



BID ADVERTISEMENT & SCOPES

Muskegon Water Filtration Plant

1900 Beach St.
Muskegon, Michigan 49441

&

Harvey Street Booster Station

2501 S. Harvey Street.
Muskegon, Michigan

Owner:

Muskegon Water Treatment
1900 Beach St.
Muskegon, MI 49441

Architect:

Abonmarche
95 W. Main Street
Benton Harbor, MI 49023

ALL PROJECT CORRESPONDENCE TO BE SENT TO:

Construction Simplified
Jeff Salowitz -- 616-450-3946
Jeff@ConstructionSimplified.com

Issued: 3-25-2021

Ammended: 4-7-2021

PROJECT OVERVIEW

Construction Simplified is soliciting Subcontractor Trade Bids for our client's upcoming projects located at 1900 Beach Street and 2501 S. Harvey Street, Muskegon. Contracts will be held directly with the City of Muskegon and Construction Simplified will provide coordination and oversight to align the contractors. The projects generally consist of the following:

1900 Beach St.

At this facility, two (2) of the buildings will be reroofed in entirety, windows will be replaced at all (4) buildings, and masonry removed/replaced. Additionally, there is minimal mechanical and electrical upgrades associated with this scope.

2501 Harvey St.

The Harvey booster station consists of new roofing and waterproof membrane over the existing in ground holding tank. The topsoil will be removed, and a new membrane applied. The building will also need a new fence, roof, new windows and masonry work.

At this time, Construction Simplified is soliciting bids for all trade categories listed below:

- Masonry & Masonry Restoration
- Roofing
- Glass & Aluminum Windows
- Painting
- Plumbing
- Mechanical
- Electrical
- Earthwork & Restoration
- Fencing

PROJECT SCHEDULE Upon permit issuance from the City of Muskegon (currently submitted) and final owner approval, construction will commence. The construction start is expected by **May 3rd, 2021**. Base Bids shall be based off this start date and **as detailed in the included bid project schedule dated 03-25-2021**.



If adjustments are required to the schedule outlined below, please note accordingly or submit additional information with the proposal.

- **Bidding – Thursday March 24th, 2021 through Tuesday, April 13th, 2021 @ 2PM (Public Opening)**
- Subcontract Awards – Week of April 27th, 2021
- Building Occupancy & Turnover – (28) weeks from Construction Start Date. Expected turnover no later than Friday November 19th, 2021.

PROPOSALS ARE DUE

All proposals are due no later than **Tuesday, April 13th, 2021 by 2:00PM**. Proposals will be received as follows:

Sealed Bids: Construction Simplified and The City of Muskegon will receive sealed bids until 2:00PM local time on Tuesday, **April 13th**, 2021 at the City Clerk's Office, City Hall, 933 Terrace St, Muskegon, Michigan, at which time and place all bids will be publicly opened and read aloud.

All proposals received will be publicly received and opened. Proposals not received by the above due date will be rejected.

SITE WALKTHROUGH AVAILABILITY

The construction site can be visited ONLY by appointment or scheduled walkthrough, Construction Simplified has coordinated site access during the bid period.

Site Walkthroughs:

1900 Beach St. - Wednesday, March 31st, 2020 @ 9AM - 10:30AM

2501 Harvey St - Wednesday, March 31st, 2020 @ 11AM – 12PM

Bid Guaranty is REQUIRED

- No Bid will be considered unless it is accompanied by a Bid Guaranty of not less than five percent (5%) of the amount of the Bid to ensure the execution of the Contract and the furnishing of surety bond or bonds by the successful Bidder, as required by the Contract Documents. Cash deposits will not be accepted. Negotiable U.S. Government Bonds (at par value) and certified checks or bank drafts, made payable to the **City of Muskegon**, may be used, or a bid bond in the format provided which shall be secured by a guaranty or a surety company listed in the latest issue of U.S. Treasury Circular 570, and shall be within the maximum amount specified for such company in said Circular.
- Revised Bids submitted before the opening of Bids, whether forwarded by mail or telegraphic communication, if representing an increase in excess of two percent (2%) of the original bid, must have the Bid Guaranty adjusted accordingly; otherwise the Bid will not be considered.
- The Bid Guaranty of unsuccessful Bidders, or the amount thereof, will be returned as soon as practicable after the awarding of the contract. The Bid Guaranty of any Bidder withdrawing his/her Bid in accordance with the conditions set forth in Paragraph 13 hereof will be returned promptly.
- When telegraphic modifications of Bids are received as provided above, Bidders are cautioned that such modifications shall make the Bid as modified or amended subject to rejection if not explicit and/or in any sense are subject to misinterpretation.

Payment and Performance Bonds may be **Required** and should be included in all base bid proposals, a cost breakout as a line item for this project shall be identified should it not be required.

Material purchases for the project are Sales Tax **EXEMPT**. All bid proposals for this project shall reflect this.

Insurance requirements will need to match or exceed Project requirements as listed below, please submit a copy of current included limits for review and approval.

SUBCONTRACTOR'S MINIMUM INSURANCE REQUIREMENTS --

- (a) **Worker's Compensation Insurance** in accordance with the laws of the State of Michigan, including Employer's Liability Insurance, to the limit of \$100,000.00 or such additional amount as required by Laws. It shall be procured and maintained throughout the duration of this project.
- (b) **Comprehensive General Liability Insurance**, excluding "automobile liability," against personal injury, including death resulting therefrom, and property damage, with limits of \$1,000,000.00 per person and \$2,000,000.00 per occurrence, and property damage with limits of \$1,000,000.00; and
- (c) **Automobile Insurance**, including "non-owned" automobiles, against personal injury, including death resulting therefrom, and property damage to the limits of \$1,000,000.00 single limit liability.
- (d) **Additional Insured-** Commercial General Liability and Automotive Liability Insurance, as described above, shall include an endorsement stating the following shall be "Additional Insureds" using the following language: "The CITY OF MUSKEGON and all elected and appointed officials, all employees and volunteers, all boards, commissions and/or authorities and board members, including employees and volunteers thereof. It is understood and agreed by naming The CITY OF MUSKEGON as additional insured, coverage afforded is considered to be primary and any other insurance The City of Muskegon may have in effect shall be considered secondary and/or excess.
- (e) **Cancellation Notice-** All policies as described above, shall include an endorsement stating that it is understood and agreed Thirty (30) days, Ten (10) days for non-payment of premium, Advance Written Notice of Cancellation, Non-Renewal, Reduction, and/or Material Change shall be sent to: CITY OF MUSKEGON ENGINEERING DEPARTMENT", PO Box 0536, Muskegon, MI 49443-0536

BID DOCUMENTS & AVAILABILITY

Bid documents will be available **with the issuance of this Bid Invitation & Scope** and will be sent electronically to all qualified & invited bidders. Physical copies of the plans and specifications will NOT be furnished to bidding contractors. All costs associated with printing and obtaining physical copies of plans and specifications shall be the sole cost of the bidding contractors.

Documents included as follows:

Water Filtration Plant Station:

- **Abonmarche** – Spec dated 1/20/2021
- **Abonmarche** – Construction Set dated 03-17-2021:
 - Title (T1.1, T1.2),
 - Structural (S1.1, S2.1)
 - Demolition (D1.1, D1.1B, D1.1C, D1.2, D2.1, D2.1A, D2.2, D3.1, D4.1)
 - Architectural (A1.1, A1.2, A2.1, A2.2, A3.1, A4.1, A5.1, A6.1, D2.1A, ME5.1A)
- **Byce & Associates (in Abonmarche Const. Set)**
 - Mechanical (M5.0, ME1.0, ME1.1, ME5.1A, ME5.1B, ME5.1C)

Harvey Booster Station:

- **Abonmarche** – Spec dated 1/20/2021
- **Abonmarche** – Construction Set dated 03-17-2021:
 - Title (T1.1, T1.2),
 - Civil (C1.1, C1.2, C2.1),
 - Demolition (D1.1),
 - Architectural (A1.1, A2.1, A3.1, A4.1, A5.1)
- **Byce & Associates (in Abonmarche Const. Set)**
 - Mechanical (M3.0)

Subcontractor Scope Detailed Assignment & Clarifications:

It is the intent that all subs submit proposals on industry standard scopes and qualify or include anything outside of that. However, listed below are project specific inclusions and exclusions per trade that should be noted and will become part of the awarded subcontract.

It is the intent that both facilities are issued as one single contract, however, that may not be the case depending on what is most beneficial to the project considering timing, budget, etc. Each proposal should be itemized so that each facility has its own cost identified. Use the attached bid form.

Masonry & Restoration

The subcontractor's scope includes the following:

1. Repair of the spalling concrete on beams and columns.
2. Temping in of the Windows on a Daily basis while working in openings. Coordinate the final install of the windows with the Glass and Glazing contractor. (Initial temping in of windows after Glass and Glazing demo is by the General trades package. You are responsible for pulling and reinstalling the temp system on a daily basis.)
3. Ensure temp enclosures, weather tight, are installed around areas of the building where major masonry is being performed.
4. All cleaning and resealing of control joints as defined on the project documents.
5. Install of all newly defined control joints.
6. Removal and replacement of stone bands, caps, sills, trims and panels.
7. Removal and reinstall of Limestone/concrete panels.
8. Patching of limestone/concrete panels.
9. Sealing of limestone panels and fractures, as well as cleaning of the concrete panels at Harvey Booster Station.
10. Tuckpointing of Brick.
11. Removal, replacement, and infill of brick.
12. Furnish and install brick Veneer replacement, including the continuous flashing behind the brick veneer.
13. Furnish and install of all lintel replacements for doors and windows.
14. Provide all necessary shoring or pinning of the brick to allow for lintel replacement.
15. This trade is responsible for any and all scaffold and lifts required to complete the work.
16. Include replacement of steel lintels in entirety that are currently called out in key note #3 to be painted.

ROOFING

The subcontractor's scope includes the following:

1. Demo of the roof(s) **complete** including all ballast, insulation, membrane, flashing, fascia, blocking and concrete blocking. To be disposed of offsite by this trade.
2. Removal of existing roof stacks & necessary repairs to roof deck.
3. Replace wood sleepers.
4. Protect all equipment to ensure it does not get damaged.
5. Furnish and install all Fascia – to be installed after brick work is complete.
6. Furnish and install new roof system (Tapered insulation, Membrane, Adhesive, etc)
7. ***Additional membrane work for the Harvey Booster Station is included in a separate section at the end of the work categories***
8. As it pertains to the built-up roof systems, use the "US Communities" form to delineate the costs of the materials. Materials will be directly purchased through this program should the owner proceed with the built up system.
9. **BASIS OF DESIGN: 2-PLY MODIFIED BITUMEN WITH COAL TAR FLOOD AND GRAVEL**
 - a. Remove existing roofing system down to concrete decking, including but not limited to: Ballast, all previous roof layers, perimeter and penetration flashings, edge metal, fasteners, counter-flashings, termination bars, etc. Properly dispose of all materials.
 - b. Remove all abandoned roof penetrations and covered openings with 22-gauge flat stock sheet metal.
 - c. Make sure deck is clean of dirt and debris. Once inspected, prime entire deck area with a quick-dry asphalt primer at a rate of .5 gal./ sq.
 - d. Once deck is primed, install new vapor barrier directly to roof deck. Vapor barrier can either be torched to concrete deck using a Fiberglass-reinforced SBS Mod. Base sheet or a Dual Fiberglass-reinforced SBS Mod. installed in Type III Generic hot asphalt.
 - e. Install 2-layers of 2.6" polyisocyanurate board insulation with all joints staggered in either Olybond high rise foam insulation or Generic III hot asphalt. Install 1/8":12 sloped tapered system of polyisocyanurate board insulation on top of base layers. Add saddles/ crickets where necessary to ensure water does not pond. Make sure insulation adhesion meets the wind uplift requirements and as specified on the Wind Uplift Calculation Form. Fill all voids, cracks or separations between or surrounding insulation boards to prevent thermal bridging and adhesive penetration.
 - f. Install sumps around and new OMG Hercules Retro Drains with drain leads at each drain location per tapered drawings provided. A full tube of water block (cut off mastic) must be used around each drain. All RetroDrains should be installed on a daily basis as the roof is completed. The inside of the drain may need to be cleaned out if asphalt or other materials are currently in the drain line. Verify the drain bowl is sitting on the deck. If not, then additional insulation may need to be added or the drain line may need to be cut. If the drain line is to be cut, then the contractor must verify that the drain line is properly supported so that the line does not fall. The contractor is required is properly support cut drain lines as part of base bid.
 - g. Install cants/ saddles at the base of penetration flashings.
 - h. Solidly hot mop a 1/4" Primed Dens Deck, or high-rise foam adhesive.
 - i. Install a base layer of a Fiberglass-reinforced SBS Mod underlayment:
 - j. Hot type III asphalt at a rate of 25 pounds per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
 - k. Cold Applied rubber modified asphalt Interply adhesive is applied at a rate of 2.0-2.5 gallons per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate

- hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
- l. Install a top ply of a Dual Fiberglass-reinforced SBS Modified Bitumen membrane:
 - m. Hot type IV asphalt at a rate of 25 pounds per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
 - n. Cold Applied rubber modified asphalt Interply Adhesive is applied at a rate of 2.0-2.5 gallons per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
 - o. Install all new perimeter and projection flashings using a base ply of Fiberglass-reinforced SBS Mod underlayment and a top ply of a dual fiberglass-reinforced SBS Modified Bitumen membrane with minerals in hot Type III asphalt or in cold applied fibered asphalt mastic. All flashings should be sealed with mastic at the end of each day.
 - p. Any flashing that is terminated prior to passing over the top edge of the perimeter wall or penetration is to receive a termination bar, structural adhesive along the top edge and a counter-flashing detail per provided detail drawing.
 - q. Three course all flashing vertical seams with a three course of silver mastic, 6" Mesh and silver mastic. Coat vertical flashing areas with silver aluminized reflective coating. Apply coating in two coatings per the Product Data Sheet.
 - r. Install Flashless metal edge system on all perimeter sides with a raised metal edge/fascia detail. Install, seal and secure the aluminum cleat per provided Application/ Installation instructions. Do not install the snap on fascia metal until the roof reflective coating application is completed.
 - s. Install Flood and Gravel surfacing over entire roof field. Adhesive should be a cold-processed polymer modified coal-tar. Fully imbed 3/8" washed gravel into flood coat.
 - t. All drain covers are to be painted red.
 - u. Replace all damaged wood nailers and wood fascia at a unit cost per linear foot. Install additional wood nailers and wood fascia to match the additional height of the new insulation. All wood nailers and wood fascia should be covered by the modified membrane and the specified metal detail. Use compatible contractor provided screws and/or Ring Shank nails when installing the wood. Install two fasteners (pair them up) and install pairs every 16" with staggers. When using treated wood, all fasteners will comply with ASTM A153 by using type 304 or Type 316 stainless-steel fasteners and connectors for corrosion resistance.
 - v. Raise all roof penetrations to a minimum 8" flashing height. The roofing contractor is responsible for connecting and disconnecting all associated equipment. Any roof curbs or duct work currently being supported by wood blocking shall be replaced with deck mounted steel curbs. All wood nailers that are visible from the inside of the facility must match the décor of the surrounding interior.
 - w. Power wash all construction debris and dripped asphalt off exterior walls and ground prior to leaving work site.
 - x. Clean up all debris and damage done to grounds, building and roof top (if any). Plant new grass seed if necessary. Netting must be installed to hold the new grass seed and straw in place. Plywood should be laid under the dumpster and where any heavy machinery will be driven to prevent deep ruts from forming.
 - y. All existing ladders, walkways, walls, etc., must be protected so that these areas are not marked up from material spills or tracking of materials by walking. Contractor is responsible for properly protecting the parking lot, sidewalks, concrete, asphalt, etc., from damage. Contractor to cover the areas with plywood or whatever material they deem necessary for proper protection. Any damage done to these areas will be repaired by the contractor using "like" material.

- z. The contractor is responsible for taking pictures of the interior and exterior of the building before work begins. This will help to determine who is responsible for any interior damage that may take place during the roofing work.
- aa. All insulation and roll goods must be covered with a tarp at all times. The factory plastic is not acceptable. Wet materials are considered damaged and will not be deemed unacceptable for installation. All rolls goods must be standing up or should be thrown away.
- bb. All contractors are responsible for roof cores, removing existing coping, metal wall panels, etc., at time of the pre-bid review for verification of existing roof system and building structure and wall composition before proceeding with their project bid.

PROVIDE A CLEARLY IDENTIFIED ALTERNATE FOR:

ALTERNATE 1: An EPDM roof system. As outlined below and in the project documents, as the basis of design for the alternate.

- cc. Fully adhered system for insulation and membrane, no mechanical attachment of insulation to conc. decking.
- dd. 60 mil membrane thickness.
- ee. Tapered insulation system over the entire roof. If tapered insulation adds height to the roof insulation system thickness, provide additional treated wood blocking at roof edge as required, add increased height of fascia system to conceal blocking.
- ff. Provide a minimum of 15-year total system warranty.

ALTERNATE 2: A 2-PLY MODIFIED BITUMEN WITH ALUMINIZED COATING

- a. Remove existing roofing system down to concrete decking, including but not limited to: Ballast, all previous roof layers, perimeter and penetration flashings, edge metal, fasteners, counter-flashings, termination bars, etc. Properly dispose of all materials.
- b. Remove all abandoned roof penetrations and cover openings with 22-gauge flat stock sheet metal.
- c. Make sure deck is clean of dirt and debris. Once inspected, prime entire deck area with a quick-dry asphalt primer at a rate of .5 gal./ sq.
- d. Once deck is primed, install new vapor barrier directly to roof deck. Vapor barrier can either be torched to concrete deck using a Fiberglass-reinforced SBS Mod. Base sheet or a Dual Fiberglass-reinforced SBS Mod. installed in Type III Generic hot asphalt.
- e. Install 2-layers of 2.6" polyisocyanurate board insulation with all joints staggered in either high rise foam insulation or Generic III hot asphalt. Install 1/8":12 sloped tapered system of polyisocyanurate board insulation on top of base layers. Add saddles/ crickets where necessary to ensure water does not pond. Make sure insulation adhesion meets the wind uplift requirements and as specified on the Wind Uplift Calculation Form. Fill all voids, cracks or separations between or surrounding insulation boards to prevent thermal bridging and adhesive penetration.
- f. Install sumps around and new OMG Hercules Retro Drains with drain leads at each drain location per tapered drawings provided. A full tube of water block (cut off mastic) must be used around each drain. All Retro Drains should be installed on a daily basis as the roof is completed. The inside of the drain may need to be cleaned out if asphalt or other materials are currently in the drain line. Verify the drain bowl is sitting on the deck. If not, then additional insulation may need to be added or the drain line may need to be cut. If the drain line is to be cut, then the contractor must verify that the drain line is properly supported so that the line does not fall. The contractor is required is properly support cut drain lines as part of base bid.
- g. Install cants/ saddles at the base of penetration flashings.
- h. Solidly hot mop a 1/4" Primed Dens Deck, or high-rise foam adhesive.

- i. Install a base layer of a Fiberglass-reinforced SBS Mod underlayment:
- j. Hot type III asphalt at a rate of 25 pounds per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
- k. Cold Applied rubber modified asphalt Interply adhesive is applied at a rate of 2.0-2.5 gallons per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
- l. Install a top ply of a Dual Fiberglass-reinforced SBS Modified Bitumen membrane:
- m. Hot type IV asphalt at a rate of 25 pounds per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
- n. Cold Applied rubber modified asphalt Interply Adhesive is applied at a rate of 2.0-2.5 gallons per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
- o. Install all new perimeter and projection flashings using a base ply of Fiberglass-reinforced SBS Mod underlayment and a top ply of a dual fiberglass-reinforced SBS Modified Bitumen membrane with minerals in hot Type III asphalt or in cold applied fibered asphalt mastic. All flashings should be sealed with mastic at the end of each day.
- p. Any flashing that is terminated prior to passing over the top edge of the perimeter wall or penetration is to receive a termination bar, structural adhesive along the top edge and a counter-flashing detail per provided detail drawing.
- q. Three course all flashing vertical seams with a three course of silver mastic, 6" Mesh and silver mastic. Coat vertical flashing areas with silver aluminized reflective coating. Apply coating in two coatings per the Product Data Sheet.
- r. Install Flashless metal edge system on all perimeter sides with a raised metal edge/fascia detail. Install, seal and secure the aluminum cleat per provided Application/ Installation instructions. Do not install the snap on fascia metal until the roof reflective coating application is completed.
- s. Coat entire roofing surface with a silver aluminized reflective coating. Apply coating in two coats per the Product Data Sheet.
- t. All drain covers are to be painted red.
- u. Replace all damaged wood nailers and wood fascia at a unit cost per linear foot. Install additional wood nailers and wood fascia to match the additional height of the new insulation. All wood nailers and wood fascia should be covered by the modified membrane and the specified metal detail. Use compatible contractor provided screws and/or Ring Shank nails when installing the wood. Install two fasteners (pair them up) and install pairs every 16" with staggers. When using treated wood, all fasteners will comply with ASTM A153 by using type 304 or Type 316 stainless-steel fasteners and connectors for corrosion resistance.
- v. Raise all roof penetrations to a minimum 8" flashing height. The roofing contractor is responsible for connecting and disconnecting all associated equipment. Any roof curbs or duct work currently being supported by wood blocking shall be replaced with deck mounted steel curbs. All wood nailers that are visible from the inside of the facility must match the décor of the surrounding interior.
- w. Power wash all construction debris and dripped asphalt off exterior walls and ground prior to leaving work site.
- x. Clean up all debris and damage done to grounds, building and roof top (if any). Plant new grass seed if necessary. Netting must be installed to hold the new grass seed and straw in place.

Plywood should be laid under the dumpster and where any heavy machinery will be driven to prevent deep ruts from forming.

- y. All existing ladders, walkways, walls, etc., must be protected so that these areas are not marked up from material spills or tracking of materials by walking. Contractor is responsible for properly protecting the parking lot, sidewalks, concrete, asphalt, etc., from damage. Contractor to cover the areas with plywood or whatever material they deem necessary for proper protection. Any damage done to these areas will be repaired by the contractor using "like" material.
- z. The contractor is responsible for taking pictures of the interior and exterior of the building before work begins. This will help to determine who is responsible for any interior damage that may take place during the roofing work.
- aa. All insulation and roll goods must be covered with a tarp at all times. The factory plastic is not acceptable. Wet materials are considered damaged and will not be deemed unacceptable for installation. All rolled goods must be standing up or should be thrown away.
- bb. All contractors are responsible for roof cores, removing existing coping, metal wall panels, etc., at time of the pre-bid review for verification of existing roof system and building structure and wall composition before proceeding with their project bid.

ROOFING - Reservoir Membrane

The subcontractor's scope includes the following:

1. Ensure a complete package for the Harvey Booster Station tank waterproofing membrane.
2. Roofing contractor to power broom and power wash (where necessary) roofing substrate clean of any remaining dirt and debris daily to ensure new roofing material has good, clean substrate to bond to.
3. Make any necessary repairs to concrete deck and/ or joints at a predetermined cost per square foot.
4. Prime the concrete substrate with an asphaltic primer per manufacturer's guidelines.
5. Install a base layer of a Fiberglass-reinforced SBS Mod underlayment:
6. Hot type III asphalt at a rate of 25 pounds per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
7. Install a top ply of a Dual Fiberglass-reinforced SBS Modified Bitumen membrane:
8. Hot type IV asphalt at a rate of 25 pounds per 100 square feet per ply. Keep bleed-out to a 1/4", assuring that the roll is always pushing adequate hot asphalt as unrolled. Use the weighted roller to get air pockets out from under the sheet and to secure all head and side laps.
9. Apply mastic to all base vertical details.
10. All vertical flashings to be terminated at least 8" above roof deck, but preferably above ground level.
11. If detail is squarish in design, install counter-flashing over termination bar. If detail is circular in design, mastic top of flashing and install neck collar around detail.
12. Membrane shall wrap down all 4 corners of roof deck, being terminated 8" from top of concrete tank. Once terminated, Structural Adhesive needs to be applied to the underside of the termination bar.
13. All vertical flashing seams are to be 3-coursed in using mastic and mesh out into the field, completely covering all seams.
14. Power wash all construction debris and dripped asphalt off exterior walls and ground prior to leaving work site.
15. Break out the cost for the tank separate from any other Roof work.

GLASS & ALUMINUM

The subcontractor's scope includes the following:

1. Demo existing windows in conjunction with the timing of the Masonry work and General Trades to ensure openings are not left open overnight.
2. Provide all flashing with drip edge at the windows.
3. Furnish and install all thermally broken windows.
4. Caulk all of the perimeters of the windows upon final install.

PAINT

The subcontractor's scope includes the following:

1. Appropriate preparation of the steel to receive the paint application. Define the recommended process, whether that is sandblasting or another preparation. Ensure that debris does not enter the holding tanks below the area of work.
2. All necessary rigging, lifts, etc to accomplish the painting of the steel beams.
 - a. The steel beams are located directly over 2 holding tanks. It is the intent to drain one tank at a time to allow for work to be performed safely over a dry area. Special precaution should be taken to keep debris from falling into the tanks. 2 mobilizations should be assumed.
3. Clean and repaint the steel lintels as defined in project documents.
4. Strip and repaint handrails at Harvey Booster Station.

PLUMBING

The subcontractor's scope includes the following:

- a. Demo the existing 6" sanitary line and branches.
- b. Install the new 6" sanitary line and branches.
- c. Note that the area is a confined space and proper precautions, meeting all current OSHA criteria, will need to be taken when working in the space.
- d. The existing space is approximately 24 feet deep, the water will be drained, and a scaffold or satisfactory system to safely perform work on installed by this trade.
- e. Provide caulking of all plumbing fixtures to be by this work category.
- f. Any gas piping is to be provided by Mechanical / HVAC.

MECHANICAL & HVAC

The subcontractor's scope includes the following:

- a. Provide all mechanical for the project including but not limited to all ducts, equipment, fans, curbs, louvers, grilles, insulation, and identification etc. for a complete and operational system.
- b. Demo identified outside air duct, cap and insulate the duct at the wall.

- c. Demo the existing Fans, louvers, accessories and prep for new.
- d. Remove the existing window in preparation for the new louver. The opening needs to be temped in if left open overnight (Temp for this window only by this trade).
- e. Furnish and install new louvers, duct, accessories, exhaust and supply fans complete.
- f. This work category is responsible for firestopping any penetrations related to their work.
- g. Provide all gas pipping necessary to complete this scope of work complete.
- h. Provide all testing, adjusting, and balancing as needed and provide the included value of this subcontractor on the proposal form.
- i. Provide a unit rate to demo and replace with new, galvanized pipe hangers for mechanical piping in the North Filter Building, and Clarifier Building.

ELECTRICAL

The subcontractor's scope includes the following:

- a. Removal of fan wiring, pulled back to the source and labeled as spare.
- b. Furnish and install of electrical to all fans, including fan controller contacts and switches.
- c. Contractor responsible for firestopping all new penetrations related to their work.
- d. Provide final cleaning of all fixtures at substantial completion if not temporarily protected during the course of construction.
- e. At the Harvey Booster station, remove/repair and reinstall the power to the new gate.
- f. Furnish and install new card reader, conduits and assembly for the motorized gate.

EARTHWORK

The subcontractor's scope includes the following:

- 1. Removal of the soil over the reservoir, **a power broom preliminary clean is expected once down to the final decking. CAUTION: REVIEW ALL LIVE LOAD INFORMATION OF THE RESERVOIR AND USE APPROPRIATE EQUIPMENT. THE ASSUMED LOAD IS 50PCF & ONLY A 4,000LB PIECE OF EQUIPMENT, FULLY LOADED, IS ALLOWED.**
- 2. **It is being reviewed and discussed if a T770 Bobcat with a wide track system could be used on the tank. Provide an alternate number based on this piece of machinery (or similar) in addition to a base number that is per plans and specs.**
- 3. Remove and store all topsoil and sand.
- 4. Protect all existing structures onsite.
- 5. Replace all soils back onto the reservoir upon membrane install. Ensure the saturated weight does not exceed 120PSF.
- 6. Install topsoil, fine grade and hydroseed.

FENCING

The subcontractor's scope includes the following:

1. Removal and disposal of existing fence.
2. Salvage existing electrical rolling gate and control box.
3. Furnish and install of the new fencing, including footings.
4. Furnish and install new motorized rolling gate.

END OF DOCUMENT