R.L. Spence

NOTES FOR BRIDGE CROSSING (BAY RIVER)

1. Openings for steel pipe sleeves in end curtain walls are to be made in a neat and workmanlike manner.

2. Openings for steel pipe sleeves are to be a maximum of 2" larger than the outside diameter of steel pipe sleeves.

3. Openings for steel pipe sleeves are to be made with an electric power drill only; no hammer of any type is to be used.

4. Openings between end curtain walls and steel pipe sleeves are to be filled with non-shrinking grout, finished to conform in color with existing concrete, and rubbed smooth and flush with the existing concrete.

5. The steel pipe sleeves are to be flush with both faces of the end curtain walls. The ends of the sleeves are to be ground off smooth: Care should be taken not to damage faces of end curtain walls.

6. All exposed metallic material, that is not galvanized or aluminum, attached to a structure is to be given one coat of approved red lead paint on all surfaces. If the structure has reinforced concrete girders or structural steel beams or girders which are painted aluminum, then all exposed metallic material not galvanized or aluminum shall be painted on all surfaces with two coats of approved aluminum paint. If the structural steel has been painted a color other than aluminum, then all exposed metallic material not galvanized or aluminum shall be painted on all surfaces with two coats of approved paint of a color to conform with that of the structural steel.

7. An approved type link seal, lock seal or any similar modular wall and casing seal of rubber or similar material is to be placed around the main between the main and steel pipe sleeves in the end curtain walls and tightened by bolts to furnish stray current protection for the bridge and to waterproof the openings. A 2 inch recess is to be left at each face of the end curtain walls and is to be filled with an approved mastic or plastic caulking compound to conform in color with that of the existing concrete and finishing smooth and flush with the existing concrete. In the event the seal is not of a sufficient length to fill all of the opening except for the 2 inch recesses, the remaining portion of the opening shall be filled with jute prior to placing the mastic or plastic caulking compound in the 2 inch recesses.

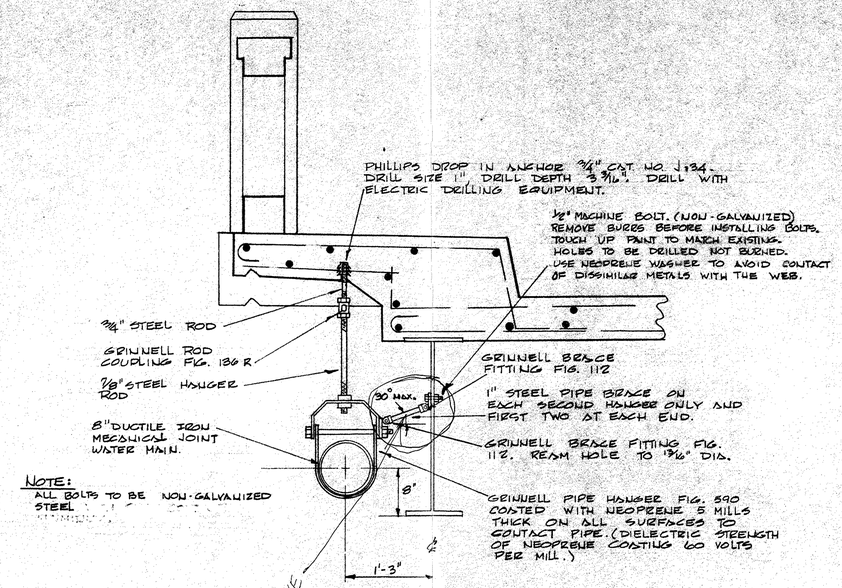
8. Holes for expansion anchors to be made with electric drill. Maximum size of drill to be 1". Holes for expansion anchors are to be drilled, squared and aligned as approved, as no over size drilling will be allowed, nor will any redrilling be allowed except when reinforcing steel is encountered. If reinforcing steel is encountered, the drilling operation is to be stopped and resumed at a location 3" from either side of the existing hole, but not at a distance to exceed the maximum allowable space. Any existing holes due to encountering reinforcing steel are to be thoroughly filled with a 1:3 portland grout and finished smooth and flush with the existing concrete. Depth of drill to be 3 3/16".

9. Approved expansion anchors and hanger assemblies are to be placed on 8' maximum centers (except where indicated otherwise).

10. Contractor shall provide approximately 180 feet of 8 inch ductile cast iron pipe for crossing. The pipe shall be in accordance with AWWA Standard C 151, thickness class 52. Mechanical joints shall be in accordance with AWWA C 111. All pipe shall be coated outside with bituminous material and inside with a cement mortar lining in accordance with AWWA C 104.

Insulation shall be one inch minimum thickness fiberglass with a waterproof aluminum lock joint jacket. All joints in the jacket shall be sealed. Pipe shall be 9.05 inches O.D., 0.33 inch wall thickness.

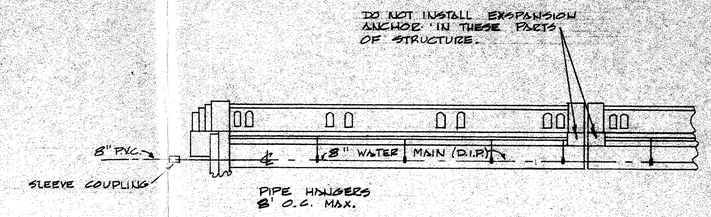
11. Ductile Iron pipe shall be connected to PVC pipe with sleeve couplings approximately 8 feet from end curtain walls.



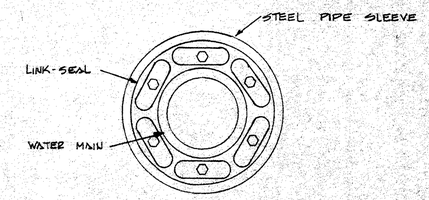
NOTE:
ALL BOLTS TO BE NON-GALVANIZED STEEL

NO CHANGE in OK WATER LINE
4-17-87
E. M. Scott

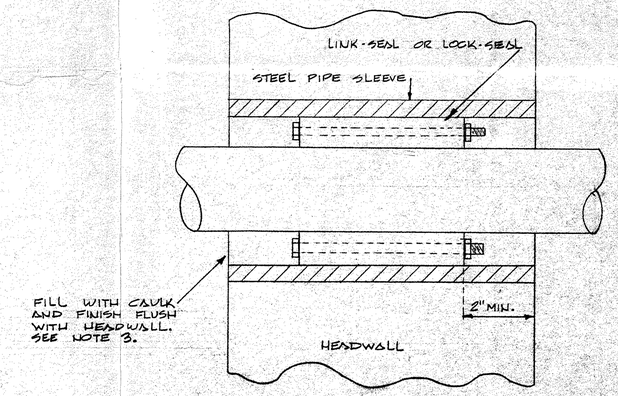
HANGER DETAIL
SCALE: 1" = 1'-0"



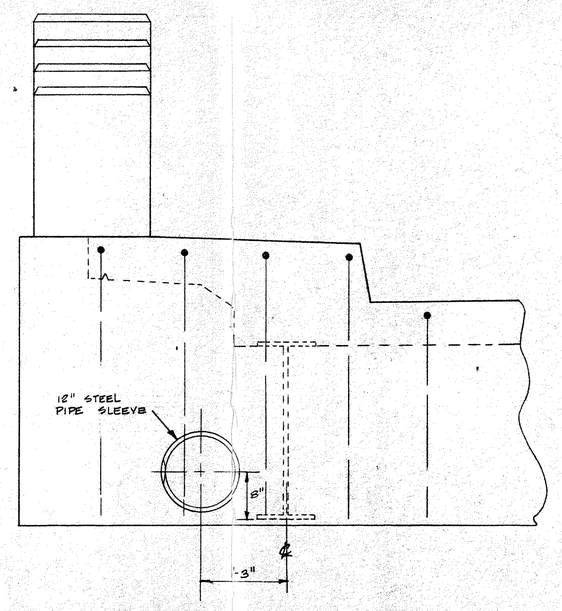
BRIDGE ELEVATION



END SECTION OF LINK-SEAL



HEADWALL SECTION WITH STEEL PIPE SLEEVE AND LINK-SEAL



STEEL PIPE SLEEVE LOCATION IN HEADWALL
SCALE: 1" = 1'-0"

APPROVED: DATE 7-14-78
APPROVED AS NOTED: DATE
BY
FOR: L. M. TEMPLE
HEAD OF STRUCTURE DESIGN
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

BAY RIVER CROSSING FILE NO. 4537

ACCOUNT NO.	RIVERS AND ASSOCIATES, INC. CONSULTING ENGINEERS GREENVILLE NORTH CAROLINA
SURVEY / DESIGN J.T.W. / DRAFT J.D.H. / CHECK J.T.W. / SUPV. J.T.W.	PAMLICO COUNTY
SUBMITTED BY / ASSOCIATE / DATE	COUNTY WATER SYSTEM CROSSING DETAILS FOR BRIDGE #55-21-30 PROJECT # 8.17693
APPROVED / DATE	SCALE AS NOTED / DRAWING NO. W-529 / SHEET 51 OF

Southern Photo Print & Supply Co., Greensboro, N. C. N43337

Mr. R. L. Spence

NOTES FOR BRIDGE CROSSING (TRENT CREEK)

1. Openings for steel pipe sleeves in ear walls are to be made in a neat and workmanlike manner.

2. Openings for steel pipe sleeves are to be a maximum of 2" larger than the outside diameter of steel pipe sleeves.

3. Openings for steel pipe sleeves are to be made with an electric power drill only; no hammer of any type is to be used.

4. Openings between ear walls and steel pipe sleeves are to be filled with non-shrinking grout, finished to conform in color with existing concrete, and rubbed smooth and flush with the existing concrete.

5. The steel pipe sleeves are to be flush with both faces of the ear walls. The ends of the sleeves are to be ground off smooth. Care should be taken not to damage faces of ear walls.

6. All exposed metallic material, that is not galvanized or aluminum, attached to a structure is to be given one coat of approved red lead paint on all surfaces. If the structure has reinforced concrete girders or structural steel beams or girders which are painted aluminum, then all exposed metallic material not galvanized or aluminum shall be painted on all surfaces with two coats of approved aluminum paint. If the structural steel has been painted a color other than aluminum, then all exposed metallic material not galvanized or aluminum shall be painted on all surfaces with two coats of approved paint of a color to conform with that of the structural steel.

7. An approved type link seal, lock seal or any similar modular wall and casing seal of rubber or similar material is to be placed around the main between the main and steel pipe sleeves in the ear walls and tightened by bolts to furnish stray current protection for the bridge and to waterproof the openings. A 2 inch recess is to be left at each face of the ear walls and is to be filled with an approved mastic or plastic caulking compound to conform in color with that of the existing concrete and finishing smooth and flush with the existing concrete. In the event the seal is not of a sufficient length to fill all of the opening except for the 2 inch recesses, the remaining portion of the opening shall be filled with jute prior to placing the mastic or plastic caulking compound in the 2 inch recesses.

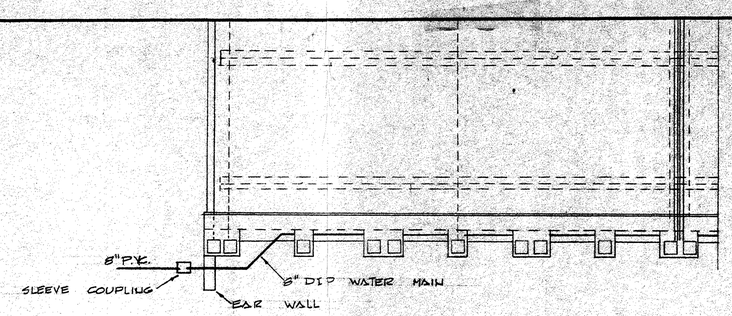
8. Holes for expansion anchors to be made with electric drill. Maximum size of drill to be 1". Holes for expansion anchors to be drilled, squared and aligned as approved, as no over size drilling will be allowed, nor will any redrilling be allowed except when reinforcing steel is encountered. If reinforcing steel is encountered, the drilling operation is to be stopped and resumed at a location 3" from either side of the existing hole, but not at a distance to exceed the maximum allowable space. Any existing holes due to encountering reinforcing steel are to be thoroughly filled with a 1:3 portland grout and finished smooth and flush with the existing concrete. Depth of drill to be 3 3/16".

9. Approved expansion anchors and hanger assemblies are to be placed at rail posts as shown.

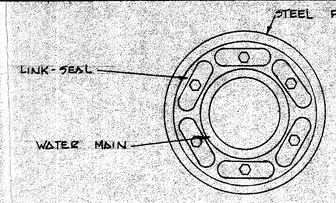
10. Contractor shall provide approximately 170 feet of 8 inch restrained push-on joint ductile iron pipe similar to Super-Lock Joint Pipe manufactured by Clow Corporation for the crossing. The pipe shall be in accordance with AWWA Standard C 151, thickness class 52. Fittings shall be restrained push-on joint ductile iron similar to Super-Lock Joint Fittings manufactured by Clow Corporation and shall be in accordance with AWWA Standard C 110. Joints for pipe and fittings shall be in accordance with AWWA C 111. All pipe and fittings shall be coated outside with bituminous material and inside with a cement mortar lining in accordance with AWWA C 104.

Insulation shall be one inch minimum thickness fiberglass with a waterproof aluminum lock joint jacket. All joints in the jacket shall be sealed. Pipe shall be 9.05 inches O.D., 0.33 inch wall thickness.

11. Ductile Iron pipe shall be connected to PVC pipe with sleeve couplings approximately 8 feet from ear walls.

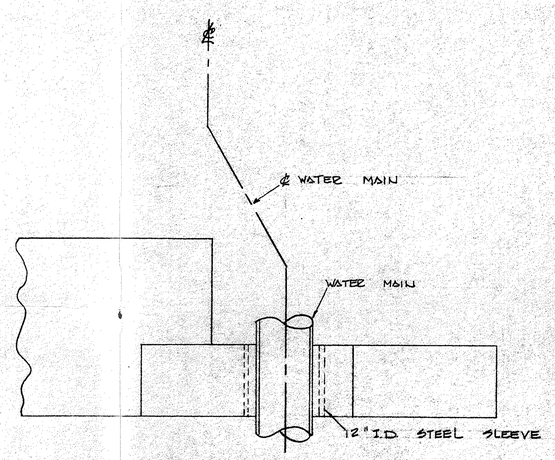


BRIDGE HALF-PLAN



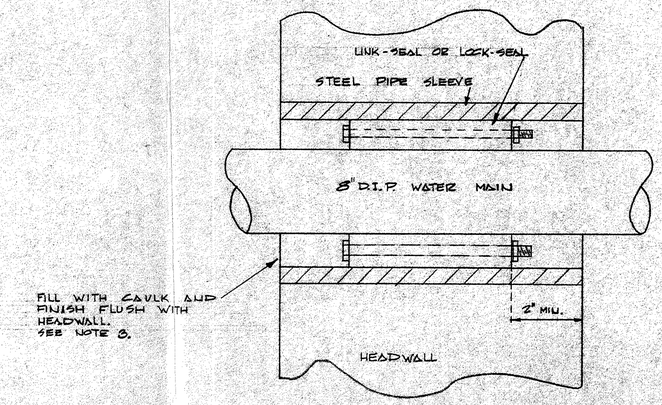
O-K E McScott 7-1-81

END SECTION OF LINK-SEAL



TOP VIEW EAR WALL

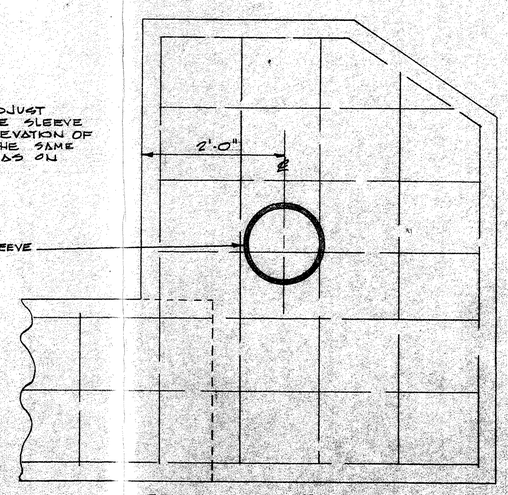
SCALE: 1"=1'-0"



HEADWALL SECTION WITH STEEL PIPE SLEEVE AND LINK-SEAL

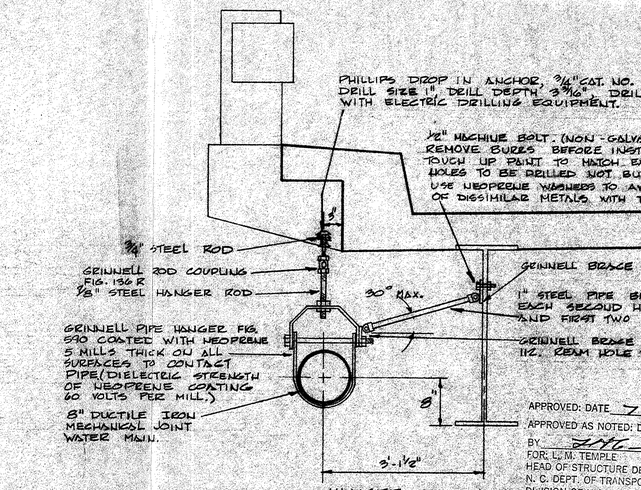
NOTE:

CONTRACTOR SHALL ADJUST VERTICAL HEIGHT OF PIPE SLEEVE TO INSURE THAT TOP ELEVATION OF WATER MAIN REMAINS THE SAME THOUGH THE EAR WALL AS ON THE BRIDGE.



FRONT VIEW EARWALL

SCALE: 1"=1'-0"



HANGER DETAIL

SCALE: 1"=1'-0"

NOTE:

ALL BOLTS TO BE NON-GALVANIZED STEEL.

APPROVED: DATE 7-14-78

APPROVED AS NOTED: DATE

BY [signature]

FOR: L. M. TEMPLE
HEAD OF STRUCTURE DESIGN
N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

TRENT CREEK CROSSING FILE NO. 4346

ACCOUNT NO.	RIVERS AND ASSOCIATES, INC. CONSULTING ENGINEERS GREENVILLE NORTH CAROLINA
SURVEY	PAMLICO COUNTY
DESIGN	
DRAFT	
CHECK	COUNTY WATER SYSTEM
SUPV.	
SUBMITTED BY	CROSSING DETAILS FOR
ASSOCIATE	BRIDGE # 55-2-50
DATE	PROJECT # 8.12458
APPROVED	SCALE AS NOTED
DATE	DRAWING NO. W-329 / SHEET 52 OF

Southern Photo Print & Supply Co., Greensboro, N. C. N43339