

PROJECT MANUAL AND SPECIFICATIONS

Pare Project No. 23112.02

Tiverton Wastewater District Bay Street Neighborhood Sewer Lateral Connections Part 2 – Technical Specifications and Appendices

Prepared for:

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**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

PART II

TECHNICAL SPECIFICATIONS & APPENDICIES

**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

**DIVISION 2
SITE CONSTRUCTION**

SECTION 02050 - DEMOLITION AND REMOVAL

PART 1 – GENERAL

1.01 SCOPE

- A. Work will include the connection of 10 properties within the Bay Street and State Avenue area in Tiverton to the existing Tiverton Wastewater District or Fall River, MA Sewerage, as specified herein. The work herein specified to be done (herein sometimes referred to as the "Work") consists generally of the installation of new sewer lateral service pipes, cleanouts, backwater valves, connections and appurtenances required to connect to the existing sewer; abandonment of existing onsite wastewater treatment systems (OWTS) and cesspools, pavement removal and replacement; vegetation removal and replacement, hardscapes removal and replacement, and other miscellaneous work described herein.

1.02 REFERENCES

- A. All work specified in this Section shall conform to "Standard Specifications for Road and Bridge Construction" of the Rhode Island Department of Transportation, latest revision, herein referred to as "State Standards".

1.03 QUALITY CONTROL

- B. Provide in accordance with the requirements as specified in Section 01400, Quality Control.

1.04 RELATED SECTIONS

- C. Section 02075 Contaminated Soil Management.
D. Section 02750 Abandonment of Existing Sewers and Drains,

PART 2 - PRODUCTS

2.01 GENERAL

- A. The Contractor shall provide all materials and equipment in suitable and adequate quantity as required to accomplish the work shown and as specified.

PART 3 - EXECUTION

3.01 PAVEMENT

- A. Remove flexible pavement, base, and subbase courses within the limits shown.
B. Pavement, base or sub-base materials that meet or are processed to meet the requirements as specified in Section 02300, Earthwork, may be stockpiled for later use.

3.02 CONCRETE

- A. Remove concrete sidewalk within the limits shown.
B. Concrete shall be removed from the site and disposed of at an appropriately licensed facility.
A. Solid Waste Regulations, latest edition.

END OF SECTION

SECTION 02075 - CONTAMINATED SOIL MANAGEMENT

PART 1 GENERAL

1.01 SCOPE

A. Scope of work includes handling excavated materials in the Bay Street Neighborhood as well as segregating, stockpiling, and reusing previously excavated soils as directed by the Town of Tiverton's Environmental Engineer, Hoffman Engineering. Those soils not able to be reused on site shall be disposed of at an appropriate facility, as directed by Hoffman Engineering.

1.02 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.03 REFERENCES

- A. All work specified in this Section shall conform to "Standard Specifications for Road and Bridge Construction" of the Rhode Island Department of Transportation, latest revision, herein referred to as "State Standards" or "Standard Specifications".
- B. All work specified in this Section shall be in accordance with the Rhode Island Department of Environmental Management (RIDEM) "Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases", 250-RICR-140-30-1 (aka the "Remediation Regulations").

1.04 SUMMARY

- A. The sewer tie-in work is being completed within the Bay Street Neighborhood Remedial Areas, which includes residual Manufactured Gas Plant (MGP) wastes, which are or were present on Lots, roadways, and roadway right-of-way, in which the work is being conducted. The Contaminants of Concern identified through various investigations of the neighborhood originated from MGP waste, which includes primarily elevated levels of lead, arsenic, cyanide, and polycyclic aromatic hydrocarbons. Included as an attachment are as-built plans (if applicable) of the remedial areas on the subject Lots. A large number of the Lots to have work done have "ELUR areas". These Environmental Land Usage Restriction (ELUR) areas were generally remediated to a depth of two feet below grade, an orange snow fence placed, and impacted soil remains at depth. Two feet of clean pretested backfill was then placed atop the snow fence.
- B. Work under this Section includes all labor, materials, equipment, supervision and supplies necessary for the excavation, segregation, handling, temporary stockpiling, loading, transportation and off-site management of contaminated soils to the limits indicated as directed by Hoffman Engineering, the Engineer, or TWWD, in accordance with applicable laws and regulations.
- C. Soils to be excavated under this project have been impacted by lead, arsenic, cyanide, and polycyclic aromatic hydrocarbons from past site uses. Underlying native soils may also be impacted by these contaminants. All soil excavated for this project below the existing demarcation boundary shall be presumed contaminated unless demonstrated otherwise through characterization. Soil that cannot be used in refills on the site shall be temporarily stockpiled, sampled, and analyzed to determine if offsite disposal is required.
- D. Contractor shall make every effort to prioritize the onsite reuse of contaminated soils (beneath the demarcation boundary) in meeting proposed finished grades while minimizing surplus contaminated soil that requires offsite disposal, so long as material is not deemed unsuitable as otherwise specified in these Contract Documents.

- E. Contractor is solely responsible for clean-up, removal, and disposal of contamination generated by their operations, at no additional expense to Owner.
- F. Proper controls for worker health and safety protection shall be taken during soil excavation, handling, and management in accordance with Contractor's Health and Safety Plan and applicable laws and regulations.
- G. Related Sections include:
 - 1. Section 01065 Project Safety and Health Specifications
 - 2. Section 02300 Earthwork
 - 3. Section 02373 Erosion Control

1.05 APPLICABLE LAWS AND REGULATIONS

- A. The Contractor is advised that Work under this Section shall be performed in accordance with applicable RIDEM regulations that pertain to the Work described herein, including but not limited to the Remediation Regulations, Solid Waste Regulations, and Rules and Regulations for Hazardous Waste Management.
- B. Work under this Section shall be performed in strict compliance with all other applicable Federal, State, and local laws, rules, regulations related to the handling and off-site management of excess urban fill and soil.
- C. Pertinent Federal and State Authorities having jurisdiction over this project include:
 - 1. Occupational Safety and Health Administration (OSHA)
 - 2. U.S. Environmental Protection Agency (EPA)
 - 3. RIDEM
- D. The following OSHA regulations apply:
 - 1. Occupational Safety and Health Standards, Hazardous Waste Operations and Emergency Response - 29 CFR 1910.120.
 - 2. Safety and Health Regulations for Construction - 29 CFR 1926.

1.06 SUBMITTALS

- A. Submittals shall be made in accordance with Section 01300 Submittals, except as noted herein.
- B. No excavation work will be permitted to proceed until the required submittals have been reviewed and approved by Hoffman Engineering and the TWWD. In the event these parties requests additional information, it shall be the Contractor's responsibility to provide such additional information in a complete and timely manner to avoid delays in project performance.
- C. Submit names and qualifications of any proposed subcontractors that will be engaged in contaminated soil excavation, handling, management, and hauling.
- D. Provide information pertaining to each disposal facility used for offsite soil disposal. This includes evidence that the facility is fully permitted to receive such contaminated materials, that the facility is not currently under administrative order for environmental or operating violations, and is willing to accept the specified contaminated soil. This includes the facility's acceptance criteria and required sampling frequency.
- E. Submit all hauling and disposal/treatment facility paperwork within 30 days of hauling material offsite. Such paperwork may include, but not necessarily be limited to, facility approval, manifests, bills of lading, weight slips, disposal certificates, and tracking summary reports.

- F. Approval of submittals by Hoffman, the Engineer, and/or TWWDD shall not impose any liability upon Program Manager/Construction Manager, nor shall any such approval relieve the Contractor of his/her responsibilities to meet all of the requirements and comply with all applicable laws, regulations, and other applicable requirements under this Contract.

1.07 SITE HEALTH AND SAFETY

- A. The Contractor is solely responsible for controlling site health and safety. In the performance of its Work, the Contractor shall provide for the safety of all Contractor personnel, other Contractors' personnel, regulatory agency personnel, and the public for the duration of the Contract.
- B. Contractor is solely responsible for his/her construction means and methods.

1.08 DEFINITIONS

- A. Clean Soil: Clean soil is defined in Section 1.4(A)(12) of the Remediation Regulations as "soil that has not been impacted, contaminated, adversely affected, or subject to a Release of Hazardous Materials, state or federally defined Hazardous Waste, petroleum, asbestos, polychlorinated biphenyls (PCBs), radioactive materials or solid waste." Section 1.4(12)(A) further states that clean soil shall meet the following criteria:
 - 1. RIDEM Method 1 Residential Direct Exposure Criteria Table 1, § 1.9.2(C)(2); and
 - 2. The TPH direct exposure, and leachability criteria, of 500 parts per million (ppm); and
 - 3. All other state and Federal requirements specific to petroleum, asbestos, radioactive materials, PCBs, solid waste and other criteria as determined by RIDEM.
- B. Category 1 Soil – Material that exceeds RIDEM R DEC concentrations but is suitable for reuse as alternate daily cover at a non-hazardous solid waste facility (in accordance with RIRRC Alternative Cover Policy or as defined in DEP Policy #COMM-97-001 if the material is proposed for reuse at a Massachusetts landfill).
- C. Category 2 Soil – Material which is suitable for solid waste disposal at a non-hazardous solid waste facility, such as the RIRRC Central Landfill.
- D. Hazardous Waste Soil: Soil or fill that meets the definition of hazardous waste established by the Section 1.5(A)(37) of the RIDEM Hazardous Waste Regulations (listed or characteristic hazardous waste) in addition to any hazardous waste defined as a Rhode Island Hazardous Waste in Section 1.5 of the RIDEM Hazardous Waste Regulations. Hazardous Waste Soil shall be managed in accordance with the RIDEM and USEPA Hazardous Waste Regulations in addition to the Site Remediation Regulations as appropriate or required by law.
- E. Special Handling: Methods used to excavate, collect, grade, load, move, transport, stockpile, dispose, or otherwise manage a contaminated material or Contaminated Soil are such that: (1) the spillage, loss, comingling, or uncontrolled deposition of such material is minimized; (2) personal exposure to contaminants present in such a material are minimized; (3) the adverse impacts to the community and the surrounding environment from contaminants present in such material are minimized; and (4) all applicable regulatory requirements applicable to such activity are satisfied.
- F. Special Waste No. 1: Special Waste no. 1 is defined as wastes pumped out of existing Onsite Wastewater Treatment Systems and/or existing cesspools prior to backfill and abandonment. See Section 02750.

PART 2 PRODUCTS

2.01 GENERAL

- A. Provide all employees of the Contractor and Subcontractors with personal protective equipment (PPE) consistent with the levels of protection required for this work, in accordance with Contractor's HASP.

2.02 ON-SITE SOIL MATERIALS

- A. The Contractor may reuse excavated on-site material for fill and backfilling, beneath demarcation boundary, where the material excavated is satisfactory and conforms with the specified gradation requirements of Section 02300 - Earthwork.

2.03 IMPORTED MATERIAL ACCEPTANCE

- A. All imported earth materials specified in this section shall be in accordance with Section 02300 – Earthwork and subject to the following requirements:
 - 1. Materials imported to the site by the Contractor for on-site use shall not contain oil and/or hazardous materials. Contractor shall provide Owner with analytical results from a laboratory accredited in the State of Rhode Island indicating that imported soil materials proposed for this project meet Residential Direct Exposure Criteria (R DEC) listed in the RIDEM Remediation Regulations. Sampling and analysis shall be from each type and source of imported material and shall be at a minimum frequency of one sample per 500 cubic yards.

2.04 ORANGE SNOW FENCE

- A. Fencing shall be made of high-density polyethylene, bright OSHA orange, tensile strength of 225 lbs - Machine Direction, minimum, and mesh size of approximately 1.75 inches x 1.75 inch.

PART 3 EXECUTION

3.01 GENERAL

- A. It is the responsibility of the Contractor under this Contract to do the necessary excavation, filling, grading, and rough grading to bring the existing grades to subgrade and parallel to finished grades as specified herein for this Work. The Contractor will encounter and will need to properly handle and manage contaminated soils as part of this Work. The Contractor shall visit the site prior to submitting a bid to become familiar with the extent of the work to be done under this Contract. The Contractor shall be responsible for determining the quantities of earth materials that must be imported or hauled off the site necessary to complete the work under this Section. All imported earth materials required for the project shall be included in the Contractor's base lump sum bid unless measurement and payment is specified otherwise.
- B. Provide adequate barriers and demarcation of excavations and exclusion zones to warn workers and visitors of potential hazards.
- C. Take appropriate means, including erosion and dust controls, to prevent a release or the spread of contaminated soils or groundwater as a result of Contractor's operations. The Contractor shall be responsible for visual inspections for fugitive dust emissions. Real time dust monitoring with dust meter may be performed by Owner, or required to be performed by Contractor, should fugitive dust emissions become a concern at the site.
- D. Contractor is responsible for tracking all contaminated soils from excavation to stockpiling to final offsite disposal. Contractor shall maintain appropriate field records to provide for this material tracking.

- E. Contaminated soil management shall conform to the requirements of the RAWP prepared for each site, stipulations made by RIDEM in their Remedial Decision Letters, and applicable laws and regulations.

3.02 PREPARATION

- A. Excavated material may require temporary stockpiling until the area has been prepared in accordance with the Contract Documents, to allow the material to dry prior to placement and prior to off-site management. The Contractor shall prepare a temporary soil stockpile area subject to Owner approval.
- B. Provide site perimeter and temporary stockpile erosion control measures as specified herein, Soil Erosion and Sediment Control (SESC) Plan prepared for the site, and as required by Owner.

3.03 DUST CONTROL

- A. The Contractor is responsible for monitoring the Work for overt evidence of airborne particulates (dusts) emanating from the Work area. It shall be the Contractor's responsibility to visually monitor the work area for dust emissions. No visual dust emissions will be permitted during earthwork.
- B. The Contractor shall take appropriate measures to control dust and odors at the site. The Contractor must provide all reasonable precautions to prevent excessive dust generation during soil handling activities, and the Contractor's work must comply with all applicable federal, state, and local regulations including the RIDEM Air Pollution Control Regulations, and specifically 250-RICR-120-05-5, Fugitive Dust.
- C. Implement fugitive dust suppression to prevent unacceptable levels of dust resulting from handling of contaminated soils. Dust suppression methods will be subject to Owner approval. Contractor shall supervise dust control measures and monitor fugitive dust migration as required.

3.04 EXCAVATION, BACKFILLING, AND STOCKPILING OF CONTAMINATED SOIL

- A. Perform excavation in accordance with the requirements of Section 02300 – Earthwork, and this section.
- B. In areas of the Site previously remediated, the excavation shall be conducted using a toothless excavator, and the soil stockpiled separately by type (i.e., loam, and underlying soil). If in place, the demarcation barrier will be cut and removed from the excavation, and the underlying soil stockpiled on and under polyethylene separately (to be placed back into the excavation at depth or disposed of off-Site).
- C. In areas of the Lots or green portion of the right-of-way, a similar procedure conducted, but with soils stockpiled separately from the above. A determination will be made by Hoffman Engineering as to whether the soils are impacted.
- D. In roadway areas, the excavation will consist of saw-cutting the pavement, removing and stockpiling the underlying graded aggregate base, followed by deeper portion of excavation, stockpiled separately (on pavement under polyethylene sheeting, or on and under polyethylene sheeting). Hoffman Engineering will screen and monitor the excavation to determine if the material is impacted.
- E. Once the connection pipe is placed in the necessary bedding, apparent impacted soils will be utilized to backfill the excavation to within 2 feet of grade within the roadway/right-of-way (both paved and unpaved portions). Backfill must be compacted to the engineered specifications in Section 02300.
- F. If excess impacted soil remains, it will be utilized to backfill the previously pumped OWTS/cesspool as directed by Hoffman Engineering. On Lots in which there is an ELUR, remaining impacted soil (if any) can be utilized at depths below the demarcation barrier. Excess soil will need to be stockpiled on and under polyethylene sheeting or loaded directly into a dump truck for transportation and disposal at a licensed facility such as Central Landfill.

- G. Soils within the upper two feet shall be placed in the reverse order as originally excavated, as directed by Hoffman Engineering. Excavation stockpiling and backfilling each Lot should be treated individually. Impacted soil transportation and disposal (if necessary) can be combined between the Lots.

3.05 TRANSPORT AND DISPOSAL OF CONTAMINATED SOIL

- A. It is anticipated that surplus contaminated soils can be disposed of at the RIRRC Central Landfill, but the Contractor shall work and coordinate with Hoffman Engineering for selecting appropriate facilities, coordinating and obtaining treatment/disposal/reuse facility approval, and for loading, transporting, and disposing of contaminated materials. No claim for delay will be considered based upon the facility failing to meet the Contractor's production schedule. No payments will be made for rejected loads.
- B. Contractor shall work and coordinate with Hoffman Engineering to provide each proposed receiving facility acceptance criteria and sample frequency requirements to Owner for review. Owner shall approve of the disposal outlet(s) selected by Contractor and Hoffman Engineering. Facilities shall be in compliance with Federal, State, and Local codes and regulations.
- C. Contractor shall work and coordinate with Hoffman Engineering to collect composite samples of stockpiled material for waste characterization analysis at the frequency required by the disposal outlet(s) and provide the required paperwork and documentation to obtain material acceptance. Sample analysis shall be consistent with the requirements of each disposal outlet proposed by Contractor and Hoffman Engineering
- D. Upon receipt of the final approval from the treatment/reuse/disposal facility, the Contractor shall forward a copy of said approval to Owner and Hoffman Engineering. No payments will be made for unauthorized loads hauled to any facility.
 - 1. Provide facility name, address, contact name and phone number, and licenses of each facility proposed to be used for offsite disposal or treatment of contaminated soil.
 - 2. Provide written confirmation that facility is licensed and permitted to accept the material, and that they have accepted the material in the general quality and quantity anticipated.
- E. Manifests and shipping papers shall be prepared by Contractor and provided to Hoffman Engineering and Owner for review in advance of transporting material offsite. The Owner and Hoffman Engineering will sign all off-site management documentation, including waste profiles as generator but Contractor shall sign manifests and shipping papers accompanying each load as the authorized Owner's Representative.
- F. Contaminated Materials shall be loaded for transport to the treatment/reuse/disposal facility following receipt of the approval letter by the facility and after receiving all completed transportation documentation. It shall be the Contractor's responsibility to comply with applicable over-the-road Local, State, and Federal ordinances, rules, laws, and regulations.
 - 1. Provide name and address of each firm transporting contaminated soil, including proof of permit, license, or authorization to transport hazardous materials in all affected jurisdictions.
- G. The Contractor shall promptly load, manifest, and transport the contaminated material to the authorized facility(ies). Contaminated soil shall be loaded into properly licensed and permitted vehicles. Material shall be transported directly to the receiving facility.
- H. Transport of material shall be in accordance with applicable state, federal, and local regulations.
- I. There can be no free liquids present in the soil loaded for transport offsite. Contractor shall not load wet soils for transport. If free liquids develop during transport, Contractor shall be responsible for proper collection and disposal, if required.
- J. All contaminated soil transported on public roadways shall be covered to minimize fugitive dust.

- K. Where necessary, a decontamination pad for truck tire and undercarriage decontamination shall be employed to minimize tracking of contaminated soil onto public roadways if crushed stone construction entrances are ineffective at mitigating the tracking of soils offsite. Contractor shall be responsible for maintenance and operation of the decontamination pad and shall collect, treat, and dispose of decontamination pad wash water, if necessary. Contractor shall remove and properly dispose of decontamination pad at the end of the Work.
- L. The Contractor shall be responsible for providing certified weight slips (both tare and gross) and signed manifests to Owner of the actual quantities of material subject to off-site disposal/treatment. These weight slips will be used for payment purposes as well as for reporting remedial activities to the RIDEM.

3.06 CLEAN FILL

- A. Contractor will be required to demonstrate that all imported fill material brought onto the site, or any onsite material proposed to be reused as clean fill, is free of contaminants exceeding the R DEC listed in the RIDEM Remediation Regulations.
 - 1. Contractor shall identify source of all imported soil and fill materials proposed for use on the project.
 - 2. Imported and/or onsite soils proposed for reuse shall be sampled and analyzed at a minimum frequency of one sample per 500 cubic yards, and at least two samples shall be analyzed for each type of material and source. Analysis shall be performed by a laboratory certified in the State of Rhode Island.
 - 3. Contractor shall furnish certificates of analysis and chain of custody documentation of all soil sampling and analysis and shall certify that the material meets project requirements through comparison to the concentrations of RIDEM R DEC, including that it meets all other physical requirements stipulated elsewhere in the project specifications.
 - 4. No imported materials shall be delivered to the site until the proposed source and Owner has accepted material tests submitted by Contractor.
 - 5. Additional requirements shall be in accordance with Section 02300 – Earthwork.

END OF SECTION

SECTION 02100 - SITE PREPARATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 REFERENCES

- A. All work specified in this Section shall conform to "Standard Specifications for Road and Bridge Construction" of the Rhode Island Department of Transportation, latest revision, herein referred to as "State Standards".

1.03 SUMMARY

- A. The work of this Section includes the following:
 - 1. Provisions for protection of all existing utilities from damage.
 - 2. Restoration of pavement in areas where new sewer connections are made.
 - 3. Restoration of landscaped areas in locations where new sewer connections are made.
- B. Related Sections include the following:
 - 1. Section 02200 Earthwork

1.04 DEFINITIONS

- A. Cleaning as described in Subsection 212.01.2a of the State Standards.
- B. Maintenance as described in Subsection 212.01.2b of the State Standards.
- C. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.05 MATERIAL OWNERSHIP

- A. Unless noted otherwise, cleared materials shall become Contractor's property and shall be removed from Project site.
- B. The Owner reserves the right to claim ownership over any materials removed from the site, including earthwork. The materials claimed by the Owner shall be stockpiled on the site as directed.

1.06 SUBMITTALS

- A. The Contractor shall submit disposal site certification and haul routes for all disposals.

1.07 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Owner and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Owner and Engineer not less than two weeks in advance of proposed utility interruptions in writing. Renotify in writing 72 hours in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without Owner's written permission.
- B. The Contractor is responsible to schedule the work and determine any required temporary utility lines and connections required to keep the existing facilities in operation. The cost to furnish and install temporary utility lines and connections shall be included in the Contractor's base bid.
- C. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with the utility companies to shut off services if lines are active.
- D. Contractor shall coordinate with Owner to verify that suspected electric duct bank in project area is inactive. Remove and dispose duct bank within project area once it is confirmed to be inactive.
- E. Contractor shall not operate existing water gate valves. Only Owner's designated personnel are authorized to operate valves and hydrants.
- F. Do not commence site operations until temporary erosion and sedimentation control measures are in place.
- G. Removal of all asbestos piping or structures, if found, shall be in accordance with Subsection 201.03.8 of the State Standard Specifications.

PART 2 PRODUCTS

2.01 GENERAL

- A. The Contractor shall provide all materials and equipment in suitable and adequate quantity as required to accomplish the work shown and specified.

PART 3 EXECUTION

3.01 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.. The Contractor is responsible to provide horizontal and vertical layout of all proposed work.
- B. Locate and clearly flag trees and vegetation to remain. Review trees with Owner and Engineer prior to removal.
- C. Protect existing site improvements to remain from damage during construction.
- D. Restore damaged improvements to their original condition, as acceptable to Owner.

3.02 DISPOSAL

- A. Disposal: Remove surplus soil material, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them offsite.
- B. Any potentially contaminated soil material encountered, as specified by the State of Rhode Island Department of Environmental Management rules and regulations, shall be legally disposed of offsite. Refer to Section 02200 - Earthwork.
- C. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

3.03 REMOVE AND DISPOSE UNSUITABLE ON-SITE MATERIALS

- A. Remove and dispose of off-site, on-site earthen materials, loam, and stone materials deemed unacceptable for reuse. Refer to Section 02200 – Earthwork.

3.05 REMOVE AND STOCKPILE ON-SITE MATERIALS

- A. See Section 02075 Contaminated Soil Management.
- B. Materials shall be segregated by material type so as to not be mixed or require further segregation.
- C. The suitability of the existing material for later reuse shall be determined by the Engineer or Owner. No material shall be disposed of offsite without the approval of the Engineer or Owner. Suitable soil material shall be used for backfilling, filling, or regrading operations or any other use as determined by the Engineer or Owner. All suitable soil material that is temporarily stockpiled on-site shall be protected from adverse weather conditions until the time of installation.

3.06 CLEANING AND MAINTENANCE OF STORM DRAIN SYSTEM

- A. Contractor shall be responsible to clean sediment and debris from existing drainage system components during construction.

END OF SECTION

SECTION 02211 - ROCK REMOVAL

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Removal and disposal of identified rock, ledge and boulders previously identified and discovered during excavation for utilities and structures greater than 1 cubic yard.
- B. Mechanical trench rock removal. Rock removal through means of blasting is not permitted on the Site.

1.02 RELATED WORK

- A. Section 01300 – Submittals
- B. Section 01400 – Quality Control Requirements
- C. Section 02200 – Earthwork

1.03 UNIT PRICES

- A. Rock Measurement: Volume of rock actually removed, measured in original position, but not to exceed 12 inches beneath utility pipes and conduits and width. Rock removal performed beyond these limits will not be measured for payment.
- B. Unit prices for rock excavation include replacement with approved materials.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 1 cubic yard for bulk footing, trench, or pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering or ripping:
 - 1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch wide, short-tip-radius rock bucket; rated at not less than 120-hp flywheel power with bucket-curling force of not less than 25,000 lbf and stick-crowd force of not less than 18,700 lbf; measured according to SAE J-1179.
 - 2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp flywheel power and developing a minimum of 45,000-lbf breakout force; measured according to SAE J-732.

PART 3 EXECUTION

3.01 ROCK AND BOULDER REMOVAL

- A. Where rock or boulders are exposed on the sides, or in the bottom, of excavations, they shall be wholly or partially removed as specified or directed. Rock and boulders shall be removed to not less than the trench width payment lines and to not less than twelve (12) inches below the underside of pipes or structure foundation slabs.

- B. Depressions resulting from the removal of boulders shall be refilled with approved compacted gravel bedding, earth borrow, or other excavated material as directed. Unauthorized excavations in rock or excavations made beyond the indicated or directed limits shall be refilled with approved compacted gravel bedding or earth borrow as directed by, and at no expense to, the Owner.

3.02 ROCK REMOVAL – MECHANICAL METHOD

- A. Excavate and remove rock by the mechanical method.
- B. Cut away rock at excavation bottom to form level bearing.
- C. Remove shaled layers to provide sound and unshattered base for footings and base slabs.
- D. In utility trenches, excavate at least 12 inches below invert elevation of pipe and at least 24 inches wider than pipe diameter. Contractor shall over excavate as necessary to prepare the trench for sheeting and/or shoring to make the trench OSHA compliant. The Contractor shall include in their various bid prices all costs associated with necessary over excavation beyond trench pay limits due to Contractor's trench width requirements as established by their selected means and methods. Trench pay limits shall be as stipulated in the bid form and will be strictly enforced with respect to the calculation of quantities of rock eligible for payment. In no event shall over excavation be measured and paid for unless authorized by Owner or Engineer. Payment limits are further identified in Section 01150 – Measurement and Payment.
- E. Remove excavated material from site and stockpile at location determined by Owner.
- F. Correct unauthorized rock removal in accordance with backfilling and compaction requirements of Section 02200 - Earthwork.
- G. Contractor shall be required to provide adequate manpower and equipment to remove all rock provided for in the bid form in a timely manner. Failure to remove the quantity of rock as outlined in the bid form within the allowed contract time, shall not be considered as a reason for an extension in the contract time or contract price.

3.03 FIELD QUALITY CONTROL

- A. Provide for visual inspection of bearing surfaces and cavities formed by removed rock.
- B. The Contractor is to notify the Engineer prior to construction of any structures within the rock excavation for approval.

END OF SECTION

SECTION 02224 – CONTROLLED DENSITY FILL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for flowable concrete fill to be used in place of compacted soil for general backfill (if necessary) and filling of onsite wastewater treatment systems (if necessary), as described in Section 02750 Abandonment of Existing Sewers and Drains.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. C33, C150, C260, C494, C618, and C989.

B. American Concrete Institute (ACI)

1. ACI Committee 229, Standard Specification for Controlled Low Strength Materials (CLSM).

1.3 DEFINITIONS

- A. Controlled Density Fill (CDF), also known as “Flowable Fill” and “Ready-mix Fill.” Self-compacting, self-leveling, cementitious material used for backfills, fills and structural fills.
- B. Very Flowable: exhibits characteristics needed for small or confined areas and required to flow over long distances.
- C. Flowable: where the above flowability characteristics are not required.
- D. Excavatable: material that may be removed in the future if required.
- E. Non-excavatable: material not expected to be removed in the future.

1.4 DESIGN REQUIREMENTS

- A. Provide a mixture of Portland cement, aggregates, water and mineral admixtures with a low cement content and high slump to reduce strength development for possible removal and minimize settlement after placement.
- B. The proposed mix should maximize the flow characteristics of the material while producing the necessary strength.
- C. The design mixes shall have the following strengths at 28 days:
 1. Excavatable fill,
 - a. Class I (flowable) and II (very flowable), 30 to 100 psi., 150 psi maximum at 1 year

2. Non excavatable fill,
 - a. Class III (flowable) and IV (very flowable), 100 to 1200 psi.
- D. Air Content to be minimum 15 %
- E. Slump, using the modified method consisting of a six-inch long by three-inch inside diameter straight tube of non porous material.
 1. Class I and III: 6" to 8" diameter
 2. Class II and IV: 9" to 14" diameter

1.5 PERFORMANCE REQUIREMENTS

- A. Provide fill of homogeneous structure which when cured will have the required strength, water tightness, and durability. It is essential that careful attention be given to the selection of materials and mixtures as well as placing and curing of the fill.

1.6 SUBMITTALS

- A. In accordance with Section 01300, submit the following:
 1. Mix design data, not limited to but including maximum and minimum strengths, air content, setting times, flowability and yield.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland Cement: ASTM C150, Type II American-made (AASHTO M 85).
- B. Water: Clean, potable and complying with ASTM C94 (AASHTO M 157).
- C. Aggregates: ASTM C33 or a non-reactive aggregate source free of contaminants which exhibit high flow properties for controlled density fill (AASHTO M 6, M 80).
- D. Air entraining admixture conforming to ASTM C260, or as approved by the Engineer.
- E. Chemical Admixtures: In accordance with ASTM C494 (AASHTO M 195).
- F. Fly Ash: Meet requirements of ASTM C618 Class C or Class F (AASHTO M 295).
- G. Granulated Blast Furnace Slag: In accordance with ASTM C989 (AASHTO M 302).

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall follow the guideline set forth in ACI 229, except non standard materials shall not be used.

3.2 PREPARATION

- A. Pipes and all other members to be encased in CDF shall be temporarily secured in place to prevent displacement during fill placement.
- B. To reduce hydrostatic pressure and limit displacement potential, Contractor may use a high air generator in the fill mixture to lower unit weights.
- C. Pre-job test all pump applications prior to day of placement with actual equipment.
- D. Secure site during the placement for the CDF. Cautions include but are not limited to barricades, fences, lights and steel plates.
- E. Work shall be sequenced so as to keep traffic flowing within the project area.

3.3 INSTALLATION

- A. CDF shall be batched at concrete plants and hauled to job sites in ready-mix trucks with continuous agitating drums.
- B. During waiting period prior to discharge, truck drums shall agitate mixture.
- C. CDF shall be installed in accordance with supplier's recommendations.

3.4 FIELD QUALITY CONTROL

- A. All CDF to be used in the work shall be subject to testing to determine whether it conforms to the requirements of the specifications. The methods of testing shall be in accordance with the National Ready Mixed Concrete Association, Guide Specification for Controlled Low Strength Materials (CLSM) Article 8.0 Quality Control. The place, time, frequency, and method of sampling will be determined by the Engineer in accordance with the particular conditions of this project.

3.5 PROTECTION

- A. Open trenches shall not be left uncovered overnight. The Contractor shall supply enough trench plates to adequately cover all open trenches. The Contractor shall be responsible for providing pins and cold patch or other means acceptable to the engineer to secure the trench plates in place to prevent movement due to traffic.

END OF SECTION

SECTION 02273 - EROSION CONTROL

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. The work included for erosion control shall include but not necessarily be limited to:
1. Furnishing and installing straw bales, silt fence, swales, soil berms, mulches, grasses, channels, crushed stone, rip-rap, filter fabric drainage inlet protection, grading to control runoff and all other devices required to control erosion from the limits of the contract areas onto adjacent downgradient areas.
 2. Continual maintenance of all installed devices to control erosion.
 3. Removal and clean-up.

1.2 RELATED SECTIONS

Section 02200 – Earthwork

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300 – Submittals.

1.4 APPLICABLE REGULATIONS

- A. In order to prevent erosion and sedimentation from construction activities related to the performance of this project, the Contractor and his subcontractors shall comply with all permits issued for this project, all applicable Federal, State, and local laws and regulations concerning erosion and sediment control, as well as the specific requirements stated in this Section and elsewhere in the Specifications.

1.5 DESIGN CRITERIA

- A. Conduct all construction in a manner and sequence that causes the least practical disturbance of the physical environment.
- B. Stabilize disturbed earth surfaces in the shortest practical time and employ any and all such temporary erosion control devices as may be necessary until such time as adequate soil stabilization has been achieved or permanent erosion control devices are operational.
- C. The erosion control devices specified herein represent the minimum required work for erosion control. The Contractor shall add to these minimum devices any and all measures to effectively prevent migration of sediment from the limits of the work area.
- D. Within this section, the Rhode Island Soil Erosion and Sediment Control Handbook prepared by the U.S. Department of Agriculture Soil Conservation Service and the R.I. Department of Environmental Management shall be the guideline of analysis and the standard source for control measures.

PART 2 - PRODUCTS

2.1 STRAW BALES

- A. Bales shall be made of straw or hay with forty pounds minimum weight and one hundred and

twenty pounds maximum weight. They should be either wire bound or string tied. Wood stakes shall be a minimum of 2 inches by 2 inches nominal size by a minimum of 3 feet long. As an alternate, 1-inch diameter steel rods or steel reinforcing bars may be used.

2.2 SILT FENCE

- A. Silt fences or sedimentation barriers shall consist of wood posts with industrial support netting and sediment control filter fabric attached. The cost of this work shall include the periodic maintenance of these materials and the ultimate removal upon completion of the project.
- B. The filter fabric material shall be type #3401, as manufactured by R.I. Dupont de Nemours & Co., Mirafi #100 as manufactured by Celanese Fibers Marketing Co. Inc., Bidim C-28 or C-34 manufactured by Monsanto Co., or an approved equivalent. The posts shall be at least 4.5 feet long and control fabric shall be at least 3 feet minimum to 8 feet maximum wide.

2.3 EROSION NETTING

- A. Erosion netting of erosion control blanket shall be a machine-produced 100% biodegradable mat with an agricultural straw fiber matrix with a typical functional longevity of approximately 12 months. The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with 100% biodegradable natural woven fiber netting.
- B. The straw erosion control blanket shall be S150BN as manufactured by North American Green or approved equivalent.

2.4 COMPOST FILTER TUBES

- A. A compost-filled filter tube for filtering suspended sediments from storm water flow. Material for the filter tubes shall be compost per the manufacturer's recommendations, except no manure or bio-solids shall be used. In addition, no kiln-dried wood or construction debris shall be allowed. Tubes shall be a minimum of 12" and a maximum of 18" in diameter. Tube Material shall be a knitted mesh with 1/8" – 3/8" openings and shall be made of biodegradable materials. Photodegradable (HDPE or polypropylene) fabric may be used. All material must be removed and disposed of by the contractor, at his expense, at the end of the contract. Additional tubes shall be used at the direction of the Engineer. Filter tubes shall be Filtrexx Siltsoxx or approved equivalent.

PART 3 - EXECUTION

3.1 GENERAL EROSION CONTROL REQUIREMENTS

- A. All materials and installation shall be in accordance with the Specifications. In the event that the Specifications do not discuss all erosion controls required by applicable Federal, State, or local regulations, the Contractor shall install all said erosion controls to comply with applicable regulations. Additional controls installed in this manner, which are not discussed in the Specifications, shall not be a basis for additional monies for the Contractor.
- B. The Owner has the authority to control the surface area of each material exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary erosion control measures to prevent contamination of adjacent streams, watercourses, lakes, ponds, or other areas of water impoundment. Every effort shall be made by the Contractor to prevent erosion on the site and abutting properties.
- C. All slopes shall be stabilized by mulching, seeding, erosion netting, or otherwise protected as the

work progresses to comply with the intent of this specification. All damaged slopes shall be repaired as soon as possible. The Owner shall limit the surface area of earth material exposed if the Contractor fails to sufficiently protect the slopes to prevent erosion.

- D. The Contractor shall have the necessary materials and equipment on hand at all times to provide for early slope stabilization and corrective measures to damaged slopes.
- E. Erosion controls installed by the Contractor shall be maintained by the Contractor, and such installations shall be removed upon completion of the work or if ordered by the Owner.
- F. The Contractor shall operate all equipment and perform all construction operations so as to minimize erosion. The Contractor shall cease any operations which will increase erosion during rainstorms.
- G. The Contractor shall place additional erosion and sedimentation controls as required by laws and regulations.

3.2 STRAW BALE INSTALLATION

- A. Bales shall be set lengthwise on the contour for sheet flow applications. They shall be held in place by two wooden stakes in each bale. Bales shall be maintained or replaced until they are no longer necessary for the purpose intended or are ordered removed by the Owner.
- B. Bales shall be set with bindings parallel to grade and entrenched to a minimum depth of 4 inches. Stakes shall be driven a minimum of 12 inches into the ground and cut off flush with the top of the bale.
- C. After the bale lines are staked, the end joints shall be chinked with loose straw to close any gaps. Excavated soil shall then be backfilled against the uphill side of the barrier to a depth of 4 inches above the downhill grade.
- D. Following compaction of the backfill, loose straw shall be scattered over the surface directly behind the barrier.
- E. Straw bale checks should be placed in diversions generally at 50-foot intervals. Sediment shall be removed from behind the checks when it has accumulated to one-half the original height of the bale check measured at the low point.

3.3 SILT FENCE INSTALLATION

- A. Silt fence shall be installed utilizing posts a minimum of 4.5 feet long, staked at least 8 feet on center. Prior to installation, a 6-inch by 6-inch anchor trench shall be installed at the base of the fence and the final height will be a minimum of 2 feet.

3.4 REMOVAL AND CLEAN-UP

- A. All temporary erosion control facilities and accumulated sediments shall be removed in a neat and workmanlike manner when all disturbed areas have been satisfactorily stabilized.
- B. All debris removed, sediments, and other earth materials shall not leave the project site, but shall be hauled to and stockpiled at the location designated by the Owner. All loading, hauling, and stockpiling shall be performed by the Contractor at no additional expense to the Owner.

END OF SECTION

SECTION 02300 - EARTHWORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. General provisions of the Contract, including Division 1 General Requirements, apply to this Section.
- B. All work specified in this Section shall conform to the "Standard Specifications for Road and Bridge Construction" of the Rhode Island Department of Transportation, latest revision, herein referred to as "State Standards".

1.02 SUMMARY

- A. The work covered in this section of the specifications includes excavating and backfilling trenches for sewer pipe, manhole structures, and appurtenances.
- B. Related Sections include the following:
 - 1. Section 02075, Contaminated Soil Management
 - 2. Section 02211, Rock Excavation, for removal of rock.
 - 3. Section 02900, Landscaping, for finish grading, including placing and preparing topsoil for lawns.

1.03 DEFINITIONS

- A. Backfill: Soil materials used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.
- C. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
- D. Excavation: Removal of material encountered above subgrade elevations.
 - 1. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation to Contractor.
- E. Subbase Course: Layer placed between the subgrade and base course for asphalt paving.
- F. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- G. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.04 SUBMITTALS

- A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and backfill.
2. Laboratory compaction curve according to ASTM D 698 for each on-site or borrow soil material proposed for fill and backfill.
3. Laboratory compaction curve according to ASTM D 1557 for each on-site or borrow soil material proposed for fill and backfill.

1.05 QUALITY ASSURANCE (Not Applicable)

1.06 PROJECT CONDITIONS

- A. Contractor shall contact Dig Safe and any other utility companies with utilities in the area prior to the start of construction. Contractor shall coordinate with utility companies to shut off services as required.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Common Borrow: Shall be in accordance with Subsection M.01.01 of the State Standards. On site granular material may be used as common borrow provided it meets these specifications.
- C. Gravel Borrow/Gravel Borrow Subbase: Shall be in accordance with Subsection M.01.02 of the State Standards
- D. Pervious Fill: Shall be in accordance with Subsection M.01.03 of the State Standards .
- E. Bedding Material: Shall be crushed stone or sand in accordance with Subsection M.01.04 of the State Standards, except that it shall meet the particle sizes specified in Column I of the Table in Subsection M01.09 and that has 100 percent by weight passing the 1½-in. sieve. in the Specifications.
- F. Sand Gravel Fill Material: Shall be free of rock or gravel larger than 3 inches in any dimension, debris, broken pavement, waste, frozen materials, vegetation, and other deleterious matter and conform to the criteria listed below:

Gradation	
Sieve Size	Sand Gravel Fill
3-inch	100
1-1/2-inch	70-100
¾-inch	50-85
½-inch	-
⅜-inch	-
No. 4	30-55
No. 8	-
No. 16	-
No. 30	-
No. 40	-
No. 50	8-25
No. 100	-
No. 200	0-8

2.02 ACCESSORIES

- A. Underground-Type Line Markers for Non-Metallic Pipelines: Green detection tape for placement over sewer pipe, in accordance with Section 02722 of these Specifications.

2.03 TRENCH BOXES

- A. The trench boxes specified and used shall be capable of supporting the ground pressures anticipated within the excavation.
- B. The trench boxes shall be well-maintained and inspected for defects at the start of each shift and before placing an excavation.

PART 3 - EXECUTION

3.01 PREPARATION

- A. It is the Contractor's responsibility to protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. It is the Contractor's responsibility to protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. It is the Contractor's responsibility to provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, if and as required.

3.02 SURFACE WATER RUNOFF

- A. Prevent surface water entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 - 2. Use local Tide Charts to schedule the work during low tide conditions to limit the requirement of dewatering.

3.03 ROCK EXCAVATION

- A. Rock excavation shall be according to Specification Section 02211.

3.04 EXCAVATION, GENERAL

- A. Unclassified Excavation: Shall be in accordance with Subsection 202.01.11 of the State Standards.

3.05 STRUCTURAL EXCAVATION AND BACKFILL

- A. Structural Excavation and backfill shall be in accordance with Section 203 of the State Standards.

3.06 TRENCH EXCAVATION AND BACKFILL

- A. Trench excavation and backfill shall be in accordance with Section 205 of the State Standard.

3.07 APPROVAL OF SUBGRADE

- A. Notify Engineer when excavations have reached required trench subgrade.
- B. If the Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
 - 1. Additional excavation and replacement material will be paid for according to Contract provisions.
- C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer.

3.08 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.09 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Surveying locations of underground utilities for record documents.
 - 2. Inspecting underground utilities.
 - 3. Removing trash and debris.
 - 4. Removing temporary shoring and bracing, and sheeting.
- B. All backfill shall be compacted to not less than 90 percent of the ASTM maximum dry density, except that the top twelve (12) inches below subgrade shall be compacted in excess of 95 percent of maximum dry density. All backfill lifts shall be no greater than 12 inches.
- C. All percentages of compaction specified herein shall be related to the maximum dry density as established by Method D, ASTM D1557-70, and verified in the field by ASTM D1556-68, D2167-66 or an approved nuclear density testing device. Prior to placing, at least one (1) laboratory test shall be made on a representative sample of each of the fill and backfill materials proposed to be furnished for the earthwork operations to determine gradation and moisture density characteristics. These tests will be made by a testing laboratory selected by the Contractor and at the Contractor's expense.

3.10 MOISTURE CONTROL

- A. Uniformly moisten each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place trench backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.11 TRIMMING AND FINE GRADING

- A. Trimming and fine grading shall be in accordance with Section 204 of the State Standards.

3.12 SUBBASE AND BASE COURSES

- A. Subbase under pavements shall be in accordance with Subsection 301.0

3.13 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.
- B. See Section 02075.

3.15 TRENCH BOXES

- A. Trench boxes shall be installed to support the excavations.
- B. Stacked trench boxes shall be used in locations where the depth of excavation exceeds the height of one trench box. Only trench boxes designed to be stacked shall be used.
- C. The space between the excavation wall and trench box shall be filled with crushed stone to limit the deflection of the excavation wall, and to mitigate the risk of surface ground movement and settlement.
- D. If voids occur behind the shoring, they shall be filled immediately with proper material from earth excavation or other sources to the satisfaction of the Owner and Engineer.
- E. Withdrawal of shoring shall be carefully performed to prevent movement of material along the sides of the backfilled excavations, to prevent damage to utilities, structures, or the work, and to avoid injury to persons.
- F. Unless otherwise permitted, shoring shall be withdrawn in lifts of not more than four (4) feet, and all voids shall be filled immediately with selected materials.

3.16 REMOVAL OF SUPPORTING SYSTEM

- A. When removing excavation support system, do not disturb or damage adjacent buildings structures, construction, or utility facilities.

- B. Removal of the excavation support system shall be sequenced in such a way that will allow for all voids that develop both behind the support of excavation system and as a result of the removal of the excavation to be entirely filled with crushed stone, CLSM, or compacted soil fills.

3.17 MAINTENANCE OF SOIL SUPPORTS

- A. Maintain a sufficient quantity of materials on hand throughout the conduct of work and other operations for protection of the work and for use in case of accident or emergency.

END OF SECTION

SECTION 02511 - HOT-MIX ASPHALT PAVEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including Division 1 General Requirements, apply to this Section.
- B. All work specified in this Section shall conform to the "Standard Specifications for Road and Bridge Construction" of the Rhode Island Department of Transportation, latest revision, herein referred to as "State Standards".

1.2 SUMMARY

- A. The work covered in this section of the specifications includes constructing permanent pavement trench patches from the installation of sewer piping.
- B. Related Sections include the following:
 - 1. Section 02300, EARTHWORK, for aggregate subbase course.

1.3 REFERENCE STANDARD

- A. Provide hot-mix asphalt pavement according to the materials, workmanship, and other applicable requirements of Section 401 of the State Standards.

1.4 SUBMITTALS

- A. Hot-Mix Asphalt Pavement: in accordance with Section 401 of the State Standards.

1.5 QUALITY ASSURANCE

- A. Hot-Mix Asphalt Pavement: in accordance with Section 401 of the State Standards.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Hot-Mix Asphalt Pavement: in accordance with Section 401 of the State Standards.

1.7 PROJECT CONDITIONS

- A. Hot-Mix Asphalt Pavement: in accordance with Section 401 of the State Standards.

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. Aggregates shall meet the applicable requirements of Subsection M.03.02.2 of the State Standards.

2.2 BITUMINOUS MATERIALS

- A. The grade of bituminous material shall be as specified in Subsection M.03.02.1 of the State Standards.

2.3 MIXES

- A. Hot-Mix Asphalt Pavement: in accordance with Section 401 of the State Standards.

PART 3 - EXECUTION

3.1 PLACEMENT OF PAVEMENT.

- A. All Construction Methods for work associated with the placement of pavement shall be in accordance with Section 401 of the State Standards.
- B. Thickness of Pavement courses shall be according to the Details provided in the Appendix to this project manual.

END OF SECTION

SECTION 02530 - RESTORATION OF CURB, SIDEWALKS, AND VEGETATED AREAS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for removal and replacement of granite curb, concrete and bituminous sidewalks including sidewalks at driveways, and wheelchair ramps.
2. Requirements for restoration of vegetated areas, plantings, and tree beds.
3. Requirements for construction of sidewalks in sensitive tree areas.
4. Restoration to include those areas designated by the Specifications and those affected or damaged by the construction operations, outside the limits of Work.

B. Related Sections

1. Section 02200 – Earthwork
2. Section 02900 – Landscaping

1.2 REFERENCES

- A. This specification makes reference to the requirements of additional specifications as listed. The Contractor shall obtain and familiarize himself with all requirements referenced by this specification prior to preparation and installation of any pavements.
 1. Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, including all addenda, issued by the State of Rhode Island Department of Public Works, (referred to as the Standard Specifications). All references to measurement and payment are deleted.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01300,
 1. Sieve analysis for aggregates and loams.
 2. Mix designs for batched materials.
 3. Certifications for landscape material.
 4. Samples when requested by the Engineer.

PART2 - PRODUCTS

2.1 MATERIALS

A. Gravel Borrow

1. In accordance with State of Rhode Island Standard Specification, Subsection M.01.02, meeting the gradation requirements of Table 1, Column 1, with 100% passing the 3-inch Square Mesh Sieves.

B. Granite Curb

1. In accordance with the requirements of Section M.09 of the Standard Specifications.

C. Cement Concrete

1. In accordance with the requirements of Section M.02 of the Standard Specifications.

D. Bituminous Concrete

1. In accordance with the requirements of the Standard Specifications, Section 401 for Surface Course, Class I-2 and the gradation requirements for Class I-2 or sidewalk in section M.03.01.

E. Loam, Seed, Lime, Fertilizer, Mulch and Water

1. In accordance with Section M.18 of the Standard Specifications.

2.2 SOURCE QUALITY CONTROL

- A. The plants used by the Contractor for preparation of bituminous paving materials and cement concrete shall be acceptable to the Engineer who shall have the right to inspect the plant and the making of the material.

PART 3 - EXECUTION

3.1 INSTALLATION/RESTORATION

- A. Excavation shall be in accordance with Section 02200, EARTHWORK unless noted otherwise by the referenced specifications below.

B. Granite Curb

1. Installing new granite curb or removing, salvaging, and resetting existing granite curb at the locations indicated in the Specifications or as directed by the Engineer shall be in accordance with Section 906 of the Standard Specifications.

C. Sidewalks

1. Installation of new or replacing existing sidewalks, driveways, and wheelchair ramps at the locations in the Specifications or as directed by the Engineer shall be in accordance with Section 905 of the Standard Specifications.

D. Vegetated Areas, Plantings, and Tree Beds

1. Restore all disturbed areas in accordance with Section 02900, LANDSCAPING and the following Sections of the Standard Specifications:
 - a. Loam in accordance with L.01;
 - b. Seeding in accordance with L.02; and
 - c. Plantings and Tree Beds in accordance with L.08.

E. Restoration Limits

1. Where the trench location is in a sidewalk, the entire width of the sidewalk shall be replaced with new material. Side forms shall be set so as to obtain and preserve a straight edge along both sides of the walk.
2. Sidewalks shall be cut at existing joints or as directed otherwise by the Engineer.
3. Where trench is in a driveway, the driveway shall be repaved across its entire width with even edges.

F. Restoration Outside Limits of Work

1. Sidewalks, driveways, parking lots and curbing that are damaged by the Contractor's operations shall be restored to a condition at least equal to that in which they are found immediately prior to the start of operations. Materials and methods used for such restoration shall be in conformance with the requirements of the Standard Specification.
2. There shall be no cost to the Owner for this work.

G. Salvaged Granite Curb

1. All existing granite curb, which remains unused at the end of the project, shall be returned by the Contractor to the Town of Tiverton Department of Public Works. Coordinate delivery of unused curb with Public Works personnel.

END OF SECTION

SECTION 02722 - SANITARY SEWERAGE SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies requirements in the Contract for the Contractor to furnish all plant, labor, equipment, appliances and materials, and perform all operations in connection with the construction of the sanitary sewage system at the locations and to the lines and grades indicated in the Specifications and/or directed. The work includes but is not limited to the following:
 - 1. Gravity sewer pipe, fittings and appurtenances.
 - 2. Connections to other work including connections to manholes.
 - 3. Joining and jointing materials.
 - 4. All testing.
 - 5. All other related and appurtenant work.

1.3 REFERENCES

- A. The following standards and specifications listed below form a part of this specification where applicable.
 - 1. American Society for Testing and Materials Standards
 - a. ASTM D 2412-02 Standard Test Method for Determination of External Loading Properties of Plastic Pipe by Parallel – Plate Loading.
 - b. ASTM D 2444 Standard Test Method for Determination of Impact Resistance of Thermoplastic Pipe and Fittings by means of a TUP (Falling Weight).
 - c. ASTM D 3034-04a Standard Specification for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings.
 - d. ASTM D 3212 Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
 - 2. American Water Works Association Standards
 - a. AWWA C-901 Standard for Polyethylene (PE) Pressure Pipe and Tubing, ½ inch (13 mm) Through 3 inch (76 mm), for Water Service
 - b. AWWA C-800 Standard for Underground Service Line Valves and Fittings
- B. Federal Specification:
 - 1. SS-S-210 Sealing Compound, Preformed Plastic, for Expansion Joints and Pipe Joints.

1.4 SUBMITTALS

- A. Submittals for the following items shall be required:
 - 1. Shop Drawings: Showing lengths of pipe, fittings and joint details, construction details, tolerance and other information, as required.

2. Conformance Certificates: Each shipment of pipe, pipefittings, and appurtenances, shall be accompanied by the manufacturer's notarized certificate certifying conformance with all requirements of these specifications.
3. Guarantee: The Contractor shall furnish to the Owner a written guarantee signed by the manufacturer of the pipe and pipe fittings which he proposes to furnish, which shall warrant and guarantee that the pipe and pipe fittings meet all requirements of the specifications and that the pipe and fittings shall not fail or be injured as a result of conveying sewage, drainage, industrial wastes or groundwater. The form of guarantee shall, in all respects, be satisfactory to the Owner.
4. As-builts: The Contractor shall record as-built measurements of all installed piping, fittings, valves, end caps, manholes, and any uncovered utility. The Contractor shall transfer this information to a clean set of drawings and submit for approval prior to project completion.

1.4 QUALITY CONTROL

- A. All pipe and appurtenances shall be the product of a manufacturer who has demonstrated capability to produce pipe and appurtenances of the quality specified. Manufacturer must be able to show that he has experienced personnel, physical facilities, established quality control procedures, and a management capability sufficient to execute the work of this contract. When requested by Owner or Engineer, the Contractor shall submit written evidence of the above requirements.
- B. Pipe and Fittings Marking: Mark pipe with the following information applied at intervals of not more than 5 feet.
 - Manufacturer's name or trademark;
 - Nominal pipe size;
 - PVC cell classification;
 - Applicable dimension ratio;
 - Date and location of manufacturer; and
 - Applicable standard designation number.
- C. Provide at least one person who shall be present at all times during execution of this portion of the work and who shall be thoroughly trained and experienced in the installation of pipe, fittings, and appurtenances, who shall direct all work performed under this Section.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

A. GENERAL

1. The Contractor shall arrange for the delivery of the products at approved locations in the vicinity of that portion of the project in which the products are to be installed. To this end, Contractor shall do such work as is necessary for access and for delivery of the products.
2. All products shall be stored in an approved, orderly manner so that there will be a minimum of re-handling from the storage area to the final position in the trench and so that there is a minimum of obstruction and inconvenience to any kind of traffic.
3. Deliveries shall be scheduled so that the progress of the work is at no time delayed and also so that large quantities of products shall not be stored for excessive lengths of time in crowded locations or in locations where large storage areas might be considered objectionable.

4. Storage products will be restricted to approved or permitted areas.
5. Products shall not be stored on areas over the newly laid pipeline or other pipe lines which might be damaged by the superimposed load. Products may be strung out along the alignment of the job but shall be laid off areas subject to traffic.
6. Products may not be stored on private property unless permission to do so has been granted by the property Owner.
7. Avoid damage to pipe from impact, bending, compression or abrasion during handling and storage.
8. Store pipe on flat surface, which provides even support for the pipe barrel with bell ends overhanging. Do not stack pipe higher than 5 feet. Do not store pipe and fittings in direct sunlight.
9. Ship rubber gaskets in cartons and store in a clean area away from grease, oil, ozone producing electric motors, heat and the direct rays of the sun.
10. Use only nylon-protected slings to handle pipe. The use of hooks or bare cables will not be permitted.

PART 2 - PRODUCTS

2.1 IDENTIFICATION

- A. Underground-Type Line Markers for Non-Metallic Pipelines: Manufacturer's standard permanent detection tape, bright-colored, continuous printed polyethylene tape with a metallic core for each detection of non-metallic underground installations, intended for direct-burial service; 2" to 3" wide x 4 mils. thick. Provide green detection tape with black printing reading "CAUTION SEWER LINE BURIED BELOW" as manufactured by Seton, or approved equal. Install warning tape 1' above top of service pipe along its entire length.

2.2 POLYVINYL CHLORIDE GRAVITY SEWER PIPE

- A. Polyvinyl chloride (PVC) pipe for gravity sewers and service lateral connections shall conform to ASTM D 1784 and D 3034-SDR 35, and shall meet the following specific requirements and exceptions:
 1. The pipe and fittings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusion or other injurious defects. The pipe shall be as uniform as commercially practical in color, capacity, density and other physical properties.
 2. Joints shall be bell and spigot. The bell shall consist of an integral wall section with a solid cross section rubber ring factory-assembled, securely locked in place to prevent displacement. Joints shall conform to ASTM Standard D 3212 and F 477.
 3. All fittings and accessories shall have dimensions as recommended by the manufacturer and have bell and/or spigot configurations compatible with that of the pipe.
 4. Pipe shall pass impact resistance test in accordance with ASTM D 2444 and minimum pipe stiffness test at 5% deflection in accordance with ASTM D 2412.
 5. The normal length of 12-inch size and smaller pipe shall be 12.5 feet.

6. The minimum size shall be 6" diameter for single-family residential, multi-family and commercial buildings.
7. Each service lateral shall be installed with a backwater valve device accessible to grade. Valve shall be located on the property being connected to the sewer and as close to the sewer main as possible.
8. Pipe and fittings shall be manufactured in the United States of America and shall be accompanied by the manufacturer's certificate of compliance, in addition to meeting the performance tests specified hereinafter.

2.3 BACKWATER VALVE ASSEMBLY

- A. Backwater valves shall complete in place extendable backwater valve kit with inner riser/extension assembly and access cover for maintenance.
- B. Valve shall be 6" constructed from PVC Type I, ASTM D 1784 Cell Classification 12454. All Valve Seats shall be EPDM. All valves shall have external Arrow Flow Indicator. All valves shall be pressure rated to 43 psi (100 feet of Head) for water @ 73°F.
- C. Bearing parts of backwater valves shall be of corrosion-resistant materials. Valves shall Conform to ASME/ANSI A112.14.1 for Backwater Valves.
- D. Backwater valve shall come complete with cast iron valve box with 6" concrete ring and 10" minimum H-20 loading cover. Iron Castings shall conform to M05.04.9(f) of the RIDOT Standards.

2.4 DUCTILE IRON TAP SADDLE

- A. Ductile iron tap saddle body shall be is cast from ductile (nodular) iron, meeting or exceeding ASTM A 536, Grade 65-45-12.
- B. Gasket shall be made from virgin Styrene Butadiene Rubber (SBR) compounded for water and sewer service in accordance with ASTM D 2000 MBA 710.
- C. Pipe stop shall be molded into the inside wall of the gasket. The pipe stop shall hold up to 1000 lbs of force along the branch.
- D. Strap shall be Type 304 (18-8) Stainless Steel, 3 1/2 inches wide to spread out clamping forces on the pipe. M.I.G. and T.I.G welds. Passivated for corrosion resistance.
- E. Bolts and nuts shall be Type 304 (18-8) Stainless Steel, passivated for resistance to corrosion. 1/2" National Coarse roll thread. Nuts coated to prevent galling.
- F. Shop coat shall be applied to cast parts for corrosion protection in transit.
- G. Washers shall be Acetyl and stainless steel washers.
- H. Sewer saddle shall be Style CB by Romac Industries, Inc, or approved equal.

2.5 INSERTA TEE

- A. Inserta Tee service connections, as manufactured by Inserta Tee, or approved equal, shall consist of a PVC hub, rubber sleeve, and stainless steel band. Connection shall be a compression fit into the cored wall of a mainline pipe. Hub shall be made from heavy-duty PVC material. Stainless steel clamping assembly shall

be of SS #301 for the band and housing and SS #305 for screws. Rubber sleeve and gasket, when applicable, shall meet the requirements of ASTM F477. Gaskets shall be installed by the manufacturer. A water-based solution provided by the manufacturer shall be used during assembly.

2.6 CLEANOUT APPURTENANCES

A. Pipe Supports and Hangers

1. Pipe supports and hangers of approved types shall be provided as required, to safely and adequately support and tie down the piping, to maintain the pipelines in proper alignment and position. All materials shall be stainless steel.
2. The supports and hangers shall be adjustable where required and shall be of standard design and manufacture. Job fabricated supports and hangers will not be allowed except where specifically approved in writing.
3. The Contractor shall submit piping shop drawings which indicate the location, type, and material for all supports and hangers.
4. Saddle stands shall be adjustable and have a base plate which shall be bolted to the floor.
5. Approved type inserts and expansion sleeves shall be provided to safely and adequately fasten the supports and hangers to concrete surfaces. All anchor materials shall be stainless steel.

2.8 OTHER MATERIALS

- A. Connections between two dissimilar gravity pipe materials shall utilize flexible sewer couplings with stainless steel bands conforming to applicable parts of ASTM C443, C564 and D1869. Materials shall conform to TWW Standards.
- B. All other materials not specifically described, but required for proper and complete installation of the pipe shall be as selected by the Contractor, subject to the approval of the Owner.

PART 3 - EXECUTION

3.1 PROJECT CONDITIONS.

- A. Dig-Safe Damage Prevention System: All Contractors or Subcontractors performing drilling, boring, auguring, jetting, sheeting or pile installation, demolition, excavation or like work shall, prior to commencement of these activities, contact utility companies having responsibility for underground transmission systems for information relative to locations of existing underground utilities and/or an appropriate dig safe damage prevention and notification agency.
- B. Protection of Water Lines
 1. Sewers shall be laid at least 10' horizontally from any water line. There is no minimum vertical separation required provided the 10' horizontal separation is maintained. Sewers crossing under water lines shall be laid to provide a minimum vertical separation of 18" between the invert of the water line and the crown of the sewer. In the event minimum 18" separation cannot be met, either the water line or the sewer may be encased in concrete (min. 6" thickness) or a carrier pipe for a distance of 10' on each side of the crossing, measured perpendicular to the water line.

2. Private Wells: Sewers shall be laid at a minimum at least 50 feet, horizontally, from any existing or proposed private well. Should local conditions prevent a lateral separation of 50 feet, the sewer line shall be constructed of Class 150 DR18 polyvinyl chloride pressure pipe.

3.2 IDENTIFICATION MARKERS

- A. Metallic line markers shall be installed as indicated in the Specifications.

3.3 INSPECTION

- A. All sanitary sewerage system products shall be subject to inspection and approval by Owner at the place of manufacture and/or at the site after delivery. The products shall be subject to rejection at any time due to failure to conform to the specifications. Rejected products shall be removed from the site immediately. All the products shall be carefully examined for defects, and if any are found to be broken or defective, prior to or after being placed, they shall be removed and replaced by the Contractor without any further compensation.

3.4 PRODUCT HANDLING

- A. Each product shall be handled into its position in the trench in such a manner and by such means as the manufacturer recommends as satisfactory, and these operations will be restricted to those considered safe for the workmen and such as to cause no injury to the product or any property.
- B. The Contractor will be required to furnish slings, straps and/or other devices to provide satisfactory support of the pipe when it is lifted. Transportation from delivery areas to the trench shall be restricted to operations which can cause no injury to the product. The products shall not be dropped from trucks or into the trench.
- C. The Contractor shall have on the job site with each crew, all the proper tools to handle the products being installed. The use of hammer and chisel, or any other method, which results in rough edges, ships, and damages, shall be prohibited.

3.5 TWW D REQUIREMENTS FOR CONNECTING TO EXISTING SEWER MAIN

- A. On sewer lines where service laterals were installed as part of the original sewer construction, the applicant shall utilize the lateral provided for the property unless it is deemed non-feasible to serve the property. The District maintains limited historic records on the sewer system. These records can be made available for the design and construction of the sewer connection. Upon request from a homeowner or a sewer connection contractor, Tiverton Wastewater District will mark out the existing sewer service lateral stub based on the best available information such as as-builts, record design or construction plans, and CCTV reports. However, the actual service stub location may vary. The Tiverton Wastewater District does not take responsibility for the accuracy or completeness of the record information, nor will it be responsible for conclusions drawn from these records
- B. Where sewer service laterals are not available, connections to existing sewer mains shall be made utilizing a ductile iron tap saddle such as a DI Tap Saddle or equal as approved by the Engineer. Service connections made to the Mount Hope Interceptor sewer must be made utilizing the Inserta-Tee method.

3.6 CONTROL OF ALIGNMENT AND GRADE

- A. The Contractor shall use a pipe laser beam in setting the pipe and control of alignment.
- B. The use of string levels, hand levels, carpenters' levels or relatively crude devices for transferring grade or setting pipe will not be permitted.

- C. TWWD will share with the Contractor general field sketches of anticipated alignments of sewer laterals for reference purposes only.
- D. The Contractor's field survey notes shall be kept neat, orderly and in conformance with accepted practice. Copies of all field survey books and notes shall be made available to the Owner upon request.

3.7 INSTALLATION OF PIPE

- A. Laying pipe: All pipe shall be laid upon a trench bottom prepared as specified under the earthwork section of these specifications. The following requirements shall be met:
 - 1. All pipe shall be laid in accordance with the recommendations or specifications of the manufacturer insofar as they do not conflict with these specifications.
 - 2. Pipe and appurtenances shall be examined carefully for cracks or other defects.
 - 3. Pipe shall be laid to lines and depths discussed in the Specifications or approved by the Owner and the Work done with suitable tools and appliances. An even alignment of the pipes shall be maintained.
 - 4. Bellholes for bell and spigot pipe shall be excavated so the barrel of pipe bears on the prepared bed.
 - 5. Blocking will not be permitted.
 - 6. Each length of pipe shall be laid to form a tight joint, as hereinafter specified, and to bring the inverts into a continuous line.
 - 7. All pipes shall be clean and free of dirt before laying and open ends shall be kept covered and free of dirt during construction.
 - 8. Each pipe shall be held firmly in position by carefully and thoroughly tamping backfill material around the barrel of the pipe.
 - 9. The minimum slope shall be $\frac{1}{4}$ " per foot or as required to provide minimum self-cleansing velocity of 2 feet per second.
 - 10. The work shall be conducted in such a manner that no loose excavation or other foreign material can enter the pipes.
 - 11. Where new pipes are to join existing structures, extreme care shall be taken in breaking into the structures and tight connections shall be made without interrupting service.
 - 12. Whenever it is necessary to cut pipe to fit into the pipeline, or to provide additional couplings or sleeves, this work shall be done and the materials shall be provided by the Contractor. So far as practicable, cut pieces of pipe may be used. Saws shall be used to cut all pipe.
 - 13. Ends of completed pipes and branches shall be sealed with tight fitting stoppers, or approved equivalent.
 - 14. Where new pipes join existing pipes, all work necessary to make a suitable connection shall be done.
 - 15. All Y-branches shall be marked with steel stakes approximately 6 feet long to aid in locating the branches when the laterals are extended.
 - 16. The Owner will assist the Contractor in securing and reproducing ties to Y-branches and other pipe line appurtenances, as required.

17. At manholes and catch basins, short lengths of pipe, not over 4 feet long, shall be used to connect into the structure.
18. Pipe bedding shall consist of 6" thick layer of ¾" crushed gravel.
19. After pipe installation has been approved by a Tiverton Wastewater District inspector, it shall be backfilled up to 6" above the pipe crown with ¾" crushed gravel. Suitable backfill free of rocks and deleterious debris shall be installed above the gravel layer and up to final grade.

3.8 PIPE JOINTS

- A. Pipe joints shall be made in accordance with the following requirements.
 1. Compression gasket joints in sewer pipelines shall be installed in accordance with instructions furnished by the manufacturer.
 2. Flexible couplings and/or adapters shall be installed where recommended by the manufacturer.

3.9 DI SADDLE TAP INSTALLATION

- A. Installation shall be in accordance with manufacturer's recommended installation guidelines.

3.10 INSERTA TEE INSTALLATION

- A. Installation shall be in accordance with manufacturer's recommended installation guidelines.

3.11 BACKWATER VALVE ASSEMBLY INSTALLATION

- A. Installation shall be in accordance with manufacturer's recommended installation guidelines.

3.12 CLEANOUT MANHOLE PIPE PAINTING

- A. All ferrous metal surfaces in cleanout manholes, including ductile iron piping, shall be field painted to prevent corrosion. Painting shall consist of a coat of rust inhibitive metal primer and two (2) coats of epoxy enamel to a dry film thickness of not less than 5 mils. Finish color shall be green. White flow arrows shall be stenciled on pipe indicating direction of flow.
- B. All surfaces to be painted shall be prepared in accordance with the recommendations or directions of primer and paint manufacturer.
- C. Stainless steel, PVC, copper, and fiberglass materials shall not be painted.

END OF SECTION

SECTION 02750 – ABANDONMENT OF EXISTING SEWERS AND DRAINS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Requirements for abandoning existing onsite wastewater treatment systems (OWTS) and cesspools and their associated piping, structures, valves, and appurtenances , as specified.
2. OWTS shall not be abandoned until new sewer service has been established at the respective property.

B. Related Sections

1. Section 02224 – Controlled Density Fill

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. C32, Standard Specification of Sewer and Manhole Brick (Made from Clay or Shale), AASHTO Designation M91-42, Red Sewer Brick Only Grade SS.
2. C144, Standard Specification for Aggregate for Masonry Mortar.
2. C150, Standard Specification for Portland Cement.
3. C207, Standard Specification for Hydrated Lime for Masonry Purposes.

1.3 SUBMITTALS

A. Shop Drawings

1. In accordance with Specification SECTION 01300 - SUBMITTALS.

PART 2 – PRODUCTS

2.1 PLUGS

A. General

1. Plugs shall meet the following thickness requirements:

<u>Sewer/Drain Diameter</u>	<u>Thickness of Plug</u>	
	<u>Concrete</u>	<u>Brick & Mortar</u>
15-inch and less	12-inch	8-inch

B. Cement

1. Minimum 4,000 psi cement concrete materials or brick masonry.

C. Brick

1. Sound, hard, and uniformly burned brick, regular and uniform in shape and size, of compact texture, and satisfactory to the Engineer.
2. In accordance with ASTM C32, Red Sewer Brick Only Grade SS.
3. In accordance with AASHTO M91-42, Red Sewer Brick Only Grade SS.

D. Mortar for Brickwork

1. Composed of Portland cement, hydrated lime, and sand in which the volume of sand shall not exceed three times the sum of the volume of cement and lime.
2. The proportions of cement and lime shall be 1:1/2.
3. Cement shall be Type II Portland cement in accordance with ASTM C150.
4. Hydrated lime shall be Type S conforming to the ASTM C207.
5. Hydrated lime shall be "Mortaseal" manufactured by U.S. Gypsum or
6. "4X Hydrate" manufactured by the New England Lime Company or
7. An acceptable equivalent product.
8. The sand shall conform to ASTM C144.

E. Pipe Fill Material

1. Class II Controlled Density Fill (excavatable fill, very flowable)

PART 3 - EXECUTION**3.1 INSTALLATION****A. Plugs**

1. Plug existing combined sewers, sanitary sewers and storm drains, as indicated in the Specifications and as specified.
2. Plugs shall withstand the full soil and groundwater pressure.
3. Pipe entering a manhole or catch basin that is to be abandoned shall have a plug installed that is flush with the interior of the structure.
4. Sewer and drain services 4-inches or 6-inches in diameter shall be plugged with a precast concrete plug. Such plugs shall be made watertight with an application around the plug of an approved watertight compound.

B. Pipe Fill

1. Existing combined sewers, sanitary sewers and storm drains to be abandoned that are greater or equal to 12-inches in diameter shall be abandoned, plugged and filled with Class II Controlled Density Fill (excavatable fill, very flowable). Fill a minimum of 95% of the total inside volume of the pipe.
2. Existing combined sewers, sanitary sewers and storm drains to be abandoned that are less than 12-inches in diameter shall be abandoned and plugged, but not filled.

3. Underdrains shall be filled as indicated.

C Manhole Fill

1. Clean manhole of all special waste and debris.
2. Remove and dispose frame and cover and all concrete and masonry to a minimum depth of two (2) feet below existing ground surface.
3. Fill structures at each property with previously excavated stockpiled soil.
4. Fill remaining manhole structure with excavatable, flowable fill.
5. Backfill excavation in accordance with Section 02200, Earthwork.

D. OWTS / Cesspools

1. Clean structures of all special waste and debris.
2. Remove and dispose frame and cover and all concrete and masonry to a minimum depth of two (2) feet below existing ground surface.
3. Fill structures at each property with previously excavated onsite stockpiled soil.
4. All backfill shall be compacted to not less than 90 percent of the ASTM maximum dry density, except that the top twelve (12) inches below subgrade, if available, shall be compacted in excess of 95 percent of maximum dry density. All backfill lifts shall be no greater than 12 inches.
5. Fill remaining structures with excavatable, flowable fill.

END OF SECTION

SECTION 02900 - LANDSCAPING

PART 1 - GENERAL

1.01 WORK INCLUDES

- A. Work under this section includes furnishing of topsoil and its preparation for seeding and mulching areas disturbed by the construction operations.

1.02 REFERENCES

- A. Within this section, the State of Rhode Island Department of Transportation "Standard Specifications for Road and Bridge Construction", latest edition, shall be referred to as the State Standards.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02200 – Earthwork
- B. Section 02075 Contaminated Soil Management

1.04 QUALITY ASSURANCE

- A. Submittals:
 - 1. Include certifications of performance for mulch products and analysis of proposed seed products. Submit certification that grass seed has been tested by a recognized laboratory for seed testing within 6 months prior to delivery. Do not use seed that has become wet or moldy. Submittals shall be made in accordance with Section 01300 – Submittals.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Topsoil: Loose friable loam, free of stumps, roots, rocks, brush, weeds, subsoil, refuse, or other material detrimental to proper development of vegetative growth. Topsoil shall be in accordance with Section M.18.01 of the State Standards.
- B. Mulch: Wood Cellulose Fiber - commercial product specifically manufactured for use with grass seed. Express application requirements of product in terms of air-dry weight (10% maximum allowance for moisture content). Cellulose fiber mulch shall be in accordance with Section M.18.08 of the State Standards.
- C. Commercial Fertilizer: Commercial product manufactured for seeded or sodded areas. Fertilizer shall be phosphorus-free.
- D. Lime: Ground limestone to existing State and Federal regulations containing minimum 50% total oxides (calcium and magnesium oxides). Between forty and sixty percent shall pass a 100-mesh sieve and 100% shall pass a 20-mesh sieve, in accordance with Section M.18.05 of the State Standards.
- E. Seed Mix: Quality seed, free of noxious seed such as Russian or Canadian Thistle, European Bindweed, Johnson Grass or Leafy Spurge. Shall meet requirements found in M18.10.4.

2.02 PLANT MATERIALS

- A. Furnish and install all plants as per Specifications in quantities listed on plant materials list. If there is any discrepancy between quantities listed and plants shown, notify the Owner's Representative. Contractor shall be responsible for quantity of plants.
- B. All plants shall be nursery grown unless authorized to be collected.
- C. Plants: in accordance with USDA Standard for Nursery Stock, latest edition, hardy under climatic conditions similar to locality of project, typical of species or variety, normal habit of growth, sound, healthy, vigorous, well-branched, densely foliated when in leaf, free of disease, insect pests, eggs, or larvae, with well-developed root systems.
- D. If plants of specified kind or size are not available within a reasonable distance, substitutions may be made upon request, if approved by Owner's Representative.
- E. Plant Dimensions: conform to USDA Standard for Nursery Stock, latest edition, as specified. Exceptions as follows
 - 1. Plants larger than specified may be used if approved by Owner's Representative at no increase in contract price. Increase spread of roots or earth ball in proportion to size of plant.
 - 2. Undersize plants (10% max.) in any one variety or grade may be used if approved by the Owner's Representative. Provide sufficient plants above size to make average equal to or above specified grade. Undersize plants shall be larger than average size of next smaller grade.
- F. Balled and Burlapped (B & B) plants: dig with firm natural earth roots. Made balls are unacceptable.
 - 1. Protect B & B plants not planted immediately upon delivery with soil, wet moss, or other acceptable material. Prevent voids among roots with careful filling. Bind no plants with wire or rope so as to damage bark or break branches.
- G. Container grown plants: grown in container long enough for root system to have developed sufficiently to hold its soil together firm and whole. Plants loose in container will not be acceptable.
- H. Plants are subject to inspection and approval at place of growth for conformity to specifications as to quality, size, and variety. The expenses incurred by the Owner's Representative for such inspections shall be borne by the Contractor. Owner's Representative reserves right of inspection upon delivery at the site or during progress of work or right of rejection due to damage suffered in handling or transportation. Remove defective plants immediately from site. Plants to be accompanied by State Nursery inspection certification, if required.

PART 3 - EXECUTION

3.01 GRASS SEEDING

- A. General – Plant seed between the periods of March 15th to June 15th and/or August 15th to October 15th. Re-seed all newly filled or disturbed areas.
- B. Topsoil - place and spread to a compacted thickness of not less than 6 inches where areas are filled or disturbed as a result of the construction operations. Key to underlying sub-grade by means of harrows,

rollers or other suitable and approved equipment. Do not begin placement until areas have been properly graded and prepared.

1. Apply water as required, and in a manner that will prevent washing and eroding.
- C. Soil Preparation - remove all ground surface irregularities to eliminate low areas where ponding of water will occur.
1. Immediately prior to seeding, lightly till soil into an even and loose seedbed at the specified or directed line and grade.
- D. Fertilizing - till lime into the upper 3-inch layer of loam at the rate of 46 pounds per 1,000 square feet of area to be seeded. Repeat procedure for application of fertilizer at the rate of 21 pounds of 10-0-4 commercial fertilizers per 1,000 square feet. Remove sticks, stones and debris from the areas and dispose of as directed. Fertilizer shall be phosphorus-free.
- E. Seeding - apply seed with mechanical landscape drill so that seed will have about 1/4" cover. Do not drill seed in windy weather or when ground is frozen. Use broadcast or hydraulic seeding methods only in areas inaccessible to machine methods; or use hydraulic equipment capable of pumping 100 gallons per minute at 100 pounds per square inch. Provide means for estimating volume used or remaining in storage tank.
1. Water and maintain seeded areas for periods of 5 weeks following seeding including mowing. Avoid standing water, surface wash, or scour. Protect seeded areas from vehicle and pedestrian traffic by use of barriers and signs.
 2. Reseed areas where a satisfactory stand of grass, which has no bare spots larger than 72 square inches covering a maximum of 2 percent of the entire grassed area, has not been produced in a 5-week period. Repeat seeding until accepted.
- F. Mulching - add cellulose fiber mulch in proper proportional quantities of water in a slurry tank and thoroughly mix. Spray mulch uniformly over seeded areas at the rate of 1,000 pounds per acre. Do not mulch in the presence of free surface water resulting from rain, melting snow, or similar causes.

3.02 MAINTENANCE OF SEEDED AREAS

- A. Maintain lawn areas and other seed areas at maximum height of 2-1/2 inches by mowing at least three times. Weed thoroughly once and maintained until time of final acceptance. Reseed and refertilize with original mixtures, watering or whatever is necessary to establish over entire area of lawn and other seeded areas a close stand of grasses specified, and reasonably free of weeds and undesirable coarse native grasses.
- B. Begin maintenance immediately after each portion of lawn is seeded and continue for minimum of 45 days.
- C. Repair or replace all seeded areas which, in judgment of Engineer, have not survived and grown in satisfactory manner, for a period of one year after acceptance.
- D. Seeding replacement, same seed mixture as specified and furnished and installed as specified.

3.03 TEMPORARY COVER CROP

- A. Sow a temporary cover crop of buckwheat, domestic rye grass or other acceptable seed if there is insufficient time in the planting season to complete seeding, fertilizing, and permanent seeding at the option of Contractor or order of Engineer. Cut and water cover crop as necessary until the beginning of the

following planting season, at which time it shall be plowed or harrowed into soil, the areas shall be fertilized and permanent seed crop sown as specified.

3.04 PLANTING OPERATIONS

- A. Plant nursery stock immediately upon delivery to the site and approval by the Owner's Representative. Layout individual tree and shrub locations and areas for multiple plantings; Stake locations, outline plant beds, and obtain the Owner's Representative's approval before proceeding with planting work.
- B. Planting may be done whenever weather and soil conditions are favorable or as otherwise authorized by Owner's Representative. If this is not feasible, heel—in material with damp soil or mulch to protect from sun and wind.
- C. Notify Owner's Representative at least one week prior to beginning planting operations.
- D. Excavate tree pits 3 times the diameter (min.) of the tree root ball being installed and shrub pits 12" diameter (min.) greater than shrub rootball or spread of roots and sufficiently deep to allow for 4" thick layer of compacted planting mixture beneath ball or roots.
- E. Locate pits prepared and backfilled with planting mixture to grade prior to planting by staking and recording for when planting proceeds.
- F. Set plants in center of pits, plumb and straight, with root flare of plant 1" to 2" higher, after settlement, than surrounding finished grade.
- G. When B & B trees are set, compact topsoil mixture around bases of balls to fill all voids.

Remove burlap, ropes, or wires from top half(1/2) to two-thirds (2/3) of balls (if all the burlap and wire cannot be removed) before filling in with planting mixture.
- H. All circling, girdling, and upward growing roots shall be removed at time of installation to avoid future tree health issues.
- I. Thoroughly compact planting mixture around roots or balls and water immediately after plant pit is backfilled. Form a shallow basin slightly larger than pit with a ridge of sod or mulch to facilitate and contain watering. Cultivate soil in shrub beds, rake smooth and neatly outline after planting. Provide 12" (min.) of loam between all shrubs and 6" (min.) between all ground covers.
- J. Distribute controlled release fertilizer packets equidistant within the planting pit adjacent to the root ball but not in direct contact with the roots. Placement depth shall be 6 to 8 inches. Packets shall not be cut, ripped, or damaged.
- K. Fertilizer application rates as follows:

Planting Item	Size	No. of Packets
Deciduous Trees:	1-3" cal.	3
	4-6" cal.	4
Shrubs:	2-3'	2
	over 3'	3
Evergreen Trees:	5-10'	4
	over 10'	5
Vines:	1 gal.	1
Groundcover:		1 packet per four plants

- L. Stake or guy trees as detailed herein, only if necessary per site conditions, as directed by the Owner's Representative.
- M. Prune each plant in accordance with ANLA standards to preserve natural character. Remove all dead wood, suckers, broken or badly bruised branches and approximately 1/4 of wood. Prune with clean, sharp tools.
- N. Cover all tree and shrub pits immediately after planting with 3" (min.) layer of specified mulch. Limit of mulch for trees shall be area of pit; for shrubs in beds, entire area of shrub bed. Mulch shall be kept 2" clear of trunk.
- O. Notify Owner's Representative immediately if rock or underground obstructions are encountered in plant pit excavation.
- P. Contractor shall furnish plans showing locations of underground utilities encountered, as required.

3.05 MAINTENANCE — PLANTING

- A. Maintenance shall begin immediately after each plant is planted and shall continue for a minimum of 90 days following final acceptance of all planting.
- B. Maintenance shall consist of keeping the plants in a healthy growing condition and shall include but is not limited to watering, weeding, cultivating, re-mulching, tightening, and repairing of guys, removal of dead material, resetting plants to proper grades or upright position, and maintaining the planting saucer.
- C. Plants shall be inspected for watering needs at least twice each week and watered as necessary to promote plant growth and vitality.
- D. Stakes shall be kept plumb and neat in appearance. Guys, wires, and anchoring cables shall be tightened and repaired weekly.
- E. Planting beds and individual plant pits shall be kept free of weeds, and mulch shall be replaced as re-

quired to maintain the specified layer of mulch. Beds and individual pits shall be neat in appearance and maintained to the designed layout.

- F. Plants that die during the maintenance period shall be removed and replaced at once, unless designated otherwise by the Owner's Representative.
- G. Spraying for both insect pests and diseases shall be included during the maintenance period as required and as directed.
- H. During the maintenance period, any decline in the condition of plantings shall require the Contractor to take immediate action to identify potential problems and undertake corrective measures. If requested by the Owner's Representative, the Contractor shall engage professional arborists and/or horticulturalists to inspect plant materials and to identify problems and recommend corrective procedures.

3.06 ACCEPTANCE STANDARDS FOR PLANTING

- A. Following the completion of all planting, the Contractor shall request, from the Owner's Representative in writing, a formal inspection of the completed work. If plant materials and workmanship for the site are acceptable, written notice will be given to the Contractor stating that the work has received acceptance and that the 90 days maintenance and the one-year guarantee period has commenced from the date of acceptance.
- B. If a number of plants are sickly or dead at the time of inspection or if, in the Owner's Representative's opinion, workmanship is unacceptable, written notice will be given by the Owner's Representative to the Contractor in the form of a punch list, which itemizes necessary planting replacements and/or other deficiencies to be remedied. The Contractor's responsibility for maintenance of all the plants shall be extended until replacements are made or other deficiencies are corrected. All dead and unsatisfactory plants shall be removed promptly from the project. Replacements shall conform in all respects to the Specifications for new plants and shall be planted in the same manner.

3.07 GUARANTEE FOR PLANT MATERIALS

- A. Plants shall be guaranteed for a period of one year after written notification of acceptance and shall be alive and in satisfactory growth at the end of the guarantee period.
- B. At the end of the guarantee period, a final inspection will be held to determine whether any additional plant material replacements are required. Each plant shall show at least 75% healthy growth and shall have the natural character of its species as determined by the Owner's Representative. Plants found unacceptable shall be removed promptly from the site and be replaced during the normal planting season, until the plants live through one year.
- C. Replacement plants shall have a one year guarantee from time of planting.

END OF SECTION

**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

APPENDICIES

**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

**APPENDIX A
GIS FIGURES**



17 FOOTE STREET
 -Tree & shrub restoration
 -10 linear foot segment of 1 foot tall 1 foot wide wooden rail retaining wall

33 BAY STREET

111 STATE AVENUE
 -Tree & shrub restoration
 -12 square feet of granite cobbles
 -25 square feet of stone walkway

115 & 121 STATE AVENUE

91 STATE AVENUE
 -5 pots
 -5 planters
 -Stockpiled siding
 -Cooler
 -Hose
 -Gas containers
 -Patio table & chair
 -Small table

100 BAY STREET
 -Tree & shrub restoration
 -20 miscellaneous containers
 -4 car doors
 -Metal panels
 -Lawn leveler

130 BAY STREET
 -Tree & shrub restoration
 -5 boxes full of miscellaneous items
 -3 buckets
 -Pool equipment

38 CLEMENT STREET
 -Tree & shrub restoration
 -2 flower pots

135 HORIZON DRIVE
 -20 square foot section of concrete paver patio
 -15 square foot section of concrete walkway



1 INCH = 375 FEET
 0" 1"
 BAR IS ONE INCH ON ORIGINAL DRAWING



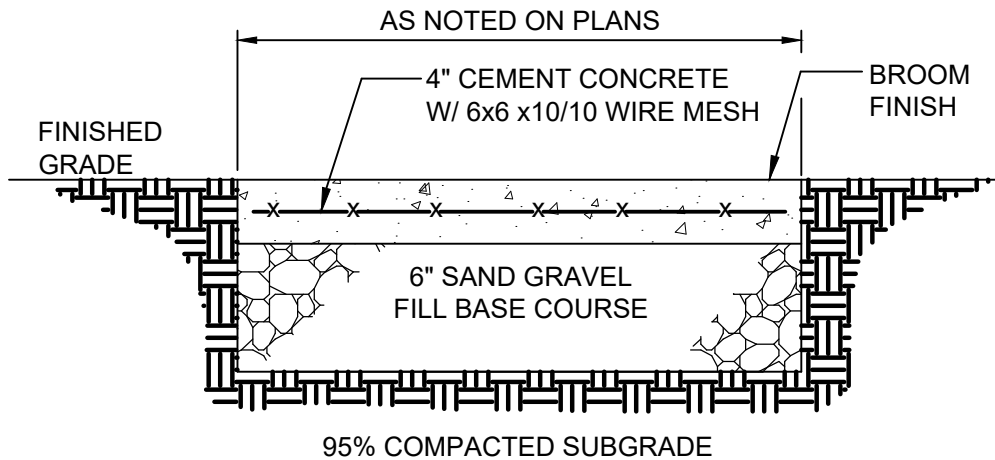
BAY STREET
 NEIGHBORHOOD SEWER
 LATERAL CONNECTIONS
 TIVERTON, RI
 BAY STREET, CLEMENT STREET,
 FOOTE STREET, HORIZON
 DRIVE, & STATE AVENUE

PROJECT NO.: 23112.02
 DATE: JANUARY 2025
 SCALE: AS NOTED

OVERALL
 PROJECT
 LOCATIONS

**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

**APPENDIX B
CONSTRUCTION DETAILS**



NOTES:

1. CONCRETE SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 905 OF THE RHODE ISLAND STANDARD SPECIFICATIONS.
2. WIRE MESH SHALL BE IN ACCORDANCE WITH SECTION M.05.02 OF THE RI STANDARD SPECIFICATIONS.
3. SEE CURB SETTING DETAIL WHERE CURB IS PROPOSED ADJACENT TO WALK.
4. EXPANSION JOINTS (E.J.) 20' O.C. UNLESS OTHERWISE NOTED.
5. CONTROL JOINTS (C.J.) 5' O.C. UNLESS OTHERWISE NOTED.

TYPICAL CEMENT CONCRETE SIDEWALK

NOT TO SCALE



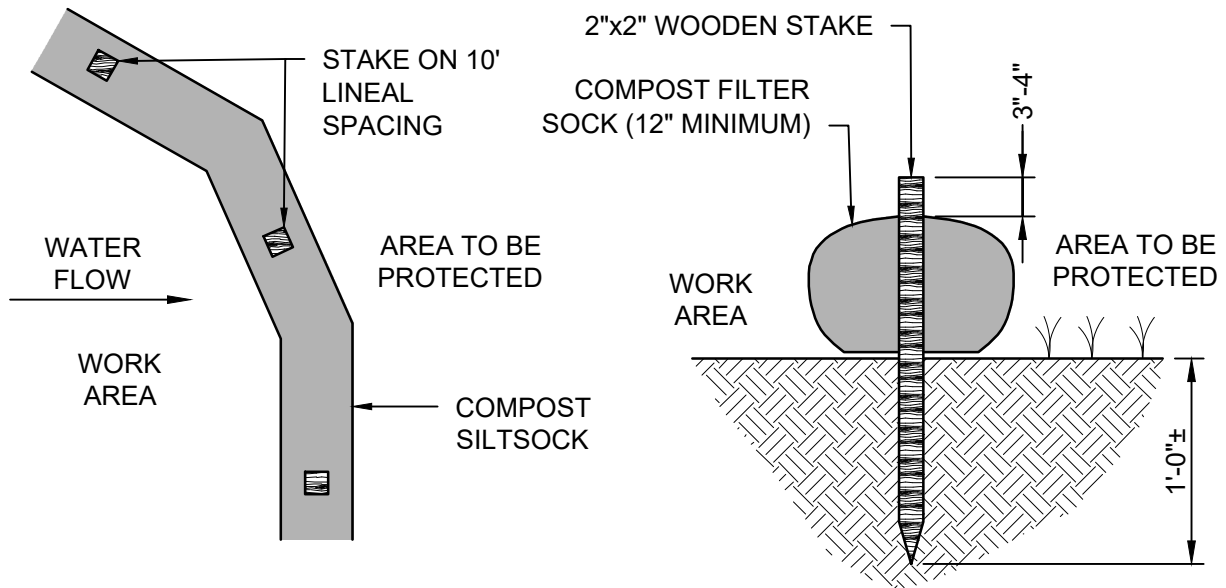
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBALA ROAD, SUITE 2B
LINCOLN, RI 02865 FOXBORO, MA 02035 HOLYOKE, MA 01540
401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS



NOTES:

1. COMPOST/ SOIL/ ROCK/ SEED FILL TO MEET APPLICATION REQUIREMENTS.
2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.
3. IF SOCK NETTING MUST BE JOINED, FIT BEGINNING OF NEW SOCK OVER END OF OLD SOCK, OVERLAPPING BY 2 FEET AND STACK OVERLAP. IF SOCK NETTING IS NOT JOINED, OVERLAP OLD SOCK WITH NEW ONE BY MINIMUM OF 2 FEET.

COMPOST FILTER SOCK DETAIL

NOT TO SCALE



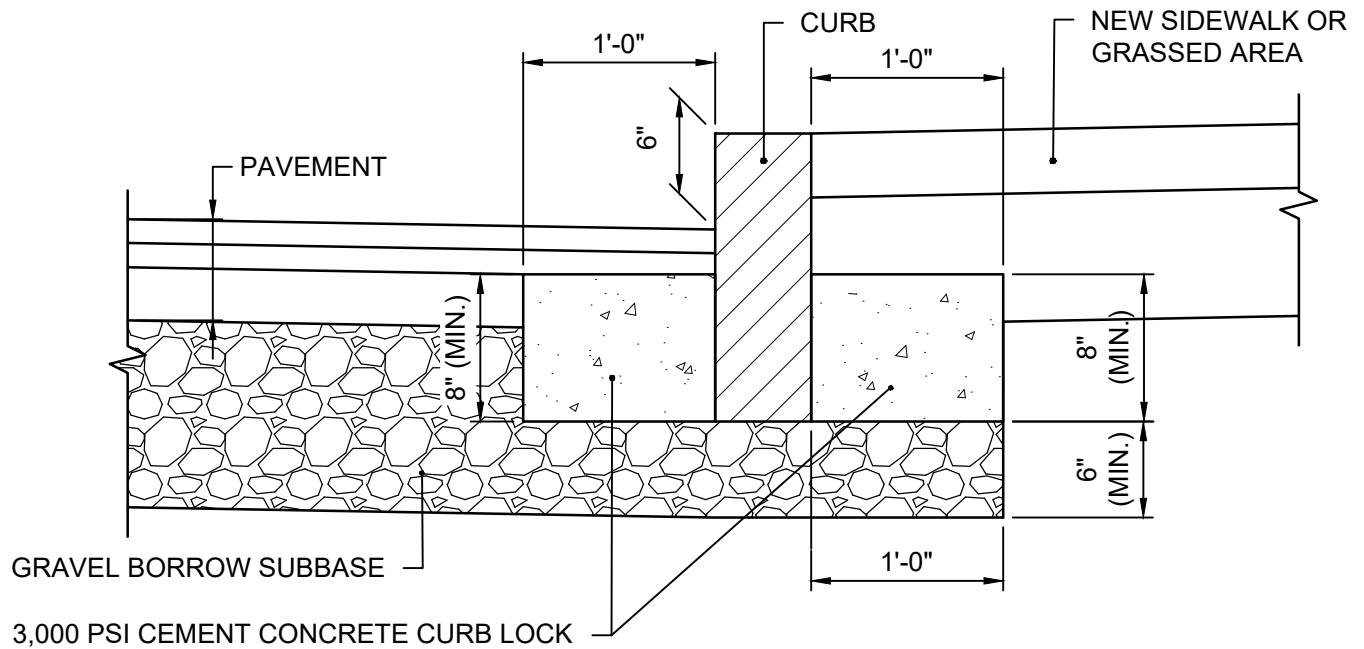
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBALA ROAD, SUITE 2B
LINCOLN, RI 02865 FOLBORO, MA 02035 HOLYOKE, MA 01040
401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE CEMENT CONCRETE CURB LOCK ON ALL CURBS

CURB SETTING DETAIL

NOT TO SCALE



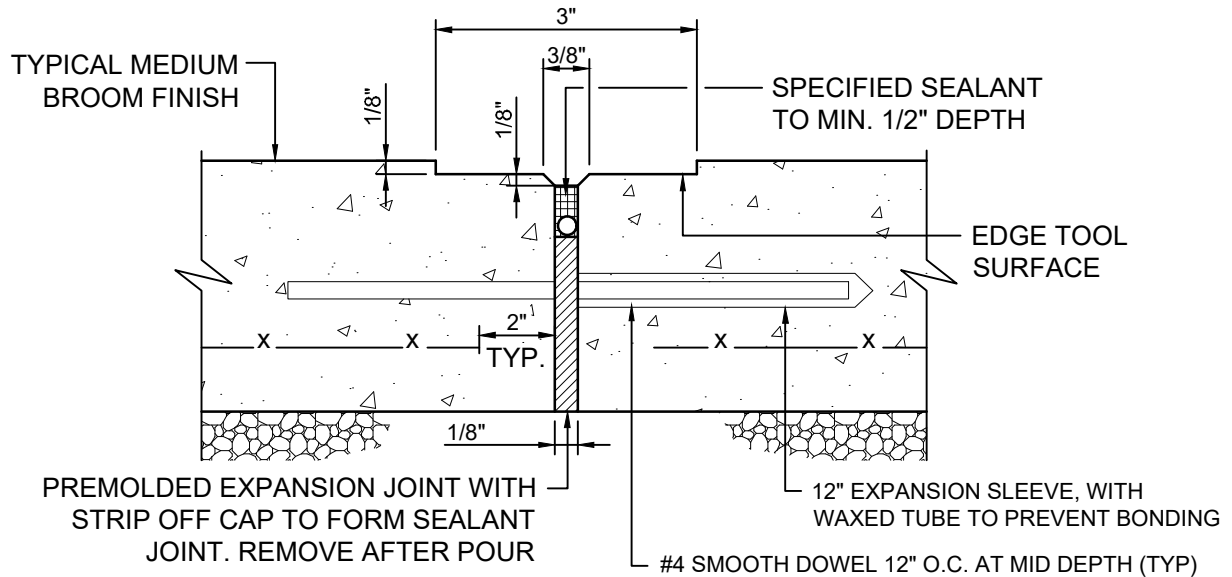
PARE CORPORATION
 ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBALA ROAD, SUITE 28
 LINCOLN, RI 02865 FOLBRO, MA 02035 HOLYOKE, MA 01140
 401-334-4100 508-543-1755 413-507-3448

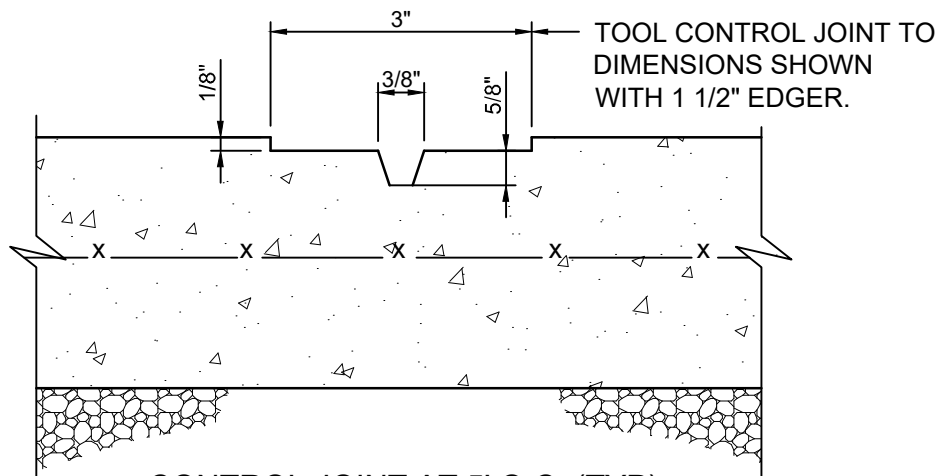
PROJECT NO. 23112.00

DATE: FEBRUARY 2025

**TIVERTON WASTEWATER DISTRICT
 BAY STREET SEWER CONNECTIONS**



EXPANSION JOINT AT 20' O.C. (TYP)



CONTROL JOINT AT 5' O.C. (TYP)

NOTES:

1. EXPANSION JOINTS (E.J.) 20 FEET O.C. UNLESS OTHERWISE NOTED.
2. CONTROL JOINTS (C.J.) 5 FEET O.C. UNLESS OTHERWISE NOTED.
3. WHERE EXISTING AND NEW CONCRETE SIDEWALKS MEET, SAWCUT EXISTING WALK AND INSTALL EXPANSION JOINT AND DOWELS AS SHOWN. DRILL EXISTING CONCRETE WALK EDGE TO RECEIVE STEEL DOWELS AT EXPANSION JOINT.

**EXPANSION AND CONTROL JOINTS
FOR SIDEWALK PAVING**

NOT TO SCALE

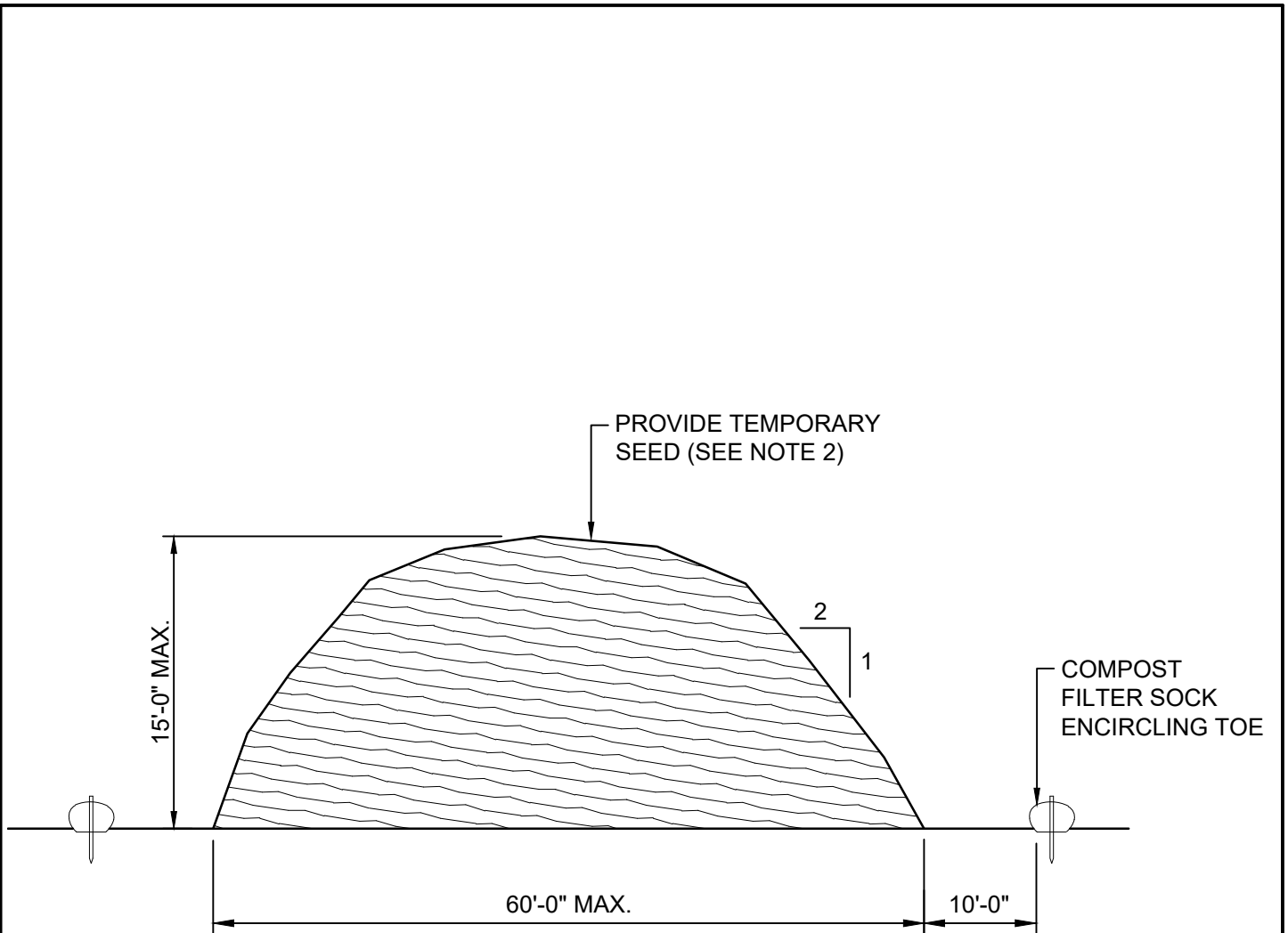


PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE LINCOLN, RI 02865 401-334-4100
10 LINCOLN ROAD, SUITE 210 FOLBORO, MA 02035 508-543-1755
14 BOBALA ROAD, SUITE 28 HOLYOKE, MA 01540 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025


**TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS**

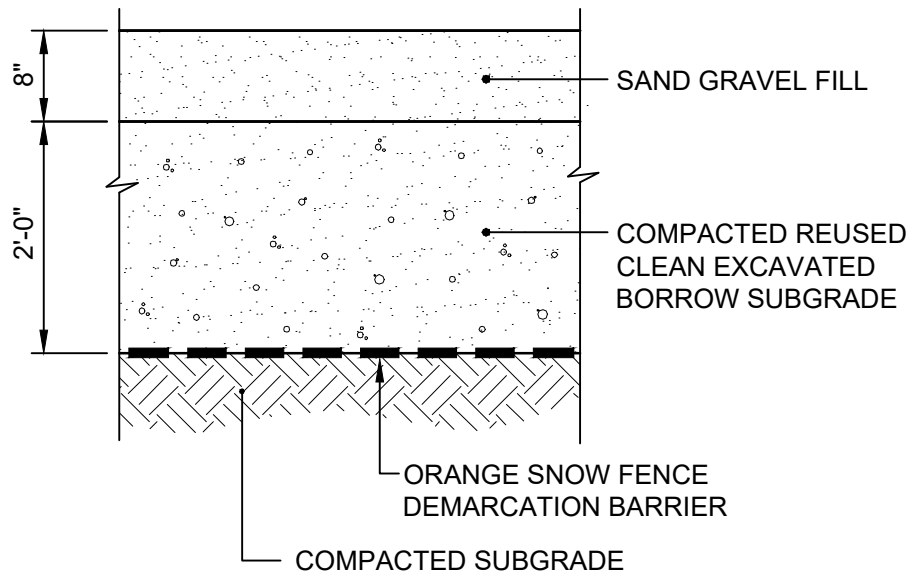


NOTES:

1. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.
2. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEED IMMEDIATELY FOLLOWING PLACEMENT. USE RIDOT STD. M.18.10.5 SEED MIX.

ERODIBLE MATERIAL STOCKPILE
NOT TO SCALE

 <p style="text-align: center;">PARE CORPORATION ENGINEERS - SCIENTISTS - PLANNERS</p> <p style="font-size: small;"> 8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBALA ROAD, SUITE 2B LINCOLN, RI 02865 FOLBORO, MA 02035 HOLYOKE, MA 01140 401-334-4100 508-543-1755 413-507-3448 </p>	<p style="text-align: right; font-size: small;">PROJECT NO. 23112.00 DATE: FEBRUARY 2025</p> <p style="text-align: center; font-size: large;">TIVERTON WASTEWATER DISTRICT BAY STREET SEWER CONNECTIONS</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



GRAVEL DRIVE DETAIL

NOT TO SCALE



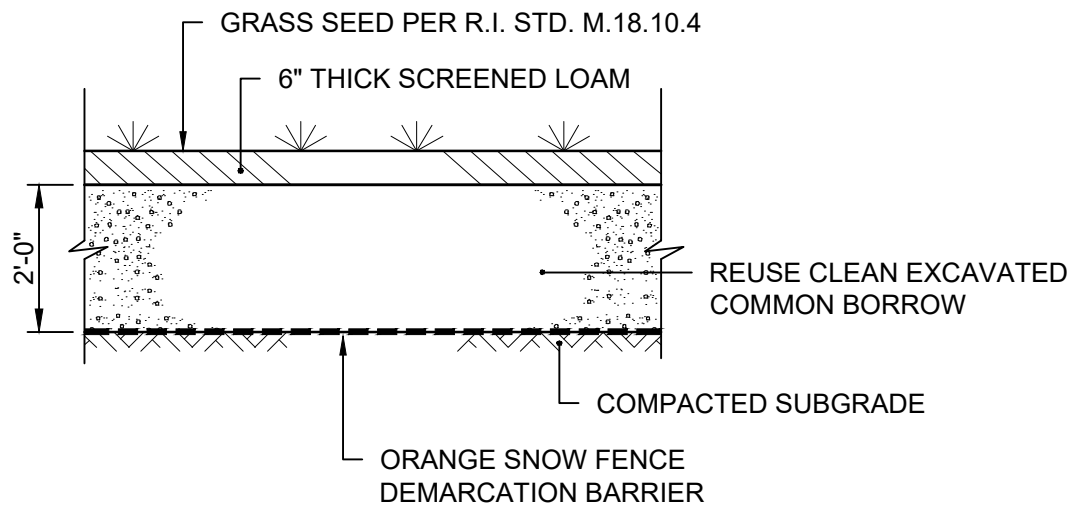
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBALA ROAD, SUITE 2B
LINCOLN, RI 02865 FOLBROOK, MA 02035 HOLYOKE, MA 01140
401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS



LOAM & SEED DETAIL

NOT TO SCALE



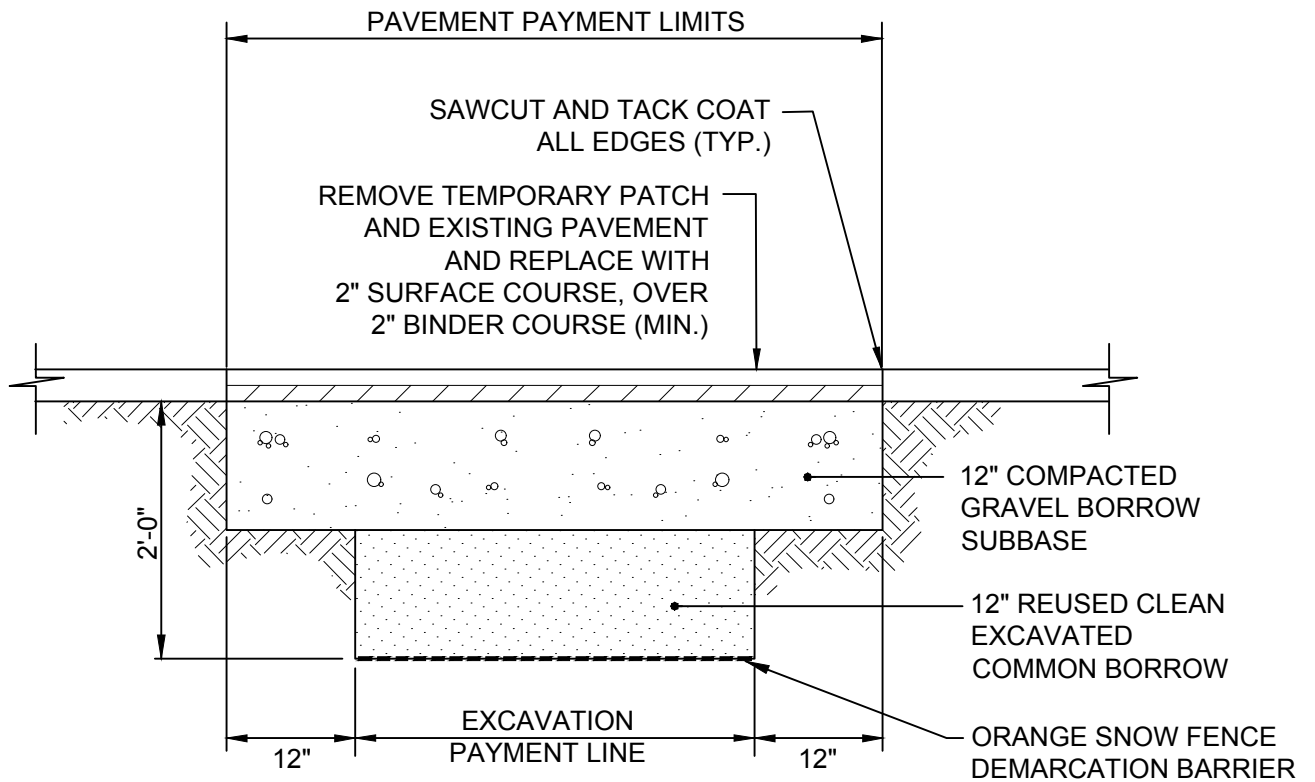
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBALA ROAD, SUITE 2B
LINCOLN, RI 02865 FOLBORO, MA 02035 HOLYOKE, MA 01040
401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS



PERMANENT PAVEMENT RESTORATION

NOT TO SCALE



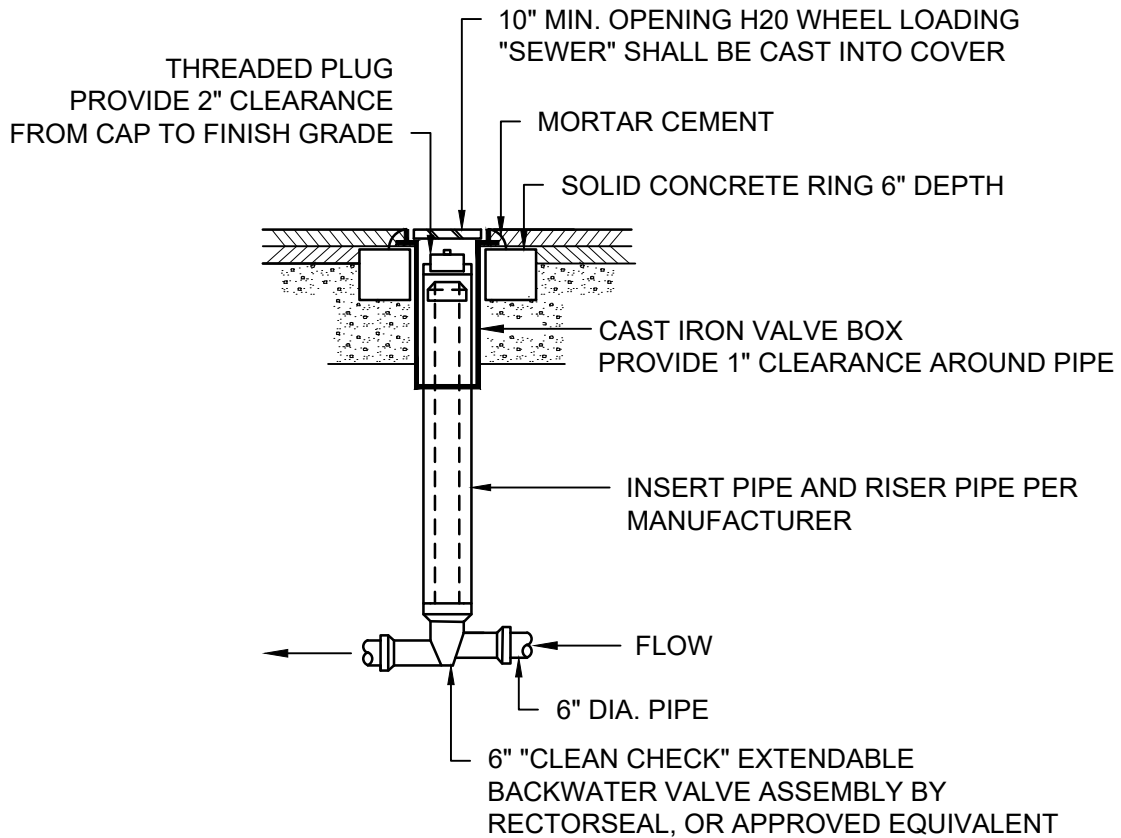
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBALA ROAD, SUITE 20
LINCOLN, RI 02865 FOXBORO, MA 02035 HOLYOKE, MA 01140
401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS



SANITARY SEWER BACKWATER VALVE ASSEMBLY

NOT TO SCALE



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

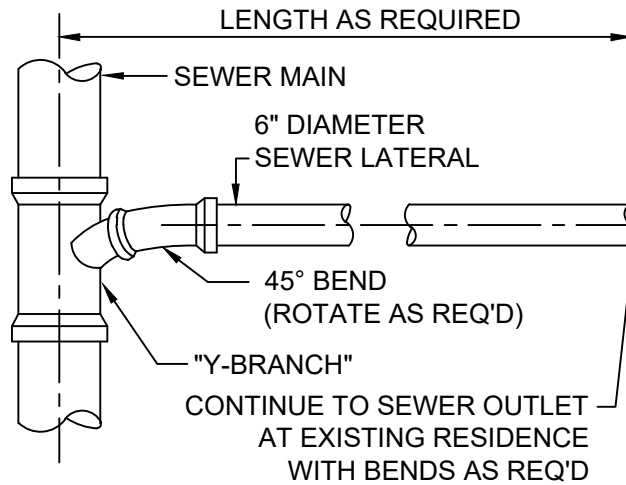
10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
508-543-1755

14 BORBALA ROAD, SUITE 2B
HOLYOKE, MA 01040
413-507-3448

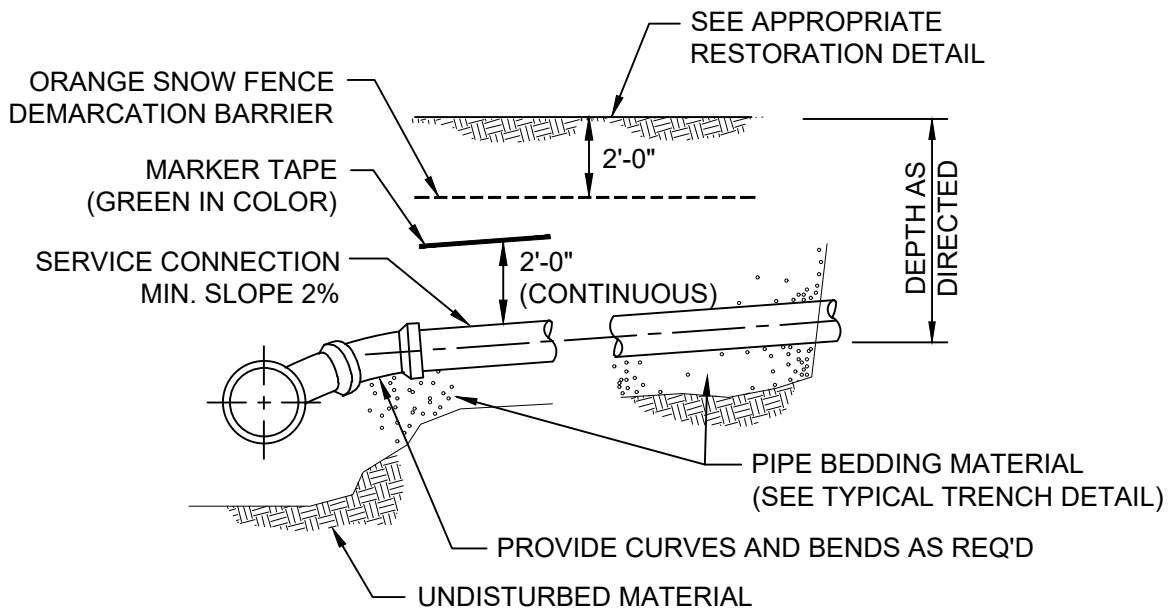
PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS



PLAN VIEW



CROSS SECTION

GRAVITY SEWER SERVICE CONNECTION DETAIL

NOT TO SCALE



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

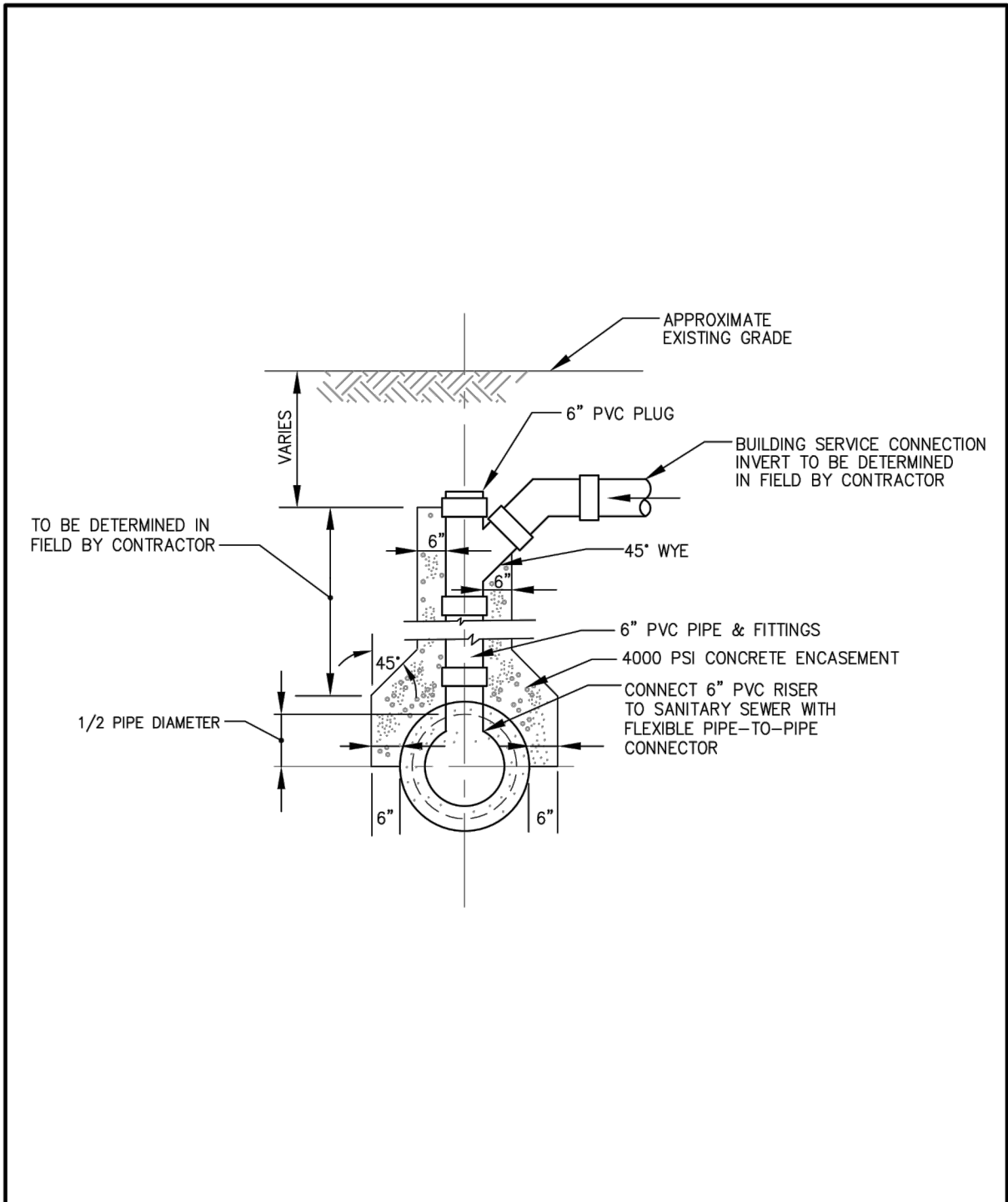
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LINCOLN, RI 02865 FOLBORO, MA 02035 HOLYOKE, MA 01140
401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS

PATH/FILENAME: L:\WORK\60437789 - TIVERTON\SHEETS-STD DETAILS\SV.DWG
 LAST UPDATE: Tuesday, July 26, 2016 8:02:42 AM PLOT DATE: Tuesday, July 26, 2016 8:05:11 AM



<p>Tiverton Wastewater District 86 Main Road, Tiverton, RI 02878 www.twwd.org</p>	<p>Tiverton Standard Sewer Details TYPICAL CHIMNEY DETAIL FOR SEWER CONNECTION</p>		
<p>SHEET REFERENCE: ----</p>	<p>SCALE: Not to Scale</p>	<p>DATE: July 2016</p>	<p>SV-5</p>



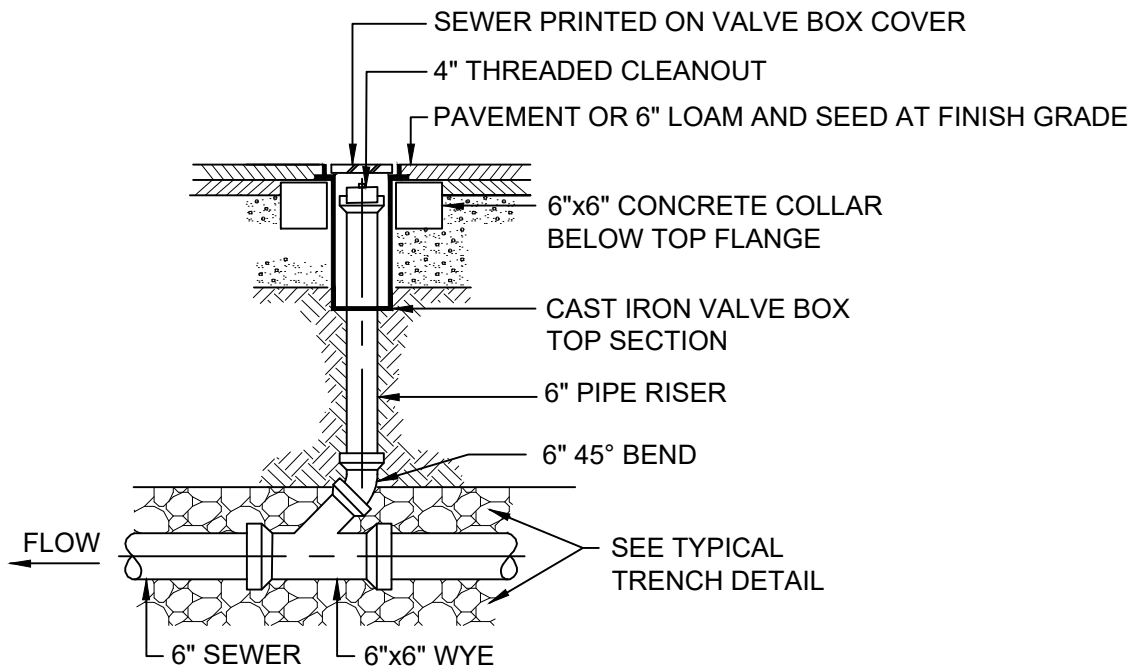
PARE CORPORATION
 ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE 10 LINCOLN ROAD, SUITE 210 14 BOBOLA ROAD, SUITE 2B
 LINCOLN, RI 02865 FOLBORO, MA 02035 HOLYOKE, MA 01940
 401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

**TIVERTON WASTEWATER DISTRICT
 BAY STREET SEWER CONNECTIONS**



GRAVITY SEWER CLEANOUT DETAIL

NOT TO SCALE



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

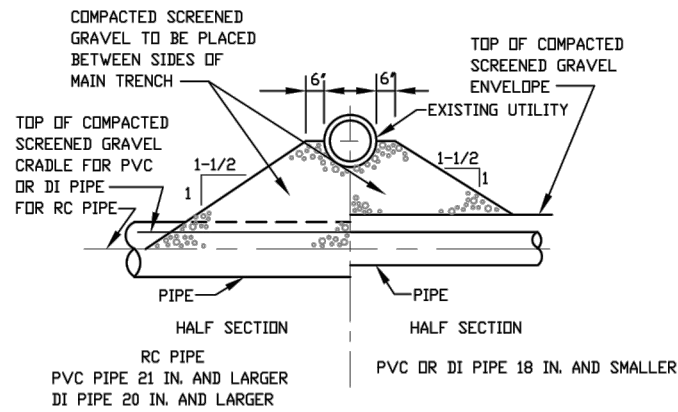
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LINCOLN, RI 02865 FOLBORO, MA 02035 HOLYOKE, MA 01040
401-334-4100 508-543-1755 413-507-3448

PROJECT NO. 23112.00

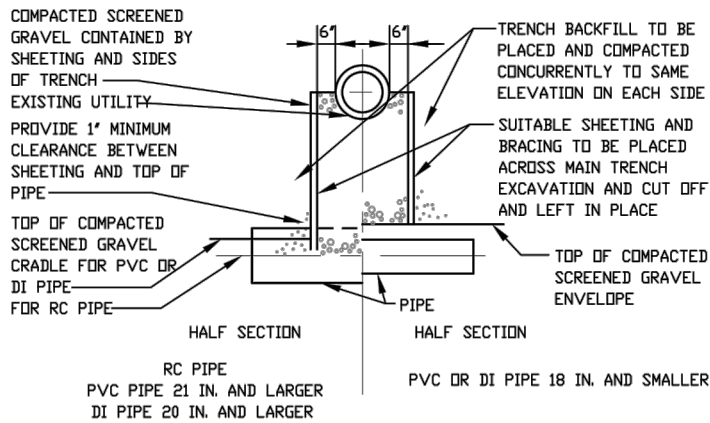
DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS

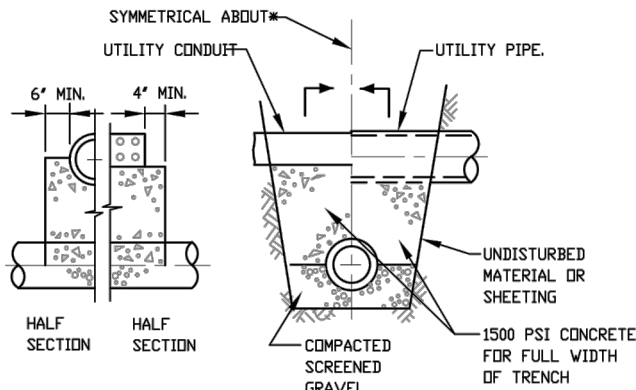
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 LAST UPDATE: Tuesday, July 26, 2016 8:02:15 AM PLOT DATE: Tuesday, July 26, 2016 8:04:32 AM



TYPE A



TYPE B



TYPE C

Tiverton Wastewater District
 86 Main Road, Tiverton, RI 02878
 www.twwd.org

Tiverton Standard Sewer Details
 TYPICAL SUPPORT FOR UTILITIES

SHEET REFERENCE: ----

SCALE: Not to Scale

DATE: July 2016

ML-6



PARE CORPORATION
 ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE
 LINCOLN, RI 02865
 401-334-4100

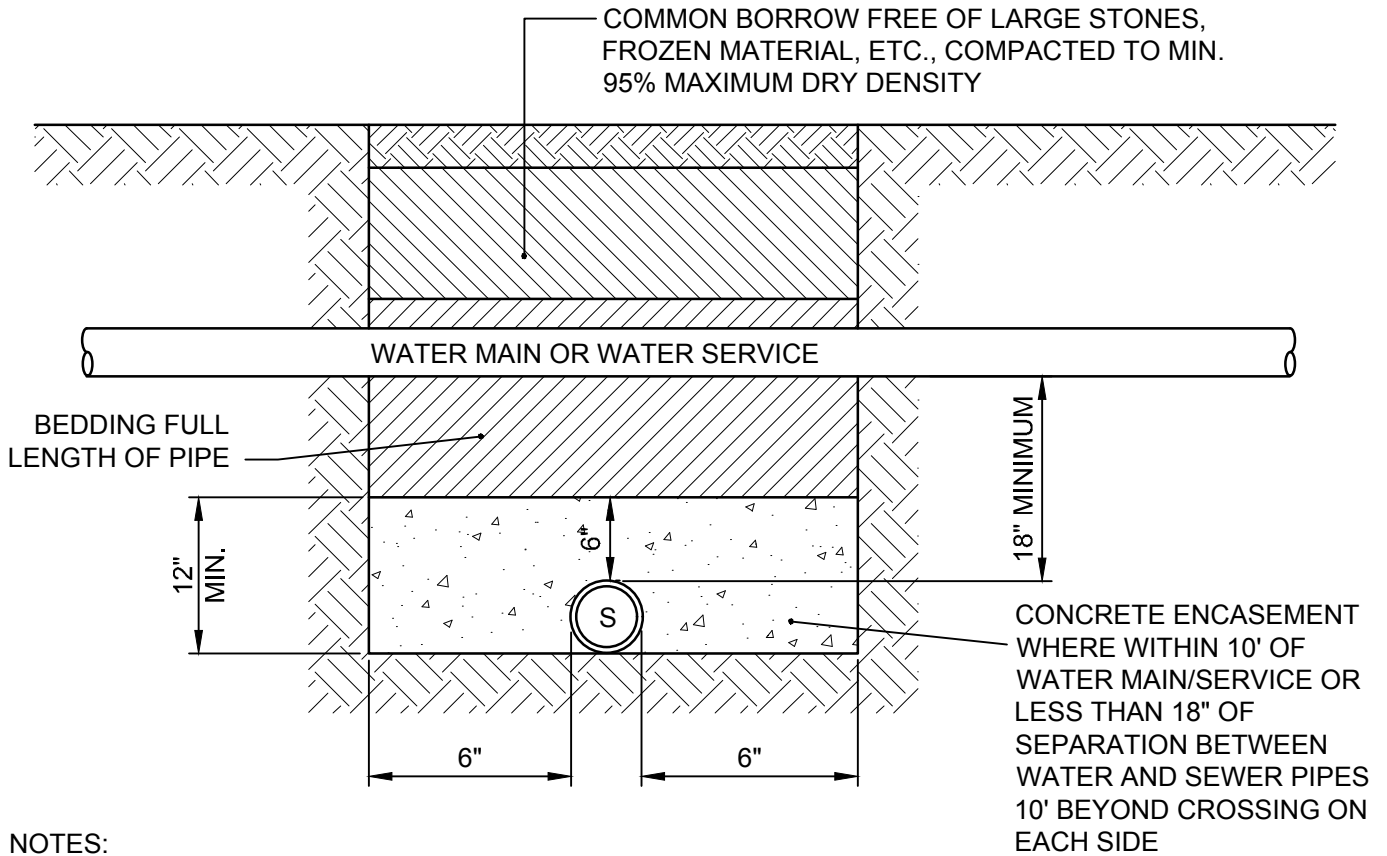
10 LINCOLN ROAD, SUITE 210
 FOIBORO, MA 02035
 508-543-1755

14 BOURBON ROAD, SUITE 2B
 HOLYOKE, MA 01540
 413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
 BAY STREET SEWER CONNECTIONS



NOTES:

1. THE VERTICAL SEPARATION BETWEEN THE WATER MAIN/SERVICE AND THE PROPOSED SEWER MAIN/SERVICE SHALL BE A MINIMUM OF 18 INCHES.
2. IF 18 INCHES CANNOT BE MAINTAINED THE PROPOSED SEWER MAIN/SERVICE SHALL BE INSTALLED WITHIN A CARRIER PIPE OR ENCASED IN CONCRETE FOR A MINIMUM OF 10 FEET BEYOND CROSSING ON EACH SIDE..
3. IF SEWER MAIN AND SERVICES CROSS OVER THE TOP OF WATER MAIN, INSTALL SEWER MAIN/SERVICE WITHIN A CARRIER PIPE. MINIMUM VERTICAL SEPARATION OF 18" SHALL BE PROVIDED.

SEWER AND WATER CROSSINGS

NOT TO SCALE



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
508-543-1755

14 BUBALA ROAD, SUITE 20
HOLYOKE, MA 01540
413-507-3448

PROJECT NO. 23112.00

DATE: JUNE 2024

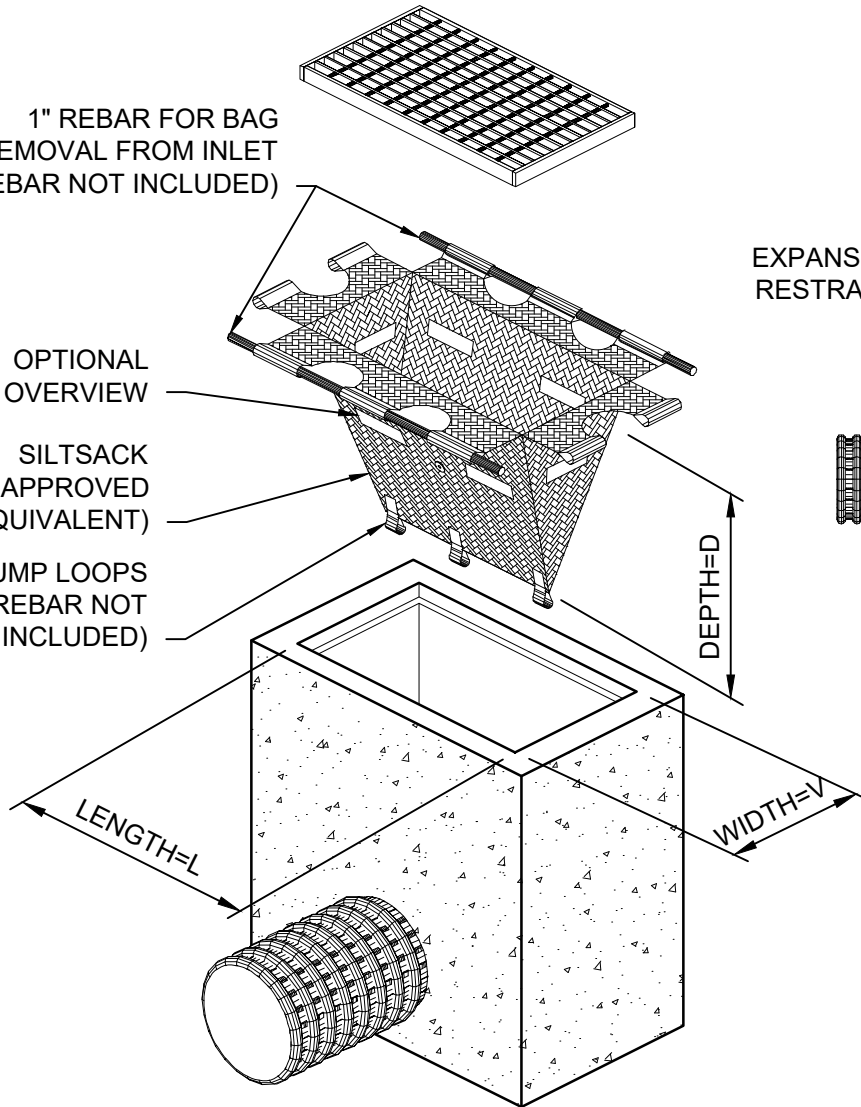
TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS

1" REBAR FOR BAG
REMOVAL FROM INLET
(REBAR NOT INCLUDED)

OPTIONAL
OVERVIEW

SILTSACK
(OR APPROVED
EQUIVALENT)

DUMP LOOPS
(REBAR NOT
INCLUDED)



EXPANSION
RESTRAINT

SIDE VIEW
INSTALLED

INSTALLATION
DETAIL

TEMPORARY INLET PROTECTION

NOT TO SCALE



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
508-543-1755

14 BOBALA ROAD, SUITE 28
HOLYOKE, MA 01190
413-507-3448

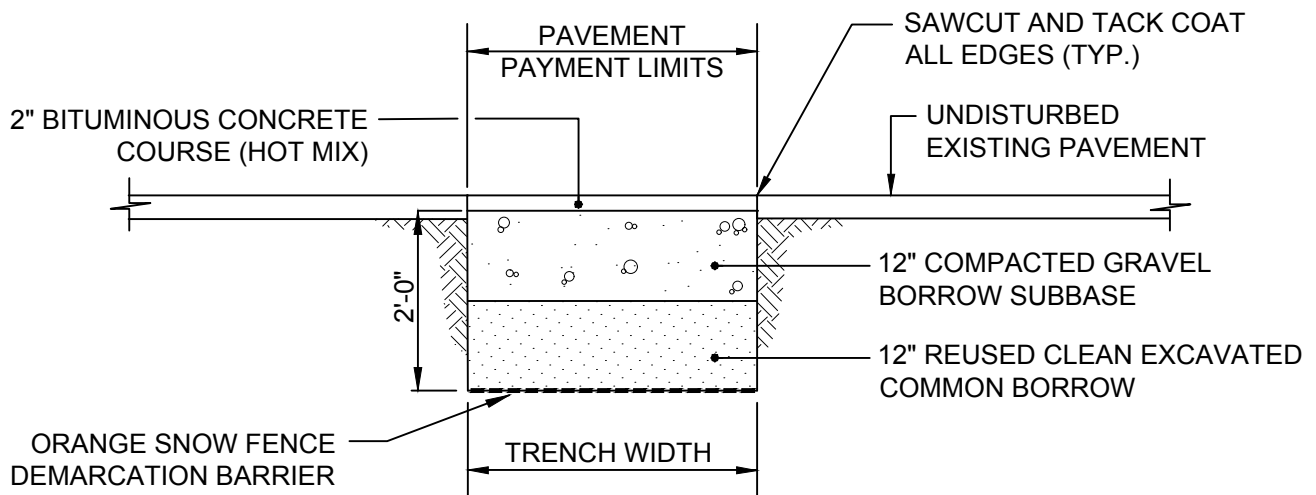
PROJECT NO. 23112.00

DATE: JUNE 2024

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS

NOTE:

1. TEMPORARY PAVEMENT TRENCH PAYMENT LIMITS ARE BASED ON SAWCUT EDGE AND A WIDTH OF 5 FEET. ACTUAL TRENCH WIDTH BASED ON CONTRACTORS MEANS AND METHODS



TEMPORARY PAVEMENT TRENCH PATCH

NOT TO SCALE



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

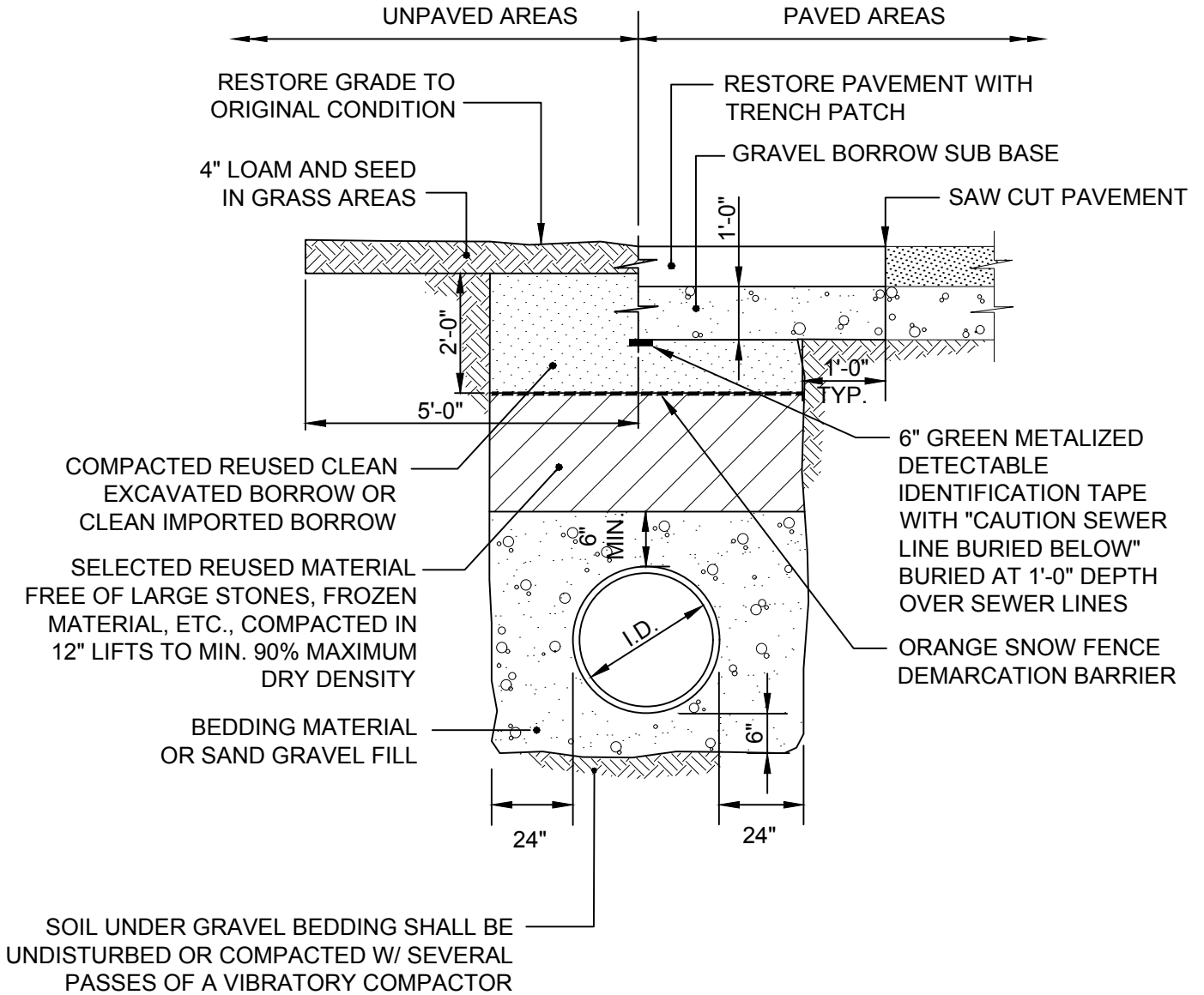
10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
508-543-1755

14 BOBALA ROAD, SUITE 2B
HOLYOKE, MA 01540
413-507-3448

PROJECT NO. 23112.00

DATE: JUNE 2024

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS



TYPICAL TRENCH DETAIL

NOT TO SCALE



PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
508-543-1755

14 BOBALA ROAD, SUITE 2B
HOLYOKE, MA 01040
413-507-3448

PROJECT NO. 23112.00

DATE: FEBRUARY 2025

TIVERTON WASTEWATER DISTRICT
BAY STREET SEWER CONNECTIONS

**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

**APPENDIX C
RECORD INFORMATION**



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

OFFICE OF WATER RESOURCES PERMITTING SECTION
235 PROMENADE STREET
PROVIDENCE, RI 02908

November 09, 1999

TO: Carlos Amaral
17 Foote Street
Tiverton, RI 02878

SITE INFORMATION

Application No.: 9933-2839
Street: 17 Foote Street
Town: Tiverton
Plat:
Lot: 100
Subdivision:
Subdivision Lot No:

CERTIFICATE OF CONFORMANCE

This Certificate of Conformance means that the Individual Sewage Disposal System (ISDS), which has been installed under the above application number, appears to substantially conform with the design requirements and other requirements as indicated on the application, and associated plans and specifications. **PERMISSION IS THEREFORE GRANTED FOR UTILIZATION OF THE SEWAGE DISPOSAL SYSTEM.** A copy of this certificate has been forwarded to the building official of the municipality having jurisdiction over the subject site; he/she may issue a Certificate of Occupancy for the building provided all other local requirements have been met. The building official must receive a copy of the Certificate of Conformance prior to his or her issuing any required certificate of occupancy for the building or facility to be served by the ISDS.

This Certificate is based upon the representations of the Owner and his/her agents, who are responsible for the proper installation of this system. This Department has approved the ISDS installation in reliance upon those representations and is not responsible for any of the construction, design details, specifications, distances or elevations indicated on the application, plan or specifications.

This approval is subject to future suspension and revocation in the event that: subsequent examination reveals that any of the data indicated on the application, plan or specifications is incorrect or not in compliance with applicable regulations; or the ISDS system discharges sewage to the surface of the ground or to any watercourse, fails to otherwise operate satisfactorily or is altered in a manner which deviates from the terms of the approved application.

Authorized Agent: BRIAN M. MOORE, P.E.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM SECTION

SEE REVERSE SIDE FOR IMPORTANT INFORMATION ON CARE AND MAINTENANCE

cc: Building Inspector



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 DIVISION OF GROUNDWATER & ISDS
 INDIVIDUAL SEWAGE DISPOSAL SYSTEMS SECTION



INSTALLER'S CERTIFICATE OF CONSTRUCTION FOR ISDS SYSTEM

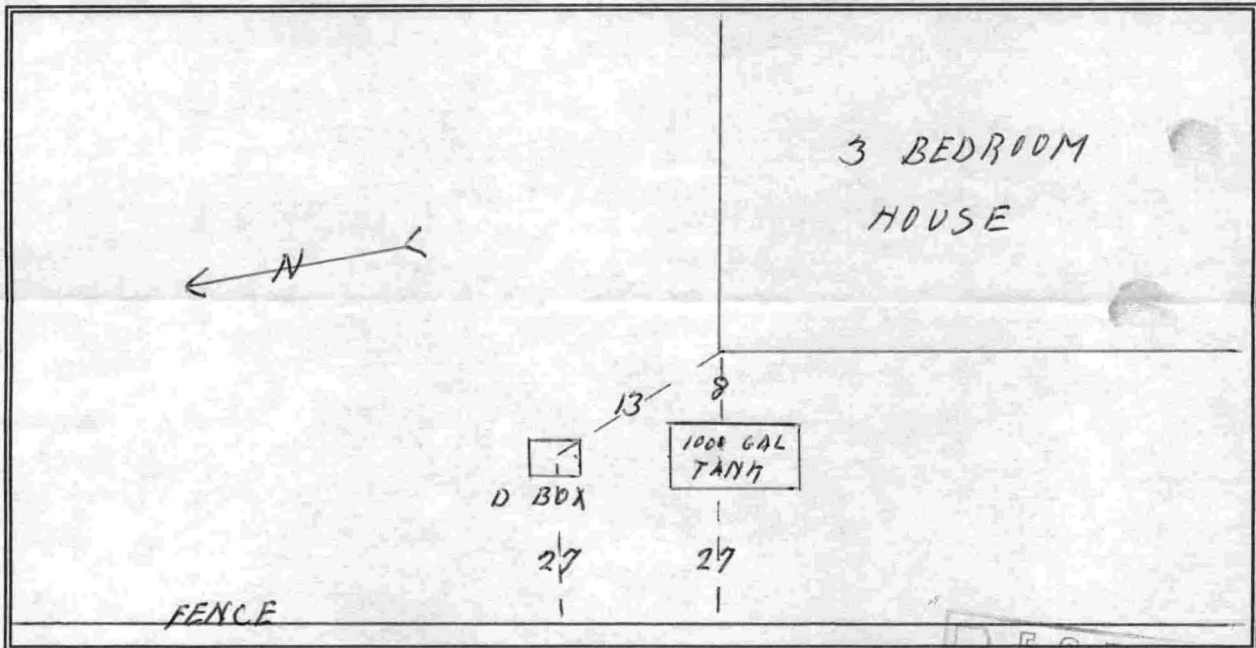
APPLICATION NO. 9933-2839

I, RONALD R BOUSQUET, to the extent that I have performed the
 Installer's Name (Please Print)

work on said system as of the 2 day of NOVEMBER, 1999.

certify that the individual sewage disposal system as shown on the plans for ISDS Permit
 No. 9933-2839 was installed in conformance with the permit and plans for such system
 as approved by the Director of the Rhode Island Department of Environmental
 Management.

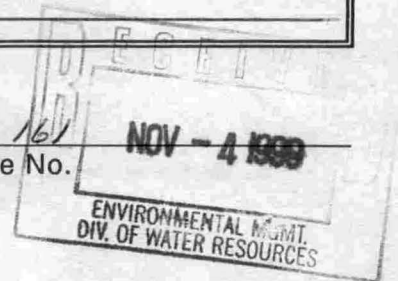
The property is located at (Street) 17 FOOTE ST in the City
 or Town of TIVERTON. The septic tank and D-Box (if any)
 are located as set forth below:



Ronald R Bousquet
 Installer's Signature

LD 161
 License No.

11-3-99
 Date Signed





Rhode Island Department of Environmental Management
Individual Sewage Disposal System Section

INSPECTION REPORT

APPLICATION NUMBER: 9833-2839

STREET: 17 Foote Street	INSPECTOR: DeRiso
CITY/TOWN: Tiverton	INSPECTION DATE: 10/27/1999
PLAT/LOT: 100	POLE NO:
ISDS INSTALLER: Bousquet L0161	Designer:
PHONE NO: 401-624-6383	INSPECTION NUMBER: 1
TYPE OF INSPECTION: Bottom Inspection	
ARRIVAL TIME:	
WEATHER CONDITIONS:	

FINDINGS/COMMENTS

Bottom OK —
6" GRAVEL ROAD —

RESULTS OF INSPECTION/ACTION REQUIRED

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Bottom Bed OK -- Construct system and call for cover inspection | <input type="checkbox"/> (ASB) Designer Must Submit As Built Plans |
| <input type="checkbox"/> (RFA) Address items listed or checked and call for a re-inspection | <input type="checkbox"/> (RPREQ) Submit Revised Plans |
| <input type="checkbox"/> (RFA) Correct items listed | <input type="checkbox"/> (SOS) Designer's Supervision and Statement Required |
| <input type="checkbox"/> Cover System | <input type="checkbox"/> (DRYVER) Dry Season Verified |
| <input type="checkbox"/> (COC) Submit certificate of construction | <input type="checkbox"/> (DRYUNA) Dry Season Unacceptable |
| <input type="checkbox"/> (RFAD) STOP CONSTRUCTION. Contact designer. DO NOT CONTINUE.
Items listed are too complex for a simple resolution | <input type="checkbox"/> (FEE) If this item is checked, a \$50 fee is required before re-inspection. Send copy of this inspection form with the check |

Signature of Inspector(s) Andrew DeRiso

CR # 1013 00 # 014

**DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF LAND RESOURCES
INDIVIDUAL SEWAGE DISPOSAL SYSTEM APPLICATION (2/79)**

PURPOSE OF APPLICATION
 NEW BUILDING CONSTRUCTION
 ALTERATION OF EXISTING SYSTEM
 REPAIR TO MALFUNCTIONING SYSTEM

APPLICATION NUMBER: **9933-2839**
 APPLICATION DATE: **9-28-99**

SITE LOCATION: STREET **17 FOOTE** CITY/TOWN **TIVERTON RI**

PLAT NUMBER: ASSESSORS RECORDED
 LOT NUMBER: **100** LOT SIZE: **100X150**
 WETLANDS DETERMINATION REQUEST ATTACHED? YES NO

SUBDIVISION NAME: _____ SUBDIVISION LOT NUMBER: _____ REVIEWED BY STATE? YES NO WATER SUPPLY: PUBLIC WELL

OWNER'S NAME: LAST **AMARAL** FIRST **CARLOS** INIT. _____

MAILING ADDRESS: **17 Foote St** CITY/TOWN **Tiverton RI** ZIP CODE **02878**

BUILDING USE: **RES** ANY PREVIOUS APPLICATION FOR THIS SITE? YES NO APP. NO. _____ DATE _____

NO. DESIGN UNITS: **3** DESIGN FLOW: _____ GALLONS PER _____ UNIT _____ TOTAL DAILY FLOW: _____ GALS.

REO'D. TANK SIZE: **1000** GALS. TYPE SYSTEM: TRENCH CHAMBER BED OTHER: DESCRIBE _____

NUMBER OF LINES: _____ WIDTH: **6** LENGTH: **50** TOTAL SQ. FEET: **300**

SOIL DESCRIPTION BY STRATA - SEE REVERSE SIDE FOR CODES AND INSTRUCTIONS.

DEPTH	TO	TO	TO	TO
SOIL TEXTURE				
DENSITY				
DEPTH	TO	TO	DEPTH HOLE	DEPTH IMPERVIOUS
SOIL TEXTURE			DATE HOLE EXCAVATED	
DENSITY				

WATER TABLE DATA			MULTIPLE READINGS			PERCOLATION RATES		
DEPTH	(A)	DATE	DEPTH	(B)	DATE	RATE	DEPTH	DATE
1.			1.			1.		
2.			2.			2.		
3.			3.			3.		
4.			4.			DESIGN PERC. RATE	DESIGN APP. RATE	
5.			5.			MINIMUM REQUIRED LEACHING AREA		

WET SEASON DESIGN DEPTH: _____ FEET EXPLAIN HOW DETERMINED: _____

The undersigned, **RONALD R BOUSQUET** Engineer/Surveyor, hereby certifies that he has conducted certain percolation tests, subsoil explorations and ground water table elevation determinations on the property identified in and by this application and accompanying forms, submittals, plans and sketches; that said tests have been conducted in accordance with the rules and regulations of the Rhode Island Department of Environmental Management pertaining to individual sewage disposal systems; that he has prepared all of the aforementioned documents; and that all information on this application and accompanying forms, submittals, plans and sketches are true and accurate and represent truthfully and accurately what the information hereon and the information and designs on the accompanying forms, submittals, plans and sketches purport to represent.

SIGNATURE OF ENGINEER/SURVEYOR: *Ronald R Bousquet* TITLE: **INSTALLER**
 REGISTRATION NUMBER: **LO161** REPRESENTING: **OWNER** TELEPHONE NO.: **401 6246383**

The Owner certifies that the system will be installed in strict accordance with this application and attached forms, submittals, plans and sketches. The Owner further certifies that he assumes all responsibility for the truth and accuracy of the representations hereon, and on all forms, submittals, plans and sketches attached hereto, and assumes all liability and responsibility for any improper installation of the system on this site, and agrees to hold the Department of Environmental Management harmless from any and all claims against it for any future failure of the system.

TELEPHONE NO.: **6248689** SEP 30 1999 *Carlos Amaral* Owner's Signature

DISPOSITION OF APPLICATION (ENVIRONMENTAL MANAGEMENT DEPT. USE ONLY)
 THIS APPLICATION ATTACHED PLAN AND SPECIFICATIONS ARE HEREBY:

APPROVED RENEWED TRANSFERRED OWNERSHIP DENIED SEE ATTACHED SHEET PREVIOUS APP. NO. _____

If approved, renewed or transferred, the following applies:
 Based upon the representations of the Owner, and the Owner's agents and/or servants, including the representations of the Owner's Engineer and/or Surveyor, regarding the truth and accuracy of all information submitted on the application and the accompanying forms submittals, plans and sketches, this application for an individual sewage disposal system is hereby approved. The Department of Environmental Management assumes no responsibility or liability for the future safe operation or maintenance of the aforesaid system, of the fitness or suitability of this system to this site, nor does it assume any responsibility for the accuracy and truth of the Owner's, or the Owner's agents' and/or servants' representations. This approval is subject to future suspension and revocation in the event that subsequent examination reveals any of the data indicated on any application, form, submittal, plan or sketch to be incorrect, or not in compliance with the regulations, or in the event that the system discharges sewage on or to the surface of the ground, or, on or to any watercourse or, fails to operate satisfactorily in any other manner.

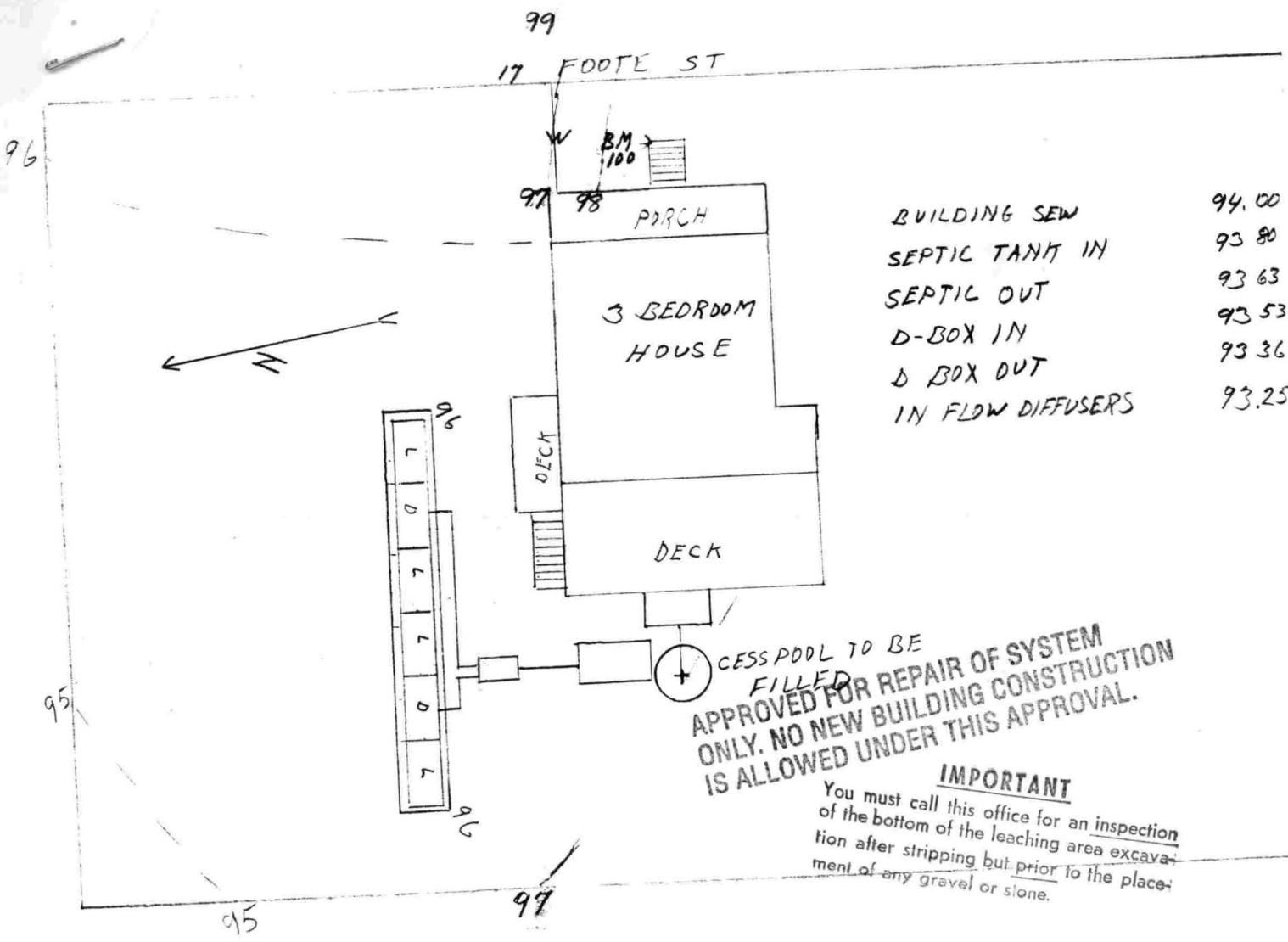
This approval expires in 1 year if water supply is individual well, or in 2 years if public. This permit is valid for owner signed above only, change of ownership requires new permit. **EXP 10-5-00**

IMPORTANT: NOTE (Circled) ADDITIONAL TERMS OF APPROVAL

(A) Bottom of leaching area excavation must be inspected by the Dept. of Environmental Management prior to placement of any gravel or stone.
 B Excavation work on leaching area must be performed during dry season only (June-November).
 (C) It is essential that all distances and elevations be accurately set prior to the start of construction.
 D Approved per variance Board/Appeal Decision dated _____, all requirements, conditions and stipulations of which shall be strictly adhered to.
 E All stages of construction must be supervised by the system designer, and a written statement of findings submitted to this office.
 F The discharge of laundry wastes into this system is prohibited.
 (G) Other: _____

APPROVED FOR REPAIR OF SYSTEM ONLY. NO NEW BUILDING CONSTRUCTION IS ALLOWED UNDER THIS APPROVAL.

SIGNATURE OF ENVIRONMENTAL MANAGEMENT DEPT. OFFICIAL: *Andrew Sklar* DATE: **10-5-99** CONTROL NO. _____



BUILDING SEW	94.00
SEPTIC TANK IN	93.80
SEPTIC OUT	93.63
D-BOX IN	93.53
D BOX OUT	93.36
IN FLOW DIFFUSERS	93.25

CESSPOOL TO BE FILLED
APPROVED FOR REPAIR OF SYSTEM ONLY. NO NEW BUILDING CONSTRUCTION IS ALLOWED UNDER THIS APPROVAL.

IMPORTANT
 You must call this office for an inspection of the bottom of the leaching area excavation after stripping but prior to the placement of any gravel or stone.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 DIVISION OF GROUNDWATER & ISDS
 ISDS SECTION

PLAN # 9933.2839 DATE 10-5-99

APPROVED Andrew DeLeon

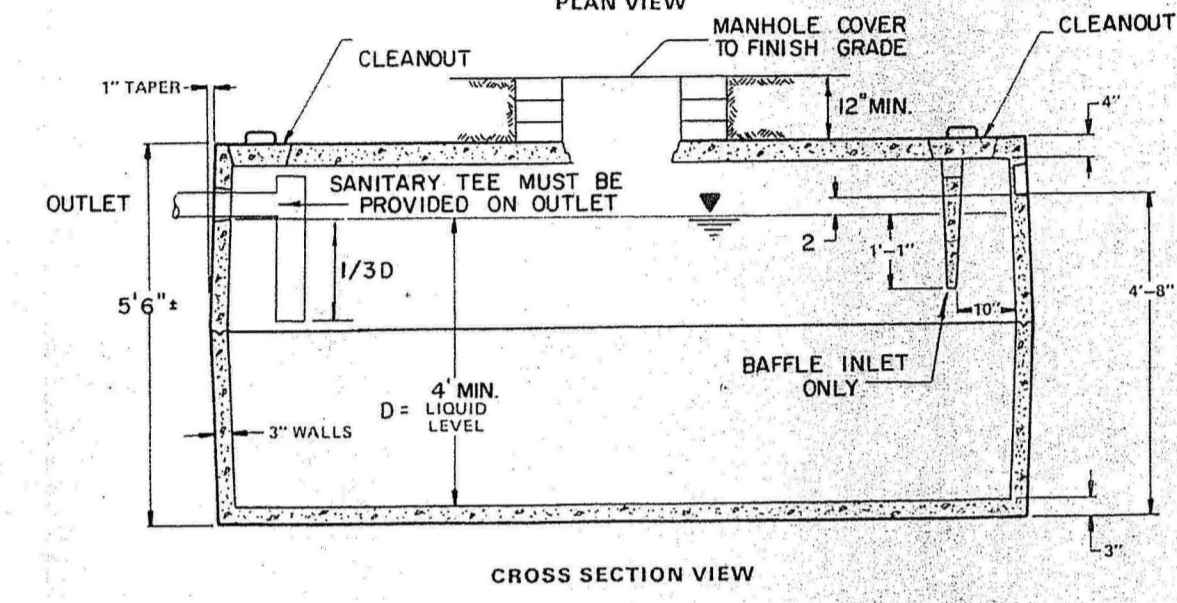
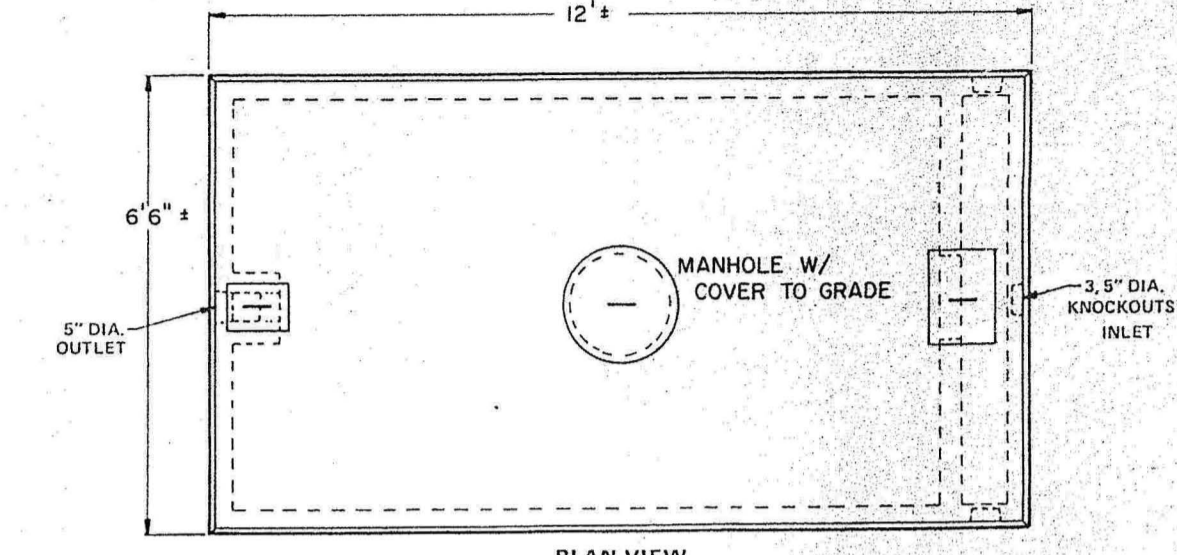
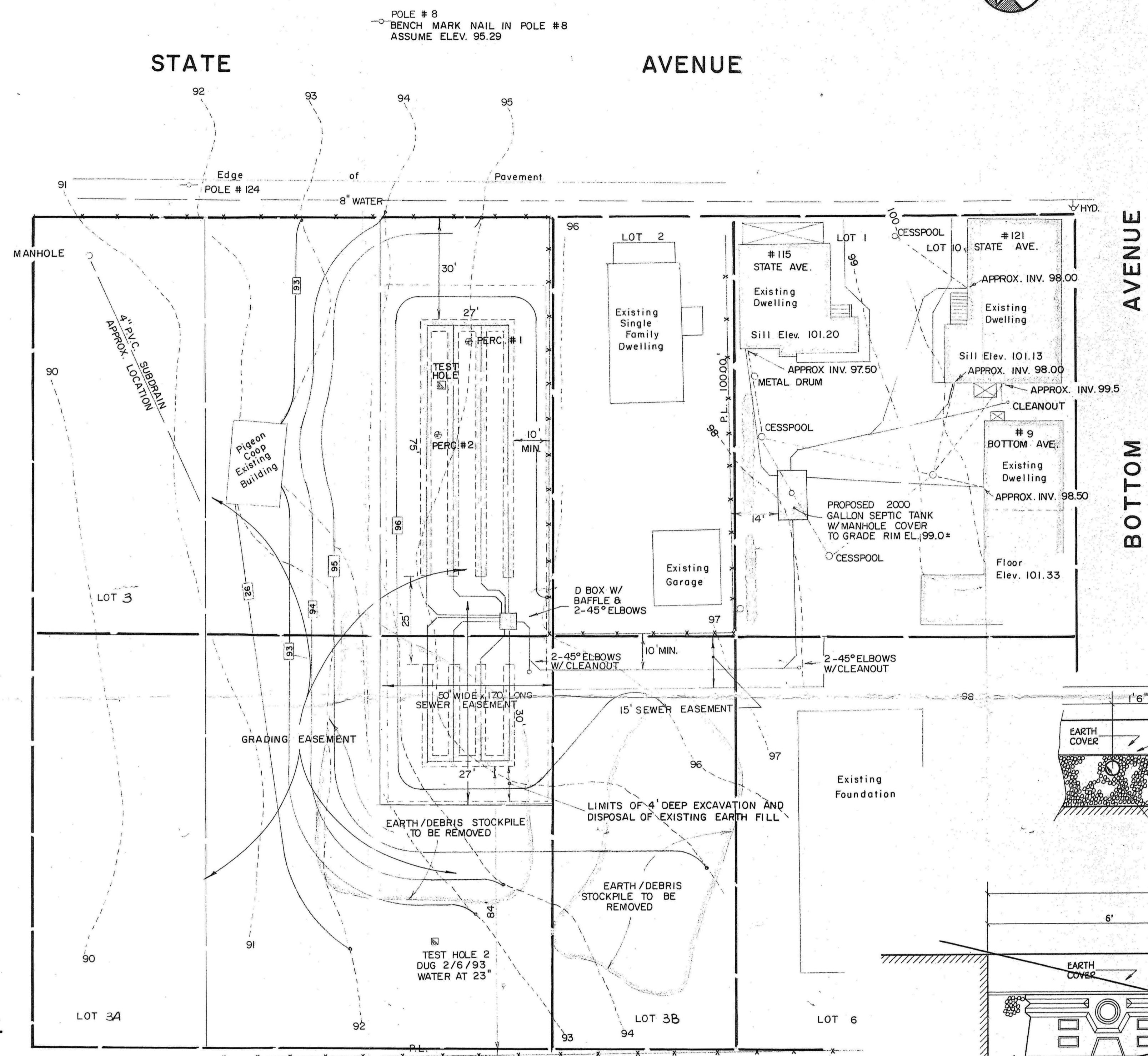
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL

APPROVED PLANS MUST BE KEPT AT CONSTRUCTION SITE

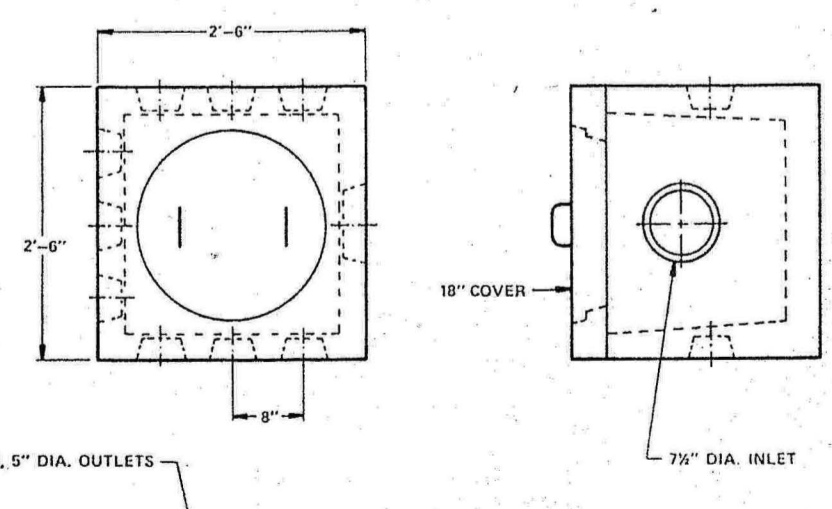
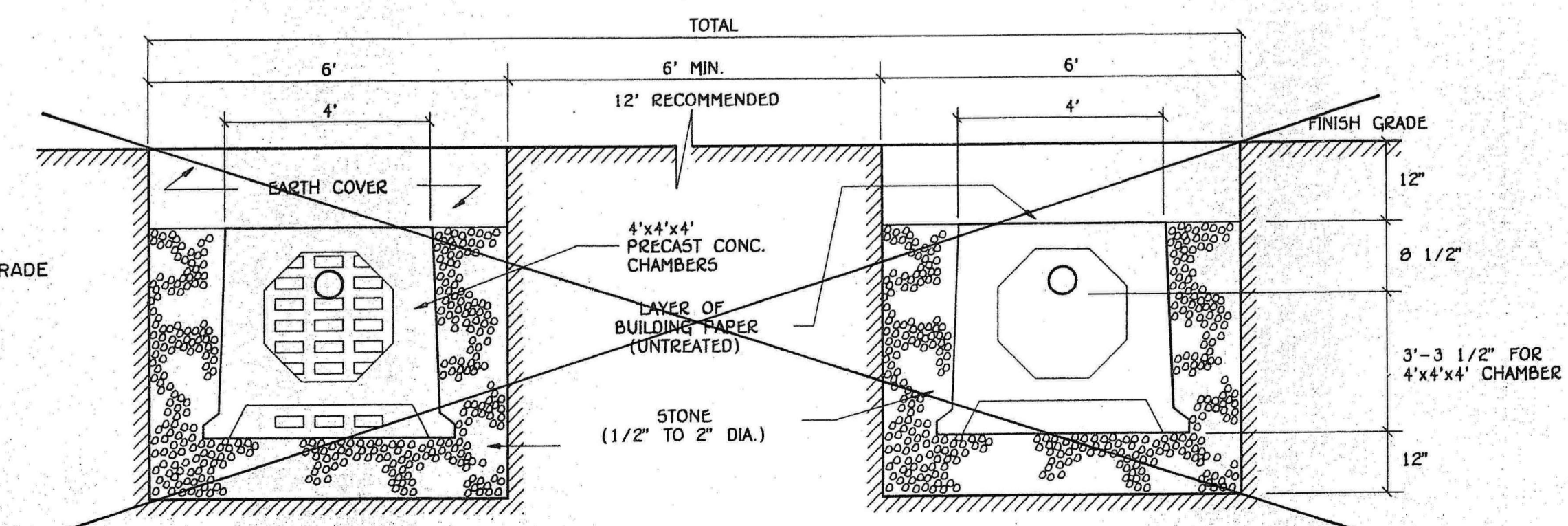
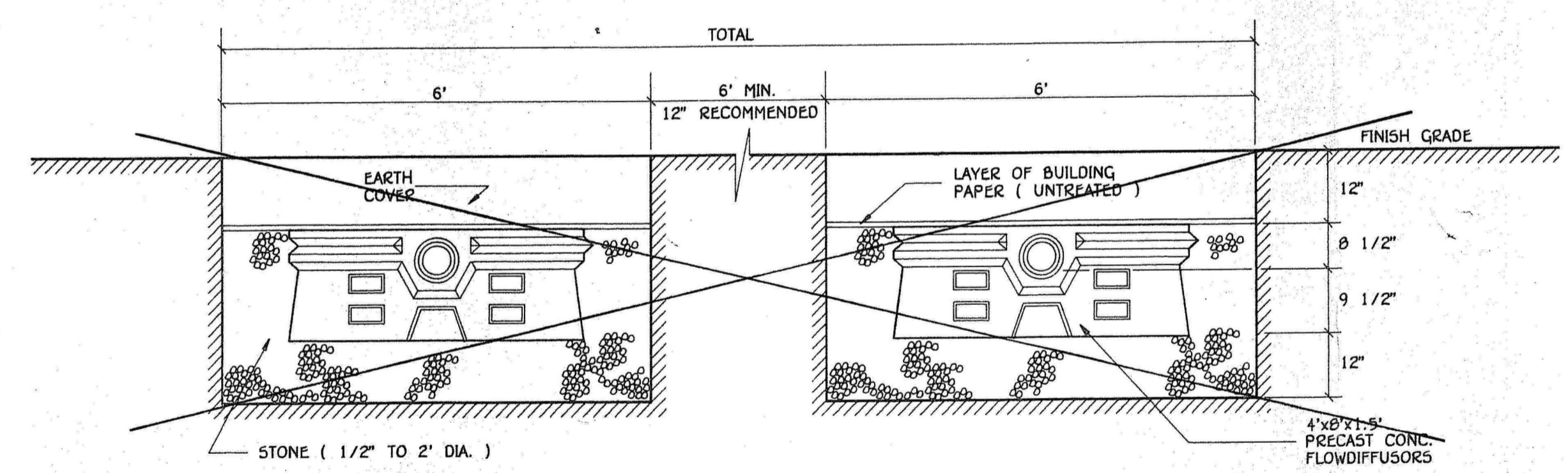
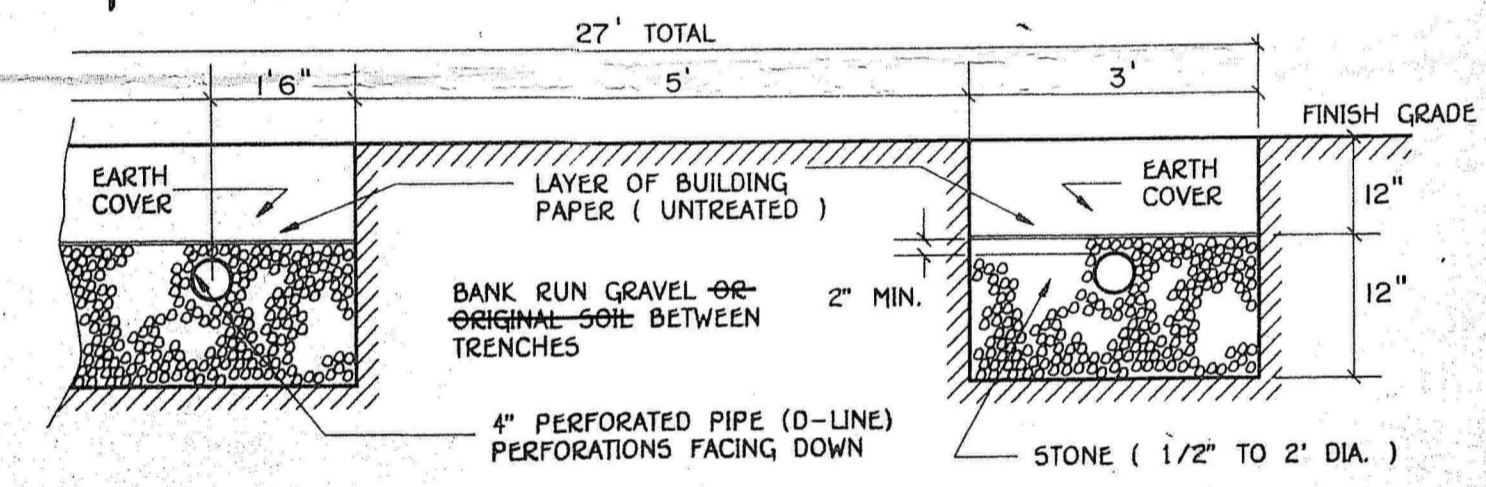
RECEIVED
 SEP 30 1999
 ENVIRONMENTAL MGMT.
 DIV. OF WATER RESOURCES

PROPOSED LEACHING SYSTEM
 REPAIR FOR
JOHN CAMBRA
TIVERTON, R.I.
FEBRUARY, 1993
 REVISED - APRIL, 1993
 SCALE: 1 INCH EQUALS 20 FEET

LEACHING SYSTEM DESIGN BY:



DETAIL OF 2000 GAL. SEPTIC TANK
 N.T.S.
 ROTONDO ST-2000 OR EQUAL W/OUTLET TEE



DETAIL OF D-BOX W/BAFFLE
 N.T.S.
 ROTONDO DB-9 OR EQUAL

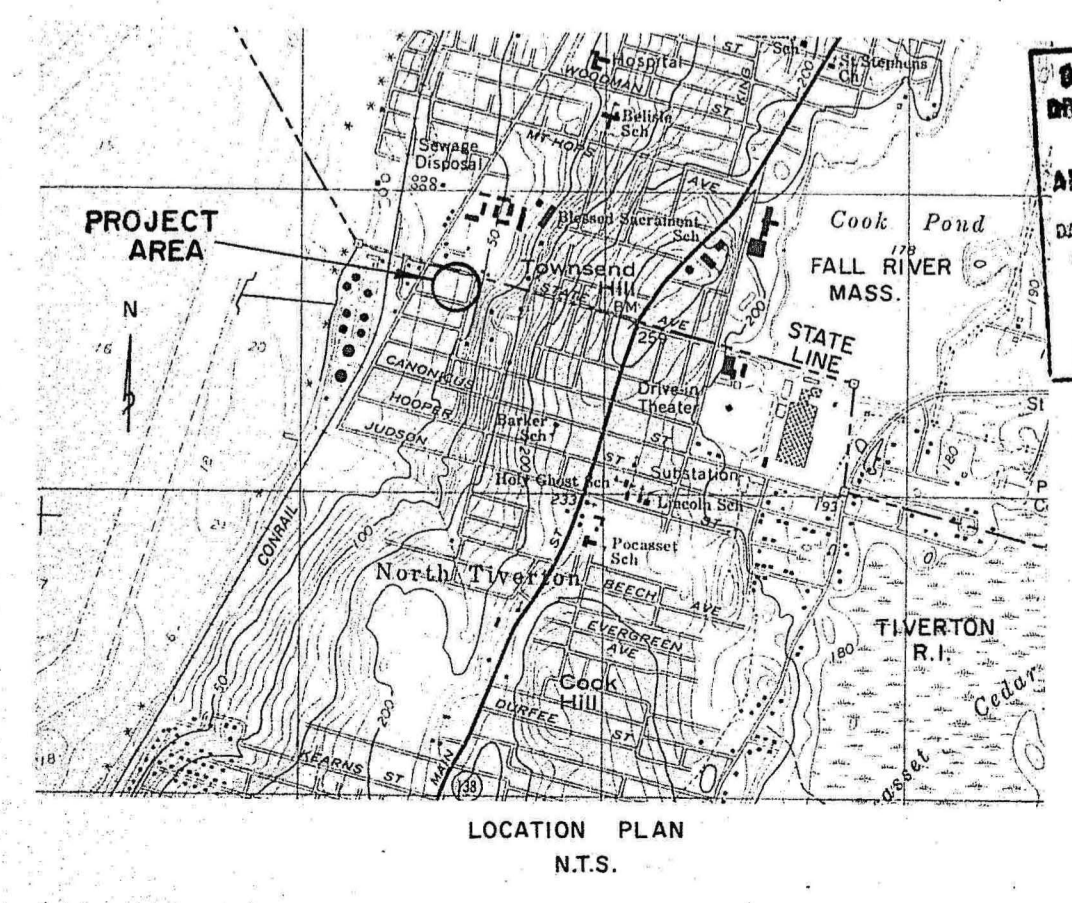
- GENERAL NOTES**
- 10 FEET ON ALL SIDES AND LEACHING AREA AS WELL, MUST BE STRIPPED OF TOPSOIL, SUBSOIL, UNDESIRABLE MATERIAL, AND SOIL CONTAINING FINES TO A 48 INCH DEPTH AND BOTTOM OF EXCAVATION SCARIFIED AND BACK-FILLED WITH CLEAN COARSE GRAVEL. REMOVAL OF TREES AND BRUSH SHOULD EXTEND TO 10 FEET BEYOND ALL SIDES OF LEACHING AREA.
 - SEWER LINE TO BE 4" CAST IRON BETWEEN BUILDING AND SEPTIC TANK LINE. BETWEEN TANK AND D-BOX TO BE 4" POLYVINYL CHLORIDE OR EQUIVALENT OR CAST IRON.
 - NO (PUBLIC DRINKING WATER SUPPLY) WELL WITHIN 500 FEET OF THE PROPOSED DISPOSAL SYSTEM UNLESS SHOWN. NO DRINKING WATER LINE IS WITHIN 25 FEET OF SYSTEM AND NO WELL EXIST WITHIN 200 FEET OF THE PROPOSED LEACHING SYSTEM (UNLESS SHOWN). NO EXISTING SEWAGE DISPOSAL SYSTEM IS WITHIN 100 FEET OF PROPOSED WELL (UNLESS SHOWN).
 - DISTRIBUTION PIPES FROM D-BOX TO THE LEACHING AREA SHALL HAVE CLOSED JOINTS AND TO BE 5DR-35 OR EQUAL.
 - NO EDGE OF ANY BANK WITHIN 25 FEET SLOPING TO AN ELEVATION LOWER THAN 9500 THE INVERT OF THE DISTRIBUTION LINES.
 - D-BOX SHOULD BE A MINIMUM SIZE OF 3 SQ. FT AND TO BE H-20 LOADING WITH MARKER SET TO GRADE.
 - NO SUBSURFACE, FOUNDATION OR STORM DRAINS SHALL BE WITHIN 25 FEET OF DISPOSAL SYSTEM UNLESS SHOWN.
 - SANITARY TEES TO BE INSTALLED IN SEPTIC TANK. SEPTIC TANK SHALL HAVE FRAME AND COVER SET TO FINISH GRADE.
 - THE SURFACE AREA OVER THE SUBSURFACE DISPOSAL SYSTEM SHALL BE ALLOWED; NO VEHICULAR PARKING OR TRAFFIC SHALL BE ALLOWED OVER THE SEEPAGE SYSTEM AND IF PAVEMENT IS TO BE NEAR THE PROPOSED LEACHING SYSTEM, A PROTECTIVE BERM IS TO BE PLACED AROUND THE SYSTEM, IN THE AREA OF THE PAVEMENT.
 - ALL PROPERTY LINES HAVE BEEN SHOWN FROM BEST AVAILABLE INFORMATION. PROPERTY LINE SURVEYS HAVE NOT BEEN PERFORMED.
 - PRIOR TO SYSTEM CONSTRUCTION, THE CONTRACTOR SHALL LOCATE BUILDING SEWERS AND VERIFY ELEVATIONS. NEW SERVICES FROM BUILDINGS TO SEPTIC TANK SHALL BE LAID AT A MINIMUM SLOPE OF 1/8 INCH PER FOOT.
 - ALL EXTERIOR PIPING NOT MAINTAINED SHALL BE REMOVED & DISPOSED. EXISTING CESSPOOLS SHALL BE BACKFILLED WITH CLEAN GRAVEL FILL AND PROPERLY COMPACTED.
- ASSESSORS PLAT NO. 17 LOT NO. 1, 6, 3
 SUBDIVISION NAME _____
 SUBDIVISION LOT NO. _____
 BENCH MARK LOCATION AND ELEVATION:
 NAIL IN POLE # 8 ON NORTHERLY SIDE OF STATE AVENUE. ASSUME ELEV. 95.29

TEST HOLE INFORMATION	DESIGN DATA
TEST HOLE DUG ON: 10/10/91	PERC. RATE: 20 MIN./INCH
	DESIGN RATE: 20 MIN./INCH
	LEACHING AREA SIZE: 1350 S.F.
	4 LINES; 3' WIDE; 75' LONG
	4 LINES; 3' WIDE; 30' LONG
	TOP OF SYSTEM 96.50
	BOTTOM OF SYSTEM 94.50
	INV. END OF PIPE 95.00
	INV. START OF PIPE 95.20
	INV. OUT OF D-BOX 95.20
	INV. IN D-BOX 95.37
	INV. OUT SEPTIC TANK 96.83
	INV. IN SEPTIC TANK 97.00
	INV. OUT OF BUILDING SEE PLAN
	TOP OF FOUNDATION
	LEDGE ELEVATION NONE AT 8'0"
	WATER TABLE ELEVATION

FOR REPAIR ONLY
 NO NEW CONSTRUCTION ALLOWED UNDER
 THIS APPROVAL.

IMPORTANT
 You must call this office for an inspection of the bottom of the leaching area excavation after stripping but prior to the placement of any gravel or stone.

DEPT. OF ENVIRONMENTAL MANAGEMENT
 DIVISION OF LAND RESOURCES-SDS SECTION
 APPROVED *Richard Pe*
 DATE: JUN 93 PLAN # 9333-989
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE KEPT AT CONSTRUCTION SITE.



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
ISDS SECTION
SEWAGE APPLICATION REVIEW SHEET

Date: 12 MARCH 1993

Application Number 9333-889

Designer: BAZIRGAN

Owner: CAMBRA

The following circled items are discrepancies revealed upon the review of subject application:

<u>ITEM</u>	<u>REGULATION REFERENCE</u>	<u>PERTAINING TO:</u>	<u>ITEM</u>	<u>REGULATION REFERENCE</u>	<u>PERTAINING TO:</u>
<u>APPLICATION</u>					
1	2.02(a)	Proper Application	36	8.06	Alarm required, properly located
2	2.02(g)	Four sets of plans required	37	8.06	Standby power required
3	2.02(a)	Signed by owner	38	9.06/2.02(g)	Proper size D-Box following dosing tank or pump chamber
4	2.02(a)	Plat and Lot numbers	<u>SEEPAGE FIELD</u>		
5	2.02(g)	Location Map attached	39	3.05(1)	Wells, exist. and proposed - 100'
6	2.02(k)	Expired soil data	40	3.05(3)	Suction Lines - 40'
7	2.03(a)	Renewal 1 year max.	41	3.05(2)	Water line - 25'
8	2.02(d)/21.02	Informal conference required (5000 gpd or more) petition per 21.02)	42	3.05(4)	Property Lines - 10'
9	3.01/2.02(g)	Detail design capacity of buildings(s) and associated water use (use separate sheet if necessary)	43	3.05(5)	Buildings - 15'
10	2.02(d)(e)(f)	Designed, stamped & signed by R.P.E. OR R.L.S.	44	3.05(7)	Watercourses - 50'
<u>PERCOLATION TEST</u>					
1	15.03/16.01(a)	Two percs in field	45	3.05(8)	Drains (incl. foundation drain) - 25' statement on plan required
12	16.01(a)	Proper elevations	46	3.05(9)	25' fill perimeter to invert
<u>SOIL HOLES</u>					
13	15.04/17.01	Test hole(s) in field	47	9.00	Distribution Box
14	15.04/17.01	5' below system	48	9.05	D-Box construction, H-20 loading
15	2.02(c-5)/15.04	Soil described by strata	49	10.02	3' above water table
16	2.02(g)	Soil densities reported	50	10.03	5' above impervious
17	10.03/15.04	Multiple holes for ledge	51	10.06/10.07	Sufficient area
<u>WATER TABLE</u>					
18	2.02(c-6)/17.01	Wet season, per SD 17.01	52	11.02	Proper cover - 3.5' max., 1.5' min. (invert)
19	2.02(c-6)/2.02(g)	Multiple readings	53	11.02/11.03/13.07	Proper D-Lines; ends tied; ends of chambers interconnected, SDR 35
20	17.02	Dry season soil requirements not met	54	11.02	Maximum length per line without dosing tank - 75'
21	17.01	Water table not verified	55	11.05/11.06	Proper stripping and refill
<u>BUILDING SEWER</u>					
22	4.00/2.02(g)	Sewerline details; sizes	56	10.01	Minimum 3 bedroom design
23	4.04/4.02	Material (SDR35) and pitch required	57	13.05/13.07	Chambers, inlet every 25'
24	3.05(b)	Sewerline crosses waterline	58	13.02(a)	Manhle 1' from grade every 50'
<u>SEPTIC TANK</u>					
25	6.01	Proper Size	59	13.02(b)	4' water min. with shallow galleys
26	3.05(5)	5' from building	<u>DRIVING AND PARKINGS AREAS</u>		
27	6.11	Manholes to grade & set to divert surface runoff	60	11.08/2.02(g)	Parking excluded, drive & parking area shown provide barrier (berm)
28	6.07 /2.02(g)	Proper inlet/outlet tees required	61	2.02(g)	Parking lot drains shown
29	3.05(8)	25' to drains	62	12.06/13.09	Without barrier, structures to meet HS-20 wheel load specs
30	6.00	High water table proper design (water tight; height above; flotation)	63	12.06/13.09	Manholes to grade every 50'
31	3.05(i)	75' to private wells	64	12.06/13.09	Vent in protected area and screened
<u>PUMPS</u>					
32	8.01	Dual alternating pumps for all commercial	65	12.06/13.09	Paving over system limited to 25%
33	8.02	2' diam. solids (min.) capacity required	66	2.02(b)	Lot to scale; dimensions shown
34	8.02	Head curves required, calculations provided	67	2.02(b)/2.02(g)	Pole number(s) on plan
35	8.05	Proper discharge line piping; inter-connection & sizing	68	2.02(b)	All invert elevations
<u>DESIGN PLAN</u>					
			69	2.02(b)	Fixed bench mark within 100' of system
			70	2.02(c-1)	Grades 25' around shown
			71	2.02(g)	Proposed well - requires permit/review from Groundwater Section
			72	2.02(c)	Wells, existing and proposed within 200' shown, statement required on plan
			73	2.02(c)/2.15	Sewage system within 100' of well existing & proposed shown, statement required on plan
			74	2.14	Alternate area (welled areas)
			75	3.05(10)	Public wells, existing and proposed within 500' shown, statement required on plan
			76	1.29/3.05(10)	Public well, Health Dept. approval required

CONTINUED ON BACK



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

INDIVIDUAL SEWAGE DISPOSAL SYSTEM SECTION
291 PROMENADE STREET
PROVIDENCE, RI 02908

TO: John Cambra
State Avenue
Tiverton, RI

February 16, 1994

SITE INFORMATION

APPLICATION NUMBER: 9333- 889

STREET: Bottom Street & State Avenue, Tiverton, RI

PLAT: 17 LOT: 1,

SUBDIVISION:

SUBDIVISION LOT NO.:

CERTIFICATE OF CONFORMANCE

This Certificate of Conformance means that the Individual Sewage Disposal System (ISDS), which has been installed under the above application number, appears to substantially conform with the design requirements and other requirements as indicated on the application, and associated plans and specifications. **PERMISSION IS THEREFORE GRANTED FOR UTILIZATION OF THE SEWAGE DISPOSAL SYSTEM.** A copy of this certificate has been forwarded to the building official of the municipality having jurisdiction over the subject site; he/she may issue a Certificate of Occupancy for the building provided all other local requirements have been met. The building official must receive a copy of the Certificate of Conformance prior to his or her issuing a certificate of occupancy for the building or facility to be served by the ISDS.

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Authorized Agent: BRIAN M. MOORE, P.E.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM SECTION

SEE REVERSE SIDE FOR IMPORTANT INFORMATION ON CARE AND MAINTENANCE

cc: Building Inspector

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

DIVISION OF LAND RESOURCES

INDIVIDUAL SEWAGE DISPOSAL SYSTEMS

CERTIFICATE OF CONSTRUCTION

FOR INSTALLERS OF INDIVIDUAL SEWAGE DISPOSAL SYSTEMS

I, JOSEPH FARIAS, JR., to the extent that I have performed the work
(INSTALLER'S NAME PRINTED)

on said system as of the 10th day of DEC, 1993, certify that the

individual sewage disposal system as shown on the plans for 9333-889 was
(ISDS PERMIT NO.)

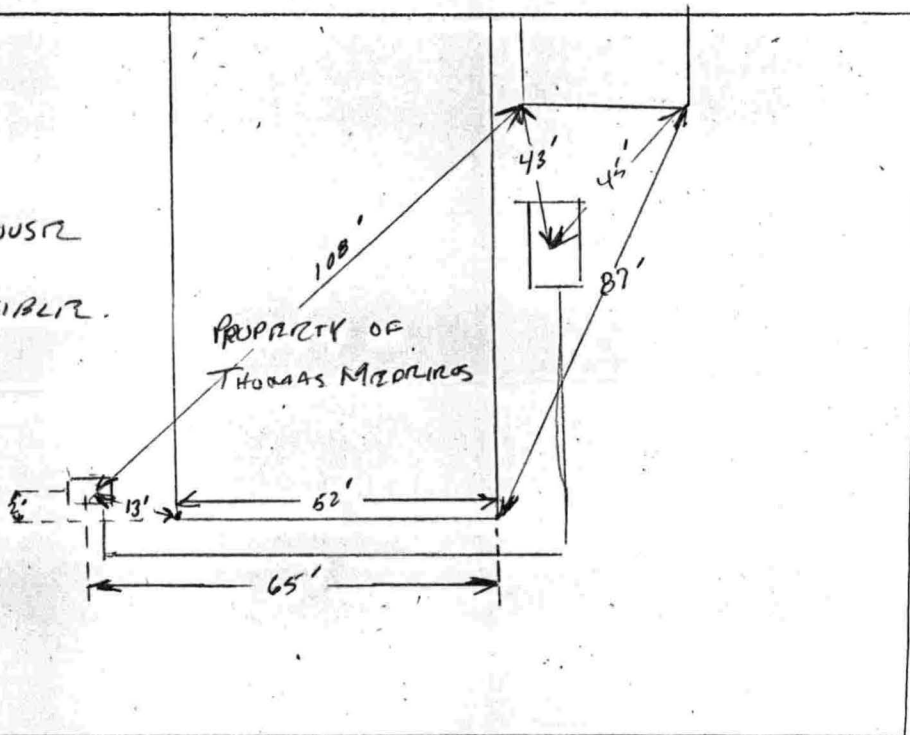
installed in conformance with the permit and plans for such system as approved by the
Director of Environmental Management.

The property is located at BUTTERN STREETS AND STATE AVE.
(STREET)

TURKTON R.I., The septic tank is located as set forth below.
(CITY OR TOWN)

NOTE:
DIRECT
DIMENSION FROM HOUSE
TO "D" BOX NOT POSSIBLE.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIV. OF LAND RESOURCES
I.S.D.S. SECTION
FEB 14 1994



Signed [Signature]
110
License No. 2-10-94
Date



Rhode Island Department of Environmental Management
 Division of Groundwater and ISDS
 Individual Sewage Disposal System Section

INSPECTION REPORT

APPLICATION NUMBER: 9333- 889	
STREET: Bottom Street & State Avenue	INSPECTOR: C D'Outdio
CITY/TOWN: Tiverton	INSPECTION DATE: 11/15/93
PLAT/LOT: 17 1	POLE NO:
ISDS INSTALLER: Farias, Jr. L0110	ARRIVAL TIME: 7:00
PHONE NO: 401-624-4917	INSPECTION NUMBER: 4
TYPE OF INSPECTION: REINSPECTION	WEATHER CONDITIONS: S

FINDINGS/COMMENTS

CLEANNOUTS ARE IN PLACE
 25' FILL COMPLETE
 OK TO COVER

RESULTS OF INSPECTION/ACTION REQUIRED

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> Bottom Bed OK -- Construct system and call for cover inspection | <input type="checkbox"/> (ASB) Submit As Built Plans |
| <input type="checkbox"/> (RFA) Address items listed or checked and call for a re-inspection | <input type="checkbox"/> (RPREQ) Submit Revised Plans |
| <input type="checkbox"/> (FEE) If this item is checked, a \$50 fee is required before re-inspection. Send copy of this inspection form with the check. | <input type="checkbox"/> (SOS) Submit Designer's Statement of Supervision |
| <input type="checkbox"/> (COC) Paper and cover system and submit certificate of construction | <input type="checkbox"/> (WELL) Call for inspection when well installed. |
| <input type="checkbox"/> (COC) Correct items listed or checked and submit certificate of construction | Date Installed: _____ |
| <input type="checkbox"/> (RFAD) STOP CONSTRUCTION. Contact designer since items listed are too complex for a simple resolution. | <input type="checkbox"/> (FND) Call for inspection when foundation installed |
| Signature of Inspector(s) <u>C. D'Outdio</u> | Date Installed: _____ |
| | <input type="checkbox"/> (WELLRPT) Submit Well Completion Report |
| | <input type="checkbox"/> (OTHER) _____ |



Rhode Island Department of Environmental Management
 Division of Groundwater and ISDS
 Individual Sewage Disposal System Section

INSPECTION REPORT

APPLICATION NUMBER: 9333- 889	
STREET: Bottom Street & State Avenue	INSPECTOR: C D'Onofrio
CITY/TOWN: Tiverton	INSPECTION DATE: 10/19/93
PLAT/LOT: 17 1	POLE NO:
ISDS INSTALLER: Farias, Jr. L0110	ARRIVAL TIME: 11:20
PHONE NO: 401-624-4917	INSPECTION NUMBER: 2
WEATHER CONDITIONS: Sunny	
TYPE OF INSPECTION: COVER INSPECTION	

FINDINGS/COMMENTS

System O.K. TO COVER, EXCEPT D-BUX.

D-BUX TO BE FILLED WITH WATER TO DEMONSTRATE LEVELNESS
 25' FILL PERIMETER NOT COMPLETE. STAKE & LABEL CORNERS
 OF FIELD.

All CESSPOOLS TO BE FILLED & ABANDONED.

All EXISTING, OLD, BUILDING SEWERS TO BE REMOVED.

CLEANOUTS REQUIRED FOR FOLLOWING:

① - 3 B. SEWERS EXITING #121.
 1 IS SHOWN TO BE INSTALLED,
 2 OTHERS ARE NOT SHOWN
 BUT ARE NECESSARY. INSTALL

²⁵⁰³⁻ CLEANOUTS WHERE B. SEWERS MERGE WITH ^{MAIN B-SEWER.}

RESULTS OF INSPECTION/ACTION REQUIRED

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> Bottom Bed OK -- Construct system and call for cover inspection | <input type="checkbox"/> (ASB) Submit As Built Plans |
| <input type="checkbox"/> (RFA) Address items listed or checked and call for a re-inspection | <input type="checkbox"/> (RPREQ) Submit Revised Plans |
| <input type="checkbox"/> (FEE) If this item is checked, a \$50 fee is required before re-inspection.
Send copy of this inspection form with the check. | <input type="checkbox"/> (SOS) Submit Designer's Statement of Supervision |
| <input checked="" type="checkbox"/> (COC) Paper and cover system and submit certificate of construction | <input type="checkbox"/> (WELL) Call for inspection when well installed. |
| <input type="checkbox"/> (COC) Correct items listed or checked and submit certificate of construction | Date Installed: _____ |
| <input type="checkbox"/> (RFAD) STOP CONSTRUCTION. Contact designer since items listed are too complex for a simple resolution. | <input type="checkbox"/> (FND) Call for inspection when foundation installed |
| Signature of Inspector(s) <u>C. D'Onofrio</u> | Date Installed: _____ |
| | <input type="checkbox"/> (WELLRPT) Submit Well Completion Report |
| | <input type="checkbox"/> (OTHER) _____ |



Rhode Island Department of Environmental Management
 Division of Groundwater and ISDS
 Individual Sewage Disposal System Section

150 X 47

4'

INSPECTION REPORT

APPLICATION NUMBER: 9333- 889		INSPECTOR: C D'Ovidio	
STREET: Bottom Street & State Avenue		INSPECTION DATE: 09/24/93	
CITY/TOWN: Tiverton		ARRIVAL TIME: 11:40	
LAT/LOT: 17 1		WEATHER CONDITIONS: Sunny	
POLE NO:			
ISDS INSTALLER: Farias, Jr. L0110			
PHONE NO: 401-624-4917		INSPECTION NUMBER: 1	
TYPE OF INSPECTION: BOTTOM INSPECTION			

FINDINGS/COMMENTS

BOTTOM CIR. INSURE 10' STRIP AROUND ENTIRE LEACHFIELD
 BOTTOM IS ONLY 45' WIDE SHOULD BE 47' PLEASE
 CORRECT.

NOTE: -COVER INSPECTION WILL REQUIRE THAT ALL CESSPOOLS
 TO BE PUMPED & FILLED, VERIFICATION IS REQUIRED.
 - LEAVE ALL BUILDING SEWERS & D-LINES, & CLEANOUTS
 OPEN FOR COVER INSPECTION

6 CESSPOOLS
 3 CLEANOUTS

RESULTS OF INSPECTION/ACTION REQUIRED

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Bottom Bed OK -- Construct system and call for cover inspection | <input type="checkbox"/> (ASB) Submit As Built Plans |
| <input type="checkbox"/> (RFA) Address items listed or checked and call for a re-inspection | <input type="checkbox"/> (RPREQ) Submit Revised Plans |
| <input type="checkbox"/> (FEE) If this item is checked, a \$50 fee is required before re-inspection.
Send copy of this inspection form with the check. | <input type="checkbox"/> (SOS) Submit Designer's Statement of Supervision |
| <input type="checkbox"/> (COC) Paper and cover system and submit certificate of construction | <input type="checkbox"/> (WELL) Call for inspection when well installed.
Date Installed: _____ |
| <input type="checkbox"/> (COC) Correct items listed or checked and submit certificate of construction | <input type="checkbox"/> (FND) Call for inspection when foundation installed
Date Installed: _____ |
| <input type="checkbox"/> (RFAD) STOP CONSTRUCTION. Contact designer since items listed are too complex for a simple resolution. | <input type="checkbox"/> (WELLRPT) Submit Well Completion Report |
| Signature of Inspector(s) <u>Chris D'Ovidio</u> | <input type="checkbox"/> (OTHER) _____ |

DESIGN PLAN cont'd

MISCELLANEOUS

77 2.15 400' distance from public well to any component of septic system
78 2.02(b)/2.02(g) Typical requirements for septic tank, distribution box, & leaching system

96 2.02(g)/17.01 Call for witnessing of soil holes
97 2.16 Wetland applicability determination or permit required
98 3.05(7)(e) 150' setback required (erosion prone area) from moon tide
99 3.05(h) Depth of stone below invert on commercial system in wetland areas
100 2.17 Shoreline features, CRMC approval required
101 14.07 Non-domestic wastes, UIC permit required

CRITICAL SITES UNDER SD15.02(8) (2'-4' WT/4'-6' LEDGE)

79 15.02(b)(1) Trenches 10' spacing
80 15.02(b)(2) 10 min./inch min. design perc
81 15.02(b)(3) Two test holes (soils/wt)
82 15.02(b) ISDS prohibited
83 15.02(b)9 Installation supervised by RPE or RLS

SYSTEM 2000 GPD OR MORE

102 2.02(f) Designed, stamped & signed by R.P.E.
103 9.08 MH's to grade over D-Box
104 13.05 MH's to grade over chambers every 50'
105 17.02(c)(3) Wet season determination only

CRITICAL RESOURCE AREA

84 19.00 Area identified as critical resource area
19.07.5 SITE SUITABILITY - GENERAL

GREASE TRAPS

85 19.02.5(A) 5' water table min.; 7' ledge min. unless meeting 1502.5(b)
86 19.02.6(a) 4' above water table
87 19.02.6(b) 6' above impervious
88 19.03 Subdrains prohibited

106 5.01 Grease Trap required
107 5.03 24 hour detention capacity (min. 1000 gal.) of kitchen flow
108 5.05 Proper inlet (mid depth) & outlet (12 inches off bottom) tee depths, materials, support
109 5.09 Manholes to grade & set to divert surface runoff

19.02.1 LARGE SYSTEMS (2000 gpd or more)

89 19.02.1(b)1 5' water table min.; 7' ledge min.
90 19.02.1(b)2 Perc rates faster than 3 min/inch prohibited
91 19.02.1(b)3 Horizontal distances 3 times SD 3.05 and SD 10.02.4
92 19.02.1(b)4 Alternate area requirements
93 19.02.1(c)(d) Environmental Impact Assessment required
94 19.02.3 UIC Permit required
95 19.02.4 Location (see Table 19.1)


DOSING TANKS

110 7.01 Greater than 500' total distribution line length dosing required
111 7.02 Proper dose volume, calcs. provided
112 7.07 MH's to grade over dosing chamber
113 7.03 High water table proper design (water tight; height above; flotation)

COMMENTS:

12. ⁸ PERC TESTS CANNOT BE CONDUCTED IN FILL. MUST BE DONE IN ORIGINAL GROUND. — AS PER TELEPHONE CONVERSATION WITH MR. ROBERT BAILEY, RIDEM-15DS, PERC TESTS SHOWN ON APPLICATION ARE ACCEPTABLE.
16. SOIL DENSITIES MISSING FROM APPLICATION. — DENSITIES HAVE BEEN ADDED

• ALSO... UTILITY EASEMENTS FOR FILL ARE REQUIRED FOR LOTS 6, 14, 15, 16. UTILITY EASEMENT FOR SEWER LINE REQUIRED FOR LOT 17. — EASEMENTS ARE NOW SHOWN AND FILED BY THE TOWN
• LOT 6 BUILDING USE MUST BE IDENTIFIED. — BUILDING IS IDENTIFIED AS A PIGEON COOP
• LOT 8 BUILDINGS & USE MUST BE SHOWN. — BUILDINGS AND USES ARE NOW SHOWN

NOV 13 2003
DIV OF PERMITS
STANDARD SERVICES
65-11-1003


The application, plans and attachments are being returned unacceptable.

IMPORTANT NOTE: If an application for this site is resubmitted, enclose this sheet.

DEM Official Robert D. Bailey PE
Individual Sewage Disposal System Section

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF LAND RESOURCES
INDIVIDUAL SEWAGE DISPOSAL SYSTEM APPLICATION (2/79)

APPLICATION NUMBER: **9333-889**
 APPLICATION DATE: **3-5-93**

PURPOSE OF APPLICATION:
 NEW BUILDING CONSTRUCTION
 ALTERATION OF EXISTING SYSTEM
 REPAIR TO MALFUNCTIONING SYSTEM

SITE LOCATION: STREET **BOTTOM ST / STATE AVE** CITY/TOWN **TIVERTON BUSINESS**

PLAT NUMBER: **17**
 ASSESSORS RECORDED
 LOT NUMBER: **1** LOT SIZE: **26 6000 SF**
 WETLANDS DETERMINATION REQUEST ATTACHED?
 YES NO

SUBDIVISION NAME: **---** SUBDIVISION LOT NUMBER: **---** REVIEWED BY STATE?
 YES NO WATER SUPPLY
 PUBLIC WELL

OWNER'S NAME: LAST **CAMBRA** FIRST **JOHN** INIT **---**

MAILING ADDRESS: **STATE AVE TIVERTON R.I.** ZIP CODE **---**

BUILDING USE: **3 Multi-Family Dwellings** ANY PREVIOUS APPLICATION FOR THIS SITE?
 YES NO APP. NO. **---** DATE **---**

NO. DESIGN UNITS: **16 BEDROOMS** DESIGN FLOW: **SEE 1991 & 1992 WATER USE RECORDS (ATTACHED)** TOTAL DAILY FLOW: **1991 - 600 GAL 1992 - 666 GAL**

REO'D. TANK SIZE: **2000** GALS. TYPE SYSTEM:
 TRENCH CHAMBER BED OTHER: DESCRIBE **---**

NUMBER OF LINES: **8** WIDTH: **27'** LENGTH: **40 75' 40 30'** TOTAL SQ. FEET: **1350** **W/O 0.5' STONE BELOW INV**

SOIL DESCRIPTION BY STRATA - SEE REVERSE SIDE FOR CODES AND INSTRUCTIONS.

DEPTH	0 TO 6"	6" TO 3'	3' TO 4'	4' TO 8'
SOIL TEXTURE	LM	FILL	3ST. IFS	2MS, IFS
DENSITY	LC	LC	MC BLACK	MC TAN/BRN
DEPTH	TO	TO	DEPTH HOLE 8'	DEPTH IMPERVIOUS NONE @ 8'
SOIL TEXTURE			DATE HOLE EXCAVATED 10/10/91	
DENSITY				

WATER TABLE DATA			MULTIPLE READINGS			PERCOLATION RATES		
DEPTH	(A)	DATE	DEPTH	(B)	DATE	RATE	DEPTH	DATE
1.			1.			16 min	12"	10/11/91
2.			2.			20 min	30"	10/11/91
3.			3.					
4.			4.			DESIGN PERC. RATE 20 min	DESIGN APP. RATE 0.16 gal/hr/day	
5.			5.			MINIMUM REQUIRED LEACHING AREA 666 / 0.68 = 980 SF		

WET SEASON DESIGN DEPTH: **4** FEET EXPLAIN HOW DETERMINED: **DRY SEASON TEST HOLE 10/10/91 INSPECTION REPORT ATTACHED**

The undersigned, **PETER W. BAZIRGAN** Engineer/Surveyor, hereby certifies that he has conducted certain percolation tests, subsoil explorations and ground water table elevation determinations on the property identified in and by this application and accompanying forms, submittals, plans and sketches; that said tests have been conducted in accordance with the rules and regulations of the Rhode Island Department of Environmental Management pertaining to individual sewage disposal systems, that he has prepared all of the aforementioned documents, and that all information on this application and accompanying forms, submittals, plans and sketches are true and accurate and represent truthfully and accurately what the information hereon and the information and designs on the accompanying forms, submittals, plans and sketches purport to represent.

SIGNATURE OF ENGINEER/SURVEYOR: **[Signature]** TITLE: **PE**

REGISTRATION NUMBER: **5002** REPRESENTING: **---** TELEPHONE NO.: **944-0567**

The Owner certifies that the system will be installed in strict accordance with this application and attached forms, submittals, plans and sketches. The Owner further certifies that he assumes all responsibility for the truth and accuracy of the representations hereon, and on all forms, submittals, plans and sketches attached hereto, and assumes all liability and responsibility for any improper installation of the system on this site, and agrees to hold the Department of Environmental Management harmless from any and all claims against it for any future failure of the system.

TELEPHONE NO.: **[Signature]** Owner's Signature

DISPOSITION OF APPLICATION (ENVIRONMENTAL MANAGEMENT DEPT. USE ONLY)
 THIS APPLICATION ATTACHED PLAN AND SPECIFICATIONS ARE HEREBY:

APPROVED RENEWED TRANSFERRED OWNERSHIP DENIED SEE ATTACHED SHEET PREVIOUS APP. NO. **---**

If approved, renewed or transferred, the following applies:
 Based upon the representations of the Owner, and the Owner's agents and/or servants, including the representations of the Owner's Engineer and/or Surveyor, regarding the truth and accuracy of all information submitted on the application and the accompanying forms submittals, plans and sketches, this application for an individual sewage disposal system is hereby approved. The Department of Environmental Management assumes no responsibility or liability for the future safe operation or maintenance of the aforesaid system, of the fitness or suitability of this system to this site, nor does it assume any responsibility for the accuracy and truth of the Owner's, or the Owner's agents' and/or servants' representations. This approval is subject to future suspension and revocation in the event that subsequent examination reveals any of the data indicated on any application, form, submittal, plan or sketch to be incorrect, or not in compliance with the regulations, or in the event that the system discharges sewage on or to the surface of the ground, or, on or to any watercourse or, fails to operate satisfactorily in any other manner.

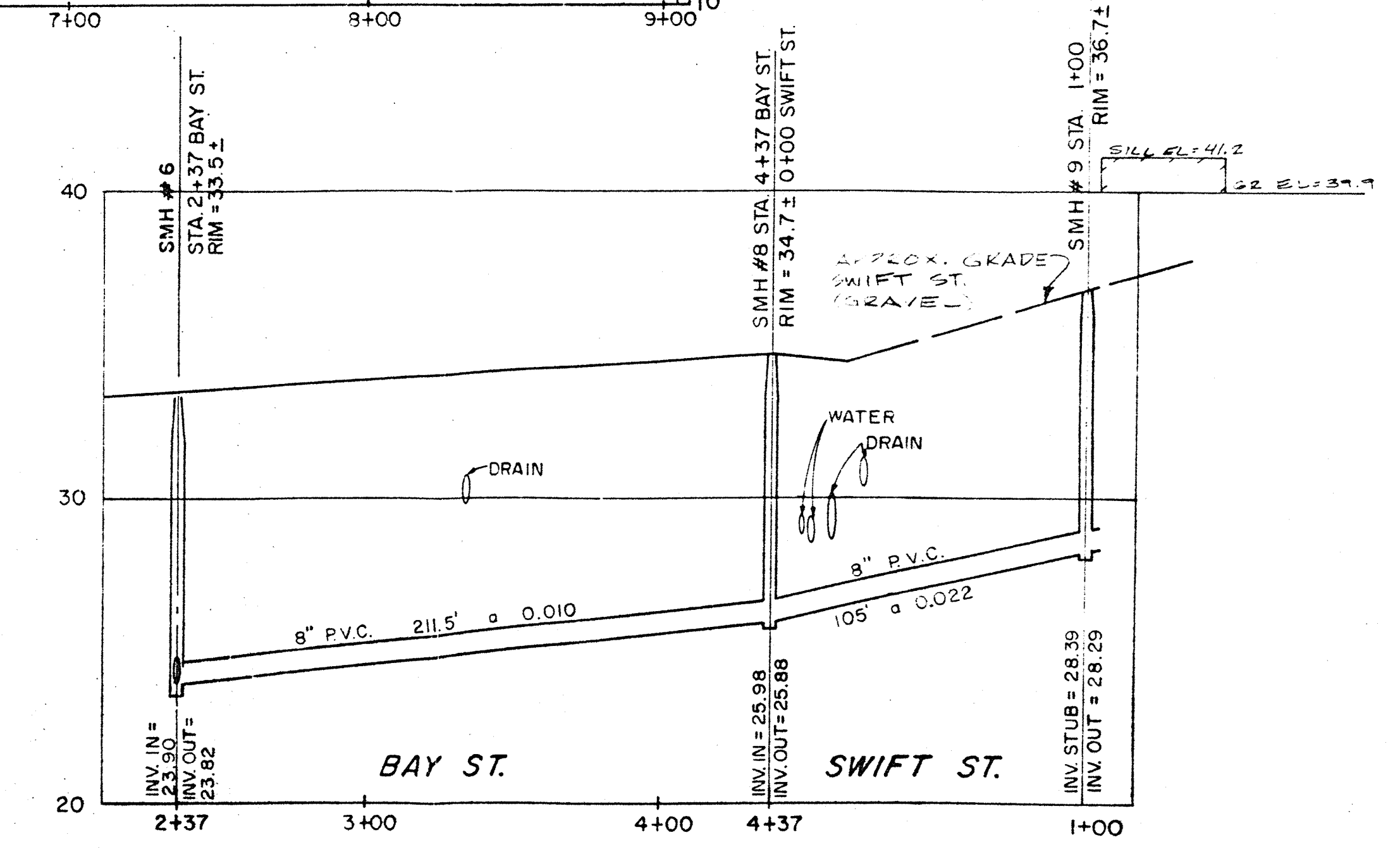
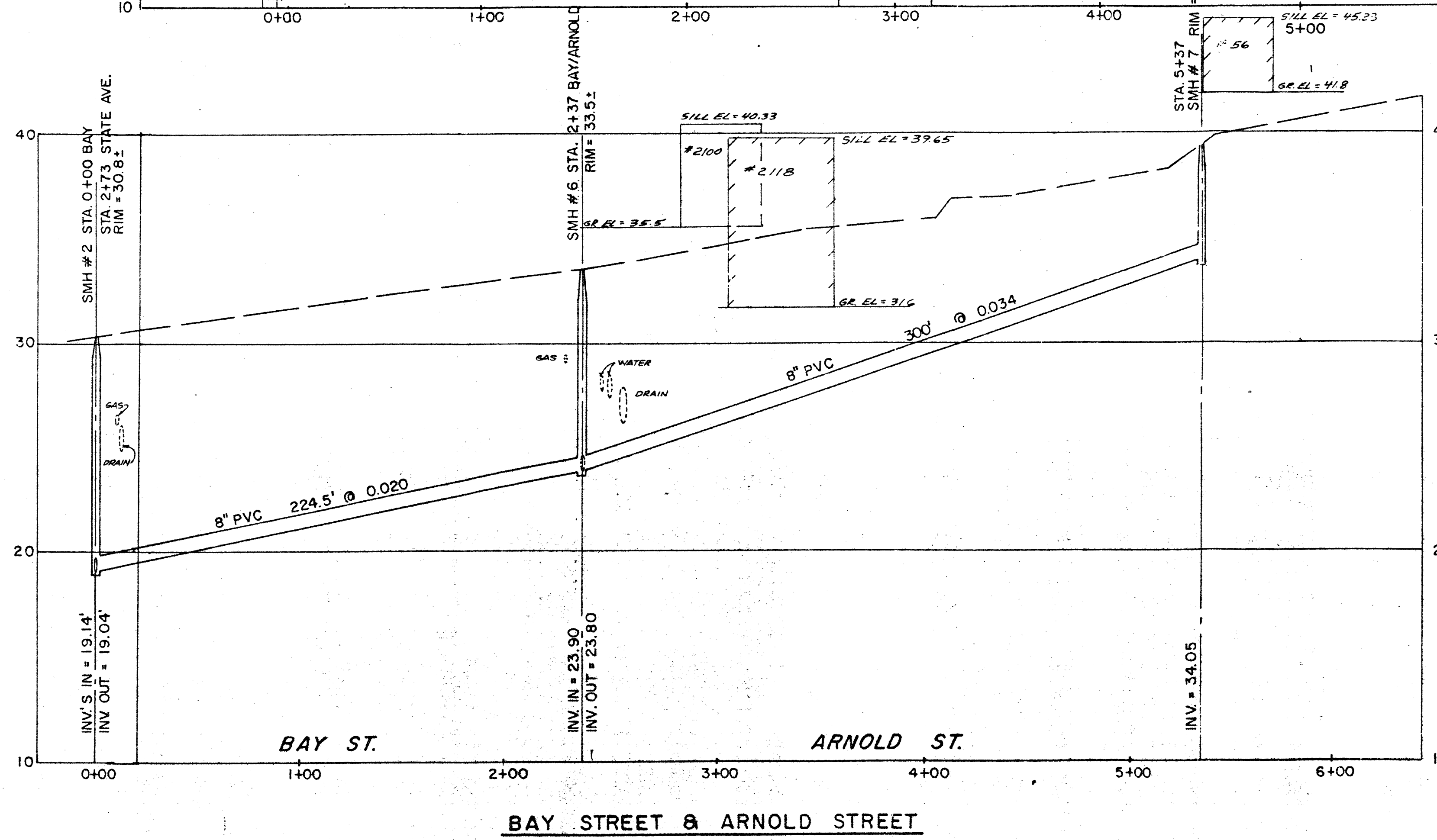
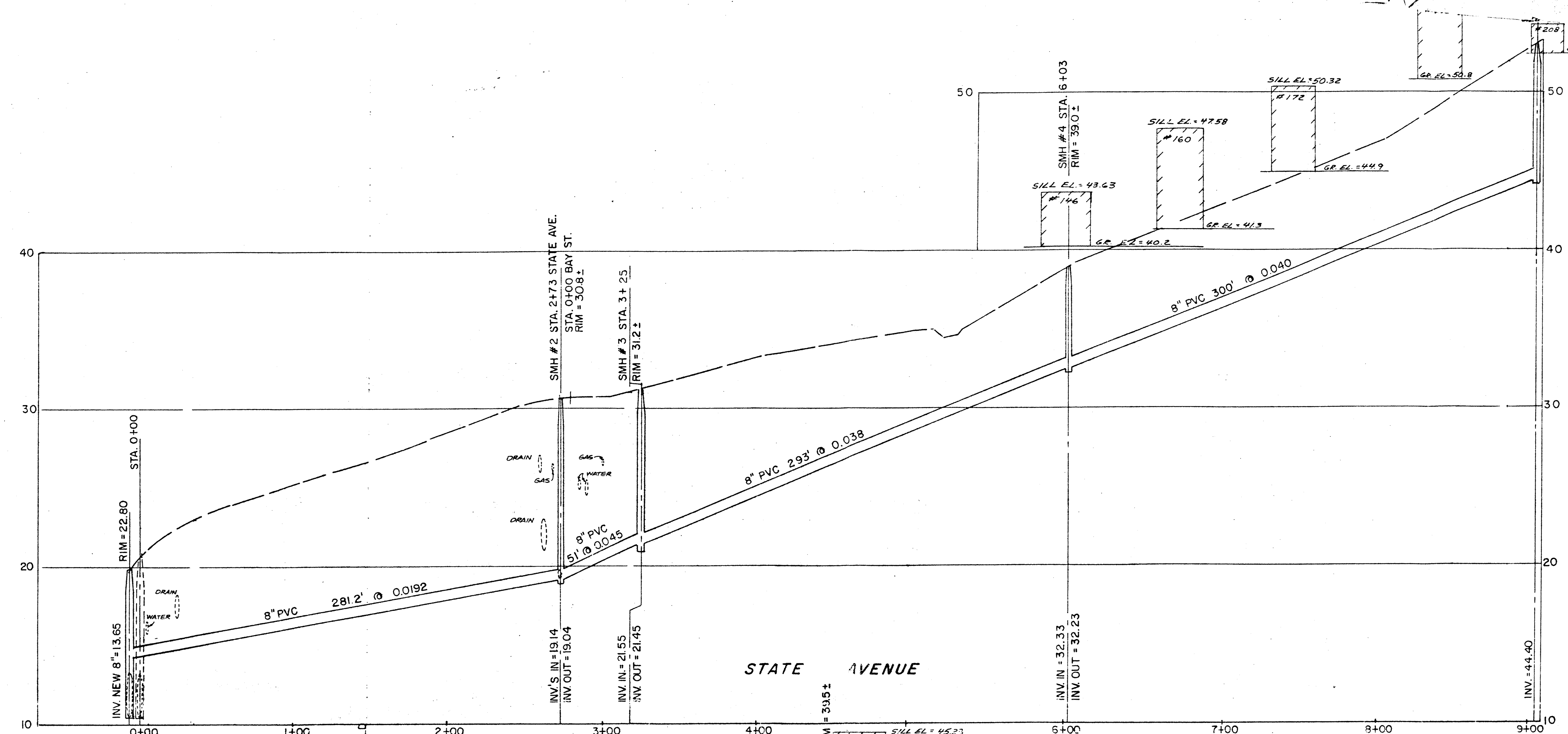
This approval expires in 1 year if water supply is individual well, or in 2 years if public. This permit is valid for owner signed above only, change of ownership requires new permit.

IMPORTANT: NOTE (Circled) ADDITIONAL TERMS OF APPROVAL

(A) Bottom of leaching area excavation must be inspected by the Dept. of Environmental Management prior to placement of any gravel or stone.
 B. Excavation work on leaching area must be performed during dry season only (June-November).
 (C) It is essential that all distances and elevations be accurately set prior to the start of construction.
 D. Approved per variance Board/Appeal Decision dated _____, all requirements, conditions and stipulations of which shall be strictly adhered to.
 E. All stages of construction must be supervised by the system designer, and a written statement of findings submitted to this office.
 F. The discharge of laundry wastes into this system is prohibited.
 (G) Other: _____

**FOR REPAIR ONLY
 NO NEW CONSTRUCTION ALLOWED UNDER
 THIS APPROVAL**

SIGNATURE OF ENVIRONMENTAL MANAGEMENT DEPT. OFFICIAL: **Robert D. Bailey PE** DATE: **8 JUN 93** CONTROL NO.: **---**

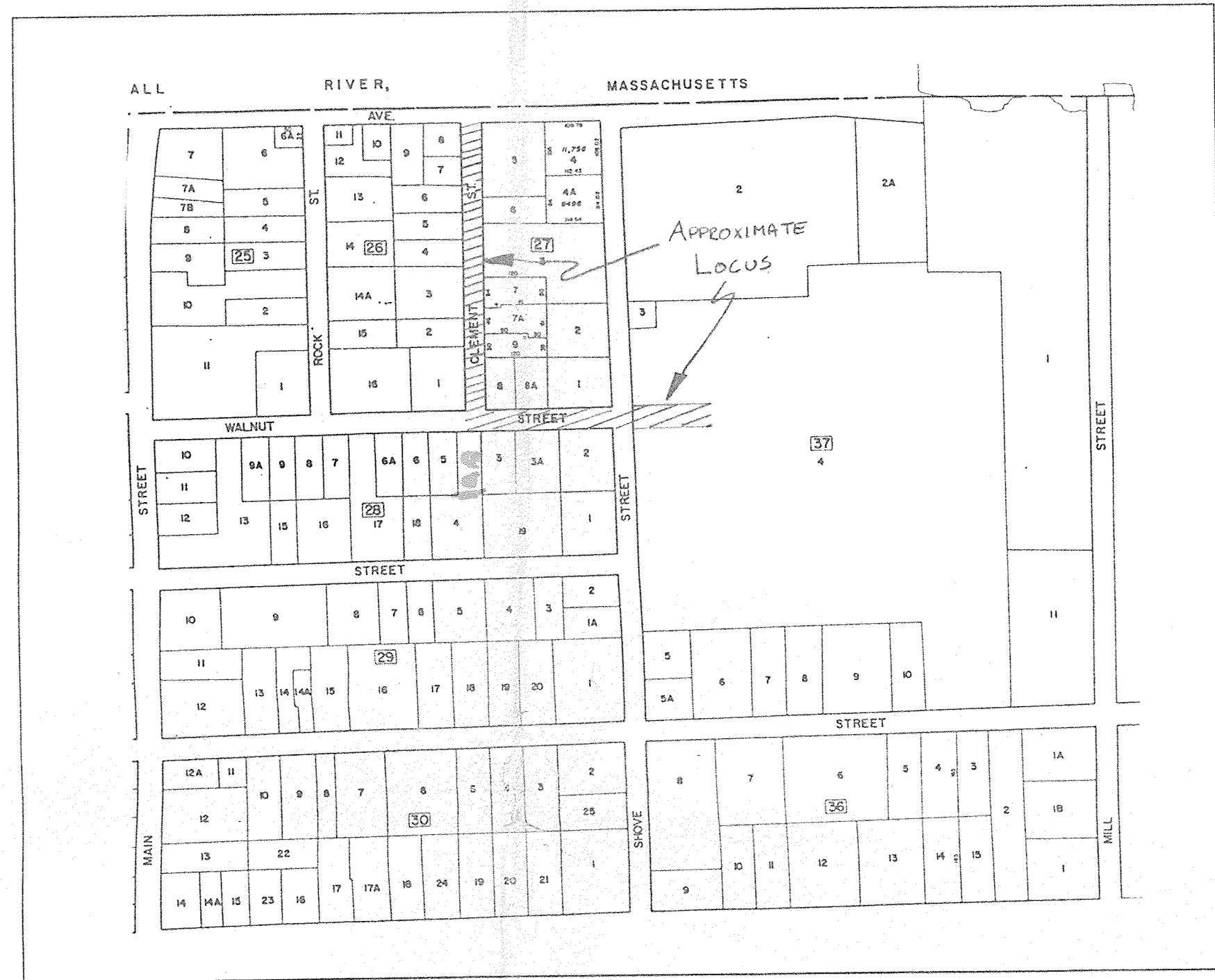


AS - BUILT
 BAY STREET & SWIFT STREET

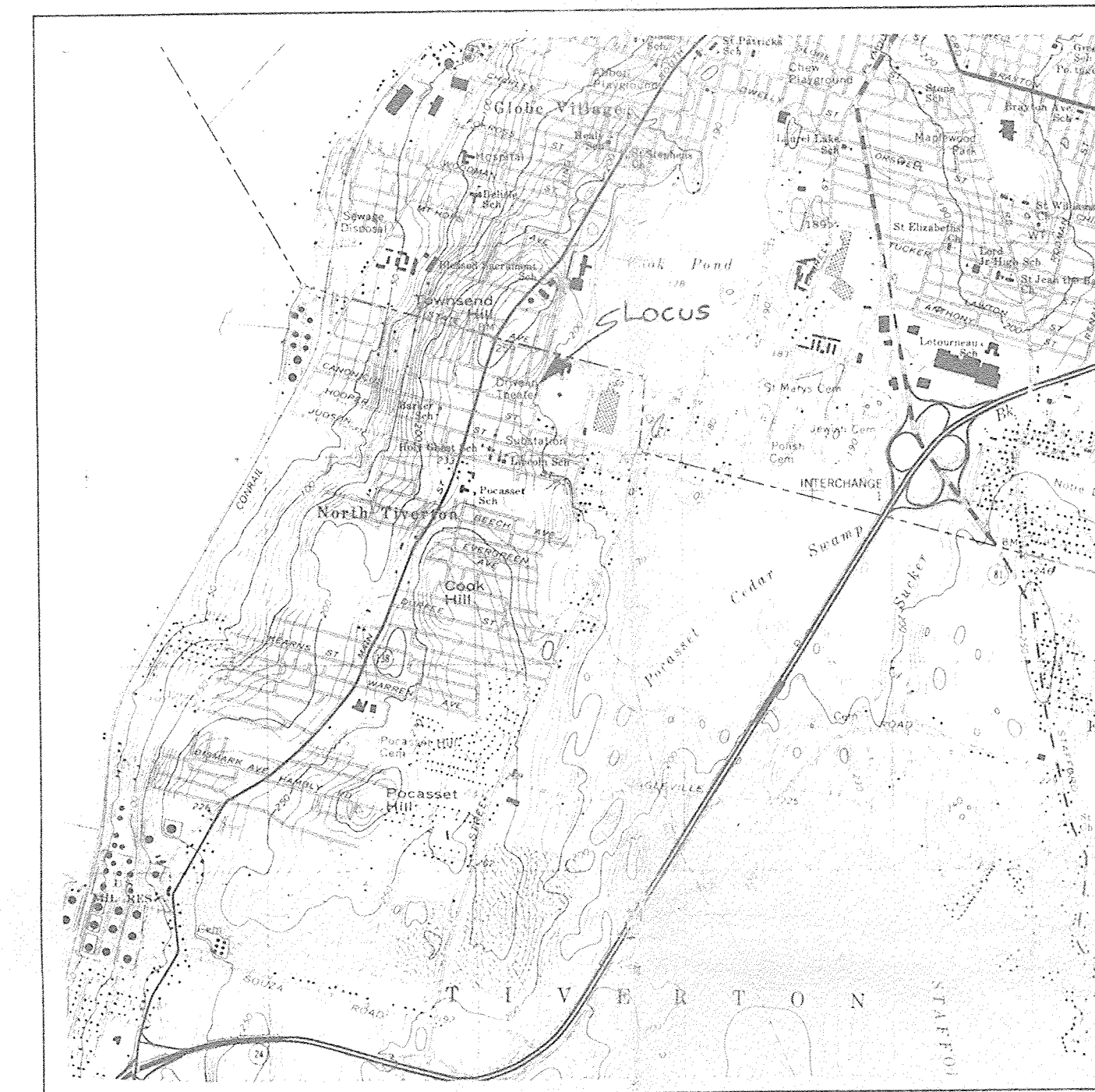
SYM.	DESCRIPTION	DATE	BY
CITY OF FALL RIVER STATE AVENUE			
SEWER EXTENSION PROFILE			
TEC tibbetts engineering corp. New Bedford, Massachusetts Fall River, Massachusetts Taunton, Massachusetts		1" = 40' HORIZ. SCALE: 1" = 4' VERT. DATE: MAY 1991	
DES. BY: R.M.F.	DR. BY:	CHK. BY: R.C.V.	

REVISE MANHOLE STATIONING 12/13/90 G.D.M.
 ADD BAY/SWIFT ST.'S PROFILE 12/6/90 R.M.F.

PROPOSED SEWER EXTENSION



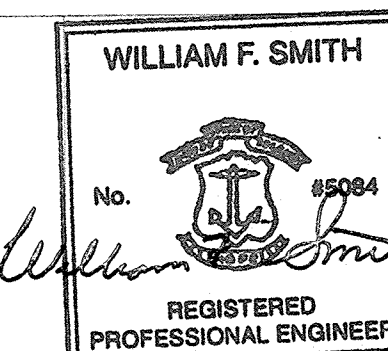
ASSESSORS MAP 9-7
NOT TO SCALE



GEODETIC MAP
1" = 2080'

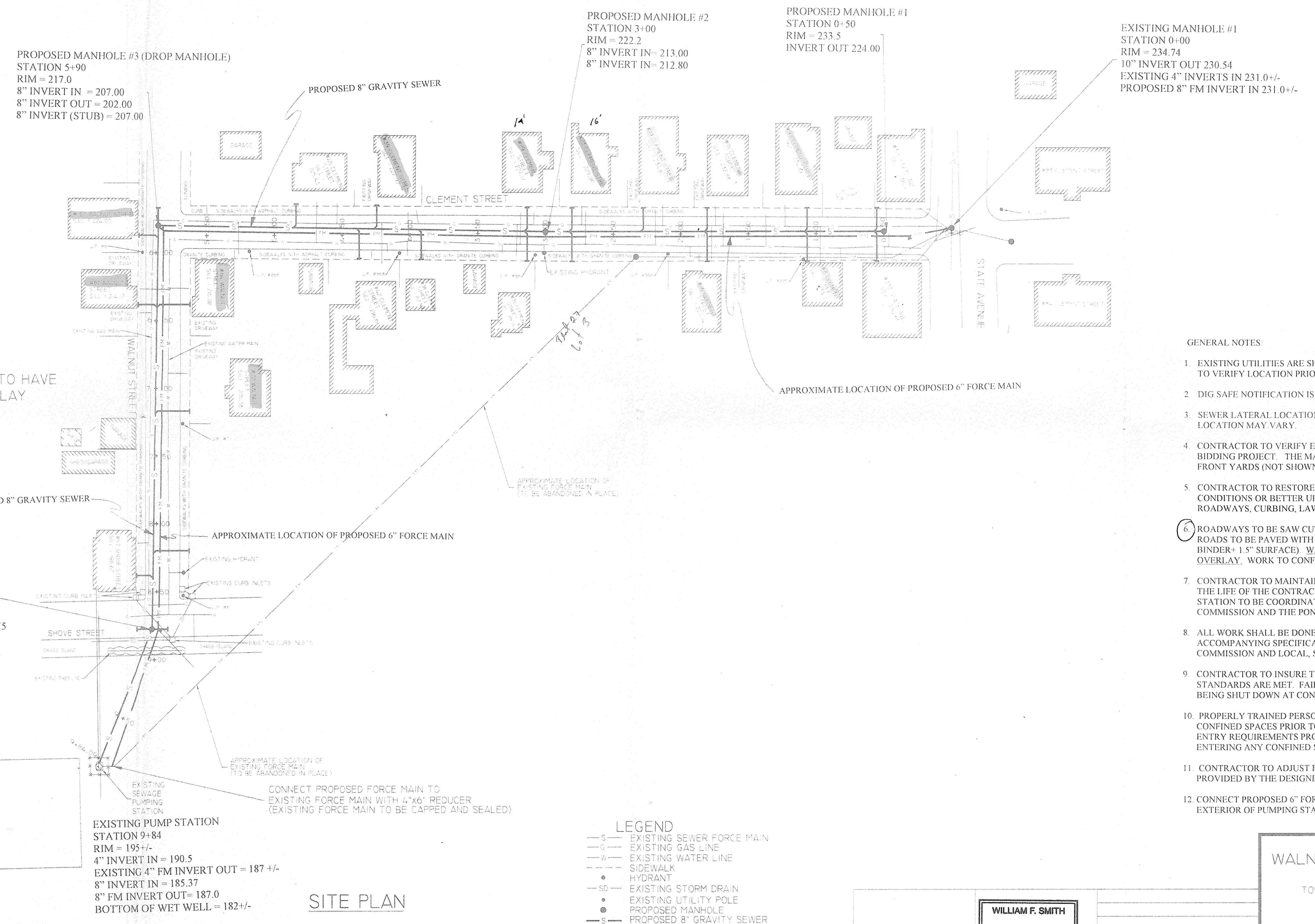
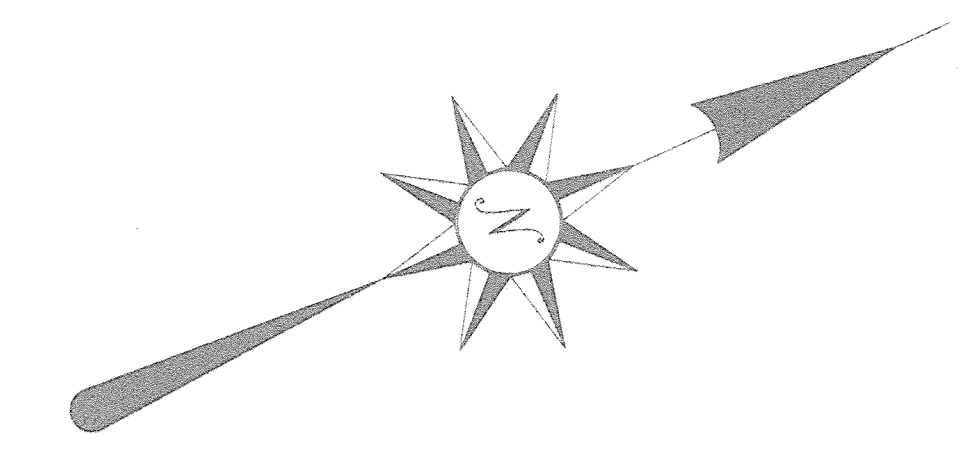
CLEMENT & WALNUT STREETS

ASSESSORS MAP 9-7
CLEMENT & WALNUT STREET
TIVERTON, RHODE ISLAND



REVISIONS:	

PROPOSED SEWER EXTENSION
WALNUT & CLEMENT STREETS
PREPARED FOR
TOWN OF TIVERTON SEWER COMMISSION
TIVERTON, RHODE ISLAND
SCALE: 1" = 40' DATE: JANUARY 3, 2000
Civil Engineering Concepts, Inc.
723 STAFFORD ROAD P.O. BOX 943
TIVERTON, RHODE ISLAND 02878 NEW BEDFORD, MA 02741
PH: (401) 624-7611 (508) 990-4900
FAX: (401) 624-7551
DRAWING #: 1 OF 4 JOB#: 99-155



***WALNUT STREET TO HAVE FULL WIDTH OVERLAY

PROPOSED MANHOLE #4
STATION 8+75
RIM = 194.2
8" INVERT IN = 187.75
8" INVERT OUT = 187.55
8" INVERT (STUBS) = 187.75

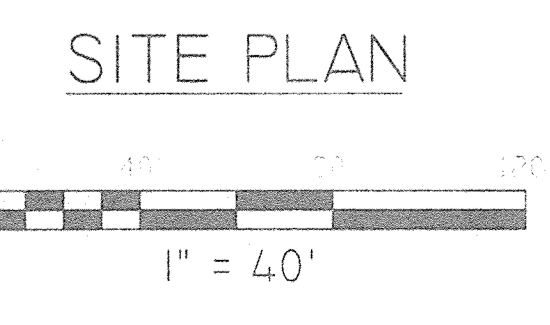
PROPOSED MANHOLE #3 (DROP MANHOLE)
STATION 5+90
RIM = 217.0
8" INVERT IN = 207.00
8" INVERT OUT = 202.00
8" INVERT (STUB) = 207.00

PROPOSED MANHOLE #2
STATION 3+00
RIM = 222.2
8" INVERT IN = 213.00
8" INVERT IN = 212.80

PROPOSED MANHOLE #1
STATION 0+50
RIM = 233.5
INVERT OUT 224.00

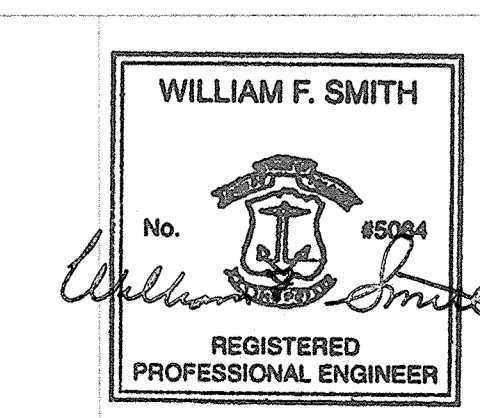
EXISTING MANHOLE #1
STATION 0+00
RIM = 234.74
10" INVERT OUT 230.54
EXISTING 4" INVERTS IN 231.0+/-
PROPOSED 8" FM INVERT IN 231.0+/-

EXISTING PUMP STATION
STATION 9+84
RIM = 195+/-
4" INVERT IN = 190.5
EXISTING 4" FM INVERT OUT = 187 +/-
8" INVERT IN = 185.37
8" FM INVERT OUT = 187.0
BOTTOM OF WET WELL = 182+/-



- LEGEND**
- S- EXISTING SEWER FORCE MAIN
 - G- EXISTING GAS LINE
 - W- EXISTING WATER LINE
 - SD- EXISTING STORM DRAIN
 - U- EXISTING UTILITY POLE
 - PROPOSED MANHOLE
 - PROPOSED 8" GRAVITY SEWER
 - PROPOSED 6" FORCE MAIN
 - PROPOSED 6" LATERAL WITH CAPPED END
 - PROPOSED 6" LATERAL WITH CAPPED END
 - PROPOSED THURST BLOCK
 - PROPOSED 8" GRAVITY SEWER STUB

- GENERAL NOTES**
1. EXISTING UTILITIES ARE SHOWN APPROXIMATE ONLY. CONTRACTOR TO VERIFY LOCATION PRIOR TO EXCAVATION.
 2. DIG SAFE NOTIFICATION IS REQUIRED PRIOR TO ANY CONSTRUCTION.
 3. SEWER LATERAL LOCATIONS ARE APPROXIMATE ONLY. ACTUAL LOCATION MAY VARY.
 4. CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING PROJECT. THE MAJORITY OF YARDS HAVE FENCES ALONG FRONT YARDS (NOT SHOWN FOR CLARITY).
 5. CONTRACTOR TO RESTORE SURFACES TO MATCH CURRENT CONDITIONS OR BETTER UPON COMPLETION OF WORK. SIDEWALKS, ROADWAYS, CURBING, LAWNS TO BE RESTORED.
 6. ROADWAYS TO BE SAW CUT WITH DIAMOND BLADE PAVEMENT SAW. ROADS TO BE PAVED WITH 3.5" OF BITUMINOUS CONCRETE (2" BINDER+ 1.5" SURFACE). WALNUT STREET WILL REQUIRE FULL WIDTH OVERLAY. WORK TO CONFORM TO TIVERTON DPW STANDARDS.
 7. CONTRACTOR TO MAINTAIN SANITARY SEWER CAPABILITY DURING THE LIFE OF THE CONTRACT. SHUT DOWN OF EXISTING PUMPING STATION TO BE COORDINATED WITH THE TIVERTON SEWAGE COMMISSION AND THE PONTA DELGADA CLUB.
 8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE PLANS, THE ACCOMPANYING SPECIFICATIONS, THE TIVERTON SEWAGE COMMISSION AND LOCAL, STATE AND FEDERAL REQUIREMENTS.
 9. CONTRACTOR TO INSURE THAT SAFETY AND OCCUPATIONAL HEALTH STANDARDS ARE MET. FAILURE TO DO SO WILL RESULT IN THE JOB BEING SHUT DOWN AT CONTRACTORS EXPENSE.
 10. PROPERLY TRAINED PERSONNEL ARE REQUIRED TO "GAS FREE" CONFINED SPACES PRIOR TO ENTRY. APPROPRIATE CONFINED SPACE ENTRY REQUIREMENTS PROCEDURES ARE REQUIRED PRIOR TO ENTERING ANY CONFINED SPACES.
 11. CONTRACTOR TO ADJUST FLOAT LEVELS TO NEW SETTINGS TO BE PROVIDED BY THE DESIGNER.
 12. CONNECT PROPOSED 6" FORCE MAIN TO EXISTING 4" FORCE MAIN AT EXTERIOR OF PUMPING STATION WITH 4"x6" INCREASER.

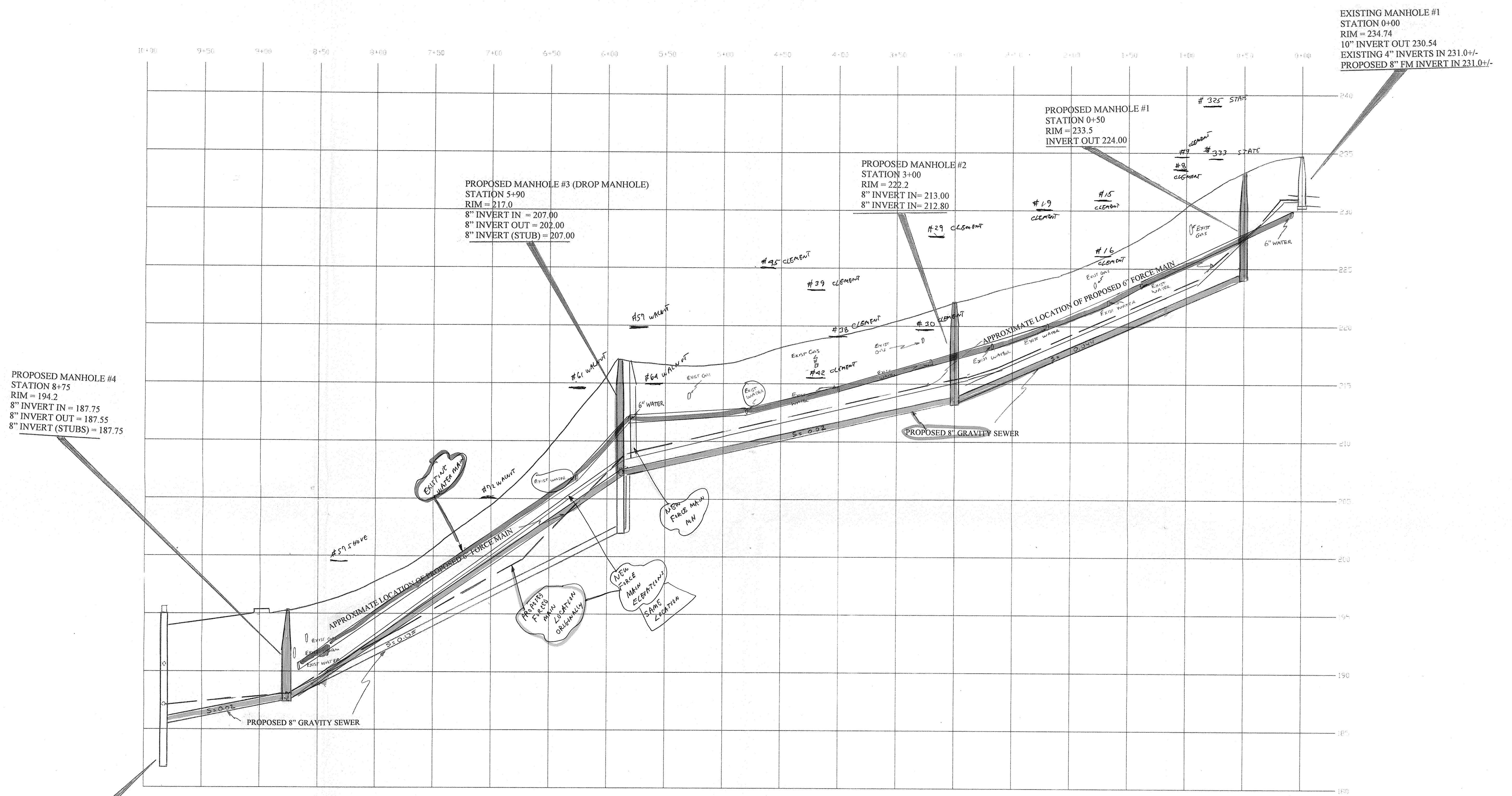


PROPOSED SEWER EXTENSION
WALNUT & CLEMENT STREETS
PREPARED FOR
TOWN OF TIVERTON SEWER COMMISSION
TIVERTON, RHODE ISLAND

SCALE: 1" = 40' DATE: JANUARY 3, 2000

Civil Engineering Concepts, Inc.
1723 STAFFORD ROAD P.O. BOX 915
TIVERTON, RHODE ISLAND 02878 NEW BEDFORD, MA 02741
PH: (401) 624-7611 (508) 990-4900
FAX: (401) 624-7851

REVISIONS: SHEET 2 OF 4 JOB#: 99-155



EXISTING MANHOLE #1
 STATION 0+00
 RIM = 234.74
 10" INVERT OUT 230.54
 EXISTING 4" INVERTS IN 231.0+/-
 PROPOSED 8" FM INVERT IN 231.0+/-

PROPOSED MANHOLE #1
 STATION 0+50
 RIM = 233.5
 INVERT OUT 224.00

PROPOSED MANHOLE #2
 STATION 3+00
 RIM = 222.2
 8" INVERT IN = 213.00
 8" INVERT IN = 212.80

PROPOSED MANHOLE #3 (DROP MANHOLE)
 STATION 5+90
 RIM = 217.0
 8" INVERT IN = 207.00
 8" INVERT OUT = 202.00
 8" INVERT (STUB) = 207.00

PROPOSED MANHOLE #4
 STATION 8+75
 RIM = 194.2
 8" INVERT IN = 187.75
 8" INVERT OUT = 187.55
 8" INVERT (STUBS) = 187.75

SEWER PROFILE
 VERTICAL SCALE: 1" = 4'
 HORIZONTAL SCALE: 1" = 40'

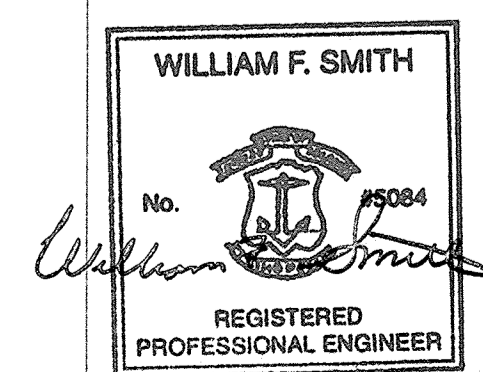
EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY. DEPTHS ARE ASSUMED AND MAY NOT BE AS ENCOUNTERED IN THE FIELD. ASSUMED DEPTHS ARE AS FOLLOWS - GAS 24", WATER 48". SOME HOUSE SERVICES WERE NOT MARKED AT TIME OF INSPECTION. FIELD VERIFY LOCATIONS PRIOR TO EXCAVATION.

EXISTING PUMP STATION
 STATION 9+84
 RIM = 195+/-
 4" INVERT IN = 190.5
 EXISTING 4" FM INVERT OUT = 187 +/-
 8" INVERT IN = 185.37
 8" FM INVERT OUT = 187.0
 BOTTOM OF WET WELL = 182+/-

SEWER PROFILE SHEET
WALNUT & CLEMENT STREETS
 PREPARED FOR
 TOWN OF TIVERTON SEWER COMMISSION
 TIVERTON, RHODE ISLAND

SCALE: AS NOTED DATE: JANUARY 3, 2000

Civil Engineering Concepts, Inc.
 1723 STAFFORD ROAD P.O. BOX 943
 TIVERTON, RHODE ISLAND 02878 NEW BEDFORD, MA. 02741
 PH: (401) 624-7611 (508) 990-4900
 FAX: (401) 624-7551



REVISIONS:

SHEET 3 OF 4

JOB#: 99-155

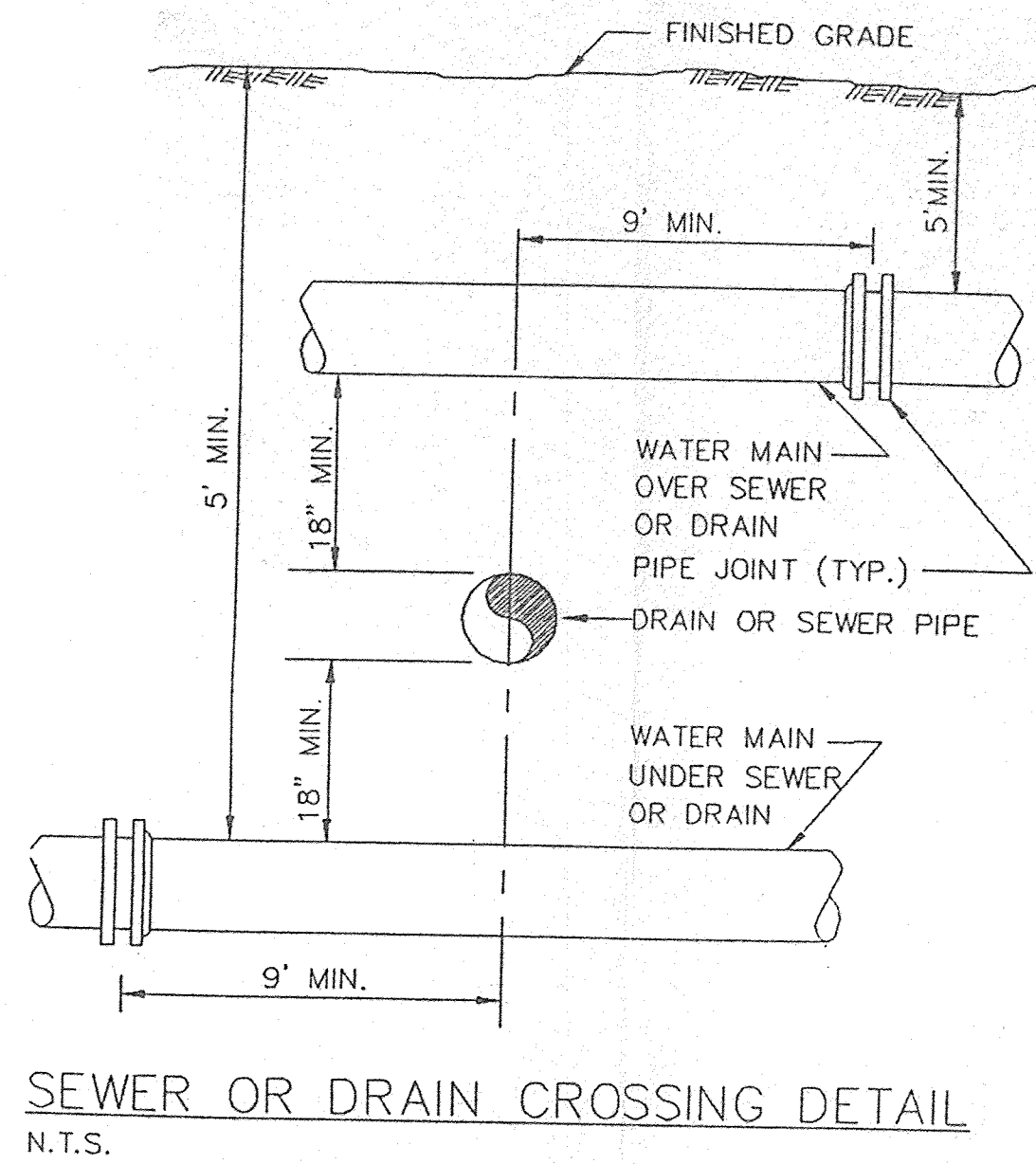
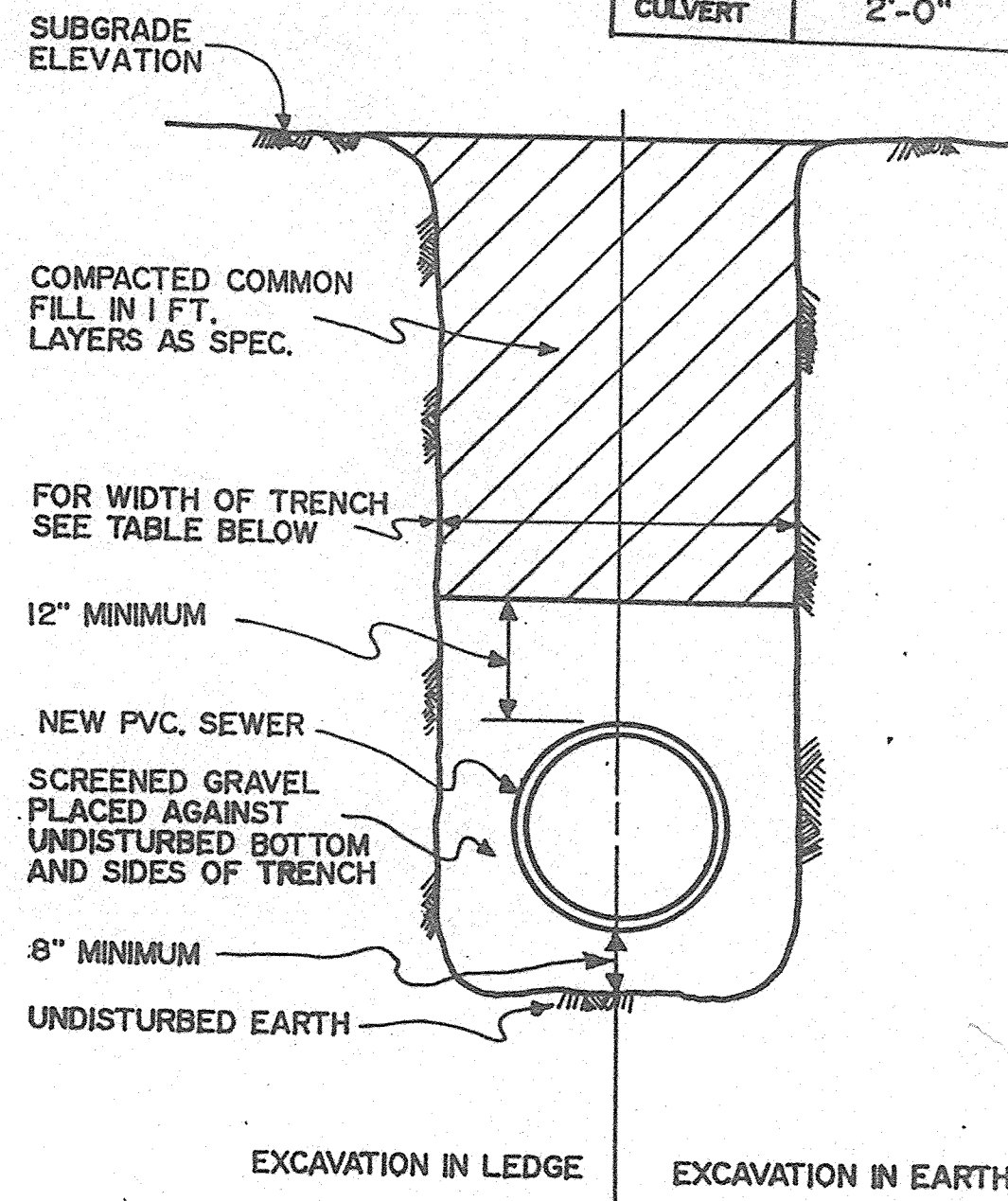
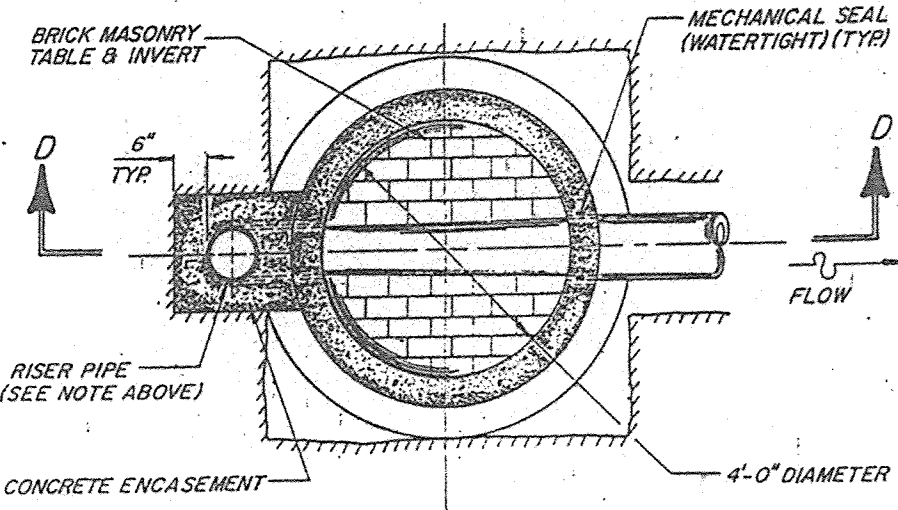
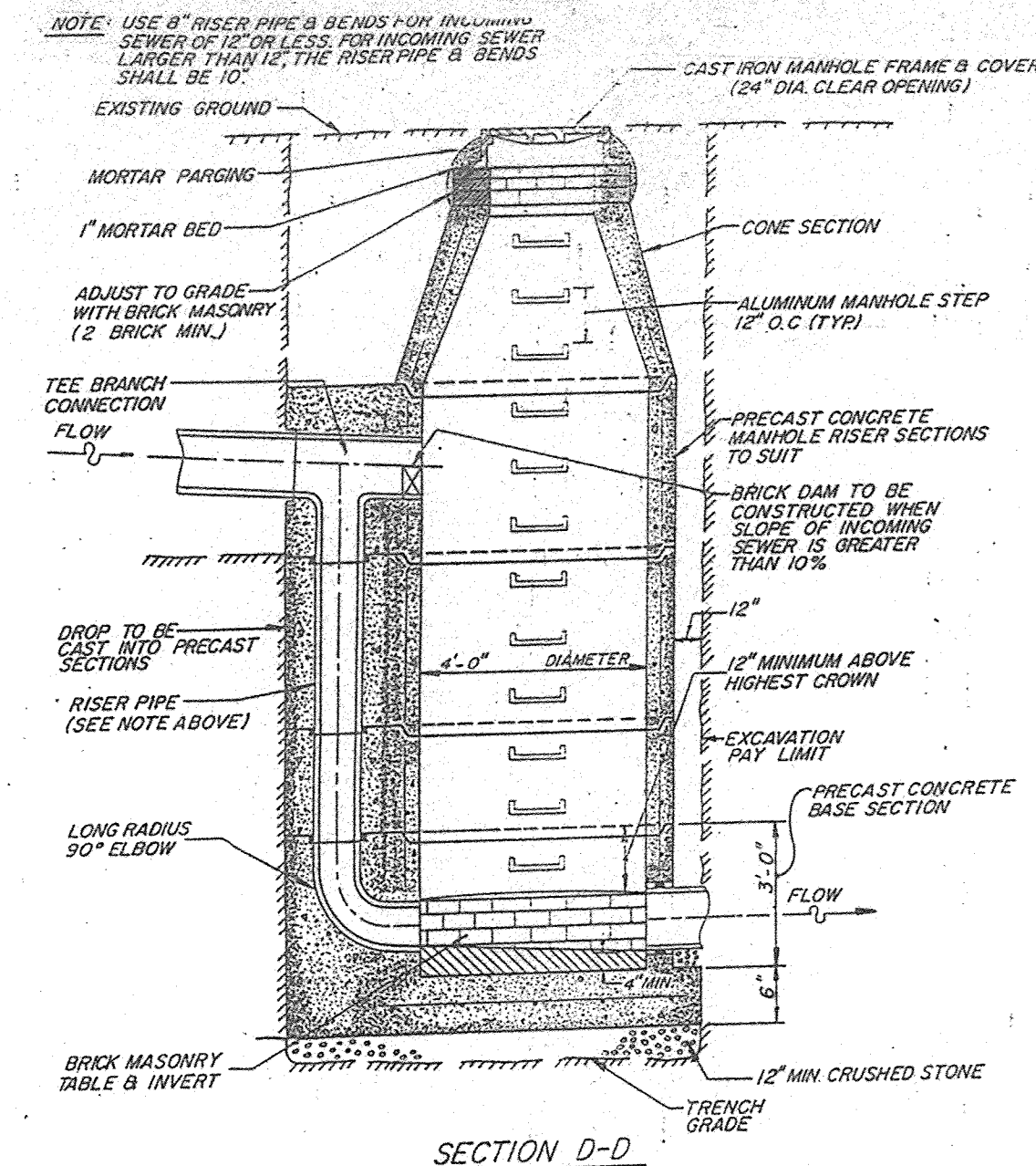
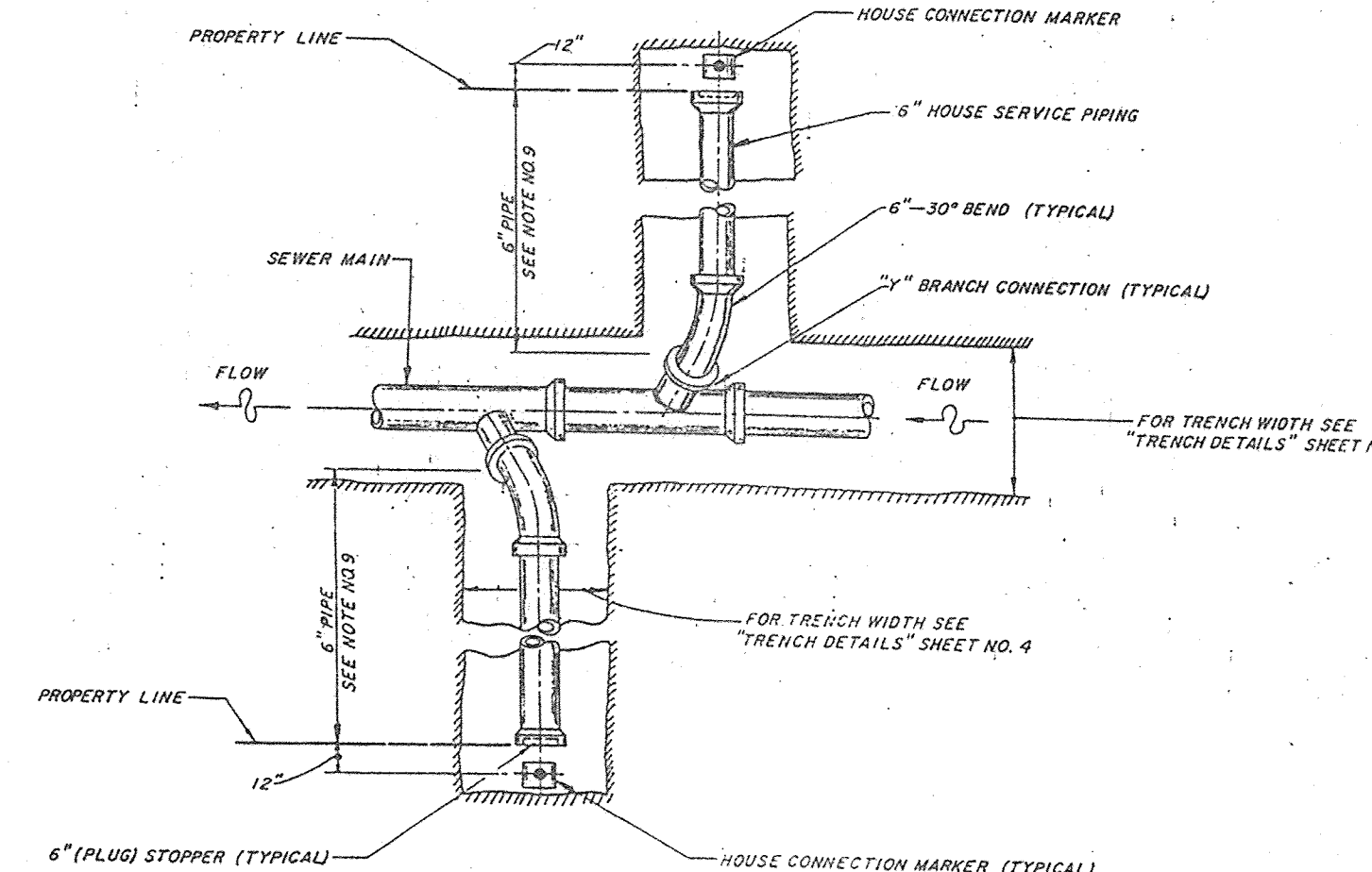
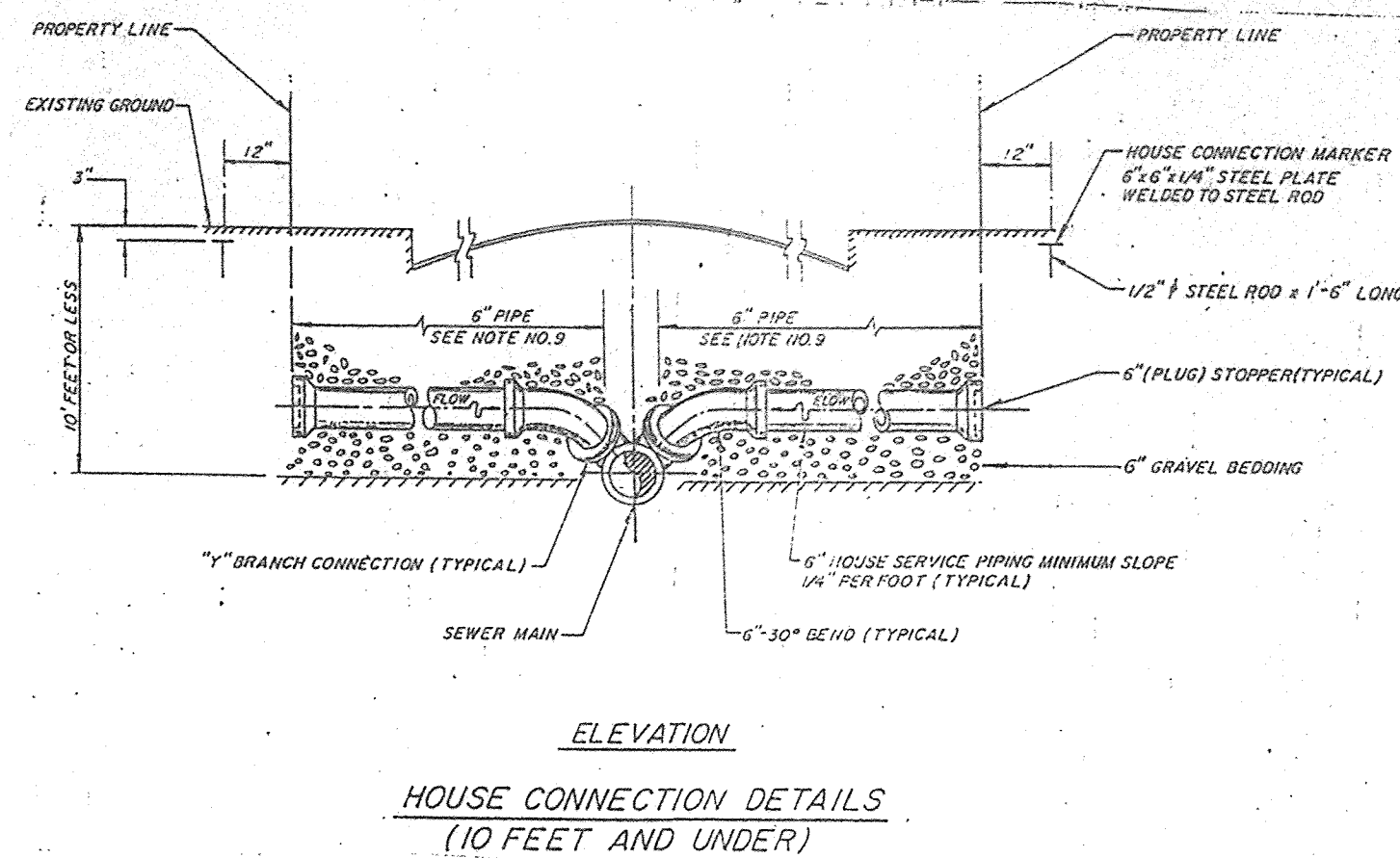


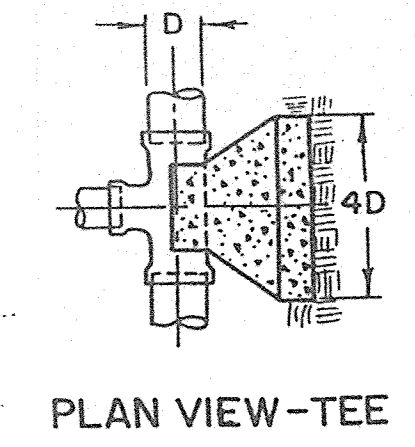
TABLE 1 TYP. TRENCH WIDTH	
PIPE DIA.	TRENCH WIDTH
6"-12"	4'-0"
15"-20"	5'-0"
8"x8" BOX CULVERT	2'-0"



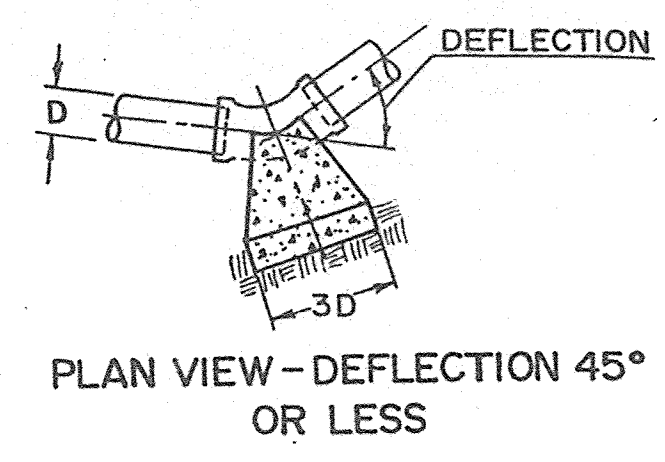
TYPICAL TRENCH DETAIL FOR SEWER PIPE



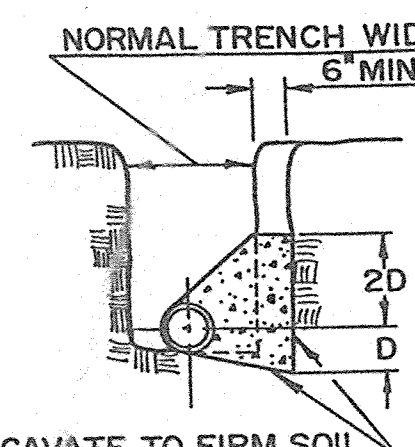
PLAN INVERT TABLE DROP MANHOLE DETAILS



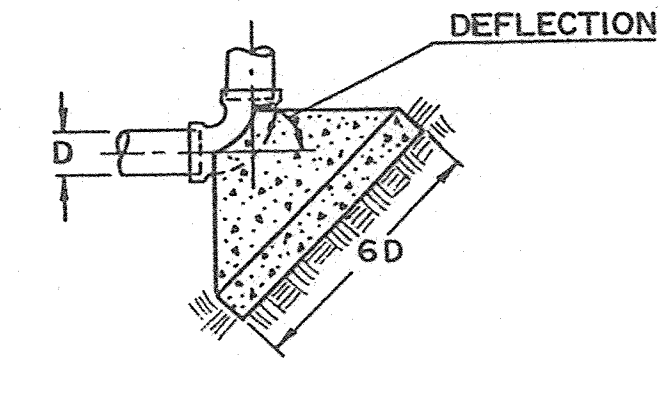
PLAN VIEW - TEE



PLAN VIEW - DEFLECTION 45° OR LESS



SECTIONAL VIEW



PLAN VIEW - DEFLECTIONS GREATER THAN 45°

TYPICAL THRUST BLOCK DETAILS NOT TO SCALE

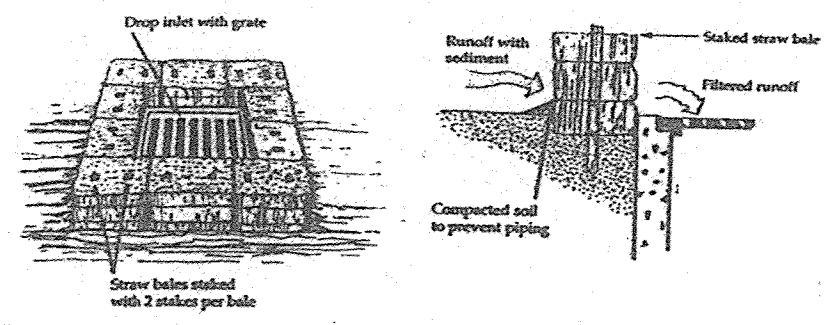


Figure 5-1 Storm Inlet Drop Inlet Protection Adapted from Connecticut Guidelines for Soil Erosion and Sediment Control, Connecticut Council on Soil and Water Conservation, 1992

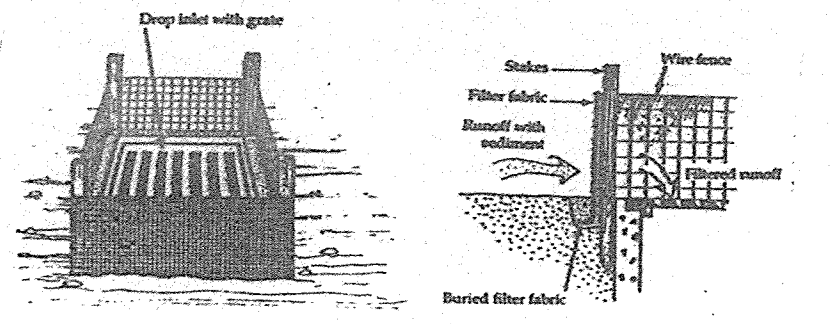


Figure 5-2 Filter Fabric Drop Inlet Protection Adapted from Connecticut Guidelines for Soil Erosion and Sediment Control, Connecticut Council on Soil and Water Conservation, 1992

WILLIAM F. SMITH
No. 05084
REGISTERED PROFESSIONAL ENGINEER

DETAIL SHEET
PROPOSED SEWER EXTENSION
WALNUT & CLEMENT STREETS
PREPARED FOR
TOWN OF TIVERTON SEWER COMMISSION
TIVERTON, RHODE ISLAND
SCALE: AS NOTED DATE: JANUARY 3, 2000
Civil Engineering Concepts, Inc.
1723 STAFFORD ROAD P.O. BOX 943
TIVERTON, RHODE ISLAND 02878 NEW BEDFORD, MA 02741
PH: (401) 624-7611 (508) 990-4900
FAX: (401) 624-7551
DRAWING #: 4 OF 4

REVISIONS:

JOB#: 99-155



TIVERTON WASTEWATER DISTRICT
400 FISH ROAD
TIVERTON, RI 02878

PHONE: 401.625.6701
FAX: 401.816.5946
EMAIL: info@twwd.org

**SEWER CONNECTION APPLICATION
(BETTERMENT ASSESSED PROPERTY)**

PROPERTY ADDRESS: 38 CLEMENT ST TIVERTON TIVERTON ASSESSORS PARCEL ID: PLAT 102 / Lot 110

OWNER'S INFORMATION
MANUEL MARCELINO & FILOHENA TEIXEIRA
NAME: (SAME) EMAIL ADDRESS: FTEIXEIRA1H05EK@GMAIL.COM
MAILING ADDRESS: (401) 835-3311 OR NATASHA (774) 330-8323 CITY STATE ZIP: 02878
PHONE NUMBER: _____

() FUNDS FROM SEWER TIE-IN
LOAN WILL BE USED TO PAY
TWWD BETTERMENT FEE.

PROPERTY TYPE: RESIDENTIAL () COMMERCIAL () INDUSTRIAL () NEW CONSTRUCTION
WATER SOURCE: CITY WATER WATER SUPPLIER: NTED ACCOUNT # 000832-01
() WELL () METER WILL BE INSTALLED FOR CONSUMPTION REPORTING TO TWWD

PROPOSED CONTRACTOR (to be completed before issuance of connection permit)

CONTACT: HOWARD SAUCIER COMPANY NAME: SOLE PROP
PHONE: 401-743-6271 ADDRESS: 149 RANGELEY RD CRANSTON, RI 02920
STATE OF RI UNDERGROUND UTILITY CONTRACTOR OR MASTER PLUMBER LICENSE #: RIMP 1652

KEY CONTACT NUMBERS:
RI DIG SAFE (888) DIG-SAFE
TWWD (401) 625-6701
TIVERTON DPW (401) 625-6760

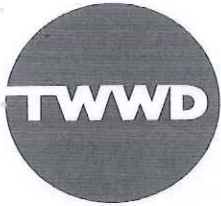
- PERMIT NOTES:
- Proposed connection plan shall be submitted with this application to TWWD.
 - Check for Impact Fee for new construction buildings shall be made payable to City of Fall River and submitted to TWWD.
 - DIG SAFE must be notified at least 72 hours in advance of any excavation.
 - Call TWWD to schedule an inspection of service installation at least 48 hours in advance of the start date.
 - Service installation must be inspected by TWWD prior to trench backfilling.
 - Contractor is responsible to submit final as-built drawings to TWWD within 48 hours of completion of the connection and inspection.

I (We) hereby agree to be bound by the provisions of the §18 Sewers and Sewage Disposal Ordinance of the Tiverton Code, RIGL Title 5 Chapter 65.3 RI Underground Utility Contractors Licensing Law, and to such special conditions, restrictions, and regulations as may be imposed by the Tiverton Wastewater District, the Town of Tiverton, and the applicable State and Federal agencies.

FILOHENA — SIGNATURE OF OWNER X Filomena Teixeira
CONTRACTOR SIGNATURE OF APPLICANT X Howard Saucier

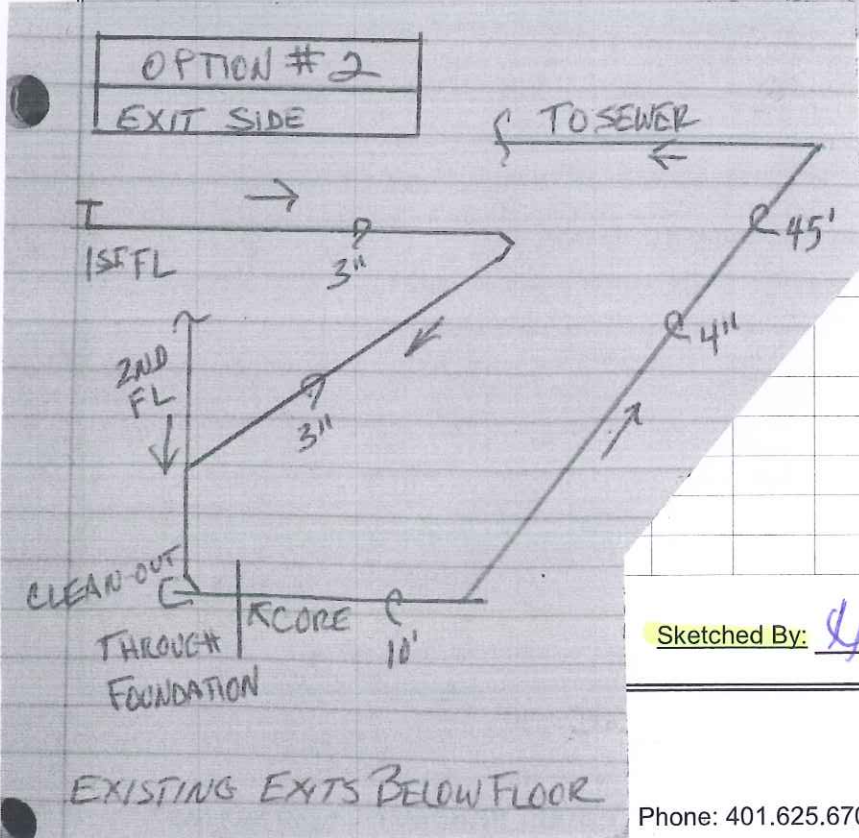
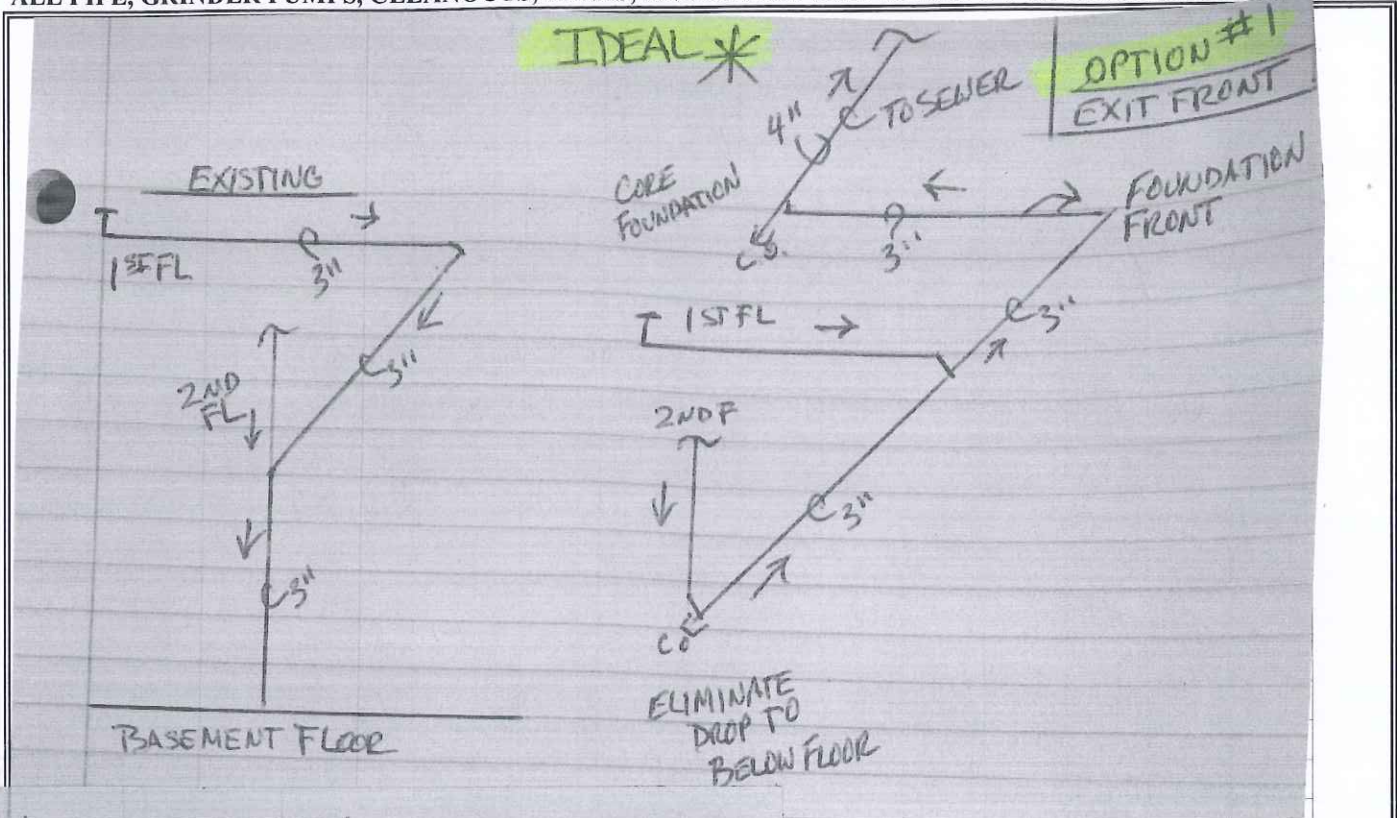
DATE: 12/18/2020
DATE: 12/15/2020

FOR OFFICIAL USE ONLY	
<p>FALL RIVER IMPACT FEES FOR NEW CONSTRUCTION</p> <p>Residential - New Construction Number of bedrooms per Floor Plans _____ Estimated Flow: 110 GPD/BEDROOM = _____ GPD</p> <p>Commercial/Industrial-New Construction Type of establishment _____ Usage Type* per Unit # of Units Total Flow</p> <p>1.) _____ x _____ = _____ GPD 2.) _____ x _____ = _____ GPD 3.) _____ x _____ = _____ GPD 4.) _____ x _____ = _____ GPD</p> <p>(*MA Title 5 use tables)</p>	<p>Application Checklist:</p> <p>Application Form Complete _____ Impact Fee Check to FR _____ Betterment Agreement _____ Betterment Check to TWWD _____ Assessor Property Card _____ Assessor Plat Map _____ Building Floor Plan _____ Site Plan or Connection Plan _____ Valid RI UUC or MP License _____</p> <p>Street Opening Permits</p> <p>Tiverton DPW: () Y () N/A Fall River DPW: () Y () N/A RIDOT: () Y () N/A</p>
<p>FALL RIVER IMPACT FEE (Estimated Flow _____ GPD X \$1.00) = \$ _____</p>	
<p>PERMIT TO CONSTRUCT SEWER CONNECTION</p> <p>APPROVED _____ DISAPPROVED _____</p> <p>TWWD AUTHORIZED REPRESENTATIVE _____ DATE: _____ FALL RIVER COMMUNITY UTILITIES _____ DATE: _____</p>	



TIVERTON WASTEWATER DISTRICT PERMIT APPLICATION SEWER CONNECTION PLAN

CLEARLY SHOW BUILDING, STREET & SIDEWALK EDGES, PROPOSED SEWER CONNECTION INCLUDING ALL PIPE, GRINDER PUMPS, CLEANOUTS, BENDS, AND CHECK VALVES AND OWTS TO BE ABANDONED



Sketched By: Howard Saucier

Sewer Connection – Construction Requirements

A permit to construct a sewer connection to the TWWD Wastewater Collection System is hereby issued under the following permit requirements:

- 1) **Connecting to Existing Sewer Main:** When connecting to an existing public sewer main, the Applicant shall look to the TWWD for guidance in where and how to connect to the sewer. On sewer lines where service laterals were installed as part of the original sewer construction, the applicant shall utilize the lateral provided for the property unless it is deemed non-feasible to serve the property. The District maintains limited historic records on the sewer system. These records can be made available for the design and construction of the sewer connection. Upon request from a homeowner or sewer connection contractor, TWWD will mark out the existing sewer service lateral stub based on the best available information such as as-builts, record design or construction plans, and CCTV reports. However, the actual service stub location may vary. The TWWD takes no responsibility for accuracy or completeness of the record information nor will it be responsible for conclusions drawn from these records. The Applicant should assume that experimental excavation may be necessary at their expense to determine the exact location of the connection point to the TWWD system.
- 2) **Illicit discharges.** Sump pumps and subsurface drains must be disconnected from the building sewer prior to connection to the public sewer system. Connecting any groundwater, stormwater, foundation and roof drain lines to the sewer service is strictly prohibited. Discharging gray water (laundry, slop sinks, etc.) directly to the environment is strictly prohibited. All wastewater plumbing must be connected to the main building sewer prior to connection to the sewer system.
- 3) **Water and Sewer Separation Requirements.** Sewers shall be laid at least 10 feet horizontally from any water line. There is no minimum vertical separation required provided the 10-foot horizontal separation is maintained. Sewers crossing under water lines shall be laid to provide a minimum vertical separation of 18 inches between the invert of the water line and the crown of the sewer. In the event minimum 18" separation cannot be met, either the water line or the sewer may be encased in concrete (min. 6 inch thickness) or a carrier pipe for a distance of 10 feet on each side of the crossing, measured perpendicular to the water line.
- 4) **Gravity Service Lateral**
 - a) **Pipe Material.** Service lateral pipe shall be SDR 35 Polyvinyl Chloride and fittings shall have bell and spigot type elastomeric gasketed joints permanently sealed to be water and gas tight. Pipe bends exceeding 45 degrees will not be allowed.
 - b) **Pipe Size.** The minimum size shall be 4" diameter for single-family residential and 6" diameter for multi-family and commercial buildings.
 - c) **Pipe Slope.** The minimum slope shall be 1/4" per foot or as required to provide minimum self-cleansing velocity of 2 feet per second.
 - d) **Access.** Access cleanouts shall be provided at the building foundation exterior, at every 75' of length, and at all pipe bends and shall be equipped with a removable cap.
 - e) **Backflow Prevention.** Each service lateral shall be installed with a backwater valve device accessible to grade. Valve shall be located on the property being connected to the sewer and as close to the sewer main as possible.
 - f) **Burial Depth.** Pipe shall be installed with minimum 36" cover.

5) **Low Pressure Sewer Connection**

- a) **Grinder Pump Unit.** The unit shall consist of a grinder pump, level controls, siphon breaker, check valve and 70 gallon high density polyethylene tank. The unit shall be equipped with an electrical quick disconnect plug, discharge line shut-off valve and quick disconnect assembly. The alarm/disconnect panel shall contain circuit breakers, an audible and visual alarm transfer switch and generator receptacle. A second check valve shall be provided at the curb stop. Installation shall be per the grinder pump manufacturer's written instructions.
- b) **Pipe Material.** Low pressure pipe and fittings shall be 1-1/4" polyvinylchloride pipe Class 200 (SDR 21) with push-on joints. Bell shall be gasketed joint conforming to ASTM D3139 with gaskets conforming to ASTM F477. Schedule 80 PVC pipe and fittings shall be rigid, unplasticized, Type I, Grade I, polyvinylchloride conforming to ASTM D1784, NSF listed.
- c) **Burial Depth.** Pipe shall be installed with minimum 48" cover.

6) **Pipe Bedding.** Pipe bedding shall consist of 6" thick layer of 3/4" crushed gravel.

7) **Pipe Backfill.** After pipe installation has been approved by TWWD inspector, it shall be backfilled up to 6" above the pipe crown with 3/4" crushed gravel. Suitable backfill free of rocks and deleterious debris shall be installed above the gravel layer and up to final grade.

8) **Detectable Underground Warning Tape.** Provide green colored polyethylene detection tape with a metallic core and black continuous printing reading "CAUTION SEWER LINE BURIED BELOW". Install warning tape 2' above top of service pipe along its entire length.

9) **Abandonment of OWTS.** Following the TWWD inspection of the completed service lateral connection, the OWTS or cesspool must be pumped out and contents legally disposed, and the structure abandoned in accordance with RIDEM Rule 6.56.

10) **As-builts.** Contractor is responsible for submittal of "as-built" plans after the final inspection by TWWD, indicating pipe and joint materials and at least three (3) swing ties to the point of sewer lateral connection, bends, cleanouts, and backflow valves. Plans are due within 48 hours of the final inspection. As-built plans may be scanned and emailed to info@twwd.org. TWWD will not sign-off on certificates of occupancy or issue subsequent permits for sewer connections to contractors who fail to submit as-built plans.

11) **Supplementary Permit Requirements Per TWWD:**



Inspection report

Date: 01/04/2016	P.O.# / WO.#:	Weather: 4 Snow	Surveyed By: G.DELUCA	section number: 10	PSR:
Total Length of Section:	Survey Customer:	Job #:	Clean Date:	Pre-Cleaned: N No Pre-Cleaning	rate:

Street: WALNUT ST / CLEMENS ST	Flow Control: N Not Controlled	Start MH: SMH 17
City: TIVERTON RI	Year Renewed:	End MH: SMH 20
Location Code: C Light Highway	Tape/Media #: TV204 122815	Total length surveyed: 281 ft

purpose of Survey: A Maintenance Related	Shape/Size: C Circular 8/8
Use: SS Sanitary	Material: PVC Polyvinyl Chloride Joint length:
Basin:	Lining:
	Job Name:

Comment:
Location details:

1:650	position	code	observation	///
10.4	0.00	AMH	Downstream Manhole, Survey Begins	<i>SMH 2-12 WALNUT ST @ CLEMENT ST</i>
	102.58	TF	Tap Factory Made, at 09 o'clock, 6, within 8 inch: NO	<i>45 Clement St</i>
	143.61	TF	Tap Factory Made, at 02 o'clock, 6, within 8 inch: NO	
	159.52	TF	Tap Factory Made, at 09 o'clock, 6, within 8 inch: NO	<i>39 Clement St</i>
	188.24	TF	Tap Factory Made, at 03 o'clock, 6, within 8 inch: NO	
	258.30	TF	Tap Factory Made, at 03 o'clock, 6, within 8 inch: NO	
	272.51	TF	Tap Factory Made, at 09 o'clock, 6, within 8 inch: NO	<i>29 CLEMENT ST</i>
	281.00	AMH	Upstream Manhole, Survey Ends	<i>SMH 2-16 CLEMENT ST</i>

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	0000	0	0	0	0	0	0

SU-1451



TIVERTON WASTEWATER DISTRICT
86 MAIN ROAD
TIVERTON, RI 02878
PHONE: (401) 625-6701

FAX: (401) 816-5946

**SEWER CONNECTION APPLICATION
(BETTERMENT ASSESSED PROPERTY)**

PROPERTY ADDRESS 42 CLEMENT ST ASSESSORS PARCEL ID 102-112
~~84 Morgan Farms Dr~~

OWNER'S INFORMATION
NAME Midland Mortgage, A division of Midfirst Bank
MAILING ADDRESS 999 NW Grand Blvd Oklahoma City, OK 73108
PHONE NUMBER 405-426-1105 CITY OKLAHOMA CITY STATE OK ZIP 73108

() FUNDS FROM SEWER TIE-IN LOAN WILL BE USED TO PAY FALL RIVER CONNECTION FEE. N/A
() FUNDS FROM SEWER TIE-IN LOAN WILL BE USED TO PAY TWWD BETTERMENT FEE. N/A

PROJECT INFORMATION
PROJECT TYPE RESIDENTIAL () COMMERCIAL () INDUSTRIAL () NEW CONSTRUCTION
WATER SOURCE () CITY WATER () WELL
WATER SUPPLIER: NTFD ACCOUNT # 000838-01

PROPOSED CONTRACTOR (to be completed before issuance of connection permit)
CONTACT: Mark DiPetrillo COMPANY NAME: MARK DIPETRILLO & SON Plumbing and Heating Inc.
PHONE: 401-649-3714 ADDRESS: 45 Babcock Road Pawtucket RI
STATE OF RI UNDERGROUND UTILITY CONTRACTOR OR MASTER PLUMBER LICENSE #: MP 1865

RI DIG SAFE (800) 225-4977
TWWD (401) 625-6701
TIVERTON DPW (401) 625-6760

NOTES:
1 Call TWWD to schedule an inspection of service installation at least 48 hours in advance of the start date.
2 DPW Director's written approval of any road patch & and AS-BUILT drawing must be submitted to and approved by TWWD before Sewer Discharge Permit will be issued.

I (We) hereby agree to be bound by the provisions of the 519 Sewers and Sewage Disposal Ordinance of the

(We) hereby agree to be bound by the provisions of the 519 Sewers and Sewage Disposal Ordinance of the Tiverton Code, RIGL Title 5 Chapter 65.3 RI Underground Utility Contractors Licensing Law, and to such special conditions, restrictions, and regulations as may be imposed by the Tiverton Wastewater District, the Town of Tiverton, and the applicable State and Federal agencies.

SIGNATURE OF OWNER Michael Adde
SIGNATURE OF APPLICANT [Signature]

DATE: 6/13/17
DATE: 6/16/17

FOR OFFICIAL USE ONLY			
ASSESSORS MAP: <u>102-112</u>	BLOCK: <u>112</u>	CARD:	Application Checklist: Application Form Complete <input checked="" type="checkbox"/> Application Fee Check to FR <u>N/A</u> Betterment Agreement <input checked="" type="checkbox"/> Betterment Check to TWWD <input checked="" type="checkbox"/> Assessor Property Card <input checked="" type="checkbox"/> Assessor Plat Map <input checked="" type="checkbox"/> Building Floor Plan <u>N/A</u> Site Plan and Profile <input checked="" type="checkbox"/> Valid RI UUC or MP License <input checked="" type="checkbox"/> STREET OPENING PERMITS: INITIALS TIVERTON DPW: () Y <input checked="" type="checkbox"/> N FALL RIVER DPW: () Y <input checked="" type="checkbox"/> N
Residential - New Construction Number of bedrooms per Tax Card <u>N/A EXIST</u> Estimated Flow <u>RESIDUAL</u> gpd (# of bedrooms x 110 gallons per day)			
Commercial/Industrial Type of establishment Usage Type per Unit # of Units Total Flow			
1.)	x	=	GPD
2.)	x	=	GPD
3.)	x	=	GPD
4.)	x	=	GPD
Fall River Connection Fee: (Estimated Flow <u>0</u> GPD X \$1.00) =			\$ <u>0.00</u>

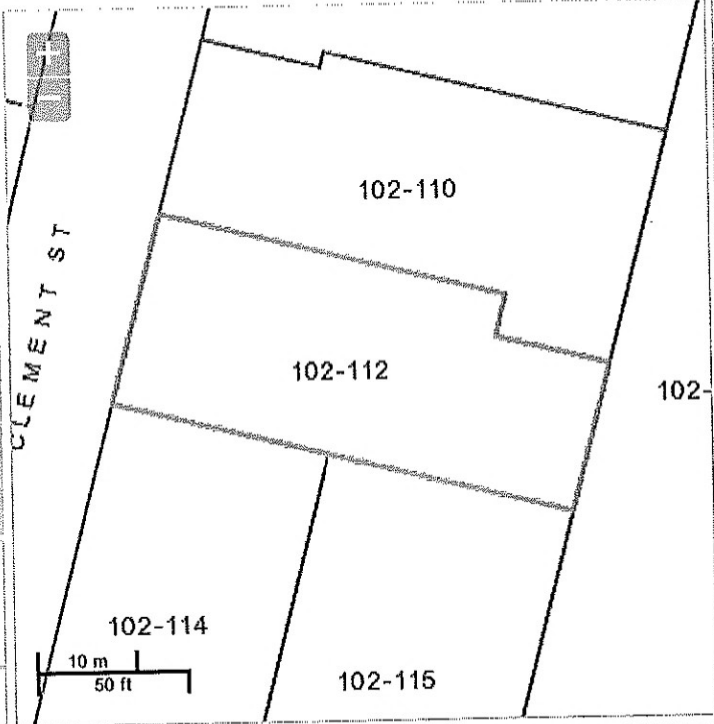
PERMIT TO CONSTRUCT SEWER CONNECTION
APPROVED DISAPPROVED
SUPERINTENDENT'S SIGNATURE [Signature] DATE: 6/13/17
FALL RIVER SEWER COMMISSION [Signature] DATE: 6/13/17



Town of Tiverton, Rhode Island
Property Record Card Card 1 of 1

42 CLEMENT STREET

ID: 102-112 Account #: 13-3376-05



Owner: MIDFIRST BANK
 Co-Owner:
 Address: 42 CLEMENT ST
 TIVERTON RI 02878

Assessment: Total: \$135,000
 Building: \$73,000 Land: \$62,000 Other: \$0

Sales History

Grantee	Book / Page	Sale Date	Sale Price
SCOTT GEORGE W JR & NORMA JEAN	1580 / 78	2016-02-29	\$101,400
GOMES JOSE M & LOUISE C	854 / 284	2003-09-23	\$195,000
MCCARTHY, NORMAN R JR	330 / 210	1991-05-14	\$100,000
	203 / 69	1985-06-24	\$0
	193 / 43	1984-07-24	\$0
	119 / 720	1976-06-18	\$0
MIDFIRST BANK	77 / 232	1951-06-16	\$0



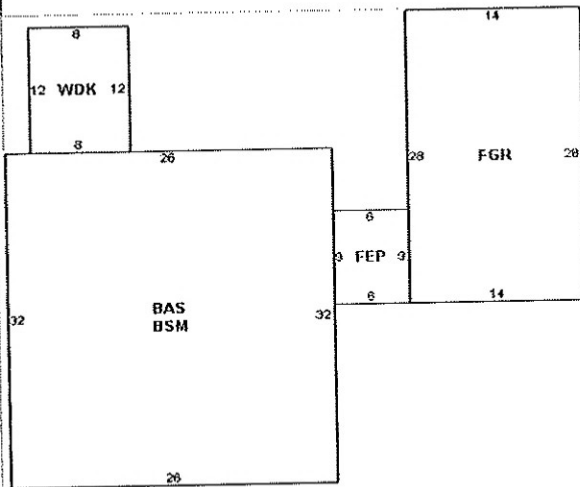
Land Information

Land Area: 0.13 AC
 Zoning: R30 (See Map)
 Land Use: 101 - Single Family

Building Information

Style: RAN
 Year Built: 1951
 Stories: 1
 Rooms: 5 Bedrooms: 3
 Baths: 1 Half Baths: 0
 Living Area: 832
 Grade: AVG+6
 Condition: 01

Heat Fuel: Oil
 Heat Type: HW
 AC Type:
 Fireplaces: 0
 Roof Structure: Gable
 Roof Covering: Asphalt
 Exterior Wall: Vinyl / Alum
 Interior Floor: Carpet
 Basement: 60% Fin BSM



Extra Features

Description	Area / Units	Assessment
Sub Areas		
<u>Description</u>	<u>Living Area</u>	<u>Gross Area</u>
BAS First Floor	832	832
BSM Basement	0	832
FEP Fin Encl Porch	0	54
FGR Garage	0	392
WDK Wood Deck	0	96



Name: MARK D DIPETRILLO

Address: 45 BALCOM ROAD

FOSTER, RI 02825-

Home Telephone: (401)647-3714

Business Telephone: (401)885-3343

Company:

License Number: MP001865

Professional Code: MP

Issue Date: 12/14/1994

Expiration Date: 6/30/2018

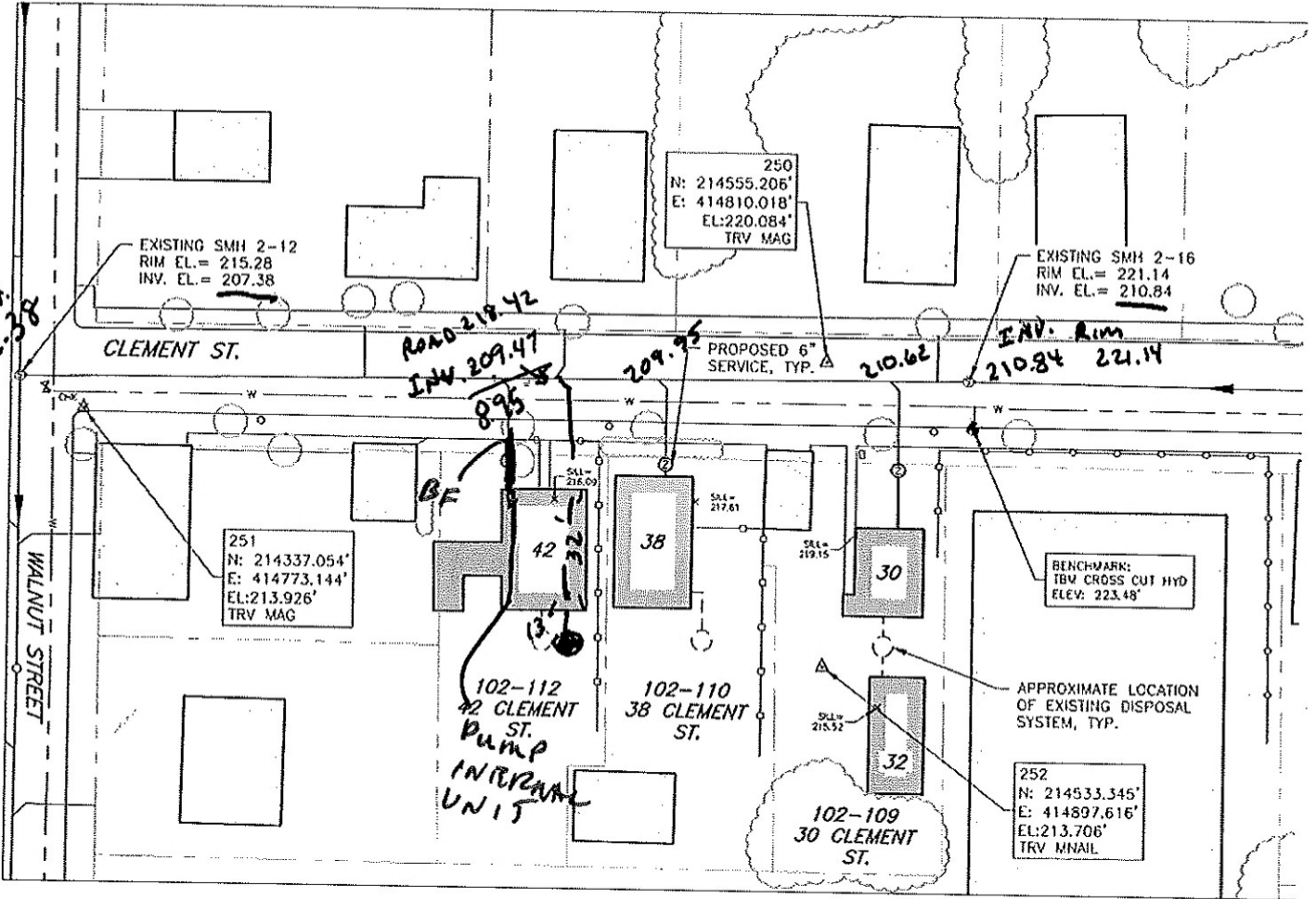
License Status:

[Return to Previous Screen](#)

Clement St
30-42

Outlook

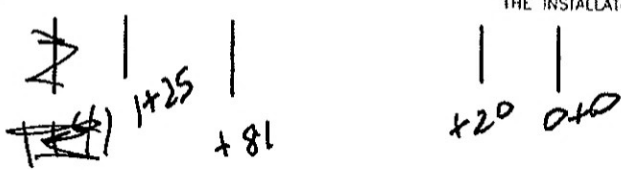
Download Full screen



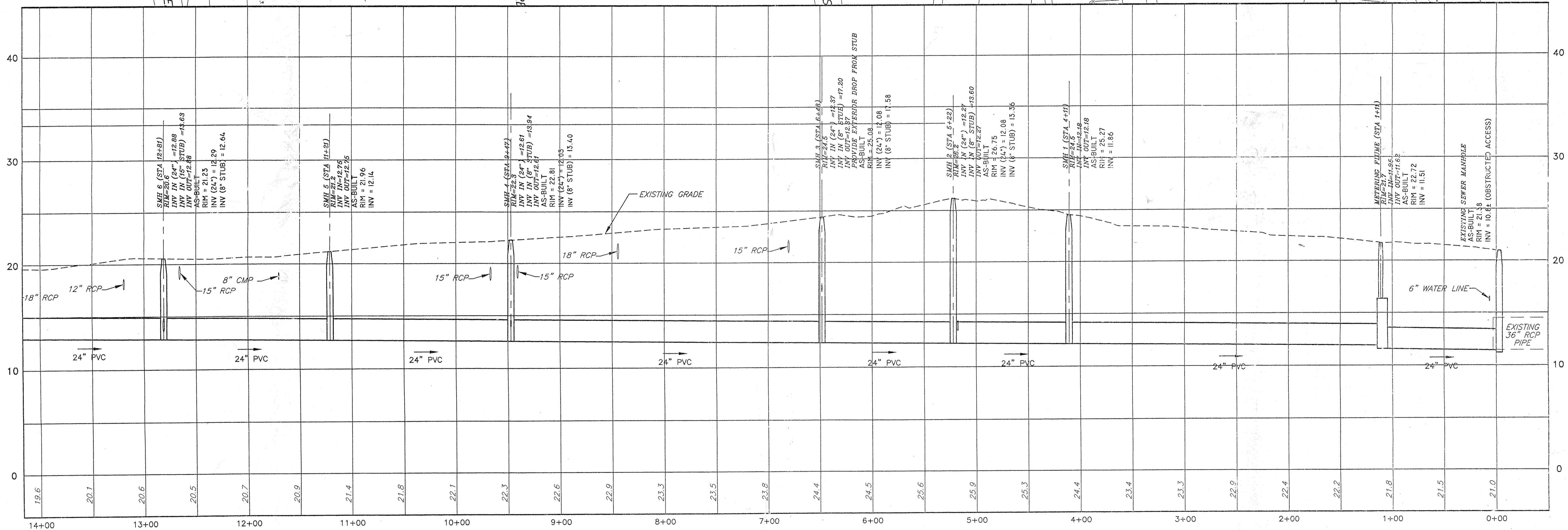
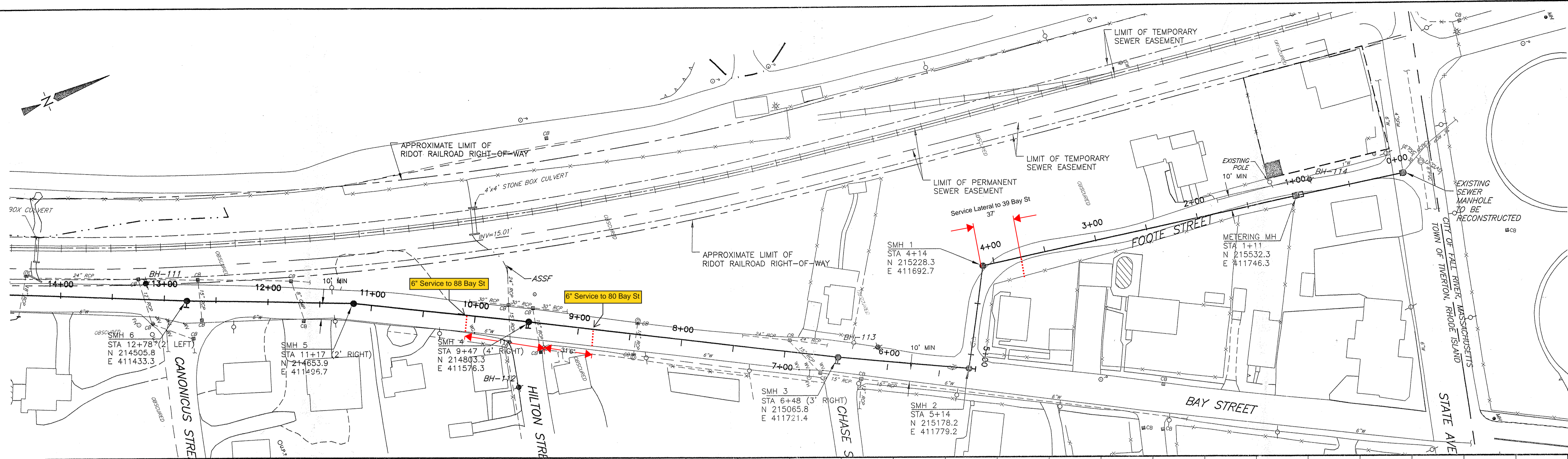
PLAN - CLEMENT ST.
SCALE: 1"=30'-0"

NOTE:
DISPOSAL SYSTEMS ARE LOWER THAN THE EXIST SEWER MAIN AT 30, 38 AND 42 CLEMENT STRE
EXPLORE INTERNAL PLUMBING MODIFICATIONS TO CONNECT TO EXISTING SERVICE STUB BY GRAVIT
THE INSTALLATION OF A RESIDENTIAL PUMP SYS

$$\begin{array}{r}
 3 \times 12 \\
 \text{H} \\
 210.84 \\
 - 207.38 \\
 \hline
 \Delta 3.46
 \end{array}$$

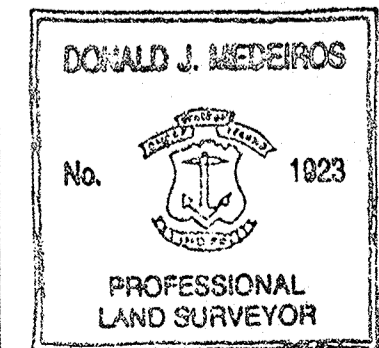
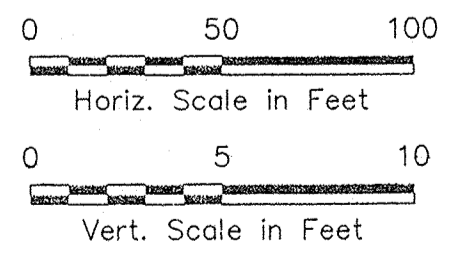


* PLUMBING PERMIT FROM TOWN BEING PULLED 6/16/17



NOTE:
 THIS PLAN SHOWS DESIGN DATA & AS-BUILT DATA FOR COMPARISON.
 AS-BUILT DATA IS LIMITED TO MANHOLE COORDINATES, RIM & INVERT.
 AS-BUILT DATA SHOWN CONFORMS TO A CLASS III SURVEY STANDARD
 AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR
 PROFESSIONAL LAND SURVEYORS. ALL OTHER DATA CONFORMS TO
 A CLASS IV STANDARD.

Donald J. Medeiros 11/18/03
 DONALD J. MEDEIROS, PLS #1923

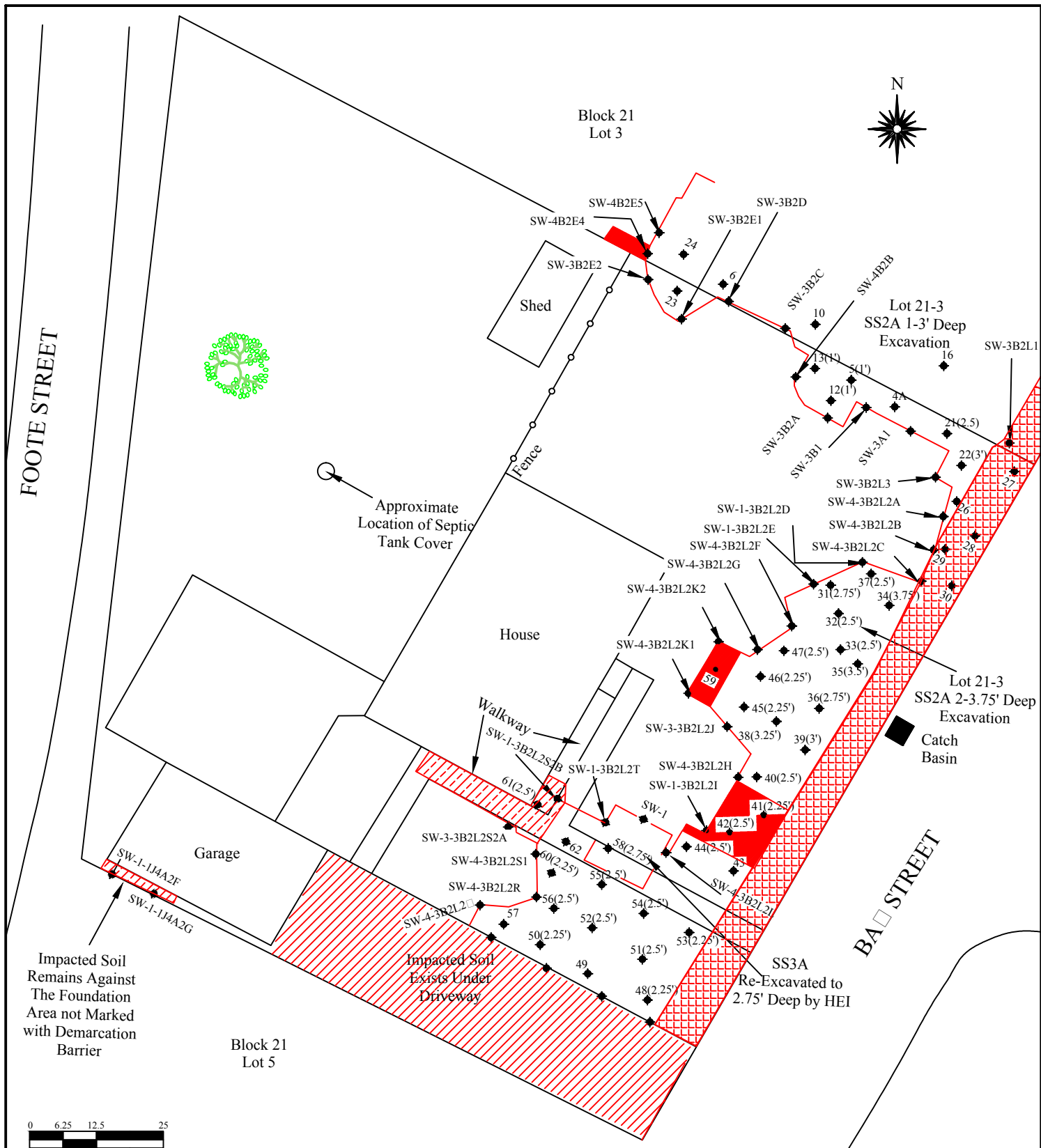


AS-BUILT PLAN
 MOUNT HOPE BAY INTERCEPTOR SEWER
 STARWOOD TIVERTON, LLC.
 TIVERTON, RHODE ISLAND

SCALE: AS NOTED DATE: OCTOBER 29, 2003
 Civil Engineering Concepts, Inc.
 1723 STAFFORD ROAD P.O. BOX 3009
 TIVERTON, RHODE ISLAND 02878 NEW BEDFORD, MA 02741
 PH: (401) 624-7611 FAX: (401) 624-7551


**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

**APPENDIX D
ELUR SITE PLANS**

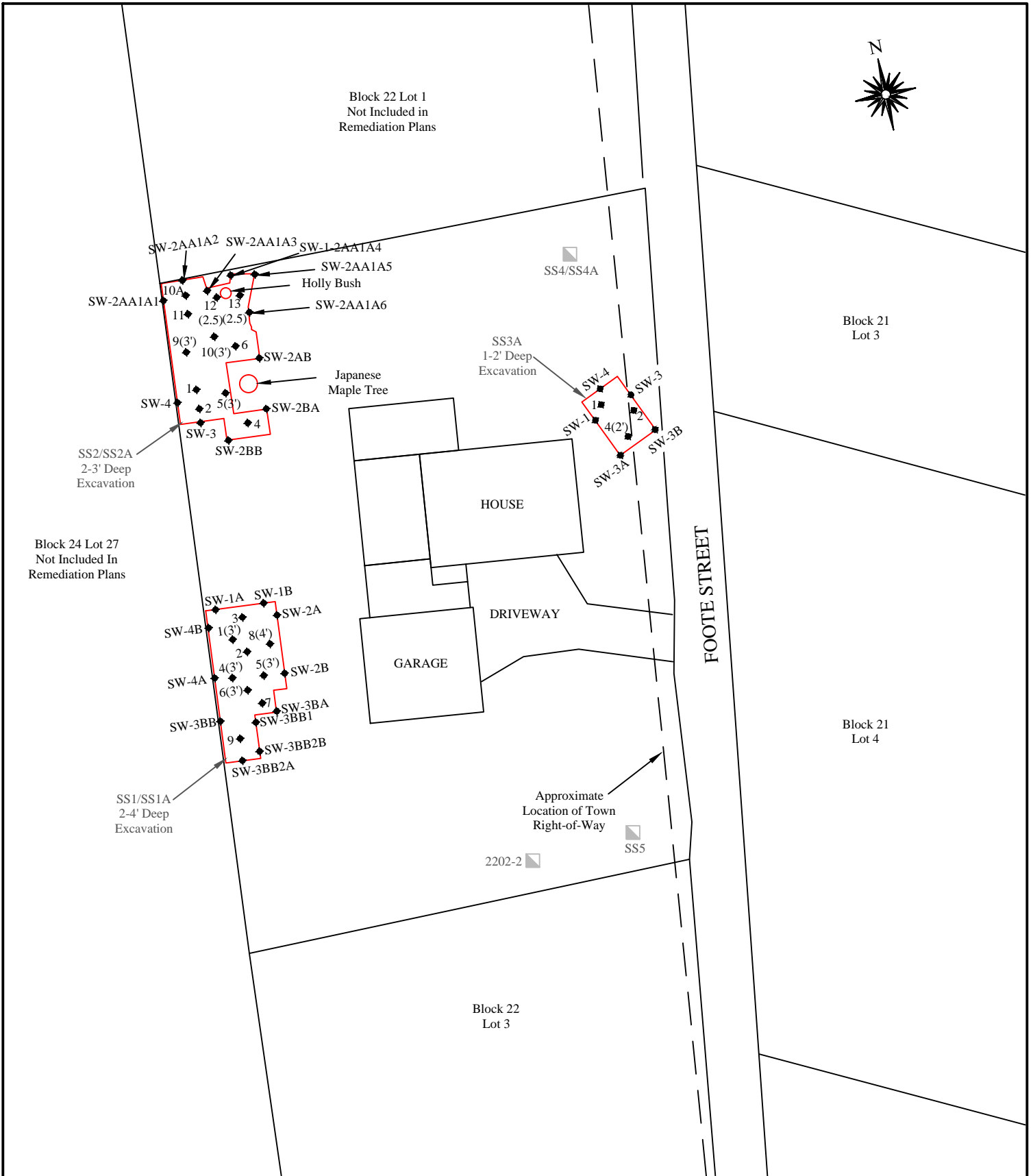


Legend

- ELUR Area with buried demarcation barrier
- ELUR Area without buried demarcation barrier
- Extent of Impacted Soil Beneath Driveway is Unknown
Driveway is part of ELUR Area
- ELUR Area Within Right-of-Way of Bay St.

 Enviro LOGIC <small>Engineers and Environmental Consultants</small>	25 Buttrick Road Unit D2 Londonderry, NH 03053	CLIENT: Bay Street Neighborhood, LLC.
	TECHNICALLY SMART. BUSINESS SENSITIVE.	PROJECT: Bay Street Area Remediation
TITLE: Block 21 Lot 4 - 33 Bay Street Environmental Land Usage Restriction Area (ELUR)		FIGURE NO.:
SCALE: 1"=25'	DATE: 4/5/2010	FILE NO.:
21-4	PROJECT NO.:	2065-001
I-1		

Note #1: Location and size of house, structures, and driveway are Approximate. Figure based on Figure 2 from VHB Short Term Response Action Workplan Plat 8-7 Block 21 Lot 4 Bay Street Suspected Fill Area, September 2006, and EnviroLogic field observations between August 2009 and February 2010.
 Note #2: The sample locations and dimensions of the excavations are approximate based on field tape measurements.



Block 22 Lot 1
Not Included in
Remediation Plans

Block 21
Lot 3

Block 24 Lot 27
Not Included in
Remediation Plans

Block 21
Lot 4

Block 22
Lot 3

FOOTE STREET

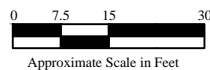
Legend

■ Sample Locations Below Action Levels


□ Excavated Areas

SW-1 ◆ Confirmatory Sample Location

1◆ Bottom Sample Location



Note #1: Location and size of house and driveway are approximate, drawing based on aerial photographs (Google). Figure 2 from the Site Investigation Report, Bay Street Suspected Fill Area, Tiverton, Rhode Island by VHB, Inc., dated October 2003, and EnviroLogic field observations between August 2009 and February 2010.

		25 Buttrick Road Unit D2 Londonderry, NH 03053		CLIENT: Bay Street Neighborhood, LLC.	
		TECHNICALLY SMART. BUSINESS SENSITIVE.		PROJECT: Bay Street Area Remediation	
TITLE: Block 22 Lot 2 - 17 Foote Street Excavation Areas					
DESIGNED: See Note	DRAWN: MGC	CHECKED: CDM	APPROVED: RJW	FIGURE NO.:	
SCALE: 1"=30'	DATE: 1/12/2010	FILE NO.:	PROJECT NO.:	3	
		22-2	2065-001		

Block 8
Lot 17

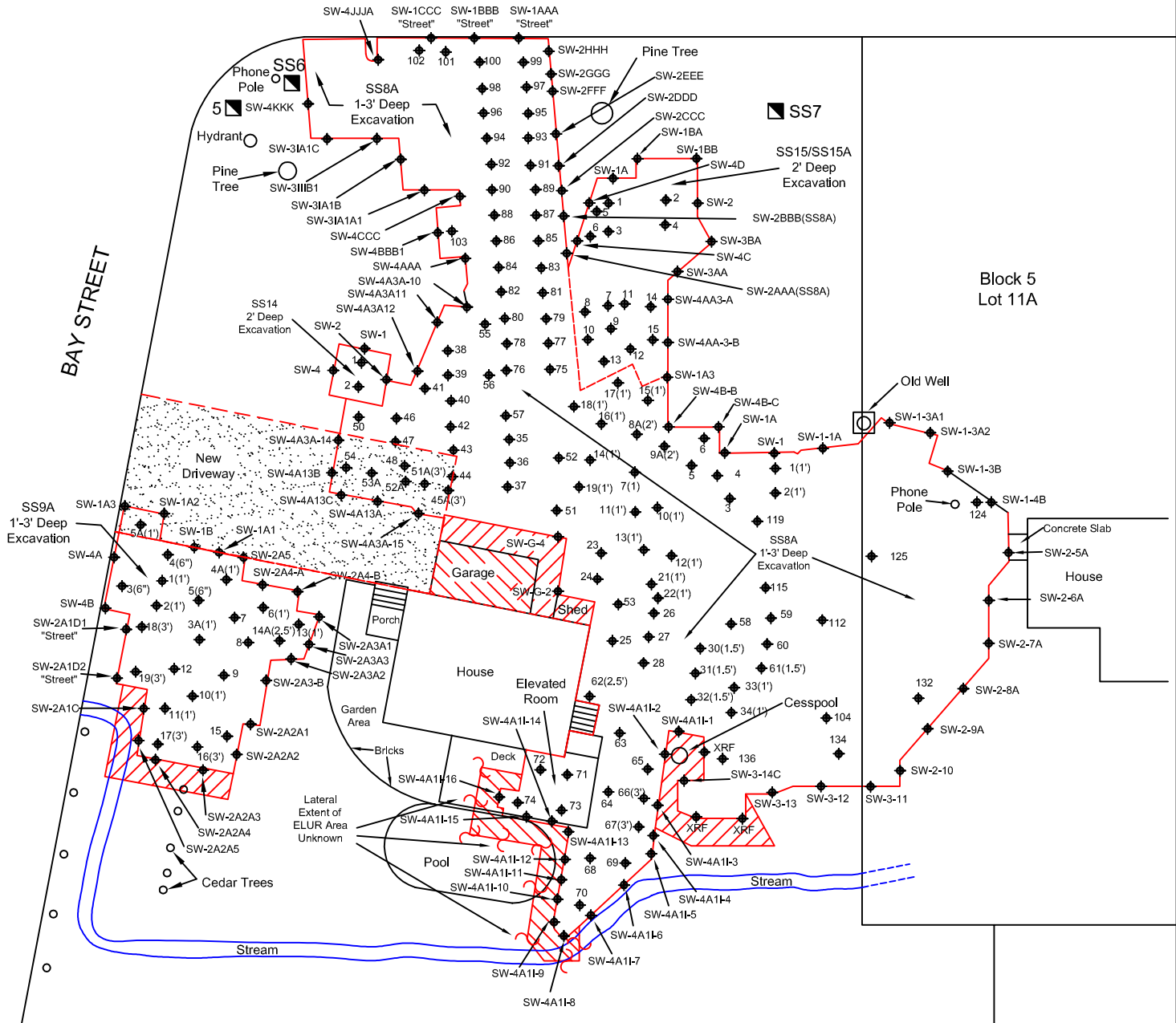
Block 8
Lot 15

CANONICUS STREET

BAY STREET

Block 5
Lot 11A

Block 5
Lot 18



[See Figure I-1 For Southern Portion of Lot]

Block 5 Lot 11
130 Bay Street
Tiverton, Rhode Island

HEI HOFFMAN ENGINEERING, INC.
640 Ten Rod Rd.
North Kingstown, RI 02852

Legend

- Excavated Area
- Environmental Land Usage Restriction Area
- Environmental Land Usage Restriction Area without Demarcation Barrier
- Sample Locations Below Action Levels
- SW-1◆ Confirmatory Sample Location

DRAFTED BY:

KJM
5/1/13

SCALE:

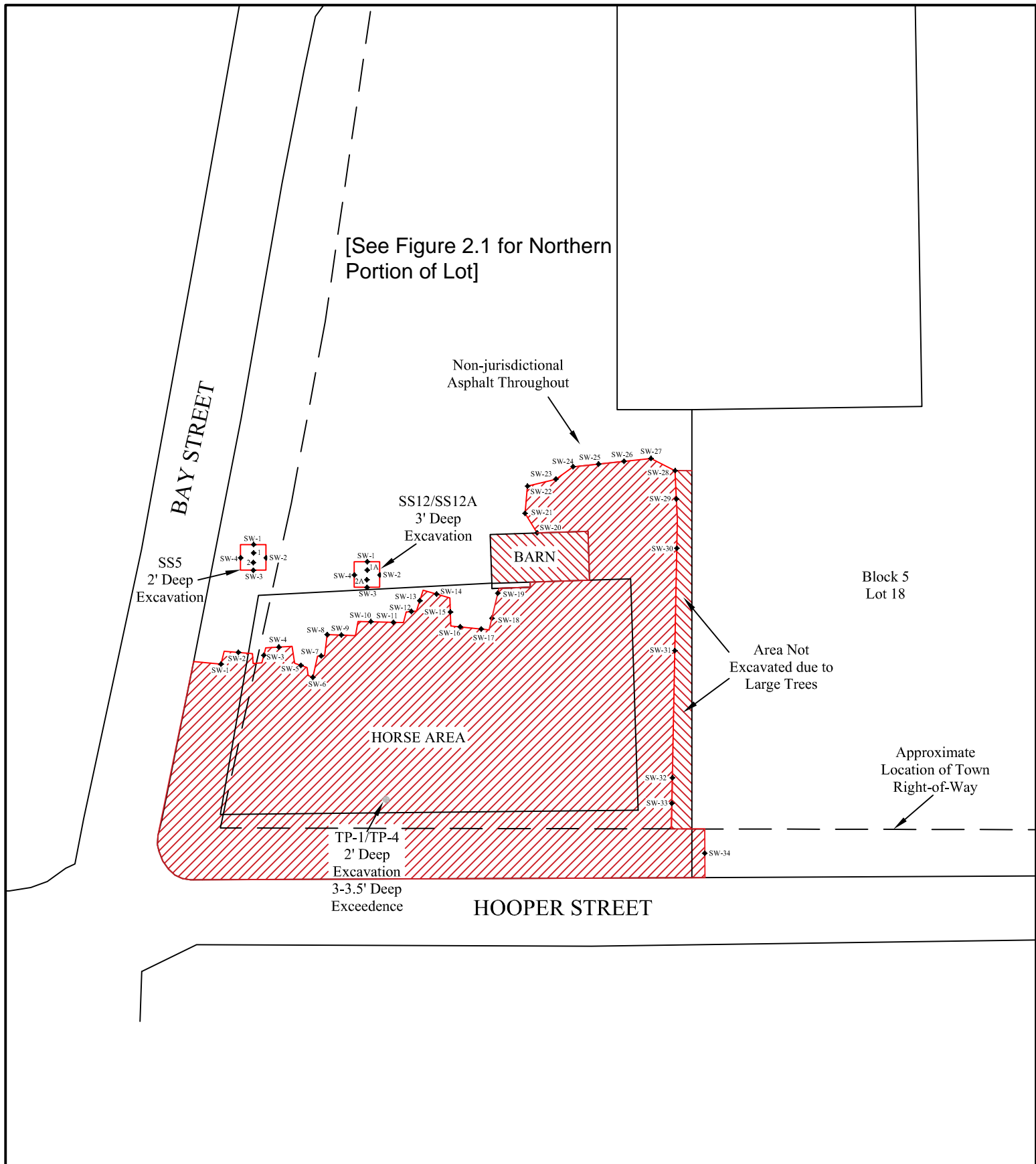
1"=30'

DRAWN BY:

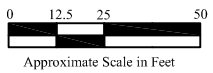
RMF
4/12/13

FIGURE NO.:

2.1



- Legend**
- Excavated Areas
 - ELUR Area with Demarcation Barrier
 - ELUR Area without Demarcation Barrier
 - Confirmatory Sample Location



HEI HOFFMAN ENGINEERING, INC.
 640 Ten Rod Rd.
 North Kingstown, RI 02852

TITLE: Block 5 Lot 11 - 130 Bay Street Environmental Land Usage Restriction Area Southern Portion

SCALE: 1"=50'

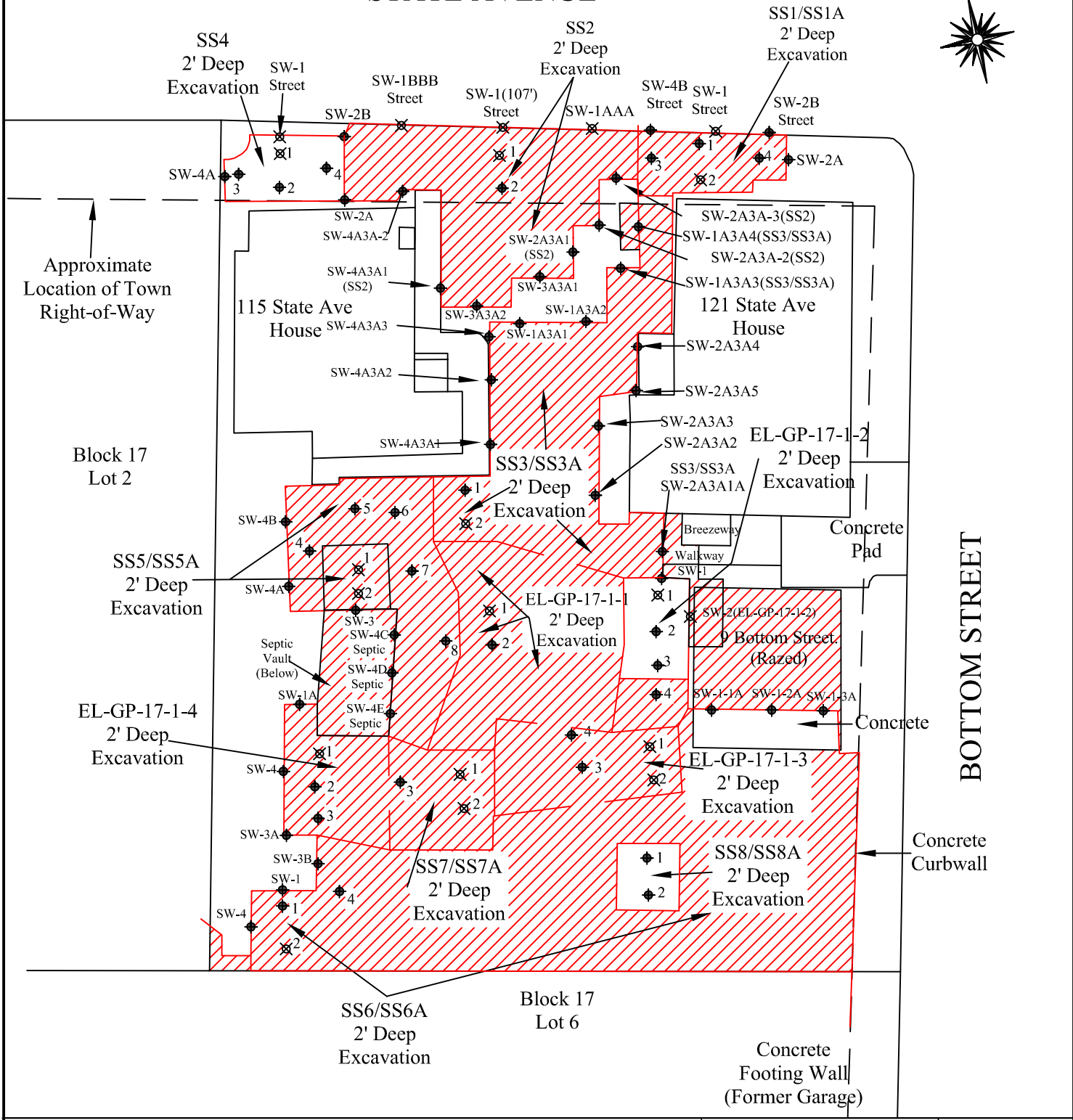
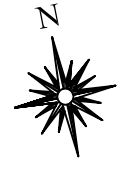
DATE: 7/26/2016

PROJECT: Bay Street Area Remediation

FIGURE NO.: **2.2**

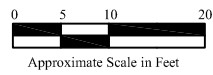
Note #1: Location and size of house, structures, and driveway are approximate, drawing based on aerial photographs (Google) and Figure 2 from the Site Investigation Report, Bay Street Suspected Fill Area, Tiverton, Rhode Island by VHB, Inc., dated October 2003.
 Note #2: If no confirmatory bottom sample is shown, an Environmental Land Use Restriction (ELUR) is anticipated.

STATE AVENUE



- Excavation Areas
- ELUR Areas

- Legend**
- Confirmatory Sample Location
 - Field Screening Locations



Environmental Consultants 50 Nashua Road, Suite 205 Londonderry, NH 03053		CLIENT: Bay Street Neighborhood, LLC.	
		PROJECT: Bay Street Area Remediation	
TITLE: Block 17 Lot 1 - State Avenue Excavation Areas			
DESIGNED: See Note	DRAWN: MGC	CHECKED: CDM	APPROVED: RJW
SCALE: 1"=20'	DATE: 6/4/2009	FILE NO.: 17-1	PROJECT NO.: 2065-001
			2

Note #1: Location and size of houses are approximate, figure based on AutoCAD layout produced by VHB, Inc. and received by EnviroLogic on 5/26/2009, and on EnviroLogic field observations during August 2008.

State Avenue



SS1/SS1A
2' Deep
Excavation

SS2/SS2A
2' Deep
Excavation

Excavation Area
Extends onto
Property 17-4A

Block 17
Lot 4A

Approximate
Location of Town
Right-of-Way

Hedges

House

Driveway

Block 17
Lot 1

Approximate Location
of Septic Area

Leachfield

1702-2/SS4

SW-1C Street
SW-1A Street
SW-1 Street
SW-1B Street
SW-2
SW-4B
SW-3B
SW-3AA
SW-3
SW-4A
SW-4B(18")
SW-4C(16")
SW-3AA1(13")
SW-3AA2(14")
SW-1BB
SW-1AA
SW-4A
SW-4B(18")
SW-4C(16")
SW-3AA1(13")
SW-3AA2(14")
SW-3B(22")

Garage

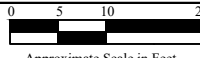
SS3/SS3A
2' Deep
Excavation

Rare Plant
Garden

Excavation Extended
From Block 17-Lot 6
SS6/SS6A

Block 17
Lot 6

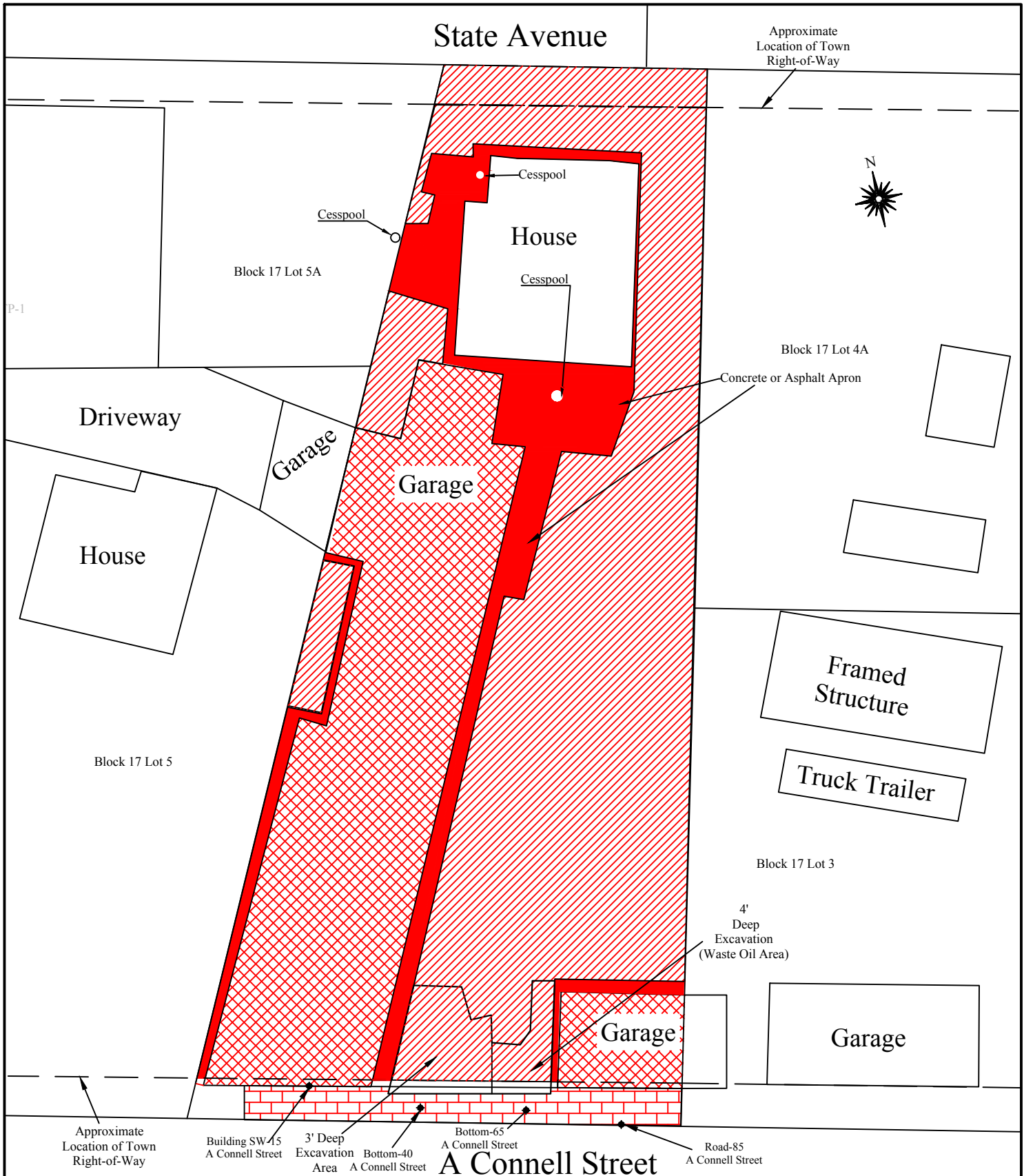
Legend







- ELUR Area Orange Fence Placed Where Possible Within This Area Impacted Soils Remain at a Depth Greater Than 2 Feet and Around Root Balls
- ELUR Area Orange Fence Placed
- ELUR Area Below Hedge Line
- SW-1◆ Confirmatory Sample Location
- 1◆ Bottom Sample Location

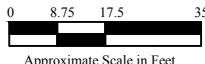
Note #1: Location of house, driveway, and size and location of septic system are approximate, drawing based on aerial photographs (Google), Figure 2 of the Site Investigation Report Bay Street Suspected Fill Area, Tiverton, Rhode Island by VHB, Inc., dated October 2003, and EnviroLogic field observations between August 2009 and July 2010.


		25 Buttrick Road Unit D2 Londonderry, NH 03053		CLIENT: Bay Street Neighborhood, LLC.	
TECHNICALLY SMART. BUSINESS SENSITIVE.		PROJECT: Bay Street Area Remediation			
TITLE: Block 17 Lot 2 - 111 State Avenue Excavation Areas					
DESIGNED: See Note	DRAWN: MGC	CHECKED: CDM	APPROVED: RJW	FIGURE NO.:	
SCALE: 1"=20'	DATE: 7/15/2010	FILE NO.:	PROJECT NO.:	2	
		17-2	2065-001		



Legend

-  ELUR Area Below Structures
-  ELUR Area
-  ELUR Area Proximate to Buildings not Excavated
-  ELUR in Right-of-Way Excavated as Part of the Mercury Remediation Along A Connell Street



 Environmental Consultants 50 Nashua Road, Suite 205 Londonderry, NH 03053		CLIENT: Bay Street Neighborhood, LLC. PROJECT: Bay Street Area Remediation		
TITLE: Block 17 Lot 4 - 91 State Avenue Excavation Areas				
DESIGNED: See Note	DRAWN: MGC	CHECKED: CDM	APPROVED: RJW	FIGURE NO.: 2
SCALE: 1"=35'	DATE: 6/2/2009	FILE NO.: 17-4	PROJECT NO.: 2065-001	

Note #1: Location and size of house and structures are approximate, figure based on AutoCAD layout produced by VHB, Inc. and received by EnviroLogic on 5/26/2009.

**TIVERTON WASTEWATER DISTRICT
BAY STREET NEIGHBORHOOD
SEWER LATERAL CONNECTIONS**

**APPENDIX E
STANDARD GENERAL CONDITIONS**

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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**STANDARD GENERAL CONDITIONS OF THE
CONSTRUCTION CONTRACT**

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
18. *Engineer*—The individual or entity named as such in the Agreement.
19. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
20. *General Requirements*—Sections of Division 1 of the Specifications.
21. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
22. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
25. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

27. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
28. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
29. *PCBs*—Polychlorinated biphenyls.
30. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
33. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
34. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
35. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
36. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
37. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
38. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
39. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
40. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access

thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

41. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
42. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
43. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
44. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
45. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
46. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
47. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
50. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order

following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 2. a preliminary Schedule of Submittals; and
 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written

interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and

Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
2. those reports known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports, but such reports are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions, and information contained in such reports ; or
3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an

emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground

Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. Not Shown or Indicated:

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior

written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports:* The Supplementary Conditions identify those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the “technical data” contained in such reports , but such reports are not Contract Documents. Such “technical data” is identified in the Supplementary Conditions. Except for such reliance on such “technical data,” Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports for Contractor’s purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports ; or
 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract

Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor’s obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor’s liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such

policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make

settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless

the specification or description contains or is followed by words reading that no like, equivalent, or “or-equal” item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *“Or-Equal” Items:* If in Engineer’s sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an “or-equal” item, in which case review and approval of the proposed item may, in Engineer’s sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
2. *Substitute Items:*
 - a. If in Engineer’s sole discretion an item of material or equipment proposed by Contractor does not qualify as an “or-equal” item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
 - b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
 - c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
 - d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

- 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
- 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
- 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
- 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the

performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

- C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 - 6. any inspection, test, or approval by others; or
 - 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out

of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 Related Work at Site

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design

professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract,

tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the

case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is

the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 Cost of the Work

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay

applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

- a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
- b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect to any other item of Work; and
3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:
 1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a

fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an

adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such

inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner

to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without

terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00800 – SUPPLEMENTAL CONDITIONS

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PART II - STATE GOVERNMENT PROVISIONS

<u>Article Number</u>	<u>Title</u>
1.0	STATE OF RHODE ISLAND PROVISIONS

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions, which are not so amended or supplemented, remain in full force and effect.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

General

The word "site" shall mean the specific area adjacent to and including the area upon which the construction work is performed. The words "as directed", "as permitted", "as required", or words of like effect shall mean the direction, permission, requirement of the OWNER is intended and similarly the words, "approved", "acceptable", "satisfactory", or words of like effect shall mean approved by, or acceptable, or satisfactory to the OWNER, unless otherwise provided herein. The words "necessary", "suitable" "equal", or words of like effect shall mean necessary, suitable, or equal in the opinion of the OWNER.

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions.

SC-1.01. SPECIFIC CHANGES

Include following sections under paragraph 1.01.

SC-1.19. Engineer – Delete paragraph 1.19 in its entirety and replace with the following:

1.19. Engineer - Owner or Owner's representative as defined by the Owner.

SC-1.42. Delete paragraph 1.42 in its entirety and replace with the following:

1.42. Specifications - Sections included under Division 1 through Division 16 of the Project Manual.

SC-1.44. Insert the following at the beginning of the definition.

Substantial completion shall mean either that the Work required by the Contract has been completed except for work having a Contract Price of less than one per cent of the then adjusted total contract price, or...

SC-1.51. Add the following new definitions after paragraph 1.51 of the General Conditions:

1.52 Conditions of the Contract - The combined General Conditions and Supplementary Conditions.

1.53 Project Manual - Invitation to Bid, Instructions to Bidders, Information for Bidders, Bid Form, Supplements to Bid Form, Agreement, Bonds, General Conditions, Supplementary Conditions, State and Federal Requirements, and Appendices.

ARTICLE 2 - PRELIMINARY MATTERS

SC-2.01B. Delete paragraph 2.01B of the General Conditions in its entirety and insert the following in its place:

2.01B. Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, with copies to ENGINEER, each additional insured identified in Article 5 of the Supplementary Conditions, certificates of insurance (and other evidence requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with the requirements of Article 5.

SC-2.03. Delete paragraph 2.03 of the General Conditions in its entirety and insert the following in its place:

SECTION 00800 – SUPPLEMENTAL CONDITIONS

2.03. The Contract Time will commence at the issuance of the Notice to Proceed or within fifteen days of contract execution.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

SC-3.01. Add a new paragraph immediately after Paragraph 3.01. of the General Conditions which is to read as follows:

3.01 D. Each and every provision of law and clause required by law to be inserted in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion.

ARTICLE 4.0 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

SC-4.01. Add a new paragraph immediately after Paragraph 4.01. of the General Conditions which is to read as follows:

4.01D. If all lands and rights-of-way are not obtained as herein contemplated before construction begins, CONTRACTOR shall begin the work upon such land and rights-of-way as OWNER has previously acquired.

ARTICLE 5 - BONDS AND INSURANCE

Amend paragraph 5.01 by adding the following sections:

D. The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds shall be in a form acceptable to the Owner and shall be issued by companies licensed to issue such Bonds in the State of R.I., and the cost thereof shall be included in the Contract Sum. Bonding companies shall be approved by the OWNER and shall be listed on the U.S. Treasuries Circular 570 of approved bonding companies. The amount of each bond shall be equal to 100 percent of the Contract Sum, as amended.

Insurance companies shall be approved by the Owner and shall be rated A- or better.

E. The Contractor shall deliver the required bonds to the OWNER on or before the date the Agreement is entered into.

F. The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

Amend 5.04. as follows:

SC-5.04. The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Law:

5.04A.1. and 5.04A.2. Worker's Compensation

(1) Worker's Compensation Statutory Coverage

5.04A.3., 5.04A.4., and 5.04A.5. Comprehensive General Liability including Premise/Operations; Explosion, Collapse and Underground Property Damage; Products/Completed Operations, Broad Form Contractual, Independent Contractors; Broad Form Property Damage; and Personal Injury liabilities. Carrier shall be "A-" rated or higher.

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- (1) Bodily Injury: \$1,000,000 Each Occurrence
\$2,000,000 Annual Aggregate
- (2) Property Damage: \$1,000,000 Each Occurrence
\$2,000,000 Annual Aggregate
- (3) Personal Injury,
with employment
exclusion
deleted \$2,000,000 Annual Aggregate

5.04A.6. Comprehensive Automobile Liability including all owned (private and others), hired and non-owned vehicles: Carrier shall be A- rated or higher.

- (1) Bodily Injury: \$1,000,000 Each Person, combined single limit
& Property Damage

SC-5.04. Add a new paragraph immediately after Paragraph 5.04B.6. of the General Conditions which is to read as follows:

5.04B.7. CONTRACTOR may purchase and maintain excess liability insurance in the umbrella form in order to satisfy the limits of liability required for the insurance to be purchased and maintained in accordance with paragraph 5.04. Evidence of such excess liability shall be delivered to OWNER in the form of a certificate indicating the policy numbers and limits of liability of all underlying insurance.

SC-5.04. ADD paragraph 5.04C of the General Conditions:

5.04C. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with this Article 5 on the basis of its not complying with the Contract Documents, OWNER will notify CONTRACTOR in writing thereof within ten days of the date of delivery of such certificates to OWNER in accordance with Paragraph 2.01B. CONTRACTOR will provide such additional information in respect of insurance provided by him/her as OWNER may reasonably request.

SC-5.05. DELETE paragraph 5.05 of the General Conditions in its entirety.

SC-5.06. DELETE paragraph 5.06 of the General Conditions in its entirety.

SC-5.07B and 5.07C. DELETE paragraph 5.07B and 5.07C of the General Conditions in its entirety.

SC-5.08. DELETE paragraph 5.08 of the General Conditions in its entirety.

SC-5.09. DELETE paragraph 5.09 of the General Conditions in its entirety and replace with the following:

5.09. If OWNER has any objection to the coverage afforded by, or other provisions of, the insurance required to be purchased and maintained by CONTRACTOR in accordance with Article 5.0 on the basis of its not complying with the Contract Documents, OWNER shall notify CONTRACTOR thereof in writing. CONTRACTOR shall provide to the OWNER such additional information in respect of insurance provided by as the OWNER may reasonably request.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

Amend Article 6.0. by adding the following:

SC 6.0. Equal Opportunity

SECTION 00800 – SUPPLEMENTAL CONDITIONS

The Contractor and the Contractor's Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex or national origin.

Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising.

SC-6.02. Add the following new paragraphs immediately after Paragraph 6.02B of the General Conditions:

6.02C. This Agreement is subject to the applicable provisions of the Contract Work Hours and Safety Standards Act, Public Law 87-581, 87th Congress, as amended. No Contractor or Subcontractor contracting for any part of the work shall require or permit any laborer or mechanic to be employed on the Work in excess of forty hours in any work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his/her basic rate of pay for all hours worked in excess of forty hours in such work week.

6.02D. CONTRACTOR shall employ only competent persons to do the work and whenever OWNER shall notify CONTRACTOR, in writing, that any person on the Work appears to be incompetent, disorderly, or otherwise unsatisfactory, such person shall be removed from the Project and shall not again be employed on it except with the consent of OWNER.

6.02E. Except as may be otherwise required by law, all claims and disputes pertaining to the classification of labor employed on the project under this Contract shall be decided by the governing body having jurisdiction.

SC-6.06. DELETE Paragraphs 6.06A and 6.06B of the General Conditions in their entirety and insert the following in its place:

6.06A. CONTRACTOR shall not employ any subcontractor, supplier or other person or organization, (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom OWNER may have reasonable objection. Acceptance of any Subcontractor, other person or organization by OWNER does not waive OWNER's rights to reject defective Work. CONTRACTOR shall not be required to employ any Subcontractor, other person or organization against which CONTRACTOR has reasonable objection.

SC-6.06. Add a new sentence at the end of Section 6.06. to read as follows:

6.06H. OWNER or ENGINEER may furnish to any Subcontractor, Supplier or other person or organization, to the extent practicable, information about amounts paid on their behalf to CONTRACTOR in accordance with CONTRACTOR's Applications for Payment.

SC-6.20. Add two sentences at the end of Paragraph 6.20A to read as follows:

If through the acts of neglect on the part of the CONTRACTOR, any other Contractor or any Subcontractor shall suffer loss or damage on the Work, CONTRACTOR shall settle with such other Contractor or Subcontractor by agreement or arbitration if such other Contractor or Subcontractor will so settle. If such other Contractor or Subcontractor shall assert any claim against OWNER on account of any damage alleged to have sustained, OWNER shall notify CONTRACTOR, who shall indemnify and safe harmless OWNER against any such claims.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

SC-8.02. DELETE Section 8.02 in its entirety, and replace with the following:

8.02. In case of termination of the employment of Engineer, Owner shall appoint an engineer whose status under the Contract Documents shall be that of the former Engineer.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

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SC-9.03. Add a new paragraph immediately after Paragraph 9.03A of the General Conditions which is to read as follows:

9.03B. OWNER will designate an agent to represent him/her at the Site who is not ENGINEER's agent or employee. The duties and responsibilities of the agent will be as enumerated in the agent's agreement with OWNER, a copy of which will be furnished to CONTRACTOR upon written request.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-11.03.D. DELETE Paragraph 11.03D. in its entirety and replace with the following:

11.03D. The unit price of an item of Unit Price Work shall be subject to re-evaluation and adjustment under the following conditions:

11.03D.1. If there is no corresponding adjustment with respect to any other item of Work; and

11.03D.2. If CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof; or if OWNER believes that the quantity variation entitles OWNER to an adjustment in the unit price, either OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 12 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC-13.05. Add a new paragraph immediately after paragraph 13.05 of the General Conditions to read as follows:

13.05B. If the OWNER stops Work under Paragraph 13.05 CONTRACTOR shall be entitled to no extension of Contract Time or increase in Contract Price.

ARTICLE 14 - PAYMENTS TO THE CONTRACTOR AND COMPLETION

SC-14.02. Add a new sentence immediately after paragraph 14.02A.1 of the General Conditions, which is to read as follows:

The CONTRACTOR shall furnish evidence that payment received on the basis of materials and equipment not incorporated and suitably stored, has in fact been paid to the respective supplier(s) within sixty days of payment by OWNER. Failure to provide such evidence of payment may result in the withdrawal or previous approval(s) and removal of the cost of related materials and equipment from the next submitted Application for Payment.

Replace the words “Ten days” in the first sentence of paragraph 14.02C.1 of the General Conditions with “Thirty days”.

Add four new paragraphs immediately after paragraph 14.02.B.5 of the General Conditions, which are to read as follows:

14.02.B.6. Should CONTRACTOR neglect to pay any undisputed claims, made in writing to OWNER within thirty days after completion of the Work, but continuing unsatisfied for a period of ninety days, OWNER may pay such claim and deduct the amount thereof from the balance due CONTRACTOR. OWNER may also, with the written consent of CONTRACTOR, use any monies retained, due, or to become due under this Contract for the purpose of payment for both labor and materials for the Work, for which claims have not been filed.

Security is provided both by the Payment Bond and the power of OWNER to retain any monies for claims, but payment by one shall in no way impair or discharge the liability of the other.

Any and all liens for work and materials may be paid off by OWNER within a reasonable time after filing for record in accordance with State and local laws, notice of such liens except where the claim on which the lien is filed is being

SECTION 00800 – SUPPLEMENTAL CONDITIONS

litigated by CONTRACTOR, and in such case OWNER may pay the amount of any final judgment or decree or any such claim within a reasonable time after such final judgment or decree shall be rendered.

All monies paid by OWNER in settlement of liens as aforesaid, with the costs and expenses incurred by OWNER in connection therewith, shall be charged to CONTRACTOR, shall bear interest at the rate of one and a half percent per month, and shall be deducted from the next payment due CONTRACTOR under the terms of this Contract.

SC-14.03. Add two new paragraphs immediately after paragraph 14.03 of the General Conditions, which are to read as follows:

14.03.B. No materials or supplies for the Work shall be purchased by CONTRACTOR or Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. CONTRACTOR warrants that he/she has good title to all materials and supplies used by him/her in the Work, free from all liens, claims or encumbrances.

14.03.C. CONTRACTOR shall indemnify and save OWNER harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material, men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. CONTRACTOR shall at OWNER's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If CONTRACTOR fails to do so, then OWNER may, after having served written notice on the said CONTRACTOR either pay unpaid bills, of which OWNER has written notice, direct, or withhold from the CONTRACTOR's unpaid compensation a sum of money deemed reasonable sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to CONTRACTOR shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this section be construed to impose any obligations upon OWNER to either CONTRACTOR or his/her Surety.

SC-14.07. DELETE Section 14.07 B. Review of Application and Acceptance and Replace with the following:

14.07B. Within 30 days of satisfactory completion of the work and receipt by OWNER of Contractor's final application for payment, Owner will make final payment to the Contractor. Payment hereunder is subject to satisfactory evidence of payment to all subcontractors and resolution of any and all claims and/or liens.

SC-14.08. DELETE Sections 14.08. Final Completion Delayed.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

SC-15.02.

Add a new paragraph immediately after paragraph 15.02.A.4. of the General Conditions which is to read as follows:

15.02.A.5. If CONTRACTOR abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of OWNER, or if the Contract or any claim thereunder shall be assigned by CONTRACTOR otherwise than as herein specified;

Delete Section 15.03.A.3 and 15.03.A.4 in its entirety.

ARTICLE 16 - DISPUTE RESOLUTION

SC-16.01.

Add a new sentence at the end of Article 16.01 of the General Conditions, which is to read as follows:

CONTRACTOR shall carry on the Work and maintain the progress schedule during the dispute resolution proceedings,

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unless otherwise agreed by him/her and OWNER in writing.

Delete all references to arbitration in "General Conditions", Article 16. Arbitration shall be in accordance with the provisions of the State Arbitration Laws (State of Rhode Island, General Laws, Title 37, Chapter 16), which shall take precedence and shall govern.

Every contract for the construction, alteration, repair or painting or demolition of any public building, sewer, water treatment or disposal project, highway, or bridge one party to which is the state, a city, a town, or an authority, a board, a public corporation, or any similar body created by statute or ordinance or any committee, agency, or subdivision of any of them which has a contract price of ten thousand dollars (\$10,000) or more and which is executed on or after July 1, 1967, out of, or concerning the performance or interpretation of, the contract as follows:

“All claims, disputes, and other matters in question arising out of or relating to this contract or the performance or interpretation thereof shall be submitted to arbitration. Arbitration shall be commenced by a demand in writing made by one party to the contract upon the other within a reasonable time after the dispute, claim, or other matter in question arose but in no event after payment in full of the contract price has been made and accepted. The written demand shall contain a statement of the question to be arbitrated and a detailed statement of each time or matter in dispute and the name of the arbitrator appointed by that party. The other party to the contract within (10) days of the receipt of the written demand shall appoint an arbitrator and give notice in writing thereof to the party who commenced arbitration. The two (2) arbitrators appointed by the parties shall within ten (10) days of the date of the appointment of the second arbitrator select a third arbitrator who shall be designated as chairperson and who immediately shall give written notice to the parties of his or her appointment. The third arbitrator shall select a time, date and place for hearing and give each party five (5) days notice in writing thereof. The date for hearing shall not be more than fifteen (15) days after the date of appointment of the third arbitrator. The arbitrators shall render their award in writing to each of the parties not more than thirty (30) days after the date hearing shall commence unless the parties shall otherwise agree in writing. In the event the party of whom arbitration is demanded shall fail to appoint his or her arbitrator within the time specified or the two (2) arbitrators appointed by the parties are unable to agree on an appointment of the third arbitrator within the time specified, either party may petition the residing justice of the superior court to appoint a single arbitrator who shall hear the parties and make an award as provided herein. The petitioner shall give five (5) days notice in writing to the other party before filing his or her petition.”

ARTICLE 17 - MISCELLANEOUS

SC-17.07.

Add a new paragraph immediately after paragraph 17.06 of the General Conditions, which is to read as follows:

17.07. Both the address given in the Bid Form upon which this Agreement is founded, and CONTRACTOR's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to CONTRACTOR shall be certified, mailed, or delivered. The delivering at the above named place, or depositing in a postpaid wrapper directed to the first-named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be deemed sufficient service thereof upon CONTRACTOR; and the date of said service shall be the date of such delivery or mailing. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by CONTRACTOR, and delivered to OWNER and ENGINEER. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon CONTRACTOR personally.

SC-17.08.

Add the following new paragraphs immediately after paragraph 17.07. of the Supplementary Conditions:

17.08. WAGE RATES: The requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to the employment of labor, and to the schedule of minimum wage rates established in compliance with laws shall be a part of these Contract Documents. Copies of the wage schedules are included in Section 00820, as applicable under this Contract. If, after the Notice of Award, it becomes necessary to employ any person in a trade or occupation

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not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the officials administrating the laws mentioned above. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. CONTRACTOR shall notify OWNER of his/her intention to employ persons in trades or occupations not classified in sufficient time for OWNER to obtain approved rates for such trades or occupations.

17.08.1. The schedules of wages referred to above are minimum rates only, and OWNER will not consider any claims for additional compensation made by CONTRACTOR because of payment by CONTRACTOR of any wage rate in excess of the applicable rate contained in these Contract Documents. All disputes in regard to the payment of wages in excess of these specified in the schedules shall be resolved by CONTRACTOR.

17.08.2 The said schedules of wages shall continue to be the minimum rates to be paid during the life of this Agreement and a legible copy of said schedules shall be kept posted in a conspicuous place at the site of the work.

PART II - STATE AND FEDERAL GOVERNMENT PROVISIONS

Each and every other provision of law or clause required by law to be inserted in this Contract shall be deemed to be also inserted herein in accordance with paragraph SC-3.1.1. of Supplementary Conditions.

1.0 STATE OF RHODE ISLAND AND FEDERAL PROVISIONS

1.1. The OWNER and CONTRACTOR agree that all applicable Federal and State of Rhode Island Provisions which apply to the work to be performed under this Contract will be followed. The CONTRACTOR must inform him/herself of all pertinent Federal and State of Rhode Island Provisions with performing this work. The most recent revisions of any Federal and State Provisions will apply in this Contract. The most recent provisions supersede any conflicting provisions of this Contract.

1.2. State Wage Rates, As Applicable.

END OF SECTION