

SECTION THRU DIAPHRAGM

**BRIDGE JACKING NOTES:**

THIS DETAIL IS A GENERIC EXAMPLE OF A JACKING SCHEME AND DOES NOT NECESSARILY REPRESENT SPECIFIC CONDITIONS AT A PARTICULAR BRIDGE. ACTUAL BRIDGE GEOMETRIES, DIMENSIONS, AND CONDITIONS MAY DIFFER FROM THIS DETAIL. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL INVESTIGATE THE BRIDGES ON THE PROJECT AND DEVELOP A JACKING PLAN TO BE SUBMITTED FOR REVIEW AND APPROVAL. SEE BRIDGE JACKING SPECIAL PROVISION.

PRIOR TO BRIDGE JACKING OPERATIONS, THE ENGINEER AND CONTRACTOR SHALL INSPECT THE STRUCTURE FOR ANY NOTABLE DEFECTS TO THE PRIMARY AND SECONDARY STRUCTURAL MEMBERS. ALL NOTABLE DEFECTS SHALL BE DOCUMENTED AND REPORTED TO THE AREA BRIDGE MAINTENANCE ENGINEER PRIOR TO COMMENCEMENT OF ANY BRIDGE JACKING. THE CONTRACTOR SHALL PROVIDE SAFE AND SUFFICIENT ACCESS TO ALL STRUCTURAL MEMBERS FOR THE ENGINEER TO ESTABLISH PROPER DOCUMENTATION.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE BEAM FROM BEING LIFTED.

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

IF, DURING THE JACKING PROCESS, OR WHILE THE BEAM IS BEING SUPPORTED, THE BEAM SHIFTS FROM ITS ORIGINAL POSITION, ALL WORK SHALL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

BEARINGS ADJACENT TO THE BEAM BEING JACKED MAY BE LOOSENED TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSENED SHALL BE TIGHTENED BACK AFTER REPAIR OPERATIONS ARE COMPLETED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

THE MAXIMUM DIFFERENTIAL BETWEEN ADJACENT BEAMS THAT ARE BEING JACKED IS 1/8".

LOADS PROVIDED IN THE "BRIDGE JACKING TABLE" ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR'S ENGINEER SHALL DETERMINE THE EXPECTED LOADS TO BE LIFTED DURING THE BRIDGE JACKING OPERATIONS.

THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND CALCULATIONS OF THE JACKING PROCEDURE(S) SEALED BY A PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA TO THE ENGINEER FOR APPROVAL PRIOR TO BRIDGE JACKING OPERATIONS.

FOR TYPE I OR TYPE II BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR WORKING DRAWING SUBMITTALS, SEE SPECIAL PROVISIONS.

ANY STEEL THAT HAS BEEN WELDED TO THE EXISTING STRUCTURE SHALL REMAIN IN PLACE.

TYPE II BRIDGE JACKING SHALL BE DONE WITH A HYDRUALIC JACKING SYSTEM THAT LIFTS EACH BEAM ALONG ENTIRE SPAN END WITH EQUAL FORCE AND AT AN EQUAL RATE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED TO THE EXISTING STRUCTURE BY BRIDGE JACKING OPERATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.

BRIDGES: 170171, 170172, 480006, 480007, 480123, 480124

PROJECT NO. I-5915B  
 CATAWBA/IREDELL COUNTY  
 BRIDGE NO. MULTIPLE

<b>BRIDGE NO: 170171</b>					
<b>BRIDGE JACKING TABLE</b>					
SPAN	BEAM(S)	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)	LL & DL (IMPACT) (DC+DW) (KIPS)	MINIMUM JACK CAPACITY (LL & DL) (TONS)
1&3	INTERIOR	TYPE I	21.8	140.0	100
1&3	EXTERIOR	TYPE I	18.9	88.0	75

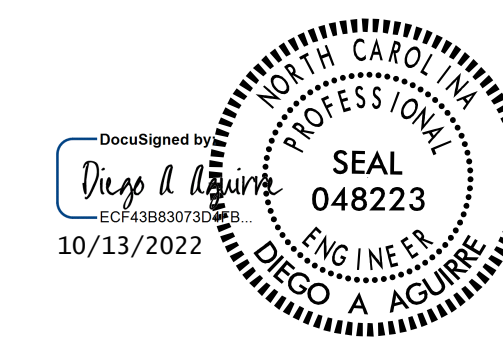
<b>BRIDGE NO: 170172</b>					
<b>BRIDGE JACKING TABLE</b>					
SPAN	BEAM(S)	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)	LL & DL (IMPACT) (DC+DW) (KIPS)	MINIMUM JACK CAPACITY (LL & DL) (TONS)
1&3	INTERIOR	TYPE I	27.1	159.0	100
1&3	EXTERIOR	TYPE I	23.9	101.8	75

<b>BRIDGE NO: 480006</b>					
<b>BRIDGE JACKING TABLE</b>					
SPAN	BEAM(S)	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)	LL & DL (IMPACT) (DC+DW) (KIPS)	MINIMUM JACK CAPACITY (LL & DL) (TONS)
1-6	INTERIOR	TYPE I	56.5	290.0	165
1-6	EXTERIOR	TYPE I	47.8	229.6	135

<b>BRIDGE NO: 480007</b>					
<b>BRIDGE JACKING TABLE</b>					
SPAN	BEAM(S)	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)	LL & DL (IMPACT) (DC+DW) (KIPS)	MINIMUM JACK CAPACITY (LL & DL) (TONS)
1&6	INTERIOR	TYPE I	56.5	290.0	165
1&6	EXTERIOR	TYPE I	47.8	229.6	135

<b>BRIDGE NO: 480066</b>					
<b>BRIDGE JACKING TABLE</b>					
SPAN	BEAM(S)	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)	LL & DL (IMPACT) (DC+DW) (KIPS)	MINIMUM JACK CAPACITY (LL & DL) (TONS)
1&3	INTERIOR	TYPE I	20.6	116.2	80
1&3	EXTERIOR	TYPE I	17.0	89.5	65

<b>BRIDGE NO: 480123</b>					
<b>BRIDGE JACKING TABLE</b>					
SPAN	BEAM(S)	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)	LL & DL (IMPACT) (DC+DW) (KIPS)	MINIMUM JACK CAPACITY (LL & DL) (TONS)
1&3	INTERIOR	TYPE I	20.6	112.4	75
1&3	EXTERIOR	TYPE I	16.1	86.2	65



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE JACKING DETAILS					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S8
					TOTAL SHEETS 9

DRAWN BY : DIEGO A. AGUIRRE DATE : 01/2022  
 CHECKED BY : JACOB H. DUKE DATE : 01/2022  
 DESIGN ENGINEER OF RECORD: DIEGO A. AGUIRRE DATE : 01/2022

10/13/2022  
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DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED