

**Greater New Haven Water Pollution Control Authority
Protecting the Environment**



PROJECT: 2018 MANHOLE REHABILITATION

PROJECT NUMBER: SSR 2018-08

**BID OPENING: 10:00 A.M.
Tuesday
November 6, 2018**

**NOT FOR BIDDING PURPOSES
REFERENCE COPY ONLY**



**GREATER NEW HAVEN
WATER POLLUTION CONTROL AUTHORITY
260 EAST STREET
NEW HAVEN, CT 06511
PHONE: 203.466.5280 FAX: 203.772.2027
WEB: WWW.GNHWPCA.COM
EMAIL: ENGINEERING@GNHWPCA.COM**

EMERGENCY NUMBER: 203-466-5260

Greater New Haven Water Pollution Control Authority
2018 MANHOLE REHABILITATION
Project No. SSR 2018-08

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BIDDER'S CHECKLIST

At a minimum, the following separate documents shall be completed and submitted with each bid:

1. Itemized Proposal
2. Bid Bond
3. Statement of Qualifications

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Greater New Haven
Water Pollution Control Authority

INVITATION

for Constructing

**PROJECT: 2018 MANHOLE REHABILITATION
GNHWPCA PROJECT NO. SSR 2018-08**

Sealed bids will be received at the Office of the Director of Finance and Administration of the Greater New Haven Water Pollution Control Authority located at 260 East Street, New Haven, Connecticut 06511 for the **2018 MANHOLE REHABILITATION PROJECT (SSR 2018-08)** until **10:00 AM on Tuesday, November 6, 2018** at which time and place said bids will be opened publicly and read aloud.

The proposed project includes the rehabilitation of approximately 2000 vertical feet of sanitary sewer manholes within the Authority's service area.

The information for Bidders, Proposal, Form of Contract, and Specifications may be examined at the Office of the Construction Administrator at the above address. Any one submitting a bid for this project must have in their possession a copy of **THE GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY STANDARD SPECIFICATIONS dated September 2017**. The document can be obtained upon payment of One Hundred Dollars (\$100.00). The "bid package" containing the Invitation; Proposal; Plans; Special Specifications and Notes can be obtained upon payment of a non-refundable fee of Fifty Dollars (\$50.00).

There will be a non-mandatory **pre-bid meeting** on **Tuesday, October 30, 2018 at 10:00 AM** at the Greater New Haven Water Pollution Control Authority Administration Building (260 East Street, New Haven, CT 06511).

A certified check or bid bond in the amount of **fifteen percent (15%)** of the total bid amount must accompany the bid. Said checks or bid bonds will be returned to the unsuccessful bidders upon Award of the Contract to the selected firm and execution of the Agreement. If any bid is not accompanied by a bid bond or check at the specified time for the bid opening, the incomplete bid will not be read and this action will constitute automatic rejection of the bid.

The successful bidder will be required to furnish a performance bond and a labor and materials payment bond in the form as attached to the Bid Documents for the amount of the total bid. A certified check can not be substituted for either bond. The Greater New Haven Water Pollution Control Authority reserves the right to alter quantities and to accept or reject any or all bids or any portion of any bids, for any or no reason, including unavailability of appropriated funds as it may deem to be in its best interests.

All bidders are to note that the award of this Contract is subject to the following conditions and contingencies:

1. The approval of such governmental agencies as may be required by law.
2. The appropriation of adequate funds by the proper agencies.

Gabriel Varca
Director of Finance and Administration

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1. Location of GNHWPCA Offices

The GNHWPCA Administration Building is located at 260 East Street, New Haven, Connecticut 06511. All references in the Standard specifications to the Office of the Director of Finance and Administration shall refer to the address above.

2. Liquidated Damages

For each calendar day that any work remains uncompleted after the date specified for the completion of the work provided in the Contract, the amount of FIVE HUNDRED DOLLARS (\$ 500.00) per calendar day will be deducted from any money due the Contractor, not as a penalty but as liquidated damages; provided, however, that due account shall be taken of any adjustment of the contract time of completion of the work as provided for elsewhere in the specifications.

3. Scope of Work

The Greater New Haven Water Pollution Control Authority manages, operates and maintains the wastewater treatment and collection system that serves the City of New Haven, and the Towns of East Haven, Hamden and Woodbridge, Connecticut.

Contractor shall become familiar with all sections of the **GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY STANDARD SPECIFICATIONS dated September 2017**, General Provisions, and Technical Specifications. The Standard Specifications are hereby made a part of the Contract Documents.

The purpose of this Project is to rehabilitate approximately 2,000 vertical feet (VF) of existing sanitary sewer manholes located in the Authority's Service Area. The proposed project includes the rehabilitation of approximately 160 manholes previously identified, and any additional manhole added and as directed by the Engineer.

Rehabilitation of existing manholes may include but it is not limited to the elimination of active infiltration, the application of a lining or coating system, the installation of interior manhole-frame chimney seals, and the installation of invert channel coatings. The Engineer estimates that the diameter of 90% of the manholes is approximately equal or less than 4 feet, with a large number of sewer manhole brick risers (diameter < 4 feet) over sanitary sewer brick pipes.

The Contractor shall perform all work as necessary including preparatory cleaning, testing, traffic control, and temporary bypass pumping or flow control in accordance with this document and the GNHWPCA Standard Specifications.

4. Notice to Contractors

Section 107-01: The Contractor shall observe all federal, state and local laws, ordinances, policies, practices and regulations. In addition, the Contractor agrees to promptly procure all necessary approvals, licenses and permits, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the Work.

The Contractor will be required to cooperate with all other contractors and the owners of the various utilities in and around the Site and to coordinate and arrange the sequence of their work to conform with the progressive operations of such other work. Cooperation and adjustments with the Contractors already engaged and to be engaged upon the Site is essential to properly coordinate the construction efforts of all Contractors, Utility Owners, and Subcontractors engaged in the Work within and adjacent to the construction area of this Project.

The contractor shall be responsible for executing a City of New Haven Road Opening Permit before beginning construction. The contractor shall contact the City Traffic Department to provide detours/road closure information and obtaining the City of New Haven Road Opening Permit for execution of the work. Copies of the executed permit shall be forwarded to the GNHWPCA. The contractor shall provide all necessary traffic control and police protection.

The Contractor shall be required to protect all adjoining properties, all utilities and existing Roadway facilities within the Right-of-Way/Site and to repair or replace any such properties, utilities and facilities damaged or destroyed by them or their employees in performing the Work, both within and adjacent to the Right-of-Way/Site.

5. Modification of General Provisions, Section §107-06 Insurance

The Contractor is required to take out and maintain at its sole cost and expense insurance of the types specified in Section §107-06.

A. The insurance limits for this project have been modified as follows:

i. Umbrella Excess Liability Insurance:

Each Occurrence

\$2,000,000

6. Call-Before-You-Dig

Public Act 87-71 of the Connecticut State statute requires individuals who use power or mechanized equipment for the purpose of disturbing the sub-surface of the earth to provide advance notice of **at least 48 hours** to the "Call Before You Dig" central clearinghouse @ 1-800-922-4455 prior to commencing proposed excavations (see Section VIII for definition of excavation/excavator).

Call Before You Dig, Inc., (CBYD) is a state regulated, nonprofit organization comprised of all public utilities and municipalities within the state of Connecticut.

The Contractor assumes all responsibilities for any damage to the various utility services, and all liabilities arising there from.

7. Modification of Technical Specifications, Item 524 – Sanitary Sewer Manhole Rehabilitation

Replace existing specification with the enclosed Item 524M – Sanitary Sewer Manhole Rehabilitation specification, revised on October 2018.

§ 102-17

PREQUALIFICATION

A State of Connecticut DAS prequalification certificate is NOT required for this project.

Contractor shall submit a completed Statement of Qualifications form with his/her bid.

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STATEMENT OF QUALIFICATIONS

Bidder

Address

Similar Projects Completed by Bidder:

1. NAME OF PROJECT: _____
OWNER: _____ ADDRESS: _____
DATE STARTED: _____ DATE COMPLETED: _____
APPROX. QUANTITIES OF MAJOR ITEMS: _____

VALUE OF CONTRACT: _____
2. NAME OF PROJECT: _____
OWNER: _____ ADDRESS: _____
DATE STARTED: _____ DATE COMPLETED: _____
APPROX. QUANTITIES OF MAJOR ITEMS: _____

VALUE OF CONTRACT: _____
3. NAME OF PROJECT: _____
OWNER: _____ ADDRESS: _____
DATE STARTED: _____ DATE COMPLETED: _____
APPROX. QUANTITIES OF MAJOR ITEMS: _____

VALUE OF CONTRACT: _____
4. OTHER PROJECT REFERENCES: _____

ITEM 524M SANITARY SEWER MANHOLE REHABILITATION

DESCRIPTION:

The Contactor shall be responsible for furnishing all labor, supervision, products, materials, equipment, and incidentals required to complete all manhole rehabilitation work and testing in accordance with this Specification.

Work under this Item consists of sanitary sewer manhole rehabilitation necessary to provide a system that stops infiltration, exfiltration, restores structural integrity, and provides protection for structures subject to hydrogen sulfide corrosion.

All structures scheduled for rehabilitation shall be cleaned, prepared, repaired, patched and/or sealed as required prior to the application of a hybrid epoxy system or polyurethane coating system or fiber reinforced geopolymer or epoxy lining system.

MATERIALS:

A. GENERAL

1. Handling, formulation, and storage of the products and grouts shall be in strict conformance with the manufacturer's recommendations. The uncured compound and grouts shall be delivered to the site in unopened containers, with the date of manufacture clearly indicated.
2. Mixing and handling of the compounds and grouts and the constituents producing it, which may be toxic on contact or inhalation, shall be as recommended by the manufacturer and Contractor shall minimize hazard to personnel. The Contractor is responsible for providing appropriate protective measures to ensure that the components and the chemicals produced in mixing are under the control of the Contractor at all times and are not available to unauthorized personnel or others. Excess material resulting from rehabilitation operations shall be disposed of in a safe manner. All equipment and material shall be subject to the review of the Engineer.
3. All chemical materials used shall meet the following minimum application requirements:
 - a. All component materials shall be easily transportable by common carriers.
 - b. Packing of component materials shall be compatible with field storage requirements.
 - c. Components shall be packed in such a fashion as to provide for maximum worker safety when handling the materials and minimize spillage when preparing for use.

- d. Residual sealing materials shall be removed from the sewer after injection to ensure no flow reductions, restrictions or blockages of sewer flows.

B. EPOXY LINING SYSTEM

To complete a sanitary sewer manhole rehabilitation using an epoxy lining system, the Contractor shall apply a combination of a cementitious liner first, followed by an epoxy coating.

1. Cementitious liner

Approved products with required one-inch thick application:

- a. AP/M Permaform CR-9000;
- b. Strong-Seal MS-2C;
- c. Raven 755.

2. Epoxy coating

Approved products with specified thickness application:

- a. Raven 405: Required thickness – 125 mils;
- b. AP/M Permaform COR+GARD: Required Thickness – 125 mils.

C. HYBRID EPOXY SYSTEM

To complete a sanitary sewer manhole rehabilitation using a hybrid epoxy lining system, the Contractor shall apply CladLiner, a product of CladLiner, with a required thickness of 500 mils.

D. POLYURETHANE COATING SYSTEM

To complete a sanitary sewer manhole rehabilitation using a polyurethane coating system, the Contractor shall apply SprayWall Structural Polyurethane, a product of Sprayroq, with a required thickness of 500 mils.

E. FIBER REINFORCED GEOPOLYMER

To complete a sanitary sewer manhole rehabilitation using a fiber reinforced geopolymer system, the Contractor shall apply GeoKrete Geopolymer, a product of Quadex, with a required thickness of one-inch.

F. ACTIVE LEAK CONTROL

Active leak control materials are to be utilized to stop running water, infiltration, and other water stop needs. All active leak control materials must be compatible with the repair and lining materials proposed by the Contractor.

Approved materials include CladStop, Avanti AV-100, Strong-Plug, Strong-Seal Grout, or equal injection hydrophobic polyurethane products. Repair work shall follow manufacturer's recommended installation methods.

G. PATCHING, REPOINTING, FILLING AND REPAIRING NON-LEAKING HOLES, CRACKS AND SPALLS

Approved patching materials include CladRestore, Strong-Seal QSR, or equal. Patching materials must be compatible with the active leak control and lining materials proposed by the Contractor. Repair work shall follow manufacturer's recommended installation methods.

H. INVERT REPAIR

Invert repair shall be performed on all inverts with visible damage or where infiltration is present or when vacuum testing is specified. All invert repair materials must be compatible with the active leak control and lining materials proposed by the Contractor.

Acceptable products are CladRestore, Strong-Seal QSR, or approved equal.

I. MANHOLE FRAME CHIMNEY SEAL MATERIAL

Manhole frame chimney seals shall be applied of a corrosion resistant aromatic flexible urethane resin coating fully compatible with the manhole rehabilitation liner. The coating shall include a primer and a final coat. Frame chimney seals shall be Flex-Seal Utility Sealant as manufactured by Sealing Systems, Inc., Loretto, MN or equal.

CONSTRUCTION DETAILS:

A. REFERENCES:

The latest codes and standards referenced herein and belonging to the following organizations shall be followed:

1. American Society for Testing and Materials (ASTM)
2. National Association of Corrosion Engineers, NACE International (NACE)
3. The Society for Protective Coatings (SSPC)

4. Occupational Safety and Health Administration (OSHA)
5. Resource Conservation and Recovery Act (RCRA)
6. International Concrete Repair Institute (ICRI)
7. National Association of Sewer Service Companies (NASSCO)

B. SUBMITTALS:

1. The Contractor shall submit manufacturer's technical data, details, and specifications showing complete information on surface preparation and application procedures, material composition, physical properties and installation equipment.

The Contractor shall submit the testing procedure to ensure the liner system is of required thickness, strength and water-tightness. Provide a site-specific testing plan. Test records shall include GNHWPCA manhole identification, test used, location of each defect tested, and a statement indicating test results.

2. The technical data, with quantitative and qualitative values based on ASTM testing results, and/or other 3rd party testing methods shall demonstrate performance conformity with these specifications. If submitting an alternative product, please follow procedures set forth below.
3. The Contractor shall submit manufacturer's certification of applicator's successful completion of training in use of the application equipment, rehabilitation products, and rehabilitation procedures.
4. The Contractor shall submit warranty information.
5. In order to be considered as an equal product, said product will have to meet the minimum physical and performance properties of the products described herein as measured by the applicable ASTM standards referenced or other 3rd party referenced testing methods. Testing results must be performed and presented in the form of technical data sheets. Equal products' technical specifications/data and material safety data must be submitted to the Engineer a minimum of ten (10) days prior to bid date. Written product pre-approval is required to determine if the prospective product may be bid and utilized on this project(s). A product will be rejected as unacceptable should submittal to the Engineer not be received by the deadline and should the bid package not have enclosed a written approval from the Authority.

C. QUALITY ASSURANCE:

1. Product Manufacturer Qualifications – The manufacturers shall have a minimum

of 5 years' experience manufacturing the liner products.

2. Contractor Qualifications – The Contractor shall have at least 3-years' experience applying manhole lining systems. The Contractor shall have installed the lining system proposed for this project in a minimum of 200 manholes.
3. Single Source Responsibility - All products used with the lining system, including but not limited to, materials for infiltration control, invert repair and patching shall be approved by and supplied through the lining system manufacturer.
4. Quality Control of Application Conditions - The Owner reserves the right to cancel manhole rehabilitation work due to concerns with weather conditions. Provide continuous ventilation and, if necessary, cooling and heating facilities to maintain surface and ambient temperatures before, during, and following application of finishes, within temperature range and for duration as directed by the Manufacturer.
5. All work must be supervised by a foreman responsible for rehabilitating a minimum of 50 manholes using the proposed manufacturer's manhole lining system.

D. GUARANTEE:

1. Materials and labor shall be warranted by the Contractor of applied material systems for a minimum period of ten (10) years from the date of final acceptance of the project, once correctly applied by an approved applicator and inspected.
2. Failure will be deemed to have occurred if the protective system fails to (a) prevent the internal damage or corrosion of the underlying structure due to bacteriological, chemical, gaseous attack in the form of hydrogen sulfide (H₂S) found in sanitary sewer collection systems (b) seal and protect the substrate and environment from contamination by effluent, (c) seal and protect from influent. It does not include excessive, atypical, non-wastewater induced chemical abuse, structural deficiencies, or atypical acts of God which cause hybrid damage.
3. Contractor shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during said warranty period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without cost to the Authority.

E. LEGAL, SAFETY AND HEALTH REQUIREMENTS

The Contractor shall observe all federal, state and local laws, ordinances, policies, practices and regulations. In addition, the Contractor agrees to promptly procure all necessary approvals, licenses and permits, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

The Contractor shall conduct the work at all times in such a manner as to insure the least possible obstruction to traffic. The convenience of the general public and of the residents along and adjacent to the roadway shall be provided for in an adequate and satisfactory manner as the Engineer may direct.

All equipment and Materials shall be placed or stored in such locations so as not to be or to create the danger of becoming a hazard to the traveling public. No section of road shall be closed to the public except by permission of the municipality and Authority.

The safety provisions of applicable laws, building, construction and fire safety codes and the latest edition of the "Construction Safety Code, State of Connecticut, Labor Department", approved by the State Labor Commissioner, shall be complied with at all times.

The Contractor shall perform operations in strict accordance with OSHA and manufacturers' safety requirements. Particular attention is drawn to safety requirements involving entering confined spaces.

Damage incurred to the manhole or pipe segments due to methods and equipment employed by the Contractor is the responsibility of the Contractor. Damage to public and private property from sewer surcharging that results from material or equipment left in the manhole or sewer or from any flow blockage is the responsibility of the Contractor. The cost to repair the manhole or pipe segments and expenses incurred by the Authority as a result of the damage shall be the responsibility of the Contractor.

F. MANHOLE CLEANING / PREPARATION

1. Clean bench/invert floor and interior walls of manholes by removing deleterious material, including dirt, grease, and other debris. Use high-pressure water, at a minimum force of 3,000 psi. If required, use approved cleaners to remove grease, oil, and other matter, which would prevent a good bond between existing manhole wall and the approved repair materials.
2. Preparation of the interior surfaces shall conform to requirements of the wall liner material manufacturer. Loose and protruding brick, mortar and concrete shall be removed using a mason's hammer and chisel and/or scrapper. No debris shall be disposed of into the sewer system.
3. Active leaks shall be stopped and all interior surfaces shall be prepared as recommended by the lining manufacturer.
4. Insert plywood mats or sheeting over the existing flow channel and bench to prevent debris from falling into the sewer and to collect debris from manhole bench.
5. Existing manhole steps shall be removed, ground smooth, and patched. Step removal shall be incidental to the manhole rehabilitation costs.

6. Drop Connections – The Contractor shall confirm whether a drop connection exists. If one is found, the Contractor shall remove any interior drop connections anchored to manhole walls prior to installing the lining system. After installation and proper curing of the liner, the Contractor shall re-install interior drop connections to their original condition prior to removal. Installation of new inside drops, if requested by the Engineer, shall follow the Authority's standard construction detail SD523-08 & SD523-09.

G. GENERAL APPLICATION

Sewer manhole rehabilitation lining shall be applied in accordance with the material manufacturer's specifications. Plugging leaks and patching surfaces shall be performed where indicated or required. Coatings and sealants shall be applied to all surfaces from the manhole base to the manhole frame. Apply lining material to the manhole bench and produce a gradual slope from the walls to the invert with the thickness at the invert to be no less than 1 inch. Round the wall/bench intersection to a uniform radius the full circumference of the intersection.

H. MANHOLE FRAME CHIMNEY SEAL

Manhole frame chimney seal installation shall be in strict accordance with the manufacturer's instructions. The Engineer shall inspect each manhole frame chimney seal after installation and before payment is made. There shall be no infiltration, inflow, or other leakage through the manhole frame chimney joint after the frame chimney seals have been installed. If leakage is evident, the manhole frame chimney seal shall be repaired as approved by the Engineer.

Contractor shall guarantee the manhole frame chimney seal for two full years from the date of acceptance by the Engineer to the extent that any defects including, but not limited to, root penetration signs or infiltration, cracks or excess grouting material, which may appear from faulty workmanship or material furnished by the Contractor shall be repaired. No additional payment will be made for repairing manhole frame chimney seals that fail testing.

The chimney seal shall be applied from a point 2-inches above the joint between the frame and chimney to a depth as required to rehabilitate the chimney. The minimal coverage shall be 12-inches, unless otherwise directed by the Engineer.

I. INSPECTION AND TESTING

1. Quality Assurance and Acceptance:
 - a. Four (4) - two-inch test cubes of the liner shall be cast each day or from every pallet of product used, and shall be properly packaged, labeled and sent for compression strength testing per ASTM C-109, to an independent testing

laboratory acceptable to the Engineer and paid for by the Contractor.

b. After completion of manhole rehabilitation, Contractor shall verify the minimum coating thickness of the manhole liner. The Contractor shall propose a method for measuring the liner thickness. The costs associated with measuring the liner thickness shall be included in the unit bid price. If the thickness of the lining is not uniform or is less than specified, it shall be repaired or replaced at no additional cost to the Authority.

2. After the manhole rehabilitation work has been completed, the manhole shall be visually inspected by the Engineer in the presence of the Contractor and the work shall be found satisfactory to the Engineer. Any work that has been found to be defective shall be redone by the Contractor at no additional expense to the Authority.

3. Approximately 10% of manholes shall be vacuum tested to ensure a watertight installation. Manholes that will be vacuum tested will be selected by the Engineer.

a. Testing for water tightness shall be accomplished by vacuum testing in accordance with ASTM C 1244.

b. Manholes shall be vacuum tested and shall have a minimum of 8-inches of mercury applied to the manhole. Pressure drop shall not exceed 1 inch of mercury in a 1-minute test.

c. If the tested manhole meets the required test pressure and duration, full payment for the manhole will be made. If the time duration measured to drop 1 inch of mercury is less than the required time as noted above, the manhole will have failed the vacuum test, and payment will be reduced as described below.

i. If the tested manhole achieves the required initial vacuum pressure but holds the required pressure for less than the required time duration, half payment for the applicable manhole pay item will be made for that manhole.

ii. If the tested manhole fails to achieve the initial specified pressure, no payment will be made for the applicable manhole pay item for that manhole.

d. Contractor may repair and re-test manholes which fail the vacuum test. If the manhole passes the subsequent vacuum test, the Contractor shall be entitled to the commensurate payment for the manhole Work.

e. Written verification of every manhole test must be provided to the Engineer. The following minimum information shall be recorded and provided:

i. Manhole Number.

ii. Beginning test pressure, end test pressure, and test duration (minimum 60

- seconds).
- iii. Repeat test number.
- iv. Repairs made.

M. CLEAN UP

The Site shall be cleaned on a continuous, daily basis during performance of the work and shall be cleaned upon completion so that the Project Site shall be left in a neat and orderly condition acceptable to the Engineer.

MEASUREMENT AND PAYMENT

This work will be measured for payment by the actual number of vertical linear feet of manhole rehabilitated in accordance with these specifications. Measurement shall be made from the invert of the out flowing pipe to the bottom of the manhole cover and rounded to the nearest whole number of feet. Invert rehabilitation shall be included in this vertical foot unit cost.

This work shall be paid for at the unit price bid per vertical foot for Sanitary Sewer Manhole Rehabilitation completed and accepted, which price shall include all materials, labor, tools, and equipment necessary and incidental to complete the work in accordance with these specifications including plugging holes and under drains, stopping active hydrostatic infiltration, patching, filling and repairing non-infiltrating holes, cracks and breaks, surface preparation, installation and/or application of manhole lining system, installation and/or application of an injection grout system, testing, sealing pipe connections, lift holes, riser joining sections, bench/trough and corbel sections, frames and covers, and cleanup of the site.

No measurement will be made for partially completed manhole rehabilitation.

There will be a separate measurement for payment for the Installation and/or application of a manhole frame/chimney seal if requested by the Engineer.

There will be no separate measurement for payment for the cost of temporary bypass pumping, but the cost thereof shall be included in the contract unit price for sanitary sewer manhole rehabilitation.

Maintenance and Protection of Traffic will be measured and paid for in accordance with the provisions of Item 971, "Maintenance and Protection of Traffic." When no price for Item 971, Maintenance and Protection of Traffic, is asked for on the Proposal Form, this work will not be measured for payment, but the cost shall be included in the unit price bid for sanitary sewer manhole rehabilitation.

| <u>Item Number</u> | <u>Pay Item</u> | <u>Pay Unit</u> |
|--------------------|------------------------------------------|-----------------|
| 524.01 | Sanitary Sewer Manhole Rehabilitation | Vertical Foot |
| 524.02 | Flex Coat Chimney Seal | Each |

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ITEMIZED PROPOSAL

For Constructing

PROJECT: 2018 MANHOLE REHABILITATION

GNHWPCA PROJECT NO. SSR 2018-08

The work proposed herein must be completed by March 30, 2019.

Greater New Haven
Water Pollution Control Authority
260 East Street
New Haven, Connecticut 06511

To Whom It May Concern,

In submitting this bid the duly authorized undersigned declares that the entity on behalf of which this bid is made is, or they are, the only person or persons interested in the said bid; that the bid is made without any connection with any person making another bid for the same contract; that the bid is in all respects fair and without collusion, fraud or mental reservation; and that no official of the Greater New Haven Water Pollution Control Authority, or any person in the employ of the Authority is directly or indirectly interested in said bid or in the supplies or work to which it relates, or in any portion of the profits thereof.

The undersigned also hereby declares that they have, either for themselves or on behalf of the entity they represent, carefully examined the Plans, specifications, and form of Contract for this Project, have personally inspected the actual location of the Work and have considered potential local sources of supply, and are satisfied as to all the quantities and conditions, and understands that in signing this Proposal they or the entity that they represent waives all rights to plead any misunderstanding regarding the same.

The undersigned further understands and agrees that they are to furnish and provide for the respective item price bid all the necessary material, machinery, implements, tools, labor, services, and other items of whatever nature, and to do and perform all the Work necessary under the aforesaid conditions, to complete the improvements of the Project, which Plans and specifications it is agreed are a part of this Proposal, and to accept in full compensation therefore the amount of the summation of the products of the approximate quantities multiplied by the unit prices bid. This summation will hereinafter be referred to as the gross sum bid.

The undersigned further agrees to accept the aforesaid unit bid prices in compensation for any additions or deductions caused by any variation in quantities due to more accurate measurement, or by any changes or alterations in the Plans or specifications

of the Work and for use in the computation of the value of the Work performed for monthly estimates.

Every Proposal must be accompanied by a certified check or bank cashier's check or bid bond payable to the Greater New Haven Water Pollution Control Authority in the amount of fifteen percent (15%) of the bid.

Accompanying this Proposal is a certified check or bank cashier's check or bid bond payable to the Greater New Haven Water Pollution Control Authority in the amount of \$_____. In case this Proposal shall be accepted by the Authority, and the undersigned shall fail to execute the Contract, the monies represented by such certified check or bank cashier's check or bid bond shall be regarded as liquidated damages and shall be forfeited and become the property of the Authority. The undersigned understands and accepts:

- A. When Work is required in which no specific payment item is listed on the Proposal Form, the cost of such Work shall be included in the unit prices bid.
- B. All unit prices, lump sums, etc. listed in the bid Proposal are firm and not subject to change for ninety (90) days from the day bids are opened.
- C. Within ten (10) days from the date of a notice of acceptance of this Proposal, the undersigned agrees to execute the Contract and to furnish to the Authority a satisfactory "Faithful Performance Bond" and "Labor and Material Payment Bond" in the amount of one hundred percent (100%) of the Contract price.
- D. Time is of the Essence. All Work to be performed under the Contract shall be completed within the time stated in the Agreement for the Project or within such extended time for completion as may be granted by the Authority.
- E. ~~As a condition of the Contract Award, the successful Bidder shall provide proof, from the Connecticut Secretary of State's office, of its current authorization to do business in Connecticut. All Connecticut corporations must provide a Certificate of Good Standing from the Secretary of State's Office. All foreign (out of State) corporations shall provide a valid license to do business in Connecticut, in the form of a current Certificate of Authority from the Secretary of State's office and evidence of compliance with the bond requirements of the Connecticut Department of Revenue Services. These documents must be presented within thirty (30) days from the date of the bid opening.~~

Bidder acknowledges receipt of the Addenda listed below and further acknowledges that the provisions of each Addendum have been included in the preparation of this bid.

| Addendum No. | Date Received | Addendum No. | Date Received |
|--------------|---------------|--------------|---------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

COMPANY NAME (BIDDER): _____

Address of Bidder: _____

Phone Number: Area Code (_____) _____

I hereby sign this document acting within my authority as a duly authorized representative of the named Bidder. By signing below, I certify, acknowledge and affirm that the information set forth in this document is true, accurate and complete to the best of my knowledge and belief.

Signature of Bidder: _____ **Dated:** _____

Name and Addresses of Members of the Firm:

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GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

Project: 2018 Manhole Rehabilitation
Project Number: SSR 2018-08



Schedule Of Bid Items

| ITEM NUMBER | ESTIMATED QUANTITY | UNIT | ITEM WITH UNIT PRICE WRITTEN IN WORDS | UNIT BID PRICE | | AMOUNT BID | |
|----------------|-----------------------|------|--------------------------------------------------------|----------------|-------------|------------|-------------|
| | | | | DOLLARS | CTS | DOLLARS | CTS |
| 524 | 2037 | VF | Vertical Foot Sanitary Sewer Manhole Rehabilitation | | | | |
| | | | For - | | | | |
| 512.01 | 6 | EA | Each Sanitary Sewer Install Interior MH Drop - 6" | | | | |
| | | | For - | | | | |
| 512.02 | 6 | EA | Each Sanitary Sewer Install Interior MH Drop - 6" | | | | |
| | | | For - | | | | |
| 971 | 1 | LS | Lump Sum Maintenance and Protection of Traffic | | | | |
| | | | For - | | | | |
| 970.00 | 1 | AM | Allowance Traffic Men | \$ | 80,000 . 00 | \$ | 80,000 . 00 |
| | | | For - Eighty Thousand Dollars and No Cents | | | | |

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REFERENCE COPY ONLY

GREATER NEW HAVEN WATER POLLUTION CONTROL AUTHORITY

Project: 2018 Manhole Rehabilitation
Project Number: SSR 2018-08



Schedule Of Bid Items

| ITEM NUMBER | ESTIMATED QUANTITY | UNIT | ITEM WITH UNIT PRICE WRITTEN IN WORDS | UNIT BID PRICE | | AMOUNT BID | |
|----------------|-----------------------|------|---------------------------------------|----------------|-----|------------|-----|
| | | | | DOLLARS | CTS | DOLLARS | CTS |

975 1 LS Lump Sum
Mobilization

For - _____

BASE BID
TOTAL OR GROSS SUM IN WORDS: _____

\$ _____
IN FIGURES

Signature of Bidder: _____

Dated: _____

Printed Name: _____

Name of Firm: _____

ALTERNATIVE BID No. 1

524.02 51 EA Each
Flex Coat Chimney Seal

For - _____

ALTERNATIVE BID No. 1
TOTAL OR GROSS SUM IN WORDS: _____

\$ _____
IN FIGURES

Signature of Bidder: _____

Dated: _____

Printed Name: _____

Name of Firm: _____

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APPENDIX A

PERFORMANCE BOND

AND

LABOR AND MATERIALS PAYMENT BOND

PROJECT: 2018 MANHOLE REHABILITATION

GNHWPCA PROJECT NO. SSR 2018-08

BOND NO. _____

PAYMENT BOND (incorporating C.G.S. § 49-41)

KNOW ALL MEN BY THESE PRESENTS: That by this Bond, we, _____ (hereinafter called the "Principal") and _____ (hereinafter called the "Surety"), located at _____, a surety insurer chartered and existing under the laws of the State of _____ and authorized to do business in the State of Connecticut, are held and firmly bound unto the Greater New Haven Water Pollution Control Authority (hereinafter called "Owner") in the sum of _____ (\$_____) for the payment whereof we bind ourselves, our heirs, personal representatives, executors, successors and assigns, jointly and severally.

WHEREAS, Principal and the Owner have reached a mutual agreement (hereinafter referred to as the "Contract") for the purpose of _____, said Contract being made a part of this Bond by this reference.

NOW, THEREFORE, THE CONDITION OF THIS BOND is that if the Principal:

1. Promptly makes payments to all claimants supplying the Principal with labor, materials or supplies, as used directly or indirectly by the Principal in the prosecution of the work provided for in the Contract; and
2. Pays the Owner for all losses, damages, expenses, costs, and attorneys' fees, including the costs of any mediation, arbitration, litigation or appellate proceedings, that the Owner sustains because of a default by the Principal under paragraph 1 of this Bond, then this Bond is void; otherwise this Bond remains in full force and effect.

BE IT FURTHER KNOWN:

Any changes in or under the Contract and compliance or noncompliance with formalities connected with the Contract or alterations which may be made in the terms of the said Contract, or in the work to be done under it, or the giving by the Owner of any extension of time for the performance of the said Contract, or any other forbearance on the part of the Owner or Principal to the other, shall not affect the obligation of the Principal and the Surety, or either of them, their heirs, personal representatives, successors or assigns under this Bond, notice to the Surety of any such changes, alterations, extensions or forbearance being hereby waived.

This Bond is issued in accordance with and expressly incorporates herein the requirements of Conn. Gen. Stat. § 49-41.

IN WITNESS WHEREOF, the above parties have executed this instrument this ____ day of _____, 20__, the name of each party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Signed, sealed and delivered in the presence of:

Witnesses as to Principal:

PRINCIPAL:

By: _____

Name: _____

Its: _____

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, 20__ by _____, as _____ of _____, a _____ corporation/limited liability company /partnership], on behalf of the _____ corporation/limited liability company/partnership]. [He/She/It is personally known to me or who has produced _____ as identification and who [did] [did not] take an oath.

My Commission Expires: _____

Notary Public (Signature)

(AFFIX NOTARY SEAL)

(Printed Name)

(Title or Rank)

(Serial Number, if any)

ATTEST:

SURETY:

Witnesses as to Surety:

(Printed Name)

(Business Address)

(Authorized Signature)

(Printed Name)

OR

Witnesses as to Attorney-in-Fact:

As Attorney-in-Fact
(Attach Power of Attorney)

(Business Address)

(Printed Name)

(Telephone Number)

NOT FOR BIDDING PURPOSES
REFERENCE COPY ONLY

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ____ day of _____, 20__
by _____, as _____ of _____, a Surety, on behalf of the
Surety. [He/She] is personally known to me or who has produced _____ as
identification and who [did] [did not] take an oath.

My Commission Expires:

(AFFIX NOTARY SEAL)

Notary Public (Signature)

(Printed Name)

(Title or Rank)

(Serial Number, if any)

NOT FOR BIDDING PURPOSES
REFERENCE COPY ONLY

BOND NO. _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That _____ as Principal, and _____, as Surety, located at _____ (Business Address), a surety insurer chartered and existing under the laws of the State of _____ and authorized to do business in the State of Connecticut, are held and firmly bound unto the Greater New Haven Water Pollution Control Authority, as Obligee, in the sum of _____ (\$_____) for the payment whereof we bind ourselves, our heirs, executors, personal representatives, successors and assigns, jointly and severally.

WHEREAS, Principal has entered into a contract dated as of the _____ day of _____, 20__ with Obligee for

in accordance with drawings and specifications, which contract is incorporated by reference and made a part hereof, and is referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS BOND is that of Principal:

1. Performs the Contract at the times and in the manner prescribed in the Contract; and
2. Pays Obligee any and all losses, damages, expenses, costs, direct or indirect, and attorney's fees, including costs of any mediation, arbitration, litigation or appellate proceedings, that Obligee sustains because of any default by Principal under the Contract, including, but not limited to, all delay damages, whether liquidated or actual, incurred by Obligee;

then this Bond is void; otherwise it remains in full force and effect and Surety shall be fully liable for performance of the Principal's obligations provided thereunder.

In the event of a declaration of default of Principal by Obligee under the Contract, the Surety shall, within twenty (20) days of receipt of notice of such default, either: (1) tender the Obligee the full amount of the penal sum of this Bond; or (2) undertake to perform or complete the remaining Contract obligations itself through its agents or through independent contractors.

If Surety denies liability, in whole or in part, it shall notify the Obligee, in writing, citing the detailed reasons therefor, within fifteen (15) days of receipt of the aforesaid declaration of default of Principal.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, or additions to the terms of the Contract, or other work to be performed hereunder, or the specifications referred to therein shall in anyway affect its obligations under this Bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions to the terms of the Contract, to the work thereunder or to the specifications.

In no event will the Surety be liable in the aggregate to Obligee for more than the penal sum of this Performance Bond, regardless of the number of suits that may be filed by Obligee.

Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the State of Connecticut and shall be instituted within the applicable statute of limitations for contract actions after Principal defaults.

IN WITNESS WHEREOF, the above parties have executed this instrument this ____ day of _____, 20__, the name of each party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Signed, sealed and delivered
in the presence of:

PRINCIPAL

Witnesses as to Principal:

By: _____

Name: _____

Its: _____

NOT FOR BIDDING PURPOSES
REFERENCE COPY ONLY

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by _____, as _____ of _____, a _____ [corporation/limited liability company/partnership], on behalf of the [corporation/limited liability company/partnership]. [He/She/ is personally known to me or what has produced _____ as identification and who [did] [did not] take an oath.

My Commission Expires:

Notary Public (Signature)

(AFFIX NOTARY SEAL)

(Printed Name)

(Title or Rank)

(Serial Number, if any)

NOT FOR BIDDING PURPOSES
REFERENCE COPY ONLY

ATTEST:

SURETY:

Witnesses as to Surety:

(Printed Name)

(Business Address)

(Authorized Signature)

(Printed Name)

Witnesses as to Attorney-in-Fact:

As Attorney-in-Fact
(Attach Power of Attorney)

(Business Address)

(Printed Name)

(Telephone Number)

NOT FOR BIDDING PURPOSES
REFERENCE COPY ONLY

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by _____, as _____ of _____, a _____ [corporation/limited liability company/partnership], on behalf of the [corporation/limited liability company/partnership]. [He/She/ is personally known to me or what has produced _____ as identification and who [did] [did not] take an oath.

My Commission Expires:

Notary Public (Signature)

(AFFIX NOTARY SEAL)

(Printed Name)

(Title or Rank)

(Serial Number, if any)

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REFERENCE COPY ONLY

APPENDIX B

Prevailing Wage Rates

PROJECT: 2018 MANHOLE REHABILITATION

GNHWPCA PROJECT NO. SSR 2018-08

Standard Wage Rate Determination For Certain Service Workers Request Form

Thank you for filling out this form. Below is what you submitted on: Monday, October 15, 2018

| | |
|-----------------------------------------|-------------------------------------------|
| StartDate | December 1 2018 |
| EndDate | March 30 2019 |
| State Agent | Greater New Haven WPCA |
| Contract Name and Number | SSR 2018-08 2018 Manhole Rehabilitation |
| Location of Work Being Performed | New Haven, Hamden, East Haven, Woodbridge |
| Contract Description | Manhole Rehabilitation |
| Total Cost of Contract | 500000 |
| Date Advertised to Bid | 10/20/18 |
| Mail/Pick-Up | Mail |
| Name | Ricardo Ceballos |
| Street Address | 260 East St |
| City | New Haven |
| State | CT |
| Zip Code | 06511 |
| Telephone Number | 2034664122 |
| E-Mail Address | rceballos@gnhwpc.com |

[Return to Wage & Workplace Standards Menu](#)

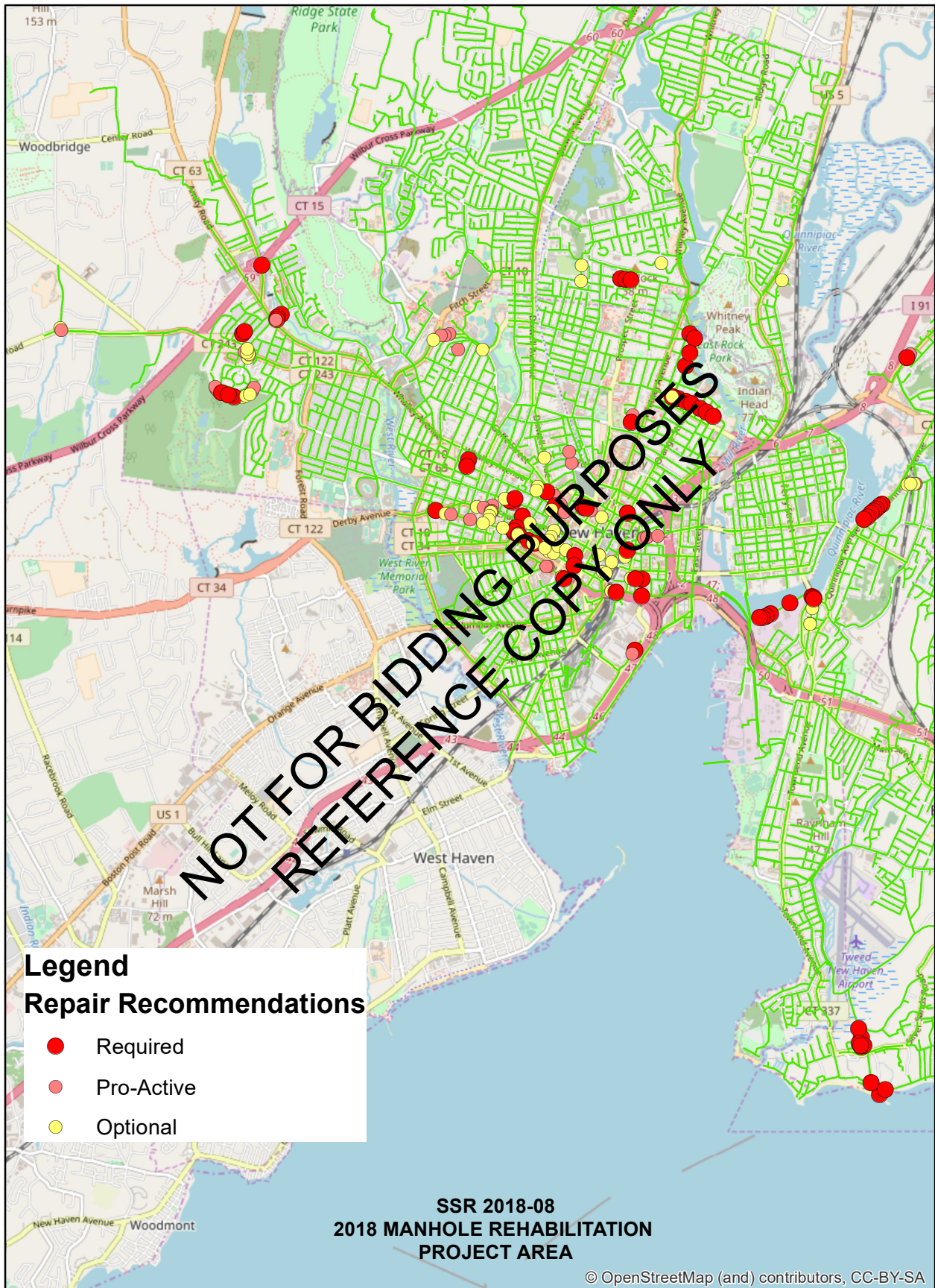
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REFERENCE COPY ONLY

APPENDIX C

Project Location Maps

PROJECT: 2018 MANHOLE REHABILITATION

GNHWPCA PROJECT NO. SSR 2018-08



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Legend

Repair Recommendations

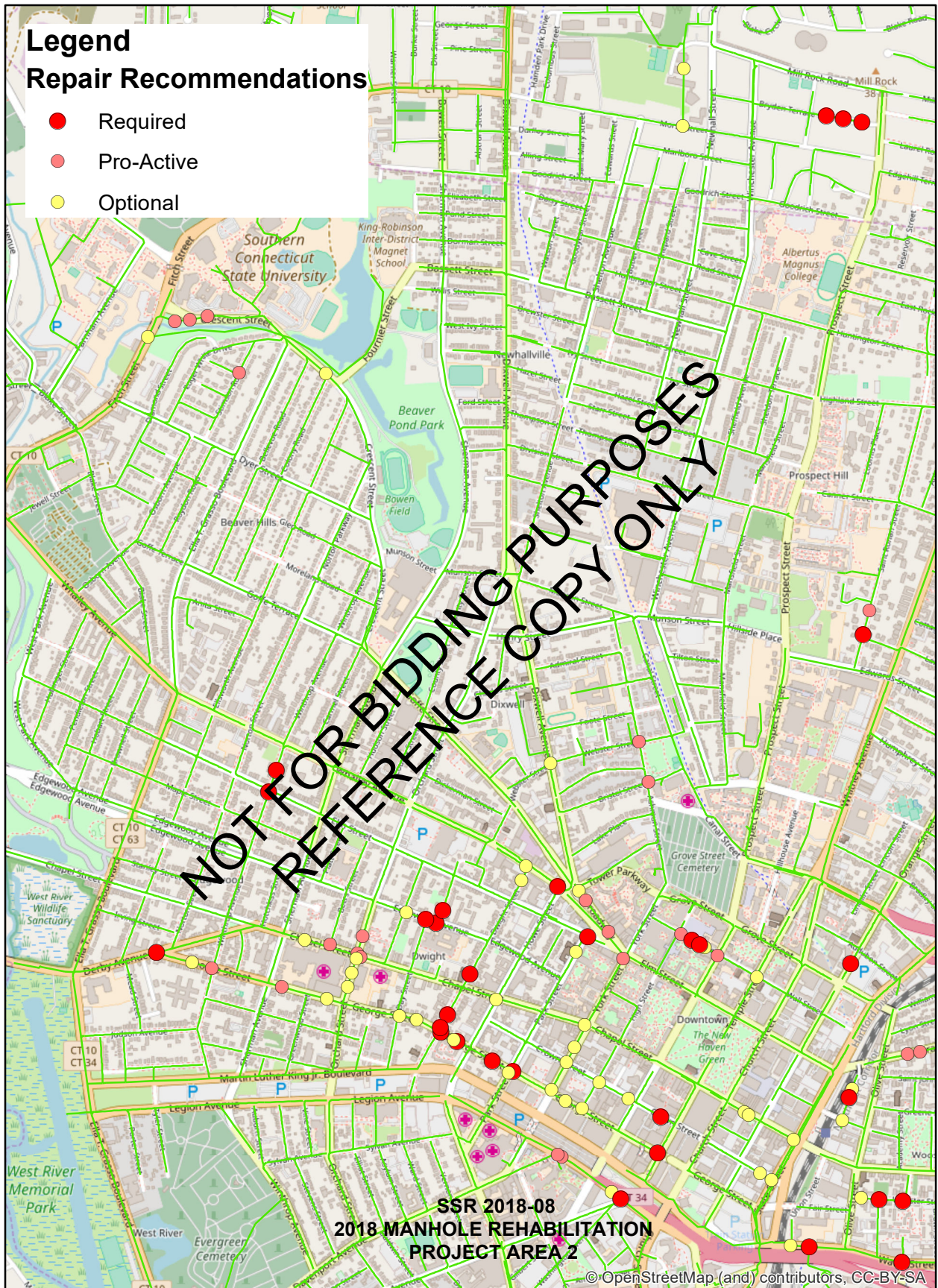
- Required
- Pro-Active
- Optional

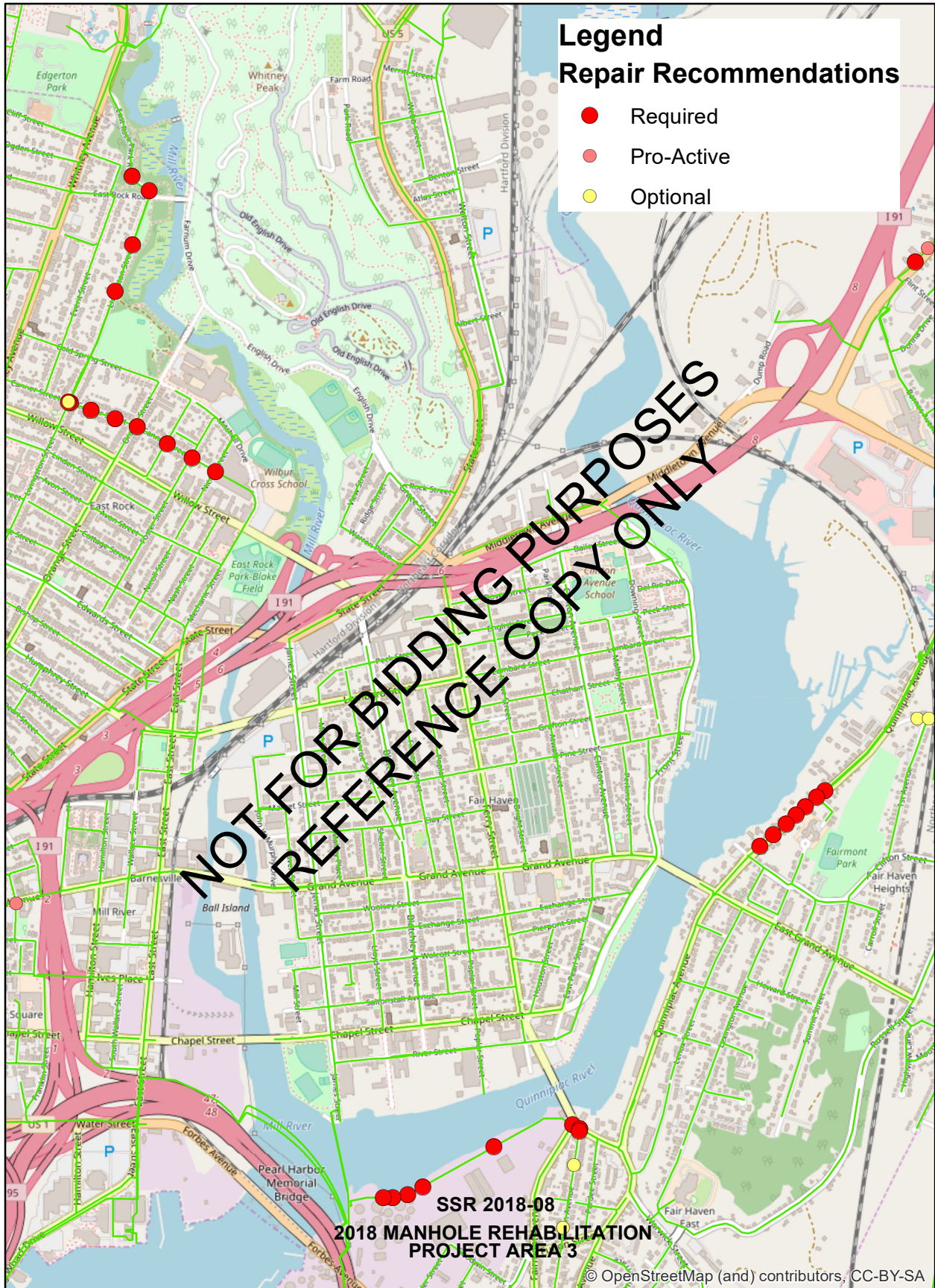
SSR 2018-08
2018 MANHOLE REHABILITATION
PROJECT AREA 1

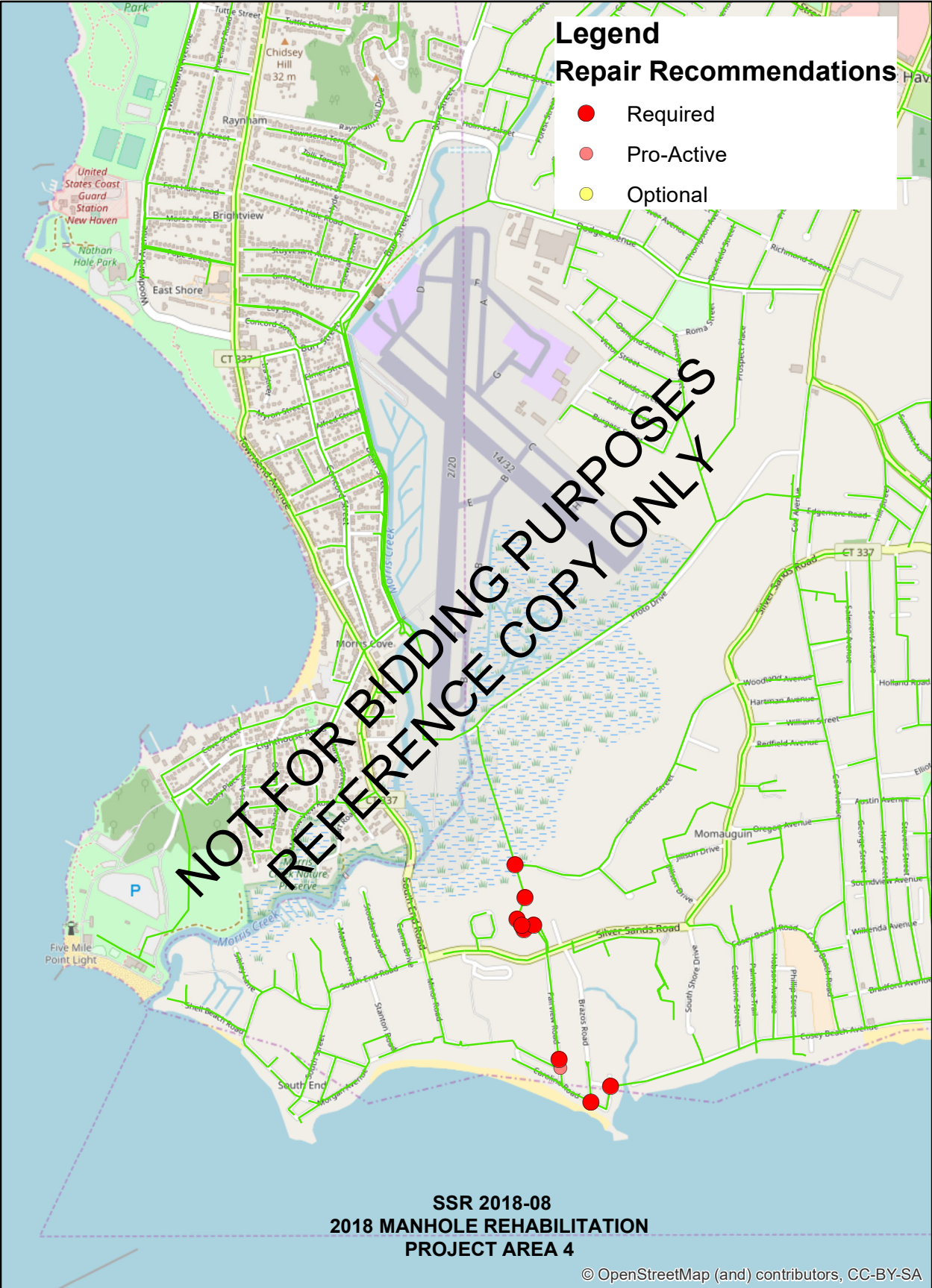
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Legend Repair Recommendations

- Required
- Pro-Active
- Optional







APPENDIX D

Manhole Rehabilitation Schedule

PROJECT: 2018 MANHOLE REHABILITATION

GNHWPCA PROJECT NO. SSR 2018-08

REPAIR RECOMMENDATIONS

| ID | Primary Material | Approx Depth (ft) | Surface Type | Install Drop | Lining | Internal Chim. Seal | Drawing Number |
|------------|------------------|-------------------|----------------------|--------------|--------|---------------------|----------------|
| EMG01M0127 | unk | 11 | ASPHALT; | | x | | |
| EMG01M0204 | unk | 7.5 | GRASS | | x | | |
| EMG01M0287 | unk | 11 | ASPHALT; | | x | | |
| EMG01M0288 | unk | 11 | GRASS | | x | | |
| EMG01M0289 | unk | 11 | GRASS | | x | | |
| EMG01M0290 | unk | 11 | GRASS | | x | | |
| EMG03M0019 | CR | 15.33 | ASPHALT; | | A | | |
| EMG03M0065 | CR | 12.46 | ASPHALT; | | x | | |
| EMG03M0128 | CR | 16.56 | ASPHALT; | | x | | |
| EMG03M0220 | CR | 12.12 | ASPHALT; | | x | | |
| HML07M0607 | BR | 3.3 | ASPHALT; | | O | x | |
| HSS04M0016 | CR | 4.94 | ASPHALT; | | | x | |
| HWP02M0125 | BR | 9.7 | ASPHALT; | | x | | |
| HWP02M0126 | BR | 9 | ASPHALT; | | x | | |
| HWP02M0127 | BR | 9.1 | ASPHALT; | | x | | |
| HWP03M0196 | BR | 12.06 | ASPHALT; | | O | x | |
| HWP03M0198 | BR | 6.24 | CONCRETE PAVEMENT; | | O | x | |
| NBL03M0219 | CR | 8.1 | GRASS/DIRT; | | x | | |
| NBL03M0233 | CR | 10.8 | ASPHALT; | | A | | |
| NBU02M0530 | BR | 14.06 | CONCRETE PAVEMENT;GR | | A | | |
| NBU02M0531 | BR | 12.86 | GRASS/DIRT; | | A | | |
| NBU02M0532 | BR | 13.1 | GRASS/DIRT; | | A | | |
| NBU02M0536 | BR | 10.8 | ASPHALT; | | O | x | |
| NBU02M0736 | BR | 11.1 | ASPHALT; | | O | x | |
| NBU04M0568 | BR | 11.94 | ASPHALT; | | A | | |
| NBU08M0364 | BR | 28.1 | ASPHALT; | | x | | |
| NBU08M0423 | BR | 24.84 | ASPHALT; | | x | | |
| NBU10M1047 | BR | 15.9 | ASPHALT; | | x | | |
| NBU10M1078 | BR | 15.8 | ASPHALT; | | O | x | |
| NBU11M0010 | BR | 11.8 | ASPHALT; | | x | | |
| NBU11M0748 | BR | 16.91 | ASPHALT; | | O | x | |
| NBU11M0853 | BR | 12.8 | ASPHALT; | | x | | |
| NBU11M0964 | BR | 12.86 | ASPHALT; | | O | x | |
| NBU11M1061 | BR | 15.6 | ASPHALT; | 1 | A | | |

NOT FOR BIDDING PURPOSES
REFERENCE COPY ONLY

REPAIR RECOMMENDATIONS

| ID | Primary Material | Approx Depth (ft) | Surface Type | Install Drop | Lining | Internal Chim. Seal | Drawing Number |
|------------|------------------|-------------------|--------------|--------------|--------|---------------------|----------------|
| NBU11M1062 | BR | 16.06 | ASPHALT; | 2 | A | | |
| NBU11M1144 | BR | 15.1 | ASPHALT; | 2 | A | | |
| NBU11M1147 | CR | 15.56 | ASPHALT; | 2 | A | | |
| NBU11M1417 | BR | 10.7 | ASPHALT; | | x | | |
| NBU12M1077 | BR | 16.52 | ASPHALT; | | A | | |
| NBU13M0739 | BR | 11.28 | ASPHALT; | | O | | |
| NBU13M0740 | BR | 12.86 | ASPHALT; | | O | | |
| NBU13M0741 | BR | 13.1 | ASPHALT; | | O | | |
| NBU13M0745 | BR | 14.57 | ASPHALT; | | O | | |
| NBU13M1065 | BR | 16.87 | ASPHALT; | 1 | A | | |
| NEA01M0011 | BR | 11.98 | ASPHALT; | | A | | |
| NEA01M0152 | BR | 13.16 | ASPHALT; | 1 | A | | |
| NEA02M0021 | BR | 11.68 | ASPHALT; | | O | x | |
| NEA02M0037 | BR | 10.3 | ASPHALT; | | O | x | |
| NEA02M0043 | BR | 10.3 | ASPHALT; | | x | | |
| NEA02M0071 | BR | 10.18 | ASPHALT; | | O | | |
| NEA02M0135 | BR | 13.89 | ASPHALT; | | A | | |
| NEA02M0338 | BR | 10.31 | ASPHALT; | | x | | |
| NEA02M0366 | BR | 10 | ASPHALT; | | x | | |
| NEA03M0050 | BR | 18.88 | ASPHALT; | | O | x | |
| NEA03M0075 | BR | 10.2 | ASPHALT; | | x | | |
| NEA03M0076 | BR | 9.96 | ASPHALT; | | x | | |
| NHU04M0353 | CR | 10.87 | ASPHALT; | | x | | |
| NHU04M0511 | CR | 11.65 | ASPHALT; | | O | x | |
| NHU04M0511 | unk | 11.2 | ASPHALT; | | x | | |
| NHU04M0667 | CR | 8.4 | ASPHALT; | | x | | |
| NHU04M0670 | CR | 4.56 | ASPHALT; | | x | | |
| NHU04M0674 | CR | 11.64 | ASPHALT; | | x | | |
| NHU05M0357 | unk | 13 | ASPHALT; | | x | | |
| NHU05M0358 | unk | 15.5 | ASPHALT; | | x | | |
| NHU05M0509 | unk | 12 | ASPHALT; | | x | | |
| NHU05M0683 | unk | 14.95 | ASPHALT; | | x | | |
| NHU05M0684 | unk | 13.9 | ASPHALT; | | x | | |
| NHU05M0687 | unk | 13 | ASPHALT; | | x | | |
| NHU05M0690 | unk | 13.6 | ASPHALT; | | x | | |
| NHU06M0263 | BR | 9.12 | ASPHALT; | | A | | |

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REPAIR RECOMMENDATIONS

| ID | Primary Material | Approx Depth (ft) | Surface Type | Install Drop | Lining | Internal Chim. Seal | Drawing Number |
|------------|------------------|-------------------|--------------|--------------|--------|---------------------|----------------|
| NHU06M0265 | BR | 9.26 | ASPHALT; | | x | | |
| NHU08M1108 | BR | 12.31 | ASPHALT; | | O | x | |
| NHU08M1171 | XXX | 12.64 | ASPHALT; | | A | | |
| NHU08M1224 | CR | 12.53 | ASPHALT; | | A | | |
| NHU09M1217 | BR | 6.4 | ASPHALT; | | x | | |
| NQL01M0134 | unk | 8.5 | ASPHALT; | | x | | |
| NQL01M0135 | unk | 8 | ASPHALT; | | x | | |
| NQL01M0152 | unk | 9 | ASPHALT; | | x | | |
| NQL01M0153 | unk | 9.5 | ASPHALT; | | x | | |
| NQL01M0154 | unk | 8.5 | ASPHALT; | | x | | |
| NQL01M0155 | unk | 7.5 | ASPHALT; | | x | | |
| NQL01M0156 | unk | 7 | ASPHALT; | | x | | |
| NQL02M0335 | XXX | 22.26 | ASPHALT; | 1 | A | | |
| NQL02M0336 | XXX | 5.64 | ASPHALT; | | O | x | |
| NQL02M0338 | XXX | 5.26 | ASPHALT; | | O | x | |
| NQL02M0339 | XXX | 5.66 | ASPHALT; | | O | x | |
| NQL04M0390 | BR | 6.76 | ASPHALT; | | O | x | |
| NQL04M0392 | BR | 6.36 | ASPHALT; | | O | x | |
| NQL04M0398 | BR | 13.01 | ASPHALT; | 1 | x | | |
| NQL04M0559 | BR | 9.7 | ASPHALT; | | x | | |
| NQL04M0560 | BR | 8.44 | ASPHALT; | | x | | |
| NQL05M0220 | CR | 12.57 | GRAVEL; | | x | | |
| | | | CONCRETE | | | | |
| NQL05M0221 | CR | 11.26 | COLLAR; | | A | | |
| NQL05M0222 | CR | 11.24 | ASPHALT; | | x | | |
| NQL05M0223 | CR | 11.08 | ASPHALT; | | A | | |
| NQL05M0405 | BR | 10.46 | GRASS/DIRT; | | x | | |
| NQU01M0071 | CR | 17.37 | GRASS/DIRT; | | A | | |
| NQU01M0072 | CR | 17.47 | GRASS/DIRT; | | x | | |
| NUN01M0327 | BR | 11.29 | ASPHALT; | | O | x | |
| NUN01M0328 | BR | 11.84 | ASPHALT; | | A | | |
| NUN01M0333 | BR | 13.96 | ASPHALT; | | A | | |

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REPAIR RECOMMENDATIONS

| ID | Primary Material | Approx Depth (ft) | Surface Type | Install Drop | Lining | Internal Chim. Seal | Drawing Number |
|------------|------------------|-------------------|--------------|--------------|--------|---------------------|----------------|
| NUN01M0339 | BR | 12.44 | OTHER; | | x | | |
| NUN01M0389 | BR | 12.6 | ASPHALT; | | x | | |
| NUN01M0416 | BR | 9.7 | ASPHALT; | | O | x | |
| NUN01M0418 | BR | 11.1 | ASPHALT; | | O | | |
| NUN01M0471 | BR | 13.28 | ASPHALT; | | O | x | |
| NUN01M0516 | BR | 13.75 | ASPHALT; | | x | | |
| NUN02M0180 | BR | 10.7 | ASPHALT; | | O | x | |
| NUN02M0650 | BR | 12.3 | ASPHALT; | | A | | |
| NUN02M0659 | BR | 8.86 | ASPHALT; | | A | | |
| NUN02M0660 | BR | 10.13 | ASPHALT; | | x | | |
| NUN02M0661 | BR | 10.78 | ASPHALT; | | O | x | |
| NUN02M0902 | BR | 10.66 | ASPHALT; | | x | | |
| NUN03M0011 | BR | 12.87 | ASPHALT; | | O | x | |
| NUN03M0455 | BR | 14.88 | ASPHALT; | | x | | |
| NUN03M0483 | BR | 15.31 | ASPHALT; | | O | x | |
| NUN03M0487 | CR | 15.9 | ASPHALT; | | O | | |
| NUN03M0497 | BR | 12.4 | ASPHALT; | | O | x | |
| NUN03M0518 | BR | 14.83 | ASPHALT; | | x | | |
| NUN03M0519 | BR | 15.48 | ASPHALT; | | x | | |
| NUN03M0520 | BR | 15.56 | ASPHALT; | | x | | |
| NUN03M0522 | BR | 13.18 | ASPHALT; | | x | | |
| NUN03M0523 | BR | 8.66 | ASPHALT; | | x | | |
| NUN03M0527 | XXX | 14.76 | ASPHALT; | | O | x | |
| NUN03M0535 | BR | 14.14 | ASPHALT; | | O | x | |
| NUN03M0537 | BR | 15.54 | ASPHALT; | | O | x | |
| NUN03M0538 | BR | 11.56 | ASPHALT; | | O | x | |
| NUN03M0545 | BR | 0 | ASPHALT; | | O | x | |
| NUN03M0658 | BR | 15.84 | ASPHALT; | 1 | A | | |
| NUN03M0921 | CR | 15.3 | ASPHALT; | | O | x | |

NOT FOR BIDDING PURPOSES
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REPAIR RECOMMENDATIONS

| ID | Primary Material | Approx Depth (ft) | Surface Type | Install Drop | Lining | Internal Chim. Seal | Drawing Number |
|------------|------------------|-------------------|--------------|--------------|--------|---------------------|----------------|
| NUN03M0936 | XXX | 10.73 | ASPHALT; | | O | x | |
| NUN04M0703 | BR | 11.82 | ASPHALT; | | O | x | |
| NUN04M0704 | CR | 11.84 | ASPHALT; | | O | x | |
| NUN04M0708 | BR | 12.17 | ASPHALT; | | O | x | |
| NUN04M0711 | BR | 13.87 | ASPHALT; | | O | x | |
| NUN04M0714 | BR | 14.54 | ASPHALT; | | x | | |
| NUN04M0766 | BR | 8.68 | ASPHALT; | | | | |
| NUN04M0833 | BR | 11.2 | ASPHALT; | | O | x | |
| NUN04M0872 | BR | 9 | ASPHALT; | | O | x | |
| NUN04M0873 | BR | 8.4 | ASPHALT; | | O | x | |
| NUN05M0039 | CR | 13.28 | ASPHALT; | | A | | |
| NUN05M0042 | CR | 13.1 | ASPHALT; | | A | | |
| NUN05M0772 | CR | 22.5 | ASPHALT; | | O | x | |
| NUN05M0773 | CR | 20.18 | ASPHALT; | | x | | |
| NWR01M0577 | BR | 11.32 | ASPHALT; | | O | x | |
| NWR01M0578 | BR | 9.8 | ASPHALT; | | x | | |
| NWR02M0368 | BR | 12.56 | ASPHALT; | | x | | |
| NWR02M0369 | BR | 11.21 | ASPHALT; | | x | | |
| NWR02M0672 | BR | 7.5 | ASPHALT; | | x | | |
| NWR02M0673 | BR | 7.72 | GRASS/DIRT; | | x | | |
| NWR02M0979 | CR | 10.7 | ASPHALT; | | x | | |
| NWR02M0980 | CR | 11.85 | ASPHALT; | | A | | |
| NWR04M0113 | BR | 8.36 | ASPHALT; | | A | | |
| NWR04M0115 | BR | 8.34 | ASPHALT; | | A | | |
| NWR04M0116 | BR | 7.3 | ASPHALT; | | A | | |
| NWR04M0123 | BR | 6.94 | ASPHALT; | | A | | |
| NWR04M0168 | CR | 9.86 | ASPHALT; | | A | | |
| NWR04M0452 | BR | 18.22 | ASPHALT; | | O | x | |
| NWR04M0453 | BR | 21.02 | ASPHALT; | | O | x | |
| NWR04M0458 | BR | 8.5 | ASPHALT; | | A | | |
| NWR04M0500 | BR | 9.71 | ASPHALT; | | x | | |

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REPAIR RECOMMENDATIONS

| ID | Primary Material | Approx Depth (ft) | Surface Type | Install Drop | Lining | Internal Chim. Seal | Drawing Number |
|---------------|------------------|-------------------|--------------|--------------|------------|---------------------|----------------|
| NWR04M0502 | BR | 8.46 | ASPHALT; | | O | x | |
| NWR04M0505 | BR | 8.11 | ASPHALT; | | x | | |
| NWR04M0506 | BR | 7.61 | ASPHALT; | | A | | |
| NWR04M0507 | BR | 8.48 | ASPHALT; | | x | | |
| NWR04M0508 | BR | 9.14 | ASPHALT; | | O | x | |
| NWR04M0509 | BR | 9.71 | ASPHALT; | | O | x | |
| NWR05M0454 | BR | 21.54 | ASPHALT; | | O | x | |
| NWR05M0456 | BR | 21.52 | ASPHALT; | | O | x | |
| NWR05M0459 | BR | 13.86 | ASPHALT; | | O | x | |
| WAN01M0007 | unk | 6.73 | ASPHALT; | | x | | |
| WAN01M0008 | CR | 7.03 | ASPHALT; | | A | | |
| Totals | | 2036.75 | | 12 | 172 | 51 | |

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