



SECTION THRU DIAPHRAGM

JACKING NOTES:

THE JACKING SET-UP SHOWN IS AN EXAMPLE ONLY. THE CONTRACTOR SHALL DEVELOP JACKING PLANS SPECIFIC TO THE BRIDGE CONSTRUCTION, MATERIALS, DIMENSIONS, AND ORIENTATION. THE CONTRACTOR SHALL SUBMIT JACKING PLANS AND CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA FOR REVIEW AND APPROVAL PRIOR TO MATERIAL PURCHASE OR FABRICATION OF THE JACKING SYSTEM.

THE CONTRACTOR SHALL JACK ALL GIRDERS IN A SPAN ON AN INDIVIDUAL BENT SIMULTANEOUSLY BY MEANS OF A DUAL-FLOW PRESSURIZED PUMP CONTROLLING THE JACKS. ALTERNATIVELY, JACKING OF INDIVIDUAL GIRDERS MAY BE ALLOWED, PROVIDED THE ELEVATION DIFFERENCE FROM THE JACKED GIRDER TO ADJACENT GIRDER(S) DOES NOT EXCEED 1/8\".

THE SPAN SHALL BE LIFTED ENOUGH THAT THE BEAMS CLEAR THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE, THE CONTRACTOR SHALL PROVIDE A METHOD TO SUPPORT THE SPAN FOR DEAD AND LIVE LOADS, REMOVE THE JACKS DURING BEAM REPAIR, OR IF JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION, JACKS SHALL HAVE MECHANICAL LOCK OFF CAPABILITIES.

THE CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL JACKS AS NECESSARY. A BLOCKING PLAN SHALL BE INCLUDED AS PART OF THE JACKING PLAN

PRIOR TO BRIDGE JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE SPAN FROM BEING LIFTED. THIS WAY INCLUDE BUT NOT LIMITED TO METAL RAILINGS AND UTILITIES.

THE CONTRACTOR MAY NEED TO REINFORCE EXISTING BRIDGE MEMBERS OR ADD MEMBERS TO WITHSTAND THE JACKING FORCES.

PROVISIONS SHALL BE MADE TO ACCOUNT FOR THERMAL MOVEMENTS OR LATERAL FORCES SUCH AS WIND LOADS DURING THE PERIOD THAT THE STRUCTURE IS RESTING ON THE TEMPORARY SUPPORTS.

ALL JACKS AND JACKING SUPPORTS SHALL BE PLUMB.

EACH HYDRAULIC JACK SHALL HAVE A RATED CAPACITY CLEARLY SHOWN, WITH MINIMUM RATED CAPACITY OF 1.3 TIMES THE CALCULATED LOAD REACTION ADJACENT TO THE POINT FOR JACKING.

JACKS WITHOUT A MECHANICAL LOAD HOLDER (LOCK-OFF) SHALL BE SECURED BY BLOCKING IF THE JACKING OPERATION IN ANY ONE LOCATION LASTS LONGER THAN 30 MINUTES.

HYDRAULIC SYSTEM SHALL BE CONNECTED SUCH THAT ALL JACKS LIFT SIMULTANEOUSLY.

LIFTING FRAME SHALL EXTEND BEYOND THE LENGTH OF THE LIFTED SPAN AND PROVIDE BEARINGS AT THE SAME LOCATION AS THE ADJACENT GIRDER BEARINGS.

CONTRACTOR SHALL SHIM BRIDGE SPAN DURING JACKING SUCH THAT THE MAXIMUM UNSHIMMED LIFT IS 1\".

CONTRACTOR SHALL PROVIDE SPAN LIFT POINTS AS CLOSE AS POSSIBLE TO THE FACE OF BENT CAP.

IF DURING THE JACKING PROCESS OF WHILE THE SPAN IS BEING SUPPORTED, THE BEAMS SHIFT FROM THEIR ORIGINAL POSITION, ALL WORK SHALL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

ALL ADJACENT BEARINGS OF BEAMS NOT BEING JACKED MAY BE LOOSENED TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARING LOOSENED SHALL BE TIGHTENED BACK AFTER THE BEAMS ARE REPAIRED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

PRIOR TO INSTALLING BEARING PEDESTALS AND NEW BEARINGS, CONTRACTOR SHALL MAKE ANY REPAIRS TO BENTS AS REQUIRED IN THE CONTRACT DOCUMENTS.

FOR BEAM REPAIR DETAILS, SEE "BEAM END REPAIR DETAILS" AND "BEAM PLATING REPAIR DETAILS" SHEETS.

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO STEEL FABRICATION.

CONTRACTOR SHALL ENSURE THAT EXISTING UTILITIES ADJACENT TO THE BRIDGE ARE NOT DAMAGED DURING THE REPAIR OPERATIONS.

PAYMENT OF JACKING WILL BE MADE AT THE LUMP SUM PRICE BID FOR "BRIDGE JACKING". SUCH LUMP SUM PRICE WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PROJECT NO. I-5889A

BUNCOMBE COUNTY

BRIDGE NO. 334, 339, 344, 347,
352, 356, 358, 366,
369, 374, 377, 378



DocuSigned by:
Eric B. Nelson 11/20/2017
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JACKING DETAILS

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S-207

TOTAL SHEETS
208

DRAWN BY : J. BOYER DATE : 10/2017
CHECKED BY : R. NELSON DATE : 10/2017

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DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED