



Contract Number T201207101

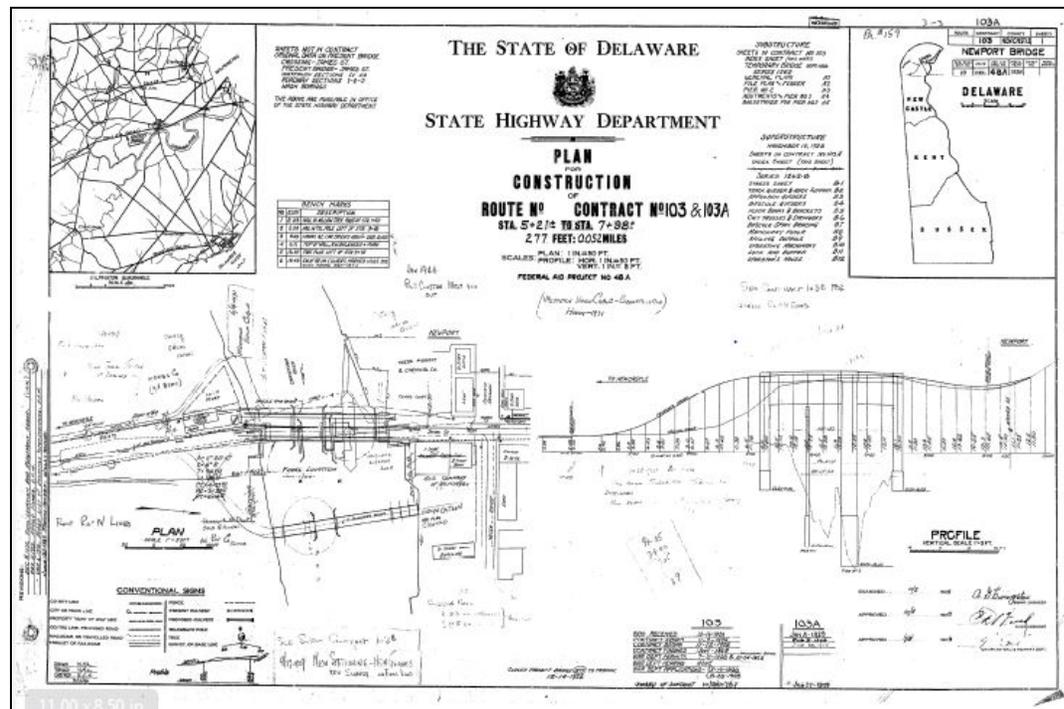
BR 1-159 ON JAMES STREET OVER
CHRISTINA RIVER

Pre-Bid Meeting

July 25, 2019

PROJECT NEED

- Original Construction – Contract 103 (1929)
- Single leaf bascule span with 2 approach spans
- Girder – Floor Beam – Stringer steel superstructure



PROJECT NEED

- Bridge Rehabilitation – Contract 85-074-01 (1986)
- Bascule span floor beam and stringer replacement
- Bascule span open steel grid deck replacement
- Rest pier stabilization
- Timber fender system replacement
- Removal of bridge electrical system



PROJECT NEED

- Emergency Repairs – Contract 30-074-01 (2009)
- Replace stringers over counterweight
- Replace concrete filled steel grid deck w/ open steel grid



PROJECT NEED

- Interim Repairs – Bridge Maintenance Contract (2015)
- Replaced damaged open grid bridge deck
- Replaced cantilever beams adjacent to counterweight
- Added angles on counterweight support to support cantilever beams



PROJECT NEED

Access



TRAFFIC RESTRICTIONS

Access Coordination

TRAFFIC RESTRICTIONS

1. WATER STREET AND THE ENTRANCE TO BASF SHALL REMAIN OPEN AT ALL TIMES.
2. TEMPORARY DETOURS OF JAMES STREET SHALL BE AS NOTED BELOW:
 - WEEKEND WORK BETWEEN THE HOURS OF SATURDAY AT 5:00 PM UNTIL SUNDAY 11:59 PM FOR SETTING BRIDGE GIRDERS AND PLACING BRIDGE DECK CONCRETE. ALL DETOUR DATES WILL BE COORDINATED THROUGH THE DEPARTMENT WITH REPRESENTATIVES FROM THE TOWN OF NEWPORT.
TOWN MANAGER: WENDY KING
302-994-6403
 - WEEKEND WORK BETWEEN THE HOURS OF 7:00 PM FRIDAY AND TO 5:00 AM MONDAY FOR PHASE 2 ONLY WORK. ALL DETOUR DATES WILL BE COORDINATED THROUGH THE DEPARTMENT WITH REPRESENTATIVES FROM BASF AND THE INDUSTRIAL PARK.
3. ALLOWABLE LANE CLOSURES DURING PHASE 1 AND PHASE 3 ARE AS FOLLOWS:
ALLOWABLE LANE CLOSURE HOURS: JAMES STREET AND WATER STREET

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY																								
MONDAY																								
TUESDAY																								
WEDNESDAY																								
THURSDAY																								
FRIDAY																								
SATURDAY																								

LANE CLOSED LANE OPEN

See CS-01

TRAFFIC RESTRICTIONS

Access Coordination

17. Road User Costs and Liquidated Damages: As detailed in the Plans, any weekend work requiring closure of the existing Bridge 1-159 for purpose of setting bridge girders and placing bridge deck concrete must take place between the hours of 5:00 PM Saturday and 11:59 PM Sunday. The Department will assess the Contractor a "Road User Cost" of \$2300 per day along with daily full contract liquidated damages for failure to complete the weekend work requiring closure of the existing Bridge 1-159 by 11:59 PM Sunday. Road User Costs and Liquidated Damages will continue to be assessed each consecutive day thereafter beginning at 11:59 PM until the existing Bridge 1-159 is fully open to traffic. As used herein, "until the existing Bridge 1-159 is fully open to traffic" shall mean that all travel lanes are available at all times for the unrestricted flow of traffic. As detailed in the Plans, Phase 2 of the project involves roadway work to switch traffic from the existing bridge to the newly constructed bridge. All Phase 2 work for Bridge 1-159 must be completed over a single weekend between the hours of 7:00 PM Friday and 5:00 AM Monday. The Department will assess the Contractor a "Road User Cost" of \$2300 per day along with daily full contract liquidated damages for failure to complete the Phase 2 work by 5:00 AM Monday. Road User Costs and Liquidated Damages will continue to be assessed each consecutive day thereafter beginning at 5:00 AM until James Street, including the new bridge, and Water Street are fully open to traffic. As used herein, "until James Street, including the new bridge, and Water Street are fully open to traffic" shall mean that all travel lanes are available at all times for the unrestricted flow of traffic.

See Bid Proposal: Prospective Bidders Notes



TRAFFIC RESTRICTIONS

Access Coordination

Newport Industrial Park

William Lower
Director – Env. And Political Affairs
Harvey, Hanna & Assoc., Inc.
405 E. Marsh Lane, Suite 1
Newport, DE 19804
302-323-9300 (Ext. 11)
wlower@harveyhanna.com

BASF

Contact to be provided at
Preconstruction Meeting

Town of Newport

Wendy King
Town Manager
226 N James Street
Newport, DE 19804
302-994-6403
WendyKing99@yahoo.com

Waste Management, Inc.

Contact to be provided at
Preconstruction Meeting



CULTURAL RESOURCES

Krebs Building (BASF)



18. THE PROJECT TAKES PLACE NEXT TO THE KREBS PIGMENT & COLOR CORPORATION BUILDING A-47. THIS INDIVIDUAL BUILDING HAS BEEN DEEMED ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES. AS SUCH, NO ADDITIONAL WORK BEYOND THE SCOPE INDICATED IN THESE PLANS SHALL BE PERFORMED. ANY MODIFICATIONS SIGNIFICANT IN NATURE OR NEW INFORMATION NOT INITIALLY KNOWN THAT ALTERS THESE PLANS AND DESIGNS IS TO BE COORDINATED WITH THE DISTRICT ENGINEER AND THE ENVIRONMENTAL STUDIES OFFICE (CONTACT ALEX TARANTINO, 302-760-4887 OR ALEXANDRA.TARANTINO@DELAWARE.GOV). IF IT IS DEEMED NECESSARY, COORDINATION WITH THE DELAWARE STATE HISTORIC PRESERVATION OFFICE (SHPO) AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) WILL BE INITIATED BEFORE ANY ACTION IS IMPLEMENTED. PROPOSED OR NECESSARY MODIFICATIONS AND CHANGES WILL BE REVIEWED TO ENSURE PROPER TREATMENT AND CONSIDERATIONS TO HISTORIC PROPERTIES, PER DIALOGUE BETWEEN SHPO, FHWA, AFFECTED PROPERTY OWNERS, AND THE CONTRACTOR.

BEFORE CONSTRUCTION ACTIVITIES BEGIN, THE CONTRACTOR WILL RECORD AND MONITOR SITE CONDITIONS BY USE OF VIDEO OR OTHER DATE RECORDATION IN ACCORDANCE TO SPECIAL PROVISION 211508 - VIDEOTAPING BUILDINGS. AS PART OF THAT EFFORT, THE CONTRACTOR MAY ALSO UNDERTAKE FIELD MEASUREMENTS AND RECORD EXISTING CONDITIONS FOR DESIGN DETAILS AND ANY CONTRACTING SPECIFICATIONS. COPIES WILL BE PROVIDED TO THE APPROPRIATE PERSONNEL DURING THE PRECONSTRUCTION MEETING AND PRIOR TO CONSTRUCTION. THESE RECORDS WILL BE USED FOR DISPUTE RESOLUTION, SHOULD QUERY ARISE.

DURING THE LENGTH OF THIS CONTRACT, SHOULD DAMAGE OCCUR TO THIS BUILDING AS A RESULT OF VIBRATIONS DAMAGE, SHEETPILE OR DRILLED SHAFT INSTALLATION, REMOVAL OF THE EXISTING BRIDGE, OR OTHER HEAVY CONSTRUCTION ACTIVITIES, DELDOT'S ENVIRONMENTAL STUDIES WILL BE CONTACTED PRIOR TO IMPLEMENTATION OF REPAIRS TO ENSURE REPAIRS WILL MEET OR FOLLOW THE SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION AND/OR TREATMENT OF HISTORIC PROPERTIES. ANY REPAIRS WILL AVOID AND MINIMIZE POTENTIAL ADVERSE EFFECTS AS DETERMINED BY DELDOT, SHPO AND FHWA.

See PN-01

NATURAL RESOURCES

Permits *

<u>Permit</u>	<u>Expiration Date</u>
US Army Corps of Engineers (COE) NWP #23	03/18/2022
DNREC Subaqueous Lands	02/5/2021
DNREC WQC and CZM	(not CRW)
New Castle County Floodplain	01/7/2020
US Coast Guard – Advance Approval	09/10/2023

Note: DelDOT is continuing the coordination to extend the permit expiration date

* See notes EC-01 and Environmental Statement



NATURAL RESOURCES

Construction Restrictions *

Fisheries	No in-water work from March 01 to June 30 (inclusive)
Migratory Birds	Nesting birds from April 15 to August 01 (inclusive) If netting used, paid under Item 763623 - Netting, Migratory Bird Exclusion

Protection of Resources *

Minimal clearing in wetlands

No grubbing in wetlands

Any equipment traversing wetlands and subaqueous land must be supported on temporary composite mats

* See notes EC-01 and Environmental Statement



NATURAL RESOURCES

US Coast Guard Coordination *

6. U.S COAST GUARD 30-DAY ADVANCED COORDINATION/APPROVAL:

- A. THE WATERWAYS ARE USED FOR RECREATIONAL PURPOSES. THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE THROUGH THE WORK AREAS FOR THE WATERWAY USERS AND SHALL HAVE THE PASSAGEWAY CLEARLY MARKED. PAYMENT IS INCLUDED UNDER ITEM *763522 - COAST GUARD SPECIFIC CONDITIONS. ANY CONTRACTOR ACTIVITY, WHICH WILL RESULT IN THE SHORT-TERM RESTRICTION OF THE WATERWAYS TO THOSE INDIVIDUALS, IS TO BE COORDINATED WITH THE ENGINEER AND THE U.S. COAST GUARD ONE MONTH IN ADVANCE. THE WORK WITHIN THE WATER SHALL BE LIMITED TO WHAT APPEARS ON THE PLANS AND BARGE PLACEMENT. IF ANY ADDITIONAL IN-WATER/WETLANDS WORK IS NEEDED, IT MUST BE COORDINATED WITH THE U.S. COAST GUARD PRIOR TO BEGINNING WORK AND BE IN CONFORMANCE WITH ITEM *763522 - COAST GUARD SPECIFIC CONDITIONS. CONTACT HAL R. PITTS AT (757) 398-6629, AS WELL AS SUBMIT A WRITTEN NOTICE (WHICH INCLUDES A SKETCH DEPICTING THE LOCATIONS AND DURATIONS OF ALL RESTRICTIONS) TO THE COMMANDING OFFICER (AOWB), 5TH COAST GUARD DISTRICT, FEDERAL BUILDING 431 CRAWFORD ST., PORTSMOUTH, VA 23704 FOR APPROVAL.*
- B. A CLEAR CHANNEL OF 45' SHALL BE MAINTAINED AT ALL TIMES.*
- C. NO "IN WATER" ACTIVITY WHICH WOULD PREVENT PASSAGE THROUGH THE WORK AREA WILL BE ALLOWED ON THE FIRST SUNDAY IN OCTOBER NOR ANY WEEKEND THAT A "CHRISTINA RIVER CLEAN-UP" IS SCHEDULED (SEE WWW.CHRISTINARIVERCLEANUP.ORG).*

* See notes EC-01 and Environmental Statement



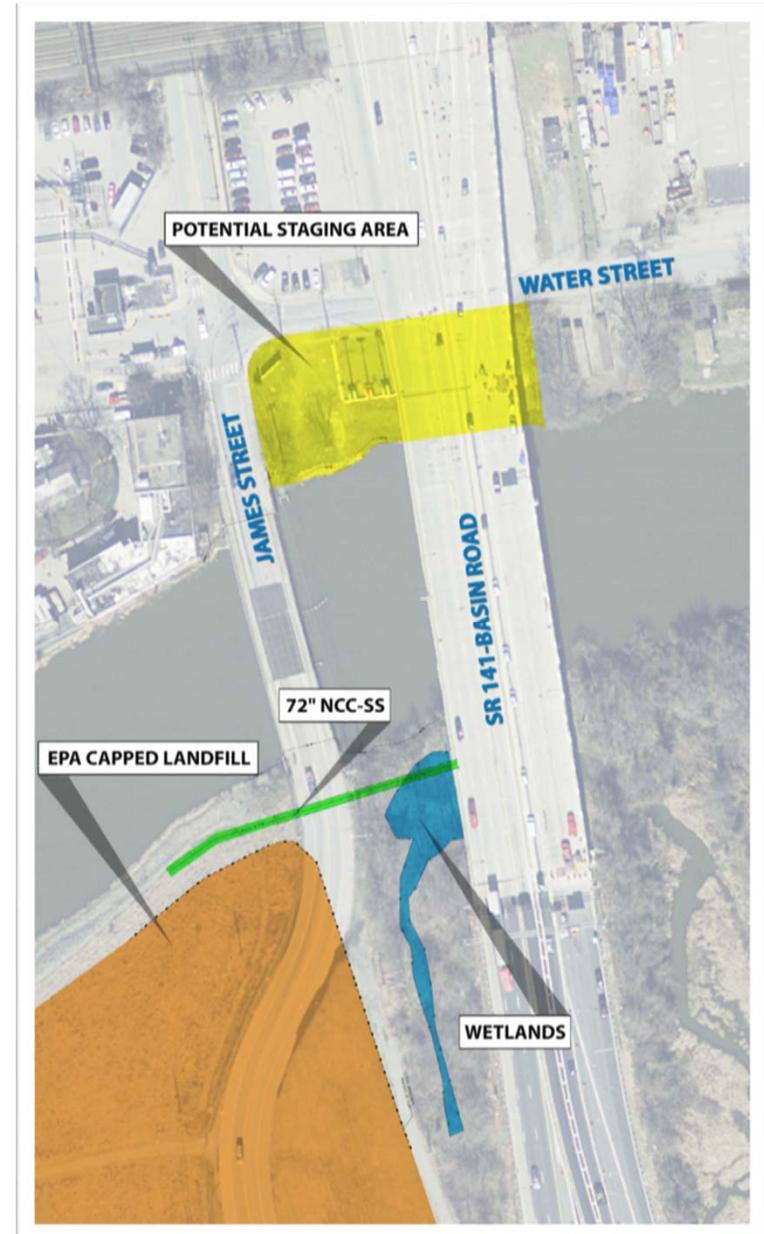
EPA SUPERFUND SITE

Restrictions *

EPA SUPERFUND SITE

1. A SUPERFUND SITE EXISTS WITHIN THE LIMITS OF CONSTRUCTION AT THE SOUTH END OF THE PROJECT, AS SHOWN ON THE PLANS. THE SUPERFUND SITE IS CAPPED WITH A SYNTHETIC GEOMEMBRANE LINER APPROXIMATELY 18" BELOW THE GROUND SURFACE. THE SITE IS MAINTAINED BY THE DUPONT COMPANY UNDER THE SUPERVISION OF THE FEDERAL ENVIRONMENTAL PROTECTION AGENCY (EPA).
2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR WILL FLAG THE SUPERFUND SITE PERIMETER WITHIN THE PROJECT LIMITS OF CONSTRUCTION. COST SHALL BE INCIDENTAL TO ITEM - 763501 - CONSTRUCTION ENGINEERING.
3. THE CONTRACTOR WILL MAKE EVERY EFFORT TO MINIMIZE CONSTRUCTION ACTIVITIES WITHIN THIS AREA.
4. EXCAVATION WITHIN THIS AREA WILL BE LIMITED TO REMOVAL OF HOT-MIX PAVEMENT AND 6" OF TOPSOIL STRIPPING.
5. STOCKPILING OF MATERIALS, STORAGE OF CONSTRUCTION EQUIPMENT AND ACTIVITY NOT INDICATED ON THE PLANS WILL NOT BE PERMITTED IN THIS AREA.

* See Construction Notes CS-01



EPA Superfund Site

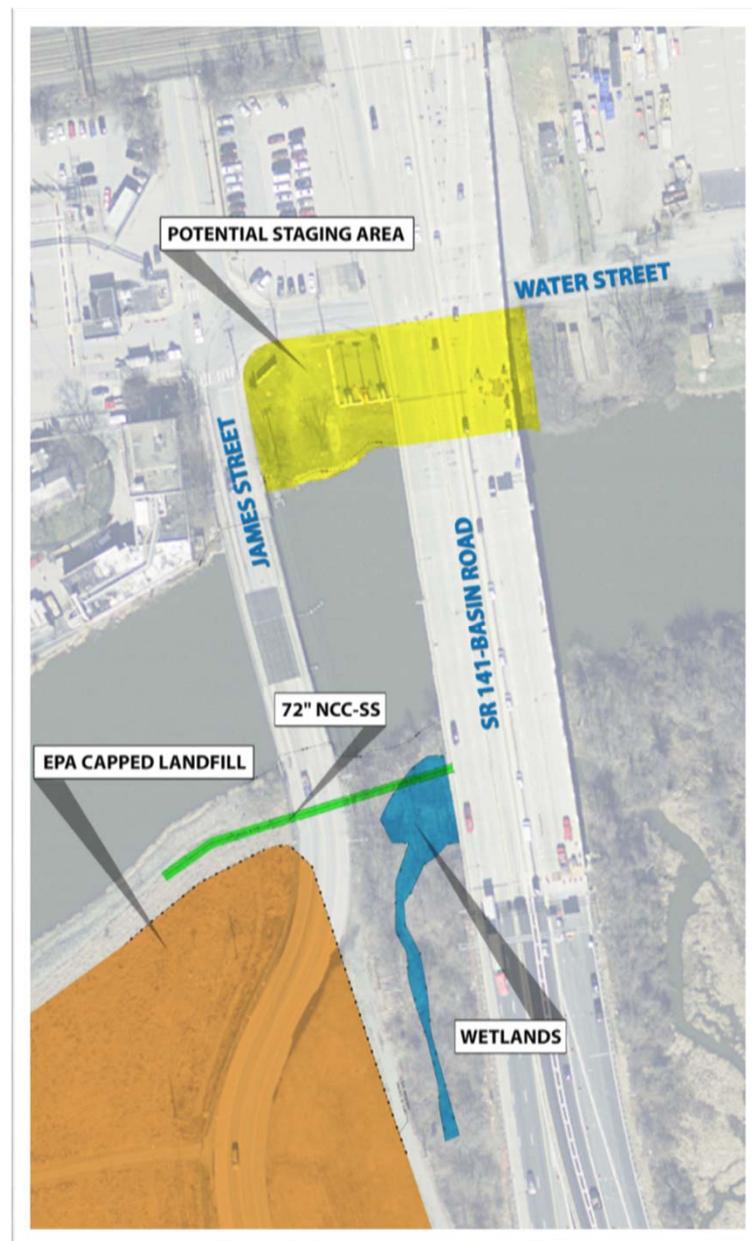
Contact Information *

DelDOT: Jeff Leonard
Hazmat Program Manager
302-894-6308
Jeff.Leonard@delaware.gov

Chemours: Sebastian P.J. Harrison
Construction Engineer
302-773-1290
Sebastian.P.Harrison@chemours.com

Parsons: Ann L. Logue
Senior Project Manager
215-983-5991
Ann.Logue@parsons.com

* See Construction Notes CS-01



UTILITY RELOCATION

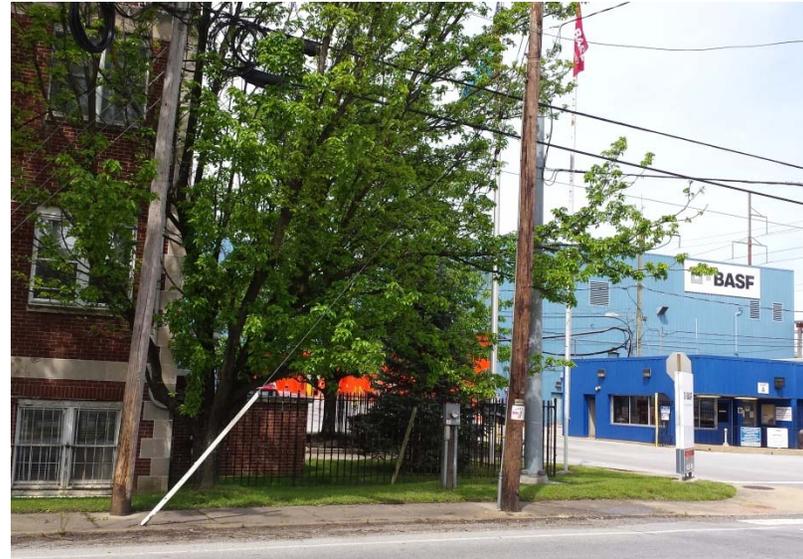
Suspension of Time Charges *

13. Potential bidders are hereby notified that contract work will begin after the Engineer issues the Notice to Proceed. Time charges will be suspended after the successful bidder sets up the construction fence/signs around the sanitary sewer protection area, installs the Geotechnical Instruments to monitor vibrations and ground movements in the vicinity of existing 72-inch Christina River Force Main (CRFM), obtains baseline readings of the instrumentation, installs erosion and sediment control devices, clears the required area, and sets up the MOT for Phase 1 of the contract in order to undertake the utility relocation work described in the Utility Statement by the companies noted in the Utility Statement. During the suspension period, the selected contractor shall continue to be responsible for maintaining the Project Site and maintaining the Phase 1 traffic control devices per the Specifications. The selected contractor shall monitor vibrations and ground movements in the vicinity of the 72-inch CRFM. The selected contractor shall also be responsible for providing access to DP&L gas and electric for the relocation of their facilities on the south side of the Christina River including grading, placing composite matting and construction of a lightweight aggregate work platform. Time charges will not be assessed for this work. The selected contractor shall not resume any other work on the Project Site until the suspension period ends. The estimated time required by each utility company to relocate its facility is shown on the bar chart attached to the Utility Statement. The selected contractor shall prepare the project CPM schedule using these durations. Once all utilities have completed their relocation work, contract work and time charges shall resume. The Engineer will notify the contractor 14 days prior to the resumption of contract work and time charges. Payment for Phase 1 traffic control devices, along with payment for the project field office, will continue during the suspension period. Potential Bidders shall account for the suspension period in their bid prices. DelDOT shall not be held liable for damages or claims resulting from failure of the utilities to complete their relocation work within the time frames specified in the contract Utility Statement. Time charges will not be suspended for final relocation of the temporary DP&L gas facility to the new bridge

* See Bid Proposal: Prospective Bidders Notes

UTILITY RELOCATION

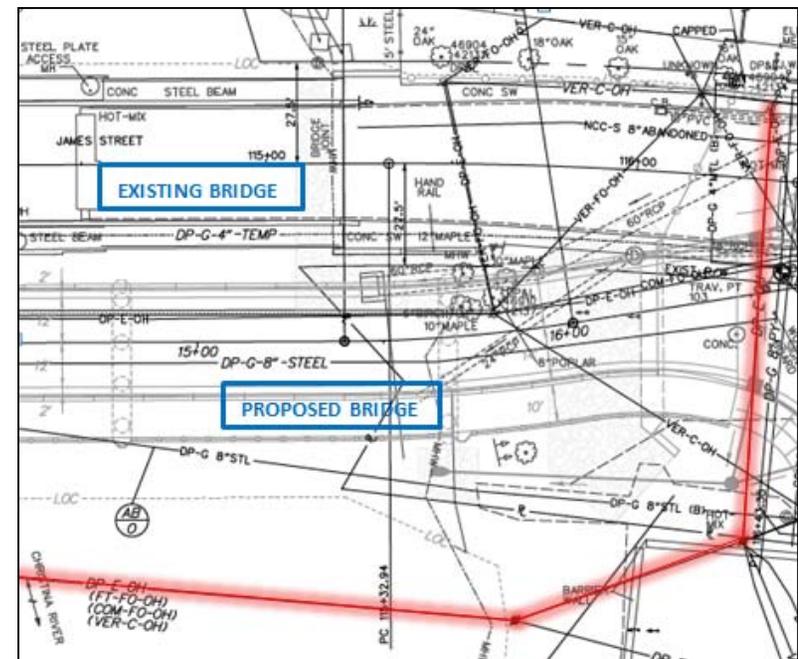
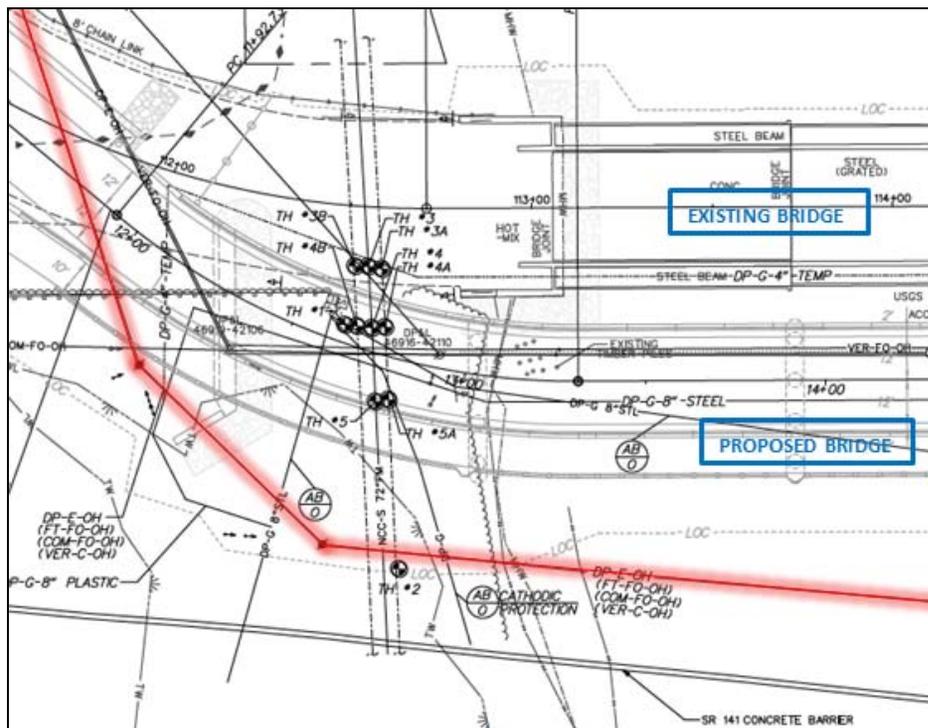
Existing Aerial *



* See UT-01, UT-02 and Utility Statement

UTILITY RELOCATION

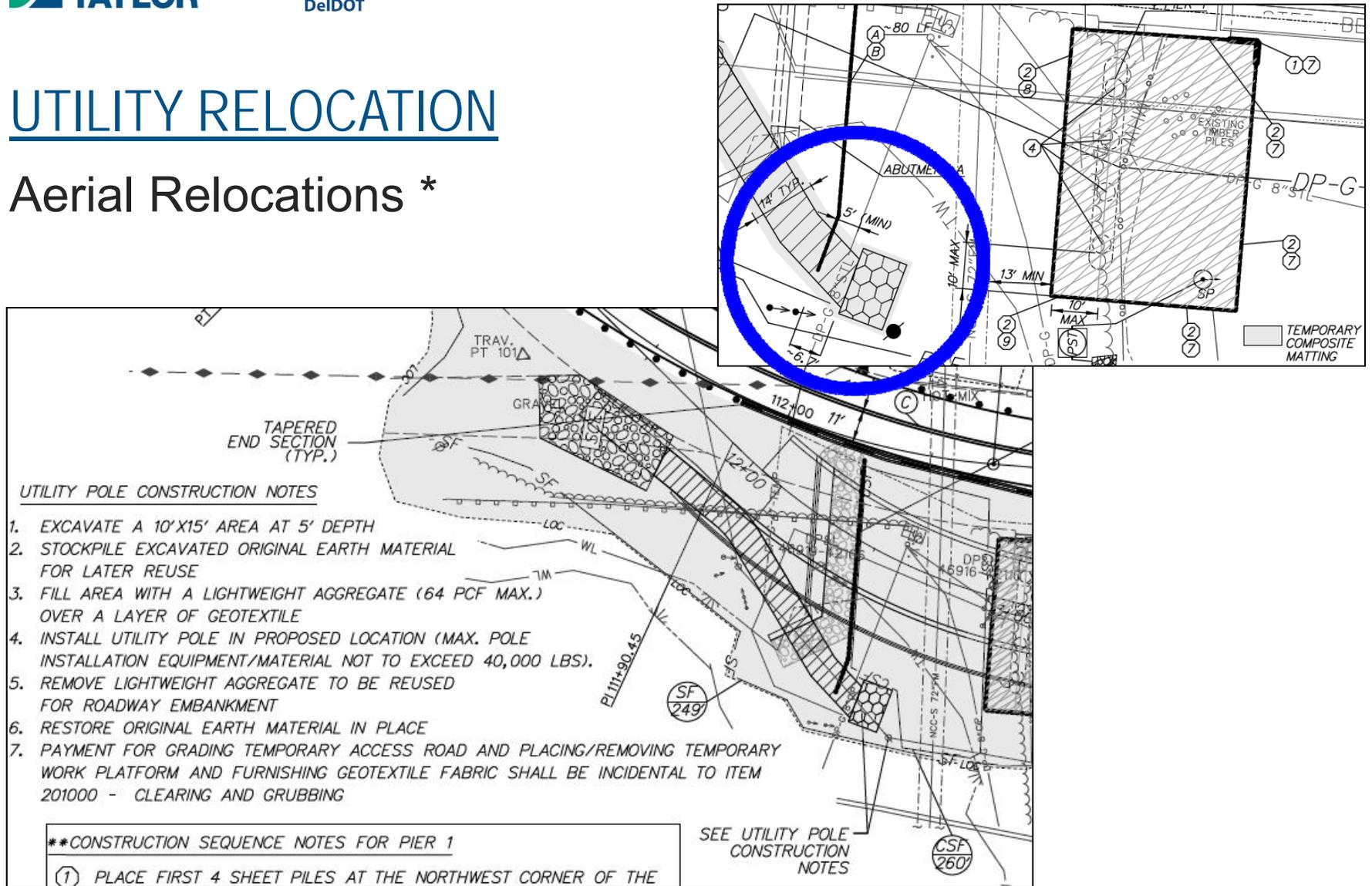
Aerial Relocations *



* See UT-01, UT-02 and Utility Statement

UTILITY RELOCATION

Aerial Relocations *



* See CS-03 and Utility Statement

UTILITY RELOCATION

Gas Line Relocation *

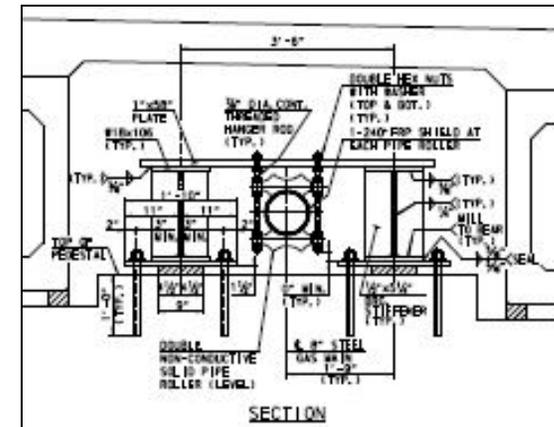
Temporary Gas Line Relocation

- Relocation during Suspension of Time Charges period
- Temporary gas line will be located on the existing bridge deck in the eastern pedestrian walkway



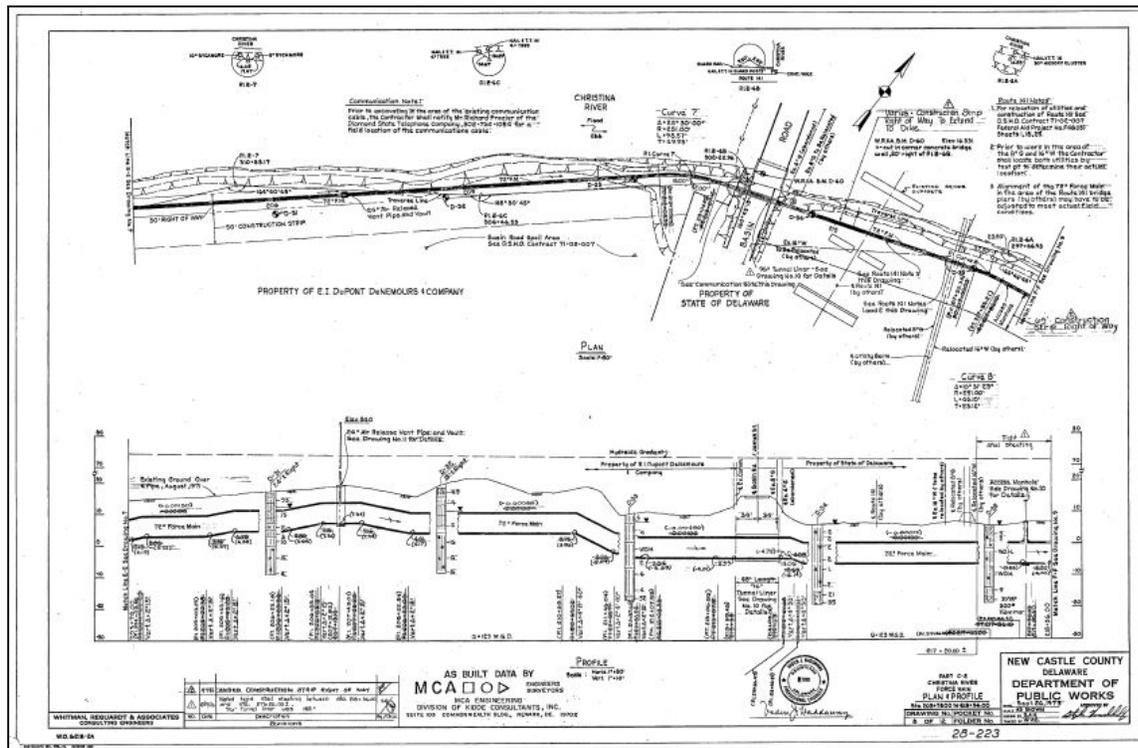
Permanent Gas Line Relocation

- Relocation during superstructure placement
- Time charges will not be suspended



* See CS-03, UD-01, UD-02 and Utility Statement

72" NCC SANITARY SEWER FORCE MAIN



72" NCC SANITARY SEWER FORCE MAIN

Background Information

- Original Construction – Christina River Force Main (1974)
- 72" Prestressed Concrete Cylinder Pipe (PCCP)
- Flow Rates: 50 Mgpd (dry) to 200 Mgpd (wet)
- Little to no system redundancy

Inspection Information

- Joints: Inspected October 2009, no leakage found
- Structural: No inspections have been undertaken to date

72" NCC SANITARY SEWER FORCE MAIN

Construction Restrictions *

- Vibrations: < 0.2 in/sec
- Movement (horizontal or vertical): $< 0.03125''$
- Construction Equipment on James St (South of Christina River): DE Legal Loads

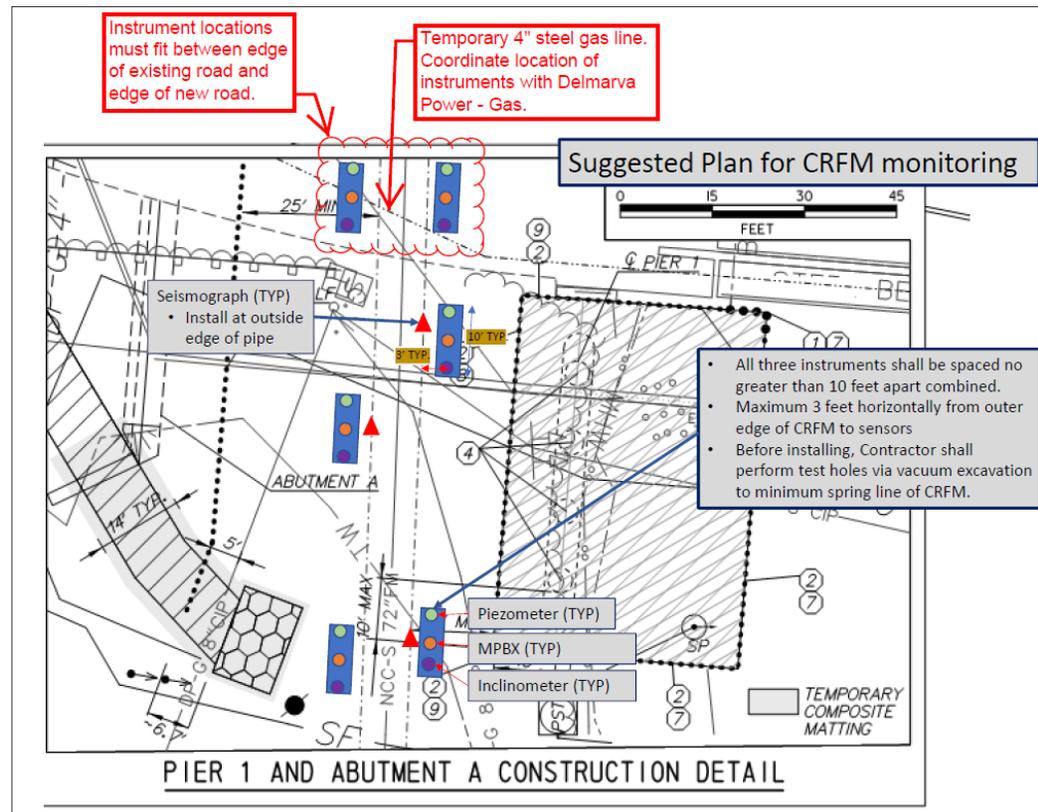
Construction Monitoring *

- Monitoring and monitoring plan by Contractor
- Install instrumentation and obtain baseline readings prior to start of advance utility relocation
- Monitor vibration and horizontal/vertical movement at PCCP
- Duration of monitoring – continuous from advance utility relocation through to project completion

* See CS-01 and Special Provision 763620 - Protection of Existing Utilities By Contractor

72" NCC SANITARY SEWER FORCE MAIN

14. MONITORING OF 72-INCH CRFM: A supplemental sketch has been provided; see Suggested Plan for CRFM Monitoring. The instrument locations illustrated in the schematic are for the selected contractor's guidance in preparing the monitoring plan.



See Bid Proposal: Prospective Bidders Notes



72" NCC SANITARY SEWER FORCE MAIN

NCC Emergency Contact Information *

Anthony G. Schiavi, P.E.
Assistant County Engineer
302-395-5700
Anthony.Schiavi@newcastlede.gov

* See CS-01

72" NCC SANITARY SEWER FORCE MAIN

Construction Details

■ Sanitary Sewer Protection Zone *

72" NEW CASTLE COUNTY SANITARY SEWER (NCC SS)

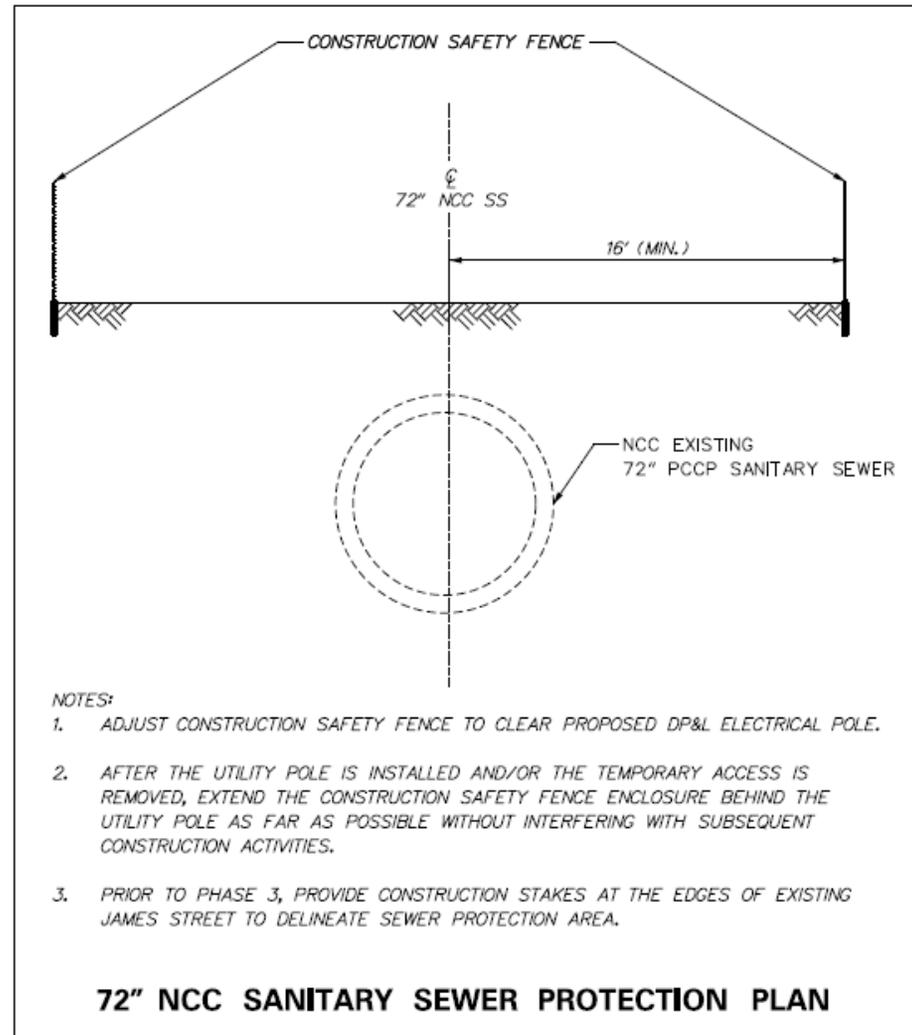
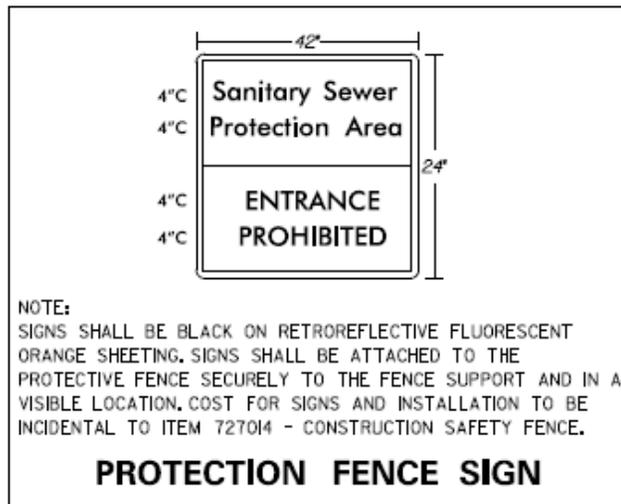
1. NEW CASTLE COUNTY MAINTAINS A 72" FORCE MAIN SANITARY SEWER FACILITY IN THE VICINITY OF STA. 12+65, AS SHOWN ON THE PLANS. THE EXISTING PIPE IS A 72" PRESTRESSED CONCRETE CYLINDER PIPE WHICH WAS MANUFACTURED IN THE EARLY 1970'S. PIPES MANUFACTURED DURING THIS PERIOD HAVE BEEN FOUND TO BE SUSCEPTIBLE TO FAILURES DUE TO CORROSION OF THE PRESTRESSING STEEL WIRES WHICH SURROUND THE PIPE. THE CONDITION OF THE PIPE IS UNKNOWN. AS SUCH CONSTRUCTION METHODS SHALL NOT CREATE ADDITIONAL LOADS AND VIBRATIONS IN THE VICINITY OF THE EXISTING 72" NCC SS. THE PIPE IS ENCASED IN A 96" TUNNEL LINER BELOW JAMES STREET.
2. AS NOTED ON THE PLANS, CONSTRUCTION FENCING WILL BE PLACED AROUND THE NCC SS FACILITY TO DELINEATE AN AREA WHERE CONSTRUCTION EQUIPMENT AND OTHER LOADINGS WILL NOT BE PERMITTED. THE CONTRACTOR SHALL ACCURATELY LOCATE THE 72" NCC SS PRIOR TO THE START OF CONSTRUCTION. REFER TO NOTE 23 ON SHEET PN-02.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FLAG THE PERIMETER OF THE 72" NCC SS FACILITY WHERE THE CONSTRUCTION FENCING WILL BE PLACED. CLEARING WITHIN THIS AREA SHALL BE LIMITED TO HAND CUTTING OF BUSHES AND TREES. GRUBBING WILL NOT BE PERMITTED. A SIGN "SANITARY SEWER PROTECTION AREA" SHALL BE ADDED ON EACH SIDE OF THE FENCE (SEE DETAIL). THIS SPECIAL "SANITARY SEWER PROTECTION AREA" SIGN WILL NEED TO BE ATTACHED TO THE FENCE SUPPORT.
4. THE CONTRACTOR SHALL ERECT CONSTRUCTION FENCING AND SIGNAGE (EVERY 25'-40') TO DELINEATE THE 72" NCC SS PROTECTION AREA IMMEDIATELY UPON COMPLETION OF CLEARING OPERATIONS.

* See CS-01

72" NCC SANITARY SEWER FORCE MAIN

Construction Details

- SS Protection Zone *



* See CS-01

72" NCC SANITARY SEWER FORCE MAIN

Construction Details

- Emergency Procedures *

20. NEW CASTLE COUNTY (NCC) MAINTAINS A CRITICAL 72" DIAMETER SANITARY SEWER FORCE MAIN THAT TRAVERSES THE BRIDGE CONSTRUCTION AND DEMOLITION AREAS OF THIS SITE. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PROTECTION PLANS AND MEASURES DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS. A PIPELINE FAILURE DURING CONSTRUCTION WOULD CREATE CATASTROPHIC ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS AND POTENTIALLY DELAY FURTHER CONSTRUCTION ACTIVITIES FOR A SIGNIFICANT TIME.

FOR ADDITIONAL INFORMATION ON NCC SEWER LINE SEE SHEET CS-01, CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN.

IN THE EVENT OF FAILURE THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT ANY WORSENING OF THE DAMAGE TO THE PIPELINE AND SHALL NOT PERFORM ANY WORK WHICH COULD RISK ADDITIONAL PIPE BREAKS AND/OR LEAKS. THE CONTRACTOR SHALL IMMEDIATELY CEASE WORK AND ASSURE SITE ACCESS IS NOT IMPEDED. THE CONTRACTOR SHALL IMMEDIATELY INFORM DELDOT'S ON-SITE INSPECTOR AND BEGIN MOVING EQUIPMENT FROM THE FAILURE LOCATION. DELDOT WILL IMMEDIATELY NOTIFY THE COUNTY UPON RECEIVING THIS INFORMATION OR OBSERVING THE FAILURE. THE COUNTY WILL ENGAGE THEIR RESPONSE CONTRACTOR TO MOBILIZE TO THE SITE AND PROVIDE TEMPORARY REPAIR OF THE PIPELINE UNTIL A PERMANENT SOLUTION CAN BE ESTABLISHED.

A COUNTY REPRESENTATIVE SHALL BE INVITED TO THE PRE-CONSTRUCTION MEETING AS WELL AS SUBSEQUENT PROGRESS MEETINGS INVOLVING CRITICAL CONSTRUCTION ITEMS (I.E. DRILLED SHAFTS, DEMOLITION, ETC.) IN THE VICINITY OF THE PIPELINE.

* See PN-02



72" NCC SANITARY SEWER FORCE MAIN

Construction Details

■ Activities Requiring NCC Notification *

21. THE CONTRACTOR SHALL PROVIDE NCC A MINIMUM 48 HOURS OF ADVANCE NOTICE FOR CONSTRUCTION MEETINGS AND CONSTRUCTION ACTIVITIES INVOLVING THE FOLLOWING WORK ITEMS:

1. PROTECTIVE SHEETING PLACEMENT AT ABUTMENT A
2. PLACEMENT OF PROTECTION FENCING FOR 72" NCC SS
3. DP&L ELECTRIC POLE PLACEMENT NEAR ABUTMENT A/PIER 1
4. PLACEMENT OF TEMPORARY DP&L GAS LINE
5. PLACEMENT OF PERMANENT DP&L GAS LINE
6. COFFERDAM PLACEMENT/REMOVAL AT PIER 1
7. DRILLED SHAFT PLACEMENT AT ABUTMENT A AND AT PIER 1
8. PRESTRESSED BOX BEAM PLACEMENT AT SPAN 1
9. EXISTING BRIDGE AND FENDER SYSTEM DEMOLITION
10. COFFERDAM PLACEMENT/REMOVAL FOR EXISTING BRIDGE DEMOLITION

■ Shop Drawing Review by NCC *

24. THE CONTRACTOR IS HEREBY NOTIFIED THAT THE DEPARTMENT SHALL PROVIDE TWO (2) WEEKS FOR NCC TO REVIEW AND COMMENT ON CERTAIN WORKING DRAWINGS. DELDOT WILL PROVIDE THE FOLLOWING WORKING DRAWINGS TO NCC FOR THEIR REVIEW AND COMMENT:

1. PROTECTIVE SHEETING DETAILS AT ABUTMENT A
2. PIER 1 COFFERDAM DETAILS
3. DRILLED SHAFT DETAILS
4. EXISTING BRIDGE DEMOLITION PLAN
5. COFFERDAM DETAILS FOR EXISTING BRIDGE PIER DEMOLITION
6. TEMPORARY ACCESS FOR UTILITY POLE INSTALLATION

* See PN-02

72" NCC SANITARY SEWER FORCE MAIN

Construction Details

Lightweight Aggregate Fill *

209511 - LIGHTWEIGHT AGGREGATE FILL

Description:

This item consists of furnishing all labor, materials, and equipment required for the installation of lightweight aggregate fill as shown on the drawings or as directed by the Engineer.

Materials:

Lightweight Aggregate Fill shall be a lightweight expanded shale aggregate or approved rotary kiln-produced expanded shale substitute meeting all the requirements of a recently completed (2 years max.) ASTM C 330 certification. No by-product slags, coal derived by-product aggregates (inders, bottom ash, fly ash) or pumice, scoria, or tuff shall be permitted.

The lightweight aggregate fill shall have a proven record of durability and be non-corrosive (less than 100 ppm chloride when measured by AASHTO T 260), and meet the following physical property requirements:

A. Delivered Gradation:

Sieve Size	Percent by Weight Passing
3/4"	100-90
1/2"	70-50
#4	10-0

NOTES *: LIGHTWEIGHT AGGREGATE SHALL BE USED FOR EMBANKMENT MATERIAL FROM STA. 10+50 TO ABUTMENT A (UNLESS NOTED). EMBANKMENT AREAS TO BE CONSTRUCTED FROM STA. 11+90 TO ABUTMENT A THAT REQUIRE THE PLACEMENT OF OVER 2' OF NEW FILL MATERIAL SHALL BE OVER-EXCAVATED TO A DEPTH EQUAL TO THE FILL HEIGHT AND BACKFILLED WITH THE LIGHTWEIGHT AGGREGATE MATERIAL. PAYMENT FOR OVER-EXCAVATION SHALL BE UNDER ITEM 202000 - EXCAVATION AND EMBANKMENT.

less than 45 pounds per cubic foot (pcf). The lightweight aggregate fill of a compacted density of less than 60 pcf when measured by a conducted in accordance with ASTM D698, "Standard Test methods for Statics of Soil Using Standard Effort (12,400 ft-lbf/cu ft)" (AASHTO

er shall submit verification that the angle of internal friction shall be a triaxial compression test on a laboratory sample with a minimum 98).

ion loss when tested in accordance with ASTM C 131 Modified (8

E. The minimum permeability shall be 25cm/sec when tested in accordance with ASTM D 2434.

F. The pH shall be between 6.5 and 9.0

G. Absorption: ASTM C 127 (24 hours) Maximum: 15% Minimum: 9%

H. Soundness: ASTM C 88 Maximum: 3% loss using the Magnesium Sulfate method

Construction Methods:

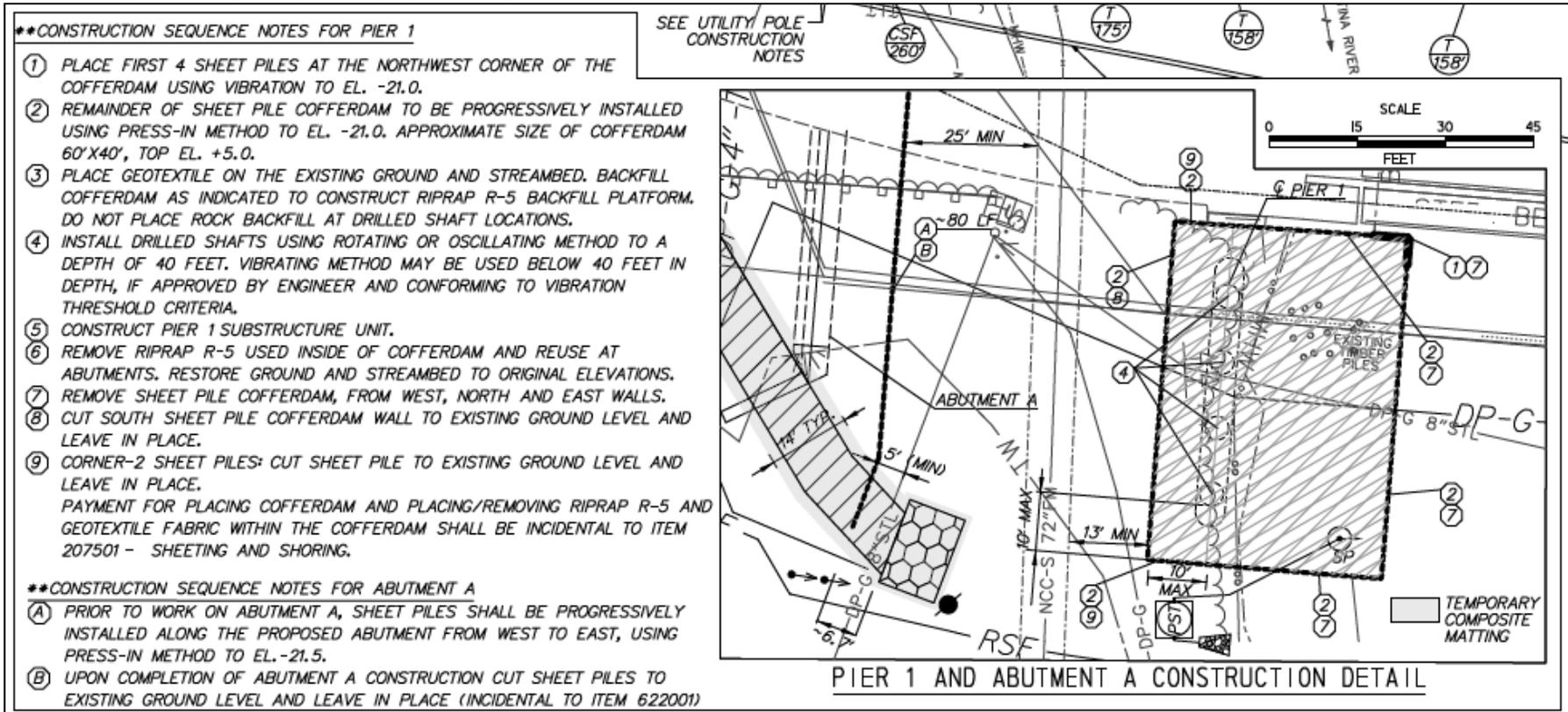
The lightweight aggregate shall be installed after the respective excavation has been approved by the Engineer. Compaction shall be completed and verified in a manner meeting the recommendations and requirement of the material manufacturer. Any aggregate which has been degraded, or has been contaminated by soil, debris or other deleterious materials shall be removed and replaced at the Contractor's expense.

* See TS-01 and Special Provision

72" NCC SANITARY SEWER FORCE MAIN

Construction Details

■ Pier 1 and Abutment A *

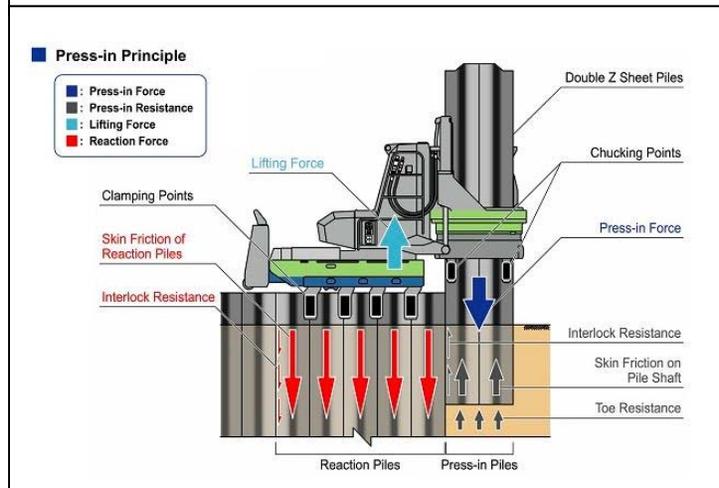
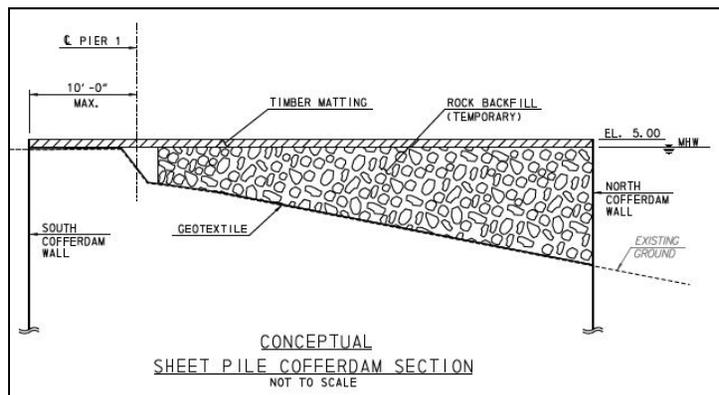


* See CS-03

72" NCC SANITARY SEWER FORCE MAIN

Construction Details

■ Pier 1 and Abutment A *



DRILLED SHAFT CONSTRUCTION NOTES AT PIER 1 AND ABUTMENT A,

- SEE CONSTRUCTION SEQUENCE NOTES ON SHEET CS-03. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE VIBRATION AND SETTLEMENT AT THE NCC-S 72" FORCE MAIN. DO NOT PERFORM ANY DEWATERING OR OPERATIONS WHICH WILL DRAW DOWN THE GROUNDWATER TABLE FOR ANY REASON, SO AS TO AVOID SETTLEMENT OF THE GROUND IN THE VICINITY OF THE 72" FORCE MAIN.
- SEE ALSO SHEETS PN-01, PN-02 AND CS-01 FOR RELATED NOTES.
- BEFORE STARTING WORK THE SHEET PILE SPECIALTY CONTRACTOR SHALL DEMONSTRATE SUFFICIENT EXPERIENCE WITH PRESS-IN METHOD OF INSTALLING SHEET PILES, TO THE SATISFACTION OF THE DEPARTMENT; INCLUDING QUALIFICATIONS OF PERSONNEL, ADEQUACY OF EQUIPMENT, AND A SOUND WORK PLAN.
- PIER 1: INSTALL SHEET PILE COFFERDAM AS INDICATED ON SHEET CS-03, PRIOR TO INSTALLING DRILLED SHAFTS. UPON COMPLETION OF SUBSTRUCTURE UNIT, REMOVE SHEET PILE COFFERDAM WALLS EXCEPT AS INDICATED OTHERWISE.
- ABUTMENT A: INSTALL SHEET PILE WALL AS INDICATED ON SHEET CS-03, PRIOR TO INSTALLING DRILLED SHAFTS. UPON COMPLETION OF SUBSTRUCTURE UNIT, CUT OFF SHEET PILE WALL AS INDICATED AND LEAVE IN PLACE.
- A MAXIMUM STRESS OF 423 PSF APPLIED OVER A PAD SIZE OF 25 FT BY 25 FT WAS ASSUMED FOR DRILLED SHAFT INSTALLATION, IN ORDER TO MINIMIZE SETTLEMENT AT THE NCC-S 72" FORCE MAIN. IN ADDITION, RIPRAP ROCK BACKFILL WITH A UNIT WEIGHT OF 140 PCF AND AN AVERAGE THICKNESS OF 6 FT WERE ASSUMED FOR THE COFFERDAM TEMPORARY BACKFILL AT PIER 1.
- SHEET PILE COFFERDAM AT PIER 1 SHALL BE PAID UNDER ITEM 207501. PLACING AND REMOVING RIPRAP ROCK BACKFILL AND GEOTEXTILE WITHIN THE COFFERDAM IS INCIDENTAL TO ITEM 207501. TIMBER MATTING IN THE COFFERDAM IS INCIDENTAL TO ITEM 207501.
- AFTER THE COFFERDAM IS NO LONGER NEEDED, THE RIPRAP ROCK BACKFILL AND GEOTEXTILE WITHIN THE COFFERDAM SHALL BE REMOVED AND PLACED IN THEIR PERMANENT LOCATIONS. THE PERMANENT CONSTRUCTION SHALL BE PAID UNDER ITEMS 712021 AND 713003, RESPECTIVELY.
- SHEET PILE WALL AT ABUTMENT A SHALL BE PAID UNDER ITEM 622001.

* See DS-01 and CS-03

72" NCC SANITARY SEWER FORCE MAIN

Construction Details

■ Drilled Shaft Installation *

DRILLED SHAFT NOTES

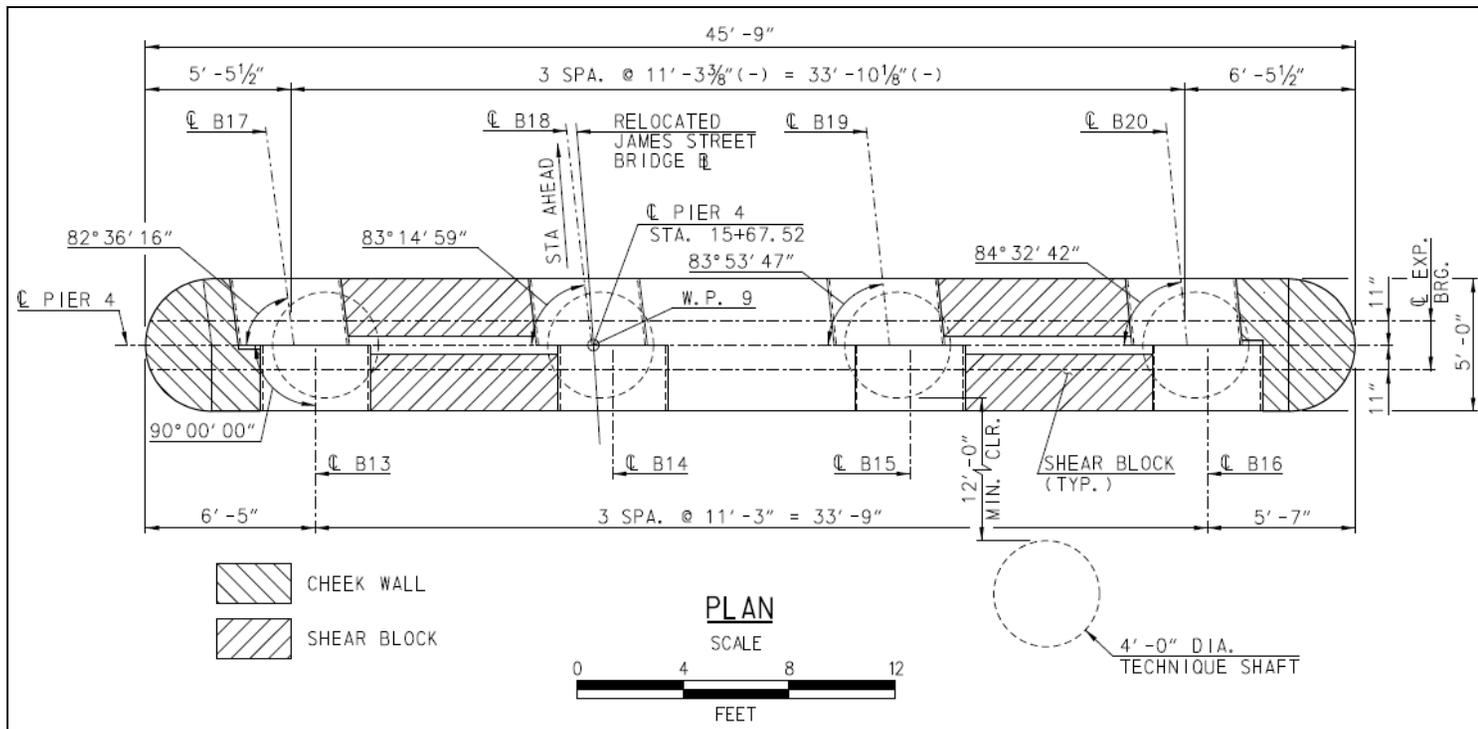
- THIS PROJECT SHALL UTILIZE 48" DIAMETER DRILLED SHAFTS. THE LONGITUDINAL BARS SHALL BE #8 BARS AND SHALL BE BUNDLED. THE TRANSVERSE BARS SHALL BE #4 BARS SPIRALED SPACED AT MINIMUM 6" PITCH AND SHALL NOT BE BUNDLED. THE MINIMUM CONCRETE COVER SHALL BE 4" FOR LONGITUDINAL BARS.
- FOR ESTIMATED DRILLED SHAFT LENGTH, BEARING RESISTANCE AND ESTIMATED TIP ELEVATION, SEE DRILLED SHAFT FOUNDATION TABLE.
- DRILLED SHAFTS SHALL UTILIZE CLASS A CONCRETE.
- DRILLED SHAFTS SHALL REQUIRE PERMANENT CASING. SEE DRILLED SHAFT FOUNDATION TABLE FOR CASING THICKNESS. SEE SPECIAL PROVISION FOR ITEM #618531.
- COST OF REINFORCING BARS INSIDE THE DRILLED SHAFT IS INCLUDED IN THE BID PRICE FOR ITEM #618529 DRILLED SHAFT, 48". REINFORCEMENT SHALL BE EPOXY COATED.
- VIBRATION MONITORING IS REQUIRED DURING CONSTRUCTION OF DRILLED SHAFTS. MONITORING SHALL BE INSTALLED AND PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIAL PROVISION FOR ITEM #763620 PROTECTION OF EXISTING UTILITIES BY CONTRACTOR. THE PEAK PARTICLE VELOCITY AT LOCATIONS DEFINED IN THE MONITORING PLAN OR AS DETERMINED BY NCC SHALL NOT EXCEED 0.2 INCHES PER SECOND.
- INSTALL PERMANENT CASING USING ROTATING OR OSCILLATING METHOD TO A DEPTH OF 40 FEET AT ABUTMENT A AND PIER 1. VIBRATION METHOD MAY BE USED BELOW 40 FEET IN DEPTH, IF APPROVED BY THE ENGINEER AND CONFORMS TO THE VIBRATION THRESHOLD CRITERIA.
- PERMANENT CASING MAY BE INSTALLED USING VIBRATING METHOD, PROVIDED THE MEASURED VIBRATIONS DO NOT EXCEED THE THRESHOLD LIMIT OF 0.2 INCHES PER SECOND, FOR THE FOLLOWING SUBSTRUCTURES: ABUTMENT B, PIER 4, PIER 3, PIER 2, PIER 1 (BELOW 40 FEET), ABUTMENT A (BELOW 40 FEET).
- THE ENGINEER WILL VERIFY TOP OF ROCK LOCATION BY OBSERVATION OF THE DRILL CUTTINGS.
- EXPLORATORY DRILLING IS ANTICIPATED AT PIER 3. PAYMENT UNDER ITEM #619511.
- TECHNIQUE SHAFT
 - SEE SPECIAL PROVISION FOR ITEM #618530.
 - A TOTAL OF 1 TECHNIQUE SHAFT SHALL BE CONSTRUCTED AT PIER 4. SEE SHEET PR-04 FOR LOCATION. THE TECHNIQUE SHAFT SHALL BE LOAD TESTED BY THE CONTRACTOR IN ACCORDANCE WITH ITEM #618532 LOAD TESTING OF DRILLED SHAFTS.
 - TERMINATE THE TOP OF THE TECHNIQUE SHAFT AT EXISTING GROUND BELOW RIP RAP. LEAVE TECHNIQUE SHAFT IN PLACE AFTER TESTING.
 - BI-DIRECTIONAL LOAD CELL TESTING SHALL BE DONE AT THE TECHNIQUE SHAFT ONLY.
 - ESTIMATED LENGTH = 100.5', TIP ELEVATION = -102.5'

* See DS-01 and Special Provision

72" NCC SANITARY SEWER FORCE MAIN

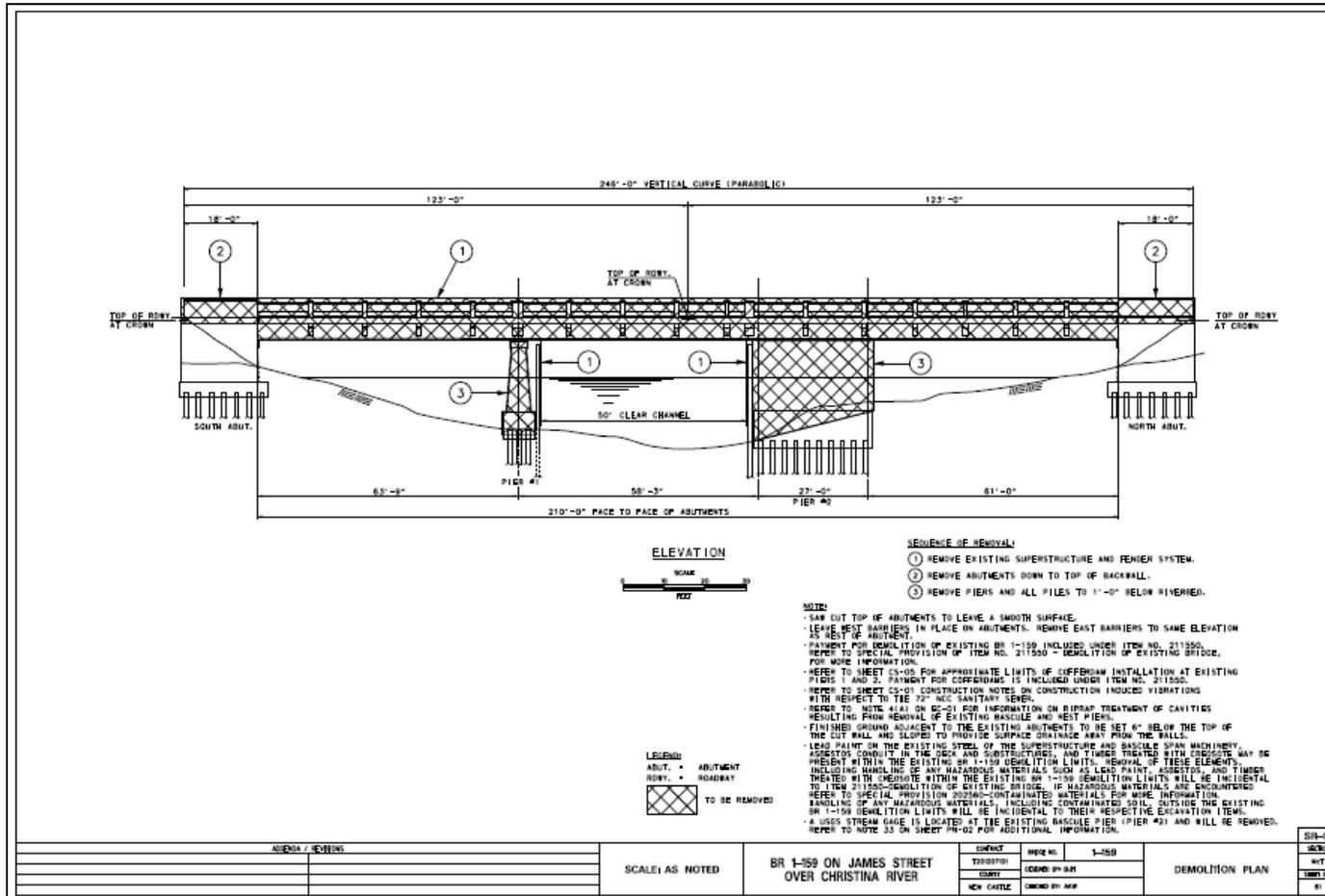
Construction Details

- Technique Shaft *



* See PR-04 and Special Provision

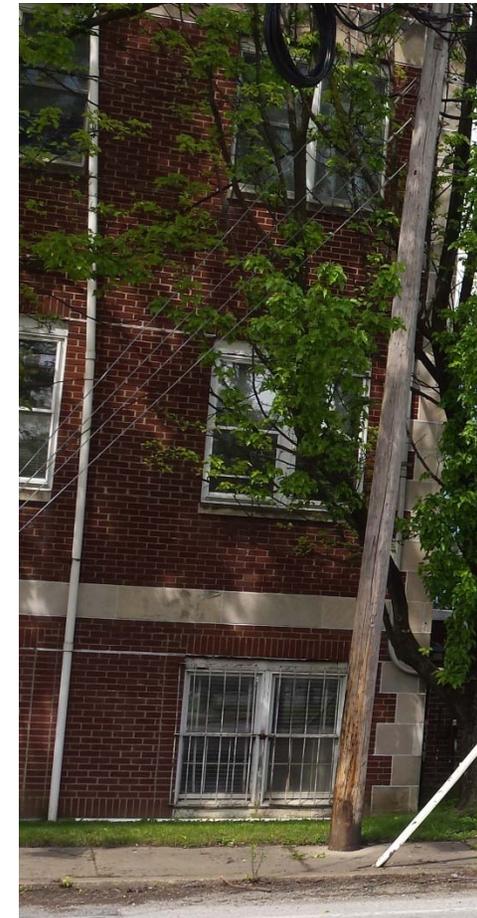
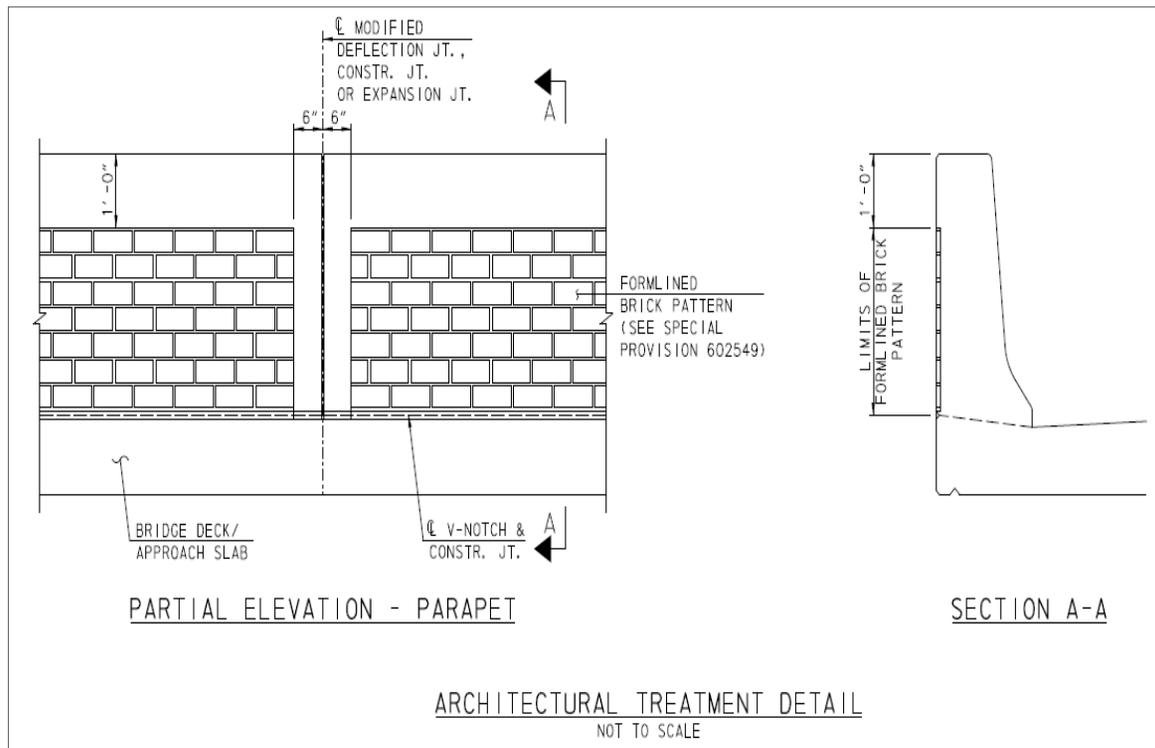
EXISTING BRIDGE DEMOLITION



* See CS-05, SR-01 and Special Provision

ARCHITECTURAL TREATMENT

Formlined Brick Pattern and Color *



Krebs Building (BASF)

* See DK-05, AS-03 and Special Provision 602549 – Form Liners

ADDITIONAL LIABILITY INSURANCE REQUIREMENTS

72" NCC Sanitary Sewer Force Main (CRFM) * EPA Superfund Site *

15. **CONTRACTOR'S POLLUTION LIABILITY INSURANCE:** Contractor shall purchase and maintain, at its own expense, and shall require its subcontractors, if any, to obtain and maintain, a policy covering third-party injury and property damage, including cleanup costs, as a result of pollution conditions arising from Contractor's operations and completed operations. Such policy shall cover damage to the environment, both sudden and non-sudden, caused by the emission, disposal, release, seepage, or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants, into or upon land, the atmosphere or any water course or body of water; or the generation of odor, noises, vibrations, light, electricity, radiation, changes in temperature, or any other sensory phenomena.

Including Excess Liability, if necessary, the policy limit for Contractor's Pollution Liability Insurance shall be not less than Five Million Dollars (\$5,000,000) per occurrence or claim and in the aggregate.

Additional Insureds: The Contractor's Commercial General Liability, Contractor's Pollution Liability and any Umbrella/Excess Liability insurance must: include and list as additional insureds New Castle County, E.I. DuPont De Nemours & Co., BASF Corporation, McCormick Taylor, Inc., consultants retained by Delaware Department of Transportation; include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds; afford primary

* See Bid Proposal - Prospective Bidders Notes, Item 15, for full details.

QUESTIONS?

