

SECTION 01 35 00

SPECIAL PROCEDURES

PART 1 GENERAL

1.1 DESCRIPTION

- A. Pre-Construction Audio/Video Inspections and Photography
- B. Safety Plan
- C. Work Along Streets, Highways, and Railroads
- D. Notification to Local Residents Impacted by Work
- E. Protection of Work and Property
- F. Responsibility for Damage
- G. CFPUA Water Supply and Backflow Prevention
- H. NCDEQ Minimum Separation of Water and Sewer Facilities
- I. Restoration of Disturbed Areas
- J. Regulatory Enforcement Actions Imposed

1.2 PRE-CONSTRUCTION AUDIO-VIDEO INSPECTIONS AND PHOTOGRAPHY

- A. The Contractor shall be responsible for performing and submitting audio-video (AV) inspections and photographs of the project areas prior to performing any Work. AV inspections and photographs shall clearly document preconstruction conditions at all proposed Work locations. AV inspections and photography work shall be considered incidental to the contract.
- B. The purpose of the AV inspections and photographs shall be to document the pre-construction conditions for comparison with the final restored Work. If Engineer, Owner, or third-party claims damage or deficient restoration in a Work area that cannot be disproved by preconstruction AV inspections and photographs, then Contractor shall be responsible for repairs or additional restoration at no additional cost, and as necessary to resolve the claim.
- C. The AV inspection shall be submitted in an electronic format accompanied with the following:
  - 1. Data stored on USB flash drive
  - 2. Map of overall work area showing;
    - a. AV sequence and direction of travel
    - b. AV elapsed time by location at no greater than 5 minute intervals

### 1.3 SAFETY PLAN

- A. The Contractor shall prepare a detailed Safety Plan. This plan shall indicate the intended procedures to be used by the Contractor to comply with all OSHA requirements. Such Plan should further identify a competent person that will work with each crew. Safety plan shall be available for review at the job site at all times.

### 1.4 WORK ALONG STREETS, HIGHWAYS AND RAILROADS

- A. Traffic Control and Maintenance:
1. The proposed work may be performed within rights-of-way or easements as follows:
    - a. NC Department of Transportation public streets and roads
      - 1) Encroachment agreement obtained by Engineer/Owner
    - b. City of Wilmington public streets and roads
      - 1) Encroachment permit obtained by Contractor
    - c. CSX rights-of-way
      - 1) Encroachment permit obtained by Engineer/Owner
    - d. Dedicated utility rights-of-way or easements
      - 1) Encroachment obtained by Contractor/Owner
  2. Contractor shall adhere to the bounds as set forth in all rights-of-way and easements unless prior written approval of the current property owner is obtained and submitted to the Engineer and State, City, and local utility authorities for approval.
  3. Contractor shall submit a traffic control plan for approval by NCDOT or City of Wilmington in accordance with the respective encroachment agreement. When feasible, at least one lane of traffic will be safely maintained at all times when construction is in progress, otherwise, a detour plan must be submitted and approved with the traffic control plan.
  4. Traffic will be maintained on all streets or private drives throughout the work. All matters related to traffic maintenance must be done in a manner consistent with the Manual on Uniform Traffic Control Devices, City of Wilmington Traffic Standards and/or the NCDOT's "Uniform Traffic Control Devices". No roads shall be closed for construction activities unless approved otherwise.
  5. Access to businesses and residences along the roads shall be maintained at all times. All lanes will be open when work is suspended for three hours or longer. Warning signs and devices will be placed in advance of all construction activity in accordance with the most recent copy of the Manual on Uniform Traffic Control Devices, the City of Wilmington Traffic Standards and the North Carolina Department of Transportation's "Uniform Traffic Control Devices".
  6. The Contractor shall provide all appropriate signing and barricades and shall provide flag persons at all times and places necessary.
  7. Traffic control will be strictly enforced in order to provide fire and police protection to the area and access to drives while construction is in progress.
  8. In the event of a necessary road or driveway closure, occupants and/or property owners must be notified a minimum of two business days in advance to any private drive closings.
  9. Where businesses have only one means of access, the Contractor shall provide an alternative means of access or perform work during hours when the business is closed.

10. Property owners and surrounding residents will be provided an additional notice if work is to extend outside normal business hours.
  11. For projects requiring City of Wilmington right-of-way permit, the Contractor is always required to keep a copy of the permit at the construction site .
  12. The Contractor will notify CFPUA two business days prior to commencing any construction within any right-of-way or easement.
- B. Installation of Pipe Under Streets, Highways and Railroads:
1. The Contractor shall furnish and install protective steel pipe casings and/or carrier pipe under highways/railroads in the pipe size, thickness, length, location and details as shown on the drawings and specified herein.
  2. The construction shall not be started until the necessary permits have been obtained, a copy is at the job site, and proper notice and approval for construction has been obtained from the owner of the street/highway/railroad and the Engineer.
  3. All necessary materials, equipment, labor and traffic protection devices shall be on the job site before starting the Work.
  4. Steel casings and the installation thereof required for street/highway/railroad crossings shall be in accordance with the permitted standards and requirements of the City of Wilmington, NCDOT, or CSX Railroads.

#### 1.5 NOTIFICATION TO LOCAL RESIDENTS IMPACTED BY WORK

- A. The Contractor shall provide work schedules, traffic control plans, and other information needed for accurate notifications to local residents of construction activity area. The Contractor shall coordinate with CFPUA, NCDOT and the City of Wilmington to provide public notifications within seven (7) days prior to beginning work in an area. CFPUA shall be responsible for issuing public notification to the media when necessary. Contractor shall be responsible for placing door hangars in advance of scheduled work. Copies of door hangars to be distributed to local residents shall be submitted to the CFPUA Project Manager for approval prior to distribution.

#### 1.6 PROTECTION OF WORK AND PROPERTY

- A. Property Monuments: The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed. Any property monuments, iron pins, etc., disturbed by the Contractor's actions will be restored at the Contractor's expense. Only licensed land surveyors will be utilized to restore property monuments, etc.
- B. Clearing: To lessen the impact to adjacent property owners, the Contractor will submit a request to the Engineer and Owner for any clearing activities. Only the area required for access and Work will be cleared, as approved by the Engineer and CFPUA.
- C. Protection of Shallow Buried Pipelines: The Contractor shall protect the integrity of all shallow public and private utility mains at all times, via approved resources such as

wood road mats, crane mats, PE mats, road plates, etc, to be installed prior to the beginning of work. The approved protection method shall be maintained during and properly removed at the end of the Work.

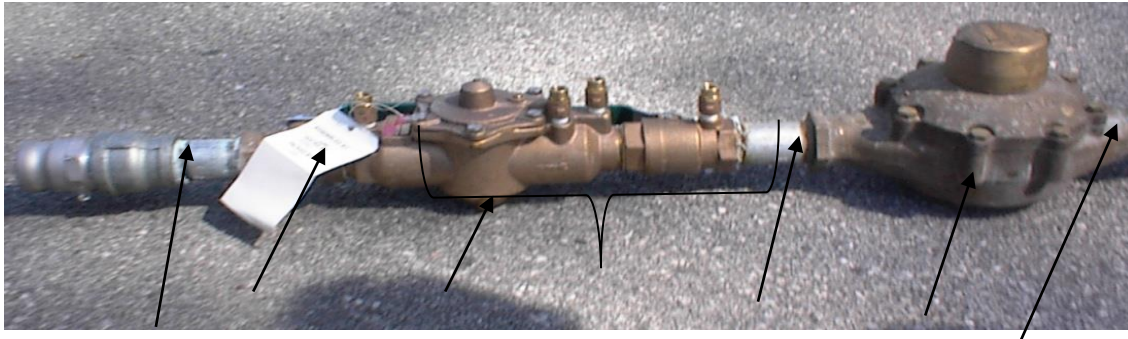
- D. Tree Protection: All trees located in the road right-of-way and along the sewer easements shall be protected from damage. Any trees damaged shall be replaced to the satisfaction of the Engineer and CFPUA at no additional cost to the Owner.

#### 1.7 RESPONSIBILITY FOR DAMAGE

- A. The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.
- B. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or inconsequence of the non-execution thereof by the contractor, he shall restore, at his own expense, such property to a condition equal to or better than existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

#### 1.8 CFPUA WATER SUPPLY AND BACKFLOW PREVENTION REQUIREMENTS

- A. The Contractor shall meet all CFPUA requirements for connecting to hydrants. The Contractor shall obtain a permit for connecting to the CFPUA's hydrants. The permit application is titled "Procedure for Obtaining Special Water Use" and can be obtained from CFPUA, Community Compliance at 628 Groundwater Way, Wilmington, NC 28411.
- B. The requirements for connecting to hydrants are specified by the CFPUA, Community Compliance. No mobile hydrant meter shall be connected to an CFPUA hydrant without approval from Community Compliance. The Contractor is responsible for the purchase and assembly of an approved mobile hydrant meter with backflow preventer assembly. All approved standard assemblies can be obtained from Community Compliance. A permit and complete assembly are required for each vehicle that will obtain water – meters cannot be moved from one vehicle to another unless otherwise approved by the CFPUA, Community Compliance. The hydrants shall be operated in a manner as defined by CFPUA. The Contractor shall be responsible for any damage caused by improper operation of hydrants. The Contractor is responsible for meeting all requirements whether listed herein or not.
- C. The Contractor shall submit to the Engineer or CFPUA, a copy of the approved permit for each vehicle prior to obtaining water.
- D. Backflow Prevention
  - 1. Typical Design Template for Mobile Hydrant Meter with Reduced Pressure Backflow Prevention Shown Below:



Coupling w/  
hose connector

RP backflow  
preventer

Coupling

Meter

Connection for  
hose to hydrant

- a. Diameters may vary, a 2" meter assembly is shown. When assembly is set up for a smaller size meter (e.g. 3/4"), then the couplings would be 3/4" or 5/8".
- b. Fire hose fitting shall be a 2-1/2" Wilmington Thread. Adapters are available for Wilmington Thread to National Standard Thread.
- c. Meters shall register in gallons. Kent, Sensus, Hersey, or Neptune meters are approved for this application.
- d. Local material suppliers for this assembly:
  - 1) Core and Main – 6501 Amsterdam Way
  - 2) National Water Works – 407 Landmark Drive
  - 3) Wilmington Rubber & Gasket – 609 Greenfield Street
  - 4) Fortiline Waterworks – 3321 US-421 N.
- e. A partial list of approved reduced pressure backflow preventers follows. Others may also be approved.

Febco 835B	Conbraco 40-202-A2	Watts 009M2QT	Wilkins 975	Ames 4000B
Febco 825	Conbraco 40-203-02	Watts 909	Wilkins 975XL	Ames 4000SS
Febco 825Y	Conbraco 40-205-A4	Watts 009QT	Wilkins 975XLV	
Febco 860	Conbraco 40-200-02	Watts 009M1QT	Wilkins 575	
	Conbraco 40-204-99T	Watts 009SSQT		
	Conbraco 40-203-A2			

## 1.9 NCDEQ MINIMUM SEPARATION OF WATER AND SEWER UTILITIES

- A. In accordance with 15A NCAC 02T .0305 (f), the following minimum separations shall be provided for the sewer system except as allowed by Paragraph (g) of this Rule:
1. Storm sewers and other utilities not listed below  
(vertical) 24 inches
  2. Water mains  
(vertical-water over sewer including in benched trenches) 18 inches  
(horizontal) 10 feet
  3. Reclaimed water lines  
(vertical – reclaimed over sewer) 18 inches  
(horizontal) 2 feet
  4. Any private or public water supply source, including any wells, WS-I waters or Class I or Class II impounded reservoirs used as a source of drinking water 100 feet
  5. Waters classified WS (except WS-I or WS-V), B, SA, ORW, HQW, or SB from normal high water (or tide elevation) and wetlands 50 feet
  6. Any other stream, lake, impoundment, or ground water lowering and surface drainage ditches 10 feet
  7. Any building foundation 5 feet
  8. Any basement 10 feet
  9. Top slope of embankment or cuts of 2 feet or more vertical height 10 feet
  10. Drainage systems and interceptor drains 5 feet
  11. Any swimming pool 10 feet
  12. Final earth grade (vertical) 36 inches
- B. In accordance with 15A NCAC 02T .0305 (g), the following alternatives where separations in Paragraph (f) of this Rule cannot be achieved. Nothing in this Paragraph shall supersede the allowable alternatives provided in the Commission for Public Health Public Water Supply Rules (15A NCAC 18C), Commission for Public Health Sanitation Rules (15A NCAC 18A) or the Groundwater Protection Rules (15A NCAC 02L and 15A NCAC 02C) that pertain to the separation of sewer systems to water mains or public or private wells:
1. For storm sewers, engineering solutions such as ductile iron pipe or structural bridging to prevent crushing the underlying pipe.
  2. For public or private wells, piping materials, testing methods and acceptability standards meeting water main standards shall be used where these minimum separations cannot be maintained. All appurtenances shall be outside the 100-foot radius. The minimum separation shall however not be less than 25-feet from a private well or 50-feet from a public well.
  3. For public water mains horizontal or vertical separations, alternatives as described in 15A NCAC 18C .0906(b) and (c) as follows:
    - a. (b) Crossing a Water Main Over a Sewer. Whenever it is necessary for a water main to cross over a sewer, the water main shall be laid at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer, unless local conditions or barriers prevent an 18-inch vertical separation, in which case, both the water main and sewer shall be

constructed of ferrous materials and with joints that are equivalent to water main standards for a distance of 10-feet on each side of the point of crossing.

- b. (c) Crossing a Water Main Under a Sewer. Whenever it is necessary for a water main to cross under a sewer, both the water main and the sewer shall be constructed of ferrous materials and with joints equivalent to water main standards for a distance of 10-feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing.
- 4. For less than 36-inches cover from final earth grade, ductile iron pipe shall be specified. Ductile iron pipe or other pipe with proper bedding to develop design supporting strength shall be provided where sewers are subject to traffic bearing loads.
- 5. For all other separations, materials, testing methods and acceptability standards meeting water main standards (15A NCAC 18C).

#### 1.10 RESTORATION OF DISTURBED AREAS

- A. The Contractor will be required to complete all restoration to disturbed areas within a timely manner following work completion.
- B. All restoration work shall conform to the CFPUA, City of Wilmington, and NCDOT permits for replacement and/or restoration and shall equal or exceed pre-construction conditions.
- C. Restorations include, but is not limited to, grading, seeding, mulching, pavement, sidewalks, driveways, storm drain pipes, curbs and gutters, fences, sign replacement and mailbox replacement.
- D. Existing fences that are disturbed during construction shall be repaired or replaced to a condition equal to or better than the original unless a release is obtained in writing from the property owner and submitted to the Engineer or CFPUA. All fences shall be replaced immediately after operations have cleared the fence line.
- E. Restoration of affected areas shall begin immediately upon termination of operations in the area disturbed.
- F. If the Contractor fails to adhere to this provision, all Work operations will be stopped until compliance is met.
- G. Restoration will be performed by the Contractor to the satisfaction of the Engineer and State, City or local utility permitting authorities.
- H. All costs for restoration shall be incidental to the contract.

#### 1.11 REGULATORY ENFORCEMENT ACTIONS IMPOSED

- A. The Contractor shall be fully responsible for any and all violations of regulatory permit conditions issued for the Work. In the event that a violation occurs or if a Notice of Violation (NOV) is received, the Contractor shall take immediate action to correct the violation as directed or required by State and Federal Agencies, Engineer or CFPUA.

Any penalties and fines resulting from such violation shall be assessed to the Contractor. In the event that a violation resulting from the Contractor's activities results in a Cease Work Order by the U.S. Corps of Engineers or other responsible state or federal agency, the Contractor shall be held fully responsible for all damages resulting from such delay and any associated penalties.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION