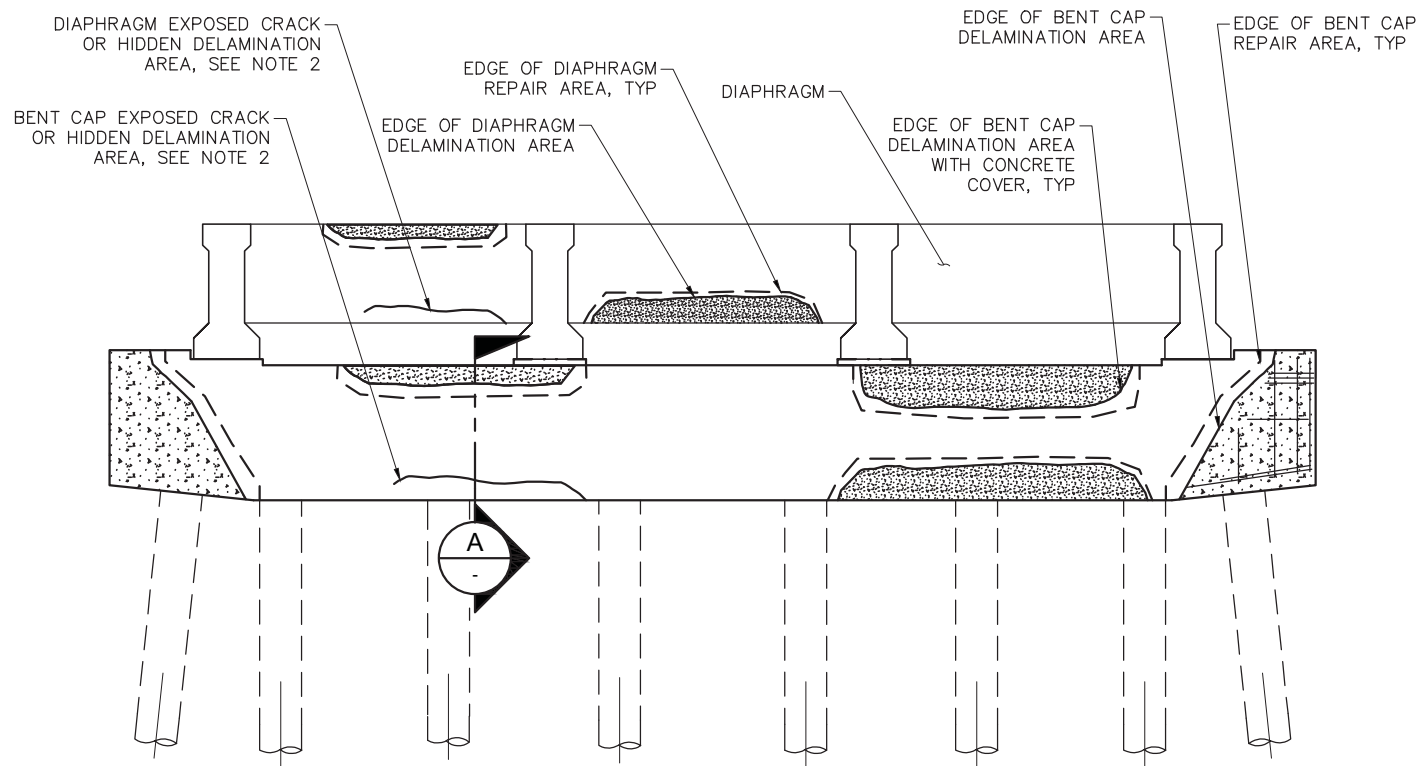


BENT CAP REPAIR PLAN

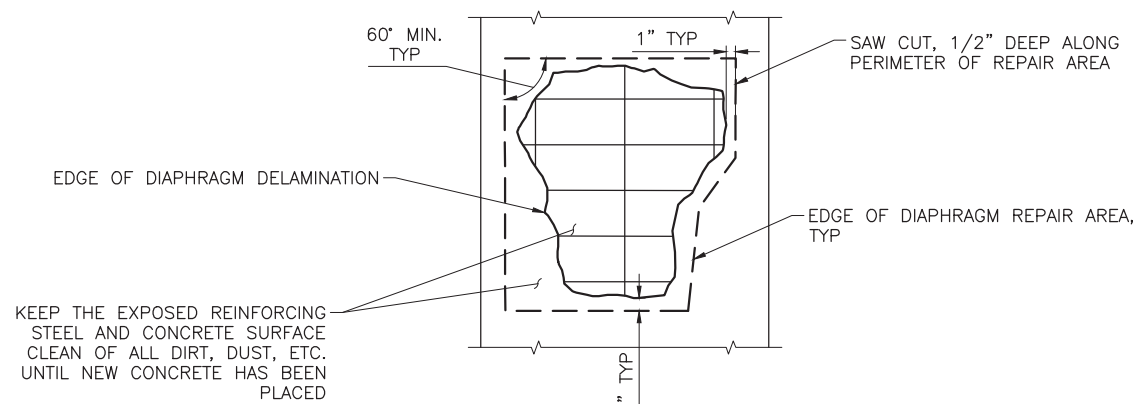


**SECTION A
 BENT CAP REPAIR DETAIL**

EXPECTED DELAMINATION REPAIR		
GENERAL LOCATION	SPECIFIC LOCATION	REPAIR AREA
BENT #1	BENT CAP	5%
BENT #1	DIAPHRAGMS	25%
BENT #2	BENT CAP	10%
BENT #2	DIAPHRAGMS	25%



BENT REPAIR ELEVATION



**REPAIR DETAIL
 DIAPHRAGM SHOWN, BENT CAP SIMILIAR**

NOTES

1. DETAILS SHOWN ARE SCHEMATIC IN NATURE. THEY ARE SHOWN FOR ILLUSTRATIVE PURPOSES, AND DO NOT REPRESENT ACTUAL CONDITIONS.
2. EPOXY INJECTION OF ISOLATED CRACKS REQUIRED.

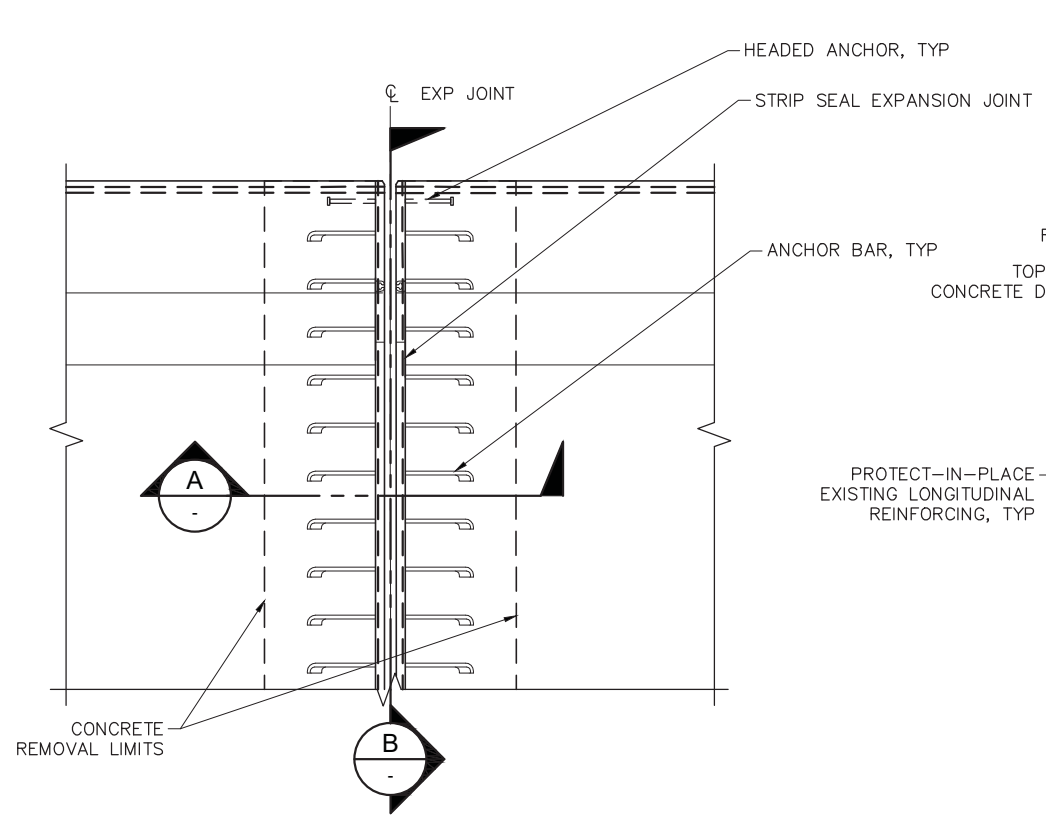
NO.	DESCRIPTION	BY	DATE

REUSE OF DRAWINGS INCORPORATED
 HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS THE
 PROPERTY OF J-U-B ENGINEERS, INC. AND IS NOT TO BE USED IN
 WHOLE OR PART FOR ANY OTHER PROJECT WITHOUT THE EXPRESS
 WRITTEN AUTHORIZATION OF J-U-B ENGINEERS, INC.

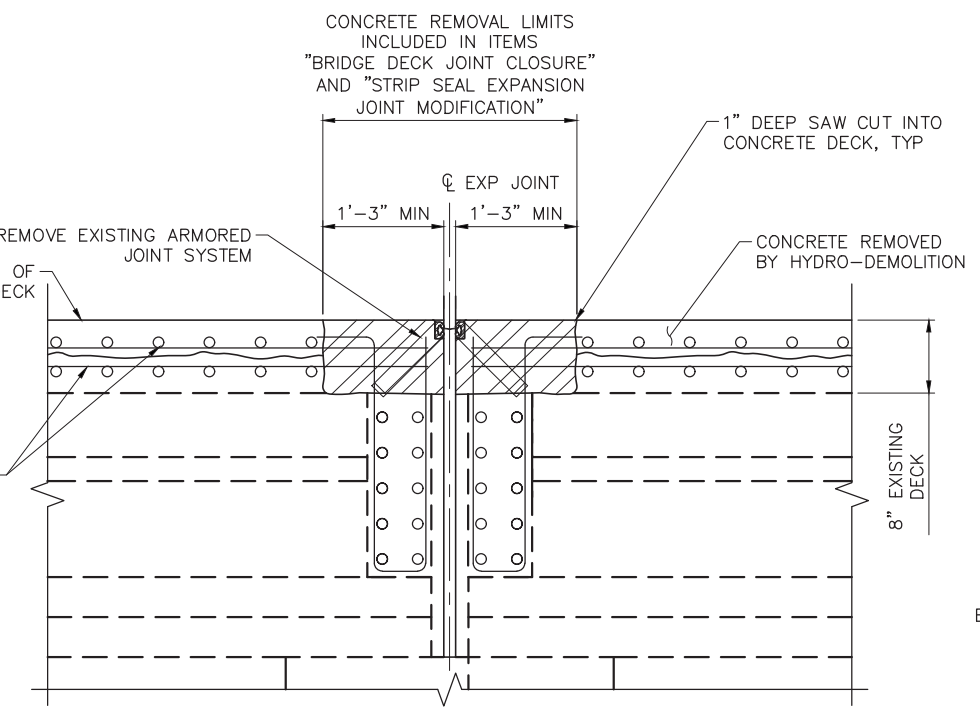
FILE: 57-19-001_001_S-105
 JUB PROJ #: 57-19-001
 DRAWN BY: ALL
 DESIGN BY: JPL
 CHECKED BY: AJC

ONE INCH
 AT FULL SIZE, IF NOT ONE
 INCH, SCALE ACCORDINGLY
 LAST UPDATED: 8/13/2019

SHEET NUMBER:
S-105



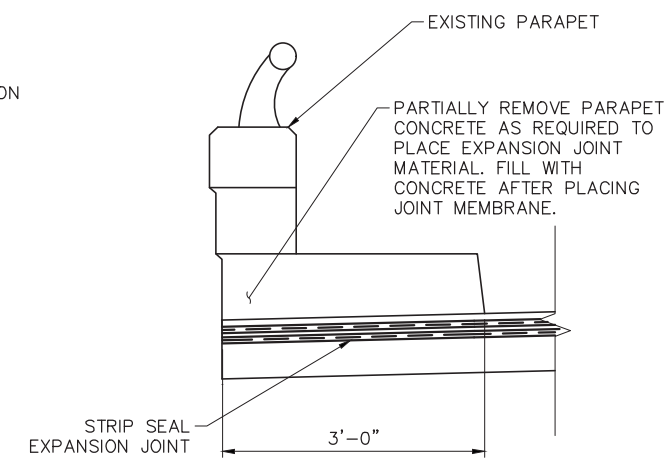
PLAN



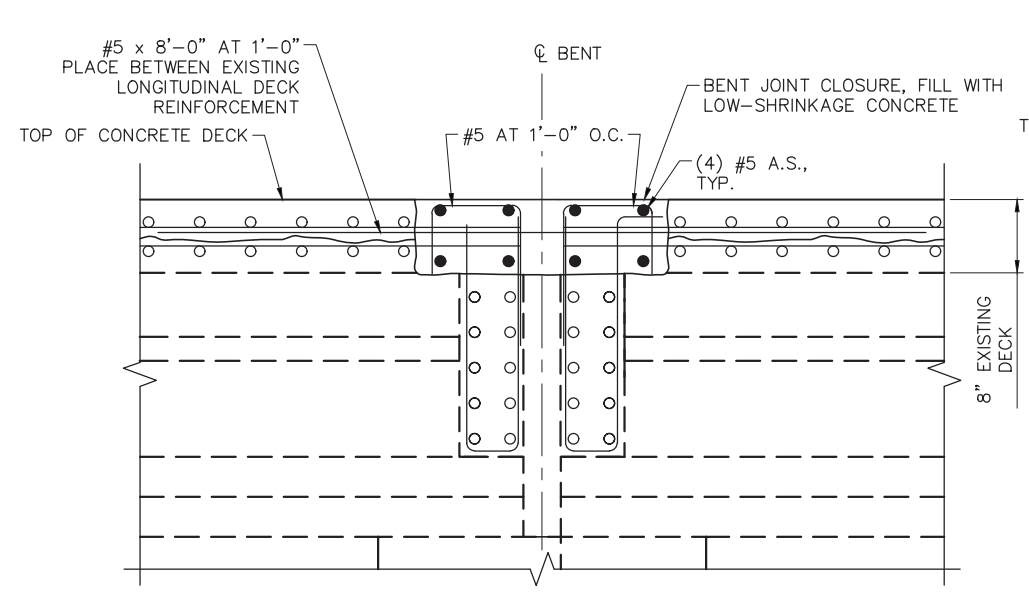
SECTION A

STRIP SEAL EXPANSION JOINT REMOVAL

REQUIRED FOR ITEMS "BRIDGE DECK JOINT CLOSURE" AND "STRIP SEAL EXPANSION JOINT MODIFICATION" JOINT AT BENT SHOWN. JOINT AT ABUTMENT SIMILAR. ALL REINFORCING IS EXISTING EXCEPT AS NOTED.



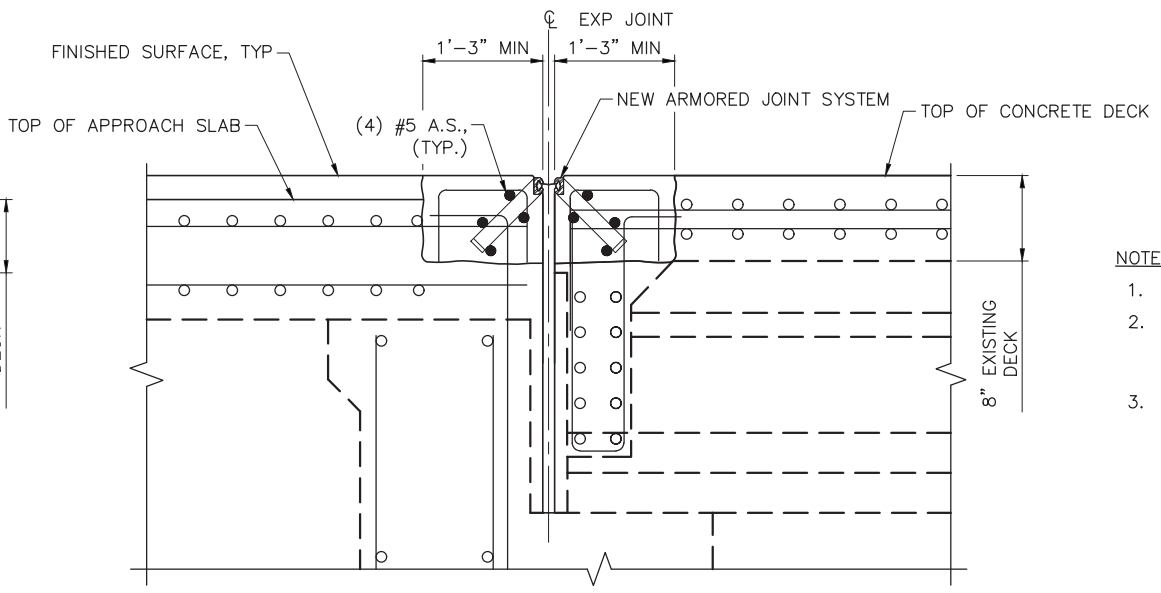
SECTION B



SECTION A

BRIDGE DECK JOINT CLOSURE AT BENT

ALL REINFORCING IS EXISTING EXCEPT AS NOTED.



SECTION A

STRIP SEAL EXPANSION JOINT MODIFICATION AT ABUTMENT

ALL REINFORCING IS EXISTING EXCEPT AS NOTED.

NOTES

1. REMOVE CONCRETE TO BREAK LINES SHOWN.
2. FORM THE NEW JOINT WITH RIGID PLASTIC FOAM OR OTHER APPROVED MATERIAL. COMPLETELY REMOVE MATERIAL FROM JOINT BEFORE INSTALLATION OF JOINT GLAND.
3. CONTACT THE ENGINEER IF EXISTING REINFORCEMENT VARIES FROM REINFORCEMENT SHOWN.

Plot Date: 8/13/2019 3:57 PM, Plotted By: Adam Lambert, Date Created: 8/13/2019, \\LOGAN\PUBLIC\PROJECTS\JUB\CACHE\CACHE COUNTY\57-19-001_CACHE COUNTY\57-19-001_S-105.DWG