

# ADDENDUM No. 1

ITB No. 4426

## SPRINGWATER SUBDIVISION IMPROVEMENTS PROJECT PHASE II

**Due: Thursday April 14, 2016, On/Before 2:00 P.M.**

The following changes, additions, and/or deletions shall be made to the Invitation to Bid for **ITB No. 4426 Springwater Subdivision Improvements Project – Phase II**, on which proposals will be received on/or before Thursday, April 14, 2016, by 2:00P.M.

The information contained herein shall take precedence over the original documents and all previous addenda (if any), and is appended thereto. **This Addendum includes 16 pages and 4 drawings.**

**Bidder is to acknowledge receipt of this Addendum No. 1, including all attachments (if any) in its Bid by so indicating on the Invitation to Bid Form. Bids submitted without acknowledgement of receipt of this addendum will be considered nonconforming.**

**The following forms provided within the ITB Document and this Addendum 1 must be included in submitted bids at bid opening.**

- City of Ann Arbor Prevailing Wage Declaration of Compliance
- City of Ann Arbor Living Wage Ordinance Declaration of Compliance (updated herein)
- Vendor Conflict of Interest Disclosure Form (provided herein)
- City of Ann Arbor Non-Discrimination Ordinance Declaration of Compliance

**Bids that fail to provide these completed forms listed above upon bid opening will be rejected as non-responsive and will not be considered for award.**

### I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the Bid documents which are outlined below are referenced to a page or Section in which they appear conspicuously. The Bidder is to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

#### **Section/Page(s)**

#### **Change**

Attachments

The “Vendor Conflict of Interest Disclosure Form”, is attached herein as Page 3 and shall be added to the Attachments. The “Vendor Conflict of Interest Disclosure Form” must be included in submitted bids.

Attachments

City of Ann Arbor Living Wage Ordinance Declaration of Compliance (Form LW-2) and Living Wage Poster (Form LW-1), located in the Attachments, should be replaced with Page 11 and Page 12 of this Addendum. The change reflects an increase in the City of Ann Arbor Living Wage that will be in effect during the period of work under this project.

DS-36 – DS-42	The “Detailed Specification for Acceptance of HMA Mixtures” shall be deleted.
DS-79 – DS-85	These pages shall be removed and replaced by DS-79-R-1 through DS-85-R-1, which are attached below.
Plans Sheets 3, 6, 7 & 8	<p>These plan sheets shall be removed and replaced with the attached plans sheets #3, 6, 7 and 8. The significant changes to these plans sheets include the following:</p> <p>On plan sheet #3 the 12 inch sand subbase, CIP is shown to consist of MDOT Granular Material Class II, Modified.</p> <p>On plan sheet #6 the PVC membrane surrounding the sand filter was eliminated.</p> <p>On plan sheet #7 the aggregate stone barrier was eliminated at the top of the Sand Filter Overflow Structure detail.</p> <p>On plan sheets #4 &amp; #8 the aggregate backfill over the underground storage chambers is now identified as clean, washed MDOT 6A stone.</p>

Respondents are directed to take note in its review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

## II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB.

**Question #1:** Will the Pre bid meeting sign in sheet be made available?

**Answer:** Yes. The Pre Bid Meeting Notes and sign-in sheet is attached to this Addendum.

**Question #2:** What is the Engineer’s Estimate?

**Answer:** The Engineer’s Estimate is \$2,656,656.00.

**Question #3:** Was the existing sanitary sewer videotaped and will the report be available for review prior to construction?

**Answer:** Yes, the sanitary sewer was video taped and the report will be available to the Contractor prior to the preconstruction meeting.

**Question #4:** What are the depths of the Sand Filter Catch Basins?

**Answer:** The depths of the Sand Filter Catch Basins are 5.2 feet.

Bidders are responsible for any conclusions that they may draw from the information contained in the Addendum.



## Vendor Conflict of Interest Disclosure Form

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.

**Certification:** I hereby certify that to my knowledge, there is no conflict of interest involving the vendor named below:

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Vendor Name	Vendor Phone Number
Conflict of Interest Disclosure *	
Name of City of Ann Arbor employees, elected officials, or immediate family members with whom there maybe a potential conflict of interest.	( ) Relationship to employee _____ ( ) Interest in vendor's company _____ ( ) Other _____

\*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that the information provided is true and correct by my signature below:

\_\_\_\_\_  
 Signature of Vendor Authorized Representative                      Date                      Printed Name of Vendor Authorized Representative

**PROCUREMENT USE ONLY**

- Yes, named employee was involved in Bid / Proposal process.
- No, named employee was not involved in procurement process or decision.

**DETAILED SPECIFICATION  
FOR  
ITEM #280 – SAND FILTER (ADS SC-310 STORM CHAMBER)  
ITEM #281 – SAND FILTER CATCH BASIN STRUCTURE AND GRATE  
ITEM #282 – OVERFLOW STRUCTURE**

**DESCRIPTION OF WORK**

Sand Filters are best management practices (BMPs), which are designed to enhance the filtration and capture of the first flush component of stormwater runoff. The removal of suspended solids from the runoff will improve the quality of the captured runoff. In addition the sand filter will store water over the underlying soils and provide the potential for improving the infiltration.

**CONSTRUCTION METHOD**

The Contractor shall provide all labor, materials, tools, equipment, and incidentals as shown, specified, and required to furnish and install all sand filters as specified on the Drawings. The sand filters shall include an underdrain system connecting each underground storage system to the stormwater conveyance system as specified in the Drawings as well as a stone base, amended soils, and native perennials or turf grass as specified.

Types of products required include the following:

- Perforated and non-perforated pipe
- Filter soil
- Storage aggregate
- Stormwater storage chambers
- Drainage geocomposite
- Catchbasin structure and grate
- Overflow structure
- Slow release orifice
- Stone rip rap

The Contractor must notify the Engineer in advance when specific items are ready for observation. The construction shall not proceed without the approval of the Engineer at the specific points indicated below, unless the express consent of the Engineer is given to proceed. The Engineer may stop construction and/or have materials removed at the Contractor's expense if no notification or approval to proceed is given. Contractor responsibilities include:

- Start of construction – Locate utilities and layout sand filters, relocate utilities as required while providing the required separation of at least 2', locate and install appropriate temporary erosion control measures.
- Completion of excavation – Excavate material and verify contours and that the base of the entire sand filter is level.
- Placement of underdrain structures and gravel – Place geofabric, 6" underdrain in 6" foundation layer of soil connected to stormwater control structures, install stormwater storage chambers, make internal connections between stormwater control structures, place storage aggregate in compacted lifts to 6" over the top of the stormwater storage chambers, install middle geofabric layer, and place at least an additional 6" of storage aggregate above the middle geofabric. A top geofabric layers shall be installed on top of the final aggregate grade.

- Install stone rip rap – Place stone rip rap between curb cut and catchbasin as shown on the plans and in the details.
- Placement of filter soil – Verify that material is approved prior to placement, install the filter soil and perform final grading to the needed contours. This work includes preparing the earth bed, furnishing, and placing the filter soil.
- Planting – Engineer will determine the locations that will include Sand Filter Turf Hydroseeding or Native Seeding Mixtures or Sand Filter Rain Garden plantings according to detailed specifications for items #285, #286 and #287.
- Completion of construction – Seeding of other restoration areas and installation of permanent erosion control measures, removal of excess or excavated materials, and general cleanliness and completeness of work areas.

## **PRODUCTS**

### Geofabric

Geofabric shall be constructed of a non-woven geotextile that meets AASHTO M288 Class 2. The geofabric shall be placed on the bottom, sides, and ends of the excavated sand filter with a minimum overlap of 2' at all joints. Geofabric will also be placed above the stormwater storage chambers as shown on the drawings.

### Perforated Pipe

Underdrain piping will consist of perforated single wall HDPE highway pipe with geofabric sock unless otherwise noted on Drawings. The perforations shall be slits in the corrugations spaced every 4 inches or an equivalent approved by the Engineer.

A perforated pipe shall be installed on the geofabric within the base of the storage aggregate and shall originate 1 foot short of the sand filter wall and terminate in the specified catchbasin structure.

### Stormwater Storage Chambers

The chambers shall meet the ASTM F 2922-12 standard specification for polyethylene (PE) corrugated wall stormwater storage chambers. The installed chamber system shall provide the load factors specified in the ASSHTO LRFD bridge design specifications section 12.12 for earth and live loads with consideration for impact and multiple vehicle presence. The chambers to be used shall have an open bottom and be 16" high with a width of 34" and a unit length of 85.4". End caps shall be used on each open end of unit. Chambers shall be StormTech SC-310 or equal.

### Storage Aggregate

Storage aggregate shall consist of MDOT 6A stone. The material shall be washed and contain no more than 1% fines, including silt, clay or organic material. No stone containing phosphate shall be used.

### Filter Soil

Filter soil shall be composed of 75% by weight of sand and 25% compost. Sand shall be clean construction sand, free of deleterious materials including but not limited to clay, silt, organics, woody debris, construction debris or other materials that may negatively affect infiltration. Clean construction sand or clean river-run sand is acceptable. A sample of the sand shall be made available to the Engineer prior to mixing the amended soils. Any deleterious materials in the sand will be screened at the expense of the Contractor.

Compost shall be aged yard-leaf compost and shall be free of deleterious materials including but not limited to clay, silt, manure solids, woody debris, plastics, construction debris or other materials that may negatively affect infiltration. The pH shall be between 5.5 and 8.5. Particles shall be able to pass through a 1-inch screen or smaller. Compost that smells putrid, has an ammonia odor, or shows visible signs of

mold is unacceptable. A sample of the compost shall be made available to the Engineer prior to mixing the amended soils.

#### Catch Basin Structure and Grate

The catch basin (structure) shall consist of a 3' x 3' precast or brick structure with a depth and grate size as indicated on the drawings, cast as a single unit consisting of the base and side walls and fit with a top slab frame and grate.

Structure shall have a 6" inlet cast into the catch basin chamber that extends 6" from the exterior of the structure, and shall include a break out panel for installation of the catchbasin lead to the stormwater drainage system. Pipe connection to storm sewer shall be sealed with a rubber boot to limit infiltration, or approved equal.

Specific requirements for the catch basin are as follows:

- A. Structural design calculations and Drawings shall be prepared and stamped by a professional engineer registered in the State of Michigan.
- B. All precast concrete shall have a minimum compressive strength of 5000 psi at 28 days. Water shall be kept to a minimum to obtain concrete which is as dense and watertight as possible. The maximum water-to-cement ratio shall be 0.40 by weight and the minimum cement content shall be 600 lbs of cement per cubic yard of concrete. The above ratios shall be revised for sacks of cement weighing different from 94 pounds per sack.
- C. Design Criteria
  1. All precast concrete members shall conform to ACI 318.
  2. When the design yield strength "fy" for tension reinforcement exceeds 40,000 psi, the "z" values referred to in ACI 318 shall not exceed 95 kips/in. The flexural stress in reinforcement under service loads "fs" shall be calculated and shall not be greater than 50 percent of the specified yield strength fy.
  3. The precast concrete structure's elements shall be designed to support their own weight, the weight of soil above at 120 pcf and shall be capable of withstanding a live load equal to an AASHTO HS-20 highway loading applied to the top slab.
  4. The base slab and walls shall be cast together to form a monolithic base section.
  5. All exterior walls shall be designed for an equivalent fluid pressure of 90 lbs/sq ft. The top of the pressure diagram shall be assumed to originate at finished ground level. Additional lateral pressure from approaching truck wheels shall be considered in accordance with AASHTO.
  6. The structural design shall take into account discontinuities in the structure produced by openings and joints in the structure.
  7. The structures shall be designed to prevent flotation without the benefit of skin friction when the ground water level is at finished ground surface. Flotation forces shall be resisted by the dead load of the structure and soil directly above the structure. Weight of equipment and piping within the structure and soil frictional forces shall not be considered as being effective in resisting flotation forces.
  8. If the design of the box structure requires a concrete pad to prevent flotation, the cost of designing, furnishing and installing a reinforced concrete pad shall be included in the price for the structure. Details of the design of the concrete pad (if required) shall be submitted to the Engineer for review.
  9. All walls and slabs shall be analyzed by accepted engineering principles. Openings shall be completely framed as required to carry the full design loads to support walls. All slabs and walls shall be fully reinforced on both faces and the minimum reinforcing shall be No. 5 at 12-in E.F.E.W. Additional reinforcing shall be provided around all openings.

10. The horizontal wall joints shall not be located within 18-in of the horizontal centerline of wall penetrations.
- D. The structure shall be built by the manufacturer in no more than two major sections including the top slab.
- E. Where top slabs are used or required, lifting hooks shall be provided.
- F. As required, access openings and pipe penetrations shall be formed openings and wall sleeves/pipes shall be integrally cast; all openings shall be located as shown on the Drawings.
- G. Tongue and groove joints of precast structure sections shall be sealed with either a round rubber O-ring gasket or a preformed flexible joint sealant. The O-ring shall conform to ASTM C443. The preformed flexible joint sealant shall be Kent Seal No. 2 by Hamilton-Kent; Ram-Nek by K.T. Snyder Company or equal.
- H. Joints shall be designed and manufactured so that the completed joint will withstand an internal water pressure of 15 psi without leakage or displacement of the gasket or sealant.
- I. Structure Installation
1. Structure shall be constructed to the dimensions shown on the Drawings and as specified herein. All work shall be protected against flooding and flotation.
  2. The structure base shall be placed on a bed of 12-in screened gravel as shown on the Drawings. The bases shall be set at a grade to assure that a maximum of 8-in thickness of brickwork will bring the manhole frame and cover to final grade. Cast-in-place bases shall be constructed in accordance with applicable requirements and the details shown on the Drawings.
  3. Structure shall be set plumb and with sections in true alignment with a 1/4-in maximum tolerance to be allowed. The joints of precast barrel sections shall be sealed with either a rubber O-ring set in a recess or the preformed flexible joint sealant used in sufficient quantity to fill 75 percent of the joint cavity. The outside and inside joint shall be filled with non-shrink mortar and finished flush with the adjoining surfaces. Allow joints to set for 24-hours before backfilling. Backfilling shall be done in a careful manner, bringing the fill up evenly on all sides. If any leaks appear in the manholes, the inside joints shall be caulked with lead wool to the satisfaction of the Engineer. Install the precast sections in a manner that will result in a watertight joint.
  4. Holes in the concrete barrel sections required for handling or other purposes shall be plugged with a non-shrinking grout or non-shrinking grout in combination with concrete plugs and finished flush on the inside.
  5. Penetrations must be precast sections to accommodate pipes, and all holes shall be equipped with rubber boots to provide a watertight seal around any discharge piping.
  6. Manhole pipe connections shall be accomplished in the ways specified herein. Pipe stubs for future extensions shall also be connected and the stub end closed by a suitable watertight plug.

#### Overflow Structure

The overflow structure is a 4-foot diameter concrete structure with a standard EJIW V3610-6 grate or approved equal. The perforated 6 inch underdrain from the sand filter shall extend 3 inches into the overflow structure.

Specific requirements for the slow release orifice are as follows:

A watertight seal/gasket shall be provided between the frame and inside wall to prevent leakage around the frame.

## **INSTALLATION**

The work to be performed under this contract includes, but is not limited to, constructing the work described below and all appurtenances related to the work. The work shall be as follows:

### **Submittals**

The Contractor shall submit to the Engineer sources for aggregate, filter sand, and compost.

The Contractor shall submit to the Engineer material cut sheets for geocomposite filter fabric, erosion control fabric, drain basins, grates, storage chambers, and pipe.

### **Sand Filter Construction**

Establish an access point to each sand filter as shown on the Drawings. Install erosion control measures around the perimeter of the work area as deemed necessary by the Engineer. After initial site grading, the Contractor shall provide temporary protection from curb cuts and other potential inflow entrances so that runoff drainage does not enter the sand filters during construction and installation.

The Contractor shall excavate sand filters to the elevations specified in the Drawings and specifications. Note that the base of the entire sand filter shall be excavated to the same elevation with no slope introduced. In-situ soils shall not be further compacted. Geofabric shall be installed along the base of the excavation and held in place along the excavation walls, with suitable overlaps between different sections of geofabric as required by the manufacturer.

The perforated drainage pipe shall be installed directly on the geofabric and connected to the stormwater control structure. The foundation layer of stone shall be placed to a depth of 6" and compacted. The stormwater storage chambers shall be placed on the foundation gravel, properly interconnected with other segments according to the manufacturer details, and end caps installed. The stormwater storage chamber spacing of at least 6" between units and 1' to the excavation wall shall be maintained and gravel added in 6" lifts. Gravel shall be added to 6" above the stormwater storage chambers, and another layer of geofabric shall be added. The remaining 6" storage aggregate shall be placed around and over the underdrain system.

For sand filters that require terracing or for sand filters shown with non-standard depths on the plans, additional storage aggregate shall be added and used to form the terrace elevations and open cell pavers shall be placed along slopes exceeding a 1:3 grade at all of the curb cut stormwater openings, and as specified on the Drawings. Once this work is complete, the amended filter soils as described earlier shall be placed over the storage aggregate and open cell pavers to the final grading as shown on the drawings.

Any deleterious materials in the filter soils sand will be screened at the expense of the Contractor. Soils should be pre-soaked prior to vegetation installation to aid in settling and to increase probability of vegetative success. Complete final grading of soils by hand or manually operated walk-behind equipment to achieve proposed design elevations.

For locations that call for native seeding, install native seed mix or other plant materials at the direction of the Engineer.

For locations with turf hydroseeding, the appropriate turf seed blend shall be installed in all areas containing filter soil.



For locations that call for rain garden plantings, the appropriate site preparation and plantings shall be placed at the direction of the Engineer.

All curb cuts, overland flow or other hydrologic inputs shall not be brought online and allowed to enter sand filters for at least 14 days following seeding, or until turf establishment is verified and approved by Engineer.

#### MAINTENANCE AND GUARANTEE

The Contractor shall assume responsibility for maintaining work to the end of the guarantee period. During this period, the Contractor shall make a minimum of one maintenance trip every 4 weeks during the growing season and as many more as necessary to keep the plantings and turf in a thriving condition. Maintenance activities generally include but are not limited to: prescribed burns, herbicide applications of invasive species, spot-spraying or hand-pulling undesirable weeds, irrigation, debris removal, and supplemental plantings as determined to be appropriate by the Engineer.

- Watering shall be the responsibility of the Contractor. Plugs and seed shall be kept moist for optimum plant growth (1 inch of water each week, including rainfall) for the first growing season. Any erosion resulting from watering shall be repaired by the Contractor.
- Weeding will be the responsibility of the Contractor. The sand filters will be kept free of species other than those specified in the planting plan.
- Trash removal and maintenance of the drainage structures will be the responsibility of the Contractor. The drainage structures and inlets will be kept free of debris that may block storm flows and cause an overflow of the sand filters. Protection from foot traffic, mowing, or herbicide application is the responsibility of the Contractor. Appropriate signage and/or fencing may be used following approval by the Engineer to protect the plantings until they are fully established.

The Contractor shall replace, at no cost to the Owner, all dead vegetation during the maintenance period, and will maintain the sand filters to ensure uniform healthy plant growth, in order for the site to be released by the Engineer so that the Contractor may be paid the final retainage.

#### MAINTENANCE PLAN

During the period of the contract, the contractor shall perform the elements of the Maintenance Plan, as described below. This plan requires the following bi-annual inspection (Fall and Spring) to be performed:

- Inspect and maintain the sand filter catchbasins – Vegetation, grass, bark, mulch, and accumulated leaves from the fall season, and grit from the winter season will accumulate in the sand filters. Perform inspections in the fall and spring and clear and remove these materials from the catchbasin and catchbasin sumps using a Vactor or alternative methods.
- Inspect and maintain the curb cut energy dissipation pads – Solids and grit may accumulate on the energy dissipation pads downstream from the curb cuts that enter each sand filter. Areas with accumulation should be swept or vactored to remove deposited solids. Stone rip rap may need to be added or reshaped.
- Inspect and maintain the sand filter surfaces – The sand filter surface should be inspected, and if necessary, any leaves, trash, or other material removed. A motorized vacuum methods used for leaf collection shall be employed.
- Inspect the terraces for erosion – Some sand filters may have terraces to make sure that surface water is evenly distributed. These terraces shall be inspected to verify that they have not eroded and that the spillway pavers have adequate soil to support vegetation. Any eroded areas shall be repaired to make sure that the terraces are continuous and vegetated.
- Standing water and sediment inspection – Should standing water be observed, or if the base of the sand filter is less than 4” below the catchbasin grate elevation, the surface of the sand filter may

need to be removed and replaced with appropriate filter soils and replanted. The use of 75% sand and 25% compost shall be used, and a low maintenance turf blend used to minimize the amount of mowing or watering needed in the sand filter areas. If the discharge orifice is plugged, this should be unblocked and material removed so that it will discharge flow at the required rate.

- Native planting inspection – If the sand filter has had native plantings provided, the condition of the native plantings shall be reviewed each fall to determine if the native plantings need to be burned to remove invasive plants, or if weeding is needed the following spring. Perform this maintenance as needed.

### GUARANTEE

By May 31<sup>st</sup> of the year following seeding, the sand filter and surrounding disturbed areas shall show a uniform density of healthy specimens of turf or native cover. The sand filters shall also be free of weeds and trash, and covered in a uniform layer of mulch, as determined by the Engineer.

Establishment of a dense stand of native perennial flowering species or turf in the sand filters and uniform lawn in the disturbed areas around the sand filters within the first year following planting is the responsibility of the Contractor.

Uniform density is deemed as 85% coverage of all sand filter areas, with no bare patches greater than 4 square feet within the sand filters, or bare patches greater than 1 square foot within the areas of turf grass. Any area in the sand filters that fails to show a uniform density of plants shall be replanted with appropriate native seed mix, temporary stabilization seed mix, or turf. Any bare patches around the borders will be reseeded with fescue until a uniform density of turf grass is established.

### MEASUREMENT AND PAYMENT

The completed work as measured will be paid for at the Contract Unit Price for the following contract items (pay items):

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Sand Filter (ADS SC-310 storm chamber)	Square Foot
Sand Filter Catch Basin Structure and Grate	Each
Sand Filter Overflow Structure	Each

The unit price includes all labor, equipment, materials, and documents necessary to install the sand filter, catchbasin, stop gate and control orifice as detailed in the plans.

## CITY OF ANN ARBOR LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

*Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here [ ] No. of employees \_\_\_\_\_*

The Contractor or Grantee agrees:

- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$12.93/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$14.43/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance (Section 1:815(3)).

*Check the applicable box below which applies to your workforce*

- [ ] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits
- [ ] Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits
- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Signature of Authorized Representative                      Date

\_\_\_\_\_  
Print Name and Title

\_\_\_\_\_  
Address, City, State, Zip

\_\_\_\_\_  
Phone/Email address

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500

**CITY OF ANN ARBOR  
LIVING WAGE ORDINANCE**

**RATE EFFECTIVE APRIL 30, 2016 - ENDING APRIL 29, 2017**

**\$12.93 per hour**

If the employer provides health care benefits\*

**\$14.43 per hour**

If the employer does **NOT** provide health care benefits\*

Employers providing services to or for the City of Ann Arbor or recipients of grants or financial assistance from the City of Ann Arbor for a value of more than \$10,000 in a twelve-month period of time must pay those employees performing work on a City of Ann Arbor contract or grant, the above living wage.

**ENFORCEMENT**

The City of Ann Arbor may recover back wages either administratively or through court action for the employees that have been underpaid in violation of the law. Persons denied payment of the living wage have the right to bring a civil action for damages in addition to any action taken by the City.

Violation of this Ordinance is punishable by fines of not more than \$500/violation plus costs, with each day being considered a separate violation. Additionally, the City of Ann Arbor has the right to modify, terminate, cancel or suspend a contract in the event of a violation of the Ordinance.

\* Health Care benefits include those paid for by the employer or making an employer contribution toward the purchase of health care. The employee contribution must not exceed \$.50 an hour for an average work week; and the employer cost or contribution must equal no less than \$1/hr for the average work week.

**The Law Requires Employers to Display This Poster Where Employees Can Readily See It.**

**For Additional Information or to File a Complaint Contact:  
Colin Spencer at 734/794-6500 or [cspencer@a2gov.org](mailto:cspencer@a2gov.org)**

LW-1

**Pre-Bid Meeting for the  
Springwater Subdivision Improvements Project – Phase II**

**March 24, 2016 @ 10:30 a.m. in the Basement Conference Room, City Hall**

I. Introductions

II. Addendum Items

- a. Addendum #1 – will include the following:
  - i. Pre-Bid minutes, including sign in sheet
  - ii. Vender Conflict of Interest form
  - iii. Remove Detailed Specification for the Acceptance of HMA Material

III. General

- a. Project Overview
- b. Standard Specifications and Detailed Specifications
  - i. Project Schedule
    - Starting Date – May 30<sup>th</sup>
    - Completion Date – October 14<sup>th</sup> (137 days after commencement of work)
    - Hours of work: 7:00 a.m. to 8:00 p.m. Monday thru Saturday (Sundays with permission)
  - ii. Engineer’s estimate - \$2,656,656.00
  - iii. General Conditions
    - 1. Street sweeping & dust control
  - iv. Access to driveways - Contractor responsible for maintaining access to driveways during construction, and notifying residents when access will be unavailable (i.e. during paving, concrete work)
  - v. SRF Funded Project
    - Buy America** – Contractors will be required to show proof that all iron and steel are manufactured in the US.
    - Certified Payrolls** – Contractors will be required to submit weekly certified payrolls and wage rate interview will be conducted. In addition, wages must meet the current wage decision, which maybe updated ten days before the bid opening.
    - DBE Requirement** – This project also requires the Contractor to seek and use disadvantage businesses. The contractor will be required to show a good faith effort in hiring DBE certified contractors in accordance with the detailed specifications. This includes the submittal of the “Good Faith Efforts Worksheets”, faxes or emails.
    - Debarment Certification** – This project requires that the Contractor sign and submit the Debarment Certification.

IV. Construction

- a. Utility Construction
  - i. Water Main – Installation and Testing
  - ii. Sanitary sewer pipe and internal drop connection
  - iii. Storm sewer improvements including sand filters

- iv. Reminder that all new sanitary and storm sewers (including manholes) shall be cleaned and televised before final acceptance
- b. Reconstruction the road and paving –
- c. Sidewalk and ADA Ramps – ADA compliance MUST be achieved at all locations
- d. Landscape Items and Restoration
  - i. Topsoil and Hydroseeding
  - ii. Trees and shrubs
  - iii. Area of Native seeding
  - iv. Areas of rain garden plantings

V. Other Items

- a. The existing sanitary sewer was lined and video taped and the report will be available to the Contractor prior to the preconstruction meeting.
- b. The depth of the Sand Filter Catch Basins are 5.2 feet.
- c. The 12 inch sand subbase, CIP in the road shall consist of MDOT Granular Material Class II, Modified. This change will be reflected in Addendum #1.
- d. The PVC membrane surrounding the sand filter will be eliminated and will be reflected in Addendum #1.
- e. The aggregate stone backfill shall be eliminated at the top of the Sand Filter Overflow Structure detail and will be reflected in Addendum #1.
- f. The aggregate backfill over the underground storage chambers shall consist of clean, washed MDOT 6A stone and will be reflected in Addendum #1.
- g. The castings for all new structures are included in the pay items for the specific structures and shall not be paid for separately.

Contact Information:

**Anne Warrow**

**Project Manager**

**Phone: (734) 794-6410 ext. 43639**

**Fax: (734) 994-1744**

**E-mail: [awarrow@a2gov.org](mailto:awarrow@a2gov.org)**

## PRE-BID MEETING SIGN-IN SHEET

**PROJECT: Springwater Subdivision Improvements Project Phase II, Bid FILE #: 2015-018 DATE: 3/24/2016**

**PLEASE PRINT (All information needs to be filled in to receive meeting minutes)**

NAME	REPRESENTING	MAILING ADDRESS	TELEPHONE	EMAIL
Anne Warrow Project Manager	City of Ann Arbor - Project Management	Address: <u>301 E. Huron Street P.O. Box 8647</u> City, State: <u>Ann Arbor, MI</u> Zip: <u>48107-8647</u>	Direct: (734) 794-6410 Mobile: (734) 323-6155 Fax: (734) 994-1744	<a href="mailto:awarrow@a2gov.org">awarrow@a2gov.org</a>
Mike Clark	L M Clarke	Address: <u>50850 Bemis</u> City, State: <u>Belleville</u> Zip: <u>48111</u>	Office: (734) <u>481-1565</u> Mobile: 810-560-3111 Fax No. ( )	<a href="mailto:L.HARMALA@LMCLARK.COM">L.HARMALA@LMCLARK.COM</a>
Mike Tooley	Bailey Excavating	Address: <u>1073 Toro</u> City: <u>State Jackson MI</u> Zip: <u>49201</u>	Office: ( 517 ) <u>750-3030</u> Mobile: ( 517 ) <u>812-7515</u> Fax No. ( 517 ) <u>750-1095</u>	<a href="mailto:miket@bailey-excavating.com">miket@bailey-excavating.com</a>
Ryan Moon	DESU	Address: <u>7810 Whittaker Road</u> City, State <u>Jackson, MI</u> Zip: <u>48197</u>	Office: ( 734 ) <u>487-6454</u> Mobile: ( 734 ) <u>216-0875</u> Fax No. ( 734 ) <u>487-6454</u>	<a href="mailto:ryanm1028@yahoo.com">ryanm1028@yahoo.com</a>
David Chie	DESU	Address: <u>7810 Whittaker Road</u> City, State: <u>Ypsilanti</u> 48189	Office: ( 734 ) <u>487-6454</u> Mobile: ( 734 ) <u>216-0733</u> Fax No. ( )	<a href="mailto:chidiversified@yahoo.com">chidiversified@yahoo.com</a>
Jacob Bailey	Bailey Excavating	Address: <u>1073 Toro</u> City, State <u>Jackson, MI</u> Zip: <u>49201</u>	Office: (517) <u>750-3030</u> Mobile: ( 517 ) <u>740-0371</u> Fax No. ( 517 ) <u>750-1095</u>	<a href="mailto:jacobbailey@baileyexcavating.com">jacobbailey@baileyexcavating.com</a>
Mike Haeussler	D.N. Higgins	Address: <u>3390 Travis Pointe Road</u> City, State: <u>Ann Arbor MI</u> 48108	Office: (734) <u>996-9500</u> Mobile: ( 734 ) <u>260-1732</u> Fax No. ( 734 ) <u>996-8480</u>	<a href="mailto:mikeh@dnhiggins.com">mikeh@dnhiggins.com</a>
Brian Hoffman	Hoffman Bros	Address: <u>8574 Verona Road</u> City, State: <u>Ann Arbor, MI</u> 48108	Office: (769)- <u>965-1207</u> Mobile: _____ Fax No. (769) <u>965-6701</u>	<a href="#">??? Not legible</a>

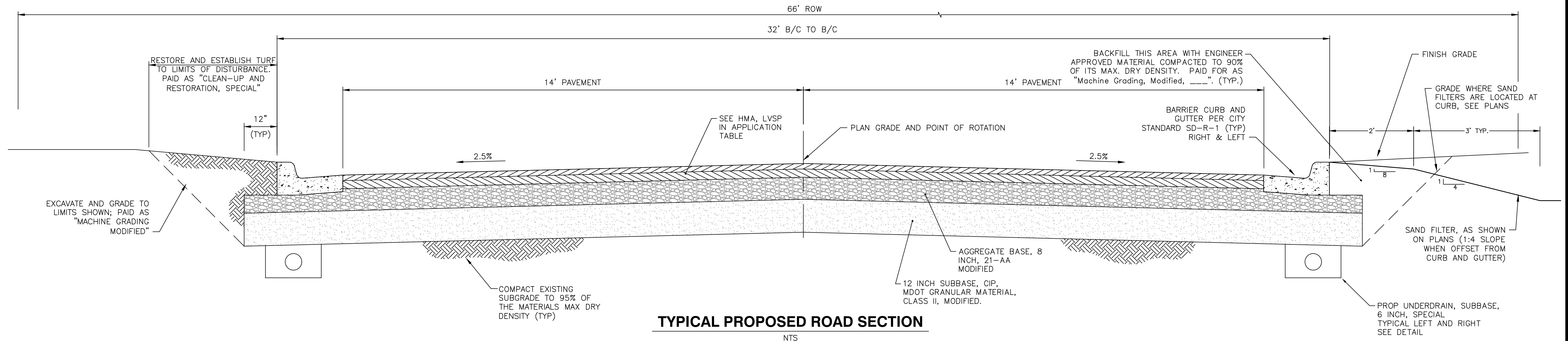
**PROJECT: Springwater Subdivision Improvements Phase II, Bid FILE #: 2015-018 Date\_03/24/3016**

**PLEASE PRINT (All information needs to be filled in to receive meeting minutes)**

NAME	REPRESENTING	MAILING ADDRESS	TELEPHONE	EMAIL
John Neimiec	ET Mackenzie	Address: <u>6400 Jackson Road</u> City, State: <u>Ann Arbor , MI</u> Zip: <u>48108</u>	Office: ( 734 ) 761-5050 Mobile: ( 734 ) 216-0995 ) Fax No. ( 734 ) <u>761-5323</u>	<a href="mailto:jneimiec@mackenzie.com">jneimiec@mackenzie.com</a>
Brendan Fons	Fonson Company Inc.	Address: <u>7644 Whitmore Lake Road</u> City, State: <u>Brighton, MI</u> Zip: <u>48116</u>	Office: ( 810 ) <u>231-5188</u> Mobile: ( 810 ) 397-3065 Fax No. ( 810 ) <u>231-5404</u>	<a href="mailto:bfons@fonsoninc.com">bfons@fonsoninc.com</a>
Chris Carson	City of Ann Arbor - Project Management Unit	Address: <u>301 E. Huron Street P.O. Box 8647</u> City, State: <u>Ann Arbor, MI</u> Zip: <u>48107-8647</u>	Office: ( ) _____ Mobile: ( ) _____ Fax No. ( ) _____	<a href="mailto:ccarson@a2gov.org">ccarson@a2gov.org</a>
Jane Allen	City of Ann Arbor - Project Management Unit	Address: <u>301 E. Huron Street P.O. Box 8647</u> City, State: <u>Ann Arbor, MI</u> Zip: <u>48107-8647</u>	Office: ( ) _____ Mobile: ( ) _____ Fax No. ( ) _____	
		Address: _____ City, State: _____ Zip: _____	Office: ( ) _____ Mobile: ( ) _____ Fax No. ( ) _____	
		Address: _____ City, State: _____ Zip: _____	Office: ( ) _____ Mobile: ( ) _____ Fax No. ( ) _____	
		Address: _____ City, State: _____ Zip: _____	Office: ( ) _____ Mobile: ( ) _____ Fax No. ( ) _____	
		Address: _____ City, State: _____ Zip: _____	Office: ( ) _____ Mobile: ( ) _____ Fax No. ( ) _____	
		Address: _____ City, State: _____ Zip: _____	Office: ( ) _____ Mobile: ( ) _____ Fax No. ( ) _____	



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**TYPICAL PROPOSED ROAD SECTION**

NTS


**CONSTRUCTION NOTES:**

- DRIVEWAYS AND ENTRANCES TO BUILDINGS, REAL PROPERTY, AND THE LIKE SHALL NOT BE BLOCKED EXCEPT FOR SHORT DURATIONS AND ONLY WHEN APPROVED BY THE ENGINEER. VEHICULAR AND PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL NECESSARY DRIVEWAY CLOSURES WITH THE PROPERTY OWNER(S) AND RESIDENT(S) IN THE AREAS OF CONSTRUCTION.
- THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- LOCATION AND DEPTH OF UTILITIES AS DEPICTED ON THE PLANS IS APPROXIMATE AND SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE AHEAD AND ADJUST DEPTH OF CONFLICT UTILITIES ACCORDINGLY. ANY DAMAGE TO UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID AND/OR REPAIR AS NECESSARY.
- THE CONTRACTOR IS TO TAKE SPECIAL CARE TO PROTECT THE EXISTING WATER MAIN AND BE RESPONSIBLE FOR MAINTAINING CONSISTENT WATER SERVICE.
- DURING NON-WORKING HOURS NO MORE THAN TEN (10) FEET OF TRENCH SHALL REMAIN OPEN; ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".
- CITY OF ANN ARBOR FIELD OPERATIONS SERVICE WILL INSTALL THE CORPORATION AND COPPER SERVICE LEAD(S) TO TRANSFER THE CONNECTION(S). IF AN EXISTING WATER SERVICE IS FOUND TO BE FAILING OR IS NOT CURB, THE LEAD WILL BE REPLACED TO THE CURB BOX BY FIELD OPERATIONS SERVICE.
- FOR THE INSTALLATION OF CORPORATIONS, OR ANY OTHER RELATED ACTIVITIES, THE CONTRACTOR SHALL NOT RECEIVE ADDITIONAL COMPENSATION FOR DELAYS DUE TO THE SCHEDULING OF OR COORDINATION WITH THE CITY OF ANN ARBOR FIELD OPERATIONS SERVICE.
- TRENCHES FOR NEW WATER SERVICES SHALL BE EXCAVATED TO MIOSHA AND CITY OF ANN ARBOR FIELD OPERATIONS SERVICE REQUIREMENTS.
- THE CONTRACTOR SHALL BACKFILL TRENCHES IN ACCORDANCE WITH TRENCH DETAIL SPECIFIED ON PLANS. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "EXCAVATE AND BACKFILL FOR WATER SERVICE TAP AND LEAD". ALL CONCRETE REMOVALS AND REPLACEMENTS REQUIRED FOR THIS WORK WILL BE PAID FOR SEPARATELY.
- ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYETHYLENE WRAPPED PER ANSI/AWWA C105/A21.5.
- COR-BLU BOLTS TO BE USED AT ALL MECHANICAL WATER MAIN JOINTS AT HYDRANTS AND MEGALUG FITTINGS
- THE CONTRACTOR SHALL CONSTRUCT, FLUSH, AND BACTERIOLOGICALLY TEST THE WATER MAIN PER DETAILED SPECIFICATION "WATER MAIN INSTALLATION AND TESTING" AND AS APPROVED BY THE ENGINEER. ALL CHLORINATED WATER SHALL BE DISCHARGED DIRECTLY INTO AN APPROVED SANITARY SEWER. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY HOSES, FITTINGS AND THE LIKE TO ACCOMPLISH THIS WORK.
- WATER MAIN FITTINGS, OTHER THAN THOSE SPECIFICALLY LISTED AS SEPARATE PAY ITEMS, WHICH ARE REQUIRED TO COMPLETE THE WORK, SUCH AS BLOW-OFF ASSEMBLIES, CONCRETE THRUST BLOCKS, SOLID SLEEVES AND MECHANICAL PLUGS, SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PIPE PAY ITEMS.
- "NO PARKING" SIGNS SHALL BE INSTALLED BY THE CONTRACTOR AT LOCATIONS AS APPROVED OR DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS.
- POSTAL DELIVERY AND REFUSE PICKUP SERVICE SHALL BE MAINTAINED AT ALL TIMES BY THE CONTRACTOR.
- ALL FITTINGS, HYDRANTS, VALVES AND CASTINGS REMOVED DURING CONSTRUCTION ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR WITHIN 48 HOURS SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
- WHERE STREET CURBS ARE UNDERMINED DUE TO CONSTRUCTION ACTIVITIES, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF THE TEMPORARY ROAD SURFACE AND SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA UNTIL THE FULL COMPLETION OF THE PROJECT. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".
- ALL CURB, SIDEWALK, DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS DONE.
- SAWED SEWER PIPE CONNECTIONS SHALL BE COUPLED WITH A FERNCO FLEXIBLE COUPLING AND A STAINLESS STEEL SHEAR RING.

- THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS TO BE APPROVED BY THE ENGINEER.
- FOR MAINLINE PAVING, THE WIDTH OF THE MAT FOR EACH PASS OF THE PAVER SHALL BE NOT LESS THAN 10.5' OR GREATER THAN 15', AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL DIRECT THE LAYOUT OF THE LONGITUDINAL JOINTS DURING CONSTRUCTION.
- ALL STRUCTURES SHALL RECEIVE NEW CASTINGS AS DIRECTED BY THE ENGINEER, AS SPECIFIED ON THE STANDARD CASTING SCHEDULE. THE EXISTING CASTINGS ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
- PAYMENT FOR DRAINAGE STRUCTURE SUMPS, WHERE SPECIFIED, SHALL BE INCLUDED IN THE PAYMENT FOR THE VARIOUS DRAINAGE STRUCTURE SIZES AND OR TYPES.
- WHERE SEWER PIPES OF DIFFERENT MATERIALS ARE JOINED, FERNCO FLEXIBLE COUPLINGS WITH STAINLESS STEEL SHEAR RINGS SHALL BE USED. THE CONTRACTOR'S PURCHASE PRICE FOR THESE DEVICES, INCLUDING SHIPPING, SHALL BE PAID AS AN EXTRA. PRIOR TO PAYMENT FOR THIS ITEM, THE CONTRACTOR SHALL SUBMIT RECEIPTS FOR THE ENGINEER'S REVIEW AND APPROVAL. ALL OTHER COSTS ASSOCIATED WITH THE INSTALLATION OF THESE DEVICES SHALL BE INCLUDED IN THE PAYMENT FOR THE SEWER.
- WHERE SEWER AND WATER MAIN ARE TO BE REMOVED & REPLACED OR ADDED, ALL PIPE SHALL BE INSTALLED USING TRENCH DETAIL DETAILED IN THE SPECIFICATIONS OR SHOWN ON PLANS. BACKFILL FOR SEWER AND WATER CONSTRUCTION SHALL BE MDOT GRANULAR MATERIAL, CLASS II, MODIFIED.
- EXISTING STREET NAME, GUIDE, AND REGULATORY SIGNS, AND MAILBOXES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION. STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN "MINOR TRAFFIC CONTROL".
- IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH CITY OF ANN ARBOR DETAIL SD-TD-11, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW TOP OF PROPOSED PAVEMENT.

HMA APPLICATION ESTIMATE					
HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AWI (MIN.)	BINDER	LOCATION/NOTES
LVSP	170 LB/SYD	1.5	260	PG-5B-2B	TOP COURSE
LVSP	170 LB/SYD	1.5	-	PG-5B-2B	LEVELING COURSE
LVSP	283 LB/SYD	2.5	-	PG-5B-2B	BASE COURSE
Bond Coat SS-1h	0.05 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM

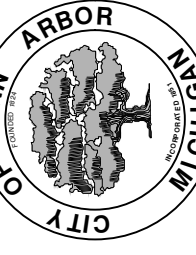
BM #	ELEV	DESCRIPTION
1	820.397	BENCHTIE IN SOUTHWEST FACE OF UTILITY POLE AT THE SOUTHWEST CORNER OF BUTTERNUT STREET AND McCOMB STREET.
2	818.947	BENCHTIE IN SOUTHWEST FACE OF UTILITY POLE AT THE NORTHEAST CORNER OF REDWOOD AVENUE AND CARDINAL AVENUE.
3	830.489	GEAR PIN IN WEST FACE OF LIGHT POLE AT THE NORTHEAST CORNER OF CARDINAL AVENUE AND SHARON DRIVE.
4	825.336	BENCHTIE IN SOUTHWEST FACE OF LIGHT POLE AT THE NORTHEAST CORNER OF SHARON DRIVE AND ROSEDALE STREET.
5	826.929	BENCHTIE IN SOUTH FACE OF UTILITY POLE AT THE NORTHWEST CORNER OF ROSEDALE STREET AND REDWOOD AVENUE.
6	820.460	BENCHTIE IN SOUTH FACE OF LIGHT POLE AT THE NORTHWEST CORNER OF ST. AUBIN AVENUE AND SPRINGBROOK AVENUE.
7	827.227	NAIL IN NORTH FACE OF UTILITY POLE AT THE NORTHEAST CORNER OF NORDMAN ROAD AND REDWOOD AVENUE.
8	820.434	NAIL IN SOUTHWEST FACE OF UTILITY POLE ON THE EAST SIDE OF ROSEDALE AVENUE +/- 150 FEET SOUTH OF ST. AUBIN AVENUE.
9	821.800	GEAR PIN IN WEST FACE OF UTILITY POLE ON THE EAST SIDE OF CARDINAL AVENUE +/- 200 FEET SOUTH OF REDWOOD AVENUE.



Know what's below. Call before you dig.

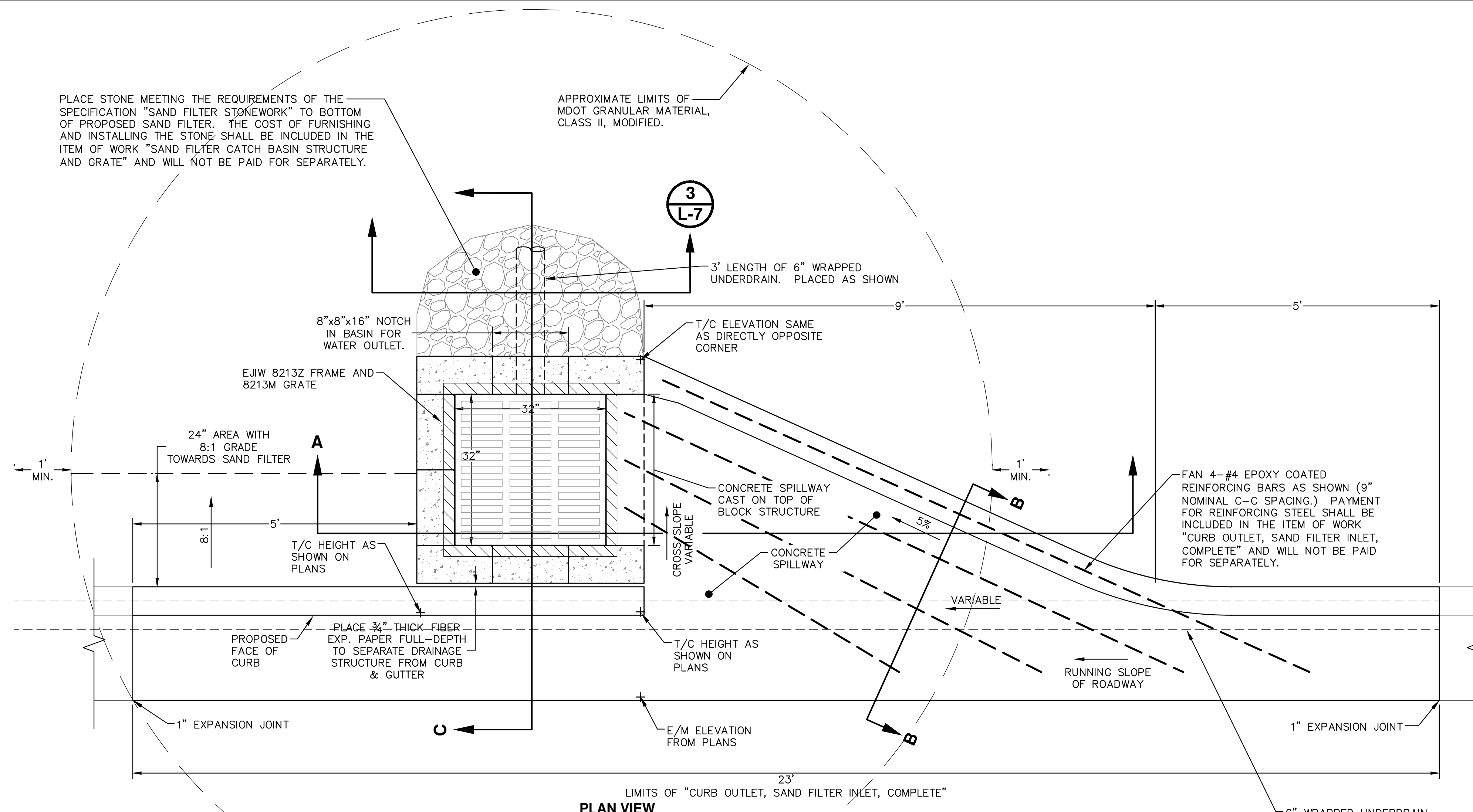
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01	OUT FOR BID	03-09-16	CEC	AMW	DRAWN				
00	MOECO SUBMITTAL	12/04/2015	JKA	AMW	DATE				

**CITY OF ANN ARBOR**  
 PUBLIC SERVICE  
 301 EAST HURON STREET  
 P.O. BOX 888  
 ANN ARBOR, MI 48106-0888  
 734-754-4410  
 www.a2gov.org

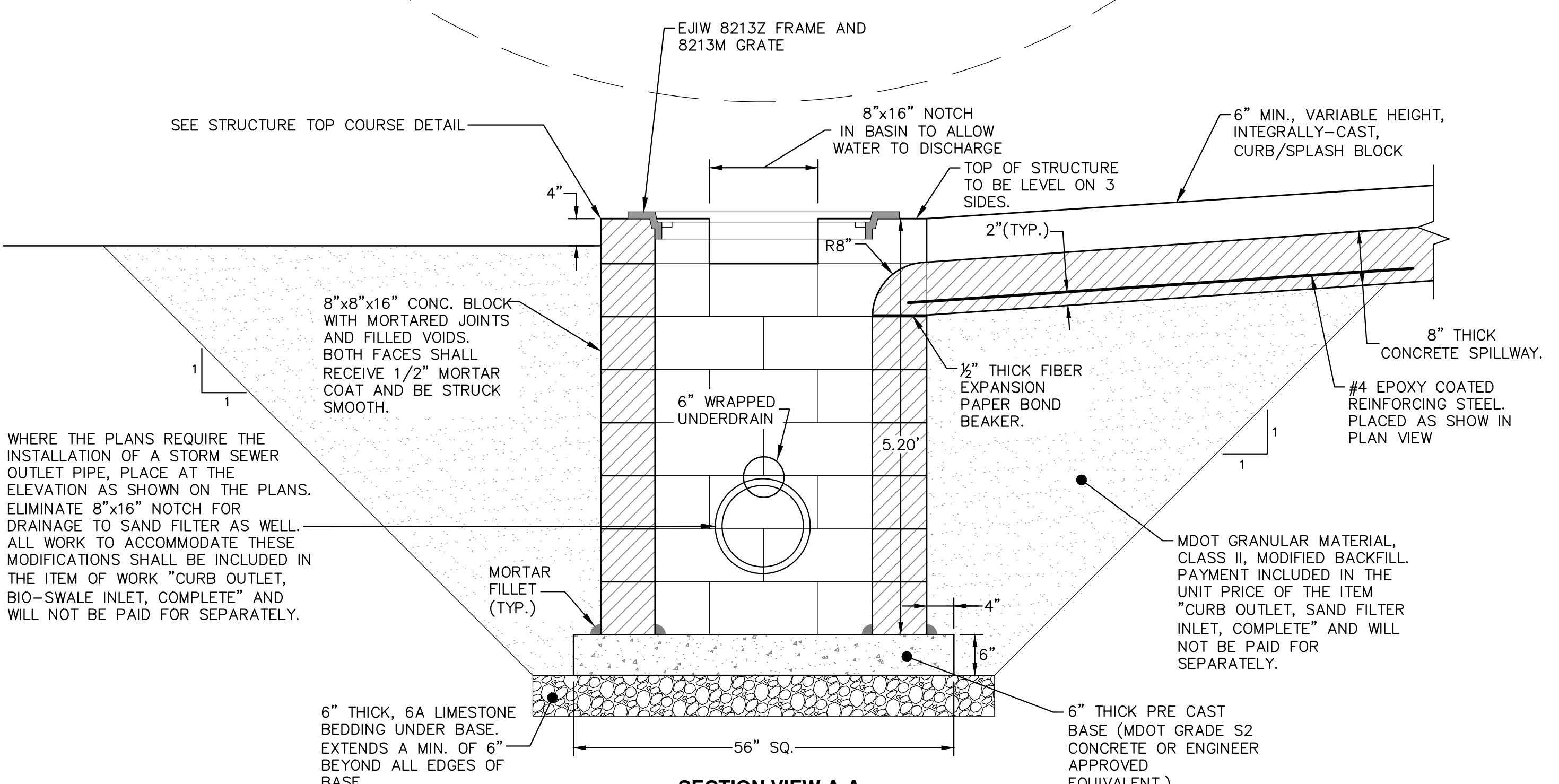


**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SCALE: N/A**  
**SPRINGWATER SUBDIVISION - PHASE II**  
**NOTES AND TYPICAL ROAD CROSS SECTION**  
 DRAWING NO. 2015018-3  
 SHEET No. 3 OF 68

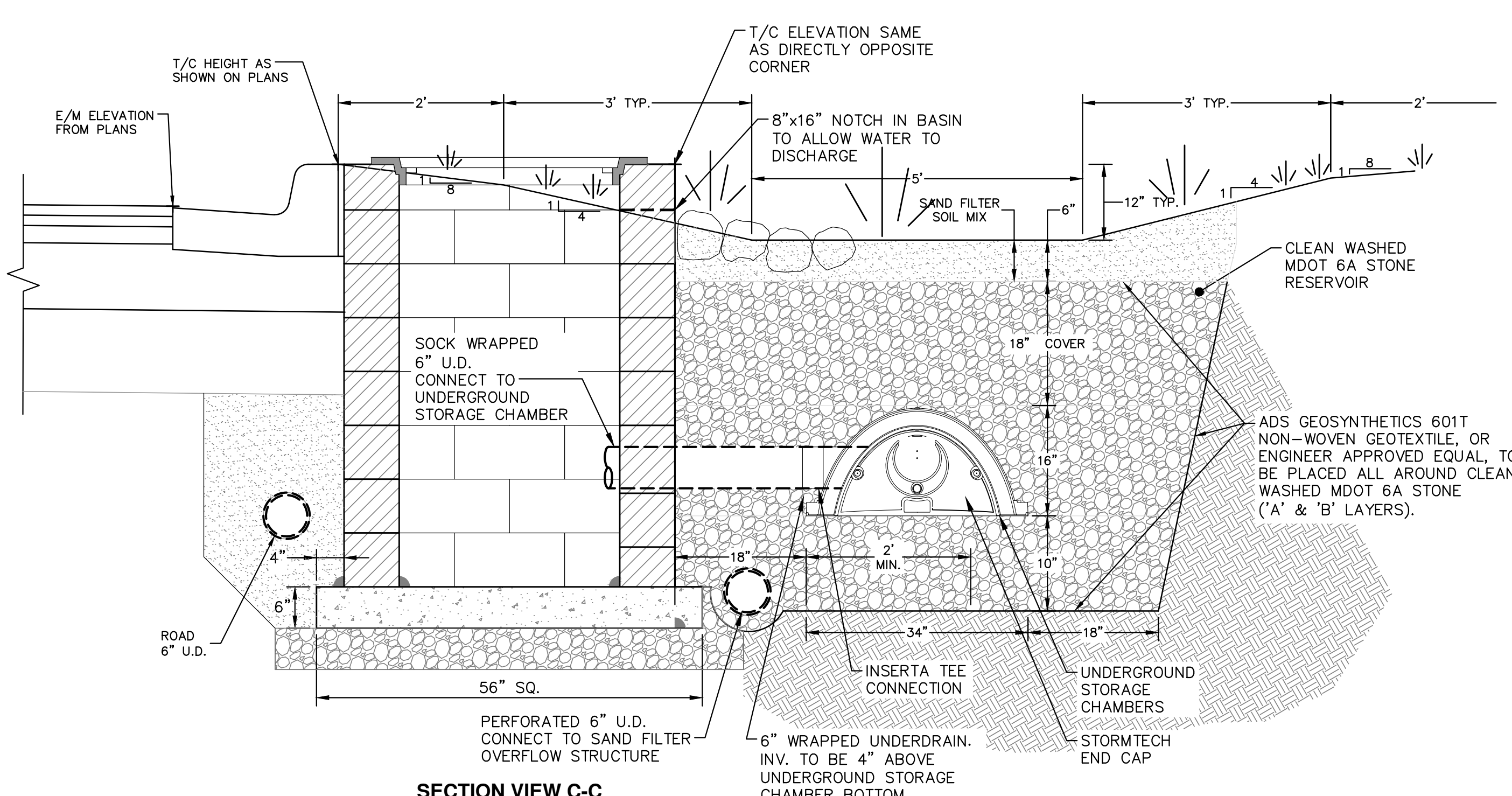
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LIMITS OF "CURB OUTLET, SAND FILTER INLET, COMPLETE"  
**PLAN VIEW**

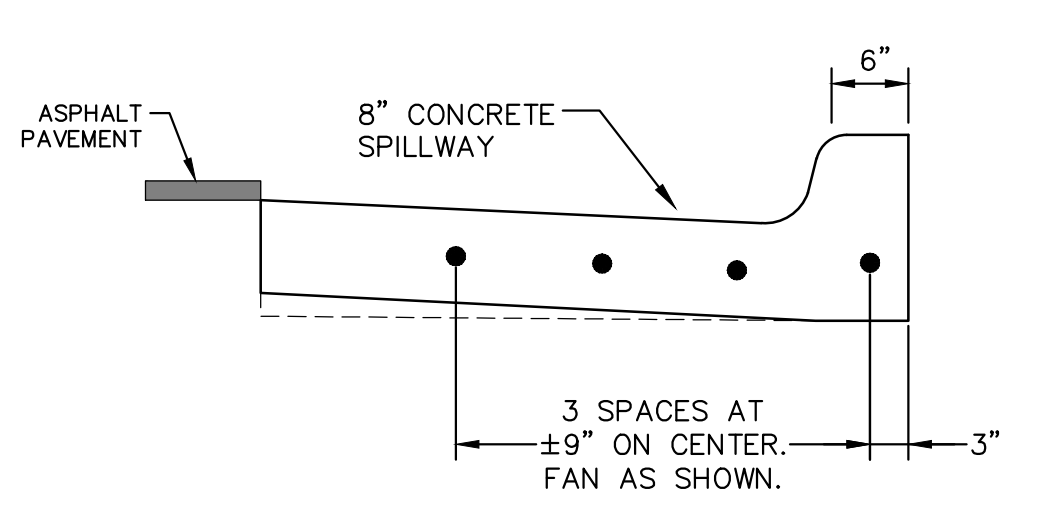


**SECTION VIEW A-A**

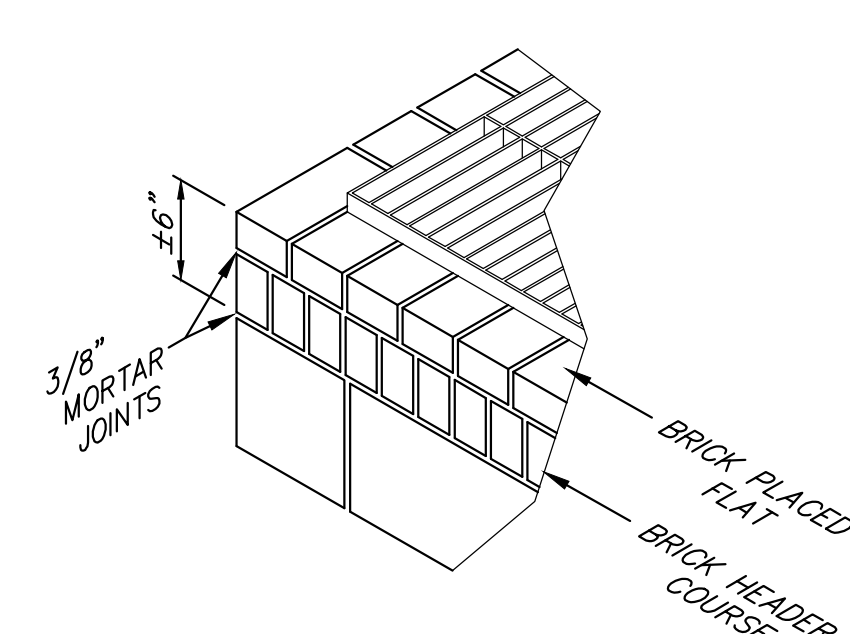


**SECTION VIEW C-C FOR SINGLE CHAMBER STORAGE**

**CURB OUTLET / SAND FILTER INLET**



**SECTION VIEW B-B**



**STRUCTURE TOP COURSE DETAIL**

- NOTES:
1. PLACE TWO ROWS OF CONCRETE MANHOLE BRICK AS SHOWN SUCH THAT STEEL GRATING IS AT AN ELEVATION FLUSH WITH, OR SLIGHTLY BELOW THE TOP OF CURB.
  2. ALL LABOR, EQUIPMENT, AND MATERIALS NEEDED TO CONSTRUCT "CURB OUTLET, SAND FILTER INLET, COMPLETE" AS SHOWN ON THIS DETAIL SHALL BE INCLUDED IN THE ITEM OF WORK "CURB OUTLET, SAND FILTER INLET, COMPLETE" AND WILL NOT BE PAID FOR SEPARATELY.

**811**  
Know what's below. Call before you dig.

AWW	CEC/DFP	AWW	CEC	AWW	CEC	AWW	CEC
03-27-16	03-09-16	12/04/2015					
ADDENDUM #1	OUT FOR BID	WECO SUBMITTAL	DATE	DESCRIPTION	REV.		
02	01	00					

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
PO BOX 8647  
ANN ARBOR MI 48106-8647  
www.a2gov.org

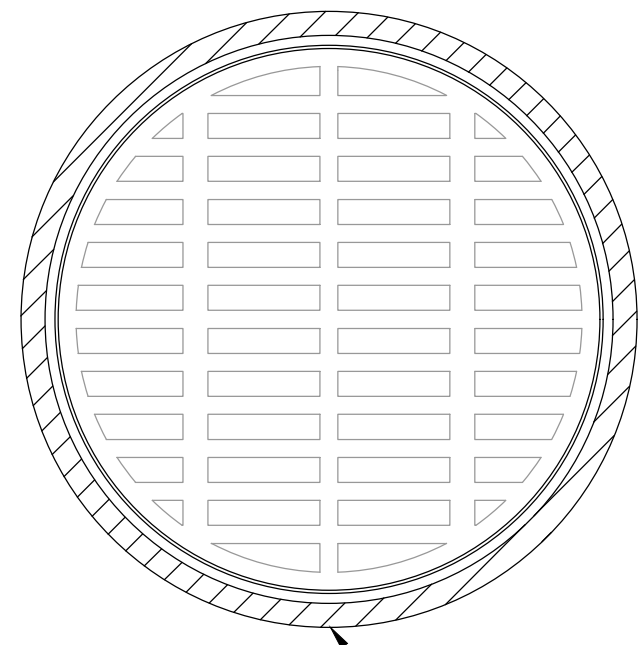
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**

CURB OUTLET SAND FILTER INLET DETAIL

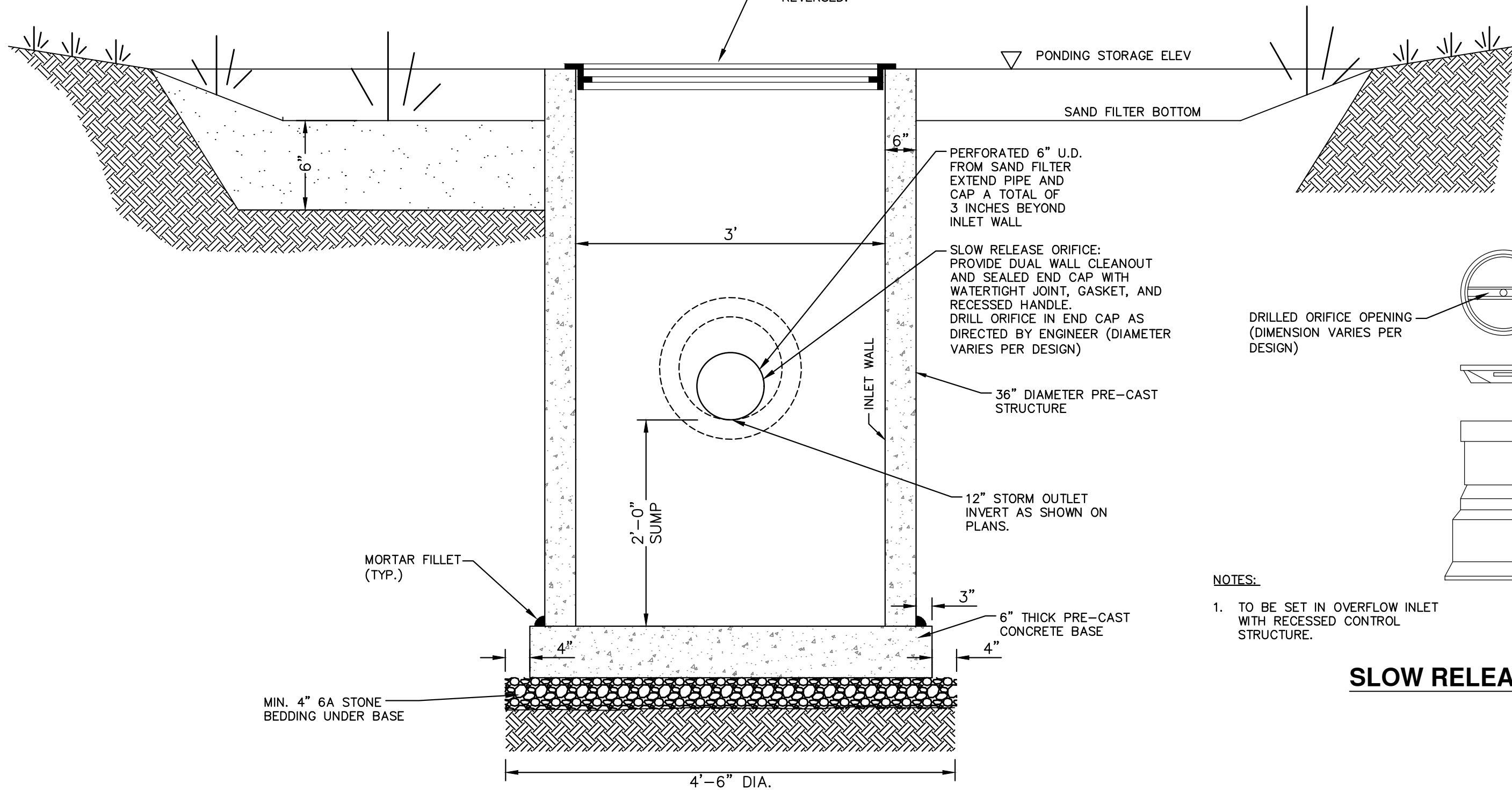
SCALE: NTS  
DRAWING No. 2015018-6  
SHEET No. 6 OF 68

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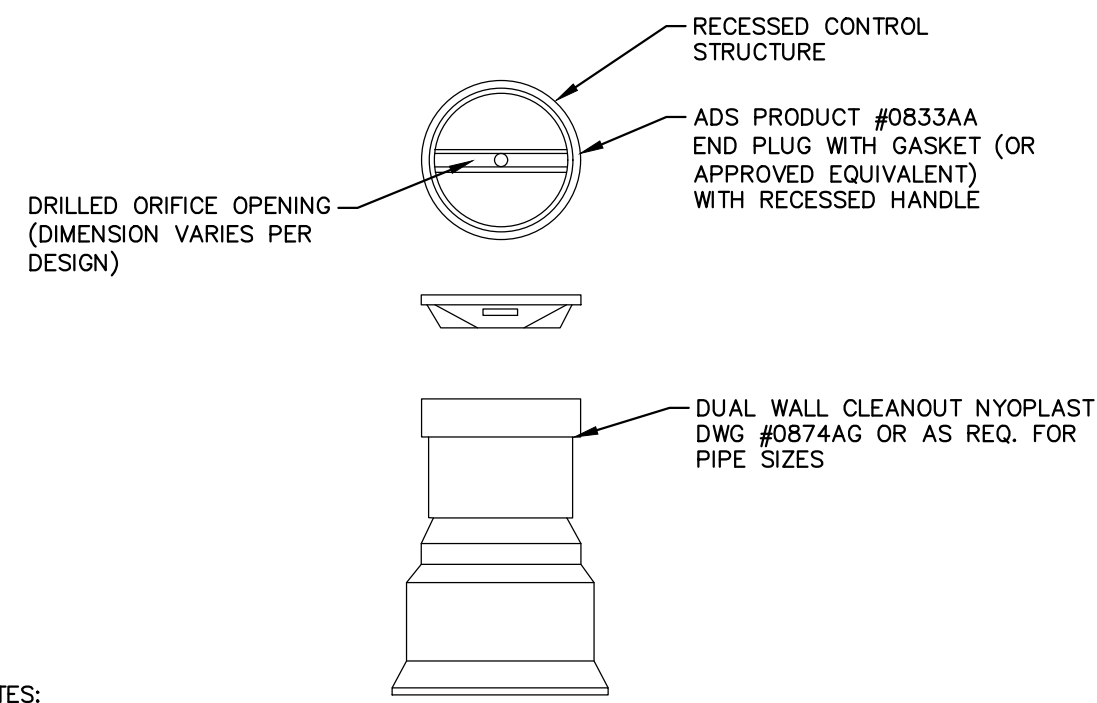
**GRATE DETAIL**



EJW V3610-6 DI V1610-6 BF ASSEMBLY. FRAME TO BE INSTALLED REVERSED.

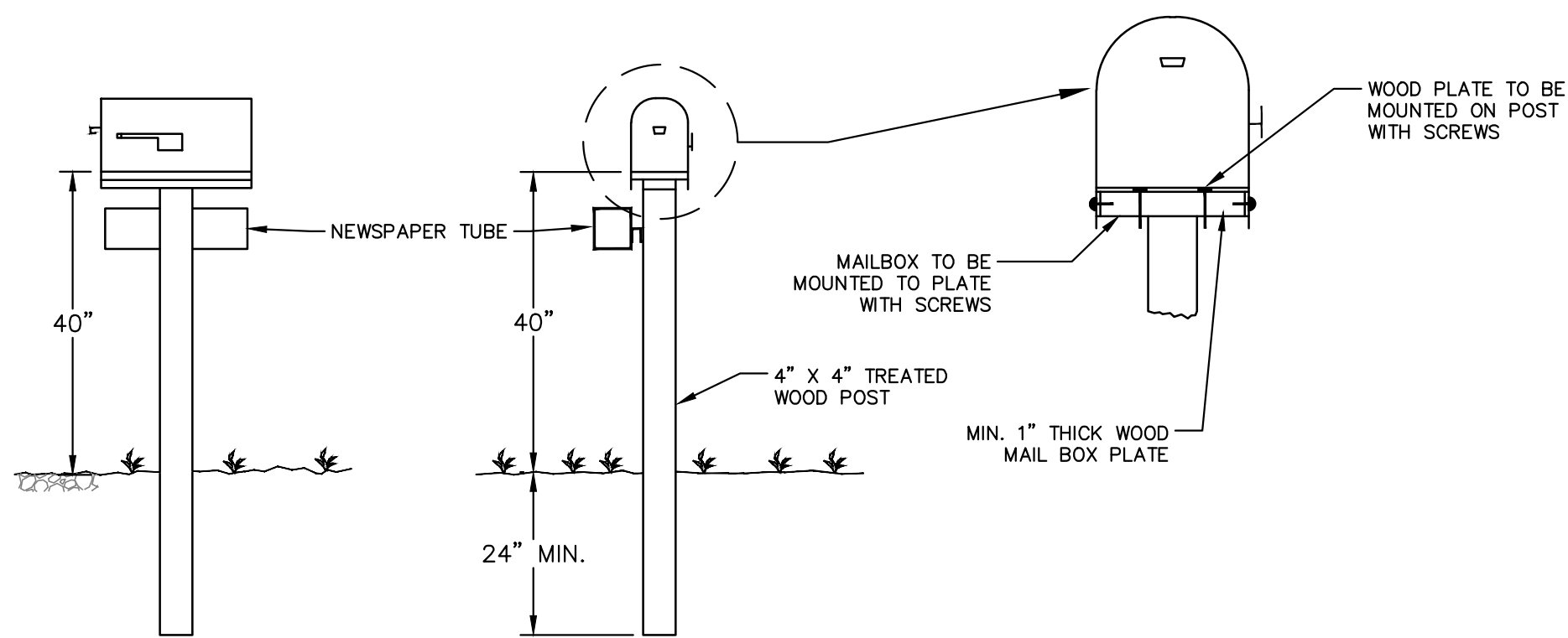


**SAND FILTER OVERFLOW STRUCTURE, 3'**



**SLOW RELEASE ORIFICE**

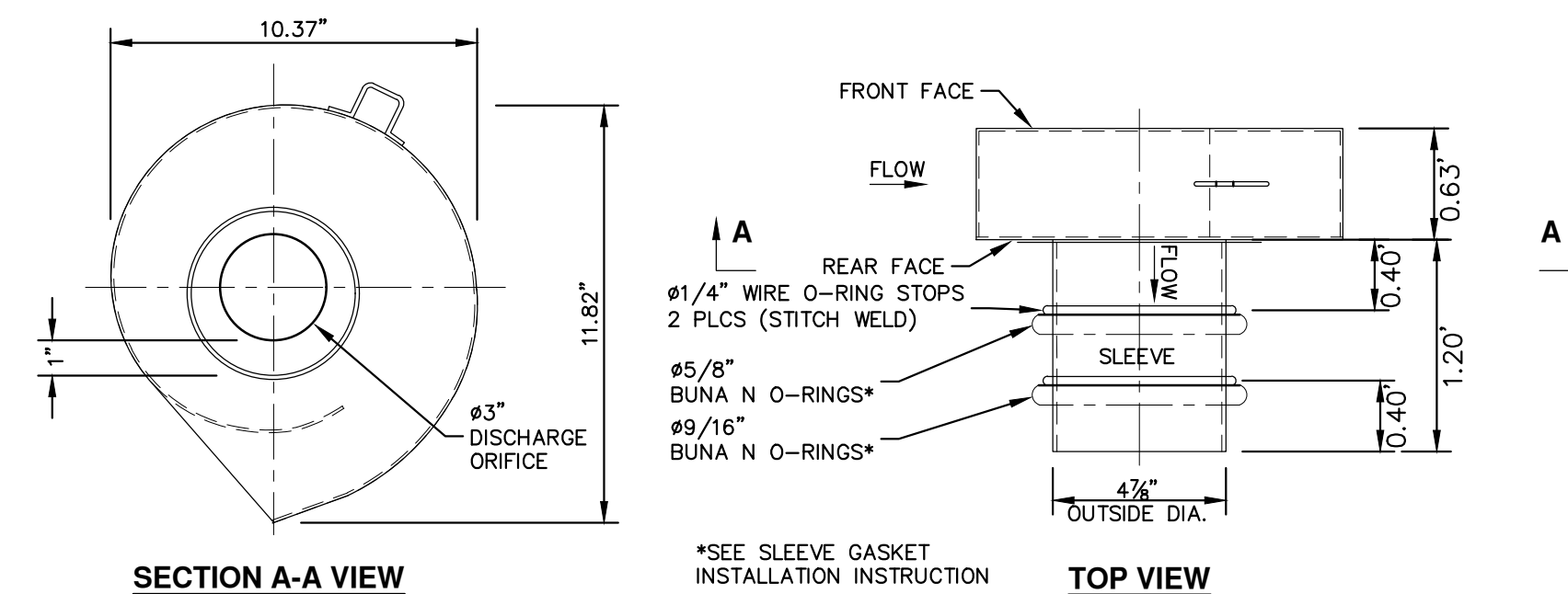
- NOTES:
1. TO BE SET IN OVERFLOW INLET WITH RECESSED CONTROL STRUCTURE.



NOTES:

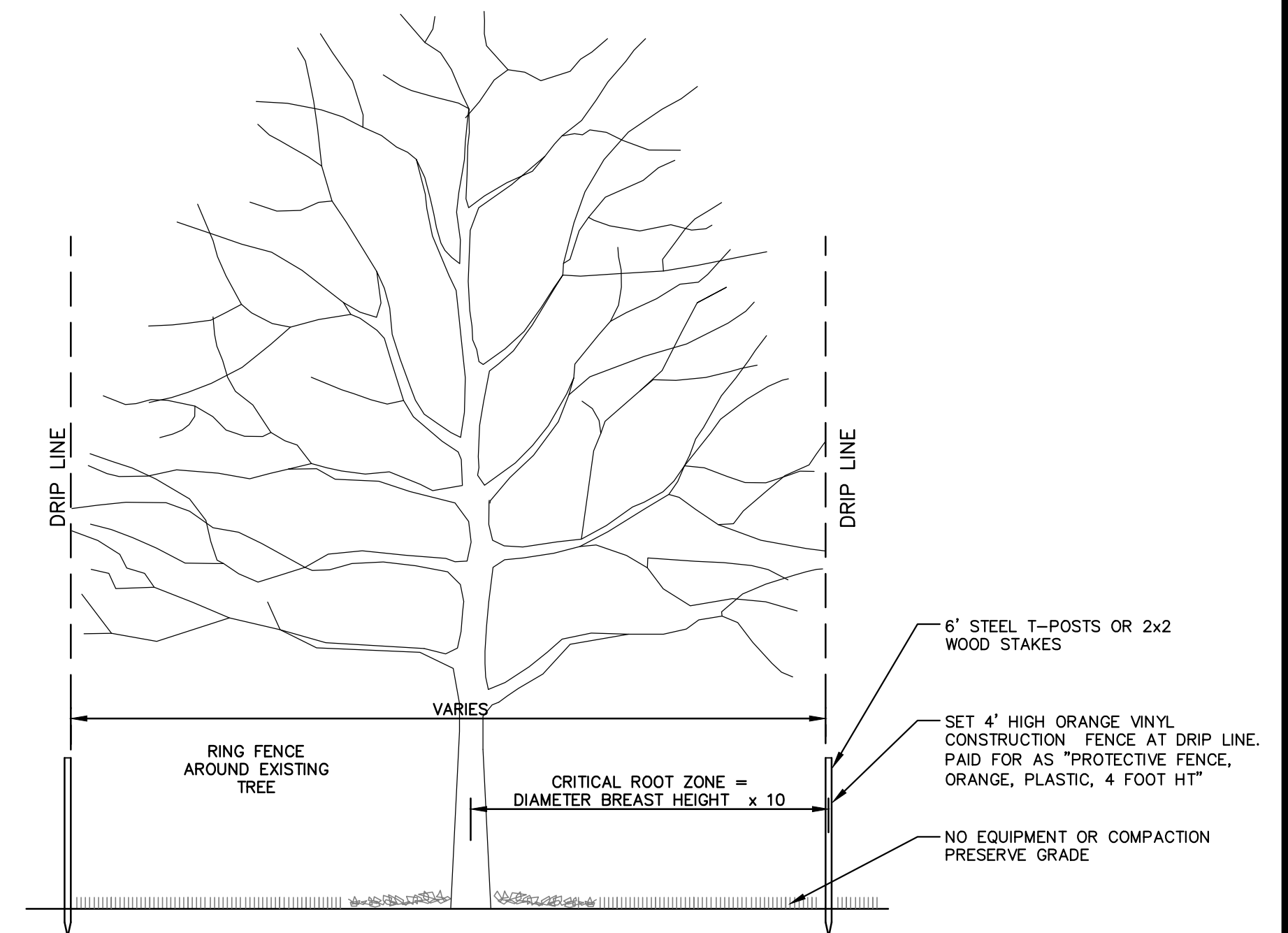
1. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CURRENT FEDERAL POSTAL SERVICE SPECIFICATIONS.
2. PERMANENT MAILBOX RELOCATION REQUIRES POST TO BE NEW PRESSURE-TREATED 4" X 4" POST, OR RESTORE ORIGINAL POST TO AS GOOD, OR BETTER THAN, ORIGINAL CONDITION.
3. TEMPORARY MAILBOX RELOCATION REQUIRES THE USE OF EXISTING POST WILL BE PERMITTED.
4. WHEN RELOCATING NEWSPAPER TUBES, THE RE-USE OF THE EXISTING POST WILL BE ALLOWED IF IT REMAINS UNDAMAGED.
5. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "Machine Grading, Modified, \_\_\_\_\_"

**MAILBOX/NEWSPAPER TUBE INSTALLATION AND RELOCATION**

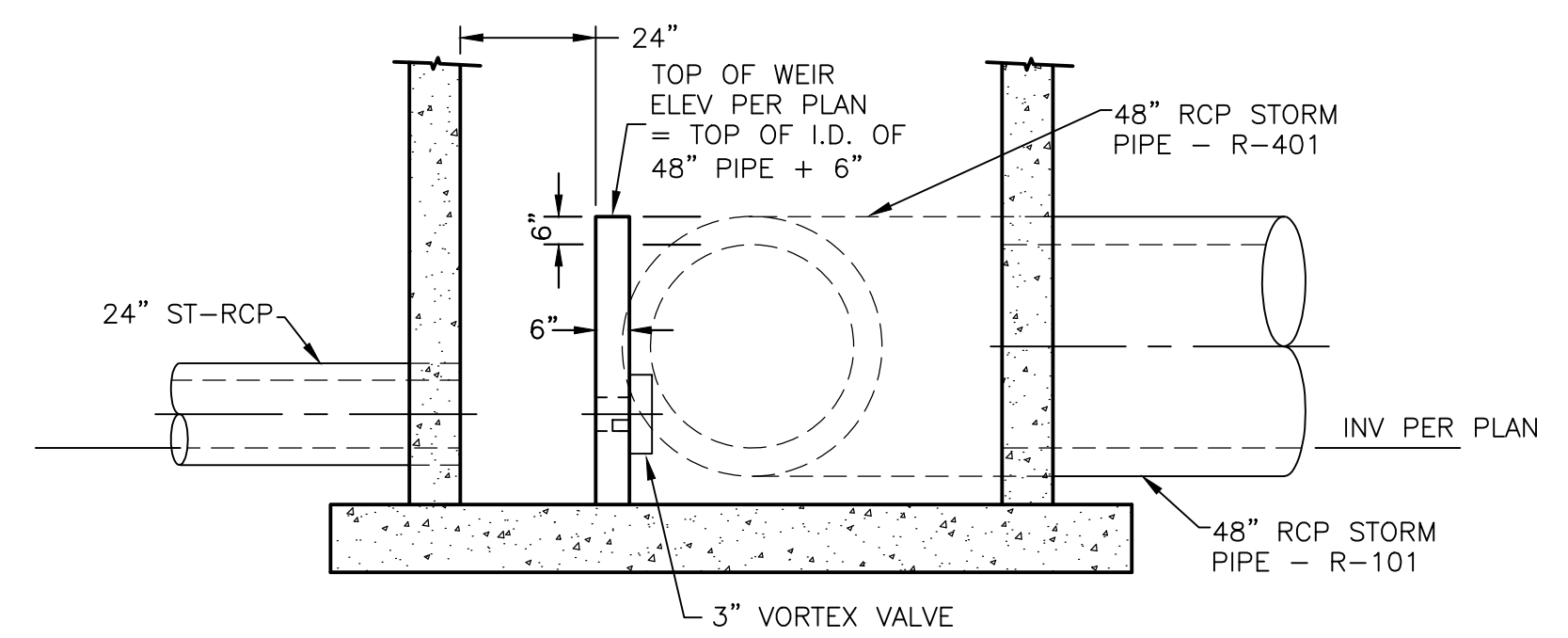
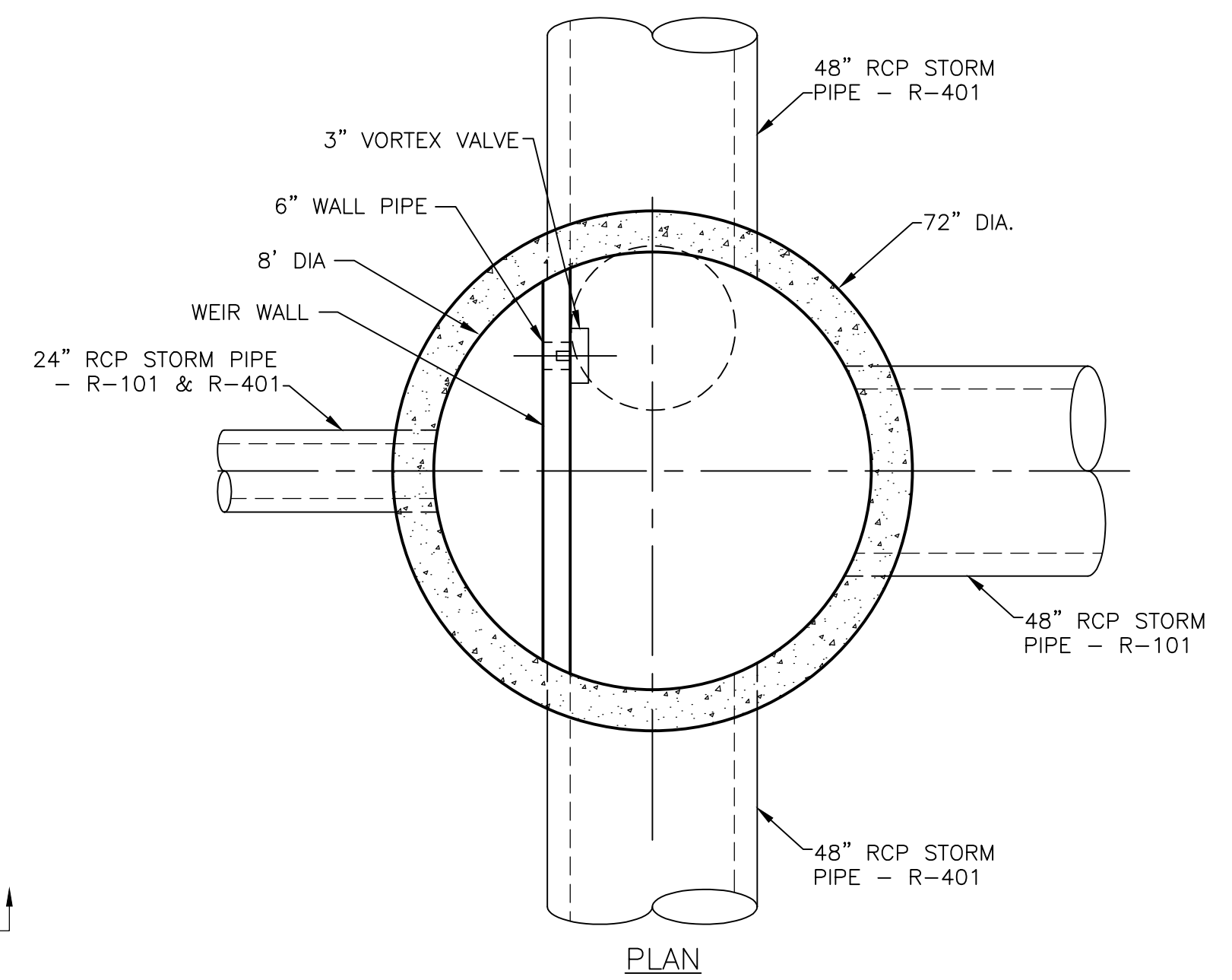


- NOTES:
1. ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE.
  2. MATERIALS:
    - 12 GA. 304L STAINLESS STEEL
    - (1) #5/8" AND (1) #9/16" BUNA N, 50 DUROMETER O-RINGS.
  3. MANUFACTURE HOUSING AND BYPASS DOOR AND ASSEMBLE PER DRAWING "2 mm FLUIDIC-AMP FABRICATION DETAILS FA1012-FA2023 HOUSING AND INLET"
  4. DISCHARGE ORIFICE LOCATED REAR FACE. #4" BYPASS OPENING LOCATED FRONT FACE.
  5. INCLUDES 20' BYPASS DOOR PULL CABLE.

**FLUIDIC-AMP VORTEX VALVE MODEL FA1012 WITH SLEEVE ATTACHMENT FOR Ø6" OPENING FABRICATION DRAWING**



**TREE PROTECTION DETAIL**



**UNDERGROUND STORMWATER STORAGE CONTROL STRUCTURES, R-101 & R-401**



REV.	DATE	DESCRIPTION	CHECKED	DRAWN
02	03-27-16	CEC/DFP	AMW	
01	03-09-16	CEC	AMW	
00	12/04/2015	JKA	AMW	

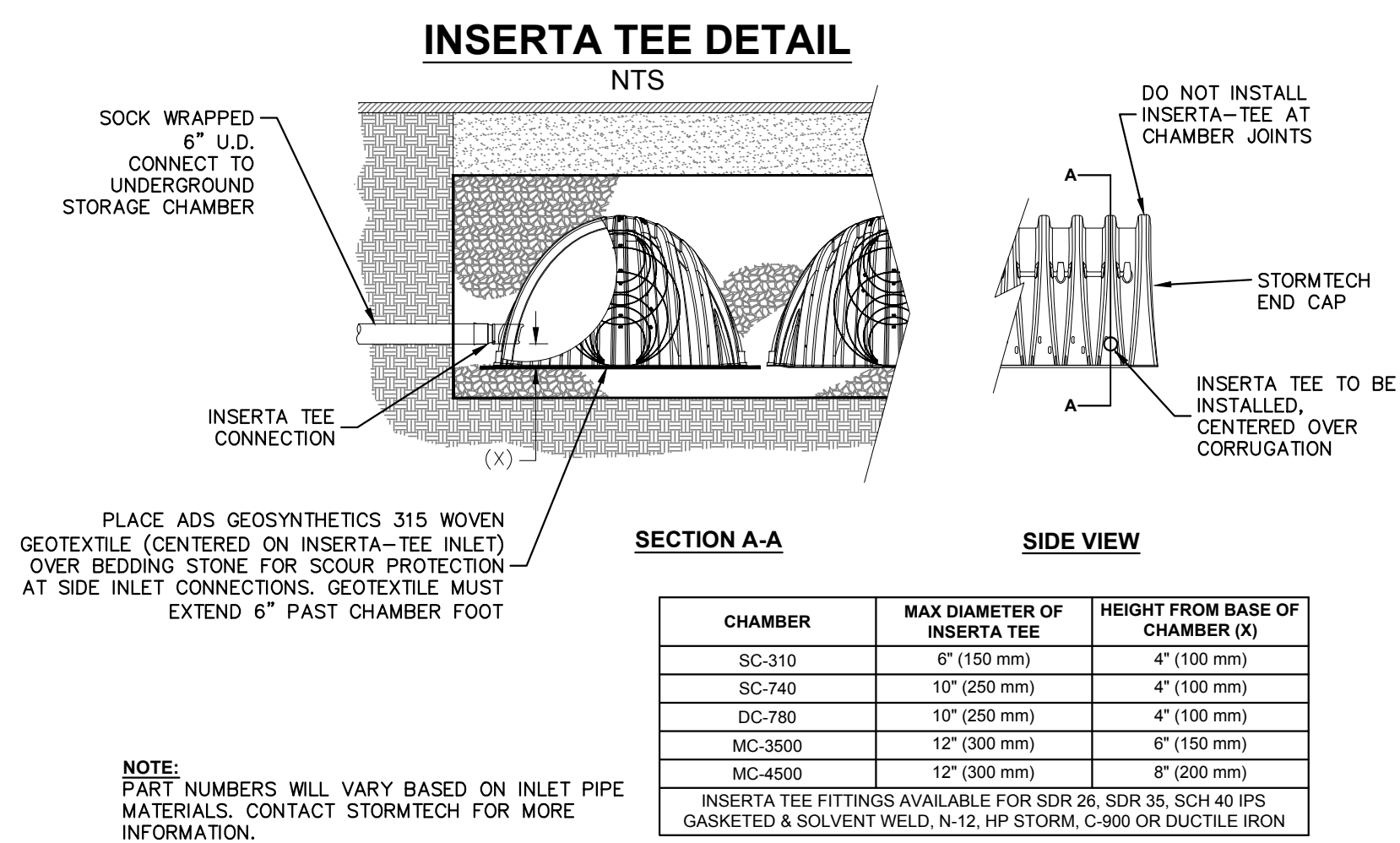
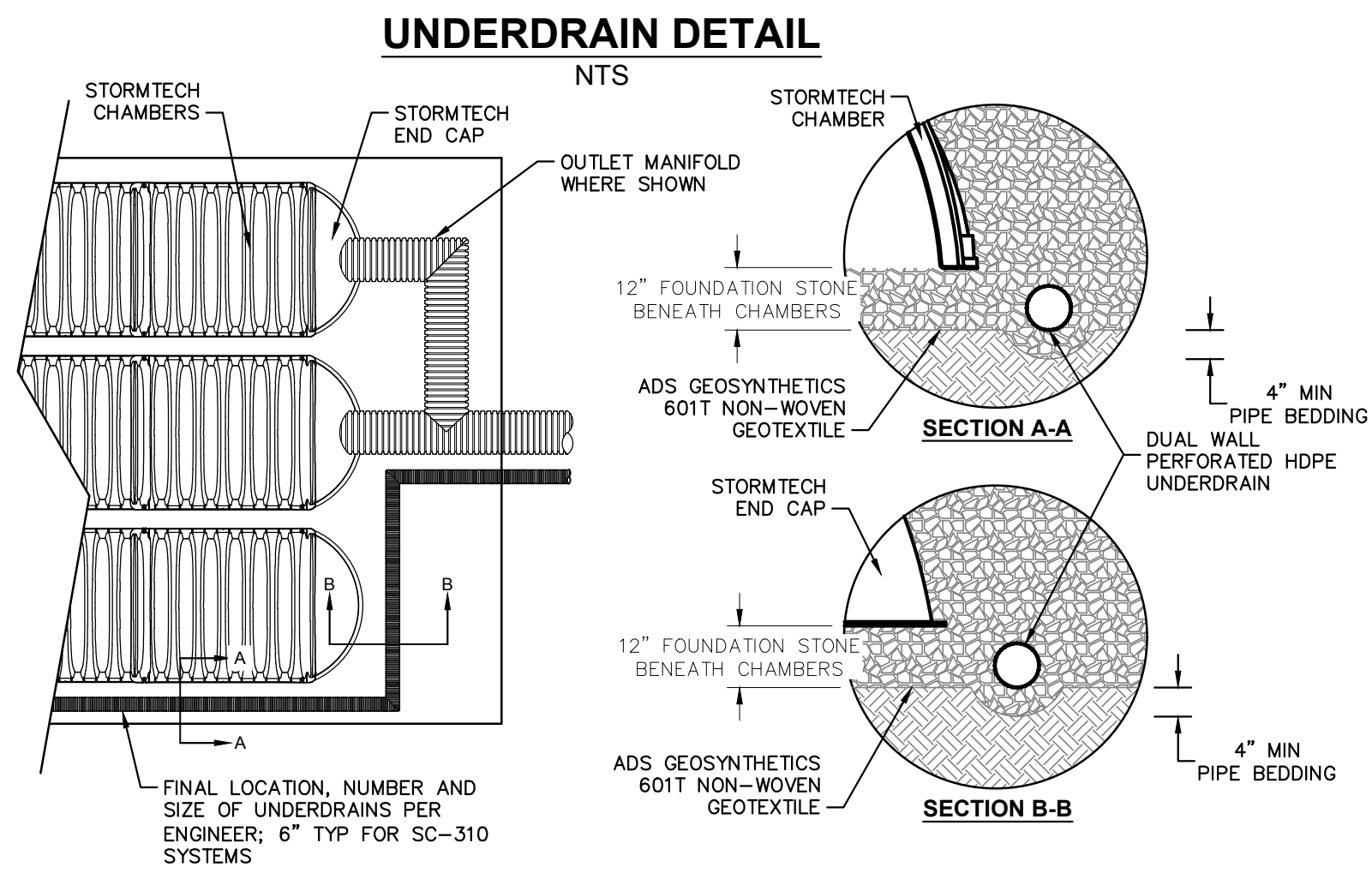
CITY OF ANN ARBOR  
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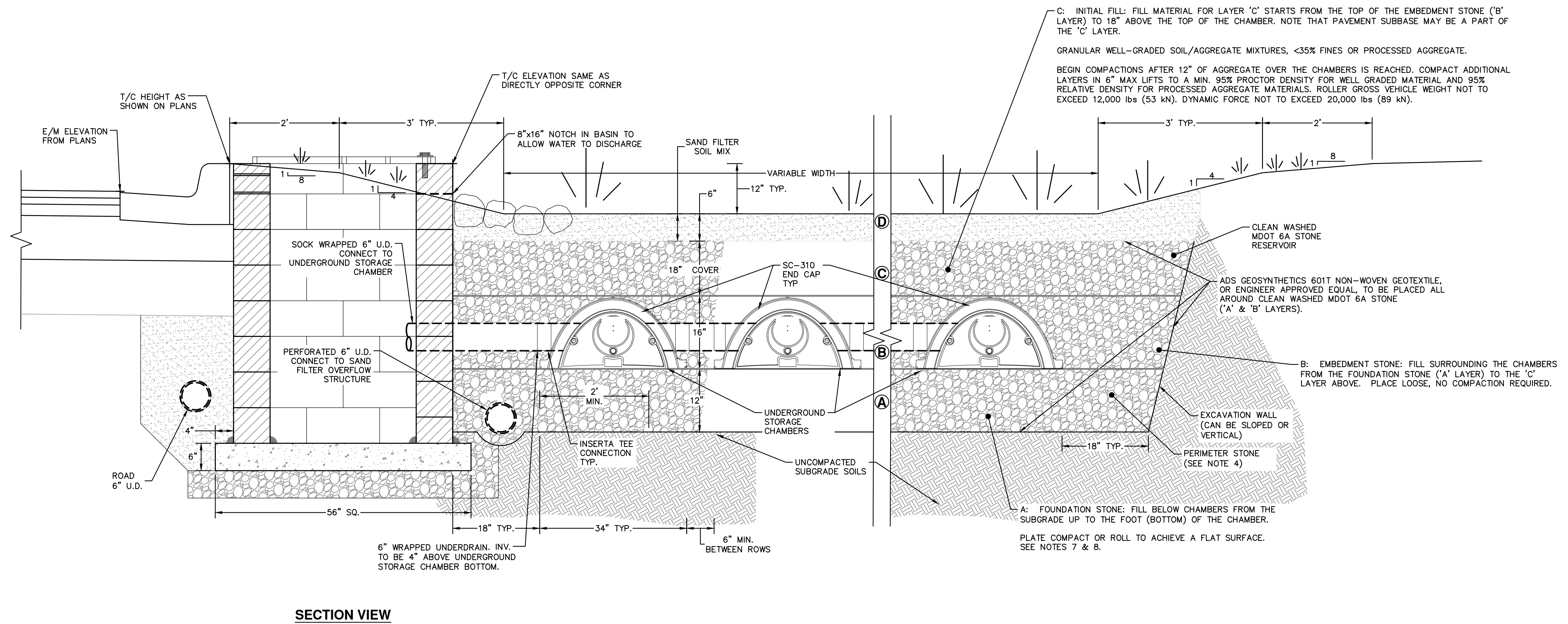
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SPRINGWATER SUBDIVISION - PHASE II  
SAND FILTER OVERFLOW STRUCTURE DETAIL

SCALE: NTS  
DRAWING No. 2015018-7

S:\Project Management\Design\2014018\_Springwater\_Sub\_Ph\_II\Plan Production\Primary\2014018DET.dwg Dwg Created: 19-Oct-15 - \_a2 standard bw.stb - Plot Date: 1-Apr-16




CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	8" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)



**NOTES:**


- SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "PERIMETER STONE" MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ENGINEER APPROVED SOIL/MATERIAL TO BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE ENGINEER'S DISCRETION.
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



Know what's below.  
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REV.	DATE	DESCRIPTION
02	03-27-16	CEC/DFP
01	03-09-16	CEC
00	12/04/2015	JKA

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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 SAND FILTERS A1 & A2 TYPICAL SECTION

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 SHEET No. 8 OF 68