

**Worcester County Administration  
1 West Market Street, Room 1103  
Snow Hill, Maryland 21863**



**REQUEST FOR PROPOSAL**

**PROJECT: Design, Bidding, Construction, & Inspection Phase Services  
for Mystic Harbour WWTP Biosolids Upgrade**

**DEPARTMENT:** \_\_\_\_\_

**VENDOR:**

**NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PROPOSAL OPENING:**

**DATE:** \_\_\_\_\_

**Wednesday, January 15, 2025**

**TIME:** \_\_\_\_\_

**2:30 PM**

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## **SECTION I: INTRODUCTION**

### **A. PURPOSE**

1. The purpose of this Request for Proposal Document is for Worcester County ("County") to contract design, bidding, and construction phase services in the Mystic Harbour Sanitary Service Area for the Mystic Harbour Wastewater Treatment Plant biosolids equipment upgrade and building improvements in conformity with the requirements contained herein ("Proposal Document(s)").

### **B. CLARIFICATION OF TERMS**

1. Firms or individuals that submit a proposal for award of a contract ("Contract") are referred to as vendors ("Vendors") in this document. The Vendor that is awarded the Contract is herein referred to as the ("Successful Vendor").

### **C. QUESTIONS AND INQUIRES**

1. Questions must be addressed in writing to the Worcester County Procurement Officer at [nrice@co.worcester.md.us](mailto:nrice@co.worcester.md.us).
2. The last date to submit questions for clarification will be **noon on Wednesday, January 8, 2025**.
3. Addenda are posted on the County website at <https://www.co.worcester.md.us/> under County Info: Bid Board: at <https://www.co.worcester.md.us/commissioners/bids> at least five calendar days before proposal opening.
4. It is the Vendors responsibly to make sure all addenda are acknowledged in their proposal. Failure to do so could result in the proposal being disqualified.

### **D. FILLING OUT PROPOSAL DOCUMENTS**

1. Use only forms supplied by the County.
2. One unbound original and five bound copies of the proposal form and any required attachments must be submitted in the solicitation and can be submitted in the same envelope unless otherwise instructed.
3. Proposal Documents should be complied as follows: (1) Cover letter, (2) Form of Proposal, (3) References, (4) Exceptions Document and Signed addenda, if necessary (5) Individual Principal Document, (6) Vendor's Affidavit of Qualification to Bid, and (7) Non-Collusive Affidavit
4. Where so indicated by the make-up of the Proposal Documents, sums will be expressed in both words and figures, and in the case of a discrepancy between the two, the amount written in words will govern. In the event there is a discrepancy between the unit price and the extended totals, the unit prices will govern.
5. Any interlineation, alteration, or erasure will be initialed by the signer of the Proposal Documents.
6. Each copy of the Proposal Documents will be signed by the person(s) legally authorized to bind the Vendor to a contract, using the legal name of the signer. Proposal Documents submitted by an agent will have a current Power of Attorney attached certifying the agent's authority to bind the Vendor.
7. Vendor will supply all information and submittals required by the Proposal Documents to constitute a proper and responsible completed Proposal Document package.
8. Any ambiguity in the Proposal Documents as a result of omission, error, lack of clarity or non-compliance by the Vendor with specifications, instructions, and/or all conditions of bidding will be construed in the light most favorable to the County.

#### **E. SUBMISSION OF PROPOSAL DOCUMENTS**

1. All copies of the Proposal Documents and any other documents required to be submitted with the Proposal Documents will be enclosed in a sealed envelope. The envelope will be addressed to the Worcester County Commissioners and will be identified with the project name: **MYSTIC HARBOUR WWTP BIOSOLIDS UPGRADE DESIGN, BIDDING, CONSTRUCTION, & INSPECTION PHASE SERVICES** and the Vendor's name and address. If the Proposal Documents are sent by mail, the sealed envelope will be enclosed in a separate mailing envelope with the notation "SEALED PROPOSAL DOCUMENTS ENCLOSED" on the face thereof.
2. Proposals must be mailed or hand carried to the **Worcester County Administration Office, 1 West Market Street, Room 1103, Snow Hill, MD 21863**, in order to be received **prior** to the announced proposal deadline. *Proposals received after said time or delivered to the wrong location will be returned to the Vendor unopened.*
3. **Proposals are due and will be opened at the time listed on the front of this Proposal Document.**
4. If you are delivering a proposal in person please keep in mind to allow time to get through security and into the Administration Office. It is fully the responsibility of the Vendor to ensure that the proposal is received on time.
5. The County will not speculate as to reasonableness of the postmark, nor comment on the apparent failure of a public carrier to have made prompt delivery of the proposal.
6. Vendors, or their authorized agents, are expected to fully inform themselves as to the conditions, requirements, and specifications before submitting Proposal Documents; failure to do so will be at the Vendor's own risk.
7. A fully executed Affidavit of Qualification to Bid will be attached to each Proposal Document.
8. Minority vendors are encouraged to participate.
9. All Vendor submitted Proposal Documents will be valid for a minimum of sixty days from the date of Proposal Document opening.
10. Electronically mailed proposals are **not** considered sealed proposals and will **not** be accepted.

#### **F. OPENING OF PROPOSALS**

1. Proposal Documents received on time will be opened publicly. Only the Vendor's names will be read aloud for the record.
2. The Contract will be awarded or all Proposal Documents will be rejected within sixty days from the date of the Proposal Document opening.

#### **G. ACCEPTANCE OR REJECTION OF PROPOSALS**

1. Unless otherwise specified, the Contract will be awarded to the most responsible and responsive Vendor complying with the provisions of the Proposal Documents, provided the proposal does not exceed the funds available, and it is in the best interest of the County to accept it. The County reserves the right to reject the Proposal Documents of any Vendor who has previously failed to perform properly in any way or complete on time contracts of a similar nature; or a Proposal Document from a Vendor who, investigation shows, is not in a position to perform the Contract; or Proposal Documents from any person, firm, or corporation which is in arrears or in default to the County for any debt or contract.
2. Completed Proposal Documents from Vendors debarred from doing business with the State of Maryland or the Federal Government will not be accepted.



3. In determining a Vendor's responsibility, the County may consider the following qualifications, in addition to price:
  - a. Ability, capacity, and skill to provide the commodities or services required within the specified time, including future maintenance and service, and including current financial statement or other evidence of pecuniary resources and necessary facilities.
  - b. Character, integrity, reputation, experience and efficiency.
  - c. Quality of past performance on previous or existing contracts, including a list of current and past contracts and other evidence of performance ability.
  - d. Previous and existing compliance with laws and ordinances relating to contracts with the County and to the Vendor's employment practices.
  - e. Evidence of adequate insurance to comply with Contract terms and conditions.
  - f. Statement of current work load and capacity to perform/provide the Goods and/or Services.
  - g. Explanation of methods to be used in fulfilling the Contract.
  - h. The Vendor, if requested, will be prepared to supply evidence of its qualifications, listed above, and its capacity to provide/perform the Goods and/or Services; such evidence to be supplied within a specified time and to the satisfaction of the County.
4. In determining a Vendor's responsiveness, the County will consider whether the Proposal Document conforms in all material respects to the Proposal Documents. The County reserves the right to waive any irregularities that may be in its best interest to do so.
5. The County will have the right to reject any and all Proposal Documents, where applicable to accept in whole or in part, to add or delete quantities, to waive any informalities or irregularities in the Proposal Document received, to reject a Proposal Document not accompanied by required Bid security or other data required by the Proposal Documents, and to accept or reject any Proposal Document which deviates from specifications when in the best interest of the County. Irrespective of any of the foregoing, the County will have the right to award the Contract in its own best interests.

#### **H. QUALIFICATIONS**

1. The Vendor must be in compliance with the laws regarding conducting business in the State of Maryland.  
All Vendors shall provide a copy Certificate of Status from the Maryland Department of Assessments and Taxation, evidencing the Vendor is in good standing with the State of Maryland. See [https://sdatcert1.resiusa.org/certificate\\_net/](https://sdatcert1.resiusa.org/certificate_net/) for information on obtaining the Certificate of Status. *Certificates of status are not available for trade names, name reservations, government agencies, sole proprietorships, and some other accounts as these are not legal entities and thus are not required for these categories of Vendors.* For more information on the Certificate of Status please see <http://www.dat.state.md.us/sdatweb/COSinfo.html> .
2. Worcester County reserves the right, at its sole discretion, to extend the date this documentation must be provided. The Vendor's inability to provide this documentation could result in the proposal being rejected.

#### **I. DESCRIPTIVE LITERATURE**

1. The proposed descriptive literature fully describing the product bid is what is intended to be included as the price. Failure to do so may be cause for rejection of the proposal.

2. Any items, systems or devices supplied in this proposal that are proprietary in nature relative to maintenance, repair, servicing or updating must be disclosed on the proposal form.

**J. NOTICE TO VENDORS**

1. Before a Vendor submits the Proposal Documents it will need to become fully informed as to the extent and character of the Goods and/or Services required and are expected to completely familiarize themselves with the requirements of this Proposal Document's specifications. Failure to do so will not relieve the Vendor of the responsibility to fully perform in accordance therewith. No consideration will be granted for any alleged misunderstanding of the material to be furnished or the Services to be performed, it being understood that the submission of a Proposal Document is an agreement with all of the items and conditions referred to herein.

**K. PIGGYBACKING**

1. Worcester County may authorize, upon request, any governmental entity (hereafter Authorized User) within the County to purchase items under the contract awarded pursuant to this proposal solicitation.
2. All purchase orders issued against the contract by an authorized User shall be honored by the Successful Vendor in accordance with all terms and conditions of this contract.
3. The issuance of a purchase order by an Authorized User pursuant to this provision shall constitute an express assumption of all contractual obligations, covenants, conditions and terms of the contract. A breach of the contract by any particular Authorized User shall neither constitute nor be deemed a breach of the contract as a whole which shall remain in full force and effect, and shall not affect the validity of the contract nor the obligations of the Successful Vendor thereunder respecting the County.
4. The County specifically and expressly disclaims any and all liability for any breach by an Authorized User other than the County and each such Authorized User and Successful Vendor guarantee to save the County, its officers, agents and employees harmless from any liability that may be or is imposed by the Authorized User's failure to perform in accordance with its obligations under the contract.

**END OF SECTION**

## **SECTION II: GENERAL INFORMATION**

### **A. ECONOMY OF PROPOSAL**

1. Proposal Documents will be prepared simply and economically, providing straightforward and concise description of the Vendor's capabilities to satisfy the requirements of the Proposal Documents. Emphasis should be on completeness and clarity of content. Elaborate brochures and other representations beyond that sufficient to present a complete and effective Proposal Document are neither required nor desired.

### **B. PUBLIC INFORMATION ACT (PIA)**

1. Worcester County is subject to the Maryland Public Information Act and may be required to release proposal submissions in accordance with the Act.
2. Any materials the Vendor deems to be proprietary or copyrighted must be marked as such; however, the material may still be subject to analysis under the Maryland Public Information Act.
  - a. The Vendor may invoke proprietary information or trade secret protection for submission of any data/material by (1) identifying the data/material in a written description, (2) clearly marking the data/material as proprietary, and (3) providing a written statement detailing the reasons why protection is necessary. The County reserves the right to ask for additional clarification prior to establishing protection.

### **C. CONTRACT AWARD**

1. A written award by the County to the Successful Vendor in the form of a Purchase Order or other contract document will result in a binding Contract without further action by either party. If the Successful Vendor fails or refuses to sign and deliver the Contract and the required insurance documentation, the County will have the right to award to the next responsible and responsive Vendor. Contract will be executed by the Successful Vendor within fourteen calendar days of receipt of the Contract.
2. Proposal Documents and Contracts issued by the County will bind the Vendor to applicable conditions and requirements herein set forth, unless otherwise specified in the Proposal Documents, and are subject to all federal, state, and municipal laws, rules, regulations, and limitations.
3. County personal property taxes ("Taxes") must be on a current basis; if any such Taxes are delinquent, they must be paid before award of Contract. Failure to pay will result in the award of Contract to another Vendor.
4. The County reserves the right to engage in individual discussions and interviews with those Vendors deemed fully qualified, responsible, suitable and professionally competent to provide the required Goods and/or Services should the project size warrant it. Vendors will be encouraged to elaborate on their qualifications, performance data, and staff expertise.

### **D. AUDIT**

1. The Successful Vendor agrees to retain all books, records, and other documents relative to the awarded Contract for five years after final payment, or until audited. The County, its authorized agents, and/or State auditors will have full access to and the right to examine any of said materials during said period.

### **E. NONPERFORMANCE**

1. The County reserves the right to inspect all operations and to withhold payment for any goods not performed or not performed in accordance with the specifications in this Proposal Document.

Errors, omissions or mistakes in performance will be corrected at no cost to the County. Failure to do so will be cause for withholding of payment for that Goods and/or Services. In addition, if deficiencies are not corrected in a timely manner, the County may characterize the Successful Vendor as uncooperative, which may jeopardize future project order solicitations.

**F. MODIFICATION OR WITHDRAWAL OF PROPOSAL**

1. A Proposal Document may not be modified, withdrawn, or cancelled by the Vendor during the stipulated time period following the time and date designated for the receipt of Proposal Documents, and each Vendor so agrees in submitting Proposal Documents.

**G. DEFAULT**

1. The Contract may be cancelled or annulled by the County in whole or in part by written notice of default to the Successful Vendor upon non-performance, violation of Contract terms, delivery failure, bankruptcy or insolvency, any violation of state or local laws, or the making of an assignment for the benefit of creditors. An award may then be made to the next most highly rated Vendor, or when time is of the essence, similar commodities and/or service may be purchased on the open market. In either event, the defaulting Vendor (or his surety) will be liable to the County for cost to the County in excess of the defaulted Contract price.
2. If a representative or warranty of either Party to the Contract is false or misleading in any material respect, or if either Party breaches a material provision of the Contract ("Cause"), the non-breaching Party will give the other Party written notice of such cause. If such Cause is not remedied within fifteen calendar days ("Cure Period") after receipt of such notice, (unless, with respect to those Causes which cannot be reasonably corrected or remedied within the Cure Period, the breaching Party will have commenced to correct or remedy the same within such Cure Period and thereafter will proceed with all due diligence to correct or remedy the same), the Party giving notice will have the right to terminate this Contract upon the expiration of the Cure Period.

**H. COLLUSION/FINANCIAL BENEFIT**

1. The Vendor certifies that his/her Proposal is made without any previous understanding, agreement, or connection with any person, firm, or corporation making a Proposal Document for the same project; without prior knowledge of competitive prices; and is in all respects fair, without outside control, collusion, fraud, or otherwise illegal action.
2. Upon signing the Proposal Document, Vendor certifies that no member of the governing body of the County, or members of his/her immediate family, including spouse, parents or children, or any other officer or employee of the County, or any member or employee of a Commission, Board, or Corporation controlled or appointed by the County Commissioners has received or has been promised, directly or indirectly, any financial benefit, related to this Proposal Document and subsequent Contract.

**I. TAX EXEMPTION**

1. In buying products directly from a Vendor, Worcester County is exempt from being *directly* charged Federal excise and Maryland sales tax. A copy of an exemption certificate shall be furnished upon request.
2. According to the Office of the Comptroller of Maryland, a *Contractor is responsible for paying sales tax* on his/her purchases relating to any projects or services and should incorporate it into their proposal.
3. Successful Vendors **cannot** use the County tax exemption to buy materials or products used on County projects.

**J. CONTRACT CHANGES**

1. No claims may be made by anyone that the scope of the project or that the Vendor's Goods and/or Services have been changed (requiring changes to the amount of compensation to the Vendor or other adjustments to the Contract) unless such changes or adjustments have been made by an approved written amendment (Change Order) to the Contract signed by the Chief Administrative Officer (and the County Commissioners, if required), prior to additional Goods and/or Services being initiated. Extra Goods and/or Services performed without prior, approved, written authority will be considered as unauthorized and at the expense of the Vendor. Payment will not be made by the County.
2. No oral conversations, agreements, discussions, or suggestions, which involve changes to the scope of the Contract, made by anyone including any County employee, will be honored or valid. No written agreements or changes to the scope of the Contract made by anyone other than the Procurement Officer (with the Chief Administrative Officer and/or County Commissioners approval, if required) will be honored or valid.
3. If any Change Order in the Goods and/or Services results in a reduction in the Goods and/or Services, the Vendor will neither have, nor assert any claim for, nor be entitled to any additional compensation for damages or for loss of anticipated profits on Goods and/or Services that are eliminated.

**K. ADDENDUM**

1. No oral statements of any person will modify or otherwise affect or interpret the meaning of the Contract specifications, or the terms, conditions, or other portions of the Contract. All modifications and every request for any interpretation must be addressed to Worcester County's Procurement Officer and to be given consideration, must be received no later than the last day for questions listed in Section I, Subsection C.2.
2. Any and all interpretations, corrections, revisions, and amendments will be issued by the Procurement Officer to all holders of Proposal Documents in the form of written addenda. Vendors are cautioned that any oral statements made by any County employee that materially change any portion of the Proposal Documents cannot be relied upon unless subsequently ratified by a formal written amendment to the Proposal Document.
3. All addenda will be issued so as to be received at least five days prior to the time set for receipt of Proposal Documents, and will become part of the Contract and will be acknowledged in the Proposal Document form. Failure of any Vendor to receive any such addenda will not relieve said Vendor from any obligation under the Proposal Document as submitted.
4. Vendors are cautioned to refrain from including in their Proposal Document any substitutions which are not confirmed by written addenda. To find out whether the County intends to issue an amendment reflecting an oral statement made by any employee, contact Worcester County's Procurement Officer during normal business hours.
5. The Worcester County Procurement Officer reserves the right to postpone the Proposal Document opening for any major changes occurring in the five-day interim which would otherwise necessitate an Addendum.

**L. EXCEPTIONS/ SUBSTITUTIONS**

1. Any exceptions or substitutions to the specifications requested should be marked on the proposal form and listed on a separate sheet of paper attached to the proposal.

2. An exception to the specifications may disqualify the proposal. The County will determine if the exception is an essential deviation or a minor item.
3. In the case of a minor deviation, the County maintains the option to award to that Vendor if it determines the performance is not adversely affected by the exception.

**M. APPROVED EQUALS**

1. In all specifications where a material or article is defined by describing a proprietary product or by using the name of a Vendor or manufacturer, it can be assumed that an approved equal can be substituted.
2. The use of a named product is an attempt to set a particular standard of quality and type that is familiar to the County. Such references are not intended to be restrictive.
3. However, the County shall decide if a product does in fact meet or exceed the quality of the specifications listed in the solicitation. It shall be the responsibility of the Vendor that claims his product is an equal to provide documentation to support such a claim.

**N. DELIVERY**

1. All items shall be delivered F.O.B. destination and delivery costs and charges included in the proposal unless otherwise stated in the specifications or proposal form.

**O. INSURANCE**

1. If required by the General Conditions or Terms and Conditions, the Successful Vendor shall provide the County with Certificates of Insurance within ten calendar days of proposal award notification evidencing the required coverage.
2. Successful Vendor must provide Certificates of Insurance before commencing work in connection with the Contract.

**P. PROPOSAL EVALUATION**

1. Proposal tabulations will be posted on the County website at <https://www.co.worcester.md.us/commissioners/bids>. Click on the Expired Bids & Results tab and find the proposal tabulation for the proposal you are interested in. Proposal tabulations will be posted as soon as reasonably possible after the Proposal opening.

**END OF SECTION**

### **SECTION III: GENERAL CONDITIONS**

#### **A. DRAWINGS AND SPECIFICATIONS**

1. Should any detail be omitted from the drawings or specifications, or should any errors appear in either, it shall be the duty of the Successful Vendor to notify the County's designated construction inspector.
2. In no case shall the Successful Vendor proceed with the work without notifying and receiving definite instructions from the County. Work wrongly constructed without such notification shall be corrected by the Successful Vendor at his own cost.

#### **B. MATERIALS, SERVICES AND FACILITIES**

1. It is understood that, except as otherwise specifically stated in the Proposal Documents, the Successful Vendor will provide and pay for all materials, labor, tools, equipment, water, light, power and transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the Work within the specified time.
2. Materials and equipment will be so stored as to insure the preservation of their quality and fitness for the Work. Stored materials and equipment to be incorporated in the Work will be located so as to facilitate prompt inspection.
3. Manufactured articles, materials, and equipment will be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
4. Materials, supplies and equipment will be in accordance with samples submitted by the Successful Vendor and approved by the County.

#### **C. INSPECTION AND TESTING**

1. All materials and equipment used in the construction of the Work will be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Proposal Documents.
2. The County or its representatives may, at any time, enter upon the work and the premises used by the Successful Vendor, and the Successful Vendor shall provide proper and safe facilities to secure convenient access to all parts of the work, and all other facilities necessary for inspection, as may be required.
3. The County will appoint such persons as deemed necessary to properly inspect the materials furnished or to be furnished, and the work done under the contract and to see that the same strictly corresponds with the drawings and specifications. All such materials and workmanship shall be subject to approval of the County. Approval or acceptance of payment shall not be misconstrued as approval of items or work not in conformance with specifications and drawings nor shall it prevent the rejection of said work or materials at any time thereafter during the existence of the contract, should said work or materials be found to be defective, or not in accordance with the requirements of the contract.
4. Work and material will be inspected promptly, but if for any reason should a delay occur, the Successful Vendor shall have no claim for damages or extra compensation.
5. The Successful Vendor shall pay for all inspection costs necessary to complete the work which may be incurred to comply with the requirements of any agency other than the County, such as a railroad, public service utility company, or any other governmental agency or any other agency whose jurisdiction affects the work in any manner unless otherwise specified herein.

**D. APPROVAL OF SUBSTITUTION OF MATERIALS**

1. Samples of materials shall be submitted by the Successful Vendor for approval before such materials are ordered from the manufacturers or distributors and shall be approved by the County before actual work is begun.
2. It is the intention of these specifications to permit all vendors bidding on this work to secure the fullest amount of competition on the various materials and specialties names herein. Wherever a material or article is defined by describing a proprietary product or by using the name of a vendor or manufacturer, the term or approved equal shall be presumed to be implied unless otherwise stated.

**E. PROTECTION OF WORK, PROPERTY AND PERSONS**

1. Successful Vendor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Successful Vendor will take all necessary precautions and programs in connection with the Work. Successful Vendor will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to, all employees on the Work and other persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
2. Successful Vendor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. Successful Vendor will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. Successful Vendor will notify owners of adjacent utilities when progress of the Work may affect them. The Successful Vendor will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by Successful Vendor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable.
3. In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Successful Vendor, without special instruction or authorization from the County, will act to prevent threatened damage, injury or loss. Successful Vendor will give the County prompt Written Notice of any significant changes in the Work or deviations from the Proposal Documents caused thereby, and a Change Order will thereupon be issued covering the changes and deviations involved.

**F. BARRICADES, DANGER, WARNING AND DETOUR SIGNS**

1. The Successful Vendor shall provide, erect and maintain all necessary barricades, sufficient red lights, flares, danger signals and signs, provide a sufficient number of watchmen and take all necessary precautions for the protection of the work and safety of the public.

**G. LICENSES AND PERMITS**

1. The Successful Vendor shall have all necessary licenses required to do the work and give all notices and obtain and pay all necessary permits required by local laws and regulations for building.
2. State and Federal permits (if applicable) to undertake work have been obtained by the County and accompany these specifications.



#### **H. SUPERVISION**

1. The Successful Vendor shall maintain, at all times during the progress of work, a competent and experienced supervisor who shall represent the Successful Vendor, and all directions given to him shall be binding. Important decisions regarding directions, if requested by the supervisor, shall be confirmed in writing.
2. Supervision by the County or its representative does not relieve the Successful Vendor of responsibility for defective work executed under the direct control of the Successful Vendor. Responsibility for defective work rests upon the Successful Vendor, whether discovered by the County prior to final payment or subsequent thereto.

#### **I. CLEAN UP**

1. Upon completion of the items within a given location as specified and before monthly estimates will be paid, the construction area and all other areas occupied by the Successful Vendor during the construction of said Contract shall be cleaned of all surplus and discarded materials, bracing, forms, rubbish and temporary structures that were placed there by the Successful Vendor.
2. Disposal of the aforementioned shall be the responsibility of the Successful Vendor.

#### **J. CHANGES IN WORK**

1. The County, without invalidating the contract, may order extra work or make changes by altering, adding or deducting from the work with the contract sum being adjusted accordingly.
2. All such work shall be executed under the conditions of the original contract, except that any claim for the extension of time caused thereby shall be adjusted at the time of ordering such change.
3. The value of any such extra work or change shall be determined in one or more of the following ways:
  - a. By estimate and acceptance of lump sum.
  - b. By unit prices named in the contract or subsequently agreed upon.

#### **K. TIME FOR COMPLETION**

1. The Work contemplated under this Contract shall be considered as continuous and be completed within the timeframe(s) stated in Section IV of this Proposal Document.
2. The Successful Vendor will be allowed to work eight hours per day, Monday through Friday, except for holidays, fifty-two weeks per year.
3. The Successful Vendor will not be permitted to work on holidays observed by Worcester County or the State of Maryland or on Sundays unless otherwise authorized in writing.
4. In case of an emergency which may require that work be done on Saturdays, Sundays, and Holidays, the Successful Vendor shall request permission of the County to do so. If, in the opinion of the County, the emergency is bonafide, permission may be granted to the Successful Vendor to work such hours as may be determined are necessary by the County. Also, if in the opinion of the County a bonafide emergency exists, the Successful Vendor may be directed to work such hours as may be necessary whether or not the Successful Vendor requests permission to do so.
5. The Successful Vendor shall pay the County for all costs incurred for inspection services required for work permitted during holidays, weekends or in excess of eight hours per day.

**L. CORRECTION OF WORK**

1. The Successful Vendor will promptly remove from the premises all Work rejected by the County for failure to comply with the Proposal Documents, whether incorporated in the construction or not, and the Successful Vendor will promptly replace and re-execute the Work in accordance with the Proposal Documents and without expense to the County and will bear the expense of making good all Work of other Vendors destroyed or damaged by such removal or replacement.
2. All removal and replacement Work will be done at the Successful Vendor's expense. If the Successful Vendor does not act to remove such rejected Work within ten days after receipt of Written Notice, the County may remove such Work and store the materials at the expense of the Successful Vendor.

**M. CONSTRUCTION SAFETY AND HEALTH STANDARDS**

1. It is a condition of this contract, and shall be made a condition of each sub-contract entered into pursuant to this contract, that the Successful Vendor and any sub-contractor shall not require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards (Title 29, Code of Federal Regulations, Part 1926, formerly Part 1518, as revised from time to time, promulgated by the United States Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standard Act.) (83 Stat. 96).
2. Failure of Worcester County to inform the Successful Vendor of safety violations will not release the Successful Vendor of his responsibilities.

**N. GUARANTEE**

1. The Successful Vendor shall furnish the County with a one-year guarantee of workmanship and materials, dating from time of acceptance of the project and shall make good any defects which may occur during that period.
2. If any special guarantees in excess of the one-year period are specified by the manufacturer, these guarantees shall take precedence over the one-year period guarantee.
3. Upon completion of work, and before final payment or release of retainage, the Successful Vendor shall submit, and obtain from each subcontractor, material supplier and equipment manufacture general warranties and a notarized asbestos free guarantee.

**END OF SECTION**

## **SECTION IV: PROPOSAL SPECIFICATIONS**

### **A. SCOPE**

1. The County is seeking proposals from qualified Vendors for design, bidding, and construction phase services in the Mystic Harbour Sanitary Service Area for the Mystic Harbour Wastewater Treatment Plant biosolids equipment upgrade and building improvements in accordance with the terms and conditions and specifications set forth in this solicitation.

### **B. CONTRACT PRICING**

1. Pricing must include all labor, materials, tools, and equipment to perform Work.
2. Pricing will not change during the Contract Period.

### **C. BACKGROUND**

1. The Worcester County Commissioners are proposing to have the biosolids dewatering equipment and building replaced. The project is outlined in a Preliminary Engineering Report (PER) prepared by the Engineering firm George, Miles, and Buhr LLC in May 2024 (Please see attachment A of this RFP). The Mystic Harbour Wastewater Treatment Plant (WWTP) is experiencing ongoing issues related to the processing and management of biosolids. The inability of the WWTP to properly handle solids treatment is impacting the liquid treatment system. For over five (5) years, the Mystic Harbour WWTP has had violations of effluent treatment levels and is operating out of compliance with permit requirements. As a solution, the facility will need to construct two (2) sludge holding tanks and a mechanical dewatering facility to handle the biosolids produced from an average daily flow rating of 0.6 MGD. The recommended alternative in the PER, Alternative No. 4, includes mechanical dewatering of the biosolids with a permanently installed belt filter press as well as the installation of new drying beds. The construction of sludge holding tanks, aeration equipment, pumping equipment, and associated building improvements are also included.
2. This project will be in part funded via the Maryland Water Quality Revolving Loan Fund and will be subject to the program requirements outlined in Attachment C: Requirements and Contract Provisions for the Treatment Works Projects Financed Through the Maryland Water Quality Revolving Loan Fund and the Maryland Drinking Water Revolving Loan Fund. As such, this project will be subject to the Build America Buy American Act (BABA).

### **D. SUMMARY**

1. The Successful Vendor will develop construction plans and specifications, obtain all necessary permits, assist in construction contractor solicitation through the competitive sealed bid process, and provide construction phase services for the Biosolids Equipment Upgrade and Building Improvements Design to the Mystic Harbour Wastewater Treatment Plant. The following specific tasks are required:
  - a. **DESIGN PHASE SERVICES**
    - i. Review the Preliminary Engineering Report and confirm details needed to design the system improvements.
    - ii. Schedule and attend a kick-off meeting with County staff and MDE to finalize the scope of the project and discuss project details and schedule.
    - iii. Coordinate with County staff on all equipment and appurtenances needed to connect to County SCADA system SCADA System.

- iv. Obtain background information needed from on-site survey and aerial photography to design the biosolids upgrades and additional recommended upgrades (per the recommended Alternative #4 in the Preliminary Engineering Report).
- v. Identify and address any wetlands and floodplain issues. The Successful Vendor shall survey the proposed location provided, or any other proposed building site, and verify elevations prior to design to ensure all controls are a minimum of two (2) feet above the floodplain (Based on NAVD 1988) and that no additional mitigation is required.
- vi. Coordinate a geotechnical consultant to obtain soil borings for proposed location of the building site to confirm suitable subsurface conditions exist to support the equipment, building, and additional improvements.
- vii. Include design and permitting services for all elements included in the selected Alternative #4 from the PER, including but not necessarily limited to:
  - a. Installation of a belt filter press (BFP),
  - b. Rehabilitation of the two (2) existing drying beds,
  - c. Construction of four (4) new greenhouse structures with two (2) drying beds each
  - d. Installation of two (2) stainless-steel Sludge Holding Tanks (SHT)
  - e. Construction of a CMU building to house the BFP pumping equipment, aeration equipment, and necessary electrical equipment
  - f. Replacement of the current rotatory drum screen equipment to eliminate constant fouling
  - g. Installation of a sodium hypochlorite system to manage filamentous bacteria
  - h. Repair/updating of the existing storage building on the WWTP premises to include demolition/repairs, construction of new features, and associated MEP work as detailed in Attachment B: Mystic Harbor Wastewater Treatment Plant Storage Building Feasibility Study
- viii. Design documents (Plans and Specifications) shall be submitted for review at the 30% (preliminary), 90% (pre-final) and final design phase
- ix. At the 90% design point, prepare and submit an application to MDE for the needed construction permit
- x. Concurrently, obtain any necessary Local, State, or Federal approvals needed for the project (i.e. JPA, Critical Area, Building Permits, Erosion and Sediment Control, Storm Water Management, General Permit for Storm Water During Construction)
- xi. Prepare a cost estimate for the project at each submittal stage.
- xii. Complete the final design by addressing regulatory and staff comments and provide three copies of the final construction plans and specifications to the County for bidding. Additionally, provide the documents in Adobe Acrobat form for electronic distribution to Contractors

**b. TECHNICAL BIDDING PHASE SERVICES**

- i. Solicitation of construction contractors shall be through competitive sealed bid process.
- ii. Chair pre-bid meeting with construction contractors, record and distribute meeting minutes
- iii. Respond to contractor requests for information
- iv. Assist in answering questions and issuing addendums
- v. Review contractor bid packages, tabulate bids, provide written recommendation for award of construction contract.
- vi. Check contractor suitability, ensure contractor is responsive and responsible bidder, including but not limited to checking for any suspension and debarment issues.
- vii. Submit bid package and recommendation of award to funding agency for concurrence.

**c. CONSTRUCTION PHASE SERVICES**

- i. Chair preconstruction meeting with successful contractor, record and distribute meeting minutes
- ii. Review of project submittals from the contractor
- iii. Respond to Requests for Information
- iv. Review of the project schedule
- v. Chair monthly progress meetings and providing meeting minutes
- vi. Review contractor pay requests and make recommendations for payment
- vii. Prepare and submit payment reimbursement request to funding agencies
- viii. Conduct on-site conformational survey of critical elevations (i.e. pipe inverts, bottom elevation, sewer manhole inverts, etc.). Provide flood elevation certificate to comply with FIRM Flood maps. Identify any equipment installed at the incorrect elevation.
- ix. Prepare as-built drawings based on contractor prepared red line drawings.
- x. Overseeing equipment start-up and building walk through.
- xi. Scheduling and attending the final inspection of the construction, including preparation of the final punch list
- xii. Certifying project completion and providing final construction certification to the Maryland Department of the Environment

**d. INSPECTION PHASE SERVICES**

- i. Successful Vendor shall provide full time inspection services and include the qualifications of the proposed construction inspector. Hourly rate for inspection services shall be based on a 7:30 AM – 4:00 PM working schedule. If the successful contractor elects to work more than 40 hours per week, the additional hours for inspection services are to be paid by the contractor.
- ii. For the purposes of bidding, the construction duration shall be estimated as 9 months.

**E. ATTACHMENTS**

- 1. Attachment A: Mystic Harbour Wastewater Treatment Plant Preliminary Engineering Report

2. Attachment B: Mystic Harbor Wastewater Treatment Plant Storage Building Feasibility Study
3. Attachment C: Requirements and Contract Provisions for the Treatment Works Projects Financed Through the Maryland Water Quality Revolving Loan Fund and the Maryland Drinking Water Revolving Loan Fund
4. Access to Audit Records

**F. PROPOSAL CONTENT**

1. Each proposal shall include the following information at a minimum:
  - a. General Description of the Firm, including the office responsible for completion of the work
  - b. Approach to completion of this project
  - c. Explanation of approach to compliance with the Build America Buy American Act (BABA)
  - d. Management and Staffing Plan to identify the key personnel assigned to the project
  - e. Qualifications of the firm, including specific qualifications of the Project Manager, Inspector, and key personnel
  - f. Quality Control program description
  - g. References for similar projects and demonstrated ability to meet project schedule/deadlines
  - h. Cost proposal as described in the Proposal Form
  - i. Schedule of completion including major milestones of Percent Complete (30%, 60%, 90%, and 100%), Design Phase Surveying, Site location, Building Design and Layout, and Permitting in Microsoft Project gant chart format or equivalent. Highlight any critical path items

**G. GENERAL REQUIREMENTS**

1. The Successful Vendor must be licensed to perform Work in the state of Maryland.

**H. PRE-PROPOSAL CONFERENCE**

1. A pre-proposal meeting will be held on Monday, December 30, 2024 at 2:00pm at the Water and Wastewater Division Administrative Office, located at the Ocean Pines Wastewater Treatment Plant, 1000 Shore Lane, Berlin, Maryland 21811.

**I. PAYMENT**

1. The County will make payment(s) to the Successful Vendor within thirty calendar days from the receipt of a proper invoice for approved and accepted work performed.
2. Unless otherwise noted, **all additional charges shall be included in the price quoted.**
  - a. This includes delivery, shipping, and any other materials (proofs, paper, etc.) needed to successfully complete the project according to the terms described.
  - b. The County will not be responsible for any costs incurred by any vendor in preparing and submitting a proposal.
3. Successful Vendor agrees to complete any necessary vendor paperwork as required by the County.

**J. QUESTIONS**

1. The last day for questions is listed under Section I, Subsection C.2.

**K. AWARD**

1. The County intends to award to the Vendor whose Completed Proposal Documents represents the best value to the County.

**END OF SECTION**

**SECTION V: EVALUATION AND SELECTION PROCESS**

**A. EVALUATION**

1. All Vendors are advised that in the event of a receipt of adequate number of Proposal Documents which, in the opinion of the County, require no clarification and/or supplementary information, such Proposal Documents may be evaluated without discussion. Hence, Proposal Documents should be initially submitted on the most complete and favorable terms which Vendors are capable of offering the County. Proposal Documents will be evaluated using the following criteria:

<b><u>Weighting Factor</u></b>	<b><u>Criterion</u></b>
25%	Qualifications of the organization
25%	Vendor's experience on similar 0.5-1 MGD Wastewater Treatment Facility projects
20%	Vendor's organizational capacity to meet the demands of the RFP specifications
10%	Vendor's ability to meet project schedule & deadlines
20%	Vendor's overall fee schedule and related expenses

2. Each Vendor will be rated for each criterion on a scale of zero to four as described below.

Unacceptable	0
Poor	1
Fair	2
Good	3
Superior	4

- a. A Vendor's final grade will be the sum of each criterion's rating multiplied by the weighting factor listed above.
3. After identifying the short list of the most qualified Vendor(s) based on the evaluation criteria, representative(s) may be required to clarify their Proposals by making individual presentations to the evaluation committee.
4. The County may enter into negotiations with Vendors and invite best and final offers as deemed to be in the best interest of the County. Negotiations may be in the form of face-to-face, telephone, facsimile, e-mail or written communications, or any combination thereof, at the County's sole discretion.
5. Vendors are strongly advised not to prepare their proposal submissions based on any assumption or understanding that negotiations will take place. Vendors are advised to respond to this Request for Proposals fully and with forth-rightness at the time of Proposal submission.
6. Vendors are strongly cautioned not to contact elected officials or members of the evaluation committee. All questions and comments should be directed through the Purchasing Department. Inappropriate efforts to lobby or influence individuals involved in this selection may result in dismissal from further consideration, at the County's sole discretion.

**END OF SECTION**

**THIS AND PREVIOUS SECTIONS, OTHER THAN THE COVER PAGE, DO NOT NEED TO BE  
RETURNED WITH SUBMITTAL**

## FORM OF PROPOSAL

To whom it may concern:

We hereby submit our Proposal Documents for “MYSTIC HARBOUR WWTP BIOSOLIDS UPGRADE DESIGN, BIDDING, CONSTRUCTION, & INSPECTION PHASE SERVICES” as indicated in the Proposal Documents. Having carefully examined the Proposal Documents and having received clarification on all items of conflict or upon which any doubt arose, the undersigned hereby requests consideration of our Vendor for award of the referenced Proposal.

ITEM	DESCRIPTION	EXTENDED PRICE
1	Design Phase Services	
2	Technical Bidding Phase Services	
3	Construction Phase Services	
4	Inspection Phase Services	
TOTAL		

### OPTIONAL ITEMS

Hourly Rate for Inspection and RPR Services	\$_____/hour
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The Vendor agrees that the proposal will be good for at least sixty (60) days unless otherwise indicated in the proposal specifications.

Is your company currently involved in any active litigation? (Yes)\_\_\_\_ (No) \_\_\_\_ CHECK One.

Have you included your certificate of good standing with the State of Maryland? (See Section I, Subsection H.1 for more information.) (Yes)\_\_\_\_ (No) \_\_\_\_ CHECK One.

Is your company currently involved in any mergers or acquisitions? (Yes)\_\_\_\_ (No) \_\_\_\_ CHECK One.

Has your organization compiled your Completed Proposal Document as per Section I, subsection D.3 and in accordance with the Proposal Specifications Section of this Proposal Document?  
(Yes)\_\_\_\_ (No) \_\_\_\_ CHECK One

NOTE: THIS PROPOSAL FORM MUST BE SIGNED BY AN OFFICER OF YOUR COMPANY OR AN AUTHORIZED AGENT FOR THIS PROPOSAL TO BE CONSIDERED VALID BY THE COUNTY.

\_\_\_\_\_  
Sign for Identification

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Email



## REFERENCES

List three references for which the Vendor has provided Goods/Services similar to those requested in the Proposal Document within the last 12-36 months. Include contact name, address, telephone number, email address and services provided.

Company Name:		Company Name:	
Type of Project:		Type of Project:	
Address:		Address:	
Town, State, Zip Code:		Town, State, Zip Code:	
Contact Person:		Contact Person:	
Telephone Number:		Telephone Number:	
Email:		Email:	
Date of Service:		Date of Service:	
Company Name:			
Type of Project:			
Address:			
Town, State, Zip Code:			
Contact Person:			
Telephone Number:			
Email:			
Date of Service:			

---

Sign for Identification

---

Printed Name

## EXCEPTIONS

The undersigned hereby certifies that, except as listed below, or on separate sheets attached hereto, the enclosed Completed Proposal Document covers all items as specified.

### EXCEPTIONS:

(If none, write none) \_\_\_\_\_

How did you hear about this solicitation?

- ☐ Worcester County's Website
- ☐ eMaryland Marketplace Advantage (eMMA)
- ☐ Newspaper Advertisement
- ☐ Direct email
- ☐ Other \_\_\_\_\_

The vendor hereby acknowledges receipt of the following addenda.

<u>Number</u>	<u>Date</u>	<u>Initials</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

\_\_\_\_\_  
Sign for Identification

\_\_\_\_\_  
Printed Name

## INDIVIDUAL PRINCIPAL

Vendor Name: \_\_\_\_\_

Signed By: \_\_\_\_\_ In the presence of: \_\_\_\_\_

Address of Vendor: \_\_\_\_\_ Town, State, Zip \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

\*\*\*\*\*

## CO-PARTNERSHIP PRINCIPAL

Name of Co-Partnership: \_\_\_\_\_

Address: \_\_\_\_\_ Town, State, Zip \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax: \_\_\_\_\_

Signed By: \_\_\_\_\_ In the presence of: \_\_\_\_\_

Partner

Witness

Signed By: \_\_\_\_\_ In the presence of: \_\_\_\_\_

Partner

Witness

Signed By: \_\_\_\_\_ In the presence of: \_\_\_\_\_

Partner

Witness

\*\*\*\*\*

## CORPORATE PRINCIPAL

Name of Corporation: \_\_\_\_\_

Address: \_\_\_\_\_ Town, State, Zip \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Fax: \_\_\_\_\_

Signed By: \_\_\_\_\_ In the presence of: \_\_\_\_\_

President

Witness

Attest: \_\_\_\_\_

Corporate Secretary

Affix Corporate Seal

## VENDOR'S AFFIDAVIT OF QUALIFICATION TO BID

I HEREBY AFFIRM THAT:

I, \_\_\_\_\_ am the \_\_\_\_\_  
(Printed Name) (title)  
and the duly authorized representative of the Vendor of  
\_\_\_\_\_ whose address is  
(name of corporation)  
\_\_\_\_\_

and that I possess the legal authority to make this affidavit on behalf of myself and the Vendor for which I am acting.

Except as described in paragraph 3 below, neither I nor the above Vendor, nor to the best of my knowledge and of its officers, directors or partners, or any of its employees directly involved in obtaining contracts with the State or any county, bi-county or multi-county agency, or subdivision of the State have been convicted of, or have pleaded nolo-contendere to a charge of, or have during the course of an official investigation or other proceeding admitted in writing or under oath acts or omissions which constitute, bribery, attempted bribery, or conspiracy to bribe under the provisions of Article 27 of the Annotated Code of Maryland or under the laws of any state or federal government (conduct prior to July 1, 1977 is not required to be reported).

(State "none" or, as appropriate, list any conviction, plea or admission described in paragraph 2 above, with the date, court, official or administrative body, the individuals involved and their position with the Vendor, and the sentence or disposition, if any.)  
\_\_\_\_\_  
\_\_\_\_\_

I acknowledge that this affidavit is to be furnished to the County, I acknowledge that, if the representations set forth in this affidavit are not true and correct, the County may terminate any Contract awarded and take any other appropriate action. I further acknowledge that I am executing this affidavit in compliance with section 16D of Article 78A of the Annotated Code of Maryland, which provides that certain persons who have been convicted of or have admitted to bribery, attempted bribery or conspiracy to bribe may be disqualified, either by operation of law or after a hearing, from entering into contracts with the State or any of its agencies or subdivisions.

I do solemnly declare and affirm under the penalties of perjury that the contents of this affidavit are true and correct.

\_\_\_\_\_  
Sign for Identification

\_\_\_\_\_  
Printed Name

## NON-COLLUSIVE AFFIDAVIT

\_\_\_\_\_ being first duly sworn,  
deposes and says that:

1. He/she is the \_\_\_\_\_, (Owner, Partner, Officer, Representative or Agent) of \_\_\_\_\_, the Vendor that has submitted the attached Proposal Documents;
2. He/she is fully informed respecting the preparation and contents of the attached Proposal Document and of all pertinent circumstances respecting such Proposal Documents;
3. Such Proposal Document is genuine and is not a collusive or sham Proposal Document;
4. Neither the said Vendor nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Vendor, firm, or person to submit a collusive or sham Proposal Document in connection with the Work for which the attached Proposal Document has been submitted; or to refrain from bidding in connection with such Work; or have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any Vendor, firm, or person to fix the price or prices in the attached Proposal Document or of any other Vendor, or to fix any overhead, profit, or cost elements on the Proposal Document price or the Proposal Document price of any other Vendor, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any disadvantage against (Recipient), or any person interested in the Work;
5. The price or prices quoted in the attached Proposal Document are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Vendor or any other of its agents, representatives, owners, employees or parties in interest, including this affiant.

Signed, sealed and delivered in the presence of:

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Witness

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

## EXHIBIT A

### WORCESTER COUNTY MARYLAND STANDARD TERMS AND CONDITIONS

The provisions below are applicable to all Worcester County ("County") contracts. These provisions are not a complete agreement. These provisions must be attached to an executed document that identifies the work to be performed, compensation, term, incorporated attachments, and any special conditions ("Contract"). If the Standard Terms and any other part of the Contract conflict, then the Standard Terms will prevail.

1. **Amendment.** Amendments to the Contract must be in writing and signed by the parties.
2. **Bankruptcy.** If a bankruptcy proceeding by or against the Contractor is filed, then:
  - a. The Contractor must notify the County immediately; and
  - b. The County may cancel the Contract or affirm the Contract and hold the Contractor responsible for damages.
3. **Compliance with Law.** Contractor must comply with all applicable federal, state, and local law. Contractor is qualified to do business in the State of Maryland. Contractor must obtain, at its expense, all licenses, permits, insurance, and governmental approvals needed to perform its obligations under the Contract.
4. **Contingent Fee Prohibition.** The Contractor has not directed anyone, other than its employee or agent, to solicit the Contract and it has not promised to pay anyone a commission, percentage, brokerage fee, contingent fee, or other consideration contingent on the making of the Contract.
5. **Counterparts and Signature.** The Contract may be executed in several counterparts, each of which may be an original and all of which will be the same instrument. The Contract may be signed in writing or by electronic signature, including by email. An electronic signature, a facsimile copy, or computer image of the Contract will have the same effect as an original signed copy.
6. **Exclusive Jurisdiction.** All legal proceedings related to this Contract must be exclusively filed, tried, and maintained in either the District Court of Maryland for Worcester County, Maryland or the Circuit Court of Worcester County, Maryland. The parties expressly waive any right to remove the matter to any other state or federal venue and waive any right to a jury trial.
7. **Force Majeure.** The parties are not responsible for delay or default caused by fire, riot, acts of God, County-declaration-of-emergency, or war beyond their reasonable control. The parties must make all reasonable efforts to eliminate a cause of delay or default and must, upon cessation, diligently pursue their obligations under the Contract.
8. **Governing Law.** The Contract is governed by the laws of Maryland and the County.
9. **Indemnification.** The Contractor must indemnify the County and its agents from all liability, penalties, costs, damages, or claims (including attorney's fees) resulting from personal injury, death, or damage to property that arises from or is connected to the performance of the work or failure to perform its obligations under the Contract. All indemnification provisions will survive the expiration or termination of the Contract.

**10. Independent Contractor.**

- a. Contractor is an “Independent Contractor”, not an employee. Although the County may determine the delivery schedule for the work and evaluate the quality of the work, the County will not control the means or manner of the Contractor’s performance.
- b. Contractor is responsible for all applicable taxes on any compensation paid under the Contract. Contractor is not eligible for any federal Social Security, unemployment insurance, or workers’ compensation benefits under the Contract.
- c. Contractor must immediately provide the County notice of any claim made against Contractor by any third party.

**11. Insurance Requirements.**

- a. Contractor must have Commercial General Liability Insurance in the amounts listed below. The insurance must include coverage for personal injury, discrimination, and civil rights violation claims. All insurance must name County, its employees, and agents as “ADDITIONAL INSURED”. A copy of the certificate of insurance must be filed with the County before the Contract is executed, providing coverage in the amount of \$1,000,000 per occurrence, \$2,000,000 general aggregate, and \$500,000 for property damage.
- b. Contractor must have automobile insurance on all vehicles used in the Contract to protect Contractor against claims for damages resulting from bodily injury, including wrongful death, and property damage that may arise from the operations in connection with the Contract. All insurance must name County, its employees, and agents as “ADDITIONAL INSURED”.
- c. Contractor must provide the County with a certification of Workers’ Compensation Insurance, with employer’s liability in the minimum amount required by Maryland law in effect for each year of the Contract.
- d. All insurance policies must have a minimum 30 days’ notice of cancellation. The County must be notified immediately upon cancellation.
- e. When insurance coverage is renewed, Contractor must provide new certificates of insurance prior to expiration of current policies.

**12. Nondiscrimination.** Contractor must not discriminate against any worker, employee, or applicant because of religion, race, sex, age, sexual orientation, physical or mental disability, or perceived disability. This provision must be incorporated in all subcontracts related to the Contract.

**13. Ownership of Documents; Intellectual Property.**

- a. All documents prepared under the Contract must be available to the County upon request and will become the exclusive property of the County upon termination or completion of the services. The County may use the documents without restriction or without additional compensation to the Contractor. The County will be the owner of the documents for the purposes of copyright, patent, or trademark registration.
- b. If the Contractor obtains, uses, or subcontracts for any intellectual property, then it must provide an assignment to the County of ownership or use of the property.
- c. The Contractor must indemnify the County from all claims of infringement related to

the use of any patented design, device, materials, or process, or any trademark or copyright, and must indemnify the County, its officers, agents, and employees with respect to any claim, action, costs, or infringement, for royalties or user fees, arising out of purchase or use of materials, construction, supplies, equipment, or services covered by the Contract.

14. **Payments.** Payments to the Contractor under the Contract will be within 30 days of the County's receipt of a proper invoice from the Contractor. If an invoice remains unpaid 45 days after the invoice was received, interest will accrue at 6% per year.
15. **Records.** Contractor must maintain fiscal records relating to the Contract in accordance with generally accepted accounting principles. All other relevant records must be retained by Contractor and kept accessible for at least three years after final payment, termination of the Contract, or until the conclusion of any audit, controversy, or litigation related to the Contract. All subcontracts must comply with these provisions. County may access all records of the Contractor related to the Contract.
16. **Remedies.**
  - a. **Corrections of errors and omissions.** Contractor must perform work necessary to correct errors and omissions in the services required under the Contract, without undue delays and cost to the County. The County's acceptance will not relieve the Contractor of the responsibility of subsequent corrections of errors.
  - b. **Set-off.** The County may deduct from any amounts payable to the Contractor any back-charges, penalties, or damages sustained by the County, its agents, or employees caused by Contractor's breach. Contractor will not be relieved of liability for any costs caused by a failure to satisfactorily perform the services.
  - c. **Cumulative.** These remedies are cumulative and without waiver of any others.
17. **Responsibility of Contractor.**
  - a. The Contractor must perform the services with the standard of care, skill, and diligence normally provided by a Contractor in the performance of services similar the services.
  - b. Notwithstanding any review, approval, acceptance, or payment for the services by the County, the Contractor will be responsible for the accuracy of any work, design, drawings, specifications, and materials furnished by the Contractor under the Contract.
  - c. If the Contractor fails to conform with subparagraph (a) above, then it must, if required by the County, perform at its own expense any service necessary for the correction of any deficiencies or damages resulting from the Contractor's failure. This obligation is in addition to any other remedy available to the County.
18. **Severability/Waiver.** If a court finds any term of the Contract to be invalid, the validity of the remaining terms will not be affected. The failure of either party to enforce any term of the Contract is not a waiver by that party.
19. **Subcontracting or Assignment.** The Contractor may not subcontract or assign any part of the Contract without the prior written consent of the County. The County may withhold consent for any reason the County deems appropriate.



20. **Termination.** If the Contractor violates any provision of the Contract, the County may terminate the Contract by written notice. All finished or unfinished work provided by the Contractor will, at the County's option, become the County's property. The County will pay the Contractor fair compensation for satisfactory performance that occurred before termination less the amount of damages caused by the Contractor's breach. If the damages are more than the compensation payable to the Contractor, the Contractor will remain liable after termination and the County can affirmatively collect damages.
21. **Termination of Contract for Convenience.** Upon written notice, the County may terminate the Contract when the County determines termination is in the County's best interest. Termination for convenience is effective on the date specified in the County's written notice. The County will pay for reasonable costs allocable to the Contract for costs incurred by the Contractor up to the date of termination. But the Contractor will not be reimbursed for any anticipatory profits that have not been earned before termination.
22. **Termination of Multi-year Contract.** If funds are not available for any fiscal period of the Contract after the first fiscal period, then the Contract will be terminated automatically as of the beginning of unfunded fiscal period. Termination will discharge the Contractor and the County from future performance of the Contract, but not from their rights and obligations existing at the time of termination.
23. **Third Party Beneficiaries.** The County and Contractor are the only parties to the Contract and are the only parties entitled to enforce its terms. Nothing in the Contract gives any benefit or right to third persons unless individually identified by name and expressly described as intended beneficiaries of the Contract.
24. **Use of County Facilities.** Contractor may only County facilities that are needed to perform the Contract. County has no responsibility for the loss or damage to Contractor's personal property which may be stored on County property.
25. **Whole Contract.** The Contract, the Standard Terms, and attachments are the complete agreement between the parties and supersede all earlier agreements, proposals, or other communications between the parties relating to the subject matter of the Contract.



## ATTACHMENT A

# MYSTIC HARBOUR WASTEWATER TREATMENT PLANT WORCESTER COUNTY, MARYLAND

## PRELIMINARY ENGINEERING REPORT



PREPARED FOR:  
WORCESTER COUNTY

MAY 2024

GMB FILE NO. 230237



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**Mystic Harbour Wastewater Treatment Plant**

**GMB Job No. 230237**

**Worcester County, Maryland**

**PRELIMINARY ENGINEERING REPORT**

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## **EXECUTIVE SUMMARY**

The Mystic Harbour Wastewater Treatment Plant (WWTP) is experiencing ongoing issues related to the processing and management of biosolids. The inability of the WWTP to properly handle solids treatment is impacting the liquid treatment system. For over five (5) years, the Mystic Harbour WWTP has had violations of effluent treatment levels and is operating out of compliance with permit requirements. In the short term, these issues can be managed by an increase in staff time at the facility for processing sludge on a more frequent basis and by modifying the current dewatered cake hauling strategy. However, for a long-term solution, the facility will need to construct two (2) sludge holding tanks and a mechanical dewatering facility to handle the biosolids produced from an ADF of 0.6 MGD.

The recommended alternative, Alternative No. 4, includes mechanical dewatering of the biosolids with a permanently installed belt filter press as well as the installation of new drying beds. The cost for sludge holding tanks, aeration equipment, pumping equipment, and associated buildings are also included. For this alternative, construction and total project costs are approximately \$4.54M and \$5.29M, respectively.

## 1.0 GENERAL

The purpose of this report is to identify and examine various options for addressing the ongoing issues related to the processing and management of biosolids at the Mystic Harbour WWTP located along Maryland Route 611. The Mystic Harbour WWTP was originally built in 1975 and was replaced in 2014. The plant has a current permitted capacity of 0.45 million gallons per day (MGD). The facility is expandable to an ADF of 0.6 MGD if additional equipment is constructed as planned. The facility consists of a membrane bioreactor treatment process followed by well injection and spray irrigation disposal of effluent. Also included at the facility are “greenhouse style” drying beds for dewatering of sludge prior to ultimate disposal of biosolids at the County landfill. In addition to the greenhouse drying beds, the facility recently implemented use of a portable belt filter press for sludge drying.

In recent years, the plant has been unable to efficiently process solids, resulting in an adverse impact on the liquid treatment system. The Mystic Harbour WWTP has had violations of effluent treatment levels for several years and is operating out of compliance with permit requirements. The facility is experiencing ongoing issues related to the processing of biosolids that include, but are not limited to, an apparent excessive growth of biomass (high sludge yield), filamentous microorganisms in the biomass, limited flexibility within the MBR treatment system to efficiently waste biosolids, slow dewatering of waste sludge on the porous asphalt drying beds, and poor dewaterability of waste sludge on the County’s portable belt filter press.

The current method of wasting in large batches is unsustainable and creates unstable biomass in the membrane treatment system that leads to nitrification/denitrification issues in the treatment system. The facility has experienced damage to the membrane units attributed to carrying high concentrations of mixed liquor suspended solids (MLSS). Operators are regularly challenged with sludge storage capacity and have no intermediate location to dispose of waste

activated sludge (WAS). As a result, the MLSS concentration rises and creates additional pressure/load on the membrane cassettes, which results in damage.

This report presents multiple options for achieving reasonable solids content of dewatered sludge through the installation of mechanical dewatering equipment to follow storage of sludge in sludge holding tanks (SHTs). The Mystic Harbour WWTP has a Sewage Sludge Utilization (SSU) permit issued by MDE that regulates the transport of sewage sludge to the Worcester County Landfill, which is the site of ultimate sludge disposal. The permit stipulates certain solids contents that are not currently met in addition to specific container requirements for transportation. The previously mentioned mechanical upgrades will allow Worcester County to process the solids from the SHTs and dewater the sludge enough that it can be transported offsite.

The dewatering options considered within this report are described as:

- No Action Alternative (Alternative 1).
- Install Mechanical Dewatering Equipment via a Belt Filter Press (Alternative 2):  
This involves the use of mechanical dewatering equipment to achieve dewatered sludge with a solids content between 15 and 20%.
- Modify and Install Additional Drying Beds (Alternative 3):  
The facility is very challenged with the existing drying bed system; this primarily due to having only two (2) large beds and is also due to attempting to achieve a dewatered cake of >35%. This alternative includes installation of additional beds to meet plant capacity and address the County's issue with limited space. Utilizing this technique only for drying is estimated to provide 20% solids content based on the area's climate and experience with similar facilities.



- Install Mechanical Dewatering Equipment via a Belt Filter Press and Install Additional Drying Beds (Alternative 4):

This includes a combination of Alternative Nos. 2 and 3 with a permanently installed belt filter press for mechanical dewatering as well as the installation of additional drying beds and relevant associated upgrades for each. This alternative is projected to provide the County with the capability of reaching close to 35% solids content prior to transportation to the local landfill which is consistent with the existing County solids hauling permit.

Common upgrades included in Alternatives 2 through 4 consist of construction of the SHTs, chemical feed upgrades, and rehabilitation of the existing WWTP storage building to house essential equipment. Alternative 2 & 3 require the purchase of a hauling transport truck for solids at 15 to 20% content and modifications to the existing hauling permit.

Worcester County has solicited the assistance of GMB to evaluate the facility to determine what process related operational changes can be made, as well as capital type improvements that may be needed to allow for better management of the biosolids at this facility. As of the date of this evaluation, the facility's flow is nearly 50% of the facility's flow during the summer months, thereby lessening the issues at hand during the winter season.

## 2.0 PROJECT PLANNING AREA

### 2.1 LOCATION

The Project Planning Area is designated as the existing WWTP property parcel owned by Worcester County. The existing WWTP is located south of Route 50 in West Ocean City along Route 611 at 9624 Stephen Decatur Highway, Berlin, MD 21811. The service area includes areas on both sides of Route 611 from just south of Route 50 to just south of Clark Rd. This area includes a smaller portion of land on the western side of Route 611 but is primarily composed of land extending from the eastern side of Route 611 to Sinepuxent Bay, excluding a portion of land surrounding the Ocean City Municipal Airport. Vicinity, location, and service area maps are included as exhibits **EX-1**, **EX-2**, and **EX-3**.

### 2.2 ENVIRONMENTAL RESOURCES PRESENT

The Mystic Harbour service area includes a combination of residential, commercial, and agricultural properties. It neighbors multiple bodies of water, including Herring Creek, Ayer Creek, and Sinepuxent Bay. The Mystic Harbour WWTP is located on a 9.29-acre lot (2 parcels) zoned R4 - General Residential. See attached exhibit **EX-4**, which shows designated land use for this property and for surrounding properties within the service area.

The National Wetlands Inventory map of the existing treatment plant site is included as exhibit **EX-5**. As shown on the map, there are two (2) freshwater ponds with a small area of freshwater emergent wetlands that exist on the WWTP parcel; however, the proposed upgrades within this report will not affect these areas. The areas indicated as freshwater ponds were manmade and consist of the larger pond area used as a backwash storage basin, and the smaller pond is a stormwater management facility constructed in the 2014 WWTP upgrade. Additionally, the overall service area includes estuarine/marine wetland, freshwater forested/shrub wetlands, and freshwater emergent wetland areas, all of which will remain

undisturbed. Mystic Harbour WWTP and the associated sewer service area are located within the Sinepuxent Bay Watershed, shown in exhibit **EX-6**, which is part of the MD Coastal Bays watershed. The facility disposes of treated wastewater by spray irrigation and well injection, which promotes reuse and decreases the nutrients directly entering the bay. Provided in exhibit **EX-7** is a FEMA Flood Plain map of the existing WWTP site.

Mystic Harbour WWTP and the associated sewer service area are located in Worcester County, MD, which is a community rated in the National Flood Insurance program. By improving the facility's system and providing higher quality effluent, the risk of contamination is greatly reduced.

The location of the project will have no negative effects on the surrounding environmental resources. At the existing WWTP, there are no anticipated impacts to the wetland areas and the site under consideration is above the existing flood plain elevations. All construction work and proposed upgrades will be located on the existing WWTP site.

### **2.3 GROWTH AREAS AND POPULATION TRENDS**

Mystic Harbour WWTP currently provides service for approximately 1,613 households. From 2010 to 2020, the population of Worcester County increased 1.96% based on US Census data, which is an average of 0.20% per year. Between the years 2020 and 2022, Worcester County reported a population increase of 2.7%.

The existing service area includes residential, commercial, and agricultural parcels. Many of the existing services are residential, and the potential for growth is also within residential or commercial areas. This project will not require any changes to existing land use designations. Refer to **EX-4** for the existing zoning map of the full service area.

The proposed project will ensure effective sewer treatment for the Mystic Harbour customers. Looking at the 30-year population trends at a 2% per year growth, the number of

service connections could increase to approximately 2,922. Based on a rate of 2.5 people per residential equivalent dwelling units (EDUs), this would total a service population of 4,032 customers in 2023 and 7,305 customers in 2053. It is noted that a number of existing connections are related to commercial users, but the above data provides a planning projection for population trends. A significant increase to development and customers in this service area may also be inhibited because there is limited infill or vacant developable parcels.

## **2.4 COMMUNITY ENGAGEMENT**

Installation of the proposed upgrades will ensure that Mystic Harbour WWTP is releasing more efficiently and adequately treated effluent for the surrounding areas. The adjacent community will significantly benefit as the WWTP provides more effective treatment. The Worcester County Department of Public Works (DPW) is dedicated to the health of its customers and surrounding environment, and it strives to maintain and enhance the quality of life for citizens and visitors. The Department's Vision Statement is "Exceptional Customer Service," and the staff are determined to provide this with positive and helpful attitudes. The Department of Public Works can be reached at their main office phone number (410-632-5623) for any inquiries about this project.

## **3.0 EXISTING FACILITIES**

### **3.1 LOCATION MAP**

As previously discussed, location maps of the area are provided as **EX-1** and **EX-2**. The Mystic Harbour WWTP is located along Maryland Route 611. It is on a 9.29-acre lot (2 parcels) zoned R4 - General Residential and is surrounded by residential and commercial parcels as shown in **EX-4**. There are two (2) watersheds in the area: Sinepuxent Bay and Isle of Wight Bay. The WWTP is located in the Sinepuxent Bay watershed as shown in **EX-6**, but services a small number of properties in the Isle of Wight Bay Watershed as well. All work for this project will be done at the existing WWTP and will occur within the Sinepuxent Bay Watershed.

### **3.2 HISTORY AND CONDITION OF EXISTING FACILITIES**

The Mystic Harbour WWTP has been designed as an expandable facility. The current infrastructure in place is designed for treatment of up to 0.45 MGD on an average daily flow (ADF) basis. The facility is expandable to an ADF treatment capacity of 0.6 MGD once the 4th MBR process train is outfitted with equipment, along with construction of a third (3rd) sludge drying bed greenhouse and second (2nd) effluent holding tank. Currently the discharge permit allows for an ADF discharge of up to 0.45 MGD via either injection well system, Eagle Landing golf course irrigation (limited to 0.081 MGD) or the Ocean City Wastewater Treatment Plant.

The Mystic Harbour facility primarily accepts domestic waste from residences within the sewer district it serves. Also included within the sewer district is commercial waste from businesses and restaurants. Of the commercial waste streams, the current one which is of most interest is the Castaways RV Resort and Campground. Such waste generators are variable in quantity and quality depending on the season and occupancy. Also of significance is that Castaways provides connections for recreational vehicles (RVs) to its sewer system. Often included within the RV waste are chemical additives to control the bacterial decomposition

and/or deodorize wastes in the RV's waste holding tank. Some of these chemical additives may contain enzymes or formaldehyde which inhibit biological activity and are toxic to biological treatment systems such as the activated sludge system employed at the Mystic Harbour WWTP. Worcester County DPW has inspected the Castaways camp store and found that the RV waste chemical additives available for purchase did not contain formaldehyde compounds.

Worcester County does not routinely sample influent raw wastewater for water quality characteristic; this is typical within the industry for small WWTP facilities. As mentioned earlier, the quantity and composition of waste to the WWTP varies seasonally; accordingly, data during the period when campground facilities are at peak occupancy is most relevant in evaluating the WWTP's operation. Worcester County was able sample the raw wastewater for BOD<sub>5</sub> and TSS for several weeks in July and August 2017. This time period is historically the period of greatest use for campgrounds in the area. Composite samples were taken following equalization of the waste stream as this was deemed to be the most representative of what the facility treats. The results of the sampling are summarized below in **Table 1** and actual test results are located in **Appendix A-2**. During the design phase, Worcester County DPW will complete an updated sample program to confirm the current levels are still representative of the 2017 samples. Unfortunately, water quality analysis for the concentration of TKN found in the wastewater was not completed during the sampling period, but this will be added to the sample program during design phase.

**TABLE 1**  
**ACTUAL - RAW SEWAGE CHARACTERISTICS**

PARAMETER	July – August 2017
Biological Oxygen Demand (BOD <sub>5</sub> )	200 mg/l
Total Suspended Solids (TSS)	125 mg/l

The raw sewage design parameters for the facility are shown in **Table 2** below. As can be seen, the values the facility is currently experiencing are within the design parameters. It is anticipated that as flow from the service area increases, the raw sewage characteristics will continue to remain within the design values.

**TABLE 2**  
**DESIGN - RAW SEWAGE CHARACTERISTICS**

PARAMETER	PLANT INFLUENT (Monthly Avg.)
Biological Oxygen Demand (BOD <sub>5</sub> )	200 mg/l
Total Suspended Solids (TSS)	200 mg/l
Total Kjeldahl Nitrogen (TKN)	30 mg/l
Total Phosphorus (TP)	10 mg/l

To evaluate the biosolids management situation, an estimate of the biosolids yield must be determined. The facility does not record the volume of WAS removed from the biological reactor, but they do monitor the mixed liquor suspended solids (MLSS) concentration within the reactor. Since January 2017, the facility has been dewatering WAS from the reactor with a small portable belt filter press (BFP). When the BFP is operated, the volume of sludge which is dewatered each time the BFP is run is recorded. Operation of the BFP for the period of mid-January through mid-October 2017 indicates a cumulative volume of WAS that corresponds to a WAS rate of approximately 12,400 gal/week. Refer to **Appendix A-3** for data related to the estimation. During this time period, the facility's ADF was approximately 0.17 MGD and this value is more representative of what the current ADF is during the late spring, summer and early fall seasons. This ADF was used to estimate that the facility's sludge yield is approximately 7,300 gal/wk/0.1MGD of ADF treated based on a WAS concentration of approximately 1.1 to 1.3%. As the flow to the facility increases, it is anticipated that the biosolids

yield will remain similar (gal/wk/0.1MGD @ 1.1%-1.3%, which can be converted to lb/wk/0.1MGD), and the increased sludge production will increase linearly with flow. Accordingly, at an ADF of 0.6 MGD, it is expected that the facility will yield approximately 43,700 gallons per week of WAS.

GMB reviewed the Mystic Harbour facility's monthly operating reports (MOR) for the period of January 2017 through September 2017 to determine the average daily flow that the facility processes and to see how much the flow varies seasonally. During 2017, in the month of July, the facility experienced an upset in process performance stemming from the issues related to management of biosolids. For essentially the entire month of July, flow to the facility was re-directed to the Town of Ocean City's facility for treatment to allow the Mystic Harbour staff time to address the biosolids management issues at the facility. Accordingly, flow data for one (1) of the two (2) most significant months of resort area use is not included in GMB's assessment. Based on the MORs, it appears that the ADF which the facility treats during the peak weeks in the summer season is close to 0.2 MGD. The period of January through March was considered to be the off-season and would represent the least use from campgrounds. During the winter period, the flow the facility treats is approximately 0.13 MGD, which is about 65% of the summer season peak. During the design phase, these values will be reexamined, but it is anticipated the flow percentages will remain similar for more recent years.

Listed in **Table 3** are the more pertinent facility design parameters. The facility is designed to achieve enhanced nutrient removal (ENR) of total nitrogen (TN). The facility can achieve ENR of total phosphorus (TP < 0.3 mg/l); however, the addition of a metal salt (coagulant) feed system will be needed.

During the design phase of this project, the engineer will return to the WWTP and collect updated sewage characteristics to further cement an accurate design.



**TABLE 3**

**DESIGN / PERMIT - EFFLUENT PARAMETERS**

PARAMETER	NPDES LIMIT (Monthly Avg.)
Biological Oxygen Demand (BOD <sub>5</sub> )	10 mg/l
Total Suspended Solids (TSS)	10 mg/l
Total Nitrogen (TN)	3 mg/l
Total Phosphorus (TP)	N/A
Flow	450,000 gpd

**Headworks.** The headworks include screening and flow equalization. Raw wastewater enters the plant under pressure flow via a force main. All flow enters a self-contained rotary drum screen with a peak flow rated capacity of 1.2 MGD (million gallons per day). It should be noted that the actual operational capacity of the screens is closer to 1.1 MGD at a peak flow of 700-800 gpm. When flow exceeds 700+ gpm, the screen can foul and result in possible overflows. The County is evaluating the equipment in more detail and may consider additional upgrades as flows to the plant increase.

Screened wastewater is discharged to the flow equalization tank and screenings are washed and compacted and then discharged into a trash receptacle for ultimate disposal at the County landfill.

The flow equalization tank has a total equalization capacity of 225,000 gallons. The tank includes a jet aeration mixing system and two (duty and standby) influent pumps to transfer equalized flow to the downstream treatment process.

The flow equalization tank volume represents 38% of 0.6 MGD and the rotary drum screen can process up to 1.2 MGD; accordingly, the headworks system is capable of handling an average daily flow of 0.6 MGD and instantaneous peak flow of 1.2 MGD.

The headworks operation seems to be working properly and has no adverse effect on the sludge management issue.

**Membrane Bioreactor (MBR) Treatment Process.** Screened and equalized wastewater is discharged to the membrane bioreactor treatment process' feed channel. The MBR process consists of four (4) process trains, each rated for 0.15 MGD. Currently three (3) trains have equipment installed, and the fourth needs to be fitted with equipment before it is placed into service. Each train is subdivided into three (3) discrete zones: pre-anoxic, aerobic, and post-anoxic. At the end of each MBR train, flow combines into a common channel and enters the membrane zone which includes four (4) membrane tanks. Similarly, three (3) of the membrane tanks have equipment installed, and the fourth needs to be fitted with equipment before it is placed in the service.

Beyond the in-tankage equipment, also associated with the MBR process are five (5) blowers (duty and standby) for membrane aeration and three (3) blowers (duty and standby) for process aeration.

The facility experiences excessive filamentous bacteria concentrations, which causes poor sludge settling and issues with nitrification/denitrification. Currently, there is no permanently constructed system in place to control filamentous. The industry standard practice for controlling excessive filamentous is to dose return activated sludge (RAS) with a small concentration of chlorine (1-2 lbs of Cl<sub>2</sub> to 1000 lbs of RAS). Operators have applied calcium hypochlorite (HTH) to the bioreactors with little effect.

Small variances (10,000 to 12,000) in mixed liquor suspended solids (MLSS) are not unusual and normally do not present a problem. The facility experiences large variances in MLSS concentrations attributed to the method in which wasting occurs. Once the target MLSS concentration is exceeded, operators waste sludge directly to the drying beds in batches. The

industry standard practice of controlling biomass is by wasting sludge in smaller quantities on a regular basis rather than large quantities at one time. That said, it is not advisable to waste small amounts of sludge daily on the drying beds. They were designed to receive enough sludge at one time to provide a uniform blanket across the entire bed. The current method of wasting in large batches is unsustainable and creates unstable biomass that leads to nitrification/denitrification issues. GMB believes this is the sole reason that the facility experiences compliance issues.

The facility has experienced damage to the membrane units attributed to carrying high concentrations of MLSS (+18,000 mg/l). Operators are regularly challenged with sludge storage capacity and have no intermediate location to dispose of waste activated sludge (WAS). As a result, the MLSS concentration rises and creates additional pressure/load on the membrane cassettes resulting in damage.

**Disinfection & Effluent Distribution.** Permeate pumps discharge effluent into an effluent distribution tank, which includes effluent disposal pumps that convey final effluent through an ultraviolet-light disinfection system and on to ultimate disposal at several injection wells. This disinfection system is specifically designed to meet the needs of the following disposal methods: well injection, spray field, Ocean City collection system.

**Chemical Feed Systems.** There are five (5) chemical feed systems currently in use at the facility. These are for sodium hypochlorite, citric acid, sodium hydroxide (caustic), sucrose (sugar) and polymer feed. The sodium hypochlorite and citric acid feed systems are for cleaning of the membrane cassettes, caustic is for pH/alkalinity adjustment, sugar feed is for carbon addition to optimize nitrogen removal, and the polymer feed is for waste sludge conditioning prior to dewatering. All except polymer (in a drum) are bulk tank-based systems with positive displacement type chemical feed pumps. The chemical feed systems are sized to serve the

existing facility capacity; however, adequate room is present to install additional storage and pumping components.

**Sludge Processing.** The facility includes two (2) porous pavement sludge drying beds housed inside of a greenhouse structure. The combined surface area of the beds is 6,225 SF, and the basis of design was to serve an MBR facility with an average daily flow design capacity of 0.4 MGD. Sludge is wasted directly from the MBR and discharged on the drying bed(s) for dewatering prior to ultimate sludge disposal at the County Landfill. Wasting of sludge is accomplished by the return activated sludge (RAS) pump, which is dedicated to serve the existing MBR treatment process.

In addition to the drying beds, the facility has, on occasion, employed the use of a portable 0.9-meter belt filter press (BFP) to aid in dewatering WAS. This BFP was purchased as an emergency measure and with the intent that it would be shared by other County facilities. It is not solely dedicated to the Mystic Harbour WWTP at this time. However, considering the challenges faced by the Mystic Harbour WWTP, the unit has been needed more frequently than anticipated. By using the BFP in conjunction with the drying beds, the County is attempting to achieve a minimum of 35% dried sludge to comply with the sludge hauling permit while also keeping up with increased daily flow.

Additionally, the percentage solids will determine how much the County Landfill is able to receive. At 35%+ the County Landfill is able to use the dried sludge as a “cap”. Typically, landfills are “capped” daily, which involves covering the entire working space at the end of the day. The “cap” provides numerous benefits, including deterrence of animal presence, containment of foul odors, prevention of fires, and prevention of trash scattering with wind. Traditionally, this is done with 6” of soil, but dried sludge is a cost-effective and widely accepted alternative. The use of dried sludge provides the wastewater treatment plant a reliable disposal

method while also reducing the need for the landfill to source usable soil. However, for the dried sludge to be at a workable consistency, it must be dried to approximately 35% solids. Currently, the sludge that is processed through the BFP can only reach approximately 15%, which means that the sludge must be stored on the limited drying bed space until naturally drying to 35%.

### **3.3 FINANCIAL STATUS OF EXISTING FACILITIES**

Worcester County has a detailed and complex user rate system for the Mystic Harbour service area. Based on the estimated cost of this project, County management of user rates, and larger number of users, this project is not expected to have a significant impact on the existing rates for users.

Based on past data, the average operation and maintenance costs of the Mystic Harbour WWTP are estimated to be approximately \$200,000. Included in this cost are the fees associated with all operations including vehicles, fuel, electric, chemicals, and general infrastructure maintenance. This cost does not include any labor costs or administrative and general costs associated with operating a wastewater treatment facility.

## **4.0 NEED FOR PROJECT**

### **4.1 HEALTH, SANITATION AND SECURITY**

The overall concern that drives the need for this project are the challenges the Mystic Harbour WWTP currently faces regarding the drying, storing, and disposing of sludge produced from its MBR system. The existing WWTP utilizes “greenhouse style” drying beds for dewatering sludge prior to disposal at a nearby landfill. The facility also utilizes a portable belt filter press with limited success.

The WWTP currently wastes sludge from their MBRs directly onto drying beds, forcing the method of sludge removal from their MBRs to be limited to batch wasting. This results in large variances in MLSS concentration, leading to an unstable biomass and nitrification/denitrification issues. At times when wasting is unfeasible, the system sees MLSS levels that are exceeding 18,000 mg/L, causing damage to occur on the membrane cassettes. This also leads to poor effluent quality that is not within the WWTP’s permit limits.

### **4.2 AGING INFRASTRUCTURE & SAFETY CONCERNS**

Mystic Harbour’s treatment infrastructure is not aged as it was rehabilitated in 2014, but the existing storage building on site is past its designed lifetime. The condition of the existing building is poor, and for continued use of this system, it will need to be refurbished. The WWTP is in a developed area surrounded by residential and commercial buildings. Space on this site is limited, and with the high visibility from surrounding residents, the County attempts to house all equipment and treatment systems inside. This building was used in the past to house essential equipment. This is noted as a common improvement in Section 5.4.3.

As stated before, without a way to effectively treat biosolids at the Mystic Harbour WWTP, the effluent quality will continue to suffer. This can lead to unintended environmental issues and safety concerns for the health in the nearby waterways.

### **4.3 GROWTH**

The project is intended to provide solids treatment to match the permitted liquid treatment capacity of the Mystic Harbour WWTP by improving the existing limiting factor. The WWTP is currently handicapped by its ongoing issues with processing biosolids. Any increase in growth, which would result in an increase in flow rate, would exacerbate the biosolids processing issues and lead to damage and failure of the WWTP's MBR system.

## 5.0 ALTERNATIVES

The following alternatives in **Table 4** have been identified as potential options to upgrade the Mystic Harbour WWTP ongoing issues related to the processing and management of biosolids. Each alternative is briefly described below.

**TABLE 4**  
**SELECTED ALTERNATIVES**

ALTERNATIVES SUMMARY
<p>1. <u>No Action Alternative</u></p> <p>Maintain existing biosolids treatment which have resulted in negative impacts to the MBR liquid treatment system.</p>
<p>2. <u>Install Mechanical Dewatering Equipment via a Belt Filter Press</u></p> <p>This includes mechanical dewatering of the biosolids with a permanently installed belt filter press. This will require installation of sludge holding tanks, chemical feed upgrades, and rehabilitation of the existing WWTP storage building.</p>
<p>3. <u>Modify/Install Additional Drying Beds</u></p> <p>Investigate modifying/installing additional drying beds. This alternative will require installation of sludge holding tanks, chemical feed upgrades, and rehabilitation of the existing WWTP storage building.</p>
<p>4. <u>Install Mechanical Dewatering Equipment and Install Additional Drying Beds</u></p> <p>This includes a combination of Alternative Nos. 2 and 3 with a permanently installed belt filter press for mechanical dewatering as well as the installation of additional drying beds and relevant associated upgrades for each.</p>



Without updating the system, the WWTP will continue to have issues operating their MBRs effectively, and as a result, their effluent quality will continue to suffer. The solution needs to be a permanent solution which can be managed and maintained indefinitely. GMB worked with Worcester County DPW in 2017 to develop several site plans and exhibits associated with Alternative 2 through 4 above. Provided in **Appendix A.1** are copies of the 2017 exhibits for reference as detailed alternatives descriptions are discussed below.

### **5.1 No ACTION (ALTERNATIVE No. 1)**

Alternative 1 requires no action to be taken. In other words, maintaining the existing biosolids treatment system has resulted in negative impacts to the MBR liquid treatment system and WWTP effluent quality. Worcester County has received notification from MDE regarding the effluent treatment level violations. MDE is requiring the County move forward with required steps to address the effluent violations and therefore Alternative 1 is not a feasible alternative. Refer to **Appendix F** for a copy of the most recent MDE Compliance letter.

### **5.2 INSTALL MECHANICAL DEWATERING EQUIPMENT (ALTERNATIVE No. 2)**

#### **5.2.1 DESCRIPTION, DESIGN CRITERIA & SCHEMATIC**

Alternative 2 involves the use of mechanical dewatering equipment to achieve dewatered sludge with a solids content between 15% and 20%. Whereas typical activated sludge can readily be dewatered to +20% solids content, MBR sludge tenaciously holds onto water and with most conventional dewatering technologies, can only reach a solids content between 15%-20%. The existing 0.9M portable belt filter press (BFP) is capable of processing up to 79 gpm (1.1% feedstock); however, it is anticipated that the equipment will only be able to achieve a cake of approximately 15% solids. This has been confirmed by WWTP staff who have been operating the BFP since January 2016.

Furthermore, should the BFP be used to dewater solids at Mystic Harbour, it would need to remain there permanently given that its use would be weekly. As the BFP was purchased by Worcester County to be shared at multiple facilities, this would limit the value the BFP has to Worcester County. One of the reasons that the portable BFP is less efficient at obtaining a higher percent solids cake is that the unit includes only four (4) rolls in the vertical pressure zone of the machine. Other BFPs can have more pressure rolls (up to 12) and achieve a higher percent solids cake.

In 2017, GMB evaluated three (3) BFP units for permanent installation at Mystic Harbour. The first is the permanent installation of a unit matching the portable unit (0.9m DDP). The others are a 0.5m 2VP and a 0.75m 3DP. Information regarding performance and run time for each unit can be found in **Appendix A.3**. An assumed WAS processing rate of 38,000 gpd of was used for the analysis, which corresponds to a WWTP ADF of about 85% of the ultimate WWTP flow (0.6 MGD). As shown in **Appendix A.3**, for the 0.5m 2VP and for the 12" screw press, this corresponds to approximately 28 hours of run time per week. For the 0.75m 3DP, this corresponds to only 9.2 hours of run time per week. As mentioned, an inclined screw press was included in the evaluation and coupled with a rotary drum thickener. The unit is attractive as it is self-contained (no exposed sludge as with a BFP) and requires minimal footprint for installation. However, the unit is limited on throughput, similar to the 0.5m 2VP. Considering price, throughput, and dryness of dewatered sludge, the 0.75m 3DP is deemed to be the best value to Worcester County and the unit that GMB recommends for further consideration under this alternative. Information on the 0.75m BFP can be found in **Appendix G**. Depending on flow, the County will need one (1) to two (2) days of operation and processing for the solids in the BFP. As the influent flow and solids production increases to the plant, the

run time of the BFP will increase accordingly. It is proposed that the BFP be installed in a new sludge dewatering building adjacent to the existing greenhouses. For this alternative, under both SHT options, the sludge aeration blowers and sludge transfer pumps will be installed in the building with the BFP.

It is also proposed that the greenhouse drying bed nearest to the dewatering building be converted into a dewatered sludge storage area to collect dewatered sludge from the proposed conveyor of the BFP. This improvement will entail constructing a concrete floor above the existing porous asphalt drying bed. The concrete floor will allow for “heavy” use of the area by a skid steer without the concern for destroying the floor as would be the case if it were left as porous asphalt. Since the dewatered sludge to be stored in this area will be absent of free liquid (previously dewatered), draining features in the floor will not be needed. The adjacent sludge drying bed will be retained for sludge drying purposes and to allow for operational flexibility during downtime of the mechanical dewatering equipment. This drying bed will be divided into two (2) beds, and piping will be adjusted to allow for independent drying bed operation. Provisions will remain in place to send WAS directly from the bioreactor to the drying bed as well as directly to the dewatering equipment, should the Sludge Holding Tanks be offline.

It should be noted that under this alternative, the County will update the current solids transportation permit to allow 15% - 20% solids to be hauled to the landfill. At this lower percent solids the landfill is unable to use the material for “capping”; therefore, it will either be disposed of as waste or need additional area for further drying at the landfill.

### **5.2.2 ENVIRONMENTAL IMPACTS**

No major impacts or consequences to the environment are anticipated with this project. The project will provide a positive impact by improving the effluent quality of the Mystic Harbour WWTP.

### **5.2.3 LAND REQUIREMENTS**

Land area will not need to be acquired to house the new building and upgrades. There is sufficient area at the WWTP to construct and install the proposed improvements.

### **5.2.4 CONSTRUCTION PROBLEMS & SUSTAINABILITY**

No construction problems are suspected to exist as a result of this alternative. Construction will include installation of a new building to house the sludge transfer pumps, sludge aeration blowers, dewatering equipment, and necessary electrical equipment. The building will be a single-story CMU building located to the south of the existing drying beds (see exhibits in **Appendix A.1**). Adequate space is available on site to handle the construction of this building and the SHTs. Concrete Masonry Buildings are extremely resilient and are expected to last well past 25 years. As the building will be housing both mechanical and electrical equipment, it will be conditioned to allow for the long-term successful operation of all equipment involved.

### **5.2.5 COST ESTIMATES**

Construction cost estimates were completed for the improvements described above as alternatives and options. The following sources were used to develop construction costs:

1. Equipment manufacturer quotations
2. In-house bid information from previous GMB projects

3. R. S. Means Co., Inc., Means Building Construction Cost Data.

A detailed construction cost breakdown for all improvements is included in **Appendix B** at the end of this evaluation.

### **5.2.6 ADVANTAGES AND DISADVANTAGES**

This alternative will meet Mystic Harbor's need for an effective dewatering method that can handle the WAS rate required for consistent operation of their MBRs. The BFP will not be affected by seasonal conditions as it will be located in a conditioned space and can be run as often as necessary to handle the WAS rate produced by the MBRs. The daily operation and maintenance shall be the responsibility of the Mystic Harbor WWTP, which has the necessary infrastructure and experience to maintain the proposed mechanical dewatering equipment and SHT.

The largest disadvantage to this alternative is the lack of storage space needed following processing by the BFP. To keep up with flow rates while also achieving 35% solids or greater, additional drying is needed beyond what the belt filter press is capable of, and the current space provided by the existing drying beds and the proposed dewatered sludge storage area may not be sufficient.

## **5.3 MODIFY AND INSTALL ADDITIONAL DRYING BEDS (ALTERNATIVE NO. 3)**

### **5.3.1 DESCRIPTION, DESIGN CRITERIA, AND SCHEMATIC**

The third alternative is to modify the existing drying beds as well as install additional drying beds. The facility is challenged with the existing drying bed system. This is primarily due to having only two (2) large beds while attempting to achieve a dewatered cake of >35%. On an annual basis (throughout the winter and spring seasons), it is not feasible to achieve this level of sludge solids content. GMB's experience is that drying beds within the Mid-Atlantic area are typically capable of

achieving a dewatered sludge solids content of between 15% and 20%. GMB's experience is that MBR sludge is also more difficult to dewater on drying beds than conventional WAS. Accordingly, a factor of safety must be included in the design of drying beds for MBR facilities.

GMB believes that the WAS will more readily dewater on sludge drying beds once the filamentous microorganisms are eliminated in the WAS and when the WAS is also not of an excessive SRT. Excessive SRT occurs when MLSS percent builds in the reactor, which has thereby been significantly exposed to the MBR thickening process. A significant polymer dose will still be needed in dewatering the liquid sludge on the drying beds.

The other sludge drying bed deficiency at the facility is the lack of an adequate number of drying beds. It is likely that the existing surface area of beds at the facility could more efficiently dewater sludge if the individual beds were smaller in size. Based on the configuration of the existing beds, it is recommended that each existing bed be divided in half for an area of approximately 1,500 SF each, thereby creating four (4) beds. A concrete divider wall will be constructed lengthwise down the middle of each greenhouse and modifications will be made to the discharge piping to allow for independent bed operation. Even with this modification, GMB believes the facility will still be deficient in total surface area needed to achieve dewatered sludge with a solids content between 15% and 20%. Based on GMB's experience at other MBR facilities, and assuming the WAS concentration applied to the beds is 1.0%-1.2%, GMB recommends a liquid stream "loading rate" of 0.037 MGD/1,000 SF of bed surface area. The flow value is based on the facilities liquid stream ADF. As such, an installed total of six (6) greenhouses (5.4 rounded up), with each greenhouse comprised of two (2) 1,500

SF drying beds ( $12 * 1500 \text{ SF} = 18,000 \text{ SF}$ ) would be required to dewater effectively when the WWTP reaches maximum flow capacity. A site plan of the proposed greenhouse drying beds can be found as an exhibit in **Appendix A.1**.

For this alternative, the sludge aeration blowers and sludge transfer pumps will be installed in a small SHT equipment building constructed adjacent to the SHTs. A polymer feed system will also be provided in the building to further condition sludge before distribution over the sludge drying beds.

### **5.3.2 ENVIRONMENTAL IMPACTS**

No major impacts or consequences to the environment are anticipated with this project. The project will provide a positive impact by improving the effluent quality of the Mystic Harbour WWTP.

### **5.3.3 LAND REQUIREMENTS**

Land area will not need to be acquired to house the proposed drying beds and SHTs. The existing WWTP property has adequate area available to house the proposed equipment. A layout of the proposed site plan for this alternative is shown in **Appendix A.1**.

### **5.3.4 CONSTRUCTION PROBLEMS & SUSTAINABILITY**

No construction problems are suspected to exist as a result of this alternative. As this option involves Concrete Drying Beds, there is a lifespan associated with them, but that lifespan is longer than the typical project lifespan goal of 30 years.

The Sludge Holding Tanks (common upgrade) are proposed to be stainless-steel and are expected to exceed the project lifespan goal of 30 years as they are corrosion resistant.

The proposed building to house the Sludge Holding Tank Equipment is expected to be constructed from CMU. Concrete Masonry Buildings are extremely resilient and are expected to last well past the project life-span goal of 30 years.

### **5.3.5 COST ESTIMATES**

Construction cost estimates were completed for the improvements described above as alternatives and options. The following sources were used to develop construction costs:

1. Equipment manufacturer quotations
2. In-house bids information from previous GMB projects
3. R. S. Means Co., Inc., Means Building Construction Cost Data.

A detailed construction cost breakdown for all improvements is included in **Appendix B** at the end of this evaluation.

### **5.3.6 ADVANTAGES AND DISADVANTAGES**

This alternative will increase the dewatering capacity of the existing sludge drying beds and will provide new surface area in the form of new sludge drying beds.

There are possible advantages and disadvantages to this alternative during construction. The modifications to the existing drying beds and the construction of new greenhouses will increase the WWTP's dewatering capacity, allowing the MBRs to operate at a typical MLSS level. The biggest concern for this alternative is the seasonal consistency of sludge drying beds, as cold weather and shorter days in the winter can lead to slower dewatering rates. Although SHTs are proposed to manage WAS and provide a buffer, the possibility of not being able to dewater the sludge fast enough on a seasonal basis should be considered. In addition, as discussed under Alternative 2, the drying beds alone are anticipated to only achieve 15%- 20% solids, and this will require



a new hauling permit and truck for transportation of the lower percent solids, limiting the use of the sludge as cap at the landfill.

## **5.4 INSTALL MECHANICAL DEWATERING EQUIPMENT AND MODIFY EXISTING AND INSTALL ADDITIONAL DRYING BEDS (ALTERNATIVE NO. 4)**

### **5.4.1 DESCRIPTION, DESIGN CRITERIA, AND SCHEMATIC**

In order to achieve 35% solids at the Mystic Harbour WWTP, it would involve a combination of Alternative Nos. 2 and 3. Due to the higher tendency of MBR sludge to hold onto water and to efficiently achieve the necessary percent solids with anticipated average daily flow of 0.6 MGD, a combination of these dewatering methods should be used.

With this alternative, the MBR sludge would first be dewatered to approximately 15%-20% by utilizing a Belt Filter Press. Following the Belt Filter Press, the sludge would be transported to a drying bed for further natural drying until the necessary percentage of solids is achieved. Mystic Harbour WWTP has previously utilized this method on a smaller scale but is unable to sustain the required output with existing equipment and drying bed space. Based on information provided by Mystic Harbour WWTP personnel, greater than 35% solids can be obtained by this combined method, but the proposed installation of a dedicated belt filter press and additional drying bed space is imperative for the facility's ability to manage 0.6 MGD. As previously stated in this report, the existing drying bed space is not nearly adequate for dewatering sludge at the anticipated flow rate. Furthermore, if the belt filter press is ever offline for any reason, including maintenance, then additional drying bed space will be necessary as a backup option to maintain operations. Similar to Alternative No. 2, this alternative would require the construction of a new Sludge Dewatering Building to house the new belt filter press

and associated equipment. Following the BFP, sludge will be stored in a portable hopper and hauled directly onto the drying beds, or as an alternative, the County can consider construction of a solid concrete storage surface for the interim period until the drying beds are loaded. Four (4) new greenhouses will be constructed, each housing two (2) 1,500 SF drying beds for a total combined drying space of 18,000 SF (12 beds \* 1,500 SF).

#### **5.4.2 ENVIRONMENTAL IMPACTS**

No major impacts or consequences to the environment are anticipated with this project. The project will provide a positive impact by improving the effluent quality of the Mystic Harbour WWTP.

#### **5.4.3 LAND REQUIREMENTS**

Land area will not need to be acquired to house the proposed Sludge Dewatering Building, Drying Beds, and SHTs. The existing WWTP property has adequate area available to house the proposed equipment. A layout of the proposed site plan for this alternative is shown in **Appendix A.1**.

#### **5.4.4 CONSTRUCTION PROBLEMS & SUSTAINABILITY**

No construction problems are suspected to exist as a result of this alternative. As this option involves Concrete Drying Beds, there is a lifespan associated with them, but that lifespan is longer than the typical project lifespan goal of 30 years.

The Sludge Holding Tanks (common upgrade) are proposed to be stainless-steel and are expected to exceed the project lifespan goal of 30 years as they are corrosion resistant.

The proposed building to house the Sludge Holding Tank Equipment is expected to be constructed from CMU. Concrete Masonry Buildings are extremely resilient and are expected to last well past the project life-span goal of 30 years.

#### **5.4.5 COST ESTIMATES**

Construction cost estimates were completed for the improvements described above as alternatives and options. The following sources were used to develop construction costs:

1. Equipment manufacturer quotations
2. In-house bids information from previous GMB projects
3. R. S. Means Co., Inc., Means Building Construction Cost Data.

A detailed construction cost breakdown for all improvements is included in **Appendix B** at the end of this evaluation.

#### **5.4.6 ADVANTAGES AND DISADVANTAGES**

This alternative will increase the dewatering capacity of the entire facility by installation of the BFP and added dewatering surface area in the form of new sludge drying beds. In addition to the benefits provided by Alternative Nos. 2 and 3, Alternative 4 will provide the system with adequate capacity for keeping up with anticipated flow rates and meeting the 35% solids drying content required at the landfill to utilize the material as a cap. Alternative 4 also provides a secondary option to use the expanded and upgraded drying bed space to stay online through situations where the BFP is offline for any reason.

The biggest concern in this scenario remains to be the seasonal consistency of sludge drying beds, as cold weather and shorter days in the winter can lead to slower

dewatering rates. In addition, this is the highest cost alternative and requires the most construction.

## **5.5 MYSTIC HARBOUR WASTEWATER TREATMENT PLANT UPGRADES – COMMON UPGRADES TO ALTERNATIVES 2 THROUGH 4**

### **5.5.1 INSTALLATION OF SLUDGE HOLDING TANKS**

As described in Chapter 3, the facility has no provisions in place to hold WAS; accordingly, the facility must either waste every day onto the sludge drying beds (unfeasible) or manage the extra biomass as MLSS within the reactors. The latter leads to process performance issues if the MLSS concentration changes by more than a few 1,000 mg/l during a wasting event. To address this deficiency at the facility, a tank needs to be constructed to temporarily hold WAS. WAS can be sent to this tankage on a daily basis to maintain a constant MLSS in the reactors. The sludge holding tank (SHT) should have a minimum capacity of 15 days, and given the size of the facility, two (2) equally sized tanks should be provided, each comprising 50% of the needed capacity.

The intent of the SHTs is not to provide digestion or stabilization of the WAS, but rather temporary holding until a sufficient quantity is available for the downstream sludge processing system. Based on the typical WAS yield rate estimated from plant data and the facilities ultimate capacity (ADF) of 0.6 MGD, a total SHT volume of 90,000 gallons is recommended to achieve at least 15 days of holding storage volume.

As all existing process tankage at the facility is covered or within a building due to the proximity of nearby residences, the SHTs are proposed to be covered. Within the SHT improvement, two (2) options were evaluated: one being stainless-steel, bolted tanks with geodesic dome covers; and the other being concrete tanks with concrete slab covers. Currently, costs for the stainless-steel tanks are considered in total project cost.

Coarse bubble aeration diffusers with three (3) positive displacement blowers (Two (2) duty and one (1) standby) will be used to provide mixing and aeration of the SHT at a minimum rate of 30 cfm/1,000 cf. Two (2) additional positive displacement pumps (duty and standby) for transfer of sludge to the downstream dewatering process will be provided. The proposed location of the sludge aeration blowers and sludge transfer pumps will be inside a building. Information related to the coarse bubble aeration and blower systems can be found in **Appendix G**.

Typically, MBR sludge exhibits minimal thickening characteristics under gravity settling conditions; however, all SHTs will include a system to decant supernatant to the WWTP influent pump station to allow for thickening, should it be found to be feasible. The SHTs will include floating decanters to complete this task. WAS entering the SHTs will probably be in the 1.0 to 1.2% solids range, and it will likely remain at that concentration until transfer out of the tankage. The existing polymer feed system in the process building will be used to condition WAS entering the SHTs.

Each stainless-steel tank will be approximately 20.8-feet in diameter with a sidewall height of 19.9-feet and the tank will be constructed on top of a cast in place concrete base. A proposal for the SHT can be found in **Appendix G**. The tanks will look similar to the existing effluent holding tank, except they will be bolted, stainless-steel instead of bolted, glass-lined, epoxy-coated steel.

### **5.5.2 FILAMENTOUS CONTROL SYSTEM**

To aid in the dewaterability of the waste activated sludge, it is recommended to control and prevent the growth of filamentous microorganisms. In conventional activated sludge systems, operations have no choice but to control these microorganisms; otherwise, the clarification process is greatly impacted as well as the facility's effluent

water quality. With membrane bioreactor activated sludge systems, as the process that separates mixed liquor from treated effluent is not dependent on gravity settling, filamentous microorganisms do not necessarily need to be controlled. Nonetheless, following the liquid stream treatment process, filaments do impact the dewaterability of sludge during processing. Control of filaments will improve sludge dewatering whether the process is accomplished through mechanical means or a more passive process such as drying beds.

To control the growth of filaments, it is recommended that a chemical feed system, to inject sodium hypochlorite (bleach) into the return activated sludge (RAS) piping, be added to the facility. The facility currently has a bulk storage system for bleach in place for cleaning of the membranes associated with the active sludge process. As the system is used infrequently, it is proposed for this storage facility to also be shared with the filamentous control feed system. A new duplex chemical feed pump skid will be installed adjacent to the existing chemical cleaning transfer pump system. From the new chemical feed pump skid, bleach solution piping will be routed along the wall to the proposed injection point of the 10" RAS pipe located in the adjacent Pump Room. This improvement is proposed under Alternative Nos. 2 through 4. A drawing for the Chemical Room improvements can be found in **Appendix A-1**.

### **5.5.3 REHABILITATION OF THE EXISTING WWTP STORAGE BUILDING**

Under both proposed alternatives, the existing WWTP Storage Building would be repaired and upgraded for use as a storage building on site.

Items to be removed would be the stair and platform, the existing chemical room, and the existing interior masonry partitions. The removal of these items will create one large open storage area to house emergency equipment. Additionally, the finished floor

level needs to be raised to hinder the chance of future water intrusion. The existing housekeeping concrete pads can remain in place, at least in part, while new structural fill and stone is installed. A new concrete slab is poured to raise the existing slab elevation a total of sixteen inches. New overhead sectional doors will be installed on the west and east walls, and two new hinged doors will be installed on the south facade. The existing drywall ceiling will have to be removed and replaced entirely with moisture resistant drywall of marine grade plywood or with a vinyl product for longevity.

The exterior masonry walls will be repainted as necessary and repainted. Lintels and openings will be inspected and repaired as necessary. The plywood soffits will be replaced with vented vinyl soffits and new fascia boards will be installed with aluminum break metal coverings. The asphalt shingle roof will be removed and replaced with new shingles and underlayment, and damaged substrate will be repaired as necessary or evaluated for full replacement with a metal roof system. Pre-engineered wood trusses will be repaired as required, hurricane ties at each rafter will be installed, and proper hold-down straps/anchorages to the wall will be installed. Damaged areas of truss tails and associated soffit and fascia components will be repaired as necessary. New gutters and downspouts will complete the exterior refurbishments.

All existing interior walls will be removed as well as the floor so that the floor elevation of the building will be consistent throughout. The concrete platform, stairs, and railing will be removed as well. Some equipment pads will need to be removed depending on their height compared to the new finished floor level. The buildings finished floor level will be raised. As a result, new overhead doors will be installed in new openings. Furthermore, #57 stone and structural fill will need to be installed and compacted to support a new 5" concrete slab, and the floor should be raised a minimum

of sixteen inches to meet flood plain and resiliency requirements for housing emergency equipment in this building. The two (2) new door openings will be based on the new finished floor level. The existing drywall ceiling will need to be completely replaced with 5/8-inch moisture resistant type-x gypsum board or marine grade plywood.

The existing site grading around the building perimeter will be revised based on the new finished floor and shall create a positive drainage flow away from the building. South side grading will need to be maintained at the fenced in emergency radio tower location.

This building has been used as a storage building for some time and will continue that same use of Storage (S-1) occupancy. Therefore, the renovation will fall under IEBC 2018 as a level 2 alteration since less than ten percent of the building is being reconfigured. According to Section 303 of the 2018 International Existing Building Code, the proposed alteration will not result in increased design live load therefor the existing gravity load carrying elements are permitted to be evaluated and designed for the previously approved live loads.

Although some of the alterations include structural components, the proposed upgrade is not considered to be a substantial structural alteration (less than 30% of the structure will be altered). The proposed alterations include repairing/replacing the roof shingles as the building is in a "high wind" location. These conditions shall require a review and evaluation of the roof framing and of the connections to the walls to ensure appropriate resistance of 70% of the wind load specified in 2018 IBC in their current condition.

The WWTP is located in a populated residential and commercial area, and additional buildings to store and house equipment will assist in the operation while also



maintaining the site and aesthetics of the area. The County houses essential equipment such as generators and pumps at this facility to use at multiple locations during storm events or natural disasters, but this building needs to meet code and not be impacted by flooding.

A cost estimate for this Common Improvement is located in **Appendix B**.

#### **5.5.4 SLUDGE TRANSPORT VEHICLE**

The Mystic Harbour WWTP has a Sewage Sludge Utilization (SSU) permit, issued by MDE, for the transport of sewage sludge to the Worcester County landfill which is the site of ultimate sludge disposal. The SSU permit stipulates container requirements depending on the solids content of the sludge being transported. There are specific container requirements for sludges with 15%-20% and 20%-35% solids content. A sample permit with the specific container requirements is included in **Appendix H**.

The facility does not currently employ specialized containers and must therefore wait until the solids content of the sludge is >35% before the product is transported in conventional roll-off containers. This leads to an increased amount of residence time for sludge at the facility in order to reach this degree of dryness. Under a continued sludge drying bed approach, and to achieve this level of dryness, it would result in a significant amount of bed surface area needing to be installed. While Alternative No. 4 would provide sufficient drying bed space to regularly achieve this level of dryness, Alternative Nos. 2 and 3 would often require the ability to transport sludge cake with a solids content between 15% and 20% on an as needed basis. As has been indicated in the alternatives above, GMB recommends that Worcester County make provisions to haul sludge cake with a solids content of between 15% and 20% under these alternatives. As part of the biosolids management improvement recommendations, it is proposed that the facility

continue to operate and dispose of sludge under the existing SSU permit. However, for Alternative Nos. 2 and 3, it is recommended that the appropriate container(s) be purchased to transport and dispose of sludge that has a solids content between 15% and 20%. To avoid the challenges associated with other DPW operations, it is recommended that a dedicated truck and container be purchased for specific use at the County's WWTPs. At this time, it is thought that only one (1) specialized container will be needed and that dewatering operations will be coordinated with the location of the container. The exact size of the container will be coordinated at a later date with input from WWTP operators. A 10 CY container is likely adequate to serve the immediate needs of the facility.

## 5.6 SUMMARY OF ALTERNATIVE COSTS

**Table 5** below shows the capital costs of the proposed alternatives.

**TABLE 5**  
**PROJECT COST AND O&M COST**

Alternative	Total Project Cost	O&M Cost (per Year)
No. 1	\$ 0.00	N/A – No new O&M
No. 2	\$3,860,361	\$23,825
No. 3	\$4,529,343	\$7,820
No. 4	\$5,289,097	\$23,825

## 6.0 SELECTION OF ALTERNATIVES

The alternatives discussed in Section 5.0 have been further evaluated to identify a recommended course of action for the Mystic Harbor WWTP. To select the recommended alternative, an analysis was completed which included construction, land requirements, and monthly costs for all of the alternatives. A discussion of the merits of each alternative based upon other factors specific to Mystic Harbor WWTP was also presented. Cost estimates are presented in **Appendix B** and a cost benefit analysis is presented below. Each alternative was analyzed based on five factors:

- Public Health
- Environmental Impacts
- Smart Growth
- Affordability
- Implementation

The proposed alternatives were assessed and ranked on a scale of 0 to 100, with the highest possible total of 500. The alternative that receives the highest score is typically the selected alternative for the proposed project. The following **Table 6** describes the overall project summary for each alternative.

**TABLE 6**  
**PROJECT ALTERNATIVES SUMMARY**

Alternative No.	Alternative Summary
1	No Action.
2	Install Mechanical Dewatering Equipment
3	Modify and Install Additional Drying Beds
4	Install Equipment and Additional Drying Beds

## 6.1 LIFE CYCLE COST (PRESENT WORTH)

A Present Worth analysis considers the sum of all capital costs and O&M costs over 20 years minus the present worth of the total salvage cost for each item in 20 years. Therefore, the total present worth equals a cost, if invested now at a given rate, which would provide exactly the funds required to make future payments. The analysis provides an accurate comparison of future capital and O&M and is based on a 20-year real interest rate. Provided in **Table 7** below is a summary of the capital cost, operation and maintenance cost, and present worth for each alternative. Detailed estimates are provided in **Appendix C**. Short lived assets are discussed in more detail in Chapter 7.

**TABLE 7**  
**20-YEAR PRESENT WORTH**

Alternative	Present Worth Capital	Present Worth O&M	Total Present Worth
2 – Install Mechanical Dewatering Equipment	\$3,860,361	\$549,755	<b>\$4,111,849</b>
3 – Modify and Install Additional Drying Beds	\$4,529,343	\$180,444	<b>\$4,432,496</b>
4 – Install Equipment and Additional Drying Beds	\$5,289,097	\$549,755	<b>\$5,523,804</b>

## 6.2 MATRIX RATINGS

### 6.2.1 EVALUATION CRITERIA

**Public Health:** All alternatives, excluding Alternative No. 1, have a positive impact on public health by allowing the Mystic Harbour WWTP to remove solids from their MBR process on a frequent and consistent basis. This will help maintain a typical

MLSS level and prevent further damage to the existing MBRs that has been caused by high MLSS levels.

The No Action Alternative (Alternative No. 1) was given a ranking of 10, because no concerns will be addressed. Installing mechanical dewatering equipment (Alternative No. 2) will allow the Mystic Harbour WWTP to remove solids from their MBR process on a consistent basis; therefore, installing mechanical dewatering equipment was given a ranking of 70. Modifying and installing additional drying beds (Alternative No. 3) was given a ranking of 60. This alternative would not have the dewatering capacity of Alternative No. 2 and was given a lesser ranking because of this. The final alternative (Alternative No. 4) provides the highest dewatering capability and storage capacity with added insurance that the system will not become overwhelmed with high rates; therefore, it was given a ranking of 90.

**Environmental Impacts:** Environmental Impacts are related to the health of the surrounding environment and negative impacts due to the project work. The No Action Alternative (Alternative No. 1) was given a ranking of 30. There will be no impacts to the land area or increased impervious area, but the Mystic Harbour WWTP will continue to produce a poor-quality effluent that exceeds NPDES standards if no action is taken to manage the MLSS correctly. Installation of mechanical dewatering equipment (Alternative No. 2) will provide a positive environmental health result by managing the MLSS level in the existing MBRs. There will be no impacts to the land area or increased impervious area with this alternative. This alternative was given a ranking of 70. Installing new drying beds (Alternative No. 3) does not provide the same level of positive impact for environmental health and will result in additional disturbance to the site. One benefit of this alternative is the additional dewatering capacity provided by new sludge

drying beds. This alternative was given a ranking of 70. The final alternative (Alternative No. 4) also results in additional site disturbance but provides the greatest positive impact to environmental health. This offers the maximum dewatering capability, but due to the similar site disturbance was given a ranking of 80.

**Smart Growth:** The options presented are consistent with smart growth in that they represent options that will allow the Mystic Harbour WWTP to produce a high-quality effluent that meets or exceeds NPDES requirements. Alternative Nos. 2 through 4 propose changes that would add solids dewatering capacity to the Mystic Harbour WWTP, and these options improve the existing system, effluent quality, and reliability. Alternative No. 2 is proposed on the existing WP-2 site and requires less area than Alternative Nos. 3 and 4. Alternative No. 2 provides significant increase to dewatering capability and allows more space for future SHTs, BFPs, and future WWTP growth. Due to these factors a ranking of 80 was given to Alternative No. 2. Alternative No. 3 will require more land area at the existing WWTP to construct and will limit future growth at the WWTP; therefore, this alternative was given a ranking of 70. Alternative No. 4 will require more land area than Alternative No. 2 but will also provide significantly more dewatering capability and storage; therefore, Alternative No. 4 was given a ranking of 80.

The No Action Alternative (Alternative 1) was given a ranking of 10 because it does not promote growth. It will limit growth as the WWTP cannot accept high flow rates if it cannot treat its current flow rates effectively. This would limit the ability for the WWTP to accept additional EDUs. Smart growth is directed to promote growth within areas where existing public infrastructure is provided.

**Affordability:** This category is broken into five (5) sub-factors, Capital Costs, Operation and Maintenance (O&M) Fees, Present Worth, Loan Payment, and User Rates. Each factor weighs equally in determining the overall affordability of the project.

- A. Capital Costs - Refer to section 5.2.5 and 5.3.5
- B. O&M Fees - Refer to section 5.2.5 and 5.3.5
- C. Constructability- Refer to section 5.2.4 and 5.3.4
- D. Present Worth - Refer to section 6.1.
- E. Loan Payment and User Rates - Refer to Section 7.3.

**Implementation:** The final major category examined in the cost-effective analysis is Implementation. Implementation is divided into three (3) subcategories: Regulation Requirements and Permits, Construction Time, and Land Acquisition and/or Easements. As mentioned before, each subcategory weighs equally in determining the overall ease of Implementation.

A. Regulation Requirement & Permits: Regulation requirements are an important factor. Permits will be required for installation of treatment equipment and systems that affect the WWTP. Alternative Nos. 2 through 4 will require permit approval from the Maryland Department of Environment (MDE). The No Action Alternative does not require any permitting and received a ranking of 90. A ranking of 80 was given to Alternative Nos. 2 through 4.

B. Construction Time: There is no construction time for Alternative No. 1; therefore, it received a ranking of 90. The estimated construction time for Alternative No. 2 would be shorter than that of Alternative Nos. 3 and 4. The critical item that impacts construction time on Alternative No. 2 is the lead time for the SHTs and BFP equipment. It is estimated the total construction will be 6-8 months, and this alternative received a

ranking of 80. For Alternative Nos. 3 and 4, construction time is anticipated to be closer to 12-15 months. These alternatives require the construction of multiple drying beds, in addition to the shipment of SHTs and equipment; therefore, a ranking of 70 was given to Alternative Nos. 3 and 4. For Alternative Nos. 2 through 4, the total project duration, including public advertisement, bid, and agreements/bonds executed would add a minimum 8-12 weeks.

C. Land Acquisition/Easements: No land acquisition is required under any of the proposed alternatives; therefore, all alternatives were given a ranking of 90.

### **6.2.2 MATRIX RESULTS**

The alternative with the most cost-effectiveness is Alternative 4 – Install Mechanical Dewatering Equipment and Additional Drying Beds. This alternative is not only the most capital cost-effective, but also provides the best long-term solution for managing solids in the Mystic Harbour WWTP MBR process. Provided in **Table 8** below is an additional, cost-effective analysis of the debt and user payments.



**TABLE 8**  
**COST-EFFECTIVE SUMMARY**

<b>Mystic Harbour WWTP Alternatives</b>	<b>Alternative 1: No Action</b>	<b>Alternative 2: Install Mechanical Dewatering Equipment</b>	<b>Alternative 3: Modify and Install Additional Drying Beds</b>	<b>Alternative No. 4: Install Equipment and Additional Drying Beds.</b>
Public Health (20%)	<b>10</b>	<b>70</b>	<b>60</b>	<b>90</b>
Environmental Impacts (20%)	<b>30</b>	<b>70</b>	<b>60</b>	<b>80</b>
Smart Growth (20%)	<b>10</b>	<b>80</b>	<b>70</b>	<b>80</b>
<i>AFFORDABILITY (20%)</i>				
Capital Costs	90	70	60	50
O&M Fees	50	50	70	50
Present Worth	90	80	70	60
Loan Payment	90	80	80	70
User Rates	90	80	80	70
<b>AFFORDABILITY (Average)</b>	<b>82</b>	<b>72</b>	<b>72</b>	<b>60</b>
<i>IMPLEMENTATION (20%)</i>				
Regulation Requirements/Permits	90	80	80	80
Construction Time	90	80	70	70
Easement	90	90	90	90
Land Acquisition	90	90	90	90
<b>IMPLEMENTATION (Average)</b>	<b>90</b>	<b>85</b>	<b>83</b>	<b>83</b>
<b>*TOTAL</b>	<b>222</b>	<b>377</b>	<b>355</b>	<b>393</b>

\*Total score out of a possible 500. (100 points available for each category: Public Health, Environmental Impacts, Smart Growth, Affordability, and Implementation).

## **7.0 PROPOSED PROJECT (SELECTED ALTERNATIVE)**

### **7.1 PROJECT DESIGN**

The recommended alternative is to install a belt filter press (BFP) alongside two stainless steel sludge holding tanks to handle solids produced by the MBR process. This is desirable due to the damage that high concentrations of MLSS (+18,000 mg/L) have been causing to the membranes. Providing sludge holding tanks each with a 45,000-gallon capacity, the WWTP will be able to waste sludge consistently and maintain recommended MLSS levels in their MBRs. By installing a BFP in addition to 12,000 SF of new sludge drying beds (18,000 SF total), the WWTP can dewater sludge much faster, dewater consistently year-round, and work to achieve the 35% solids required for use at the landfill as a cap.

The necessary pumping, aeration equipment, and the BFP will all be housed in a small CMU building that is located next to the sludge holding tanks.

Filamentous control will be utilized in the form of sodium hypochlorite to remove filamentous bacteria from the WAS. These bacteria present a challenge when dewatering WAS and are currently plaguing the Mystic Harbour WWTP.

The existing storage building on site will also be rehabilitated to allow for continued use as an emergency storage building, as it is currently in poor condition.

Finally, construction is expected to take approximately fifteen (15) months.

## **7.2 TOTAL PROJECT COSTS**

Construction cost estimates were completed for the improvements described above as alternatives and options. The following sources were used to develop construction costs:

1. Equipment manufacturer quotations
2. In-house bids information from previous GMB projects
3. R. S. Means Co., Inc., Means Building Construction Cost Data.

A detailed construction cost breakdown for all improvements is included in **Appendix B** at the end of this evaluation.

## **7.3 ANNUAL OPERATING BUDGET**

Overhead and profit are estimated as 10% of the bare construction material costs and 30% of the bare construction labor and equipment (installation) costs. Given the level of detail of the preliminary estimate, a 15% estimated contingency was assumed to cover items not considered in the detailed breakdown. In estimating the probable construction cost, as it is likely that the project will be funded by MDE monies, General Conditions and Permits, Bonds, and Insurance costs have been assumed to be based on MDE's allowable percentages of the construction cost subtotal. Included in the total project cost estimate for budgeting purposes are engineering and administration (etc.) costs. Engineering design fees are estimated at a percent of capital construction dollars. Construction phase engineering administration fees (shop drawing reviews, monthly progress meeting, RFI responses, final certifications, punchlists, etc.) and full-time inspection services are also a percent of capital construction dollars based on the MDE formula. Administration (etc.) costs are estimated at 3% of the capital construction dollars.

In general, project viability and affordability depend upon the impacts to user rates and the loan availability and terms. Worcester County is working with MDE to receive state assistance through MDE's SRF loan program. The financial capacity of the system is based on the ability of the project to qualify for this loan funding through MDE.

For this report it is assumed that this project will qualify for 50% SRF Loan and 50% SRF Loan Forgiveness. As such, only 50% of this project's cost will be the burden of the users.

Provided in **Appendix E** is Mystic Harbour's Existing Rate Schedule. The budget documents are based on existing operations and do not account for the additional cost that would be associated with the proposed project. The majority of Mystic Harbour's revenue is collected through customer metered user fees. Projected additional annual O&M costs in the proposed alternative were discussed in Section 5.2.5. A copy of the projected O&M costs is in **Appendix B**. These project O&M costs would be in addition to the existing O&M already accounted for in Worcester County user fees.

To evaluate the proposed financing and future debt scenarios related to this proposed project, the following funding scenario was evaluated for this project, which includes the necessary increase in user rates to cover the cost of this project:

- 1) SRF State Loan for 50% of total costs at 2% interest for a 20-year term.

Reserves should be included in the annual operating budget. Reserves include emergency fund, repair and replacement fund, and debt reserves. Reserve costs have been factored into the debt and rate structure analysis and are included in the estimated rate increase associated with this project. The debt reserve funds shall be 10% of the yearly payment on the loan. Currently there are 1635 users within the Mystic Harbour Sewer District and dependent on the final loan and debt costs, increase in fees may

range from \$8.00 to \$15.00 per quarter. See **Appendix D** for the Loan Interest and Rate Structure calculations.

A list of short-lived asset reserves was developed below and is based on equipment that may need to be replaced within the next 15 to 20 years. This would be the recommended annual reserve deposit to fund the replacement of short-lived assets. The items in **Table 9** below are based on the new infrastructure being installed under this project. Total reserve per year should be approximately \$5,425.00. Note this does not include replacement of larger infrastructure such as the BFP or Sludge Holding Tanks which are usually funded with a long-term capital financing source.

**TABLE 9**  
**SHORT LIVED ASSETS**

Year of Replacement	Asset	Capital Cost	Reserve Cost/ Year
20 Years	Sludge Aeration Blowers	\$54,000	<b>\$2,700</b>
	Polymer Pumps	\$14,500	<b>\$725</b>
	Sludge Transfer Pumps	\$40,000	<b>\$2,000</b>
	Total	\$108,500	<b>\$5,425</b>

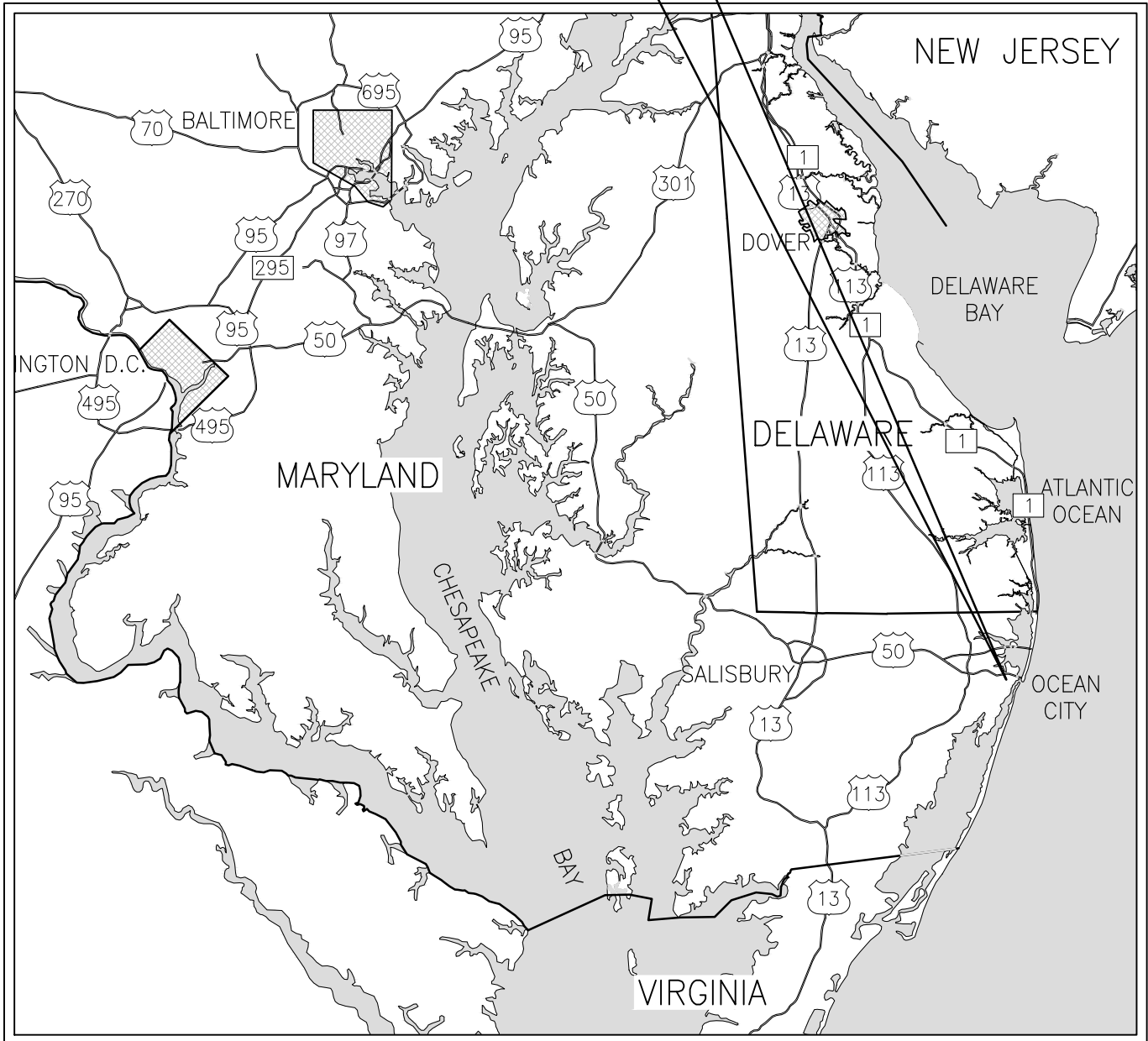
## **8.0 CONCLUSION AND RECOMMENDATIONS**

The proposed recommendation is to install mechanical dewatering equipment via a belt filter press and install additional drying beds. The upgrade will consist of the installation of a belt filter press (BFP), the rehabilitation of the two (2) existing drying beds, the construction of four (4) new greenhouse structures with two (2) drying beds each, the purchase of two (2) stainless-steel Sludge Holding Tanks (SHT), the construction of a CMU building to house the BFP, pumping equipment, aeration equipment, and necessary electrical equipment, the installation of a sodium hypochlorite system to manage filamentous bacteria, and the repair/updating of the existing storage building. The total project cost for this recommended alternative is projected to be approximately \$5.29M.

This will allow for the WWTP to operate at an ADF of 0.60 MGD while managing biosolids in a cost-effective manner. The belt filter press will run for several days a week, or more, if necessary, to process the sludge generated. Following the BFP, sludge will be further dried on the drying beds and will eliminate the current sludge handling bottleneck at the WWTP. As a result of installing the sludge holding tanks, the MBRs will be able to remove WAS on a regular basis. This will allow for a more consistent effluent quality to be produced and eliminate the possibility for future damage to the membrane cassettes by avoiding dangerous MLSS levels.

## Exhibits

# MYSTIC HARBOUR



## VICINITY MAP

SCALE: 1" = 20 MILES

DRAWN BY : MMD

CHECKED BY : KJM

GMB FILE : 230237

SCALE : AS NOTED

DATE : FEB. 2024

**GMB**

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MYSTIC HARBOUR WWTP  
MDE PER

WORCESTER COUNTY,  
MARYLAND

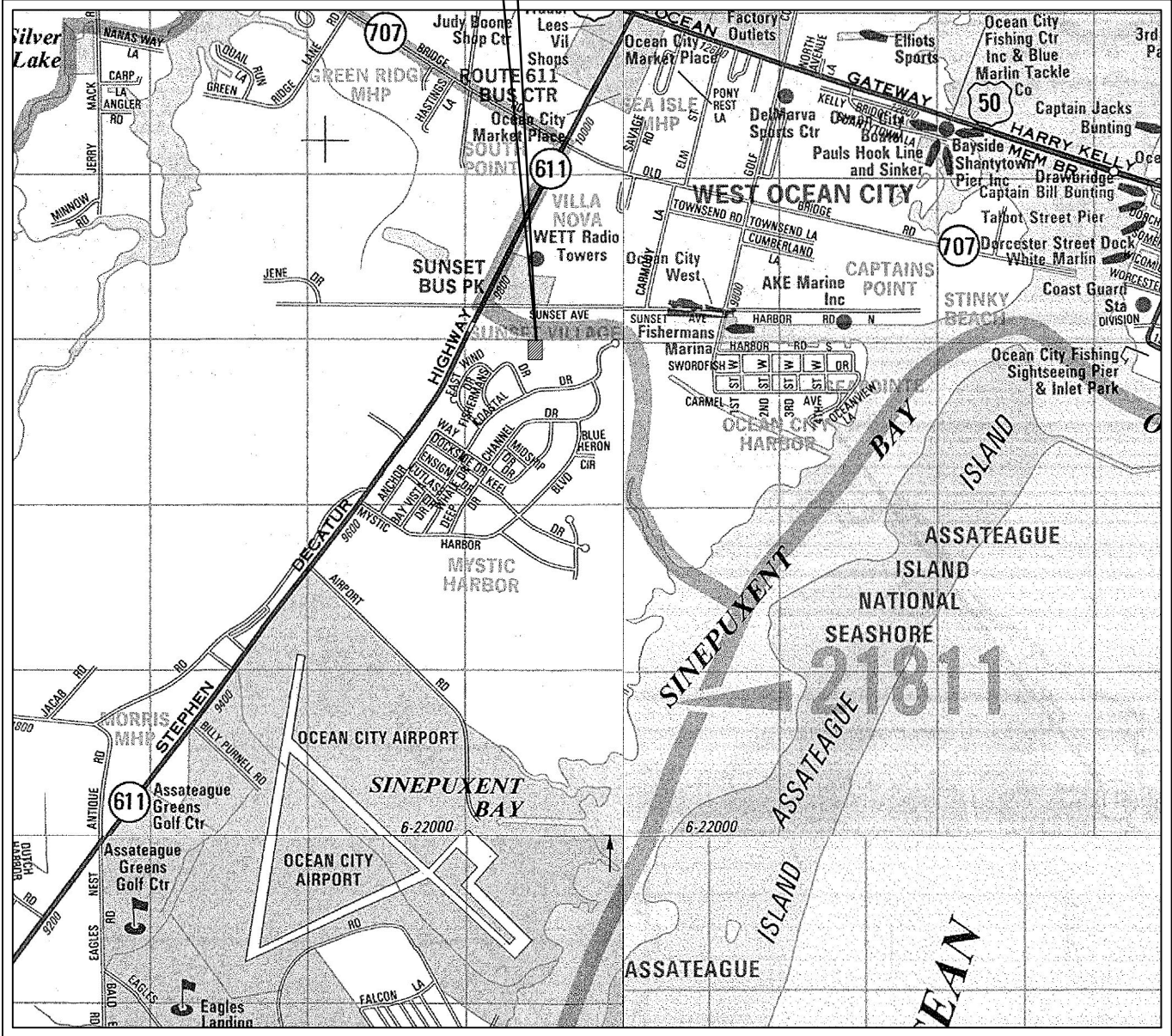
VICINITY MAP

EX-1

DRAWING NO.



## MYSTIC HARBOUR WTP



## LOCATION MAP

SCALE: 1" = 2000'±

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MDE PER

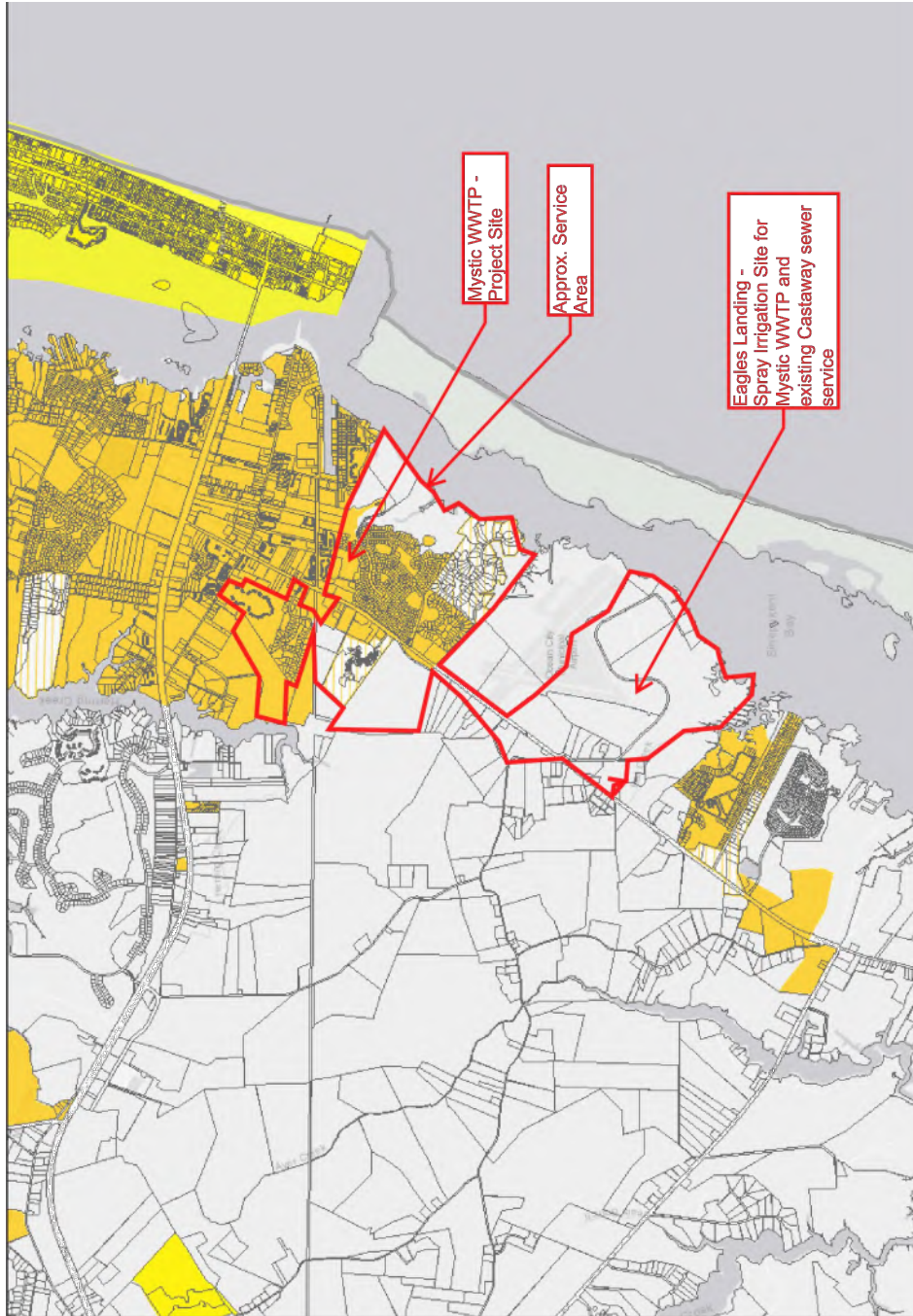
WORCESTER COUNTY,  
MARYLAND

LOCATION MAP

EX-2

DRAWING NO.

# Priority Funding Area Map



January 9, 2023

- MD Counties
- Municipalities
- Municipal PFA
- Municipal PFA Comment Area
- Annexed but not PFA

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MYSTIC HARBOUR WWTP  
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 WORCESTER COUNTY,  
 MARYLAND

AERIAL MAP -  
 SERVICE AREA

EX-3A


DRAWING NO.



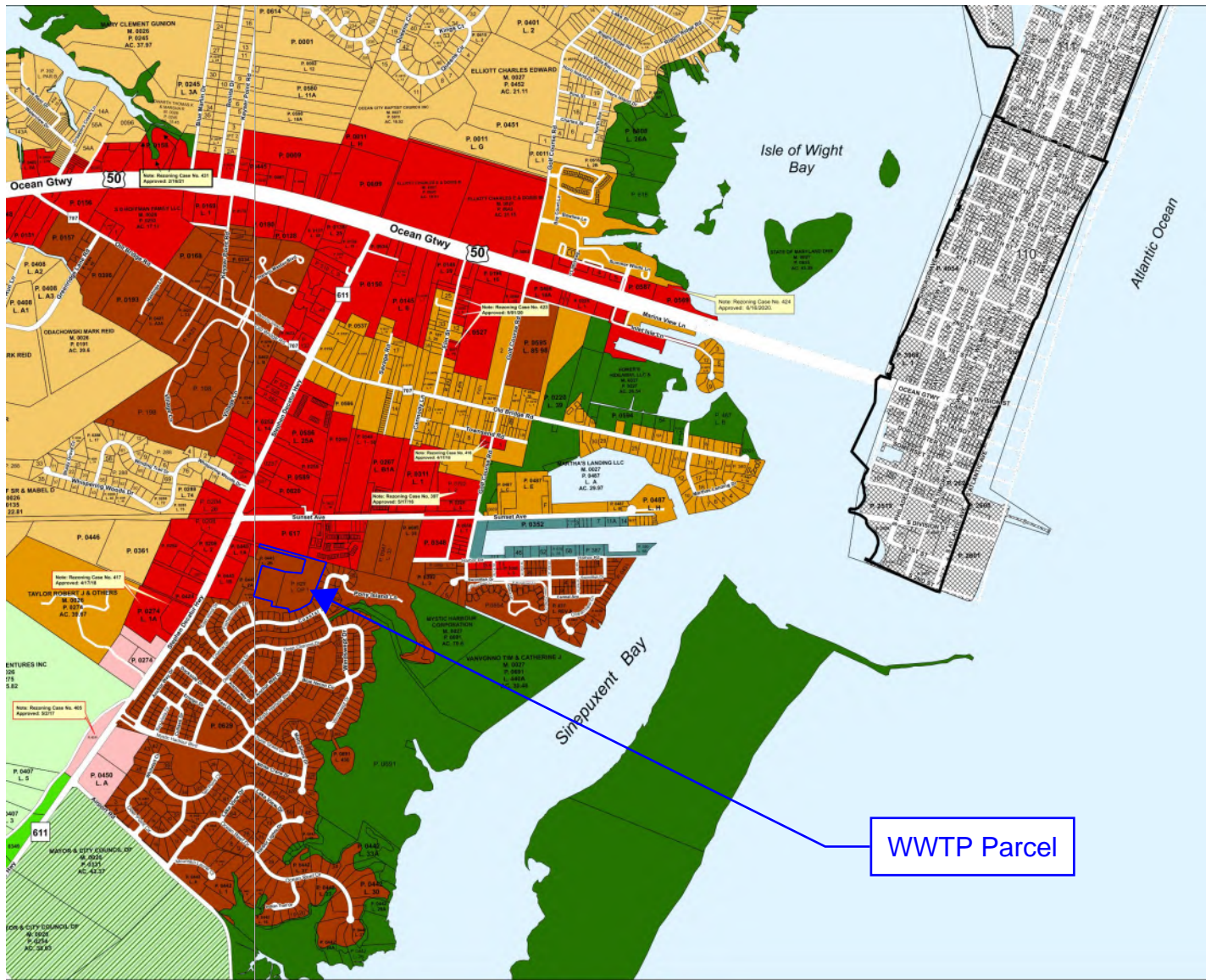


# AERIAL MAP

SCALE: 1" = 400'

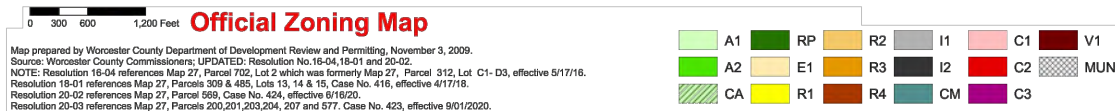
DRAWN BY : MMD	 <p>GEORGE, MILES &amp; BUHR, LLC ARCHITECTS &amp; ENGINEERS SALISBURY • BALTIMORE • SEAFORD 206 WEST MAIN STREET SALISBURY, MARYLAND 21801 410-742-3115, FAX 410-548-5790 www.gmbnet.com</p>	<p>MYSTIC HARBOUR WWTP MDE PER</p> <p>WORCESTER COUNTY, MARYLAND</p>	<p>AERIAL MAP - WWTP</p>	<p>EX-3B</p> <p>DRAWING NO.</p>
CHECKED BY : KJM				
GMB FILE : 230237				
SCALE : AS NOTED				
DATE : FEB. 2024				





# ZONING MAP - SERVICE AREA

SCALE: 1" = 2000'



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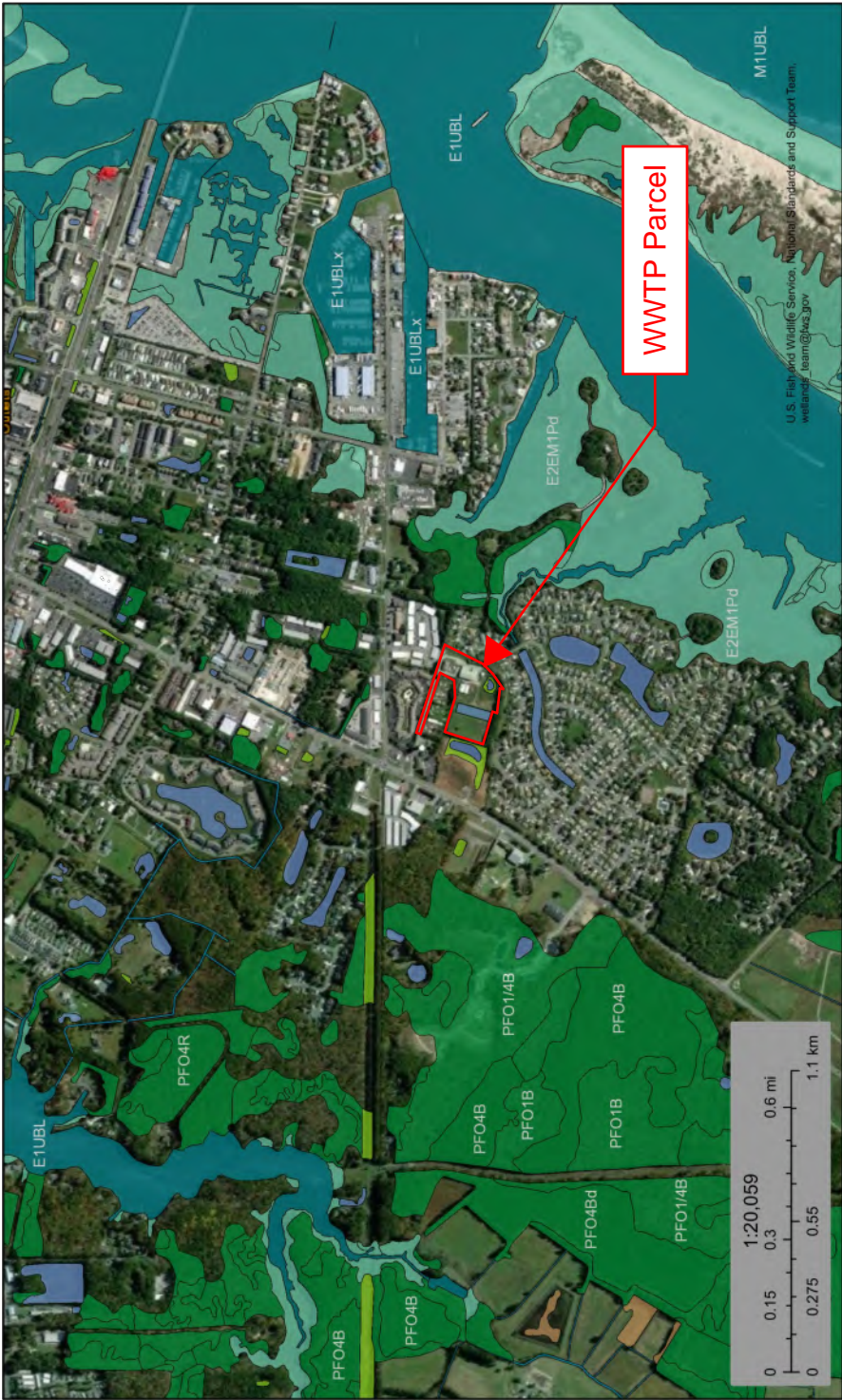
WORCESTER COUNTY,  
 MARYLAND

LAND USE ZONING  
 MAP - SERVICE  
 AREA

EX-4

DRAWING NO.






February 13, 2024

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)  
This page was produced by the NWI mapper

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CHECKED BY : KJM				
GMB FILE : 230237				
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## Maryland 8-Digit Watershed Map



### Maryland 8-Digit Watersheds



### County Boundaries



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 MDE PER

WORCESTER COUNTY,  
 MARYLAND

WATERSHED MAP -  
 SERVICE AREA

EX-6

DRAWING NO.



# National Flood Hazard Layer FIRMette

75°7'12"W 38°19'48"N



0 250 500 1,000 1,500 2,000 1:6,000 Feet

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**

Without Base Flood Elevation (BFE)  
Zone A, V, AE, AH, VE, AR  
Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**

0.2% Annual Chance Flood Hazard. Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile  
Zone X

Future Conditions 1% Annual Chance Flood Hazard  
Zone X

Area with Reduced Flood Risk due to Levee. See Notes.  
Zone X

Area with Flood Risk due to Levee  
Zone D

**OTHER AREAS**

Area of Minimal Flood Hazard  
Zone X

Effective LOMRS  
Zone D

Area of Undetermined Flood Hazard  
Zone D

**GENERAL STRUCTURES**

Channel, Culvert, or Storm Sewer  
Levee, Dike, or Floodwall

**Cross Sections with 1% Annual Chance**

Water Surface Elevation  
Coastal Transect  
Base Flood Elevation Line (BFE)  
Limit of Study  
Jurisdiction Boundary

**OTHER FEATURES**

Coastal Transect Baseline  
Profile Baseline  
Hydrographic Feature

**MAP PANELS**

Digital Data Available  
No Digital Data Available  
Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/5/2024 at 1:33 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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MYSTIC HARBOUR WWTP  
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MARYLAND

FEMA FLOOD MAP

EX-7

DRAWING NO.

## **Appendix A:**

### **Mystic Harbour WWTP Preliminary Design Data**

#### **A.1: Exhibits**

#### **A.2: Raw Wastewater and WAS Data**

#### **A.3: 2017 Dewatering Options Evaluation**











## **APPENDIX A-1**

### **Exhibits**

- **EX-1: Existing Process Flow Diagram**
- **EX-2: Alternative 2 – Process Flow Diagram**
- **EX-3: Alternative 3 – Process Flow Diagram**
- **EX-4: Alternative 4 – Process Flow Diagram**
- **EX-5: Existing Site Plan**
- **EX-6: Alternative 2 – Site Plan**
- **EX-7: Alternative 3 – Site Plan**
- **EX-8: Alternative 4 – Site Plan**
- **EX-9: Process Room and Chemical Room Modifications**



- |   |                   |
|---|-------------------|
|  | BALL VALVE (N.O.) |
|  | BALL VALVE (N.C.) |
|  | FLOW DIRECTION    |
|  | CENTRIFUGAL PUMP  |
|  | SUBMERSIBLE PUMP  |
|  | PLUG VALVE N.O.   |
|  | PLUG VALVE (N.C.) |
|  | MOTOR OPERATED    |

## EXISTING PROCESS FLOW DIAGRAM

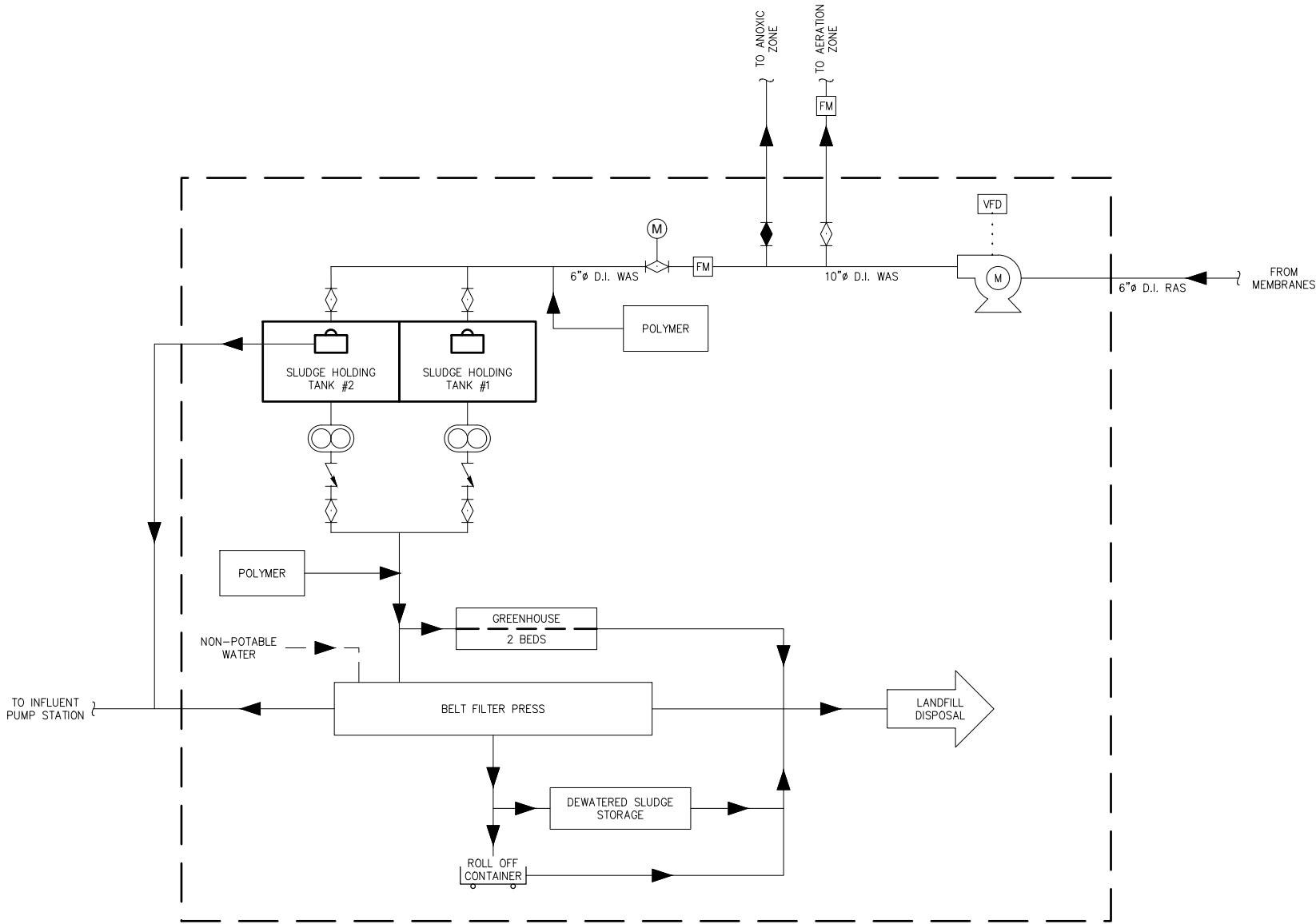
CURRENT AVERAGE DESIGN FLOW	0.25 MGD
CURRENT PEAK DESIGN FLOW	0.50 MGD
FUTURE AVERAGE DESIGN FLOW	0.45 MGD
FUTURE PEAK DESIGN FLOW	0.90 MGD
ULTIMATE AVERAGE DESIGN FLOW	0.60 MGD
ULTIMATE PEAK DESIGN FLOW	1.20 MGD
INFLUENT EQUALIZATION	0.225 MGD
EFFLUENT STORAGE	0.10 MGD
FUTURE EFFLUENT STORAGE	0.45 MGD

## EXISTING DESIGN CRITERIA

<u>ITEM</u>	<u>DESCRIPTION</u>
<u>PORTABLE BELT FILTER PRESS</u>	
QUANTITY	ONE (1)
LOADING (1 UNIT, 8 HOURS/WEEK)	
DRY SOLIDS	436 DRY LBS/HOUR
HYDRAULIC @ 1.1% SOLIDS	79 GPM
DISCHARGE SOLIDS CONCENTRATION	15% TYPICAL
<u>DRYING BEDS</u>	
NUMBER OF BEDS	TWO (2) - CONSTRUCTED
TYPE	POROUS ASPHALT
SIZE - SQ.FT.	3,100 SQ.FT. (EACH)
	6,200 SQ.FT. (TOTAL)

[illegible]

PEN=RED .006 INCHES (16mm) PLOT CODE PERM-CYAN .014 INCHES (36mm) PEN=BLUE .020 INCHES (50mm) PEN=MAGENTA .027 INCHES (70mm) PEN=WHITE .030 INCHES (100mm)



ALTERNATIVE 2 PROCESS FLOW DIAGRAM  
NO SCALE

ALTERNATIVE 2 DESIGN CRITERIA

ITEM

SLUDGE HOLDING TANKS

NUMBER OF TANKS  
TYPE  
MOTOR – HP (MINIMUM)  
DISCHARGE PRESSURE (MINIMUM)  
AIR FLOW (MINIMUM)

SLUDGE BLOWERS

NUMBER OF BLOWERS  
TYPE  
MOTOR – HP (MINIMUM)  
DISCHARGE PRESSURE (MINIMUM)  
AIR FLOW (MINIMUM)

SLUDGE TRANSFER PUMPS

NUMBER OF PUMPS  
TYPE  
LOCATION  
DESIGN CAPACITY  
MOTOR – HP

BELT FILTER PRESS

QUANTITY  
LOADING (1 UNIT, 8 HOURS/WEEK)  
DRY SOLIDS  
HYDRAULIC @ 1.1% SOLIDS  
DISCHARGE SOLIDS CONCENTRATION

SLUDGE DISCHARGE CONVEYOR

NUMBER OF UNITS  
TYPE  
MOTOR – HP (MAXIMUM)  
DISCHARGE GATES

DRYING BEDS

NUMBER OF BEDS  
TYPE  
SIZE – SQ.FT.

DEWATERED SLUDGE STORAGE

NUMBER OF STRUCTURES  
TYPE  
SIZE – SQ.FT.

LEGEND

- BALL VALVE (N.O.)
- BALL VALVE (N.C.)
- FLOW DIRECTION
- CENTRIFUGAL PUMP
- SUBMERSIBLE PUMP
- PLUG VALVE N.O.
- PLUG VALVE (N.C.)
- MOTOR OPERATED
- CHECK VALVE
- POSITIVE DISPLACEMENT PUMP
- FLOATING DECANTER

DESCRIPTION

TWO (2)  
90,000 GALLONS (TOTAL) – (45,000 GALLONS EACH)  
+15 DAYS  
1.1%  
COARSE BUBBLE DIFFUSERS

THREE (3)  
POSITIVE DISPLACEMENT  
15 HP  
8.5 PSIG  
200 SCFM EACH

TWO (2)  
POSITIVE DISPLACEMENT  
SLUDGE HOLDING TANK  
50 TO 150 GPM @ 40 PSI  
10 HP (W/VFD)

ONE (1)  
436 DRY LBS/HOUR  
79 GPM  
18% MINIMUM

TWO (2)  
SHAFTLESS SCREW CONVEYOR  
3 HP EACH  
TWO (2) (ELECTRICALLY ACTUATED SLIDE GATES)

TWO (2)  
POROUS ASPHALT  
1,500 SQ.FT. (EACH)  
3,000 SQ.FT. (TOTAL)

ONE (1)  
CONCRETE SLAB  
3,100 SQ.FT.

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MYSTIC HARBOUR WWTP  
BIOSOLIDS MANAGEMENT  
EVALUATION

WORCESTER COUNTY, MARYLAND

ALTERNATIVE 2  
PROCESS FLOW  
DIAGRAM -  
DESIGN CRITERIA

SCALE : AS NOTED  
DESIGN BY : KJM  
DRAWN BY : MMD  
CHECKED BY :  
OMB FILE : 230237  
DATE : FEB. 2024

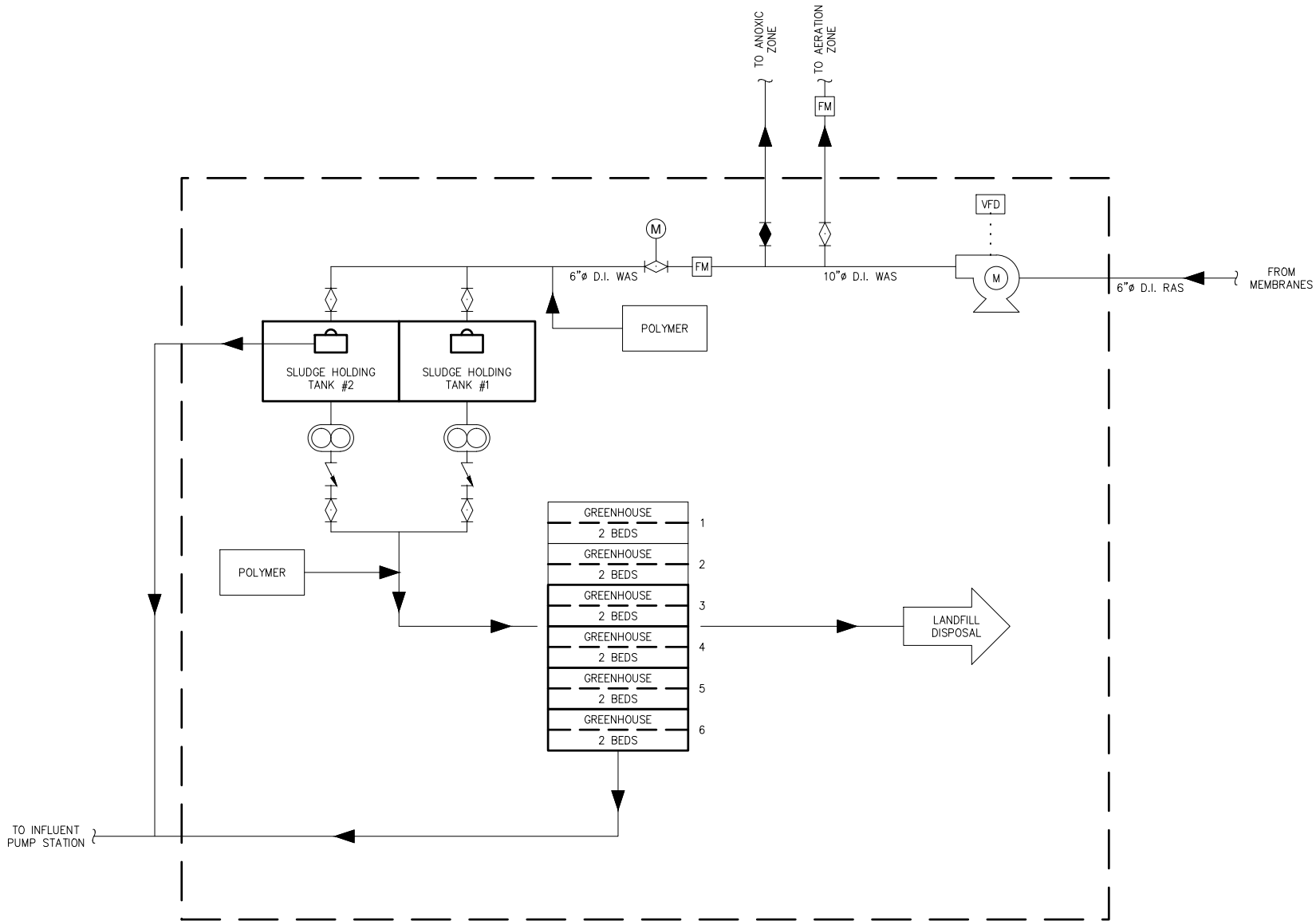
SHEET NO.

EX-2

PEN=RED .006 INCHES (16mm) PEN=YELLOW .007 INCHES (18mm) PEN=GREEN .010 INCHES (25mm) PEN=CYN .014 INCHES (36mm) PLOT CODE PMA-CYN

PEN=BLUE .020 INCHES (50mm) PEN=MAGENTA .027 INCHES (70mm)

PEN=WHITE .030 INCHES (100mm)



ALTERNATIVE 3 PROCESS FLOW DIAGRAM  
NO SCALE

ALTERNATIVE 3 DESIGN CRITERIA

ITEM	DESCRIPTION
<b>SLUDGE HOLDING TANKS</b>	
NUMBER OF TANKS	TWO (2)
CAPACITY	90,000 GALLONS (TOTAL) - (45,000 GALLONS EACH)
STORAGE	+15 DAYS
PERCENT SOLIDS	1.1%
MIXING	COARSE BUBBLE DIFFUSERS
<b>SLUDGE BLOWERS</b>	
NUMBER OF BLOWERS	THREE (3)
TYPE	POSITIVE DISPLACEMENT
MOTOR - HP (MINIMUM)	15 HP
DISCHARGE PRESSURE (MINIMUM)	8.5 PSIG
AIR FLOW (MINIMUM)	200 SCFM EACH
<b>SLUDGE TRANSFER PUMPS</b>	
NUMBER OF PUMPS	TWO (2)
TYPE	POSITIVE DISPLACEMENT
LOCATION	SLUDGE HOLDING TANK
DESIGN CAPACITY	50 TO 150 GPM @ 40 PSI
MOTOR - HP	10 HP (w/VFD)
<b>DRYING BEDS</b>	
NUMBER OF BEDS	TWELVE (12)
TYPE	POROUS ASPHALT
SIZE - SQ.FT.	1,500 SQ.FT. (EACH) 18,000 SQ.FT. (TOTAL)

LEGEND

	BALL VALVE (N.O.)
	BALL VALVE (N.C.)
	FLOW DIRECTION
	CENTRIFUGAL PUMP
	SUBMERSIBLE PUMP
	PLUG VALVE N.O.
	PLUG VALVE (N.C.)
	MOTOR OPERATED
	CHECK VALVE
	POSITIVE DISPLACEMENT PUMP
	FLOATING DECANter

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DATE

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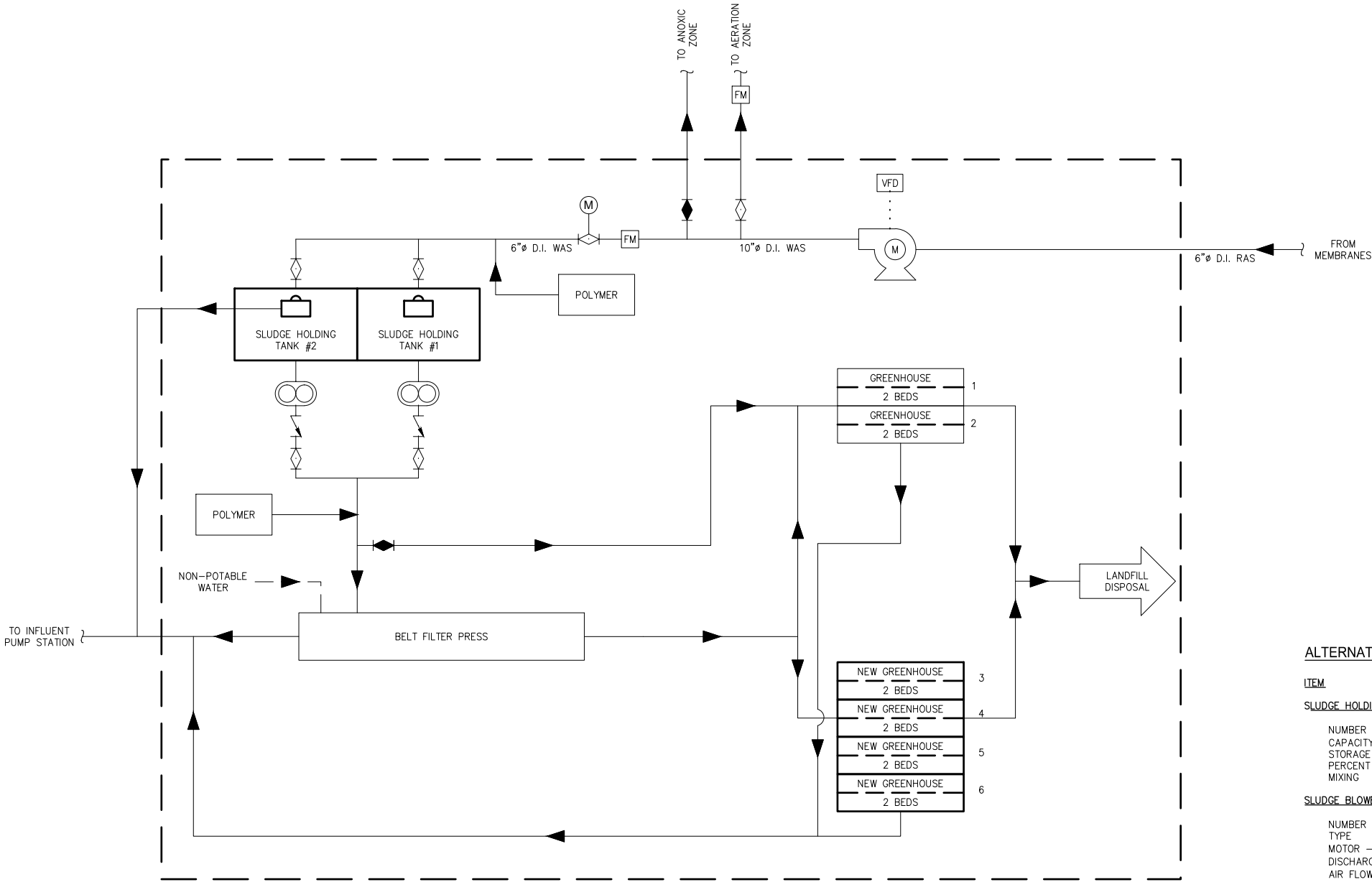
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BIOSOLIDS MANAGEMENT  
EVALUATION**  
  
WORCESTER COUNTY, MARYLAND

**ALTERNATIVE 3  
PROCESS FLOW  
DIAGRAM -  
DESIGN CRITERIA**

SCALE : AS NOTED	SHEET NO.
DESIGN BY : KJM	EX-3
DRAWN BY : MMD	
CHECKED BY :	
DATE : FEB. 2024	



ALTERNATIVE 4 PROCESS FLOW DIAGRAM  
NO SCALE

LEGEND

- BALL VALVE (N.O.)
- BALL VALVE (N.C.)
- FLOW DIRECTION
- CENTRIFUGAL PUMP
- SUBMERSIBLE PUMP
- PLUG VALVE (N.O.)
- PLUG VALVE (N.C.)
- MOTOR OPERATED
- CHECK VALVE
- POSITIVE DISPLACEMENT PUMP
- FLOATING DECANTER

ALTERNATIVE 2 DESIGN CRITERIA

ITEM

DESCRIPTION

SLUDGE HOLDING TANKS

NUMBER OF TANKS  
CAPACITY  
STORAGE  
PERCENT SOLIDS  
MIXING

TWO (2)  
90,000 GALLONS (TOTAL) - (45,000 GALLONS EACH)  
+15 DAYS  
1.1%  
COARSE BUBBLE DIFFUSERS

SLUDGE BLOWERS

NUMBER OF BLOWERS  
TYPE  
MOTOR - HP (MINIMUM)  
DISCHARGE PRESSURE (MINIMUM)  
AIR FLOW (MINIMUM)

THREE (3)  
POSITIVE DISPLACEMENT  
15 HP  
8.5 PSIG  
200 SCFM EACH

SLUDGE TRANSFER PUMPS

NUMBER OF PUMPS  
TYPE  
LOCATION  
DESIGN CAPACITY  
MOTOR - HP

TWO (2)  
POSITIVE DISPLACEMENT  
SLUDGE HOLDING TANK  
50 TO 150 GPM @ 40 PSI  
10 HP (W/VFD)

BELT FILTER PRESS

QUANTITY  
LOADING (1 UNIT, 8 HOURS/WEEK)  
DRY SOLIDS  
HYDRAULIC @ 1.1% SOLIDS  
DISCHARGE SOLIDS CONCENTRATION

ONE (1)  
436 DRY LBS/HOUR  
79 GPM  
18% MINIMUM

SLUDGE DISCHARGE CONVEYOR

NUMBER OF UNITS  
TYPE  
MOTOR - HP (MAXIMUM)  
DISCHARGE GATES

TWO (2)  
SHAFTLESS SCREW CONVEYOR  
3 HP EACH  
TWO (2) (ELECTRICALLY ACTUATED SLIDE GATES)

DRYING BEDS

NUMBER OF BEDS  
TYPE  
SIZE - SQ.FT.

TWELVE (12)  
POROUS ASPHALT  
1,500 SQ.FT. (EACH)  
18,000 SQ.FT. (TOTAL)

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MYSTIC HARBOUR WWTP  
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EVALUATION

WORCESTER COUNTY, MARYLAND

ALTERNATIVE 4  
PROCESS FLOW  
DIAGRAM -  
DESIGN CRITERIA

SCALE : AS NOTED  
DESIGN BY : KJM  
DRAWN BY : MMD  
CHECKED BY :  
OMB FILE : 230237  
DATE : FEB. 2024

SHEET NO.  
EX-4

MYSTIC HARBOUR WWTP  
BIOSOLIDS MANAGEMENT  
EVALUATION

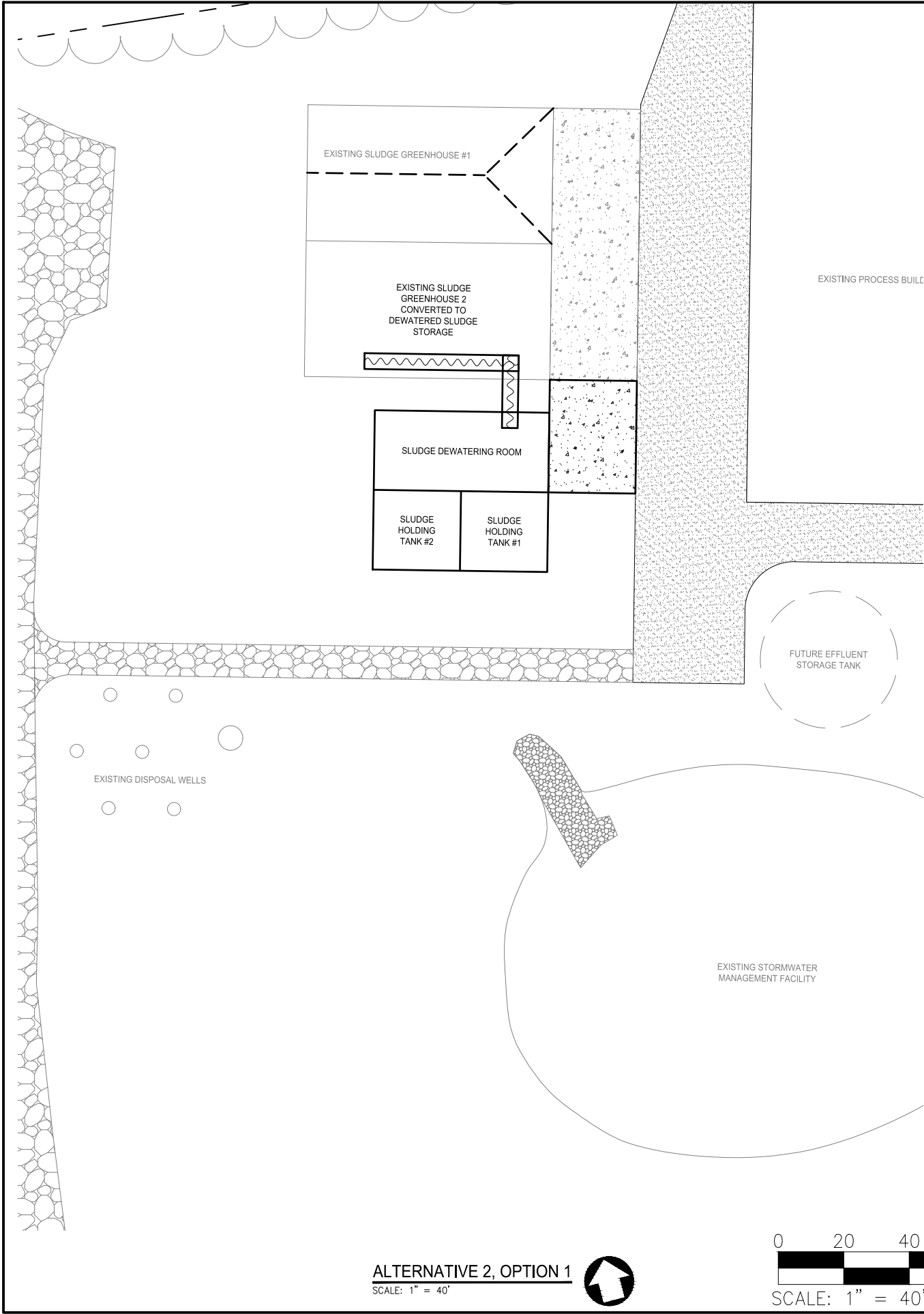
SCALE : AS NOTED	SHEET NO.  <h1>EX-5</h1>
DESIGN BY : CBD	
DRAWN BY : MMD	
CHECKED BY :	
GMB FILE : 170154	
DATE : DEC. 2017	



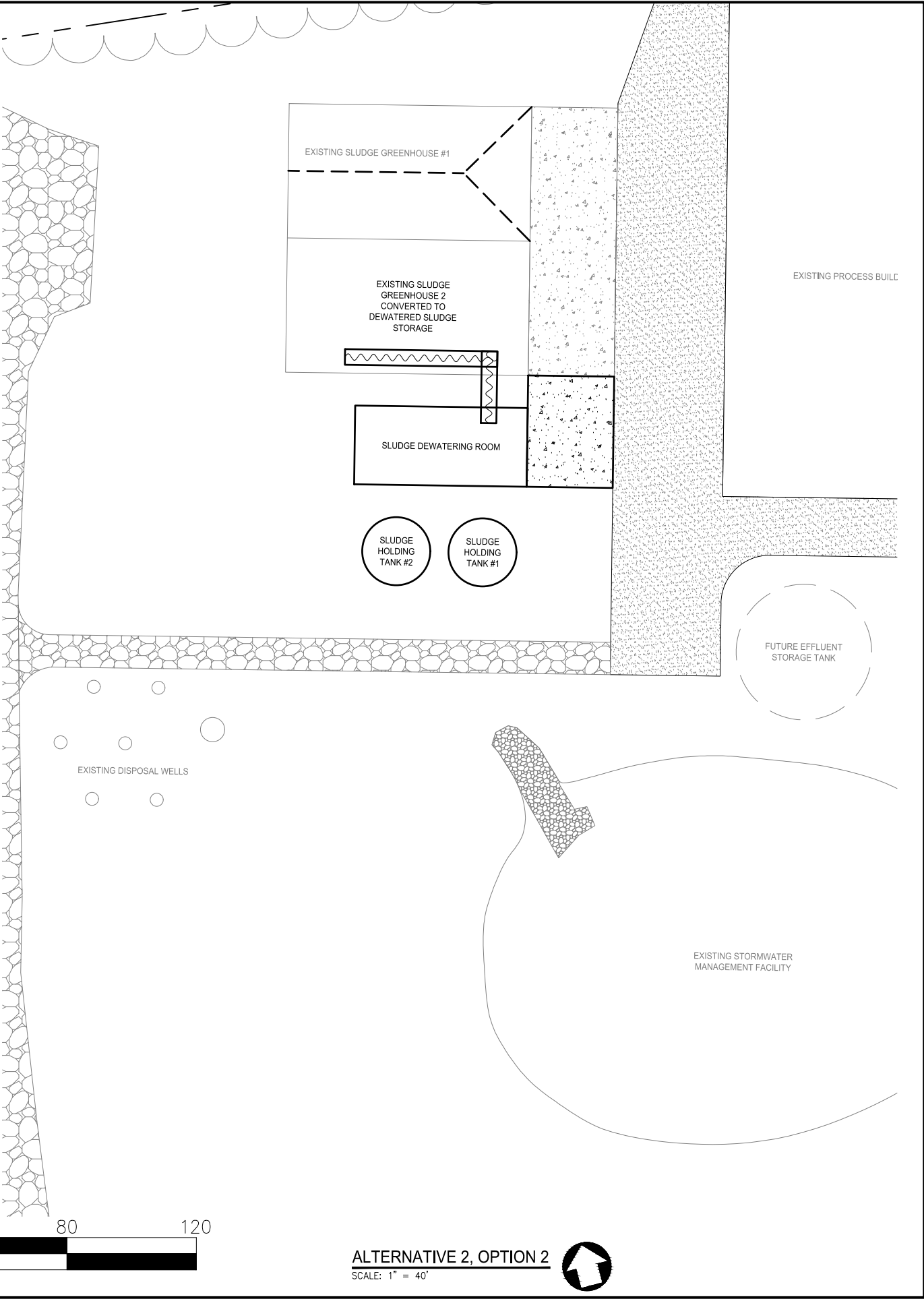
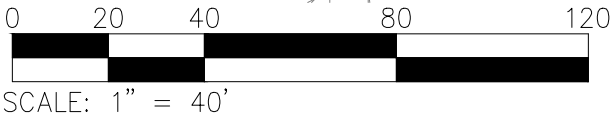
**EXISTING SITE PLAN**  
SCALE: 1" = 80'



PEN=RED .006 INCHES (16mm) PLOT CODE PEN=CYAN .014 INCHES (36mm) PEN=GREEN .010 INCHES (25mm) PEN=YELLOW .007 INCHES (18mm) PEN=BLUE .020 INCHES (50mm) PEN=MAGENTA .027 INCHES (70mm) PEN=WHITE .030 INCHES (76mm)




ALTERNATIVE 2, OPTION 1



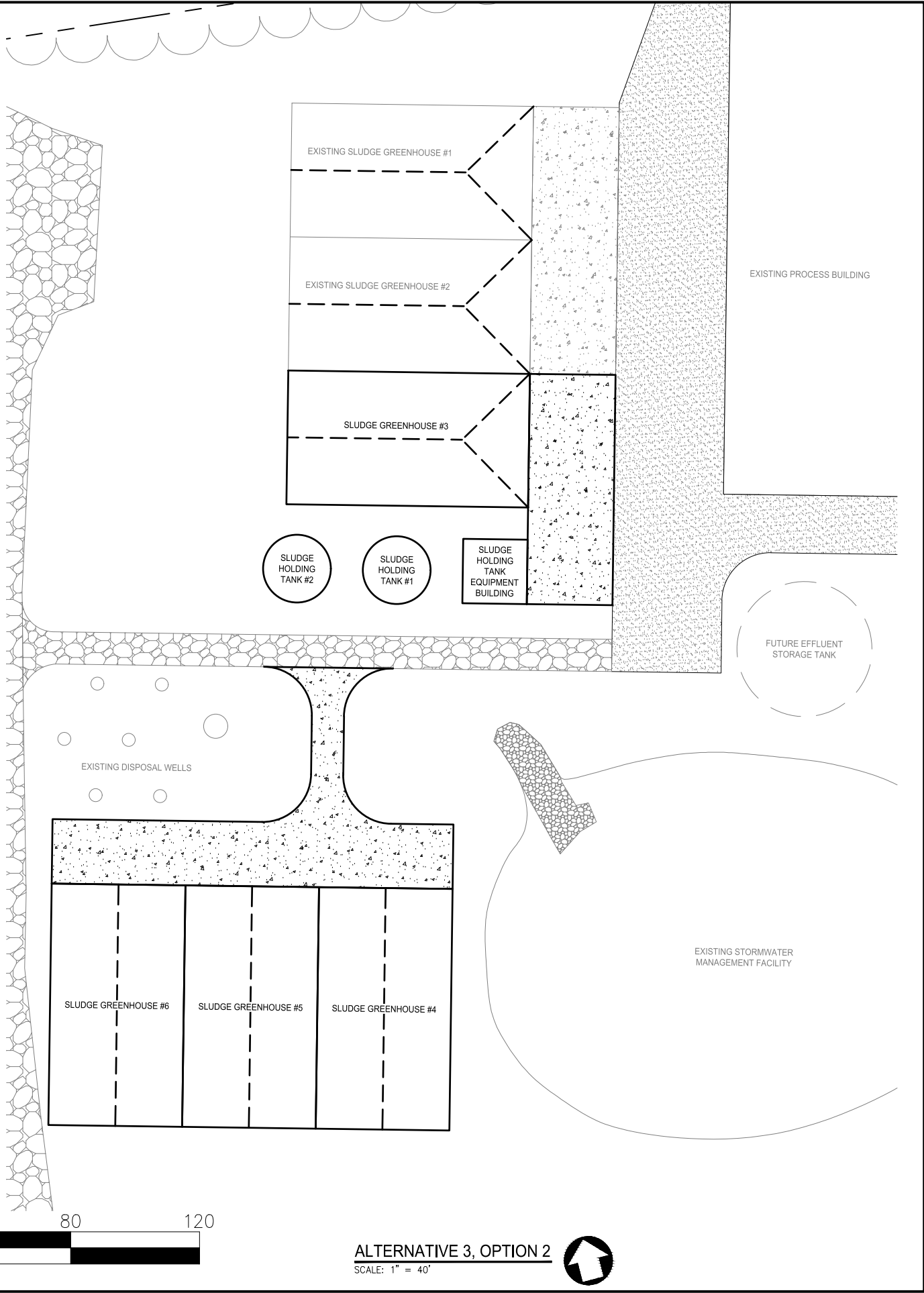
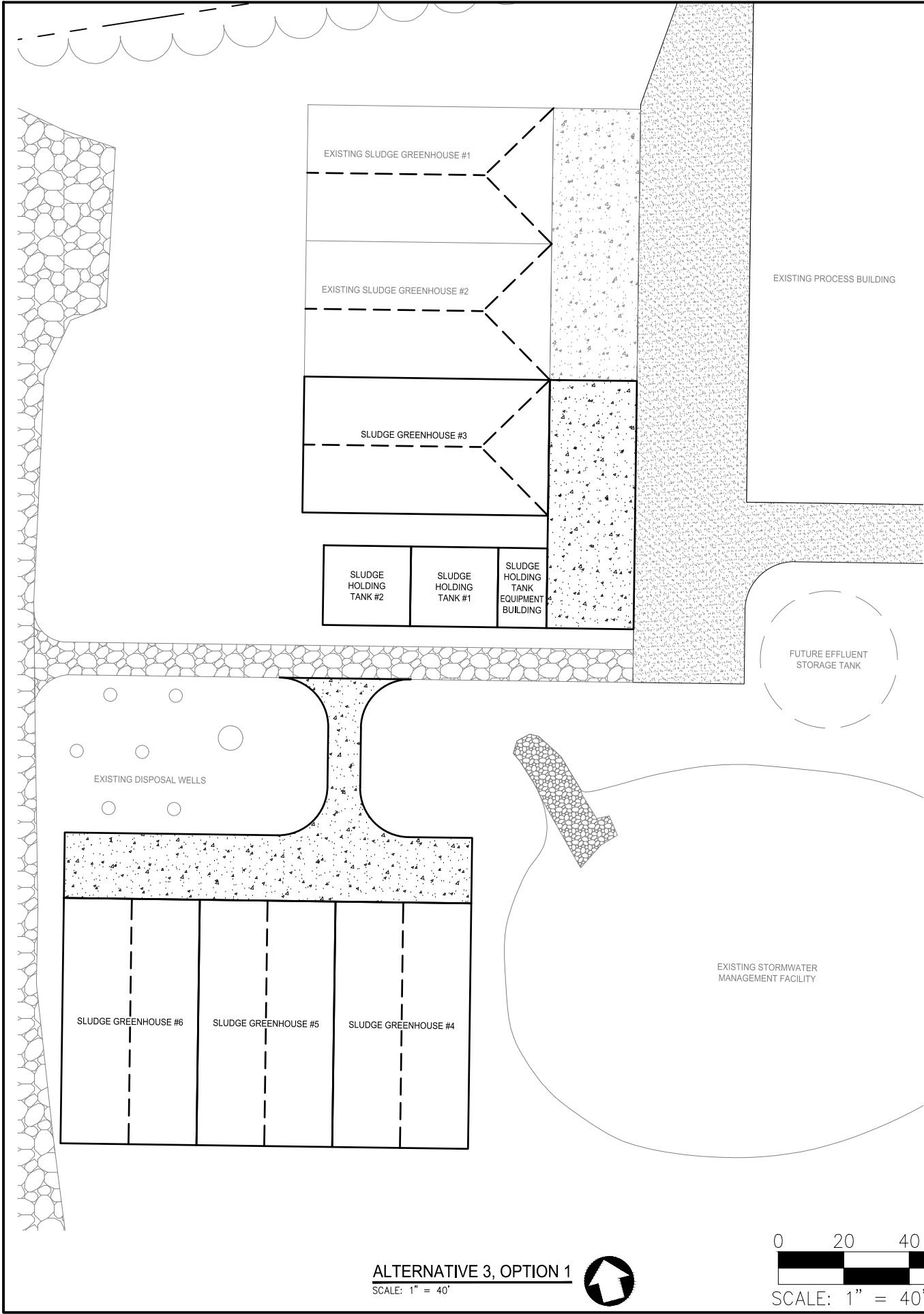
ALTERNATIVE 2, OPTION 2



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MYSTIC HARBOUR WWTP BIOSOLIDS MANAGEMENT EVALUATION WORCESTER COUNTY, MARYLAND	
ALTERNATIVE 2 SITE PLAN	
SCALE : AS NOTED DESIGN BY : CBD DRAWN BY : MMD CHECKED BY : GMB FILE : 170154 DATE : DEC. 2017	SHEET NO. <b>EX-6</b>

g:\Projects\2023\230237 mystic harbour wwtp mde per\Drawings\Working Sets\Exhibits\EX-6 ALTERNATIVE 3 SITE PLAN.dwg, 5/16/2024 11:07:53 AM, cBievenour, AutoCAD PDF (General Documentation).pc3

PEN=RED .006 INCHES (16mm) PLOT CODE PEN=CYAN .014 INCHES (36mm) PEN=GREEN .010 INCHES (26mm) PEN=YELLOW .007 INCHES (18mm) PEN=BLUE .020 INCHES (50mm) PEN=MAGENTA .027 INCHES (70mm) PEN=WHITE .030 INCHES (76mm)



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BIOSOLIDS MANAGEMENT  
EVALUATION**  
**WORCESTER COUNTY, MARYLAND**

**ALTERNATIVE 3 SITE  
PLAN**

SCALE : AS NOTED	SHEET NO.
DESIGN BY : CBD	<b>EX-7</b>
DRAWN BY : MMD	
CHECKED BY :	
DATE : DEC. 2017	

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PEN-RED : .006 INCHES (16mm)    PLOT CODE : PEN-RED : .006 INCHES (16mm)    PLOT CODE : PEN-RED : .006 INCHES (16mm)

PEN-YELLOW : .007 INCHES (18mm)    PLOT CODE : PEN-YELLOW : .007 INCHES (18mm)    PLOT CODE : PEN-YELLOW : .007 INCHES (18mm)

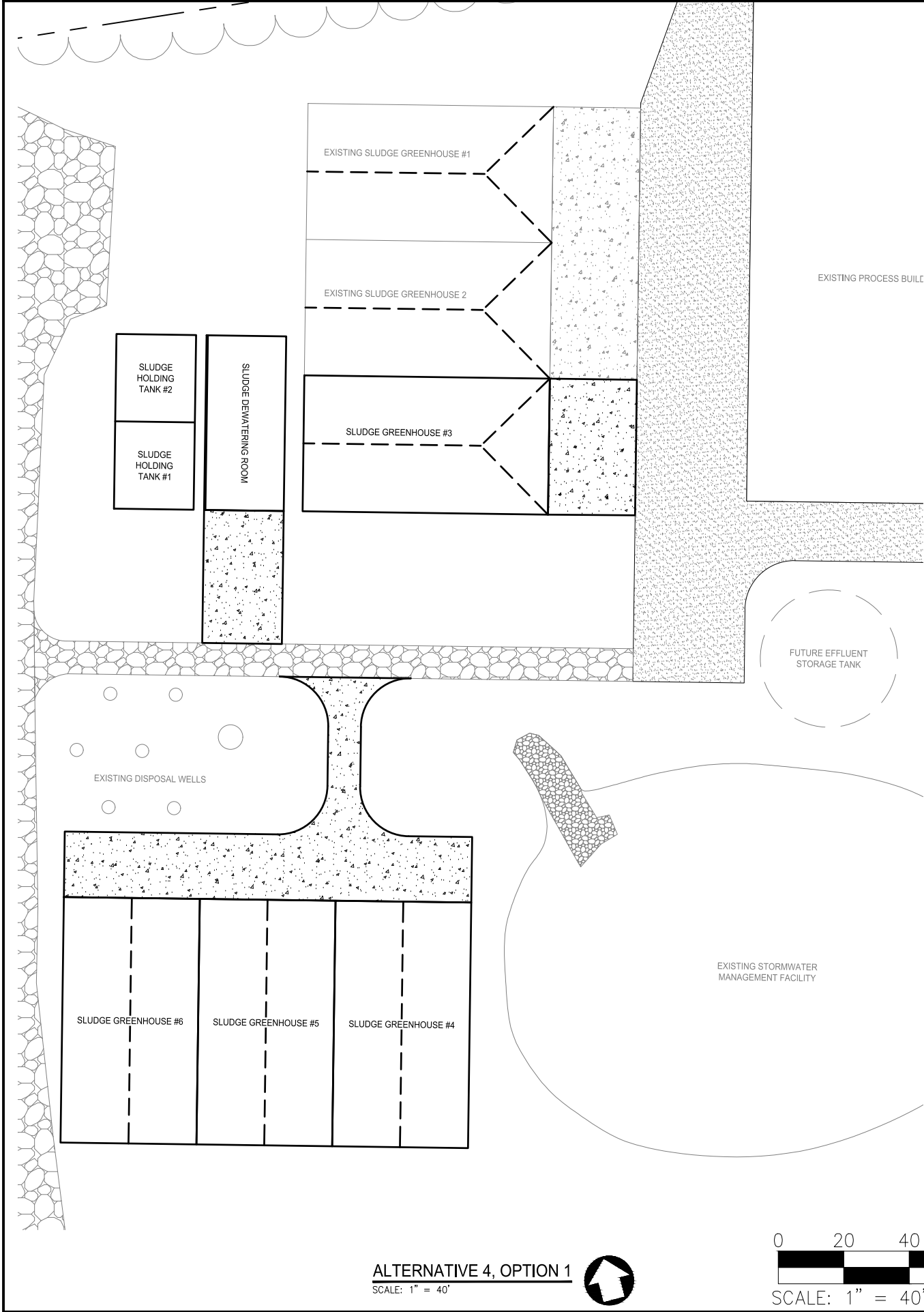
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PEN-4-CYAN : .014 INCHES (35mm)    PLOT CODE : PEN-4-CYAN : .014 INCHES (35mm)    PLOT CODE : PEN-4-CYAN : .014 INCHES (35mm)

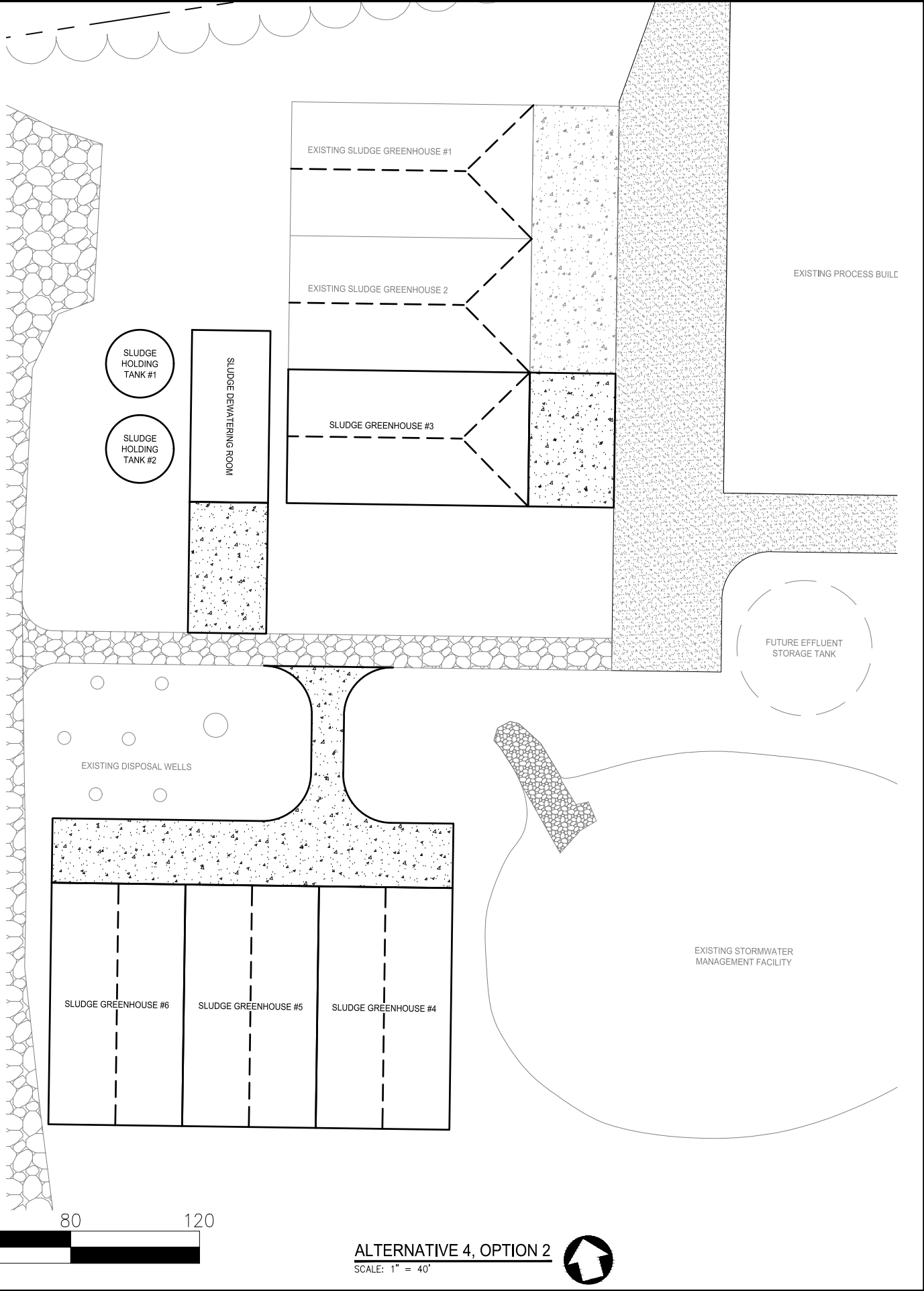
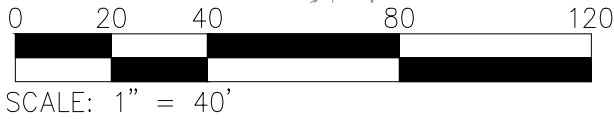
PEN-5-BLUE : .020 INCHES (50mm)    PLOT CODE : PEN-5-BLUE : .020 INCHES (50mm)    PLOT CODE : PEN-5-BLUE : .020 INCHES (50mm)

PEN-6-MAGENTA : .027 INCHES (70mm)    PLOT CODE : PEN-6-MAGENTA : .027 INCHES (70mm)    PLOT CODE : PEN-6-MAGENTA : .027 INCHES (70mm)

PEN-7-WHITE : .030 INCHES (76mm)    PLOT CODE : PEN-7-WHITE : .030 INCHES (76mm)    PLOT CODE : PEN-7-WHITE : .030 INCHES (76mm)



**ALTERNATIVE 4, OPTION 1**  
SCALE: 1" = 40'



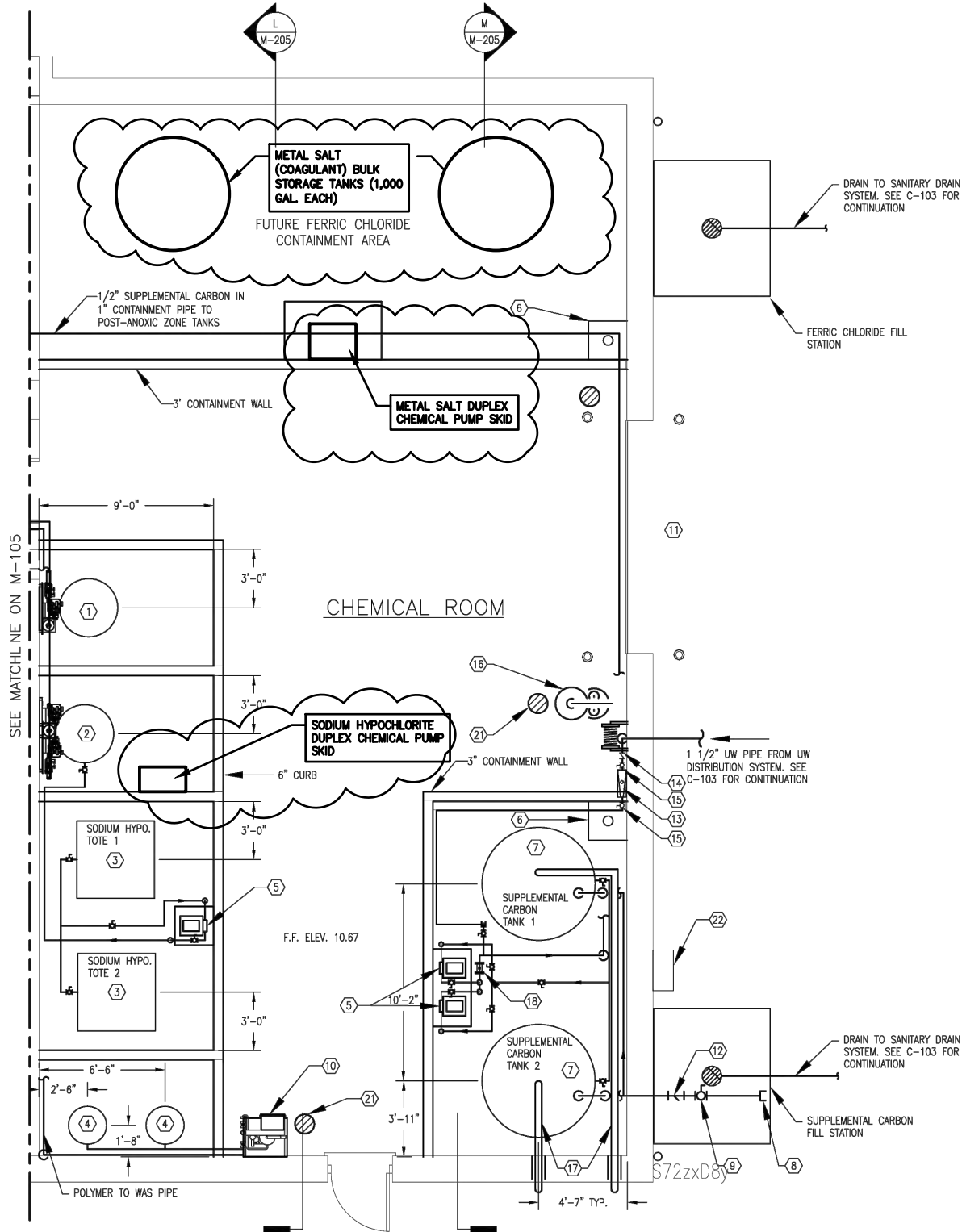
**ALTERNATIVE 4, OPTION 2**  
SCALE: 1" = 40'



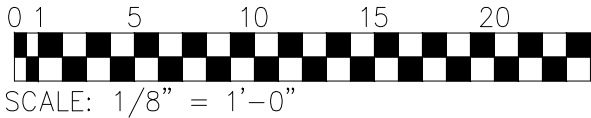
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<b>MYSTIC HARBOUR WWTP BIOSOLIDS MANAGEMENT EVALUATION</b> WORCESTER COUNTY, MARYLAND	
<b>ALTERNATIVE 4 SITE PLAN</b>	
SCALE : AS NOTED DESIGN BY : CBD DRAWN BY : MMD CHECKED BY : OMB FILE : 170154 DATE : DEC. 2017	SHEET NO. <b>EX-8</b>

PEN-RED .006 INCHES (15mm)	PEN-YELLOW .007 INCHES (18mm)	PEN-3-GREEN .010 INCHES (25mm)	PEN-4-CYAN .014 INCHES (35mm)	PEN-5-BLUE .020 INCHES (50mm)	PEN-6-MAGENTA .027 INCHES (70mm)	PEN-7-WHITE .039 INCHES (100mm)
-------------------------------	----------------------------------	-----------------------------------	----------------------------------	----------------------------------	-------------------------------------	------------------------------------

PLOT CODE  
PEN-CYAN



CHEMICAL ROOM PLAN  
SCALE: 1/8" = 1'-0"



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MYSTIC HARBOUR WWTP  
BIOSOLIDS MANAGEMENT  
EVALUATION

WORCESTER COUNTY, MARYLAND

PROCESS BUILDING  
CHEMICAL ROOM  
MODIFICATIONS

SCALE : AS NOTED  
DESIGN BY : CBD  
DRAWN BY : MMD  
CHECKED BY :  
GMB FILE : 170154  
DATE : DEC. 2017

SHEET NO.

EX-9

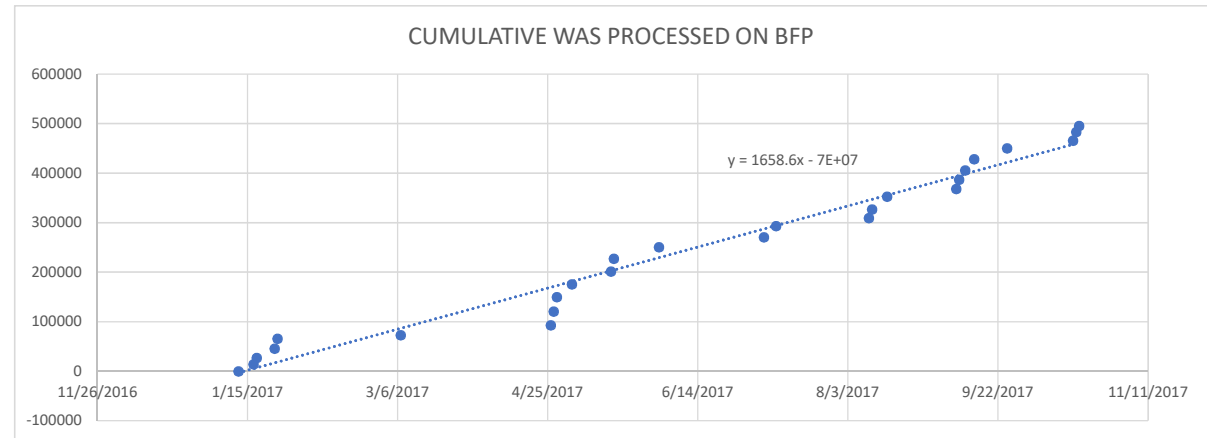
## **APPENDIX A-2**

### **Raw Wastewater and WAS Data**

# MYSTIC RAW TESTS

DATE	pH	BOD	TSS
7/11/2017		7.18	83.76
7/13/2017		7.33	173.2
7/17/2017		7.28	160.5
7/20/2017		7.19	171
7/24/2017		7.24	240.6
7/28/2017		7.47	306.7
7/31/2017		7.28	161.9
8/3/2017		7.66	5.09
8/14/2017			217.2
8/14/2017			221.5
8/16/2017			153
			89.6
			256
			145.67
			120.5
			112.8
			400
			123.5
			0.92 *****MYSTIC BACK ON LINE
			176 sample #1
			125.3 sample #2
			68 sample #3

Date	Gals. WAS Processed on BFP	Cumulative Vol. WAS Processed
1/12/2017		0
1/17/2017	14,400	14,400
1/18/2017	12,782	27,182
1/24/2017	18,600	45,782
1/25/2017	20,048	65,830
3/7/2017	7,000	72,830
4/26/2017	20,000	92,830
4/27/2017	28,001	120,831
4/28/2017	29,000	149,831
5/3/2017	25,746	175,577
5/16/2017	26,000	201,577
5/17/2017	26,000	227,577
6/1/2017	23,017	250,594
7/6/2017	20,000	270,594
7/10/2017	22,500	293,094
8/10/2017	16,541	309,635
8/11/2017	17,000	326,635
8/16/2017	26,000	352,635
9/8/2017	15,881	368,516
9/9/2017	18,260	386,776
9/11/2017	18,747	405,523
9/14/2017	22,597	428,120
9/25/2017	22,152	450,272
10/17/2017	15,418	465,690
10/18/2017	17,538	483,228
10/19/2017	12,583	495,811



280 Duration of Processing (Days)	
1,771 WAS gpd	Avg. WAS Processed
12,395 WAS gal/wk	

## **APPENDIX A-3**

### **2017 Dewatering Options Evaluation**

Mystic, MD  
DESIGN CALCULATIONS  
Dewatering Options  
MBR WAS Sludge

DEWATERING EQUIPMENT EVALUATION

Design Performance	0.9m DDP	0.5m 2VP	12" Screw Press	0.75m 3DP	UNITS
Sludge Flow	38,000	12,667	12,667	38,000	Gallons Per Day
Weekly Sludge Flow	38,000	38,000	38,000	38,000	Gallons Per Week
Average Feed Solids	1.10	1.10	1.10	1.10	%wt
Dry Solids - Yearly	91	91	91	91	Dry Tons per Year
Operational Days	1	3	3	1	Days per Week
Operational Hours	8	8	8	8	Hours per Day
Number of Units in service	1	1	1	1	Units
Solids Loading per unit	436	145	145	436	Dry Pounds per Hour on each Unit
Hydraulic Loading per unit	79	26	26	79	GPM on each Unit
Expected Avg Polymer Dosage	15	15	30	15	Pounds per Dry Ton - Active
Expected Discharge Solids	15	18	18	18	%wt
<b>Operating Costs</b>					<b>UNITS</b>
Hours per Day of operation	8	8	8	8	hours
Days per Week operating	1	3	3	1	Days
Total Hours per year	416	1248	1248	416	Hours (total for both units)
<b>Polymer Costs</b>					
Total Polymer Usage	1360	1360	2719	1360	Pounds of Active Polymer per year
Total Polymer Cost	\$3,929	\$3,929	\$7,858	\$3,929	\$ per year (based on \$1.30 per pound neat)
<b>Energy Consumption</b>					
Feedbox/Floc Tank/transfer pump	0.33	0.33	1.00	0.33	HP
GBT Drive/RDT	1		1	1	HP
Press Section	2	2	2	2	HP
Hydraulic Unit	2	2	3	2	HP
Booster Pump	7.5	5	5	7.5	HP
Total kW	7.46	5.3712	6.5648	7.46	kW/hr
Yearly Energy Cost	\$372.4	\$804.4	\$983.1	\$372.4	\$ per Year (at \$0.12 / kW-hr)
<b>Water Usage</b>					
Total Wash Water Usage	42	21	10	42	GPM per Unit
Hourly Usage	2520	1260	600	2520	Gallons Per Hour
Yearly Usage	1.04832	1.57248	0.7488	1.04832	MG per Year
<b>Total Costs</b>					
	\$4,471	\$5,243	\$9,351	\$4,471	\$ per year

Equipment Capital Cost	\$301,200	\$304,000	\$367,000	\$363,000
------------------------	-----------	-----------	-----------	-----------

**Appendix B:**

**Construction Cost Estimates and  
Operation & Maintenance Cost**




Alternative #2									
Item/Structure	Quantity		Material		Labor & Const. Equip.		Bid Costs		Total Derived
	Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Cost
<b>Belt Filter Press</b>									
Existing Green House Divider Wall	2	EA					\$ 45,000	\$90,000	
Existing Green House Pipe Modifications	2	EA					\$ 20,000	\$40,000	
Concrete Apron	900	SF					\$ 8	\$7,200	
Green House Conveyor Opening and Conc Floor in Storage Area	1	LS					\$ 30,000	\$30,000	
Excavation & Disposal	50	CY					\$ 150	\$7,500	
Gravel Below Subgrade	30	CY					\$ 110	\$3,300	
SHT Tanks, Equipment, and Building	1	LS					\$ 1,152,657	\$1,152,657	
Dewatering System w/accessories	1	EA					\$ 533,500	\$533,500	
Interior Piping/Fittings	1	LS					\$ 60,000	\$60,000	
Electrical/Mechanical	1	LS					\$ 100,000	\$100,000	
Instrumentation/Control	1	LS					\$ 50,000	\$50,000	
Sludge Transport Vehicle	1	LS					200,000	\$200,000	
Building Improvements	1	LS					580,975	\$580,975	
<b>Subtotal 1</b>								\$2,855,132	
Overhead & Profit				\$0		\$0			
<b>Subtotal 2</b>				\$0		\$0			
Subtotal 3									\$2,855,132
<b>Contingency - 15%</b>									\$428,270
<b>Subtotal</b>									\$3,283,402
<b>Soft Cost (Design, Permit, Management, Admin) - 17.57%</b>									\$576,960
<b>TOTAL</b>									\$3,860,361

<b>Alternative #3</b>									
	<b>Quantity</b>		<b>Material</b>		<b>Labor &amp; Const. Equip.</b>		<b>Bid Costs</b>		<b>Total Derived</b>
<b>Item/Structure</b>	<b>Number</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total</b>	<b>Unit Cost</b>	<b>Total</b>	<b>Unit Cost</b>	<b>Total</b>	<b>Cost</b>
<b>Sludge Drying Greenhouse</b>									
Existing Green House Divider Wall	2	EA					\$ 30,000	\$ 60,000	
Site Prep, Mass Grading	1	LS					\$ 15,000	\$ 15,000	
Existing Green House Pipe Modifications	2	EA					\$ 10,000	\$ 20,000	
Excavation & Disposal	400	CY					\$ 77	\$ 30,800	
Gravel Below Subgrade	200	CY					\$ 55	\$ 11,000	
Green House Structure (3100 SF) w/Porous Asphalt	4	EA					\$ 285,000	\$ 1,140,000	
Concrete Apron	5375	SF					\$ 8	\$ 43,000	
Green House Underdrain/Site Piping	4	EA					\$ 15,000	\$ 60,000	
Electrical	1	LS					\$ 50,000	\$ 50,000	
SHT Tanks, Equipment,and Building	1	LS					\$ 1,152,657	\$1,152,657	
Sludge Transport Vehicle	1	LS					200,000	\$200,000	
Building Improvements	1	LS					580,975	\$580,975	
<b>Subtotal 1</b>								\$3,363,432	
Overhead & Profit				\$0		\$0			
<b>Subtotal 2</b>				\$0		\$0			
Subtotal 3									\$3,363,432
<b>Contingency - 15%</b>									\$504,515
<b>Subtotal</b>									\$3,867,947
<b>Soft Cost (Design, Permit, Management, Admin) - 17.10%</b>									\$661,397
<b>TOTAL</b>									\$4,529,343

Alternative #4									
Item/Structure	Quantity		Material		Labor & Const. Equip.		Bid Costs		Total Derived
	Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Cost
<b>Belt Filter Press</b>									
Existing Green House Divider Wall	2	EA					\$ 30,000	\$60,000	
Site Prep, Mass Grading	1	LS					\$ 15,000	\$15,000	
Existing Green House Pipe Modifications	2	EA					\$ 10,000	\$20,000	
Concrete Apron	6275	SF					\$ 8	\$50,200	
Green House Conveyor & Portable Hopper	1	LS					\$ 30,000	\$30,000	
Excavation & Disposal	450	CY					\$ 150	\$67,500	
Gravel Below Subgrade	230	CY					\$ 110	\$25,300	
Green House Structure (3100 SF) w/Porous Asphalt	4	EA					\$ 285,000	\$1,140,000	
SHT Tanks, Equipment, and Building	1	LS					\$ 1,152,657	\$1,152,657	
Dewatering System w/accessories	1	EA					\$ 533,500	\$533,500	
Interior Piping/Fittings	1	LS					\$ 60,000	\$60,000	
Green House Underdrain/Site Piping	4	EA					\$ 15,000	\$60,000	
Electrical/Mechanical	1	LS					\$ 100,000	\$100,000	
Instrumentation/Control	1	LS					\$ 50,000	\$50,000	
Building Improvements	1	LS					580,975	\$580,975	
<b>Subtotal 1</b>								\$3,945,132	
Overhead & Profit				\$0		\$0			
<b>Subtotal 2</b>				\$0		\$0			
Subtotal 3									\$3,945,132
<b>Contingency - 15%</b>									\$591,770
<b>Subtotal</b>									\$4,536,902
<b>Soft Cost (Design, Permit, Management, Admin) - 16.58%</b>									\$752,195
<b>TOTAL</b>									\$5,289,097

Item/Structure	Quantity		Material		Labor & Const. Equip.		Bid Costs		Total Derived Cost
	Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
<b>SHT - (Stainless Steel)</b>									
Site Prep. & Grading w/Swale Relocation	1	LS					\$ 7,500	\$ 7,500	
15" RCP Culvet Relocation	1	LS					\$ 15,000	\$ 15,000	
Pave New/Repair Roadway (Bit. Conc. Base 2.5")	150	SY					\$ 8.50	\$ 1,275	
Pave New/Repair Roadway (Bit. Conc. Surface 1.5")	150	SY					\$ 7.25	\$ 1,088	
Excavation & Disposal	50	CY					\$ 77	\$ 3,850	
Gravel Below Subgrade	30	CY					\$ 55	\$ 1,650	
Tank Foundations	100	CY					\$ 550	\$ 55,000	
48,000 Gal. Bolted SS Tank	2	EA					\$ 172,500	\$ 345,000	
Floating Decanter	2	EA	\$ 52,000	\$ 104,000	\$ 2,500	\$ 5,000			
Coarse Bubble Aeration System	2	EA	\$ 8,000	\$ 16,000	\$ 4,200	\$ 8,400		\$ -	
Process Site Piping/Fittings	1	LS	\$70,000	\$70,000	\$15,000	\$15,000			
Electrical	1	LS						\$ 20,000	
Instrumentation/Control	1	LS						\$ 25,000	
<b>Subtotal 1</b>				\$190,000		\$28,400		\$475,363	
Overhead & Profit				\$19,000		\$8,520			
<b>Subtotal 2</b>				\$209,000		\$36,920			
Subtotal 3									\$721,283
<b>Contingency - 15%</b>									\$108,192
<b>TOTAL</b>									\$829,475
<b>SHT Equipment Bldg</b>									
Excavation & Disposal	25	CY					\$ 77	\$ 1,925	
Gravel Below Subgrade	15	CY					\$ 55	\$ 825	
SHT Equipment Building	400	SF					\$ 200	\$80,000	
SHT Blower (15 HP)	3	EA	\$18,000	\$54,000	\$2,000	\$6,000			
Sludge Transfer Pump	2	EA	\$20,000	\$40,000	\$4,000	\$8,000			
Polymer Feed System	1	LS	\$14,500	\$14,500	\$2,175	\$2,175			
Interior Piping/Fittings	1	LS	\$15,000	\$15,000	\$3,000	\$3,000			
Electrical	1	LS						\$ 25,000	
Instrumentation/Control	1	LS						\$ 12,500	
<b>Subtotal 1</b>				\$123,500		\$19,175		\$120,250	
Overhead & Profit				\$12,350		\$5,753			
<b>Subtotal 2</b>				\$135,850		\$24,928			
Subtotal 3									\$281,028
<b>Contingency - 15%</b>									\$42,154
<b>TOTAL</b>									\$323,182

<b><u>Alternative 2 Belt Filter Press</u></b>					
Item					Cost
Belt Filter Press Maintenance					\$16,005.00
Sludge Pumping and Blower Maintenance					\$ 2,820.00
Polymer Replacement					\$ 5,000.00
<b>TOTAL O&amp;M:</b>					<b>\$23,825.00</b>
<b><u>Alternative 3 Sludge Drying Bed/Greenhouse</u></b>					
Item					Cost
Sludge Pumping and Blower Maintenance					\$ 2,820.00
Polymer Replacement					\$ 5,000.00
<b>TOTAL O&amp;M:</b>					<b>\$ 7,820.00</b>
<b><u>Alternative 4 Combination</u></b>					
Item					Cost
Belt Filter Press Maintenance					\$16,005.00
Sludge Pumping and Blower Maintenance					\$ 2,820.00
Polymer Replacement					\$ 5,000.00
<b>TOTAL O&amp;M:</b>					<b>\$23,825.00</b>

<div> Mystic Harbor Wastewater Treatment Plant Storage Building GMB File No. 210218 Feasibility Cost Estimate </div> <div>  </div>						
Item No.	Description	Size or Depth	Unit	Unit Price	Quantity	Total Price
<b>A. ADMINISTRATIVE</b>						
	General Conditions			7% of Construction Subtotal		\$25,313.17
Subtotal:						\$25,313.17
<b>B. BUILDING</b>						
<b>Demolition and Repair</b>						
	Remove existing CMU Walls	SF		\$4.00	879	\$3,516.00
	Remove existing hinged doors	EA		\$130.00	3	\$390.00
	Remove existing overhead door	EA		\$500.00	1	\$500.00
	Remove existing louvers	EA		\$55.00	2	\$110.00
	Remove existing concrete equipment pads	CF		\$30.00	451	\$13,530.00
	Remove existing conc. Floor, stair landing and stairs	CF		\$30.00	266	\$7,980.00
	Remove existing stair railings	Allow		\$250.00	1	\$250.00
	Remove damaged fascia, downspouts and gutter	Allow		\$2,500.00	1	\$2,500.00
	Remove existing roof sheathing	SF		\$1.75	4735	\$8,286.25
	Remove existing shingled roof and gable vents	SF		\$1.00	4735	\$4,735.00
	Remove existing GWB ceiling	LF		\$3.50	3440	\$12,040.00
	Remove existing soffit	SF		\$2.50	675	\$1,687.50
	Remove existing abandoned electrical equipment	Allow		\$1,500.00	1	\$1,500.00
	Cut in new door openings	SF		\$6.00	63	\$378.00
	Remove existing propane tank and piping	Allow		\$3,500.00	1	\$3,500.00
	Dumpster	Allow		\$5,000.00	1	\$5,000.00
Subtotal:						\$65,902.75
<b>Proposed New Construction</b>						
	New CMU infill	SF		\$19.00	50	\$950.00
	New Overhead doors	EA		\$5,000.00	2	\$10,000.00
	New hinged doors and hardware (exterior)	EA		\$2,500.00	2	\$5,000.00
	New concrete floor (5")	CY		\$320.00	85	\$27,200.00
	New #57 stone	SF		\$1.75	3440	\$6,020.00
	New structural fill	CY		\$35.00	85	\$2,975.00
	Paint - Interior walls and ceiling	SF		\$1.50	7409	\$11,113.50
	Paint - Exterior	EA		\$2.25	3637	\$8,183.25
	New Fascia and breakmetal	LF		\$11.00	526	\$5,786.00
	New gutters and downspouts	LF		\$11.50	404	\$4,646.00
	New roof underlayment	SQ		\$130.00	47.5	\$6,175.00
	New shingle roof	SQ		\$310.00	47.5	\$14,725.00
	Conc. Floor sealer	SF		\$2.50	3440	\$8,600.00
	New vinyl soffit	LF		\$27.00	280	\$7,560.00
	New vinyl siding	SF		\$4.25	73	\$310.25
	New gable vents	EA		\$875.00	2	\$1,750.00
	New moisture resistant GWB ceiling or MR plywood	SF		\$3.00	3440	\$10,320.00
	New Steel Lintel/framing for Overhead door	LS		\$5,000.00	1	\$5,000.00
	Misc. Lintel repairs	LS		\$6,000.00	1	\$6,000.00
	Masonry wall repairs	LS		\$30,000.00	1	\$30,000.00
	New concrete apron (8'-0") and stoops	Allow		\$5,000.00	1	\$5,000.00
	New concrete filled bollards	EA		\$200.00	2	\$400.00
	Hurricane ties and wall anchorage improvements	LS		\$23,000.00	1	\$23,000.00
	Misc. Roof truss and sheathing repair	SF		\$10.00	4750	\$47,500.00
	Misc. Structural Repairs	LS		\$8,000.00	1	\$8,000.00
	Regrading allowance	Allow		\$15,000.00	1	\$15,000.00
Subtotal:						\$271,214.00
<b>MEP</b>						
	Lighting Allowance	Allow		\$5,000.00	1	\$5,000.00
	Mechanical Allowance	Allow		\$5,000.00	1	\$5,000.00
	Stub for future bathroom	Allow		\$6,500.00	1	\$6,500.00
	Dehumidification Allowance	Allow		\$6,500.00	1	\$6,500.00
	Hose Bib (exterior only)	Allow		\$1,500.00	1	\$1,500.00
Subtotal:						\$24,500.00
<b>CONSTRUCTION SUBTOTAL</b>						<b>\$361,616.75</b>
<b>SUBTOTAL NEW CONSTRUCTION (Including Admin.)</b>						<b>\$386,929.92</b>
<b>Cost per square foot</b>		<b>3696 S.F.</b>	<b>\$104.69</b>			
25% Contractor Fees (Overhead and Profit)						\$96,732.48
1% Permit Fees						\$4,836.62
3% Prevailing Wages (Labor Only)						\$14,509.87
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>						<b>\$503,008.90</b>
<b>Cost per square foot</b>		<b>3696 S.F.</b>	<b>\$136.10</b>			
10% Contingency						\$50,300.89
<b>TOTAL ESTIMATED PROJECT COST (2022)</b>						<b>\$553,309.79</b>

**Appendix C:**  
**Present Worth Analysis**

## Present Worth Analysis

Belt Filter Press Alternative					
Item			Cost	Life (Yrs.)	Salvage Value
Capital Cost					
A. Belt Filter Press					
Existing Green House Divider Wall			\$90,000	-	-
Existing Green House Pipe Modifications			\$40,000	30	\$ 13,333
Concrete Apron			\$7,200	-	-
Storage Area Conveyor Opening and Conc Floor			\$30,000	30	\$ 10,000
Excavation & Disposal			\$7,500	-	-
Gravel Below Subgrade			\$3,300	-	-
SHT Tanks, Equipment,and Building			\$1,152,657	20	\$ -
Dewatering System w/accessories			\$533,500	20	\$ -
Interior Piping/Fittings			\$60,000	30	\$ 20,000
Electrical/Mechanical			\$100,000	20	\$ -
Instrumentation/Control			\$50,000	20	\$ -
Sludge Transport Vehicle			\$200,000	20	\$ -
B. Building Improvments					
Building Improvments			\$580,975	30	\$193,658
Subtotal Cost			\$2,855,132		\$236,992
Contingency 15%			\$428,270		\$ 35,549
Construction Total			\$3,283,402		\$272,541
B. Development & Design					
Design/Permit/Management/Admin 18%			\$ 3,283,402	\$576,960	
Subtotal Capital Cost				\$3,860,361	\$272,541
Less: Present Worth of Salvage Costs -0.45%			1.094	\$298,267	
Total Capital Cost, net of Salvage Value				\$3,562,094	
Annual Costs					
Operation and Maintenance				\$23,825	
Total O&M Cost (10% Safety)				\$26,208	
Present Worth of O&M -0.45%			20.98	\$549,755	
Present Worth of Capital Costs				\$3,562,094	
Total Present Worth				\$4,111,849	

Greenhouse/Drying Bed Alternative				
Item	Cost	Life (Yrs.)	Salvage Value	
<b>Capital Cost</b>				
<b>A. Greenhouse Alternative</b>				
Existing Green House Divider Wall	\$60,000	-	-	
Site Prep, Mass Grading	\$15,000	-	-	
Existing Green House Pipe Modifications	\$20,000	30	\$ 6,667	
Excavation & Disposal	\$30,800	-	-	
Gravel Below Subgrade	\$11,000	-	-	
Green House Structure (3100 SF) w/Porous Asphalt	\$1,140,000	20	\$ -	
Concrete Apron	\$43,000	-	-	
Green House Underdrain/Site Piping	\$60,000	30	\$ 20,000	
Electrical	\$50,000	20	\$ -	
SHT Tanks, Equipment, and Building	\$1,152,657	20	\$ -	
Sludge Transport Vehicle	\$200,000	20	\$ -	
<b>B. Building Improvements</b>				
Building Improvements	\$580,975	30	\$193,658	
<b>Subtotal Cost</b>				
Subtotal Cost	\$3,363,432		\$220,325	
Contingency 15%	\$504,515		\$ 33,049	
Construction Total	\$3,867,947		\$253,374	
<b>B. Development &amp; Design</b>				
Design/Permit/Management/Admin 17%	\$ 3,867,947		\$661,397	
Subtotal Capital Cost	\$4,529,343		\$253,374	
Less: Present Worth of Salvage Costs -0.45%	1.094		\$277,291	
Total Capital Cost, net of Salvage Value	\$4,252,052			
<b>Annual Costs</b>				
Operation and Maintenance	\$7,820			
Total O&M Cost (10% Safety)	\$8,602			
Present Worth of O&M -0.45%	20.98		\$180,444	
Present Worth of Capital Costs	\$4,252,052			
<b>Total Present Worth</b>	<b>\$4,432,496</b>			

<b>BFP and Greenhouse Alternative</b>				
Item	Cost	Life (Yrs.)	Salvage Value	
<b>Capital Cost</b>				
<b>A. Combination Alternative</b>				
Existing Green House Divider Wall	\$60,000	-	-	
Site Prep, Mass Grading	\$15,000	-	-	
Existing Green House Pipe Modifications	\$20,000	30	\$	6,667
Concrete Apron	\$50,200	-	-	
Green House Conveyor Opening and Portable Hopper	\$30,000	30	\$	10,000
Excavation & Disposal	\$67,500	-	-	
Gravel Below Subgrade	\$25,300	-	-	
Green House Structure (3100 SF) w/Porous Asphalt	\$1,140,000	20	\$	-
SHT Tanks, Equipment, and Building	\$1,152,657	20	\$	-
Dewatering System w/accessories	\$533,500	20	\$	-
Interior Piping/Fittings	\$60,000	30	\$	20,000
Green House Underdrain/Site Piping	\$60,000	30	\$	20,000
Electrical/Mechanical	\$100,000	20	\$	-
Instrumentation/Control	\$50,000	20	\$	-
<b>B. Building Improvements</b>				
Building Improvements	\$580,975	30	\$	193,658
<b>Subtotal Capital Cost</b>				
Subtotal Cost	\$3,945,132		\$	250,325
Contingency 15%	\$591,770		\$	37,549
Construction Total	\$4,536,902		\$	287,874
<b>B. Development &amp; Design</b>				
Design/Permit/Management/Admin 17%	\$ 4,536,902		\$	752,195
Subtotal Capital Cost	\$5,289,097		\$	287,874
Less: Present Worth of Salvage Costs -0.45%	1.094		\$	315,048
Total Capital Cost, net of Salvage Value	\$4,974,049		\$	
<b>Annual Costs</b>				
Operation and Maintenance	\$23,825		\$	
Total O&M Cost (10% Safety)	\$26,208		\$	
Present Worth of O&M -0.45%	20.98		\$	549,755
Present Worth of Capital Costs			\$	4,974,049
<b>Total Present Worth</b>			<b>\$</b>	<b>5,523,804</b>



**Appendix D:**  
**Loan Payment Debt and Rate Structure**

RATE STRUCTURE- ALTERNATIVES 2-4

Alternative	Total Project Cost	Maryland SRF Loan	Maryland SRF Loan Forgiveness	Maryland SRF Loan Forgiveness Annual Interest	Loan Term (years)	# of Payments	Annual Interest Rate	Total Yearly Payment	Annual O&M Cost	Reserve Costs <sup>1</sup>			Total Yearly Fixed Cost + 5% Delinquency <sup>2</sup>	# Units	Yearly Rate per Unit	Monthly Rate Increase
										Emergency/ Cont.	Repair/ Replace	Debt Reserve				
STATE SRF LOAN: 2% Interest; 20 Year Loan																
2: Install Mechanical Dewatering Equipment	\$3,860,361	\$ 1,930,181	\$ 1,930,181	\$ (1,769)	20	240	2.0%	\$ 118,943	\$ 23,825	\$ 2,978	\$ 596	\$ 11,894	\$ 166,148	1635	\$ 102	\$ 8.47
3: Modify and Install Additional Sludge Drying Beds/Greenhouses	\$4,529,343	\$ 2,264,672	\$ 2,264,672	\$ (2,076)	20	240	2.0%	\$ 139,555	\$ 7,820	\$ 978	\$ 196	\$ 13,956	\$ 170,629	1635	\$ 104	\$ 8.70
4: Install Mechanical Dewatering Equipment and Additional Drying Bed	\$5,289,097	\$ 2,644,548	\$ 2,644,548	\$ (2,424)	20	240	2.0%	\$ 162,964	\$ 23,825	\$ 2,978	\$ 596	\$ 16,296	\$ 216,992	1635	\$ 133	\$ 11.06

**Appendix E:**  
**Worcester County Existing Rate Structure**

[COUNTY INFO](#) ▾[DEPARTMENTS](#) ▾[EDUCATION](#) ▾[RESIDENTS & BUSINESS](#) ▾[STATE AGENCIES](#) ▾

## ASSESSMENTS AND CHARGES

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### ALL DISTRICTS

Accounts that are delinquent over 30 days from the date of billing shall be assessed a \$5.00 penalty plus 3% interest per quarter.

The quarterly bills for all service areas will be mailed in January, April, July and October.

Mailing address:

Water and Wastewater Collections

P.O. Box 349

Snow Hill, Maryland 21863

Assessments and charges effective **July 1, 2023** are as follows:

### ASSATEAGUE POINTE

Quarterly domestic user rates are \$106.00 per park trailer which includes water and sewer service.

Quarterly user rates are \$163.00 per equivalent dwelling unit (EDU) quarterly which includes sewer service only.

Snug Harbor assessment for debt service is \$163.00 per EDU quarterly.

Grinder pump surcharge at \$30.00 per lot.

### BRIDDELTOWN

Quarterly domestic user rates are \$73.00 per EDU which includes water service only.

Quarterly commercial user rates are as follows:

Commercial minimum water

- 1 EDU \$62.43
- 2 EDU's \$86.63

- \$4.00 per 1,000 gallons up to 10,000 gallons and
- \$6.00 per 1,000 gallons over 10,000 gallons up to 54,000 gallons, and
- \$10.00 per 1,000 gallons over 54,000 gallons
- 3-13 EDU's \$906.40
  - \$4.00 per 1,000 gallons up to 10,000 gallons and
  - \$6.00 per 1,000 gallons over 10,000 gallons up to 351,000 gallons, and
  - \$10.00 per 1,000 gallons over 351,000 gallons
- 14-24 EDU's \$1354.10
  - \$4.00 per 1,000 gallons up to 10,000 gallons and
  - \$6.00 per 1,000 gallons over 10,000 gallons up to 648,000 gallons, and
  - \$10.00 per 1,000 gallons over 648,000
- 25-39 EDU's \$1,800.70
  - \$4.00 per 1,000 gallons up to 10,000 gallons and
  - \$6.00 per 1,000 gallons over 10,000 gallons up to 1,053,000 gallons, and
  - \$10.00 per 1,000 gallons over 1,053,000
- 40+ EDU's \$2,707.10
  - \$4.00 per 1,000 gallons up to 10,000 gallons and
  - \$6.00 per 1,000 gallons over 10,000 gallons up to 1,250,000 gallons, and
  - \$10.00 per 1,000 gallons over 1,250,000

Unimproved Lots - Quarterly accessibility charge \$267.00 per EDU (Not yet connected).

Lewis Road domestic water minimum set at \$44.00 per quarter.

## LIGHTHOUSE SOUND

Quarterly domestic user rates are as follows:

- Improved Lots - Quarterly charge \$242.00 per EDU for sewer service only.
- Unimproved Lots - Quarterly accessibility charge \$114.00 per EDU (not yet connected).

## MYSTIC HARBOUR

Quarterly domestic user rates are as follows:

- Domestic minimum water & sewer \$215.00
- Additional domestic water and sewer charges based on usage as follows:
  - \$1.60 per 1,000 gallons up to 10,000 gallons, and
  - \$3.50 per 1,000 gallons over 10,000 gallons up to 25,000 gallons, and
  - \$6.00 per 1,000 gallons over 25,000 gallons up to 35,000 gallons, and
  - \$9.00 per 1,000 gallons over 35,000 gallons up to 45,000 gallons, and
  - \$15.00 per 1,000 gallons over 45,000 gallons.
- Domestic water only service (metered) shall be billed at 25% of the above rates.
- Flat rate domestic sewer only service \$212.66
- Bulk domestic water (metered) \$5.00 per thousand gallons

- Sunset Village flat rate domestic water only service \$53.20

Quarterly commercial user rates are as follows:

- Commercial minimum water & sewer
  - 1 EDU \$249.70
    - \$4.00 per 1,000 gallons up to 10,000 gallons and
    - \$6.00 per 1,000 gallons over 10,000 gallons up to 27,000 gallons, and
    - \$10.00 per 1,000 gallons over 27,000 gallons
  - 2 EDU's \$346.50
    - \$4.00 per 1,000 gallons up to 10,000 gallons and
    - \$6.00 per 1,000 gallons over 10,000 gallons up to 54,000 gallons, and
    - \$10.00 per 1,000 gallons over 54,000 gallons
  - 3-13 EDU's \$693.00
    - \$4.00 per 1,000 gallons up to 10,000 gallons and
    - \$6.00 per 1,000 gallons over 10,000 gallons up to 351,000 gallons, and
    - \$10.00 per 1,000 gallons over 351,000 gallons
  - 14-24 EDU's \$1039.50
    - \$4.00 per 1,000 gallons up to 10,000 gallons and
    - \$6.00 per 1,000 gallons over 10,000 gallons up to 648,000 gallons, and
    - \$10.00 per 1,000 gallons over 648,000 gallons
  - 25-39 EDU's \$1,386.00
    - \$4.00 per 1,000 gallons up to 10,000 gallons and
    - \$6.00 per 1,000 gallons over 10,000 gallons up to 1,053,000 gallons, and
    - \$10.00 per 1,000 gallons over 1,053,000
  - 40+ EDU's \$2079.00
    - \$4.00 per 1,000 gallons up to 10,000 gallons and
    - \$6.00 per 1,000 gallons over 10,000 gallons up to 1,250,000 gallons, and
    - \$10.00 per 1,000 gallons over 1,250,000 gallons
- Commercial water only service shall be billed at 25% of the above rates as established above.

Mystic Harbor sewer assessment for debt service is \$66.00 per EDU quarterly.

## ~~NEWARK~~

Quarterly domestic user rates are as follows:

- Domestic minimum water \$115.00
- Domestic minimum sewer \$115.00
- Domestic water \$3.50 per 1,000 gallons over 3,000 gallons based on usage
- Domestic sewer \$3.50 per 1,000 gallons over 3,000 gallons based on usage

Quarterly commercial user rates are as follows:

- Commercial minimum water \$143.00

## **Appendix F:**

**MDE Compliance Violation Letter 1-5-2023**



Maryland  
Department of  
the Environment

Larry Hogan, Governor  
Boyd K. Rutherford, Lt. Governor

Horacio Tablada, Secretary  
Suzanne E. Dorsey, Deputy Secretary

JAN 05 2023

**CERTIFIED MAIL / ELECTRONIC MAIL**

Dallas Baker, Jr., P.E., Director  
Worcester County Department of Public Works  
6113 Timmons Road  
Snow Hill, Maryland 21863

**Re: Mystic Harbour Wastewater Treatment Plant, AI# 18426, 10-DP-2273C**  
**Compliance/Enforcement Assessment, Opportunity for Informal Meeting**  
*[Response Requested within 14 days]*

Dear Mr. Baker:

The Maryland Department of the Environment, Water and Science Administration, Compliance Program (Department) is concerned about the compliance status of the Mystic Harbour Wastewater Treatment Plant located at 9423 Stephen Decatur Highway in Berlin, Maryland (Facility). State Discharge Permit 10-DP-2273 (Permit) authorizes the Facility to discharge through Outfall 001 to an injection well system, through Outfall 002 to the Eagle's Landing Golf Course, and through Outfall 003 to the West Ocean City collection system. The Facility's Discharge Monitoring Reports (DMRs) submitted for the months of October 2018 through October 2022 indicate a total of thirty-four (34) effluent violations of the Permit for total nitrogen, total phosphorus, and fecal coliform. The enclosed attachment details these violations. As stated in the field inspection report dated January 12, 2022, the Facility was in violation of the Permit limits every month that the Facility discharged to groundwater in 2021.

The Department has reviewed all pertinent facts and information regarding this matter, including noncompliance reports and the aforementioned field inspection report, which indicates that the Facility experienced a computer failure on September 4, 2021 and had been bypassing to the West Ocean City (WOC) collection system since that time. The Facility notified the Department of this bypass occurring in the noncompliance report dated October 12, 2021, as a step taken to reduce and eliminate the non-complying discharge of total nitrogen and total phosphorus beginning on September 1st, 2021 and continuing through September 3rd. However, the Facility failed to report that the bypass would be ongoing through April 2022. In addition, the Facility stated it is in the process of repairing or replacing failed components to prevent additional violations of this type from occurring in the future but has been unable to successfully contact the manufacturers of the systems that have failed.

Subsequently, effluent was discharged via the injection wells in May 2022 with no reported violations. However, effluent was diverted once again to the WOC collection system in June 2022, and the Facility again reported violations when discharging to groundwater via Outfall 002 in July, August, and September 2022. The noncompliance reports for these months indicate the following: the July 2022 fecal coliform violation had an unknown cause, and flow to Outfall 002 was stopped on July 5, 2022, the total nitrogen violation in August 2022 was caused by delivery issues of Micro C, which is used for denitrification, and the September 2022 total nitrogen violation was caused by increased flows due to the Labor Day holiday and flow to Outfall 002 was stopped on September 15, 2022 due to membrane



Mr. Dallas Baker, AI #18426

cleaning issues. Flow was diverted to the WOC collection system for the remainder of September 2022 and in October 2022.

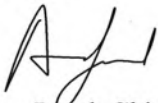
As indicated in the Permit, the Worcester County Department of Public Works (County) is authorized to discharge treated municipal wastewater to the public sewer in the WOC service area and must notify the Department of any bypass event within 24-hours and by letter within 5 days, or if the bypass is known in advance it shall be submitted to the Department for approval at least 10 days before the date of the bypass as indicated in General Condition II.A of the Permit. The Department has determined that the County failed to properly notify the Department of the aforementioned occasions where the Facility was bypassing the treatment process. Furthermore, the Department is concerned that the County cannot operate and maintain the Facility to maintain compliance with the permitted effluent limits.

The County was notified of similar violations of the Permit in the *Complaint and Consent Order COP-13-1825 & Compliance/Enforcement Assessment* letter dated April 3, 2018. The County acknowledged the violations in the response letter dated May 16, 2018 and stated that staff had been properly trained to notify the Department of any future instances where diversion of untreated wastewater is required. On February 19, 2019, the Department requested a plan and schedule from the County for the implementation of improvements to the Facility that would ensure adequate biosolids processing and compliance with the permitted effluent limits, and a meeting to discuss the terms of a new consent order. The County responded on March 22, 2019, requesting relief from the Department's request and to allow the process of permit modification to begin in lieu of entering a new consent order. In the *Permit Modification & Administrative Consent Order* letter dated April 17, 2019, the Department advised the County that should the Facility continue to experience significant permit violations, including operational deficiencies, reporting failures, and effluent violations, the Department may elect to take further action.

As you are aware, the Permit has been modified at the request of the County. However, due to the aforementioned effluent violations and bypassing at the Facility, the Department believes that additional improvements to the wastewater treatment system at the Facility may be necessary to prevent further noncompliance. As such, the Department requests that, **within 14 days of receipt of this notice**, you contact Mr. Patrick Noyes, Enforcement Section Manager, Compliance Program at (410) 537-3510 or by email at [patrick.noyes@maryland.gov](mailto:patrick.noyes@maryland.gov) to schedule an informal meeting or alternatively, provide a written response to the alleged violations for the Department's consideration, including information regarding any improvements implemented and/or proposed to ensure continued compliance with the effluent limits established in the Permit and the current status of any upgrades to the Facility. If you fail or elect not to make contact, the Department will proceed with initiating a formal enforcement action.

Thank you for your prompt attention to this matter.

Sincerely,



Arno Laud, Chief  
Enforcement Division  
Compliance Program  
Water and Science Administration

Mr. Dallas Baker, AI #18426

ADL:bpl  
Enclosure

cc: Chris Clasing, P.E., Deputy Director of Public Works, Worcester County  
Dominic Ross, Wastewater Supervisor, Mystic Harbour WWTP

## Attachment I: Effluent Violations

Worcester County Department of Public Works, Water/Wastewater Division - MYSTIC HARBOUR  
WWTP - MD2273X04

10/1/2018 - 10/31/2022

Monitoring Period End Date	Perm Feature ID	Parameter Desc	Statistical Base Short Desc	Limit Value	DMR Value	DMR Value Unit Short Desc	Percent Exceedance
10/31/2018	001	Nitrogen, total [as N]	MX MO AV	5.	5.79	mg/L	16
03/31/2019	001	Nitrogen, total [as N]	MX MO AV	5.	5.88	mg/L	18
05/31/2019	002	Nitrogen, total [as N]	MX MO AV	5.	11.1	mg/L	122
07/31/2019	002	Coliform, fecal general	MX MO AV	3.	4.1	MPN/100mL	37
07/31/2019	002	Nitrogen, total [as N]	MX MO AV	5.	8.59	mg/L	72
12/31/2019	001	Phosphorus, total [as P]	MX WK AV	.3	.32	mL/L	7
05/31/2020	001	Nitrogen, total [as N]	MX MO AV	5.	5.75	mg/L	15
05/31/2020	002	Nitrogen, total [as N]	MX MO AV	5.	7.08	mg/L	42
08/31/2020	001	Phosphorus, total [as P]	MX WK AV	.3	.38	mL/L	27
08/31/2020	002	Nitrogen, total [as N]	MX MO AV	5.	8.32	mg/L	66
09/30/2020	001	Nitrogen, total [as N]	MX MO AV	5.	10.11	mg/L	102
09/30/2020	001	Phosphorus, total [as P]	MX WK AV	.3	.58	mL/L	93
09/30/2020	002	Nitrogen, total [as N]	MX MO AV	5.	32.4	mg/L	548
12/31/2020	MW10	Coliform, fecal general	AN AV MX	2.	4.55	MPN/100mL	128
12/31/2020	MW11	Coliform, fecal general	AN AV MX	2.	4.55	MPN/100mL	128
12/31/2020	MW3	Coliform, fecal general	AN AV MX	2.	2.35	MPN/100mL	18
01/31/2021	001	Phosphorus, total [as P]	MX WK AV	.3	.34	mL/L	13
05/31/2021	001	Nitrogen, total [as N]	MX MO AV	5.	11.81	mg/L	136
05/31/2021	002	Nitrogen, total [as N]	MX MO AV	5.	11.81	mg/L	136
06/30/2021	001	Phosphorus, total [as P]	MX WK AV	.3	.8	mL/L	167
06/30/2021	002	Coliform, fecal general	MX MO AV	3.	18.6	MPN/100mL	520
07/31/2021	001	Nitrogen, total [as N]	MX MO AV	5.	8.75	mg/L	75
07/31/2021	001	Phosphorus, total [as P]	MX WK AV	.3	.54	mL/L	80
07/31/2021	002	Coliform, fecal general	MX MO AV	3.	33.3	MPN/100mL	1010
07/31/2021	002	Nitrogen, total [as N]	MX MO AV	5.	8.75	mg/L	75
08/31/2021	001	Nitrogen, total [as N]	MX MO AV	5.	6.94	mg/L	39
08/31/2021	001	Phosphorus, total [as P]	MX WK AV	.3	.57	mL/L	90
08/31/2021	002	Nitrogen, total [as N]	MX MO AV	5.	8.49	mg/L	70
09/30/2021	001	Nitrogen, total [as N]	MX MO AV	5.	9.14	mg/L	83
09/30/2021	001	Phosphorus, total [as P]	MX WK AV	.3	1.81	mL/L	503
12/31/2021	MW4	Coliform, fecal general	AN AV MX	2.	3.4	MPN/100mL	70
07/31/2022	002	Coliform, fecal general	MX MO AV	3.	6.8	MPN/100mL	127
08/31/2022	002	Nitrogen, total [as N]	MX MO AV	5.	8.15	mg/L	63
09/30/2022	002	Nitrogen, total [as N]	MX MO AV	5.	5.1	mg/L	2

**Appendix G:**  
**Equipment Manufacturer Data**



## **Diffused Aeration Equipment**

for  
**Mystic Harbour WTP - Ocean City, MD**  
SHT

Sanitaire #s32549-24

January 18, 2024

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## Sanitaire Aeration Design Inputs for: Mystic Harbour WTP - Ocean City, MD, Sanitaire #s32549-24

### Tank Geometry

2 Trains each Consisting of: 1

Parameter	Units	Pass 1
Parallel Reactors		1
Pass Process		Aerobic
SWD	ft	18.0
Submergence	ft	17.0
Volume	ft³	11,083.5
Reactor Geometry:		Circle
Diameter	ft	28.0

### Oxygen/Air Distribution

	Zone	1
	Pass	1
Default		100.0%

### Oxygenation

		30
Parameter	Units	s/k
No. Trains Operating		1
Air Rate	scfm	332.5
Unit Air Rate	scfm/kcf	30.0

### Standard Oxygen Correction Factor Parameters

		30
Parameter	Units	s/k
Site Elevation	FASL	7
Ambient Pressure	PSIA	14.70
Water Temperature	°C	20

Notes:

***Bold, Italicized text indicate assumptions made by Sanitaire***

A - Indicates Actual (AOR) Requirement.

S - Indicates Standard Condition (SOR) Oxygen requirement.

If the AOR/SOR parameter is not given, then its value will be evaluated later if suitable alpha, beta, D.O., theta, pressure, and temperature data is supplied.

Round tanks are evaluated as rectangular tanks diameter equal to length and equal surface area.

Annular tanks are evaluated as rectangular tanks of width equal to the annular width and equal surface area.

**Sanitaire Project Name: Mystic Harbour WTP - Ocean City, MD**  
**Sanitaire Project #s32549-24**  
**Design Summary**

	Units	30 s/k Default
No. Trains in Operation		1
No. Grids in Operation		1
No. Operating Diffusers		22
SOR	lb/day	1,063
SOTE	%	12.8
Total Air Rate	scfm	332.5
Min. Diffuser Air Rate	scfm/diff.	15.11
Max. Diffuser Air Rate	scfm/diff.	15.11
Static Pressure	psig	7.36
Diffuser DWP @ Min Air	psig	0.1
Diffuser DWP @ Max Air	psig	0.1
Pressure @ Top of Dropleg	psig	7.53
Est. Blower Efficiency		70%
Est. Motor Efficiency		90%
Shaft Power	Bhp	13.78
Est. Motor Electrical Load	kW	11.43
Est. Standard Aeration Efficiency	#SOR/BHP-hr	3.21

**Notes:**

- (1) Design air is the maximum of process air or mixing air
- (2) Delivered oxygen based on design air
- (3) Brake Horsepower based on adiabatic compression, 70% mechanical efficiency and 0.30 psi line loss
- (4) Performance based on diffuser density (At/Ad), submergence, and diffuser unit air flow.
- (5) Diffuser Air Flow based on Active Valve Modulation
- (6) Blower Pressure Capability also requires consideration of:  
 blower and the aeration assembly dropleg connections.  
 Design Manual (EPA/625/1-89/023), WEF Manual of Practice FD-13, and other  
 Fine Pore systems regardless of supplier or type of diffuser element.  
 C. Increased diffuser submergence during Peak Flow conditions.
- (7) Air Flow defined at 20°C  
 scfm/ft²

**Sanitaire Project Name: Mystic Harbour WTP - Ocean City, MD****Sanitaire Project #s32549-24**

Consulting Engineer:

Operating Condition: 30 s/k

Oxygen Distribution: Default

**Aeration System Design**

Parameter	Units	Zone 1	Totals/Overall
Pass		1	
SWD	ft	18.00	
Subm	ft	17.00	
Volume	ft³	11,083.5	11,083.5
No. Parallel Tanks		1	
No. Trains in Operation		1	
Grid Count		1	1
Dropleg Diameter	inches	4	
Bandwidth	ft	24.81435391	
Header Placement		Midwidth	
Diffusers/Grid		22	22

**Oxygen Transfer**

Diffuser Type		D24-FH	
Alpha			
Beta			
Theta			
D.O.	mg/l		
Water Temp	°C	20	
AOR/SOR			
Oxygen Distribution	%/Zone	100.0%	100.0%
AOR	lb/day		
SOR	lb/day		
Air Rate (7)	scfm	332.5	332.5

**Performance**

Mixing Criteria	scfm/ft²		
Safety Factor	%		
Mixing Air (8)	scfm		
Process Air (for SOR)	scfm	332.5	
Design Air (1,7)	scfm	332.5	332.5
Diffuser Air Rate	scfm/Diff.	15.11	15.11
Delivered SOR	lb/day	1,062.5	1,062.5
Delivered SOTE	%	12.8%	12.8%
Pressure @ Top of Dropleg	psig	7.53	7.53
Shaft Power	Bhp	13.8	13.8

**Notes:**

(1) Design air is the maximum of process air or mixing air

(2) Delivered oxygen based on design air

(3) Brake Horsepower based on adiabatic compression, 70% mechanical efficiency and 0.30 psi linealoss

(4) Performance based on diffuser density (At/Ad), submergence, and diffuser unit air flow.

(5) Diffuser Air Flow based on Active Valve Modulation

(6) Blower Pressure Capability also requires consideration of:

A. The Air Main headloss (piping, fittings, valves, instrumentation, etc.)

between the blower and the aeration assembly dropleg connections.

B. Potential for increased headloss resulting from diffuser fouling and/or aging.

Please refer to the US EPA Fine Pore Design Manual (EPA/625/1-89/023), WEF Manual of Practice FD-13,

and other technical publications for a detailed discussion on this subject. Note that this headloss

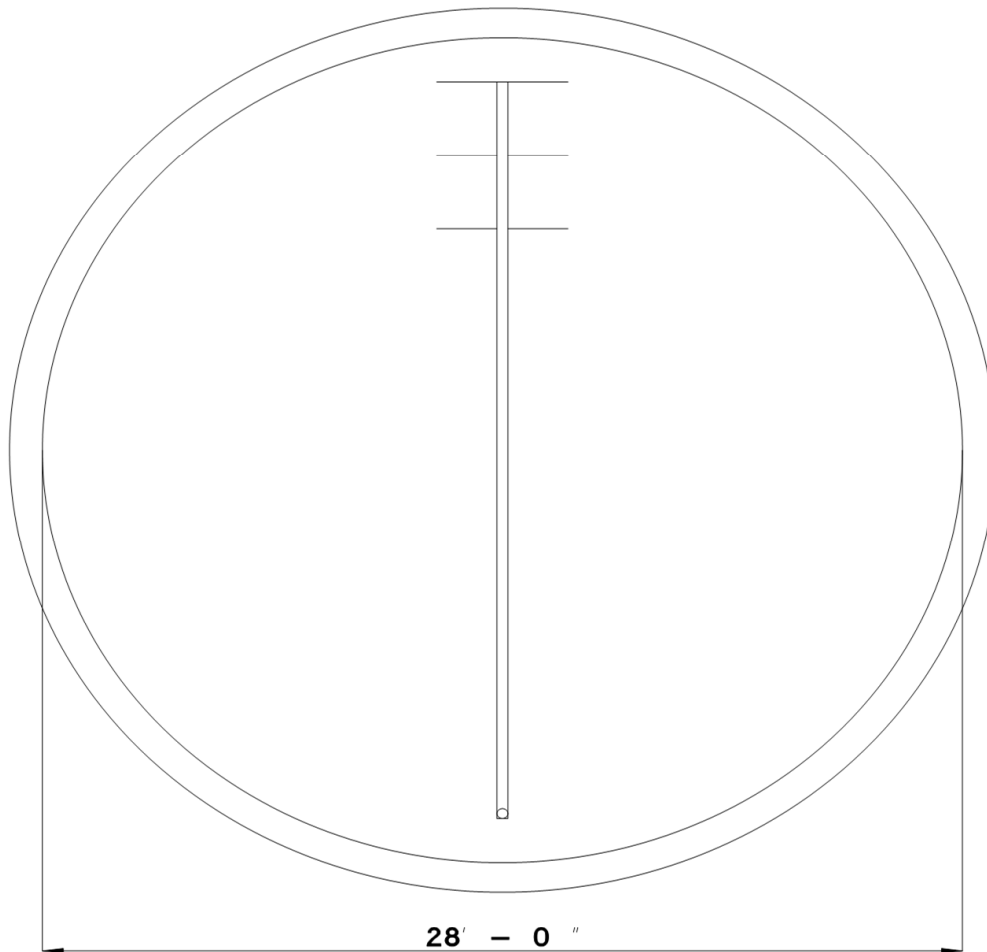
consideration relates to all Fine Pore systems regardless of supplier or type of diffuser element.

C. Increased diffuser submergence during Peak Flow conditions.

(7) Air Flow defined at 20°C

scfm/ft²






Dropleg	19'-0"@4" $\phi$	
Header 1	25'-0"@4" $\phi$	22 D-24 Diffusers

**22 D-24 Diffusers/Tank**  
**Note: Connectors spaced at 2'-6"**

**PRELIMINARY - THIS DRAWING IS NOT INTENDED FOR CONTRACT DOCUMENTS, SUBMITTALS, OR CONSTRUCTION**

 <b>Sanitaire</b> a xylem brand MILWAUKEE, WISCONSIN 53204	CUST. NO.	THIS DRAWING IS THE PROPERTY OF XYLEM AND IS SUBMITTED IN CONFIDENCE. IT IS NOT TO BE DISCLOSED, USED OR DUPLICATED WITHOUT PERMISSION OF XYLEM.	<b>Mystic Harbour WTP –  Ocean City, MD  Stainless Steel Header  Aeration System</b>	DRAWN BY <b>af</b>	DATE <b>1/18/24</b>	JOB <b>s32549-24</b> SHEET
	DWG. NO.			CHKD BY	DATE	
				APPVD BY	DATE	



354 State Route 29, Greenwich, New York 12834  
Phone No 518-695-6851  
E-mail: dan@bdpindustries.com

**Date: Thursday, January 11, 2024**

**To: GMB**  
**206 West Main Street**  
**Salisbury, MD 21801**

**Attn: Chris Derbyshire**  
**CDerbyshire@gmbnet.com**  
**410.742.3115**

**Re: Mystic Harbor, MD WWTP**  
**One (1) BDP 0.75m 3DP Belt Filter Press System**  
**BDP Budget Proposal #: 111017-1906rev2**

BDP Industries, Inc. is pleased to offer our quotation for one (1) 0.75m 3DP Belt Filter Press and accessories. Below is a summary of our scope of work.

### **EQUIPMENT DESCRIPTION**

The Belt Filter Press equipment package includes one complete belt filter press and appurtenant equipment described as follows:

1. One (1) 316L stainless steel polymer injection and polymer/sludge mixing system consisting of an injection ring, variable vortex mixer and reducing fittings.
2. One (1) 0.75m 3DP, **3-belt**, belt filter press with the following design features:
  - a. Hot dipped galvanized steel tubular frame per **ASTM A123**.
  - b. Frame safety factor of 10.
  - c. Machined bearing pads.
  - d. Up-flow feedbox.
  - e. Variable speed paddle distributor wheel for feedbox.
  - f. Eight-foot **independent**, variable speed gravity section at operator level.
  - g. 1/4" x 3" stainless steel gravity deck support spaced every 6 inches.
  - h. Six (6) rows of adjustable, furrowing plows with 316 stainless steel support bars.
  - i. Curved wedge section.
  - j. 304 stainless steel, 20" diameter, perforated roller.
  - k. Eight s-wrap pressure section.
  - l. UHMW scraper blades.
  - m. Nylon covered rollers.
  - n. 304 stainless steel wetted parts.
  - o. 304 stainless steel hardware.
  - p. **50 PLI** hydraulic tensioning and tracking.
  - q. Stainless steel Rack and Pinion tensioning in the pressure section.
  - r. Corrosion resistant composite cylinders with 316 stainless steel rods and stainless-steel hardware.
  - s. Self-cleaning, adjustable angle belt showers with Victaulic connections.
  - t. Double roller spherical bearings rated for 1,000,000 hours at 50 PLI at 15 ft/min.
  - u. TEFC, IP 65 severe duty variable speed motors.



354 State Route 29, Greenwich, New York 12834  
Phone No 518-695-6851  
E-mail: dan@bdpindustries.com

- v. PVC conduit.
  - w. Zero speed switches for the gravity and press belts.
  - x. NEMA 4X low voltage junction boxes.
  - y. 460/3/60
3. One (1) complete electrical control panel for dewatering system control functions and drives
- a. NEMA 4X
  - b. 304 Stainless Steel
  - c. Floor Mount
  - d. UL 508
  - e. PLC: Allen Bradley Compact Logix
  - f. HMI: Allen Bradley 12" Color PanelView Plus 7 OIT
  - g. VFDs and motor starters for the Belt Press drives and ancillary equipment.
  - h. Ethernet Communication
  - i. 460/3/60
  - j. Contains all interlocks and controls for the Belt Press and ancillary equipment.
4. One (1) 2 HP hydraulic power unit with a 20-gallon, 304 stainless steel reservoir.
5. One (1) 10 HP Goulds model 3656 wash water booster pump capable of boosting from 60 to 120 PSI at a flow rate of 35 GPM. The wash water system will include a low water pressure switch and solenoid valve.
6. All start-up, mechanical checkout and operator training as specified. Service to include three (3) separate trips with ten (10) days of on-site services.
7. One-year machine warranty. Three-year warranty for the frame, frame coating, bearings, rollers, roll coatings, and hydraulic unit.
8. One (1) lot of spare parts.
9. Freight to the jobsite.

**Optional & Ancillary**

- 10. One (1) 4" Siemens magnetic flow meter with grounding rings and 30' of cable for remote digital display.
- 11. One (1) Automatic Emulsion Polymer Blending Unit with 5 GPH progressive cavity neat pump and 1200 GPH dilution water capability.
- 12. One (1) Progressive cavity sludge feed pump with 10 HP TEFC drive motor capable of pumping 20 to 170 GPM at 300 RPM and 60 psi of head pressure.
- 13. One (1) Hot dipped galvanized equipment skid with 304 stainless steel sump pan. The equipment skid will include press, control panel, hydraulic unit, booster pump and polymer system mounted to the skid and will be pre-wired and pre-plumbed by the belt press manufacturer.
- 14. One (1) 36" wide x 8-foot-long discharge belt conveyor system with hydraulic motor.



354 State Route 29, Greenwich, New York 12834  
Phone No 518-695-6851  
E-mail: dan@bdpindustries.com

The model 3DP belt press will come completely factory-assembled, tested and will be shipped skid mounted in one piece. The polymer injection device, hydraulic unit, booster pump, polymer system, sludge pump, flow meter, VFDs and electrical control panels will be mounted on the skid. The belt media, discharge conveyor and spare parts will ship separately. This quotation is for furnishing equipment only and does not include any other installation labor or field services other than checkout, start up and testing services as listed above. All installation, on-site assembly, anchorage, pads and other work required to facilitate the setting of the equipment is to be by others. All labor and material for interconnecting between the press and the auxiliary equipment not mounted on the skid is to be completed by others. **The 0.75m 3DP does not require elevated catwalks around the gravity section because the gravity zone is at operator level.**

#### **ITEMS NOT INCLUDED IN THIS SCOPE OF SUPPLY**

1. Unloading at the jobsite.
2. Installation.
3. Temporary Dewatering Services.
4. Operator platforms.
5. Sump grating.
6. Anchor bolts.
7. Applicable taxes of any kind.
8. Interconnecting plumbing and wiring.
9. Valves or instrumentation not specifically listed in scope of supply above.

#### **SUBMITTAL DATA**

Submittals will be made in the number of copies specified and will be available within 8 to 10 weeks after firm purchase order and all information is received at the factory.

#### **SHIPMENT**

Approximate shipping weight of the 0.75m Belt Press unit is 10,000 pounds, 20,000 pounds skid mounted. Estimated shipping time is 40 to 50 weeks after receipt of submittal approval.

#### **FIELD SERVICE**

Installation observation, testing and operator instruction services as listed above will be supplied. Additional service can be supplied at a service rate of \$1,400 per day plus travel expenses.

#### **BUDGET PRICING**

The total price for the above equipment is below in US dollars. This price includes the shipping cost to the job site or nearest unloading point. The price does not include unloading cost and applicable taxes of any kind. This quotation will be valid for sixty (60) days from the date of this proposal.



354 State Route 29, Greenwich, New York 12834  
Phone No 518-695-6851  
E-mail: dan@bdpindustries.com

Qty.	Description	Unit Price
1	0.75m 3DP Belt Press - 50 PLI	\$270,000
1	PLC/OIT Control Panel	\$45,000
1	Booster Pump	\$7,500
1	Spare Parts	\$9,500
1	Freight	\$12,500
1	Start-up Services	\$18,500
	<b>Total</b>	<b>\$363,000.00</b>
	<b>Optional &amp; Ancillary</b>	
1	Polymer Blending Unit	\$50,000
1	Flow Meter	\$5,500
1	Sludge Feed Pump & VFD	\$40,000
1	Discharge Belt Conveyor	\$25,000
1	Equipment Skid	\$50,000
	<b>Total Equipment Package</b>	<b>\$533,500.00</b>

#### **TERMS**

Terms of payment are 30% at submittal approval, 60% upon shipment of equipment, and 10% upon successful startup of the equipment. The attached Conditions of Sale are hereby made a part of this proposal.

We appreciate this opportunity to extend our quotation and if we can answer questions or supply additional information, please do not hesitate to contact Dave Kachman of Kappe Associates at 301-788-7132.

Sincerely,

Dan Fronhofer  
BDP Industries, Inc.

cc: A.J. Schmidt, BDP Industries, Inc.  
&  
Dave Kachman CEO  
Kappe Associates, Inc.  
C# 301-788-7132



354 State Route 29, Greenwich, New York 12834  
Phone No 518-695-6851  
E-mail: dan@bdpindustries.com

**CONDITIONS OF SALE - COS 5-86**

**GENERAL** -- This contract will exist between BDP Industries, Inc. (hereafter referred to as BDP) and the buyer only when accepted in writing by an officer of BDP. The prices quoted herein are firm for a period of 180 days if a contract is entered within thirty (30) days from the date on the face of this proposal. Any amendment to this contract must be in writing and acknowledged by both parties.

**TERMS OF PAYMENT** -- Payment is to be made on a net basis within thirty (30) days after invoice, subject to credit approval by BDP. The buyer's payment obligation is not dependent upon the buyer's receipt of payment from any other party. BDP reserves the right to invoice on partial shipments. Any balance owed by the buyer beyond thirty (30) days or more after due is subject to delinquency charges of 1.5% per month or any fraction thereof. This shall be in addition to any other amounts due and buyer shall reimburse BDP for all collection costs, including attorney's fees BDP may incur with respect to collection of past due amounts from the buyer.

**TAXES** -- This proposal does not include any Federal, State or Local Sales, Privilege, Use or any other taxes of any kind applicable to the sale of the equipment covered under this agreement. These taxes shall be paid by the buyer or the buyer shall provide BDP with a tax exemption certificate applicable to proper taxing authority.

**SHIPMENT** -- All shipment will be F.O.B. factory. Shipping estimates contained herein are based on time of receipt at BDP's factory of all details pertaining to the order which are essential to contract completion.

**FORCE MAJEURE** -- BDP shall not be liable for any loss or damage of any nature whatsoever incurred or suffered as a result of any failures or delays in performance due to any cause or circumstances beyond its, or its subcontractors' or suppliers' control, including, but not by way of limitation, failure or delays in performance caused by strikes, lockouts or labor disputes, acts of purchaser, fires, acts of God or the public enemy, riots, incendiaries, interferences by civil or military authorities, compliance with the laws of the United States or with the orders or policies of any Governmental authority, delays in transit or delivery on the part of transportation companies or communication facilities or failure of sources of raw material. In the event of such delay, the time of delivery or completion shall be extended by a period of time equal to the period of delay plus such time as needed for start-up and/or remobilization, provided however, should the Force Majeure situation extend beyond six months the contract may be canceled by either party. Purchaser shall reimburse BDP for all costs and expenses including overhead costs which BDP may have reasonably incurred in terminating the contract, plus an amount as reasonable profits on that portions to the contract which has been completed.

**WARRANTY** -- BDP warrants the equipment manufactured by it to be free from defects in materials and workmanship for a period of 18 months from the date of shipment or 12 months from the date of start-up, whichever occurs first. BDP will repair or replace, at its option, F.O.B. its factory, any defective part or material, provided prompt notification is rendered in writing. The repair or replacement of items such as light bulbs, grease, oil, drive belts or chains, pump seals, etc. are not covered by this warranty and are considered normal consumption and routine maintenance items. In addition to the replacement of defective parts, BDP will also provide such labor as it deems necessary, to repair a defect in the main frame structure. BDP will not assume the cost of any modification or repair of its equipment unless it specifically gives authority for such action. **THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHERS. BDP MAKES NO WARRANTY AS TO FITNESS OF ITS PRODUCTS FOR PARTICULAR PURPOSE OR MERCHANTABILITY.**

**LIMITATION OF LIABILITY** -- A. In no event, be it due to breach of any warranty hereunder or any other cause rising out of performance or non-performance of the obligations herein, whether any such breach or cause be or sound in tort, contract or otherwise, shall BDP be liable for indirect, special or consequential damages (such as, but not limited to, loss of profits, plant downtime, fines, penalties, or cost of replacement services) or sued by third parties against the purchaser (excluding suits regarding patents on title to the goods furnished hereunder). B. BDP's total cumulative liability for any and all reasons shall not exceed an amount equal to the contract price.

**CLAIMS** -- The buyer shall immediately inspect equipment within ten (10) days after receipt, BDP is not obligated to consider any claim for shortages or non-conformance unless notified by the buyer within ten (10) days after his receipt of the goods in question, BDP is not responsible for loss or damage in transit, however they will lend any possible assistance to the buyer in his pursuit of claim recovery.

**CANCELLATION** -- BDP will accept cancellation of this order upon receipt of payment for percentage of the contract equal to a percentage of the work completed. This shall be, at a minimum, 20% of the contract price.

**STORAGE** -- If the buyer delays shipment, then the buyer agrees to pay all invoices as they become due. The buyer further agrees to pay, in addition, storage charges computed at 1.5% per month of the invoice price of equipment stored.

**PERMITS** -- The buyer shall assume full cost and responsibility to obtain all permits or licenses with respect to the installation and operation of the equipment covered under this agreement. This shall include all requirements by Federal, State and Local governmental bodies.

**OTHER** -- This contract shall be governed in accordance with the laws of the State of New York. These conditions and terms are the only terms and conditions that will be binding upon the parties unless amended, and acknowledged, in writing by both parties. No assignment of this proposal or any purchase order resulting here from shall be binding on BDP unless accepted in writing by BDP.



# Model 3DP™ Belt Filter Press

[www.bdpindustries.com](http://www.bdpindustries.com)



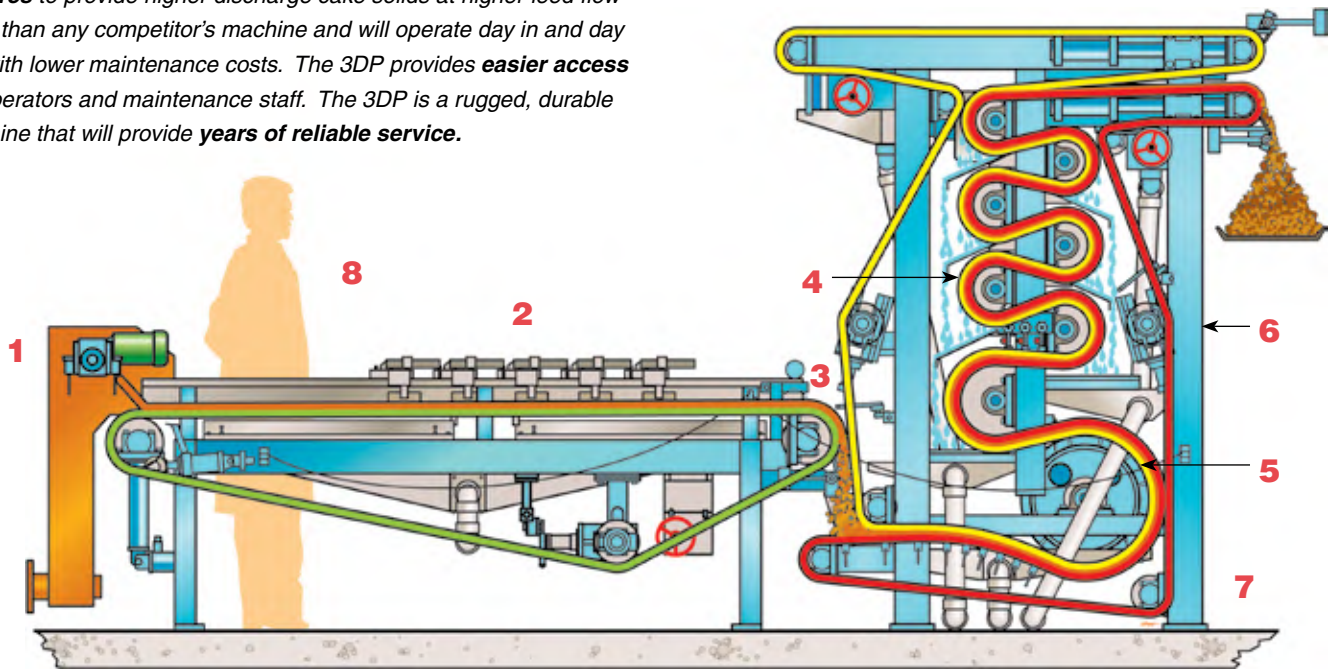
**Industry Leader in Design and Manufacture of Filtration Equipment**

# Model 3DP Belt Filter Press

## Higher Cake Solids and Feed Rate

— with LOWER Maintenance Costs.

BDP Industries' **Model 3DP Belt Filter Press** was designed with **unique features** to provide higher discharge cake solids at higher feed flow rates than any competitor's machine and will operate day in and day out with lower maintenance costs. The 3DP provides **easier access** for operators and maintenance staff. The 3DP is a rugged, durable machine that will provide **years of reliable service**.



## Design Features

- 1 Feed Distributor:** Unique, variable speed paddle wheel provides full belt-width distribution and uniform thickness .
- 2 Independent Gravity Zone:** Allows for higher production capacity as well as higher cake solids.  
*Available in standard lengths from 6 - 16 ft in 2 ft intervals.*
- 3 Spiral Wedge:** Applies increasing cake pressure over the entire length for effective expressing of filtrate with excellent cake retention.
- 4 Vertical Pressure Rolls:** Vertical arrangement allows for filtrate pans under each roll to keep filtrate from falling on adjacent rolls. This eliminates reabsorption of filtrate and improves discharge cake solids. Discharge height adequate for conveyor without raising press.  
*Up to 12 pressure rolls are available.*
- 5 Perforated Roll:** Unique design and stainless steel construction improves dewatering and structural strength of roll.
- 6 Tubular Frame Construction:** Provides superior structural strength over channel and I-beam construction. Enhanced cleanliness. Hot-dip galvanized coating inside and out affords maximum corrosion resistance.  
*Also available in stainless steel.*
- 7 Machined Mounting Pads:** All bearing and structural bolted connections are machined, tapped pads which are welded to frame. This enhances structural strength and corrosion resistance.
- 8 Overall Layout:** Gravity zone and controls located at operator level simplifies process optimization and eliminates costly platforms.



## Unique Features and How They Work

Standard two belt technology employed by most manufacturers forces a compromise in either through-put capacity or discharge cake solid concentration, because belt speed in the two zones must be the same. Three belt technology used by BDP overcomes this limitation by allowing independent speed control in each zone.

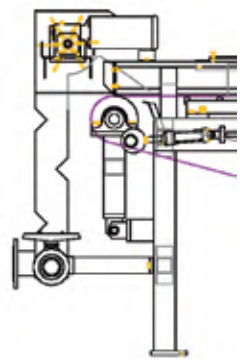
In addition significant improvements in feed distribution, wedge zone pressure gradation and effectiveness and elimination of filtrate pooling/rewetting in the pressure zone *MAXIMIZES PERFORMANCE*. The unique low profile gravity zone, tubular steel frame, machined mounting pads for bearings, and bolted connections all provide easier access for maintenance. In photo at right: notice the unique layout and lack of platforms, allowing easy access for maintenance.

The unique designs of the Gravity and Pressure Zones provide **MAXIMUM PERFORMANCE**.



3DP Belt Filter Press

## Upflow Adjustable Speed Paddle Wheel Feed Box



This unique design produces extremely uniform slurry distribution. Sludge enters horizontally at floor level, then transitions to vertical in the upflow conditioning tank and spreads to

full belt width. Then the slurry overflows the vertical tank into the paddle wheel distributor weir trough. The adjustable speed paddle wheel pushes the slurry out of the weir trough onto the belt.

Pictured (at right) is 3.5% concentration anaerobically digested sludge; notice the even, full width distribution immediately upon leaving the feed distributor.



Feed box side view



Paddle wheel



Uniform slurry distribution



# Model 3DP Belt Filter Press

## Independent Gravity Zone

***The Model 3DP improves solids loading rate and cake solids with "Independent Gravity Zone Technology".***

Conventional two-belt press designs use a gravity zone and pressure zone with a common belt fabric and drive. Belt speed and belt fabric porosity selections are compromised in an attempt to suit both gravity zone thickening and pressure zone dewatering, reducing effectiveness.

**BDP has solved this problem.**

The 3DP "Independent Gravity Zone Technology" uses separate gravity and pressure zones. This allows "optimizing" the porosity of the belt fabric and belt speed for the gravity and pressure zones rather than being forced to make a trade-off as explained below.

By increasing belt speed through the gravity zone, a thinner cake is applied to the belt. Resistance to filtrate flow is reduced exponentially as cake thickness is reduced. More filtrate is removed, less volume is sent to the pressure zone.

Filtrate removal in the pressure zone increases as the length of time cake is under pressure increases. The independent drive and reduced volume allow the pressure zone belt speed to be reduced for optimal filtrate removal.

***Result: The Model 3DP provides higher hydraulic throughput and cake solids.***



Independent Gravity Zone

## Spiral Wedge

The problem with existing wedge layouts is that the top belt doesn't contact and apply pressure to the cake until typically 2/3 of the way through the zone. By curving the wedge profile the top belt immediately pressurizes the cake making the entire length of the zone effective. In addition, the spiral profile provides a gradual increase in pressure through the zone and forces an encapsulation of the cake to resist extrusion out the side.



Spiral Wedge





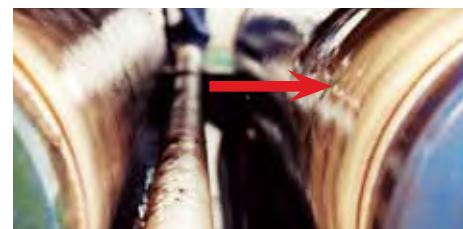
Vertical Pressure Zone

## Vertical Pressure Zone

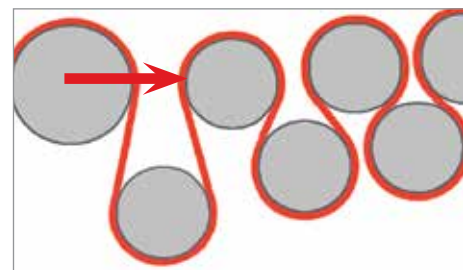
There is no pressure on the filter cake between tangent points of adjacent rolls in the pressure section of a belt press. Therefore, in a horizontal pressure roll configuration, filtrate expressed by each roll runs down the filter cloth to the lower roll and is reabsorbed (*pictured below*) decreasing discharge cake solids.

### **BDP has the answer.**

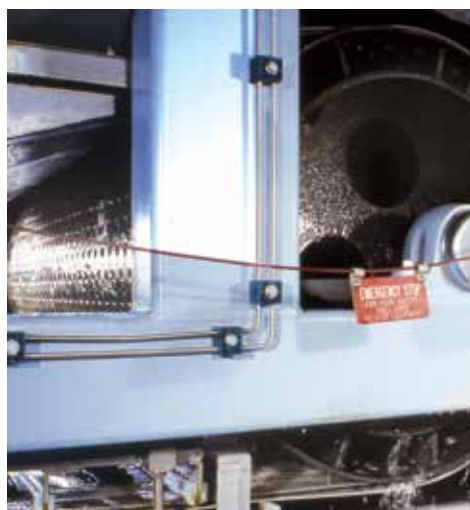
With the the Vertical configuration of the Pressure Zone in the model 3DP, (*shown left*) filtrate expressed at each roll drips from the tangent point into a diversion pan; eliminating rewetting.



BDP's vertical arrangement eliminates the problem of filtrate running off upper rolls and pooling around lower rolls.



Perforated Roll



## Superior Perforated Roll Construction

The highest frequency of roll failures for belt presses is the perforated roll. Typical construction of perforated rolls makes them susceptible to stress fatigue failure of the steel shell where it is welded to inner stiffening rings. BDP Industries' design eliminates the potential for shell failure as the stress load is carried by a solid inner roll. This revolutionary design is the strongest in the industry.



# Model 3DP Belt Filter Press

## Frame Construction

Channel or I-Beam frame construction are problematic in that corners and ledges are created that are difficult to clean. The tubular frame of the 3DP model provide a flat easy to clean surface.

All bearings are mounted on machined pads welded to the fabricated frame. These pad are precision machined and drilled and tapped for installation of all bearings and bolted frame components.

With channel or I beam, the frame is drilled and weakened at every mounting point. The 3DP frame, on the other hand, is strengthened by tubular steel and machine mounted bearing pads.

Vent holes are strategically placed so that when the frame is hot dip galvanized, it is coated inside and out.

**Bottom line:** The Model 3DP is stronger, more corrosion resistant, and easier to clean than other machines.



Machined Mounting Pads/Tubular Steel Frame

## Overall Layout

Most other belt press designs require the belt press to be elevated due to the low cake discharge point. This requires costly platforms to provide observation of the feed distributor and gravity zone (*see below*).



The layout of the model 3DP allows for gravity zone and controls to be located at operator level. This simplifies the process and eliminates platforms (*see right*).



Model 3DP Belt Press

# Pyrz Water Supply Co. Inc.

P.O. Box 107  
Harleysville, Pennsylvania 19438  
(215) 256-8430 / Fax (215) 256-8567  
www.pyrzwater.com

TO: John Hibschan  
GMB

QUOTATION NO: CJK – KET1005  
DATE: 2/6/24  
SUBJECT: Mystic Harbor WWTP

**Spec Section: NA Addendums Seen: NA**

UBI is pleased to quote quantity 3 of a Size 1 **Econo-Top** package including the following:

- UBI 405 Blower, 10 psig max pressure, 2 lobe, Viton lip seals, 50,000 HR BIO bearing life
- 15 HP 60 Htz, 230/460 Volt, 3 PH Premium Efficiency Motor
- Complete Drive Assembly & Adjustable Motor Slide Base
- Galvanized Steel I: foam sound enclosure to meet 88 dbA@ 3' free-field
- Enclosure Style: top half
- 1/4" Plate Steel Base
- 3" Inlet Silencer with Integral filter
- 3" Integral Discharge Silencer
- 2" Pressure Relief Valve
- 3" Check Valve
- 3" Flex Connector
- Pressure and Vacuum Gage
- Vibration Isolation Pads

Description	Yes	No
Spare parts per spec	X	
Pressure Switch		X
Temp. Switch		X
Butterfly Valve 3"	X	

**PERFORMANCE TO MEET: 210 ACFM@ 8.5 PSIG, 94± dbA w/o Encl., 2400 RPM,**  
**11.5 BHP, 2829 GTS, 100 °F Inlet, 100 'ELEV., 60 % RH.**

**Also Included:**

- ▶ Submittal Drawings (3-4) Days, O&M Manuals (1:1) Weeks
- ▶ Engineering & Calculations,
- ▶ Delivery estimated@ (6-8) Weeks (After approval & drawings)
- ▶

**Extras:**

- ▶ Any Taxes
- ▶ Starters/VFDs/Control Panel
- ▶ Startup & Training
- ▶ For 85 DBA add \$2,000

Price: 52,700 for the three (3) Lot

Weight: 1,500lbs Each

We are pleased to quote as follows:

**TOTAL PRICE:** F.O.B. points of origin with freight prepaid and add

Not Included: Wiring, piping, installation, sales or use tax or any item not specifically noted above.

We hope to have the opportunity of furnishing the above for you.

Sincerely yours,  
CJ Knecht  
610-283-0849  
Manager KET Division  
PYRZ WATER SUPPLY CO., INC.





Full Service Provider of Liquid and  
Dry Bolted Storage Tank Systems

**Request for Proposal**  
**Quote Number: 2401079**  
**01/30/2024**

Prepared for  
**Kershner Environmental Technologies,**  
**11 Easter Court, Suite M**  
**Owings Mills, Maryland 21117**



## Quote Proposal

Quote Number: 2401079

**Introduction****Buyer:****CJ Knecht****Kershner Environmental Technologies, LLC****c.knecht@ketllc.com****410-581-0555**

Tarsco Bolted Tank ("TBT"), appreciates the opportunity to provide you with the following proposal for your upcoming project. At Tarsco Bolted Tank, we approach every request for information and quote as an opportunity to earn your business and want to be sure we understand your needs and the challenges you face with your project.

**Project Summary & Scope of Work:****Site Project Location: Berlin, MD**

Qty	Size	Material Type	Application	Insulation	Sales Tax	Price per tank	Subtotal	Freight
2	21.54ft Ø X 19.89ft H	304 Stainless Steel	Sludge Holding		Not Included	\$165,534.00	\$331,068.00	\$12,970.00
<b>Total</b>							<b>\$331,068.00</b>	<b>\$12,970.00</b>

\*Shipping and Handling is not included in the Subtotal. Please see individual detailed quotes that follow.

For a more detailed description of activities please refer to this proposal.

We look forward to completing this work safely, with the highest quality, and on-time. Please contact us if you have any questions concerning Tarsco Bolted Tank's proposal or if we can be of any further service.

Sincerely,

John Petersen

5897 Hwy 59

Goodman, MO 64843

john.petersen@tfwarren.com

Tarsco Bolted Tank

4176580572



**Quote Number: 2401079**

## **A - Tank Description**

### **Two (2) New 21.54 Feet Diameter X 19.89 Feet Height 304 Stainless Steel Wastewater Storage Tank**

- ☒ Product being stored - Sludge Holding
- ☒ Total Nominal Capacity - 54,200 Gallons
- ☒ Usable volume of approximately - 51,500 Gallons
- ☒ Freeboard - 12 Inches
- ☒ Deck Type - 2:12 (Comp/Tension Ring - 2 inch Rise to 12 inch Run)
- ☒ Floor Type - Concrete (Embedded Starter)
- ☒ Construction Type - Bolted
- ☒ Wage Type - Non-Union / Non-Prevailing

Accessories Included:			
Quantity	Item Description	Quantity	Item Description
2	4" Flange	3	6" Flange
3	8" Flange	1	3' x 5' Step-Off Platform
1	Flush Cover 30" x 46"	1	24" Roof Access Hatch
1	24" Manway	1	Guardrail - Partial - OSHA Compliant
1	20" Center Vent	2	Ground Lug(s)
1	Exterior ladder with fall protection system-OSHA Compliant - TBT design with no cage and no rest platforms	1	2:12 Roof to be 304 Stainless
1	ALL MANWAYS TO BE 304 SS	1	ALL FLANGES/NOZZLES TO BE 304SS
1	EXTERNAL RAFTERS TO BE HDG		

**Quote Number: 2401079**

## **B - Technical Information**

### *Engineering and Manufacture Specifications*

<b>Site Class:</b>	D	<b>Approval Drawing # of Sets:</b>	3
<b>Wind Conditions (mph):</b>	134	<b>Seismic Use Group:</b>	I
<b>Seismic S1:</b>	0.043	<b>Seismic SS:</b>	0.086
<b>Latitude/Longitude:</b>	38.322200, -75.218400	<b>Product Temperature:</b>	Below 135 degrees Fahrenheit
<b>Minimum Level PH:</b>	3	<b>Maximum Level PH:</b>	11
<b>Tank PE Stamp Required:</b>	Yes	<b>Calculations Required:</b>	Yes
<b>Foundation Type:</b>	Type 6-Concrete w/Embed	<b>Shipping Weight (per tank):</b>	15,294 Pounds
<b>Specific Gravity:</b>	1.01	<b>Deck Live Load:</b>	25 Pounds per Square Foot
<b>Importance Factor:</b>	1	<b>Steel Regulations:</b>	Not Required

### **1. Design Basis**

- a) Proposal is based on Buyer's final engineering information being provided within two (2) weeks of award.
- b) Final engineering information shall include quantity, sizes and location information for all nozzles and manholes (elevation, orientation, projections, etc.) along with the location of ladders, platforms, and stairways, including direction of the stairway and confirmation of tank coating and caulking color selection.
- c) Design according to AWWA D103-19

### **2. Coatings**

MILL FINISH STAINLESS STEEL - COATING- TARSCO BOLTED TANK IS OFFERING OUR STANDARD STAINLESS STEEL DESIGN TANK, WHICH HAS FABRICATED- STAINLESS STEEL COMPONENTS ONLY IN THOSE AREAS WHERE THE CONTAINED PRODUCT IS IN CONTACT WITH THE TANK MATERIAL. ALL OTHER COMPONENTS OF THE TANK MAY BE GALVANIZED- CARBON STEEL MATERIALS.

**Quote Number: 2401079**

## **C - Schedule**

### **Liquid Tank Schedule Terms**

- a) Approval Drawing Submittal: 2 weeks for first unique tank design, subsequent unique tank designs add 1 additional week per tank after order placement and receipt of all orientation and elevation information and specifications.
- b) Approval Drawing Return: Drawings must be returned to TBT within 10 business days of receipt, signed as approved or with redlines for revisions, max of 2 rounds of revisions allowed before additional charges will be incurred per change.
- c) Tank Delivery: 12 to 14 weeks after approval of drawings and settlement of all detail.
- d) TBT's proposed pricing and schedule does not include for any delays due to causes outside TBT's complete control, including but not limited to force majeure, strikes, political conditions, and weather. If TBT encounters any delays, the schedule will be adjusted and costs for delays will be reimbursed to TBT.
- e) Hydrotest is the responsibility of the Buyer and must be completed within 30 days of erection substantial completion date.
- f) Free access to work site must be provided by Buyer during daylight hours on all working days including Saturday and Sunday.

**Quote Number: 2401079**

### **D - Pricing and Terms**

TOTAL MATERIAL	\$190,970.00
TANK CONSTRUCTION PRICE	\$135,598.00
FOUNDATION DESIGN	\$4,500.00
<b>TOTAL PRICE</b>	<b>\$331,068.00</b>
SHIPPING AND HANDLING	\$12,970.00

#### **Options:**

Unloading Tank Material - ADD - \$6,525.00

#### **Notes for Quote:**

Job: Mystic Habor

- Tank is designed based on the following data as well as data listed in Section B "Technical DATA" of this proposal. If location or data is different design and price may change. Customer to verify for final design. a. Seismic conditions are for zip code 21811, but customer will need to verify as not 100% at time of RFQ
- Handrails and kick plates to be epoxy coated safety yellow with all other non- wetted parts such as grating to be HDG.
- Proposal does not include any taxes, license, and/or permits. If taxes are required they will be added on to the invoice.
- Proposal does not include any piping or electrical unless specifically specified in this proposal, including inlet piping.
- '-- Tarsco Bolted Tank will supply and install blind flanges for hydro-test. Buyer to fill tank and disposal of testing water.
- Tarsco Bolted Tank will return if any leaks are found.
- A minimum of 6' clearance around the tank is required for erection.
- Foundation installation is by others unless included in this report.
- Customer is responsible to ensure the foundation is level, smooth and structurally sufficient to support the new tank.
- Construction is based on 10 hrs/day, 6 days per week.
- A complete, unabbreviated product composition with chemical concentrations is required to verify tank materials. Until confirmed by TBT, buyer is responsible for material suitability.



**Quote Proposal**

**Quote Number: 2401079**

1. Proposal Validity - 15 Days (except for material pricing, which is subject to change until order is accepted and acknowledged by TBT. Material pricing shall remain subject to escalation until material order is accepted and acknowledged by TBT's material supplier.)

**Quote Proposal**

**Quote Number: 2401079**

**Unless specifically noted elsewhere in this document, pricing DOES NOT include any of the following items:**

1. **Foundation.** Foundation will be provided by Buyer, complete with orientations clearly marked.
2. **Installation.** Buyer is responsible for unloading material, hauling material from laydown yard to tank site (if required), and any other systems installation. TBT shall not be liable for any demurrage charges. The owner is to supply pictures of the orientations marked on the foundation illustrating clear and easy access to the workface prior to the mobilization of the erection crew.
3. **Site Supervision.** Supervision is provided by the field foreman performing the work. TBT has not included pricing for full-time on-site supervision of any subcontractors. The field foreman is responsible for site safety and quality. Dedicated safety or quality supervision is not included in our price.
4. **Insulation.** If included, insulation pricing does not include insulating access manways, hatches, any piping, valves, brackets, or other equipment.
5. **Piping.** Only shell penetrations are included. All other piping is provided and installed by Buyer.
6. **Electrical and Instrumentation.** Hook up and connection of electrical and instrumentation is by Buyer.
7. **Accessories.** Pricing does not include wiring, electrical, calibrations, piping and brackets excluding shell penetrations, or valves.
8. **Coatings.** Piping and piping components are uncoated on the interior.
9. **Disinfection.** Disinfection of tank is to be performed by Buyer, if required.
10. **Anchor Bolts.** Field installation of anchor bolts is the responsibility of Buyer.
11. **Special Lifting Equipment.** If moving tank after erection is required, the lifting equipment and operator will be supplied by Buyer. An engineered lift plan is not included.
12. **Taxes, Licenses, Permits, Processing Fees.** Proposal does not include any taxes, license, and/or permits. If taxes are required, they will be added on to the invoice. No bonds, permits, sales and/or use tax included unless otherwise noted. All licenses, fees, permits, taxes or any items or services not specifically mentioned are excluded.
13. **Engineering Calculation and PE Stamped Drawings.** TBT can provide calculations and/or drawings stamped by a professional engineer for specific state/province for an additional fee.

**This quote is based on the following:**

1. Unless otherwise noted, TBT has quoted its standard design, fabrication, accessories (nozzles, piping, ladders, platforms, stairways, and other attachments) and coatings. Use of anything other than TBT's standard design may require a change in price and schedule.
2. It is assumed that foundation is designed to ACI 318 Building Code Requirements and satisfies dimensions and tolerances noted in Buyer Obligations item 3 and that orientations will be marked by the Buyer before TBT mobilizes to site.
3. Construction is based on 10 hrs./day, 6 days per week work schedule. Buyer must specify if any schedule restrictions apply to this order. If so, an adjustment to price and schedule will be required.
4. TBT construction crews will comply with all Federal, State, or local governmental safety standards. Buyer shall provide any company or site-specific safety standards, rules, and regulations prior to order placement. Addition or changes to any of the above-stated safety standards, rules, or regulations after order placement may result in an adjustment to price and schedule.
5. Grating and stair treads will be hot-dipped galvanized (HDG); ladders and guardrails will be epoxy coated safety yellow.
6. Material price is based on material market value at time of proposal and is subject to raw material price increase at time of order and any applicable increase of material surcharges.
7. Installation price quoted is based on clear and easy access to the workface, and weather conditions favorable to continuous operations. An installation surcharge for labor will apply during unfavorable weather conditions.

**NOTE:**

Any items or specifications not specifically mentioned above are not a part of this quotation.  
This quotation represents TBT's complete offering.

**Quote Number: 2401079**

## **TERMS AND CONDITIONS**

### **I. Buyer Obligations**

#### **1. DESIGN**

Buyer shall verify design assumptions before design is finalized. Buyer must provide geotech report for TBT to provide foundation design. Changes to design after final approval by RFI, redline, or change order, shall be responsibility of Buyer.

#### **2. SITE CONDITIONS**

Buyer shall provide an all-weather, clear, safe, well-drained, leveled, and compacted gravel (or better) container and materials staging area adjacent (but no more than 50 feet) to the tank foundation and a working area extending 15 ft. around the tank foundation that is suitable and safe for operation of heavy equipment. Buyer shall provide and maintain a graveled or hard surface all-weather access roadway from a public road to the erection site so that loaded trucks can be driven to a point adjacent to tank foundation. Minimum clearance of eight feet is required between tanks and overhead. If work is located inside building or enclosed area, it must be noted in this Proposal. If the above conditions are not as described, TBT shall be reimbursed for inefficiencies, lost time and/or materials and equipment at the applicable T&M rates. Buyer is responsible for obtaining all necessary permits, special licenses, and government approvals for the Work.

#### **3. FOUNDATIONS (IF NOT IN TBT'S SCOPE OF WORK):**

Unless stated otherwise, Buyer is responsible to ensure the foundation is level, smooth and structurally sufficient to support the new tank. Top of foundation shall be within six inches of grade. If higher or on structures, price will be adjusted. It is the Buyer's responsibility to provide a level and true foundation and embedment ring, within the tolerances prescribed by AWWAD103 (or the relevant standard). TBT shall inspect levelness, roundness, and plumbness of embedment ring only. If TBT finds inaccuracies or deficiencies in foundation work done by others, or is required to alter the tanks to make them fit, Buyer shall be responsible for any delays or increased costs related to rectifying such work, and TBT shall be reimbursed for lost time and/or materials and equipment at the applicable T&M rates. If a tank embedment ring is required, Buyer shall coordinate TBT inspection of the installation of the ring prior to concrete being poured. Proper installation (including of embedded ring, if required) and roundness tolerance are the responsibility of the contractor providing concrete installation. If Buyer fails to coordinate inspection of the ring prior to concrete being poured, Buyer shall be liable for any damages resulting from any improper ring installation and any related rectification shall be excepted from Seller's warranty obligations. Location of all plumbing located within the foundation, concrete slab, or underground, is the responsibility of others, and TBT is not liable for accuracy of location related to the tank. If piers are required, they will be designed and installed by others. Unless otherwise noted, all foundation design and construction shall be the responsibility of others. Buyer shall clearly mark foundations with visible center point and cardinal orientations of 0, 90, 180, and 270 degrees and confirm same to TBT before a field erection crew will be mobilized. Buyer shall provide pictures of the finished foundation and access area to foundation for review prior to TBT erection team mobilizing to site. Buyer shall notify TBT that foundation and site conditions are in accordance with the above requirements at least 15 days prior to scheduled mobilization to site. If notification is not provided or foundation is not ready upon mobilization, Buyer shall reimburse TBT for delays and additional costs incurred and erection may be rescheduled for next available date. Foundation will be clean and clear of any obstruction, material, or equipment.

## Quote Number: 2401079

### 4. UNLOADING, INSPECTION, AND INSTALLATION:

Buyer is responsible for unloading and inspecting shipped materials, unless shipped by container. TBT recommends the use of an 8,000 lb. forklift for most off-loading. Buyer will supply 120 volt/60 Amp AC current within 10 feet of tank foundation and necessary utilities including, but not limited to, the necessary sanitary facilities and potable drinking water as required for the performance of the contract. Buyer is responsible for supplying trash dumpster at job site and for disposing of contents of dumpster. Buyer is responsible for supply of crane if required, unless noted otherwise. Mixer to be installed and provided by others. Buyer inspection and acceptance of interior and exterior must be performed prior to erection crew leaving job site. If Buyer is not available for the final inspection at time of erection completion, TBT shall be reimbursed for re-mobilization and/or materials and equipment at the applicable T&M rates.

### 5. CONTINUOUS OPERATION:

Buyer will ensure all operations are continuous, scheduled and completed in accordance with suggested sequence throughout erection and finishing with a completed water test and inspection. Buyer shall provide free access to work site for 10-hour days and 6-day work week on all working days, including Saturday, U.S. holidays (except Thanksgiving, Christmas, and New Year's Day) and country or region-specific holidays if outside U.S.

### 6. HYDRO-TEST (LIQUID TANK):

Unless otherwise specified in the Proposal, Buyer shall provide labor, clean water free of contaminants that is compatible with Buyer's use for the tank, hoses, and adequate pumping to fill and drain the tank in less than 24 hours for the Hydro-Test and any subsequent fillings. Buyer shall ensure that hydro-test is conducted after the 7-day sealant cure period but within 30 days of tank completion. Failure to timely hydrotest shall result in waiver of warranty obligations. Buyer is responsible for supply and disposal of water and any tank cleaning required before or after testing. Buyer is responsible for any damage caused to tank by hydrotest water.

### 7. EXTERIOR WATERSPRAY TEST (DRY SILO):

If a spray test is specified in this Proposal, and unless otherwise specified, upon 7 days' prior notice for water test to begin, Buyer will provide enough hose and water at necessary pressure (30-60 psi) to reach to the top of the silo(s) for any exterior water spray test.

### 8. BUYER'S INSURANCE:

The Buyer will obtain insurance and indemnify TBT against loss by wind, fire, lightning, removal, and all extended coverage perils, theft, vandalism, and malicious mischief, earthquake, negligence, breach of contract and any other insurance which the Buyer deems necessary upon the work, for the full insurable value thereof. Additional expense by theft will be reimbursed to TBT by Buyer. Cost of security guards, if required, to be paid by Buyer. TBT is to be named as an additional insured and a certificate of insurance is to be provided at the time the order is accepted.

## II. Tarsco Bolted Tank Obligations

1. TBT will perform the Work in accordance with this Proposal.
2. TBT will ship embedded starter ring separately and prior to tank shipment. A TBT supervisor shall supervise the installation of the embedded starter ring prior to concrete being poured, if required.
3. TBT will supply and install blind flanges for hydro-test, if required. If any leaks are found during hydro-testing, TBT will return to site to repair the leaks.
4. If required for dry silos, TBT shall perform an exterior spray water leak test designed to simulate a driving rainstorm if sufficient free, clean potable water is available at time of erection completion.



## Quote Number: 2401079

### III. Additional Terms and Conditions

#### 1 SHIPPING AND HANDLING:

EXW Goodman. Prepaid and added.

#### 2 CHANGES:

If the Buyer orders extra work or makes changes by altering, adding to, or deducting from the Work set forth in this quote, including any changes to the facts and assumptions, TBT may adjust the price and any completion date quoted accordingly. The price adjustment may include but not be limited to engineering, shipping, manufacturing, materials, construction, project management, and administration expense. All changes will be due Net 15.

#### 3 CANCELLATION OR TERMINATION OF ORDER:

In the event Buyer cancels or terminates the order, payment for all payment milestones achieved and costs incurred plus reasonable overhead and profit on other payment milestones shall be due within 30 days. Cancellation must be received in writing.

#### 4 PAYMENTSCHEDULE AND PRICING VALIDITY:

##### Payment Schedule (Order IS Subject to Material Pricing Escalation\*)

- a) Receipt of Order or Letter of Intent – Down payment of 30% of material price due upon receipt.
- b) Submission of Approval Drawings to Buyer – 50% of material price due N15.
- c) First Load Ready to Ship – 20% of material price due N15
- d) Tank Construction – 50% of construction price due upon mobilization to site and 50% billed progressively every two weeks based on percentage of completion due N15.
- e) Shipping and Handling: EXW Goodman. Prepaid and Added. Due N15 after completion of shipping.
- f) Optional Pricing:
  - i) Foundation Design – 100% due N15 after submission of drawings to Buyer
  - ii) Calculations and/or Stamped Drawings – 100% due N15 after submission to Buyer
  - iii) Insulation
    - (1) Down payment – 30% of insulation material pricing due upon receipt
    - (2) Submission of Approval Drawings to Customer – 50% of insulation material price due N15
    - (3) First Load Ready to Ship – 20% of insulation material price due N15
    - (4) Installation – 50% of installation price due upon mobilization to site and 50% billed progressively every two weeks based on percent completion due N15.
  - iv) Bonds or Letter of Credit – 100% due upon receipt of order or letter of intent
  - v) Extended Warranty – 100% due upon substantial completion.
- g) Material Storage – Fabricated material may be stored for an additional price of \$190 per week or \$600 per month per truck load quantity, beginning two weeks after original erection start date. Monthly billings for storage will be due N15 from receipt.
- h) Additional Mobilizations – Pricing includes one mobilization to site for installation and any mobilizations necessary for warranty work. If TBT is required to make an additional mobilization due to Buyer's actions or inaction, Buyer shall pay an additional mobilization fee due N15.
- i) International Sales - For all international sales, unless otherwise specified herein, Buyer shall make payment in full before TBT is obligated to ship any materials to Buyer.

\* Due to current market volatility, material escalation (if any) will be based on the price of the material at the date of this Proposal. Any increases in material costs between date of this Proposal and material procurement will be to Buyer's account. Note: Material is typically procured 2 weeks after order is received.

## Quote Number: 2401079

### 5 PAYMENTTERMS:

TBT shall not begin performing the Work until initial down payment is received. TBT reserves the right to delay engineering, tank manufacturing, shipping and erection if invoice(s) are not paid in accordance with stated terms and payment schedule. All terms of payment are subject to approval by TBT's Credit Department. "Pay when Paid" terms are not accepted. TBT shall not be liable for liquidated damages or any other damages associated with delay. Past due invoices will be charged a service charge of 1.5% per month.

### 6 FORCE MAJEURE

Neither party shall be liable for any failure or delay in performing its obligations if and to the extent that such failure or delay is caused by a Force Majeure event. A Force Majeure event means, in relation to either party, any event or circumstance beyond the reasonable control of that party, including act of God, fire, explosion, flood, epidemic, power failure, governmental actions, war or threat of war, acts of terrorism, national emergency, riot, civil disturbance, sabotage, labor disputes and strikes (other than in respect of the workforce of the party affected). Force majeure shall not be an excuse for failure to make payment. A party affected by the Force Majeure (the "Affected Party") shall immediately notify the other party ("Non-Affected Party") in writing of the event, giving sufficient details thereof and the likely duration of the delay. The Affected Party shall use all commercially reasonable efforts to recommence performance of its obligations as soon as reasonably possible.

### 7 LIABILITY AND INDEMNITY

TBT's liability shall be limited to half the Total Price. TBT will not be responsible for damage to personnel, automobiles, or machines within 200 feet of erection site. TBT shall not be liable for remote or speculative damages or for consequential damages or loss, including special, indirect, punitive, or exemplary damages. TBT will only be liable for its own negligence. Buyer shall indemnify, defend, and hold TBT harmless from and against any claims, causes of action, liabilities, expenses, losses and/or damages, including legal fees and costs incurred by TBT, its agents, customers, or other vendors, and its respective affiliates, officials, directors, officers, agents, and employees, arising from or resulting in any way from: (a) any negligence or willful misconduct of the Buyer; (b) any act or omission of Buyer, its agents, employees, or subcontractors; (c) any misrepresentation or breach of any representation, warranty, obligation, or covenant by Buyer; (d) any alleged infringement of any intellectual property, including patents, copyrights, trademarks, or trade secrets by Buyer; (e) any disputes among unions or trade organizations representing employees of the Buyer or its subcontractors in connection with performance of the Work; or (f) any claims by subcontractors of Buyer.

### 8 WARRANTY

- a) **Manufacturer Warranty.** If TBT does not perform installation as part of the Scope of Work, TBT warrants that the Material provided for the Scope of Work shall meet the specifications contained herein and will be free from defects due to faulty workmanship or materials for a period of 12 months from delivery. TBT makes no other warranty, express or implied, concerning the Material provided for the Scope of Work.
- b) **Installation Warranty.** If TBT performs installation as part of the Scope of Work, TBT warrants that the installation shall meet the specifications contained herein, be done in a good and workmanlike manner, and be free from defects due to faulty workmanship or materials for a period of 12 months from substantial completion of tank installation. TBTs makes no other warranty, express or implied, concerning any installation portion of the Scope of Work.
- c) **Warranty Limitations.** The warranties included herein shall be void if Buyer transfers ownership of the tank, uses the tank to store materials that are different from those identified herein, fails to timely hydro-test the tank, fails to properly operate or maintain the tank, dismantles or moves the tank, repairs or alters the tank without obtaining TBT's prior written approval, fails to sign the tank/contract completion form, or fails to pay all amounts owed for the Work. The warranties included herein do not cover routine maintenance or normal wear and tear.



**Quote Proposal**

**Quote Number: 2401079**

**9 DISPUTE RESOLUTION**

In the event of any disputes, controversies, or claims arising out of or related to the Work, senior representatives of the parties shall meet to attempt to resolve said dispute within 30 days of written notice of the dispute. If the dispute is not resolved through said negotiation, then the parties shall refer the dispute to mediation with an agreed mediator. If the parties are unable to resolve the dispute through mediation within 60 days of designation of the mediator, then either party may proceed to litigation. The governing law of this agreement shall be the laws of the State of Texas without regard for its conflict of laws principles. The venue shall be a court of proper jurisdiction in Montgomery County, Texas or Harris County, Texas. THE PARTIES HEREBY UNCONDITIONALLY WAIVE THEIR RIGHT TO A JURY TRIAL OF ANY AND ALL CLAIMS OR CAUSES OF ACTION ARISING FROM OR RELATING TO THEIR RELATIONSHIP.

**10 PRECEDENCE:**

If there are any conflicts between plans, specs, purchase order, contract or any other of Buyer's documents and this quote, this quote shall govern.

**Please sign, date and return to [john.petersen@tfwarren.com](mailto:john.petersen@tfwarren.com) to place an order for this quote.**

\_\_\_\_\_  
**Authorized Signature**

\_\_\_\_\_  
**Date**

Name:

Title:

For Buyer: Kershner Environmental Technologies, LLC

**FEATURES**

**Impeller:** Cast iron, ASTM A48, Class 30, two vane semi-open, non-clog design with pump out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller is an option.

**Casing:** Heavy duty gray cast iron, ASTM A48, Class 30. Volute type casing with 3", 125#, ANSI flanged, horizontal discharge. Compatible with A10-30 cast iron or A10-30B cast iron and brass (non-sparking) guide rail assembly.

**Dual Mechanical Seals:** Silicon carbide vs. silicon carbide outer seal and ceramic vs. carbon inner seal, stainless steel metal parts, BUNA-N elastomers. Upper and lower shaft seals are positioned independently and are separated by an oil-filled chamber.

**Shaft:** 300 series stainless steel keyed design.

**Fasteners:** 300 series stainless steel.

Capable of running dry temporarily without damage to seals or motor.

# WS\_D3 Series

## Model 3888D3

SUBMERSIBLE SEWAGE PUMPS

### APPLICATIONS

Used in a variety of residential, commercial and industrial applications such as:

- Sewage systems, Flood and Pollution Control, De-watering/Effluent, Farms, Hospitals, Trailer Courts, Motels

### SPECIFICATIONS

#### Pump:

- Maximum solid size: 2.5"
- Discharge size: 3", 125 # ANSI flange
- Maximum capacity: 470 GPM
- Maximum total head: 65 feet
- 300 Series stainless steel fasteners
- 20' Power cord
- Standard silicon carbide/silicon carbide outer seal

#### Motor:

- Maximum ambient temperature: 104° F (40° C) continuous duty, 140° F (60° C) intermittent duty
- Rated for continuous duty when fully submerged
- Insulation: Class F
- 60 Hertz
- Single row ball bearings
- 300 Series stainless steel keyed shaft

#### Single Phase:

- 1.5 - 5 HP; 208 and 230 volts
- Built-in thermal overloads with automatic reset
- Built-in capacitors

#### Three Phase:

- 1.5 - 5 HP; 200, 230, 460 and 575 volts
- Class 10 overload protection must be provided in control panel

### MOTORS

- Fully submerged in oil-filled chamber: High grade turbine oil surrounds motor for more efficient heat dissipation, permanent lubrication of bearings and mechanical seal for complete protection against outside environment.
- Class F insulation
- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits and can be operated continuously without damage when fully submerged.
- Bearings: Upper and lower heavy duty ball bearing construction for precision positioning of parts and to carry thrust loads.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. 20 foot standard with optional lengths available.
- O-ring: Assures positive sealing against contaminants and oil leakage.

### AGENCY LISTINGS

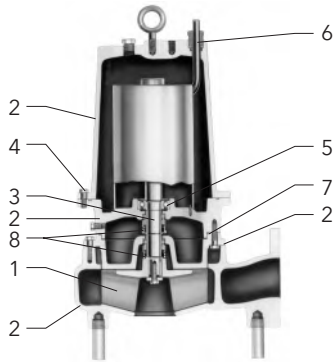


Tested to UL 778 and CSA 22.2 108 Standards  
By Canadian Standards Association  
File #LR38549

### MODEL AND MOTOR INFORMATION

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Power Cable	Full Load Motor Efficiency %	Resistance		Weight (lbs.)
											Start	Line-Line	
WS1518D3M	1.5	1	208	1750	5.25	15.0	50.8	B	14/3	80	1.1	0.9	192
WS1512D3M			230			12.5	29.5	E		70	1.4	1.8	
WS1538D3M			200			11.5	40.9	H		81	NA	1.7	
WS1532D3M		3	230			10.0	40.0	F	14/4	83	NA	2.3	190
WS1534D3M			460			5.0	20.0	F		83	NA	9.3	
WS1537D3M			575			4.0	14.4	H		74	NA	14.8	
WS1518D3		1	208		6.50	15.0	50.8	B	14/3	80	1.1	0.9	192
WS1512D3			230			12.5	29.5	E		70	1.4	1.8	
WS1538D3			200			11.5	40.9	H		81	NA	1.7	
WS1532D3		3	230			10.0	40.0	F	14/4	83	NA	2.3	190
WS1534D3			460			5.0	20.0	F		83	NA	9.3	
WS1537D3			575			4.0	14.4	H		74	NA	14.8	
WS2018D3	2	1	208		7.00	19.0	50.8	B	14/3	80	1.1	0.9	196
WS2012D3			230			16.0	36.9	D		75	1.4	1.5	
WS2038D3			200			11.5	40.9	H		81	NA	1.7	
WS2032D3		3	230			10.0	40.0	F	14/4	83	NA	2.3	194
WS2034D3			460			5.0	20.0	F		83	NA	9.3	
WS2037D3			575			4.0	14.4	H		74	NA	14.8	
WS3018D3		3	208		7.25	25.5	50.8	B	10/3	80	1.1	0.9	205
WS3012D3			230			21.5	46.4	C		79	1.0	1.0	
WS3038D3			200			15.2	53.8	G		85	NA	1.3	
WS3032D3		3	230			12.0	49.5	H	14/4	83	NA	1.9	200
WS3034D3			460			6.0	24.8	H		83	NA	7.5	
WS3037D3			575			4.8	17.3	G		78	NA	11.6	
WS5012D3	5	1	230		8.00	26.5	57.7	A	10/3	80	1.0	0.8	210
WS5038D3			200			18.8	73.9	F		84	NA	0.9	
WS5032D3			230			16.4	63.6	E		85	NA	1.2	
WS5034D3		3	460			8.2	31.8	E	14/4	85	NA	4.8	205
WS5037D3			575			6.8	22.8	E		80	NA	7.4	
WS5037D3			575			6.8	22.8	E		80	NA	7.4	

### MATERIALS OF CONSTRUCTION

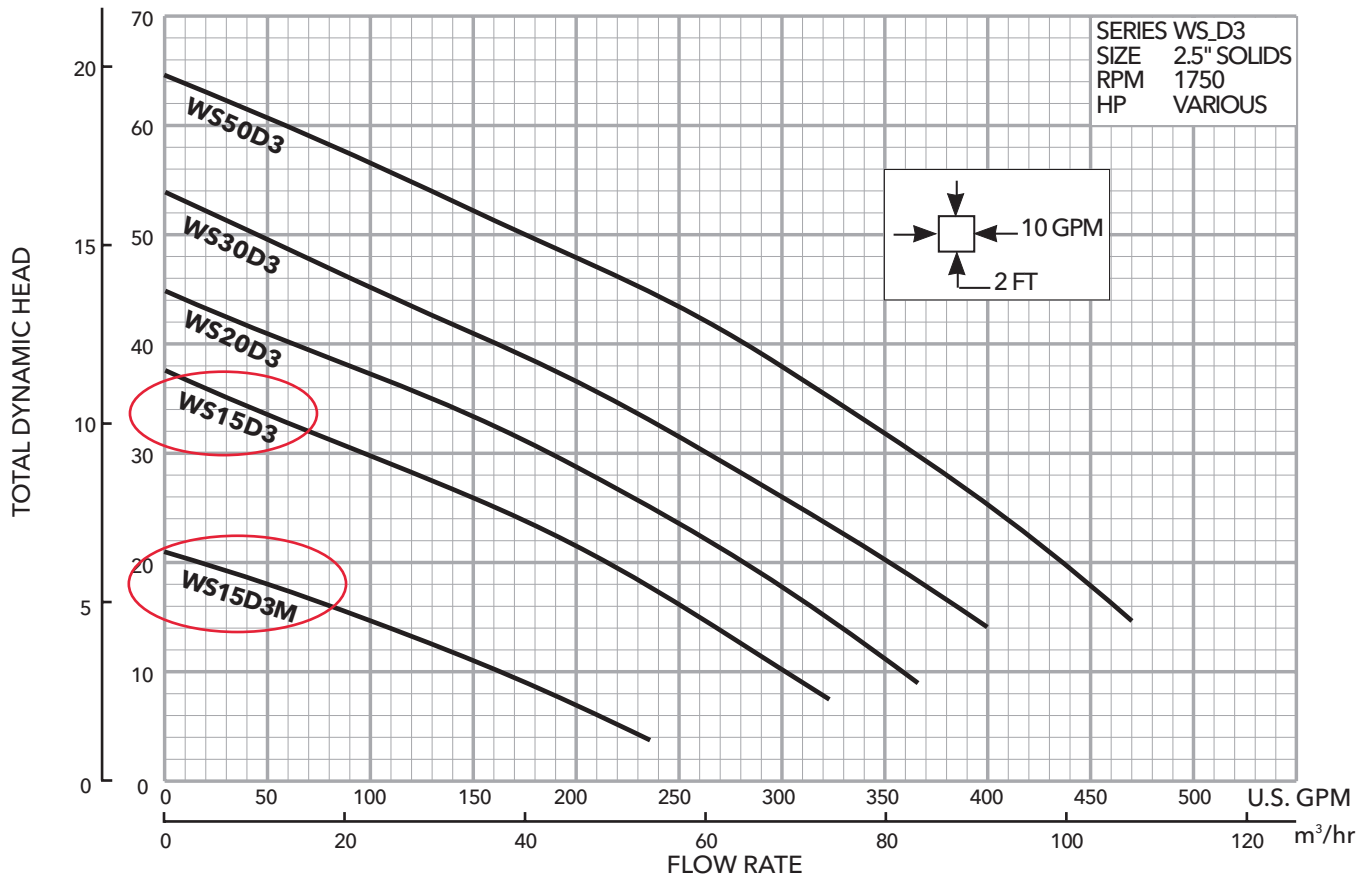


Item No.	Part Name	Material				
		Standard		Optional		
1	Impeller, non-clog	1003		1179		
2	Castings	1003				
3	Shaft-keyed	300 Series SS				
4	Fasteners	300 Series SS				
5	Ball bearings	Steel				
6	Power cable	STOW, 20 feet		Additional lengths		
7	O-ring	BUNA-N				
8	Outer Mech. Seal	Service	Rotary	Stationary	Elastomers	Metal Parts
	OPT	Heavy duty	Silicon Carbide	Tungsten Carbide	BUNA-N	300 Series SS
	STD	Mild abrasives	Silicon carbide		BUNA-N	300 Series SS
	Material Code		Engineering Standard			
	1003		Cast iron – ASTM A48 Class 30			
	1179		Silicon bronze – ASTM C87600			

### PERFORMANCE RATINGS (gallons per minute)

Series No. ▶	WS15D3M	WS15D3	WS20D3	WS30D3	WS50D3
HP ▶	1½	1½	2	3	5
RPM ▶	1750				
Total Head Feet of Water	10	160	300		
	15	90	260	320	
	20		210	280	350
	25		160	235	310
	30		100	185	265
	35			130	210
	40			60	160
	45				100
	50				230
	55				170
	60				115
					60

### METERS FEET

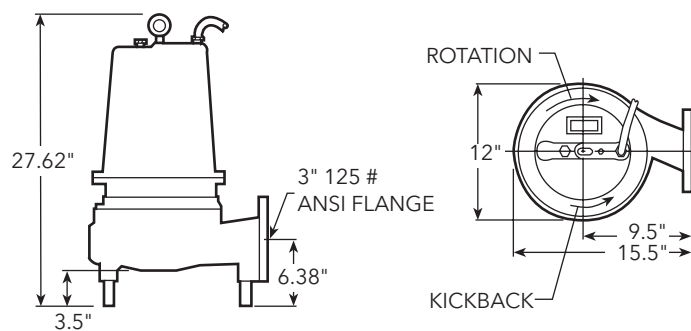


## APPLICATION DATA AND CONSTRUCTION DETAILS

Maximum Solid Size		2.5"
Minimum Casing Thickness		5/16"
Casing Corrosion Allowance		1/8"
Maximum Working Pressure		30 PSI
Maximum Submergence		50 feet
Minimum Submergence		Fully submerged for continuous operation 6" below top of motor for intermittent operation
Maximum Environmental Temperature		40° C (104° F) continuous operation, 60° C (140° F) intermittent operation
Power Cable - Type (See Motor Information for AWG data/size.)		Type SJTOW: single phase, 1½ and 2 HP Type STOW: single phase, 1½ - 3 HP and 5 HP, 460 V Type STOW: single phase, 3 and 5 HP, three phase 5 HP, 230 V
Motor Cover, Bearing Housing, Seal Housing, Casing		Gray Cast Iron - ASTM A48, Class 30
Impeller - Standard, Optional		Gray Cast Iron - ASTM A48 or Cast Bronze - ASTM B584 C87600
Motor Shaft		AISI 300 Series Stainless Steel
Motor Design		NEMA 56 Frame, oil filled with Class F Insulation
Motor Overload Protection		Single phase: on winding thermal overload protection auto reset Three phase: requires Class 10 overloads in control panel
External Hardware		300 Series Stainless Steel
Impeller Type		Semi-open with pump out vanes on back shroud
Oil Capacity - Seal Chamber		1.5 quarts
Oil Capacity - Motor Chamber		1½-5 HP single and three phase: 7 quarts
Mechanical Seals - Standard	Upper	Carbon/Ceramic; Type 21
	Lower	Silicon Carbide/Silicon Carbide; Type 31
Mechanical Seals - Optional Lower		Silicon Carbide/Tungsten Carbide; Type 31

## DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



**xylem**  
Let's Solve Water

Xylem, Inc.  
2881 East Bayard Street Ext., Suite A  
Seneca Falls, NY 13148  
Phone: (866) 325-4210  
Fax: (888) 322-5877  
[www.xyleminc.com/brands/gouldswatertechnology](http://www.xyleminc.com/brands/gouldswatertechnology)

Goulds is a registered trademark of Goulds Pumps, Inc. and is used under license.  
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## **Appendix H:**

### **Sewage Sludge Utilization (SSU) Permit Sample**



**C. Civil or Criminal Liability:**

Nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from civil or criminal responsibilities and/or penalties for non-compliance with Title 9 of the Environment Article, Annotated Code of Maryland, or any federal, local or other State laws or regulations.

**D. Right of Entry:**

The permittee shall ensure that the Secretary of the Maryland Department of the Environment, or the local health official, or their authorized representatives are permitted, at reasonable times and upon presentation of credentials to:

1. Enter upon the permittee's premises or where any records are required to be kept under the terms and conditions of this permit;
2. Have access to and copy any records required to be kept under the terms and conditions of this permit;
3. Inspect any collection, transport vehicles, treatment, pollution management, or control facilities required under this permit;
4. Perform any activities to determine compliance status with the terms and conditions of this permit or the applicable regulations; and
5. Obtain any photographic documentation or evidence.

**E. Transportation:**

1. The permittee is authorized to transport sewage sludge as specified in the SSU Permit Application and its supporting documents referenced in Part I of this permit.
2. The haul route shall be in accordance with a plan as specified in the SSU Permit Application and its supporting documents referenced in Part I of this permit.
3. Liquid sewage sludge (with solids content less than 15%) may be pumped and transported by pipeline. If liquid sewage sludge is transported by truck, rail, or barge, the permittee shall use closed watertight vessels such as tank trucks and railroad tank cars.
4. Sewage sludge cake with solids content between 15 and 20% may be transported in watertight boxes, such as dump trucks or dump trailers properly sealed to prevent leaks, or closed body vehicles (such as concrete

mixer trucks). When sewage sludge cake is transported in dump trucks or dump trailers, the permittee shall comply with the following standards:

- a. The trucks shall be equipped with metal splash guards firmly attached horizontally at the front and rear of the trailer;
- b. Each splash guard shall cover at least 25% of the trailer's open area and have no gaps through which sewage sludge may escape; and
- c. A minimum two feet of freeboard shall be maintained between the sewage sludge and the top of the trailer unless the top of the trailer is completely sealed.

5. Sewage sludge cake with solids content between 20 and 35% may be transported in watertight boxes, such as dump trucks or dump trailers properly sealed to prevent leaks, or closed body vehicles (such as concrete mixer trucks). When sewage sludge cake is transported in dump trucks or dump trailers, the permittee shall comply with the following standards:

- a. The permittee shall ensure that the transporting trucks are equipped with metal splash guards firmly welded horizontally to the front and rear body of the trailer. Each splash guard shall cover at least four feet of the length of the trailer. No gaps through which sewage sludge may escape shall exist between the splash guards and the trailer body;
- b. A medium to heavy-duty solid vinyl tarp shall cover the open area of the trailer and shall overlap the splash guards horizontally by a minimum of one foot. The tarp shall be drawn tightly across the top of the trailer and be firmly held in place with straps that are attached to ratchets bolted to the trailer. The tarp shall cover the top of the trailer so that there is no vertical gap through which sewage sludge may escape between the tarp and the sides of the trailer, or the tarp and the splash guards;
- c. For sewage sludge cake with solids content between 20 and 25%, a minimum of two feet of freeboard must be maintained between the sewage sludge and the top of the transport vehicle.
- d. For sewage sludge cake with solids content between 25 and 35%, a minimum of one foot of freeboard must be maintained between the sewage sludge and the top of the transport vehicle.

6. Dried sewage sludge (with solids content greater than 35%) may be transported in open boxes, such as dump trucks, which are properly sealed to prevent leakage. The permittee shall cover the trucks with tarps or the equivalent.
7. The permittee shall clean the transport vehicle(s) on site to prevent drag-out of dirt or sewage sludge onto public roads. In the event dirt or sewage sludge is tracked out onto the roads, the permittee shall immediately initiate clean-up activities.
8. The permittee shall have available in the cab of each transport vehicle(s) a copy of page one of this SSU Permit, and a copy of the sewage sludge analysis report that was submitted to the Department as part of this permit application submittal.

**F. Spill Control:**

1. The permittee shall report to the Department, within one hour of becoming aware of its occurrence, any spills or unauthorized discharges of sewage sludge occurring either in transit or due to site conditions at either (410) 537-3315 during working hours, or at (866) 633-4686 during non-working hours.
2. In the event of a spill, the permittee shall ensure that cleanup procedures are initiated as soon as possible, but no later than two hours after becoming aware of the spill. The permittee shall complete the cleanup to the satisfaction of the Department.

**G. Recordkeeping and Reporting Requirements:**

1. The permittee shall keep all records required by this permit and the following information:
  - a. The source(s) and type(s) of sewage sludge that was transported;
  - b. The quantity, including documentation, of the sewage sludge that was transported;
  - c. The types of treatment the transported sewage sludge received;
  - d. The dates of transportation of treated and untreated sewage sludge;
  - e. The destinations and final utilization of treated and untreated sewage sludge;
  - f. Descriptions of problems encountered and their solutions;



## ATTACHMENT B



# MYSTIC HARBOR WASTEWATER TREATMENT PLANT STORAGE BUILDING FEASIBILITY STUDY



MARCH 2022

GMB FILE NO. 210218



GEORGE, MILES & BUHR, LLC

**ARCHITECTS/ENGINEERS**

206 WEST MAIN STREET  
SALISBURY, MD 21801  
410.742.3115

SALISBURY/BALTIMORE/SEAFORD



## **PART 1 – EXECUTIVE SUMMARY**

Worcester County hired George, Miles, and Buhr to perform a building analysis on the storage building at Mystic Harbor Wastewater Treatment Plant. The main purpose of the study was to examine the existing MEP systems necessary for upgrades, perform structural examinations of the building to determine the best repair strategies and to prepare conceptual aesthetic studies, code review and general renovation recommendations. A conceptual estimate and code review has been provided to assist in future budget planning.

This is a report of our findings and site observations made on September 16, 2021. We performed a detailed, but non-invasive, inspection of the Mystic Harbor Storage Building. Where construction could not be confirmed by cursory visual inspection, we have assumed the construction based on our past experiences with buildings of similar construction and age and existing building drawings received from the county.

We have supplemented our work with photos illustrating the general overall condition of the building and areas of concern.

Recommendations for solutions and improvements that have been made in this report are conceptual and depict a possible future design based on input from Worcester County. A revised solution and cost estimate was provided in January 2022 based on additional Worcester County feedback that differed from the original scope.

The estimates of cost shown are intended to suggest the comparative scale of probable cost future repairs and improvements as described herein. The costs have been assembled using industry recognized square foot methods and reflect current day construction for buildings of similar size, type and complexity as this building. They do not represent an actual design and should only be used as a tool for future budgeting by Worcester County, Maryland. Additional factors such as inflation, scheduling of construction and burden of external pressures such as COVID-19 will need to be accounted for once the final design is initiated.

## **PART 2 – EXISTING CONDITIONS SURVEY**

### **GENERAL**

The Mystic Harbor Storage Building is a 3,696 square foot concrete masonry building with wood truss framed roof. The building was built in 1975 and was formerly the treatment plant building. The building contains many raised equipment pads, abandoned electrical equipment and various other items not in use. The building also has a below grade metal tank the has been cut off at finish floor level and filled with concrete located in the southeast corner of the building. It also has a raised room once used as a chemical room. The building has been left unused for over ten years and will require significant renovation for upgrade and rehabilitation.

### **BUILDING SHELL**

Overall, the masonry appears in acceptable condition with a few holes that would need to be patched and minor repointing of masonry mortar. The existing condition of the roof shingles were hard to evaluate but there is some discoloration at a minimum. The existing pre-engineered wood roof trusses do not have hurricane ties and hold-down straps/anchorage were not observed at wall. Some truss tails are damaged in areas and will require repair. Most of the gutters and downspouts are missing and the fascia boards are exposed and mostly deteriorated. The hinged doors appear to be in fair to good condition, but the overhead sectional door is in poor condition and should be replaced. Rust was observed on the steel lintel above the overhead door and the opening has been parged indicating a potential underlying condition that was not visible at the time of the site visit. Cracks were observed above the overhead door which appeared to be stress related and should be further evaluated.

### **INTERIOR**

The interior exhibits signs of flooding with standing water on the existing slab at the time of this survey. There are multiple sheets of drywall missing from the ceiling and the rest of ceiling is peeling. A portion of the interior masonry wall has been damaged at the interior opening. The stairs and railings are not code compliant.

### **SITE**

The grading on the south side of the building creates a positive flow away from the building but is still prone to flooding during extreme weather events. There is a propane tank and gas connection on this facade.

The west side has a couple of electrical transformers with the grade sloping toward the overhead sectional door in the middle of the west wall creating a negative drainage condition

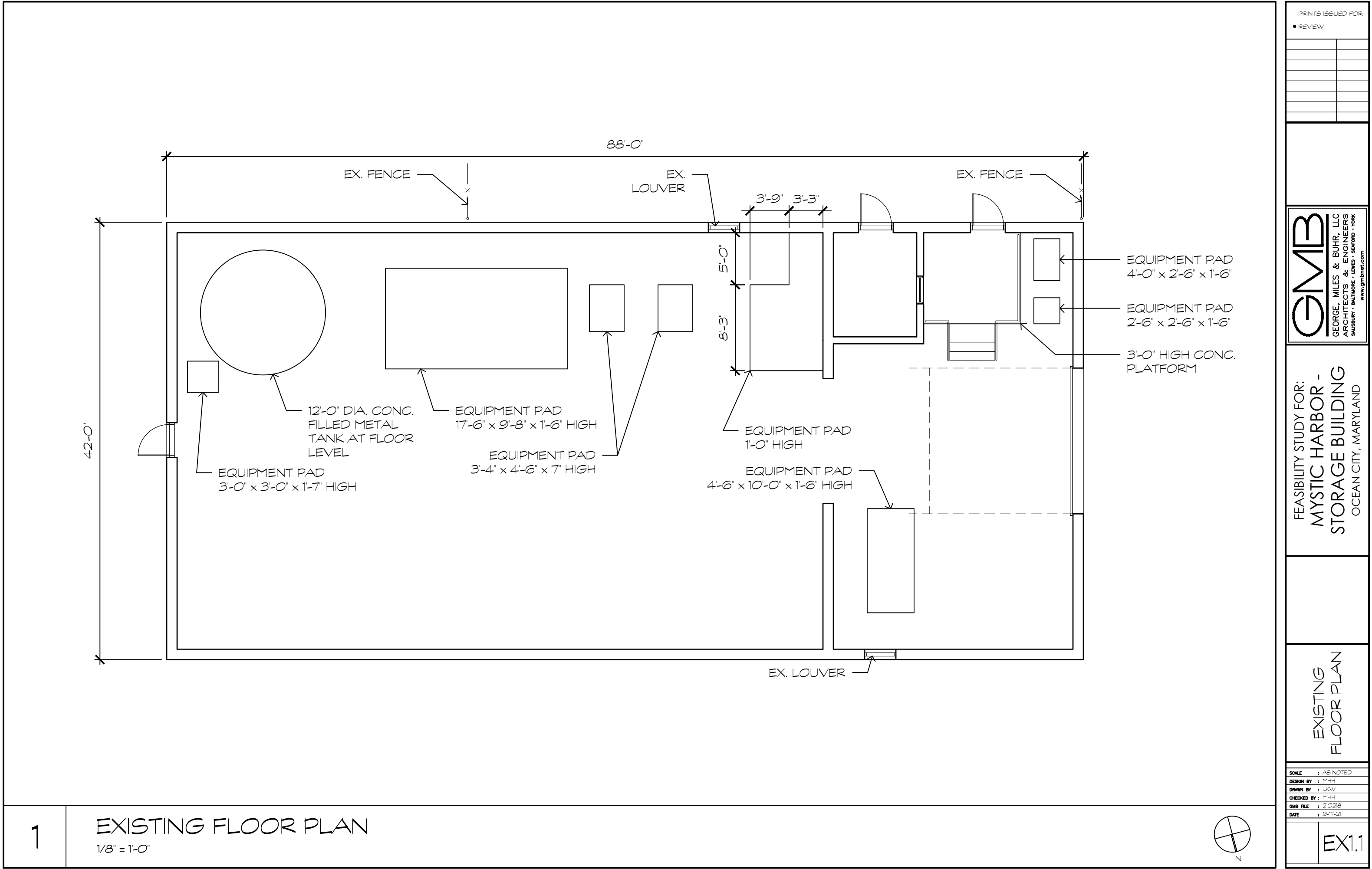
The north side of the building has the highest grading and likely has contributed to the ongoing water migration problems inside the building. The exterior grading in some locations is

higher than the inside slab elevation. About two-thirds of this elevation has a fenced in area housing the new emergency radio tower and equipment. The east side of the building grade slopes significantly to the hinged door in the center of the wall.

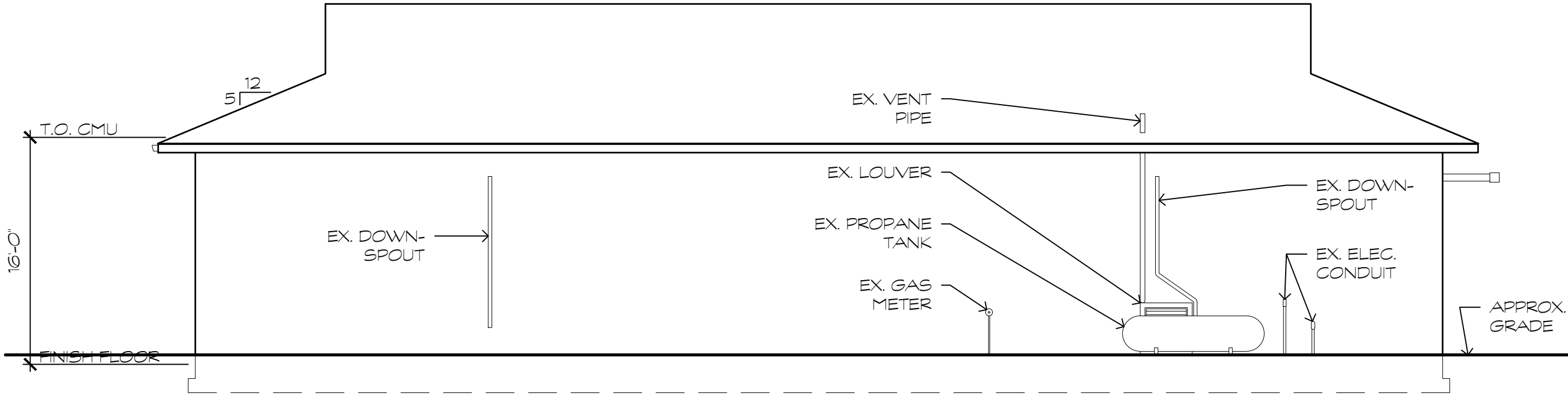
## **CODE**

The building is zoned residential (R-4) with an occupancy classification of Storage (S-1). No bathroom is provided inside the building, but we have suggested a future location and estimated the cost of stubbing a gravity sewer and water line for the future renovation. A new toilet room is not required by code. The renovated building will only be used for storage by the county.

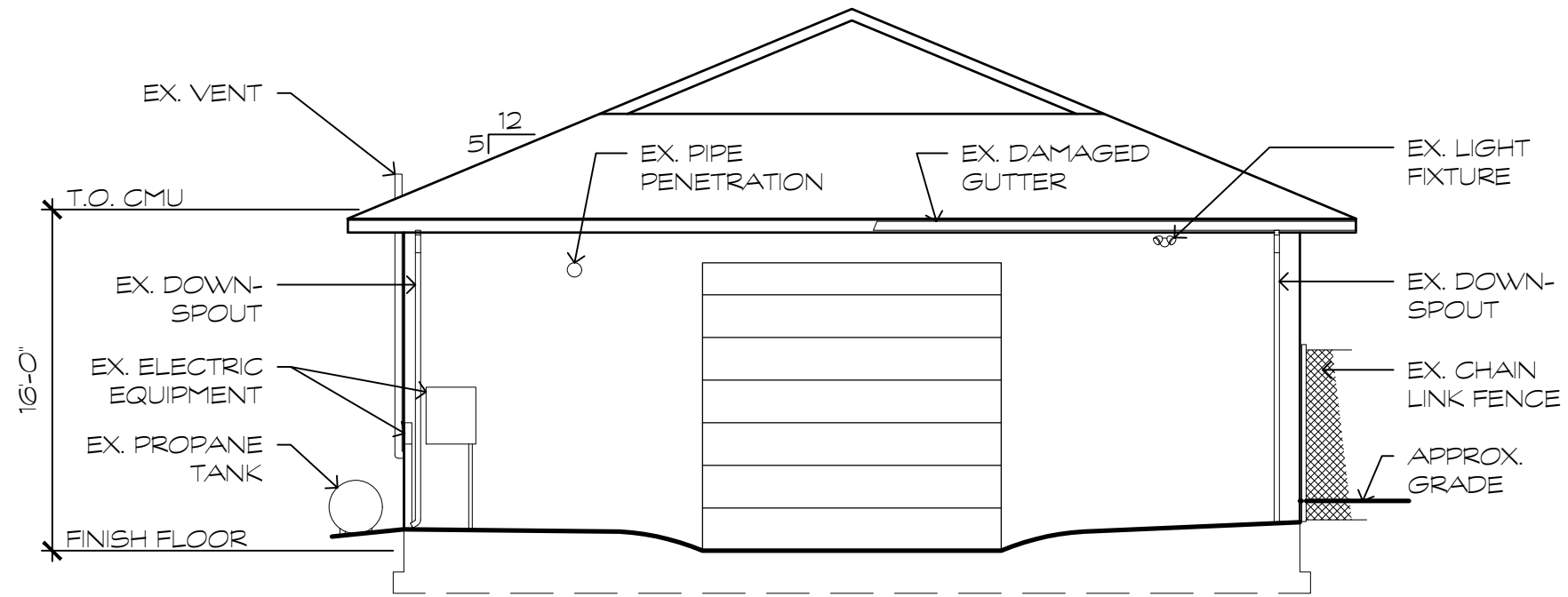
**END OF SECTION**



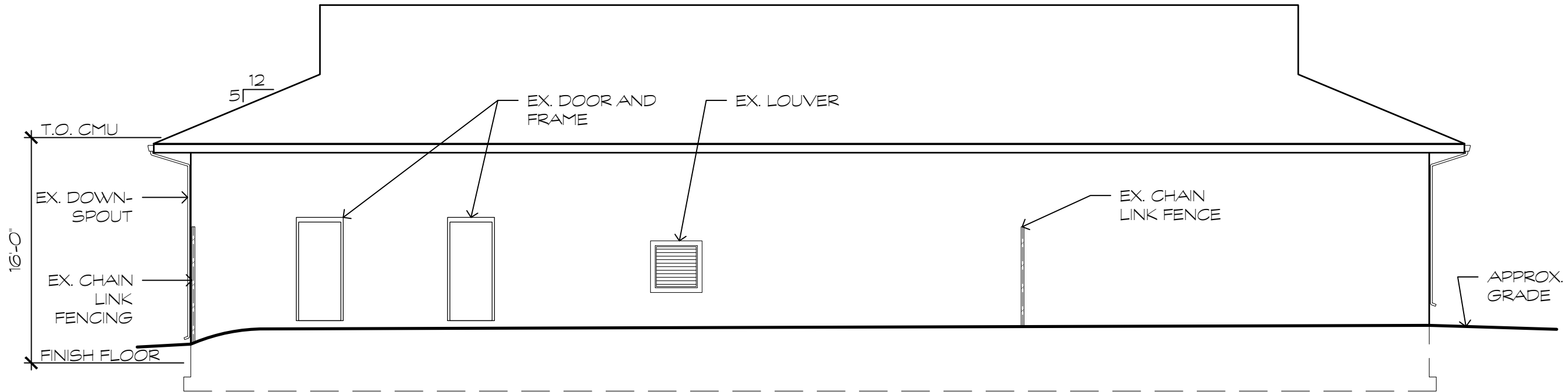




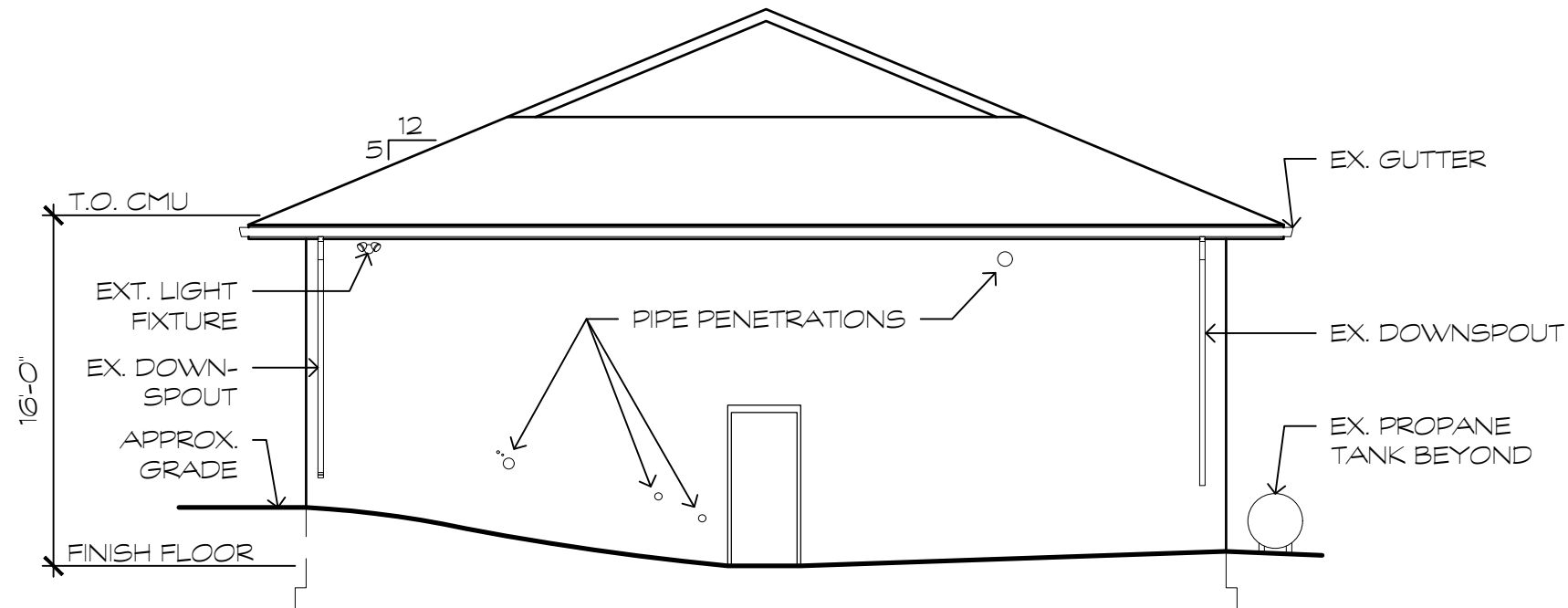
NORTH ELEVATION



WEST ELEVATION

SOUTH ELEVATION



EAST ELEVATION

1

## EXISTING ELEVATIONS

1/8" = 1'-0"

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FEASIBILITY STUDY FOR:  
**MYSTIC HARBOR -  
STORAGE BUILDING**  
OCEAN CITY, MARYLAND

EXISTING  
ELEVATIONS

SCALE : AS NOTED  
DESIGN BY : MHH  
DRAWN BY : LSW  
CHECKED BY : MHH  
GMB FILE : 210218  
DATE : 9-17-21

EX2.2

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## STORAGE BUILDING

Existing Pictures – 9/16/21



1. West Side – Missing gutter and deteriorated fascia.



2. West Side – Overhead door and grading



3. North Side – Existing propane tank, deteriorated fascia, missing gutter and grading.



4. North Side – Deteriorated Fascis, missing gutter and grading



5. East/North Side – Deteriorated Fascia and grading.



6. East Side – Significant slope to hinged door





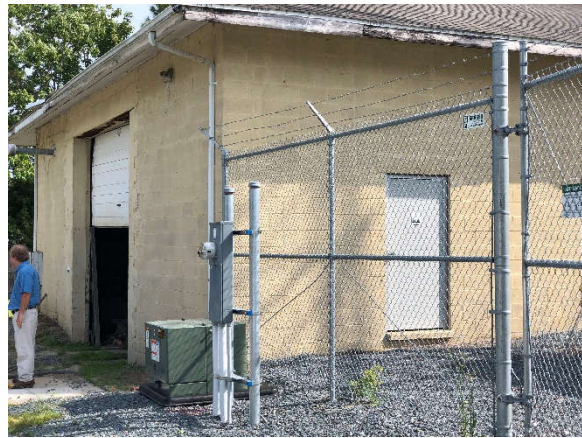
7. East/South Side – Deteriorated Fascia, grading and emergency radio tower



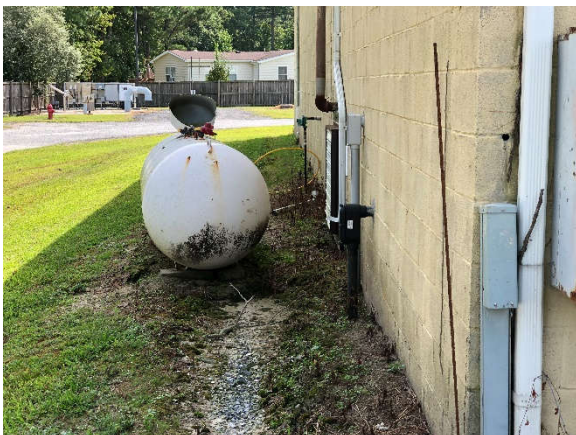
8. South Side – Fence encloser and hole in CMU



9. South Side – Louver in masonry



10. South/West Side – Concrete platform hinged door and fence enclosure



11. North Side – Propane Tank



12. North Side – Louver in masonty and downspout





13. South Wall - Stair to concrete platform



14. South Wall - Ceiling above concrete platform



15. Southwest - Existing chemical room and concrete stair



16. Southeast - Abandoned electrical equipment and equipment pad



17. North Wall - Ceiling above electrical equipment



18. Interior wall damage





19. South Wall – existing louver and equipment



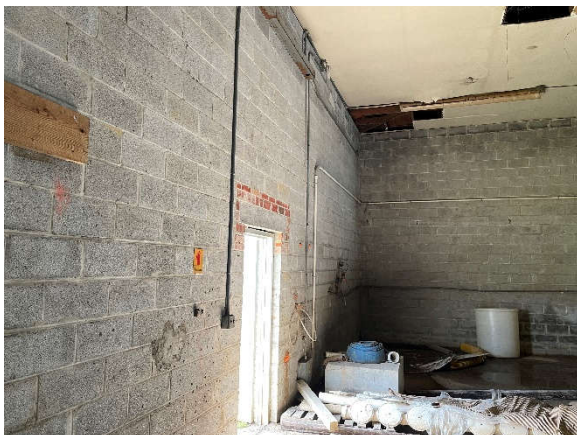
20. South Wall – equipment pad



21. Existing equipment pad



22. Southeast Corner – Existing equipment pads and burried metal tank



23. East Wall - Door opening, burried metal tank and equipment pad



24. Northeast Corner – Existing equipment pad and door opening



25. North Wall – Drywall ceiling damage



26. West Wall – Existing overhead door beyond

**END OF SECTION**

## **PART 3 – PROPOSED NEW CONSTRUCTION**

### **GENERAL**

The County would like to repair and upgrade the building for a storage use. Plan changes and removal of unwanted items are required. Items to be removed would be the stair and platform, the existing chemical room, and the existing interior masonry partitions. The removal of these items will create for one large open storage area. Additionally, the county would like the finish floor level to be raised to hinder the chance of future water intrusion. The existing housekeeping concrete pads can remain in place, at least in part, while new structural fill and stone is installed. A new concrete slab is poured to raise the existing slab elevation a total of sixteen inches minimum. New overhead sectional doors will be installed on the west and east walls and a two new hinged door installed on the south facade. The existing drywall ceiling will have to be removed and replaced entirely with moisture resistant drywall of marine grade plywood.

### **BUILDING SHELL**

The exterior masonry walls will be repointed as necessary and repainted. Lintels and openings will be inspected and repaired as necessary. The plywood soffits will be replaced with vented vinyl soffits and new fascia boards will be installed with aluminum break metal coverings. The asphalt shingle roof will be removed and replaced with new shingles, underlayment, and repair damaged substrate as necessary. Pre-engineered wood trusses will be repaired as required, hurricane ties at each rafter will be installed and proper hold-down strap/anchorage to the wall will be installed. Damaged areas of truss tails and associated soffit and fascia components will be repaired as necessary. New gutters and downspouts will complete the exterior refurbishments.

### **INTERIOR**

All existing interior walls will be removed as well as the floor so that the floor elevation the building will be consistent throughout. The concrete platform, stairs and railing will be removed as well. Some equipment pads will need to be removed depending on their height compared to the new finish floor level. The buildings finish floor level will be raised. As a result, new overhead doors will be installed in new openings. # 57 stone and structural fill will need to be installed and compacted to support a new 5" concrete slab. We are suggesting the floor be raised sixteen inches minimum via a new slab. The two new door openings will be based on the new finish floor level. The existing drywall ceiling will need to be completely replaced with 5/8-inch moisture resistant type-x gypsum board or marine grade plywood.

### **SITE**

The existing site grading around the building perimeter will be revised based on the new finish floor and shall create a positive drainage flow away from the building. South side grading



will need to be maintained at the fenced in emergency radio tower location. The existing south side grading shall be maintained at the fenced in emergency radio tower location. Although civil/site was not within the scope of this report, the county agrees the regrading effort required for raising the building's finish floor elevation is necessary.

## **CODE**

This building has been used as a storage building for some time and will continue that same use of Storage (S-1) occupancy. Therefore, the renovation will fall under IEBC 2018 as a level 2 alteration since less than ten percent of the building is being reconfigured.

According to section 303 of the 2018 International Existing Building Code, the proposed alteration will not result in increased design live load therefor the existing gravity load carrying elements are permitted to be evaluated and designed for the previously approved live loads.

Although some of the alterations include structural components the proposed upgrade is not considered to be a substantial structural alteration (less than 30% of the structure will be altered). The proposed alterations include repairing/replacing the roof shingles and the building is in a "high wind" location. These conditions shall require a review/evaluation of the roof framing and connections to the walls to ensure appropriate resistance of 70% of the wind load specified in 2018 IBC in their current condition.

Based on our observations and review of past snow and wind events, meeting the code requirements shall be feasible by providing proper connecting elements and strengthening existing members. This will require additional data collection and analysis of the roof trusses as part of the next design stage. The masonry walls provide lateral support, with the aid of an infrared camera and a rebar locator current condition of the masonry walls can be determined and reviewed for lateral support per code since they are a lateral load resisting element, this analysis will be performed in the next design stage.

**END OF SECTION**

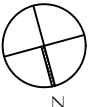
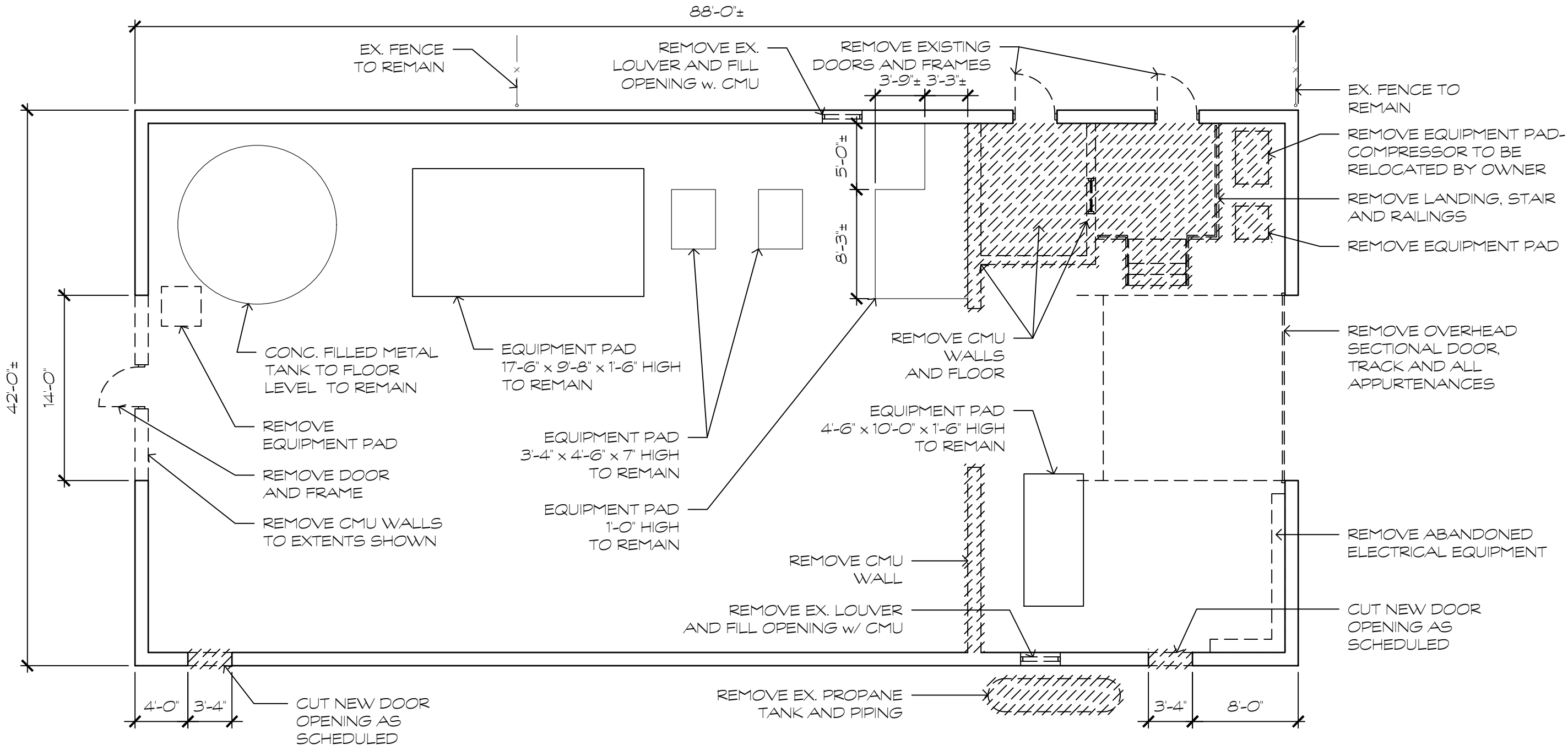
DEMOLITION NOTES:

- 1. REMOVE EXISTING ROOF VENTS.
- 2. REMOVE EXISTING GUTTERS AND DOWNSPOUT.
- 3. REMOVE EXISTING FASCIA BOARDS.
- 4. INFILL EXISTING WALL PENETRATIONS.
- 5. EXISTING EQUIPMENT PADS TO BE REMOVE TO A HEIGHT OF 8" ABOVE FINISH FLOOR, TYPICAL

LEGEND:

EXISTING WALL TO REMAIN

EXISTING CONSTRUCTION TO BE REMOVED



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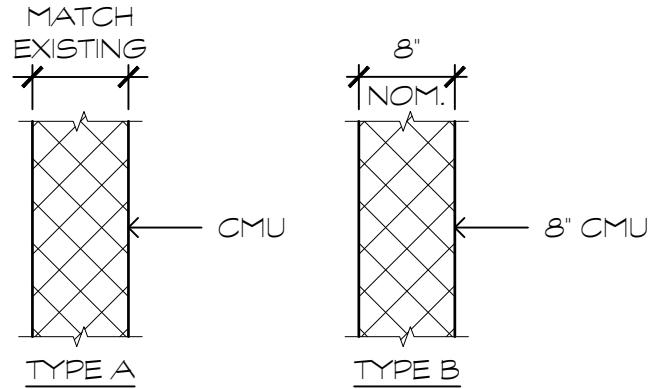
FEASIBILITY STUDY FOR:  
**MYSTIC HARBOR -  
STORAGE BUILDING**  
OCEAN CITY, MARYLAND

DEMOLITION  
FLOOR PLAN

SCALE	: AS NOTED
DESIGN BY	: MHH
DRAWN BY	: LSW
CHECKED BY	: MHH
GMB FILE	: 2028
DATE	: 9-17-21

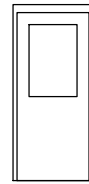
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## WALL TYPES:

3/4" = 1'-0"



①

3'-0" X 7'-0"  
1 3/4" THICK STEEL INSULATED HALF-LITE DOOR  
INSULATED HOLLOW METAL FRAME  
1 1/2 PR HINGES (BB)  
1 ENTRANCE LOCKSET  
1 CLOSER  
1 WEATHER STRIP  
1 THRESHOLD



②

14'-0" X 12'-0"  
INSULATED STEEL SECTIONAL DOOR  
HARDWARE PROVIDED BY  
SECTIONAL DOOR MANUFACTURER

## LEGEND:



EXISTING WALL TO REMAIN



NEW WALL/INFILL

## DOOR SCHEDULE

1/8" = 1'-0"

STUB IN  
PLUMBING  
FOR FUTURE  
BATHROOM

NEW 8'-0"  
DEEP CONC.  
APRON

EX. EQUIPMENT PADS  
TO BE REMOVED TO  
HEIGHT OF NEW  
CONC. SLAB (TYP.)

NEW CONCRETE FLOOR  
RAISED 8"

STORAGE AREA

NEW 8'-0"  
DEEP CONC.  
APRON

NEW CONC.  
FILLED STEEL  
BOLLARD  
(TYP.)

NEW EXIT SIGN  
(TYP.)

NEW 5'-0" X 5'-0"  
CONC. STOOP  
(TYP. EXT. DOORS)

NEW OVERHEAD  
DOOR IN EX.  
OPENING

NEW CONC.  
FILLED STEEL  
BOLLARD  
(TYP.)

NEW DOWN-  
SPOUT AND  
GUTTER  
(TYP.)

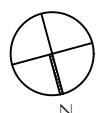
### INTERIOR FINISH NOTES:

- NEW 5/8" MOISTURE RESISTANT TYPE-X GWB
- PAINT NEW CEILING AND NEW AND EXISTING CMU WALLS
- NEW CONCRETE SLAB WITH FLOOR HARDENER
- NEW HINGED DOORS AND FRAMES TO BE PAINTED.

1

## FLOOR PLAN

1/8" = 1'-0"



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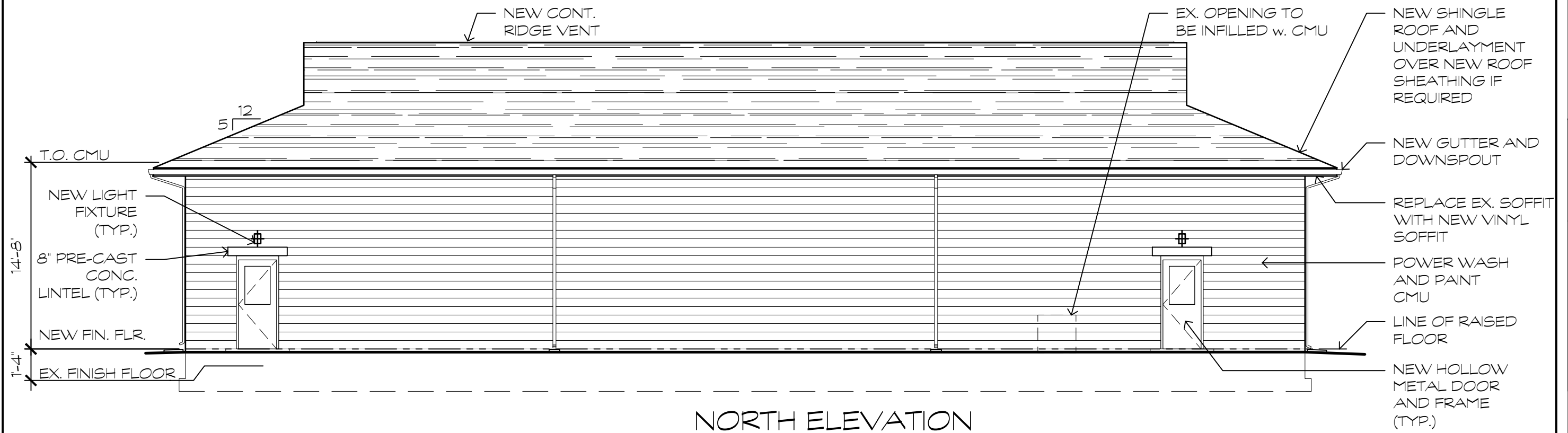
FEASIBILITY STUDY FOR:  
**MYSTIC HARBOR -  
STORAGE BUILDING**  
OCEAN CITY, MARYLAND

FLOOR PLAN

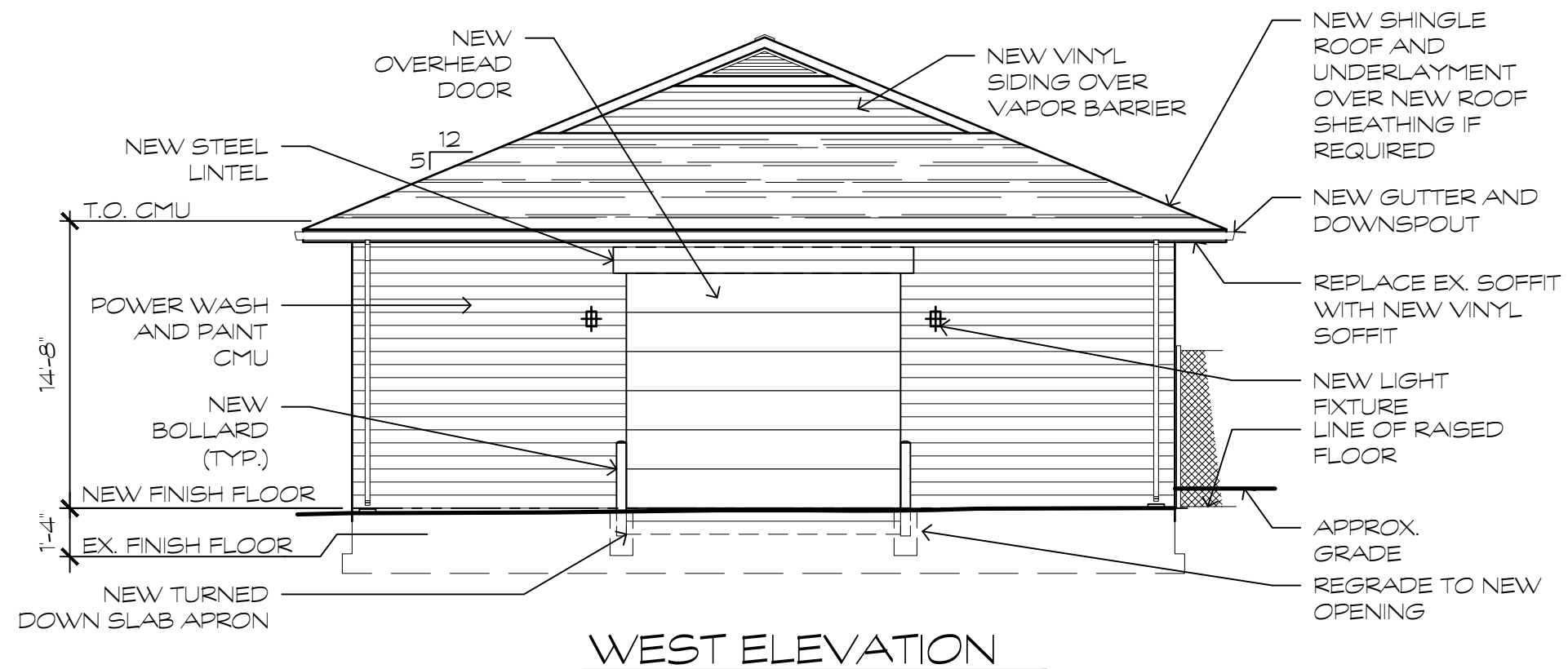
SCALE : AS NOTED  
DESIGN BY : MHH  
DRAWN BY : LKW  
CHECKED BY : MHH  
GMB FILE : 2028  
DATE : 9-17-21

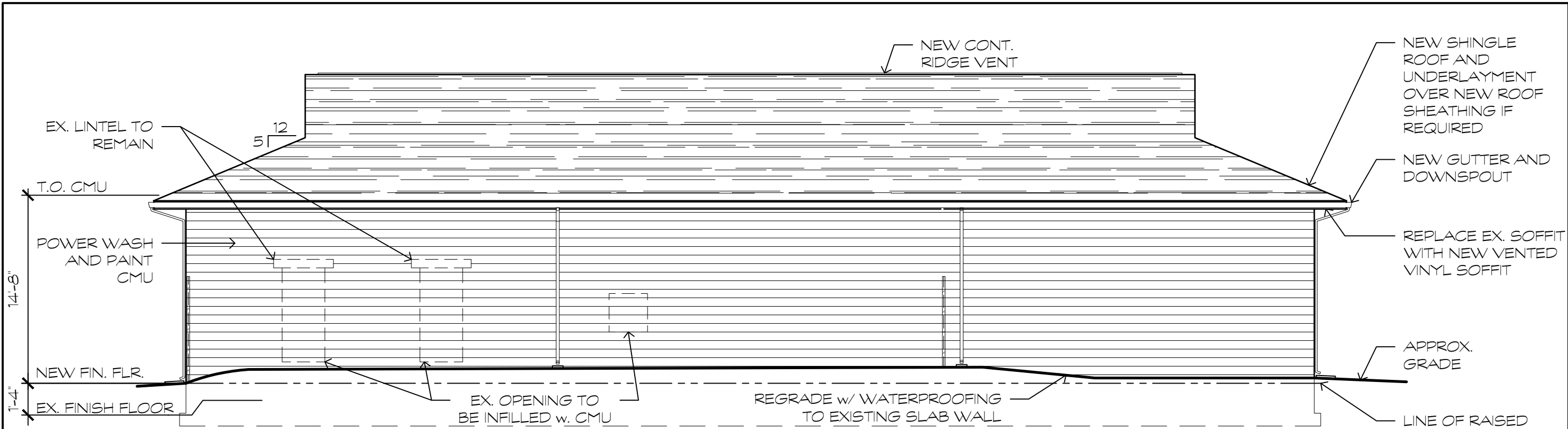
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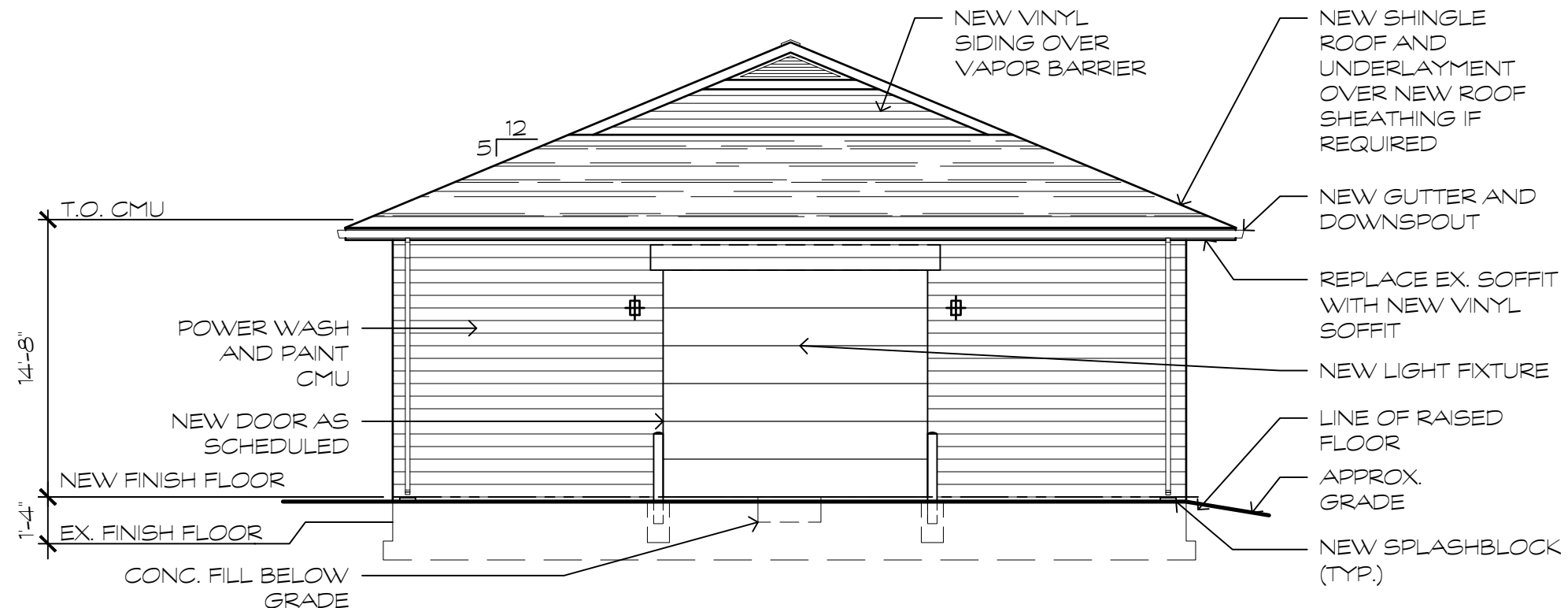


NOTE:  
REGRADING MAY REQUIRE  
NEW TOP SOIL





**SOUTH ELEVATION**



**EAST ELEVATION**

**Mystic Harbor Storage Building - Code Review****International Building Code 2018****NFPA 101 - Life Safety Code 2018****International Existing Building Code 2018**

TOPIC	DESCRIPTION	CODE REFERENCE
OCCUPANCY GROUP	STORAGE (S-1) LEVEL 2 ALTERATION (SPACE RECONFIGURATION LESS THAN 50%) STORAGE  THE OCCUPANT LOAD HAS NOT BEEN INCREASE BY 20%, THEREFORE NO PLUMBING CHANGES ARE REQUIRED.	IBC SECT. 306.2 IEBC CHAPTER 8 NFPA 6.1.13  IEBC 809
CONSTRUCTION CLASSIFICATION	TYPE V-B, NONSPRINKLERED	IBC TABLE 601
AREAS	MAX. ALLOWABLE AREA: 13,500 S.F.  FLOOR AREA: 3,696 S.F.	IBC TABLE 506.2
WALL AND CEILING FINISH	BUILDING EXIT ENCLOSURE CLASS B ROOMS CLASS C	IBC TABLE 803.13 NFPA 38.3.3.2
OCCUPANT LOAD	SCALE HOUSE: 3696 SF/500 7 OCC.	IBC TABLE 1004.5 NFPA TABLE 7.3.1.2
INCIDENTAL USE	SHALL NOT OCCUPY MORE THAN 10% OF BUILDING AREA (OFFICES = 278 S.F.)	IBC 509.3

**Mystic Harbor Wastewater Treatment Plant**  
**Storage Building**  
**GMB File No. 210218      Feasibility Cost Estimate**  
**Revised January 2021**



Item No.	Description	Size or Depth	Unit	Unit Price	Quantity	Total Price
<b>A. ADMINISTRATIVE</b>						
	General Conditions			7% of Construction Subtotal		\$25,067.47
				Subtotal:		\$25,067.47
<b>B. BUILDING</b>						
<b>Demolition and Repair</b>						
	Remove existing CMU Walls		SF	\$4.00	879	\$3,516.00
	Remove existing hinged doors		EA	\$130.00	3	\$390.00
	Remove existing overhead door		EA	\$500.00	1	\$500.00
	Remove existing louvers		EA	\$55.00	2	\$110.00
	Remove existing concrete equipment pads		CF	\$30.00	451	\$13,530.00
	Remove existing conc. Floor, stair landing and stairs		CF	\$30.00	266	\$7,980.00
	Remove existing stair railings		Allow	\$250.00	1	\$250.00
	Remove damaged fascia, downspouts and gutter		Allow	\$2,500.00	1	\$2,500.00
	Remove existing roof sheathing		SF	\$1.75	4735	\$8,286.25
	Remove existing shingled roof and gable vents		SF	\$1.00	4735	\$4,735.00
	Remove existing GWB ceiling		LF	\$3.50	3440	\$12,040.00
	Remove existing soffit		SF	\$2.50	675	\$1,687.50
	Remove existing abandoned electrical equipment		Allow	\$1,500.00	1	\$1,500.00
	Cut in new door openings		SF	\$6.00	63	\$378.00
	Remove existing propane tank and piping		Allow	\$3,500.00	1	\$3,500.00
	Dumpster		Allow	\$5,000.00	1	\$5,000.00
				Subtotal:		\$65,902.75
<b>Proposed New Construction</b>						
	New CMU infill		SF	\$19.00	50	\$950.00
	New Overhead doors		EA	\$5,000.00	2	\$10,000.00
	New hinged doors and hardware (exterior)		EA	\$2,500.00	2	\$5,000.00
	New concrete floor (5")		CY	\$320.00	85	\$27,200.00
	New #57 stone		SF	\$1.75	3440	\$6,020.00
	New structural fill		CY	\$35.00	85	\$2,975.00
	Paint - Interior walls and ceiling		SF	\$1.50	7409	\$11,113.50
	Paint - Exterior		EA	\$2.25	3637	\$8,183.25
	New Fascia and breakmetal		LF	\$11.00	526	\$5,786.00
	New gutters and downspouts		LF	\$11.50	404	\$4,646.00
	New roof underlayment		SQ	\$130.00	47.5	\$6,175.00
	New shingle roof		SQ	\$310.00	47.5	\$14,725.00
	Conc. Floor sealer		SF	\$2.50	3440	\$8,600.00
	New vinyl soffit		SF	\$6.00	675	\$4,050.00
	New vinyl siding		SF	\$4.25	73	\$310.25
	New gable vents		EA	\$875.00	2	\$1,750.00

[illegible]



Item No.	Description	Size or Depth	Unit	Unit Price	Quantity	Total Price
	<p>Pandemic Contingency: A 25% inflation rate has been made for cost increases due to prevailing COVID19 pandemic conditions. Inflated material costs have not yet started to return to pre-COVID19 levels, and continue to increase in many different trades. This is expected to last through 2022, and costs are still changing daily. These unpredictable fluctuations increase the difficulty of bidding a large project that is projected to span nearly two years in construction, so bidding contractors will have to markup prices in anticipation of higher costs. When or if costs may return to pre-pandemic rates or stabilize is unknown. The unpredictable nature of these impacts has been factored into this cost estimate to the best of our ability based on recent bids received for other projects and industry reports. Additional pandemic-related impacts include supply chain problems, construction delays due to COVID19 exposure, material and labor shortages, shutdowns, increased jurisdictional restrictions on jobsites and social distancing, etc. All of these factors create a volatile bidding climate that has not yet returned to pre-COVID19 costs or predictability.</p>					

## **PART 4 – SUMMARY**

The existing building's construction will need to be repaired to make way for the renovation work to follow. The existing masonry should be repaired and repointed as required. The existing fascia, gutter, soffit and downspout should be removed and replaced in their entirety. The existing shingled roof and the existing gable vents should be replaced. Partial demolition to the existing chemical and the removal of the concrete platform and stairs are needed to progress the alteration.

Two new overhead doors will be installed in the west and east walls of the building and two new egress doors will be installed on the north facade. Finish floor of the building will be raised 16 inches and the two new overhead doors will be installed on each end of the building. One will be in the existing opening on the west wall which will be reduced in size to accommodate the new higher finish floor elevation. The other will be in a new opening on the east side of the building. New finishes such as paint, new ceilings are additional improvements.

The exterior of the building will be freshened up. The new exterior upgrades include a new shingle roof with new gable vents and gable vinyl siding. New fascia, gutters, downspouts, and vented vinyl soffits will improve the buildings appearance. New paint on the exterior masonry will complete the exterior alteration.

We have tried to identify as inclusive a list of work items as possible but recognize that the limitations of visual observation without more investigative examination may in fact uncover additional issues for consideration. To balance this likelihood, we believe we have incorporated sufficient contingency in the cost estimate to enable preparation of a reasonable long term planning budget for this project.

**REQUIREMENTS AND CONTRACT PROVISIONS FOR THE TREATMENT WORKS PROJECTS  
FINANCED THROUGH THE MARYLAND WATER QUALITY REVOLVING LOAN FUND  
AND THE MARYLAND DRINKING WATER REVOLVING LOAN FUND**

**DEPARTMENT OF THE ENVIRONMENT**

**STATE OF MARYLAND**

The project or segment thereof to be constructed in accordance with these contract documents is subject to the following requirements. In the event of conflict with other requirements of the contract documents, the following requirements control unless the requirement is a minimum requirement. Nothing in this document shall be construed to prohibit the owner from requiring additional assurances, guarantees, indemnities, or other contractual requirements from any other party to this agreement.

- I. ASSURANCES FOR COMPLIANCE WITH THE FOLLOWING FEDERAL AND STATE LAWS AND REGULATIONS:**
  - 1. NON-DISCRIMINATION IN EMPLOYMENT**
  - 2. DEBARMENT**
  - 3. ANTI-KICKBACK**
  - 4. CONTRACT WORK HOURS AND SAFETY STANDARDS.**
  - 5. COMPLIANCE WITH CFR 40 247– 254 (RCRA - SECTION 6002)**
  - 6. COMPLIANCE WITH PREVAILING FEDERAL WAGE RATES UNDER THE DAVIS-BACON AND RELATED ACTS IN ACCORDANCE TO SECTION VI OF THIS DOCUMENT**
  - 7. MARYLAND ANTIDEGRADATION IMPLEMENTATION PROCEDURES**
  - 8. COMPLIANCE WITH BUILD AMERICA, BUY AMERICA (BABA) ACT**
  - 9. PROHIBITION ON CERTAIN TELECOMMUNICATION AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (2 CFR 200.216)**
- II. DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION**
  - **GUIDANCE DOCUMENTS AND FORMS**  
(Performance of the good faith steps are required, regardless of goal achievement. All information is to be submitted to the owner, prior to the owner's award of the contract, UNLESS OTHERWISE DIRECTED BY THE OWNER).
- III. PRESIDENTIAL DOCUMENTS**
  - **ATTACHMENT II**  
  
**EXECUTIVE ORDER 13202 of February 17, 2001**  
  
**EXECUTIVE ORDER 13208 of April 8, 2001**
- IV. SEVERABILITY**
- V. PROJECT SIGNS**
- VI. FEDERAL WAGE RATE REQUIREMENTS UNDER THE DAVIS-BACON AND RELATED ACTS**

## **I. ASSURANCES**

The contractor is required to comply with the Federal laws and regulations in regard to non-discrimination in employment, debarment, anti-kickback, contract work hours and safety standards, and prevailing Federal wage rates under the Davis-Bacon and related acts as delineated below.

### **1. Non-discrimination in Employment:**

The contractor is required to comply with Executive Order 11246 of September 24, 1965 entitled “Equal Employment Opportunity” as amended by Executive Order 11375 of October 13, 1967.

The contract for the work under this proposal will obligate the prime contractor and its subcontractors not to discriminate in employment practices.

The contractor shall not maintain or provide for his/her employees the facilities, which are segregated on a basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis.

The contractor must, if requested, submit a compliance report concerning their employment practices and policies in order to maintain his/her eligibility to receive the award of the contract.

The contractor must be prepared to comply in all respects with the Contract Provisions regarding non-discrimination, as stipulated under the Labor Standards.

### **2. Debarment:**

Under Executive Order 12549, an individual or organization debarred from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program, or a sub-agreement thereunder for \$25,000 or more.

Therefore, the bidder as an individual or as an organization, presently debarred, suspended, proposed for debarment, will be declared ineligible to participate in bidding the proposed contract as a prospective recipient of financial assistance from the Maryland Department of the Environment.

The contractor shall not enter into any sub-contract with any individual, firm or organization debarred from Government contracts pursuant to Executive Order 11246.

### **3. Anti-kickback:**

The contractor and/or its sub-contractors shall comply with the Copeland “Anti-Kickback” Act (18 U.S.C. 874). Any evident illicit kickback practice in any shapes or forms will cause termination of the contract.

### **4. Contract Work Hours and Safety Standards:**

The contractor and/or its sub-contractors shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330).

### **5. Compliance with 40 CFR: 247– 254 (RCRA - Section 6002):**

The contractor shall comply with the guidelines contained in 40 CFR 247– 254 (Section 6002 of the Resource Conservation and Recovery Act).

State and local recipients and sub-recipients of grants, loans, cooperative agreements or other instruments funded by appropriated Federal funds shall give preference in procurement programs to the purchase of recycled products pursuant to the EPA guidelines.

### **6. Compliance with Prevailing Federal Wage Rates under the Davis-Bacon and Related Acts in accordance to Section VI of this document.**

All laborers and mechanics employed by contractors and sub-contractors on projects funded directly by or assisted in whole or in part by and through the Federal Government programs including the State Revolving Loan fund shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code. With respect to the labor standards

specified in this section, the Secretary of Labor shall have the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C.App.) and section 3145 of title 40, United States Code. Most recent Federal prevailing wages can be obtained from: <https://sam.gov/content/wage-determinations>

The prevailing wage determination category that should be used for this project is Heavy Construction (including water and sewer). This determination is based on the Federal Department of Labor Wage and Hour Division classification.

#### 7. Maryland Antidegradation Implementation Procedures:

The Clean Water Act requires three components to water quality standards that set goals for and protect each States' waters. The three components are: (1) designated uses that set goals for each water body (e.g., recreational use), (2) criteria that set the minimum conditions to support the use (e.g., bacterial concentrations below certain concentrations) and (3) an antidegradation policy that maintains high quality waters so they are not allowed to degrade to meet only the minimum standards. The designated uses and criteria set the minimum standards for Tier I.

Maryland's antidegradation policy has been promulgated in three regulations: COMAR 26.08.02.04 sets out the policy itself, COMAR 26.08.02.04-1, provides for identification and implementation of Tier II (high quality waters) of the antidegradation policy, and COMAR 26.08.02.04-2 that describes Tier III (Outstanding National Resource Waters or ONRW), the highest quality waters. No Tier III waters have been designated at this time. Any capital funding project occurring within Tier II catchment areas, which are areas that drain to Maryland's high quality designated Tier II stream segments, must undergo Antidegradation Review.

To determine if your project is located within Tier II catchment area, please contact Ms. Angel Valdez of MDE Environmental Standards and Assessment Program, at (410) 537-3606, or at [angel.valdez@maryland.gov](mailto:angel.valdez@maryland.gov).

Please be aware that projects subject to an Antidegradation or Tier II review must adequately address comments that arise during the review before funding can be granted.

#### How Tier II Stream Segments are Designated

- Currently high quality stream segments are designated for the characteristic of biology using Maryland Biological Stream Survey (or comparable) data
- Streams are recorded in Table O (COMAR 26.08.02.04-1) and the pending list of streams awaiting promulgation or corrections is maintained on the MDE website.

#### The Basic Antidegradation Review Process

Many of the projects funded by the Water Infrastructure Financing Administration (WIFA) at MDE result in a net improvement to water quality. As a result, the antidegradation review process for WIFA generally involves making sure that any land disturbance activities associated with the project includes additional controls. Any other antidegradation reviews specific to project discharges (e.g. end-of-pipe) will be addressed separately through the permitting process.

To help expedite the review process the following list of practices has been provided. These practices include "accelerated stabilization, redundant controls, increased riparian buffers, passive or active chemical treatment, or a reduction in the size of the grading unit" as stated in the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control to address Tier II issues. All practices implemented should be evident in plans. When using the list below to aide in planning keep in mind that application and site specifics will ultimately determine each recommendation's applicability. Also realize that this list is not exhaustive and additional practices may be identified as specific plans become available.

- Initial Considerations: including limiting vegetative disturbances, phasing and/or sequencing, accelerated stabilization, minimum weekly inspections, and timing of in-stream work to low flow periods or clear weather forecasts

- **Expanded Riparian Buffers (for new structures/expansions only):** from 100 to 230 feet, depending upon slope and soil composition, on all intermittent and perennial streams within project footprint to help further address direct hydrologic impacts to surface waters. See Table 1 for more details.

Table 1

Adjusted Average Optimal Buffer Width Key for HQ Waters (minimum width 100 feet)				
Slopes (%)				
Hydrologic Soil Group	0-5%	5-15%	15-25%	>25%
Ab	100	130	160	190
C	120	150	180	210
D	140	170	200	230

- **Streamside Management Zones (buffer areas for utility projects):** where disturbance and work cannot be avoided, utilize minimally disturbing & selective vegetative clearing methods, restorative planting (not seeding) for major near-stream clearings totaling 1 acre or more, no mulch placement within the streamside management zones, if possible allow small shrub growth
- **Enhanced Buffer Management:** including sheetflow of discharge beyond the minimum 100 foot vegetative buffer or implementing redundant mechanisms in dewatering exercises such as devices in manifold, use of chemical filtration aides, combining two practices such as filter bags with vegetated buffers and silt fencing. Also incorporation of super silt fencing or an equivalent practice when working near streams.
- **Enhanced Temporary Access Waterways Crossings:** including utilizing horizontal directional drilling/jack and bore for all major stream crossings or sensitive crossings, including a frac-out plan; preferential use of partial diversions (where possible); and utilization of temporary access bridges over fords.
- **Special Concern- pH and Water Quality:** For all activities related to in-stream grout placement, either in bags or as fill:
  1. To prevent impacts to in-stream pH, such operations should occur “in-the-dry”.
  2. An emergency treatment plan should be in place to address accidental material releases.
  3. Cure time allotted should reflect chemically stable grout material and should also represent the most conservative time in the expected cure range.
  4. The water quality standard numeric criteria for pH must be met in the ‘first flush’ before diversion is removed.
- **Stormwater Management:** follow the current guidelines within the Maryland Stormwater Design Manual (2009 Revised), including ESD to the MEP or other non-structural practices

## 8. COMPLIANCE WITH BUILD AMERICA, BUY AMERICA (BABA) ACT

None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public drinking water system or water quality unless all of the *iron, steel, manufactured products, and construction materials* used in the project are produced in the United States (Build America, Buy America (BABA) Act, P.L. 117-58, Secs 70911 - 70917).

The Act requires the following Buy America preference:

- (1) All iron and steel used in the project are produced in the United States. This means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- (2) All manufactured products used in the project are produced in the United States. This means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.
- (3) All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States. The “construction materials” include an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that is or consists primarily of:
  - non-ferrous metals;
  - plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
  - glass (including optic glass);
  - lumber; or
  - drywall.

To provide clarity to item, product, and material manufacturers and processors, we note that items that consist of two or more of the listed materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials. For example, a plastic framed sliding window should be treated as a manufactured product while plate glass should be treated as a construction material.

#### **Certification Process:**

The final manufacturer that delivers the iron, steel, manufactured products, or construction materials to worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes occurred in the US. The certification should include the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a responsible party.

Additional documentation such as Step Certification may be needed if the certification is lacking important information. A Step Certification is a process under which each handler (supplier, fabricator, manufacturer, processor, etc) of the iron, steel, manufactured products, and construction materials certifies that their step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin.

#### **Waiver:**

A request for waiver may be submitted to MDE. Pursuant to Section 70914(c) of the BABA Act, a waiver may be considered under one of the following categories:

1. Applying the domestic content procurement preference would be inconsistent with the public interest (a “public interest waiver”);
2. Types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality (a “nonavailability waiver”); or

3. Inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent (an “unreasonable cost waiver”).

MDE may agree with the waiver request and submit it to the Administrator of the Environmental Protection Agency for final approval. Alternatively, MDE may, in its sole discretion, reject the waiver request and elect not to fund the project.

**De Minimis Nationwide Waiver:**

A De Minimis Nationwide Waiver was issued by EPA, on October 21, 2022, waiving Build America, Buy America requirements for products used in and incorporated into a project that cumulatively comprise no more than five percent of the total project cost.

To be covered under this waiver, the grant/loan recipient must, in consultation with the contractor, take the following actions:

1. Retain relevant documentation (i.e. invoices) as to those items being covered under this waiver in their project files.
  2. Summarize in reports to MDE the types and/or categories of items to which this waiver is applied, including the cost of each category/type. The report must also include the total cost of items covered by the waiver (including installation cost), the total project cost, and the percentage of covered items calculated by cost.
  3. Upon the receipt of the report, MDE, within 30 calendar day of receipt, will accept and file the report, request additional information, or advise the grant/loan recipient that the items cannot be covered under this waiver and a project specific waiver is needed.
  4. If no comments are received by MDE within 30 calendar days, the grant/loan recipient would not need to take any further action, unless more items need to be covered, at which time cumulative summary would need to be submitted to MDE.
- 
9. Borrower agrees to comply with 2 CFR 200.216, which requires that EPA recipients and subrecipients, including borrowers under EPA funded revolving loan fund programs, are prohibited from obligating or expending loan or grant funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

Within seven (7) days of the bid opening, the apparent low bidder shall sign the form of “Assurances for Compliance with Federal Laws and Regulations” pertaining to non-discrimination in employment, debarment, anti-kickback, contract work hours and safety, compliance with prevailing Federal wage rates under the Davis-Bacon and related acts, and Maryland Antidegradation Implementation Procedures, and use of American iron and steel. The form is appended herewith in Section I.



**ASSURANCES FOR COMPLIANCE WITH FEDERAL LAWS AND REGULATIONS**  
**FOR WATER QUALITY-TREATMENT WORKS AND DRINKING WATER PROJECT**

**Project Name:** \_\_\_\_\_ **Contract No. (if applicable):** \_\_\_\_\_

The contractor is required to comply with the following Federal laws and regulations:

1. Non-discrimination in Employment in accordance with Executive Order 11246 of September 24, 1965 entitled "Equal Employment Opportunity" as amended by Executive Order 11375 of October 13, 1967.
2. Debarment in accordance with the Executive Order 12549 and Executive Order 11246.
3. Anti-kickback in accordance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874).
4. Contract Work Hours and Safety Standards in accordance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330).
5. Compliance with Guidelines Contained in 40 CFR 247-254 (RCRA - Section 6002).
6. The prevailing Federal wage rates as determined by the U.S. Department of Labor under the Davis-Bacon and related acts. The prevailing wage determination category that should be used for this project is Heavy Construction (including water and sewer). Available at: <https://sam.gov/content/wage-determinations>

**General Decision Number:** \_\_\_\_\_ **Date:** \_\_\_\_\_

7. Maryland Antidegradation Implementation Procedures as promulgated in three regulations: COMAR 26.08.02.04 sets out the policy itself, COMAR 26.08.02.04-1, provides for identification and implementation of Tier II (high quality waters) of the antidegradation policy, and COMAR 26.08.02.04-2 that describes Tier III (Outstanding National Resource Waters or ONRW), the highest quality waters. No Tier III waters have been designated at this time.
8. Use of the iron, steel, manufactured products, and construction materials produced in the United States (Build America, Buy America (BABA) Act, P.L. 117-58, Secs 70911 - 70917).
9. 2 CFR 200.216, which requires that EPA recipients and subrecipients, including borrowers under EPA funded revolving loan fund programs, are prohibited from obligating or expending loan or grant funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

I do solemnly declare and affirm that I am obligated to comply with the above Federal laws and regulations. It is understood that non-compliance with any one of the above Federal laws and regulations will be sufficient reason to cause termination of the contract.

\_\_\_\_\_  
**Contractor**

**Signed by:** \_\_\_\_\_  
**Authorized Officer**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Name (Print)**

\_\_\_\_\_  
**Title (Print)**

**II. Maryland Department of the Environment**  
**Maryland Water Quality & Drinking Water Revolving Loan Fund Programs**  
**Disadvantaged Business Enterprise Program (DBE)**  
**Guidance for Prime (Construction & A/E) Contractors**

The Maryland Water Quality and Drinking Water Revolving Loan Fund Programs (RLF) receive federal funds from the U.S. Environmental Protection Agency (EPA). The funds are used to provide low interest rate loans to finance water quality and drinking water capital projects. As a condition of federal grant awards, EPA regulations require that loan recipients and sub-recipients (i.e., prime contractors and subcontractors) make a good-faith effort to award a fair share of work to DBEs who are small business enterprises (SBE's), minority business enterprises (MBE's) and women's business enterprises (WBE's). A/E service consultants who receive loan funds are also considered as prime contractors and must comply with DBE requirements. Additionally, EPA's DBE rule requires loan recipients and sub-recipients to adhere to the terms and conditions in Appendix A attached hereto.

To ensure compliance with EPA DBE requirements, the MWQFA has developed guidance for both Loan Recipients and Prime Contractors (sub-recipients) to undertake certain good faith efforts to provide opportunities for DBE firms to participate in contracts. EPA regulations require evidence of the demonstration of the six good faith efforts in trying to achieve the DBE participation goals. MDE's negotiated DBE participation goals with EPA have been approved as of February 6, 2019. The goals below are not a quota and apply to DBE participation only.

<i><b>Procurement Category</b></i>	<i><b>MBE Goal (%)</b></i>	<i><b>WBE Goal (%)</b></i>
Construction	22	16
Equipment	23	11
Services	25	18
Supplies	23	11

**Good Faith Efforts:** The following good faith efforts apply to the procurement categories involving EPA financial assistance funds (See Appendix B: EPA Good Faith Efforts):

- Step 1:** Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities by placing qualified DBEs on solicitation lists whenever they are potential sources.
- Step 2:** Establishing delivery schedules, where the requirement permits to encourage participation by DBEs. The prime contractor should allow a 30-day minimum advertising period for bidding.
- Step 3:** Dividing total requirements, when economically feasible, into small tasks or quantities, to permit maximum participation of DBEs.
- Step 4:** Encourage contracting with a consortium of DBEs, when a contract is too large for one of these firms to handle individually.
- Step 5:** Using the services and assistance of the Maryland Department of Transportation (MDOT), the United States Small Business Administration (SBA) and the Minority Business Development Agency (MBDA) of the U.S. Department of Commerce (See Appendix C).
- Step 6:** Require each sub-contractor, if subcontracts are to be let, to take the steps 1- 5.

**Please submit all information to:**

**DBE Coordinator, MWIFA**

**1800 Washington Blvd., Baltimore MD 21230**

**Phone: 410-537-3146, FAX: 410-537-3968**

**<https://mde.maryland.gov/programs/water/WQFA/Pages/mwbe.aspx>**

## **Disadvantaged Business Enterprise Program (DBE)**

### **Guidance for Prime (Construction & A/E) Contractors**

**Demonstration of the Six Good Faith Efforts.** See **Appendices A & B** for additional bidding instructions and contract administrative provisions.

**A: Prime contractors are required to undertake good faith efforts. Steps 1 & 5 can be attained by developing a bidders list of qualified DBE firms that can bid as sub-contractors. The prime contractors should advertise in minority, local and regional newspapers and obtain a bidders list from the loan recipient to supplement their list. The bidders list used during sub-contractor solicitation must be available throughout the project's construction period.**

In developing bidders list of qualified DBE firms for participation as sub-contractors in construction, equipment, services, and supplies, the prime contractors should contact and gather information from different resources (See **Appendix C**) such as:

- Loan Recipient
- U.S. Small Business Administration (US-SBA)
- Minority Business Development Agency (MBDA) of the US Department of Commerce
- Maryland Department of Transportation (MDOT)

The DBE bidders lists may be classified with Standard Industrial Classification (SIC) or NAICS codes, should be updated periodically, and should be made available to sub-contractors to solicit additional sub-contractors, if necessary. **The prime contractor is required to keep the bidders list throughout the project's construction period.**

**B: Prime contractors are also required to undertake good faith efforts. Steps 2, 3, & 4, can be utilized during the project planning, design and/or pre-bidding phase, to assure that qualified DBE firms have procurement opportunities in construction, equipment, services, and supplies.**

To provide procurement opportunities to DBE firms, the Prime Contractor should undertake the following:

- Conduct pre-bid meetings to inform potential bidders/contractors about DBE requirements and provide guidance in undertaking the required good faith efforts.
- Use the bidders list developed in Item A (above) to solicit DBE firms as sub contractors.
- Invite DBE firms, where appropriate, to meetings, conferences, etc., to inform them of procurement opportunities and develop, where possible, reasonable contract and delivery schedules that encourage and facilitate participation by DBEs.
- Determine if a project can be broken down into smaller components/contracts to allow opportunity for DBE firms to bid as sub-contractors.
- For projects broken down into smaller components (e.g., painting, roofing, excavation, pipe laying, etc.) ensure that the delivery schedules are reasonable.
- Encourage DBE firms, where appropriate, to apply as a consortium, or as part of a consortium of DBEs, when a contract is too large for one of these firms to handle individually.

# MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard, Suite 515 Baltimore MD 21230-1718

410-537-3119, 1-800-633-6101 [https://mde.maryland.gov/programs/water/WQFA/Pages/mission\\_statement.aspx](https://mde.maryland.gov/programs/water/WQFA/Pages/mission_statement.aspx)

## Disadvantaged Business Enterprise (DBE) Good Faith Efforts Checklist

To be Completed by Loan Recipient

Project Name:

**Procurement Category:** Check box for all M/WBE procurement categories being reported under the above referenced project.

Construction ☐ Equipment ☐ Services ☐ Supplies ☐

*For each procurement action, please answer the following questions*

### A: Develop Bidders List of DBE firms

- |    |  |                              |                             |
|----|--|------------------------------|-----------------------------|
| A1 | Did you develop a Bidders List of DBE firms?                                 | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A2 | Did you advertise via eMMA, minority, local/regional papers or Dodge Report? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A3 | Did you send invitation for bids to DBE trade associations?                  | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A4 | Did you contact US-SBA/MBDA/MDOT?  | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A5 | Did you provide Prime Contractors with Bidders List                          | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A6 | Did you provide MDE with Bidders List?                                       | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

### B: Smaller work components and delivery schedules

- |    |   |                              |                             |
|----|---|------------------------------|-----------------------------|
| B1 | Did DBE firms have opportunities to bid as prime contractors?                         | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B2 | Did you break down the project, where economically feasible, into smaller components? |                              |                             |
|    | o For DBE firms to bid as prime contractor  | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
|    | o For DBE firms to bid as sub-contractors   | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B3 | Do project components have reasonable delivery schedules?                             | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B4 | Did you allow a reasonable time for DBEs to bid (e.g., min. of 30 days)?              | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B5 | Did you encourage DBEs to bid as a consortium due to project size?                    | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

### C: Require prime contractor to Undertake Good Faith Efforts

- |    |  |                              |                             |
|----|--|------------------------------|-----------------------------|
| C1 | Did you include the "MDE Insert" in the bidding documents?             | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| C2 | Did you require the prime contractors to apply the good faith efforts? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| C3 | Is DBE a "responsiveness" criteria in bid documents?                   | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

### D: Solicitation Summary of DBE firms (Use Attachment 1 for each prime contract)

- |    |  |                              |                             |
|----|--|------------------------------|-----------------------------|
| D1 | Did you use the Bidders List to solicit prime contractors? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| D2 | Did DBE firms bid as prime contractors?                    | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| D3 | Did you select any DBE firms as prime contractor?          | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| D4 | Is the prime contractor using any subcontractors?          | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

Loan recipient must also complete Attachment 1 and have prime contractor list each DBE subcontractor on WIFA 6100 Form. In addition, WIFA 6100 Form must be submitted with bid proposal after completion by prime contractor.

### Supporting Documentation

*In support of the actions taken in items A, B, C and D (above), all borrowers and prime contractors must attach this checklist along with supporting documentation for "Yes" answers and an explanation for "No" answers. Examples of supporting documentation include: (i) Bidders List of DBE firms; (ii) list of sub-contract work elements possible under the prime contract; (iii) proof of contact with DBE firms as potential prime contractors (copies of invitations for bids/RFP, contact letters, faxes and telephone call sheets, etc.; (iv) copies of all procurement advertisements; and (v) list of all prime contractors that submitted bids/RFP.*

Loan Recipient's Name and Title

Loan Recipient Official's Signature/ Date

Contact Phone # \_\_\_\_\_

## Attachment 1

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**  
**SOLICITATION OF FIRMS**  
**Loan Recipient must complete one form for each prime (construction & A/E) contract**

Project Name:

Total Contract Amount (Prime Construction Contractor):

---

*Please answer the following questions for each prime contract*

**Procurement Category:** Check only one procurement category for each prime contract being reported under the above referenced project.      **Construction** ☐      **Equipment** ☐      **Services** ☐      **Supplies** ☐

**Summary of Prime Contractors Solicited**

- 1      Number of firms solicited (attach list/documentation):
- 2      Number of firms that responded (attach documentation):
- 3      Number of DBE firms that responded (attach documentation):

**Details of Selected Firm**

4      Name of Firm:

5      Address:

6      Contact Person (Name and Phone):

7      Total amount of Contract

8      Is the firm a Minority Business Enterprise? (MBE)      Yes ☐      No ☐

9      Is the firm a Women Business Enterprise? (WBE)      Yes ☐      No ☐

10      If the response to question 8 or 9 is **Yes**, please complete the following:

- M/WBE Certification Number:
- Certification Date:
- Expiration Date (if applicable):
- Certifying Agency:

**Please submit all information to:**  
 DBE Coordinator, MWIFA  
 1800 Washington Blvd., Baltimore MD 21230  
 Phone: 410-537-3146, FAX: 410-537-3968

# MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard Suite 515 Baltimore MD 21230-1718

410 537 3119 1-800-633-6101

<https://mde.maryland.gov/programs/water/WQFA/Pages/mwbe.aspx>

## Disadvantaged Business Enterprise (DBE) Good Faith Efforts Checklist To be completed by Prime (Construction & A/E) Contractor

Project Name:

**Procurement Category:** Check box for all M/WBE procurement categories being reported under the above referenced project.      **Construction** ☐      **Equipment** ☐      **Services** ☐      **Supplies** ☐

*For each procurement action, please answer the following questions*

### A: Develop Bidders List of DBE firms

- |    |  |                              |                             |
|----|--|------------------------------|-----------------------------|
| A1 | Did you develop a Bidders List of DBE firms?                                 | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A2 | Did you advertise via eMMA, minority, local/regional papers or Dodge Report? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A3 | Did you send invitation for bids to DBE trade associations?                  | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A4 | Did you contact US-SBA/MBDA/MDOT?  | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A5 | Did you receive Bidders List from Loan Recipient?                            | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| A6 | Did you provide MDE with Bidders List?                                       | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

### B: Smaller work components and delivery schedules

- |    |  |                              |                             |
|----|--|------------------------------|-----------------------------|
| B1 | Did DBE firms have opportunities to bid as subcontractors?   | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B2 | Did you break down the project, where economically feasible, into smaller components for DBE firms to bid as subcontractors? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B3 | Do project components have reasonable delivery schedules?  | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B4 | Did you allow a reasonable time for DBEs to bid?   | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| B5 | Did you encourage DBEs to bid as a consortium due to project size?   | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

### C: Solicitation Summary of DBE firms (*Prime Contractor must fill WIFA 6100 Form*)

- |    |   |                              |                             |
|----|---|------------------------------|-----------------------------|
| C1 | Did you use the Bidders List to solicit subcontractors?                 | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| C2 | Did DBE firms bid as subcontractors (provide list, work type, & price)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| C3 | Did you select any DBE firms as subcontractor?                          | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| C4 | Is the subcontractor using any additional subcontractors?               | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

**Prime contractor must provide to loan recipient: (1) list of ALL subcontractors (DBE and non-DBE) with type of work and estimated dollar amounts; (2) completed WIFA 6100 Form.**

### Supporting Documentation

*In support of the actions taken in items A, B, and C, (above), all prime contractors must attach this checklist along with supporting documentation for "Yes" answers and an explanation for "No" answers. Examples of supporting documentation include: (i) Bidders List of DBE firms; (ii) list of sub-contract work elements possible under the prime contract; (iii) proof of contact with DBE firms as potential sub contractors (copies of invitations for bids/RFP, contact letters, faxes and telephone call sheets, etc.; (iv) copies of all procurement advertisements; and, (v) list of all sub contractors that submitted bids/RFP.*

Prime Contractor's Name and Title

Prime Contractor Official's Signature/ Date

Contact Phone #

\_\_\_\_\_

**Maryland Department of the Environment -- Water Infrastructure Financing Administration**  
**Disadvantaged Business Enterprise (DBE) Program**  
**DBE Subcontractor Utilization Form**  
**(MDE WIFA 6100 Form)**

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE<sup>1</sup> subcontractors<sup>2</sup> and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

PRIME CONTRACTOR NAME	PROJECT NAME
CONTACT NAME	CONTACT PHONE
ADDRESS	

Please list all DBE subcontractors you plan to utilize on this project. Use additional sheets as necessary.

SUBCONTRACTOR NAME	COMPANY ADDRESS	EST. DOLLAR AMOUNT TO BE SUBCONTRACTED	CURRENTLY DBE CERTIFIED? YES/NO

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware that in the event of the replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302(c).

PRIME CONTRACTOR SIGNATURE	TITLE
PRINT FULL NAME	DATE

<sup>1</sup> A DBE is a Disadvantaged, Minority or Woman Business Enterprise that has been certified by any entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205.

<sup>2</sup> Subcontractor is defined as a company, firm, joint venture or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

## APPENDIX A: EPA DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

EPA's Disadvantaged Business Enterprise Program rule applies to contract procurement actions funded in part by EPA assistance agreements awarded after May 27, 2008. The rule is found at Federal regulation Title 40, Part 33. Specific responsibilities are highlighted below.

### Loan Recipient Responsibilities:

- Include MDE's DBE guidance in each contract with a primary contractor, *MDE, October 2008*.
- Employ the six Good Faith Efforts during prime contractor procurement (§ 33.301).
- Require prime contractor to comply with the following prime contractor requirements of Title 40 Part 33:
  - a) To employ the six Good Faith Efforts steps in paragraphs (a) through (e) of § 33.301 if the prime contractor awards subcontracts (§ 33.301(f)).
  - b) To pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient (§ 33.302(a)).
  - c) To notify recipient in writing by its prime contractor prior to any termination of a DBE subcontractor for convenience by the prime contractor (§ 33.302(b)).
  - d) To employ the six good faith efforts described in § 33.301 if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§ 33.302(c)).
  - e) To employ the six good faith efforts described in § 33.301 even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).
  - f) Provide grant recipient DBE participation achievements with bid proposal
- Maintain records documenting its compliance with the requirements of Title 40 Part 33, including BIDDERS LIST and documentation of its, and its prime contractors', good faith efforts (§ 33.501(a)).

### Prime Contractor Responsibilities:

- Employ the six Good Faith Efforts steps in paragraphs (a) through (e) of § 33.301 if the prime contractor awards subcontracts (§ 33.301(f)).
- Pay subcontractors for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient (§ 33.302(a)).
- Notify the recipient in writing prior to prime contractor termination of a DBE subcontractor for convenience (§ 33.302(b)).
- Employ the six good faith efforts described in § 33.301 if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§ 33.302(c)).



- Employ the six good faith efforts described in § 33.301 even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).
- Provide loan recipient DBE participation achievements with bid proposal: (1) list of ALL subcontractors (DBE and non-DBE) with type of work and estimated dollar amounts; (2) completed WIFA 6100 Form.
- Maintain records documenting its compliance with the requirements of Title 40 Part 33, including BIDDERS LIST documentation of its, and its prime contractors', good faith efforts (§ 33.501(a)).

## **APPENDIX B: TITLE 40 PART 33 SUBPART C—GOOD FAITH EFFORTS**

### **§ 33.102 When do the requirements of this part apply?**

The requirements of this part apply to procurement under EPA financial assistance agreements performed entirely within the United States, whether by a loan recipient or its prime contractor, for construction, equipment, services, and supplies.

### **§ 33.106 What assurances must EPA financial assistance recipients obtain from their contractors?**

The recipient must ensure that each procurement contract it awards contains the term and condition specified in Appendix A to this part concerning compliance with the requirements of this part.

### **§ 33.206 Is there a list of certified MBEs and WBEs?**

EPA OSDBU will maintain a list of certified MBEs and WBEs on EPA OSDBU's Home Page on the Internet. Any interested person may also obtain a copy of the list from EPA OSDBU. The Maryland Department of Transportation will also have a bidders list.

### **§ 33.301 What does this subpart require?**

A recipient, including one exempted from applying the fair share objective requirements by § 33.411, is required to make the following good faith efforts whenever procuring construction, equipment, services and supplies under an EPA financial assistance agreement, even if it has achieved its fair share objectives under subpart D of this part:

- (a) Ensure DBEs are made aware of contracting opportunities fully practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
- (b) Make information on forthcoming opportunities available to DBEs, arrange periods for contracts, and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- (c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
- (d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
- (e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.
- (f) If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through (e) of this section.

**§ 33.302 Are there any additional contract administration requirements?**

- (a) Loan recipient must require its prime contractor to pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient.
- (b) Its prime contractor must notify loan recipient in writing prior to any termination of a DBE subcontractor for convenience by the prime contractor.
- (c) If a DBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the prime contractor to employ the six good faith efforts described in § 33.301 if soliciting a replacement subcontractor.
- (d) A recipient must require its prime contractor to employ the six good faith efforts described in § 33.301 even if the prime contractor has achieved its fair share objectives under subpart D of this part.
- (e) A recipient must ensure that each procurement contract it awards contains the term and condition specified in the Appendix A concerning compliance with the requirements of this part. A recipient must also ensure that this term and condition is included in each procurement contract awarded by an entity receiving an identified loan under a financial assistance agreement to capitalize a revolving loan fund.

**§ 33.410 Can a recipient be penalized for failing to meet its fair share objectives?**

A recipient cannot be penalized, or treated by EPA as being in noncompliance with this subpart, solely because its MBE or WBE participation does not meet its applicable fair share objective. However, EPA may take remedial action under § 33.105 for a recipient's failure to comply with other provisions of this part, including, but not limited to, the good faith efforts requirements described in subpart C of this part.

**Source:** Federal Requirements and Contract Provisions for Special Appropriation Act Projects, US Environmental Protection Agency, Region III, June 2008

## APPENDIX C: RESOURCE LISTING AND CONTACT INFORMATION FOR UTILIZATION OF MINORITY AND WOMEN’S BUSINESS ENTERPRISES

Resource Listing	Contact	Website if applicable
<b>State of Maryland Governor’s Office of Minority Affairs</b> The mission of the Governor's Office of Minority Affairs (GOMA) is facilitating minority business enterprise activities through coordinating and promoting government programs aimed at strengthening and preserving the state’s minority and women owned businesses.	Governor's Office of Minority Affairs Suite 1502 6 Saint Paul Street Baltimore MD 21202 767-8232 1-(877) 558-0998 f-(410) 333-7568 <a href="mailto:info@mdminoritybusiness.com">info@mdminoritybusiness.com</a>	<a href="http://www.oma.state.md.us/">http://www.oma.state.md.us/</a>
<b>eMARYLAND MARKETPLACE ADVANTAGE</b> The official online procurement tool for the state of Maryland.	Website	<a href="https://emma.maryland.gov/page.aspx/en/usr/login?ReturnUrl=%2fpage.aspx%2fen%2fbuy%2fhomepage">https://emma.maryland.gov/page.aspx/en/usr/login?ReturnUrl=%2fpage.aspx%2fen%2fbuy%2fhomepage</a>
<b>U.S. Small Business Administration (SBA)</b> In addition to the national office, the SBA has local district and regional offices to assist small businesses in contracting with the public and private sector.	Website	<a href="http://www.sba.gov/category/navigation-structure/contracting/working-with-government">www.sba.gov/category/navigation-structure/contracting/working-with-government</a>
<b>CCR/Pro-Net is an extensive database that combines the SBA’s Pro-Net database and the DOD’s Central Contractor Registration database of small businesses.</b>	CCR Assistance Center 888-227-2423 269-961-5757 DSN: 661-5757	<a href="http://www.ccr.gov/">www.ccr.gov/</a> Select “Dynamic Small Business”
<b>U. S. Small Business Administration (SBA) - MD. District Office</b>	City Crescent Bld. 6 <sup>th</sup> Floor 10 South Howard St. Baltimore MD 21201 Phone: 410 962-6195	<a href="http://www.sba.gov/tools/local-assistance/districtoffices">www.sba.gov/tools/local-assistance/districtoffices</a>
<b>Minority Business Development Administration (MBDA):</b> The MBDA is an agency within the U.S. Dept. of Commerce, created to foster the development and growth of minority businesses in the U.S. and coordinates resources in the public and private sectors to help MBE’s. Recipients and bidders should contact the centers and provide notices of contracting opportunities. Also, see the Phoenix database, which matches minority companies with business opportunities.	1401 Constitution Ave NW Washington, D.C. 20230 Email: <a href="mailto:support@mbda.gov">support@mbda.gov</a> 1.888.324.1551	<a href="http://www.mbda.gov/">www.mbda.gov/</a>
<b>Standard Industrial Classification Codes (SIC) or North American Industry Classification System (NAICS) codes visit the website.</b>	Website	<a href="http://www.sba.gov/content/north-american-industry-classification-system-codes-and-small-business-size-standards">www.sba.gov/content/north-american-industry-classification-system-codes-and-small-business-size-standards</a>

<p>Maryland Department of Transportation (MDOT) and the <b>Minority/Disadvantaged Business Enterprise (MDOT – MBE/DBE)</b>. Loan recipients and bidders may locate qualified M/WBE's through the MBE/WBE Directory.</p>	<p><b>Office Address</b> 7201 Corporate Drive Hanover, MD 21076</p> <p>Or</p> <p><b>Mailing Address:</b> P.O. Box 548 Hanover, MD 21076</p>	<p><a href="http://www.mdot.maryland.gov/Office%20of%20Minority%20Business%20Enterprise/HomePage.html">www.mdot.maryland.gov/Office%20of%20Minority%20Business%20Enterprise/HomePage.html</a></p> <p><a href="http://mbe.mdot.state.md.us/directory/">http://mbe.mdot.state.md.us/directory/</a> Click on "Proceed to Directory. Select any combination of the fields to identify M/WBE's for the specific project opportunities.</p>
<p>U.S. EPA Office of Small, Disadvantaged Business Utilization (OSDBU) – <b>OSDBU's mission includes "fostering opportunities for partnerships, contracts, subagreements, and grants for small and socioeconomically disadvantaged concerns". One of the resources to assist prime contractors is a listing of small and disadvantaged businesses (a vendor profile system) registered with OSDBU.</b></p>	<p>US.EPA Office of Small Programs 1200 Pennsylvania Avenue NW Mail Code 1230T Washington, D.C. 20460</p>	<p><a href="http://cfpub.epa.gov/sbvps/">http://cfpub.epa.gov/sbvps/</a> <a href="http://www.epa.gov/osdbu/">http://www.epa.gov/osdbu/</a> <b>Select "search the OSDBU Registry"</b> Click on the search criteria of interest (ethnicity, size, SIC, etc.)</p>
<p><b>National Black Chamber of Commerce</b></p>	<p>1350 Connecticut Ave. N.W. Suite 405 Washington D.C. 20036 Phone: 202 466-6888 Fax: 202 466-4918</p>	<p><a href="http://www.nationalbcc.org">www.nationalbcc.org</a></p> <p>Email: <a href="mailto:info@nationalbcc.org">info@nationalbcc.org</a></p>
<p><b>Virginia Hispanic Chamber of Commerce (Northern Va.)</b></p>	<p>8300 Boone Blvd., 4<sup>TH</sup> Floor Vienna, VA 22182 Phone: 804.378.4099 Fax: 703 893-1269</p>	<p><a href="http://www.vahcc.com">www.vahcc.com</a></p>
<p><b>U.S. Hispanic Chamber of Commerce</b></p>	<p>2175 K Street NW Suite 100 Washington, D.C. 20037</p>	<p><a href="http://www.ushcc.com">www.ushcc.com</a></p>
<p><b>National Association of Minority Contractors (NAMC)</b></p>	<p>666 11 Street N.W. Suite 520 Washington D.C. 20001 Phone: 202 347-8250</p>	<p><a href="http://www.namcnational.org/">www.namcnational.org/</a></p>
<p><b>Maryland/Washington Minority Contractors (MWMCA)</b></p>	<p>1107 North Point Blvd, Suite 227 Baltimore, MD 21224 410.282.6101 410.282.6102 –fax</p>	<p><a href="http://www.mwmca.org">www.mwmca.org</a></p>
<p><b>National Association of Women's Business Owners (NAWBO) – National</b></p>	<p>1760 Old Meadow Rd. Ste 500 McLean VA 22102 Phone: 800.556.NAWBO 703.506.3268 703.506.3266-fax</p>	<p><a href="http://www.nawbo.org">www.nawbo.org</a></p>

<b>NAWBO Baltimore Regional Chapter</b>	4404 Silverbrook Lane, Suite E-204 Owings Mills MD 21117 Phone: 410 876-0502 410.654.9734-fax	<a href="http://www.nawbomaryland.org">www.nawbomaryland.org</a>  Email: <a href="mailto:info@nawbomaryland.org">info@nawbomaryland.org</a>
<b>NAWBO Delaware Chapter</b>	P.O. Box 4657 Greenville Station Greenville, DE 19807-4657 Phone: 302 355.9945	<a href="http://www.nawbodelaware.org">www.nawbodelaware.org</a>  Email: <a href="mailto:info@nawbodelaware.org">info@nawbodelaware.org</a>
<b>MD/DC Minority Supplier Development Council (MSDC)</b>	10770 Columbia Pike Lower Level, Suite L100 Silver Spring MD 20901 Phone: 301 592-6710 Fax: 301 592-6704	<a href="http://mddccouncil.org/">http://mddccouncil.org/</a>
<b>National Minority Supplier Development Council, Inc. (NMSDC)</b>	1040 Avenue of the Americas, 2 <sup>nd</sup> Floor New York, New York 10018 Phone: 212 944-2430 212.719.9611-fax	<a href="http://www.nmsdcus.org/">www.nmsdcus.org/</a>
<b>UIDA Business Services</b> is a Native American Procurement and Technical Assistance Center-maintains a comprehensive database of Native American owned firms	86 South Cobb Drive, MZ:0510 Marietta, GA 30063-0510 Phone, 770 494-0431 770.494.1236-fax or <b><u>Northeast Region</u></b> 2340 Dulles Corner Blvd Mail Stop: 1n01 Herndon, VA 20171 Phone: 703.561.3120 703.561.3124-fax	
<b>Diversity Business</b> (A multi-cultural online resource)	200 Pequot Avenue Southport, CT 06890 Phone 203.255.8966 203.255.8501-fax	<a href="http://www.diversitybusiness.com/">www.diversitybusiness.com/</a>
<b>National Association of Women in Construction</b>	327 S. Adams Street Fort Worth, TX 76104 Phone: 1-800-552-3506 Phone: 817.877.5551 817.877.0324-fax	<a href="http://www.nawic.org/">www.nawic.org/</a>

### **III. PRESIDENTIAL DOCUMENTS**

**PRESIDENTIAL EXECUTIVE ORDER 13202 OF FEBRUARY 17, 2001 and PRESIDENTIAL EXECUTIVE ORDER 13208 OF APRIL 8, 2001 are appended as Attachment II.**

### **IV SEVERABILITY**

**In the event any provision of the within and foregoing Requirement, including any attachment thereto, shall be held illegal, invalid, unconstitutional or unenforceable by any court of competent jurisdiction, such holding shall not invalidate, render unenforceable or otherwise affect any other provision hereof.**

### **V. PROJECT SIGNS**

- 1. The prime contractor shall provide and erect a construction site sign as described below at a prominent location at each construction site.**
- 2. For projects funded in whole or in part by the Bipartisan Infrastructure Law (BIL), the prime contractor shall provide and erect an additional construction site sign at a prominent location at each construction site using the Investing in America Signage guidelines at <https://www.epa.gov/invest/investing-america-signage>.**

**The owner shall approve the site for the signs' erection. The signs shall be prepared in accordance with detailed instructions provided by Maryland Department of the Environment (MDE).**

**It shall be the responsibility of the contractor to protect and maintain the signs in good condition throughout the life of the project.**



## Attachment II

**Presidential Documents****Executive Order 13202 of February 17, 2001****Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects**

By the authority vested in me as President by the Constitution and laws of the United States of America, including the Federal Property and Administrative Services Act, 40 U.S.C. 471 *et seq.*, and in order to (1) promote and ensure open competition on Federal and federally funded or assisted construction projects; (2) maintain Government neutrality towards Government contractors' labor relations on Federal and federally funded or assisted construction projects; (3) reduce construction costs to the Federal Government and to the taxpayers; (4) expand job opportunities, especially for small and disadvantaged businesses; and (5) prevent discrimination against Government contractors or their employees based upon labor affiliation or lack thereof; thereby promoting the economical, nondiscriminatory, and efficient administration and completion of Federal and federally funded or assisted construction projects, it is hereby ordered that:

**Section 1.** To the extent permitted by law, any executive agency awarding any construction contract after the date of this order, or obligating funds pursuant to such a contract, shall ensure that neither the awarding Government authority nor any construction manager acting on behalf of the Government shall, in its bid specifications, project agreements, or other controlling documents:

(a) Require or prohibit bidders, offerors, contractors, or subcontractors to enter into or adhere to agreements with one or more labor organizations, on the same or other related construction project(s); or

(b) Otherwise discriminate against bidders, offerors, contractors, or subcontractors for becoming or refusing to become or remain signatories or otherwise to adhere to agreements with one or more labor organizations, on the same or other related construction project(s).

(c) Nothing in this section shall prohibit contractors or subcontractors from voluntarily entering into agreements described in subsection (a).

**Sec. 2.** Contracts awarded before the date of this order, and subcontracts awarded pursuant to such contracts, whenever awarded, shall not be governed by this order.

**Sec. 3.** To the extent permitted by law, any executive agency issuing grants, providing financial assistance, or entering into cooperative agreements for construction projects, shall ensure that neither the bid specifications, project agreements, nor other controlling documents for construction contracts awarded after the date of this order by recipients of grants or financial assistance or by parties to cooperative agreements, nor those of any construction manager acting on their behalf, shall contain any of the requirements or prohibitions set forth in section 1(a) or (b) of this order.

**Sec. 4.** In the event that an awarding authority, a recipient of grants or financial assistance, a party to a cooperative agreement, or a construction manager acting on behalf of the foregoing, performs in a manner contrary to the provisions of sections 1 or 3 of this order, the executive agency awarding the contract, grant, or assistance shall take such action, consistent with law and regulation, as the agency determines may be appropriate.

**Sec. 5.** (a) The head of an executive agency may exempt a particular project, contract, subcontract, grant, or cooperative agreement from the requirements of any or all of the provisions of sections 1 and 3 of this order, if the agency head finds that special circumstances require an exemption in order to avert an imminent threat to public health or safety or to serve the national security.

(b) A finding of "special circumstances" under section 5(a) may not be based on the possibility or presence of a labor dispute concerning the use of contractors or subcontractors who are nonsignatories to, or otherwise do not adhere to, agreements with one or more labor organizations, or concerning employees on the project who are not members of or affiliated with a labor organization.

**Sec. 6.** (a) The term "construction contract" as used in this order means any contract for the construction, rehabilitation, alteration, conversion, extension, or repair of buildings, highways, or other improvements to real property.

(b) The term "executive agency" as used in this order shall have the same meaning it has in 5 U.S.C. 105, excluding the General Accounting Office.

(c) The term "labor organization" as used in this order shall have the same meaning it has in 42 U.S.C. 2000e(d).

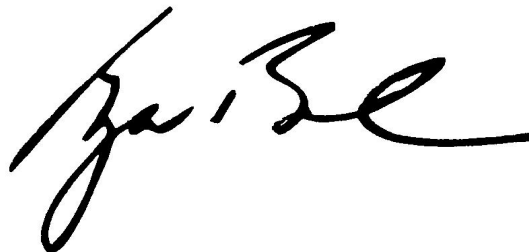
**Sec. 7.** With respect to Federal contracts, within 60 days of the issuance of this order, the Federal Acquisition Regulatory Council shall take whatever action is required to amend the Federal Acquisition Regulation in order to implement the provisions of this order.

**Sec. 8.** As it relates to project agreements, Executive Order 12836 of February 1, 1993, which, among other things, revoked Executive Order 12818 of October 23, 1992, is revoked.

**Sec. 9.** The Presidential Memorandum of June 5, 1997, entitled "Use of Project Labor Agreements for Federal Construction Projects" (the "Memorandum"), is also revoked.

**Sec. 10.** The heads of executive departments and agencies shall revoke expeditiously any orders, rules, regulations, guidelines, or policies implementing or enforcing the Memorandum or Executive Order 12836 of February 1, 1993, as it relates to project agreements, to the extent consistent with law.

**Sec. 11.** This order is intended only to improve the internal management of the executive branch and is not intended to, nor does it, create any right to administrative or judicial review, or any right, whether substantive or procedural, enforceable by any party against the United States, its agencies or instrumentalities, its officers or employees, or any other person.



THE WHITE HOUSE,  
February 17, 2001

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**Federal Register**

Vol. 66, No. 70

Wednesday, April 11, 2001

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## **Presidential Documents**

**Title 3—****Executive Order 13208 of April 8, 2001****The President**

### **Amendment to Executive Order 13202, Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects**

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the Federal Property and Administrative Services Act, 40 U.S.C. 471 *et seq.*, and in order to (1) promote and ensure open competition on Federal and federally funded or assisted construction projects; (2) maintain Government neutrality towards Government contractors' labor relations on Federal and federally funded or assisted construction projects; (3) reduce construction costs to the Federal Government and to the tax payers; (4) expand job opportunities, especially for small and disadvantaged businesses; (5) prevent discrimination against Government contractors or their employees based upon labor affiliation or lack thereof; and (6) prevent the inefficiency that may result from the disruption of a previously established contractual relationship in particular cases; thereby promoting the economical, nondiscriminatory, and efficient administration and completion of Federal and federally funded or assisted construction projects, it is hereby ordered that Executive Order 13202 of February 17, 2001, is amended by adding to section 5 of that order the following new subsection:

- (c) The head of an executive agency, upon application of an awarding authority, a recipient of grants or financial assistance, a party to a cooperative agreement, or a construction manager acting on behalf of the foregoing, may exempt a particular project from the requirements of any or all of the provisions of sections 1 and 3 of this order, if the agency head finds: (i) that the awarding authority, recipient of grants or financial assistance, party to a cooperative agreement, or construction manager acting on behalf of the foregoing had issued or was a party to, as of the date of this order, bid specifications, project agreements, agreements with one or more labor organizations, or other controlling documents with respect to that particular project, which contained any of the requirements or prohibitions set forth in sections 1(a) or (b) of this order; and (ii) that one or more construction contracts subject to such requirements or prohibitions had been awarded as of the date of this order.



THE WHITE HOUSE,  
*April 6, 2001.*

[FR Doc. 01-9086  
Filed 4-10-01; 8:45 am]  
Billing code 3195-01-P

THE CONSTRUCTION SITE SIGN FOR PROJECTS FINANCIALLY  
SUPPORTED BY STATE REVOLVING LOAN FUNDS  
AND OTHER FUND SOURCES

White Background      Light Blue Scroll      Black Letters

**PROJECT TITLE**  
**Project Type (by MDE)**


**A PROJECT FINANCIALLY SUPPORTED BY THE  
STATE OF MARYLAND AND  
U.S. ENVIRONMENTAL PROTECTION AGENCY**


**UNDER THE DIRECTION  
OF THE  
MARYLAND DEPARTMENT  
OF THE ENVIRONMENT**

**APPROVED BY THE  
MARYLAND BOARD  
OF PUBLIC WORKS**

Westley W.O. Moore, Governor  
Brooke E. Lierman, Comptroller  
Dereck E. Davis, Treasurer

Total Project Cost: \_\_\_\_\_  
State Loan: \_\_\_\_\_  
State Grant: \_\_\_\_\_  
Federal Funds: \_\_\_\_\_  
Other Funds: \_\_\_\_\_  
Local Funds: \_\_\_\_\_





4'

8'

## ***Project Type:***

Insert the selected item under the project title:

- \_\_\_ Green Infrastructure Project - Constructing environmentally beneficial “green” infrastructure
- \_\_\_ Wetlands - Creating wetlands to improve water quality and create wildlife habitat
- \_\_\_ Stream restoration - Restoring streams to improve water quality and create wildlife habitat
- \_\_\_ Living shorelines - Turning shorelines into living habitats to improve water quality and to reduce erosion and flooding
- \_\_\_ Septic connections - Connecting homes to public sewer to eliminate failing septic systems, improve water quality, and protect public health
- \_\_\_ Drinking water extension - Connecting homes to public water supply to improve drinking water quality
- \_\_\_ Stormwater project - Reducing stormwater runoff to improve water quality, protect public health, and reduce flooding
- \_\_\_ CSOs, Sewer project - Preventing sewer overflows to improve water quality and protect public health
- \_\_\_ ENR - Reducing pollution to improve Maryland waterways and the Chesapeake Bay and to protect public health

## **Investing in America Signage - Bipartisan Infrastructure Law**

Use guidelines at <https://www.epa.gov/invest/investing-america-signage>

## **VI. FEDERAL WAGE RATE REQUIREMENTS UNDER THE DAVIS-BACON AND RELATED ACTS**

### **Prevailing Wage Requirements for CWSRF Capitalization Grants**

The recipient agrees to include in all agreements to provide assistance for the construction of treatment works carried out in whole or in part with such assistance made available by a State water pollution control revolving fund as authorized by Title VI of the Federal Water Pollution Control Act, also known as the CWA, (33 U.S.C. 1381 et seq.), or with such assistance made available under section 205(m) of that Act (33 U.S.C. 1285(m)), or both, a term and condition requiring compliance with the requirements of section 513 of that Act (33 U.S.C. 1372) in all procurement contracts and sub-grants, and require that loan recipients, procurement contractors and sub-grantees include such a term and condition in subcontracts and other lower tiered transactions. All contracts and subcontracts for the construction of treatment works carried out in whole or in part with assistance made available as stated herein shall insert in full in any contract in excess of \$2,000 the contract clauses as attached hereto entitled “Wage Rate Requirements Under the Clean Water Act, Section 513.” This term and condition applies to all agreements to provide assistance under the authorities referenced herein, whether in the form of a loan, bond purchase, grant, or any other vehicle to provide financing for a project, where such agreements are executed on or after October 30, 2009.

### **Preamble**

With respect to the CWSRF program, EPA provides capitalization grants to each State which in turn provides sub grants or loans to eligible entities within the State. Typically, the sub recipients are municipal or other local governmental entities that manage the funds. For these types of recipients, the provisions set forth under Roman numeral I, below, shall apply. Although EPA and the State remain responsible for ensuring sub recipients’ compliance with the wage rate requirements set forth herein, those sub recipients shall have the primary responsibility to maintain payroll records as described in Section I-3(ii)(A), below and for compliance as described in Section I-5.

Occasionally, the sub recipient may be a private for profit or not for profit entity. For these types of recipients, the provisions set forth in Roman Numeral II, below, shall apply. Although EPA and the State remain responsible for ensuring sub recipients’ compliance with the wage rate requirements set forth herein, those sub recipients shall have the primary responsibility to maintain payroll records as described in Section II-3(ii)(A), below and for compliance as described in Section II-5.

## **ATTACHMENT 1**

### **I. Requirements Under Title VI of the Clean Water Act (CWA) For Sub recipients That Are Governmental**

#### **Entities:**

The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance under Title VI of the CWA, with respect to State recipients and sub recipients that are governmental entities. If a sub recipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. If a state recipient needs guidance, the recipient may contact EPA’s Office of Grants and Debarment for guidance at [EPA\\_Grants\\_Info@epa.gov](mailto:EPA_Grants_Info@epa.gov). The recipient or sub recipient may also obtain additional guidance from the U.S. Department of Labor’s (DOL) website at <http://www.dol.gov/whd/>.

#### **1. Applicability of the DB prevailing wage requirements.**

Under Title VI of the CWA, DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution

control revolving fund. If a sub recipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the sub recipient must discuss the situation with the recipient State before authorizing work on that site.

## **2. Obtaining Wage Determinations.**

(a) Sub recipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

- (i) While the solicitation remains open, the sub recipient shall monitor <https://sam.gov/> weekly to ensure that the wage determination contained in the solicitation remains current. The sub recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the sub recipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the sub recipient.
- (ii) If the sub recipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the sub recipient, obtains an extension of the 90-day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The sub recipient shall monitor <https://sam.gov/> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the sub recipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the sub recipient shall insert the appropriate DOL wage determination from <https://sam.gov/> into the ordering instrument.

(c) Sub recipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a sub recipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the sub recipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the sub recipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The sub recipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

## **3. Contract and Subcontract provisions.**

(a) The Recipient shall insure that the sub recipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF - financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to



make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or Title VI of the Clean Water Act, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the DB Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the DB poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. Sub recipients may obtain wage determinations from DOL's website, <https://sam.gov/>.

(ii)(A) The sub recipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the sub recipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov) and to the EPA DB Regional Coordinator concurrently. The DOL Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the sub recipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar), which indicates the State award official's disagreement and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov) and to the EPA DB Regional Coordinator concurrently. The DOL Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the DB Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The sub recipient(s), shall upon written request of the EPA Award Official or an authorized representative of DOL, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to DB prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the DB Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the DB Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and

certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the sub recipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the sub recipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site.

The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the sub recipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the DOL for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sub recipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA or State may, after

written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### (4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program,

the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with DB and Related Act requirements. All rulings and interpretations of the DB and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the DOL set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and sub recipient(s), State, EPA, DOL, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **4. Contract Provision for Contracts in Excess of \$100,000.**

(a) Contract Work Hours and Safety Standards Act. The sub recipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The sub recipient, upon written request of the EPA Award Official or an authorized representative of the DOL, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Sub recipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Sub recipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the DOL, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

## **5. Compliance Verification**

(a) The sub recipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(3), all interviews must be conducted in confidence. The sub recipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The sub recipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Sub recipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB. Sub recipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The sub recipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The sub recipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the sub recipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Sub recipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the sub recipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The sub recipient shall periodically review contractor's and subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S DOL or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Sub recipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <https://www.dol.gov/agencies/whd/contact/local-offices>.

## **II. Requirements Under Title VI of the CWA - For Sub recipients That Are Not Governmental Entities:**

The following terms and conditions specify how recipients will assist EPA in meeting its DB responsibilities when DB applies to EPA awards of financial assistance under Title VI of the CWA with respect to sub recipients that are not governmental entities. If a sub recipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient for guidance. If a state recipient needs guidance, the recipient may contact EPA's Office of Grants and Debarment for guidance at [EPA\\_Grants\\_Info@epa.gov](mailto:EPA_Grants_Info@epa.gov). The recipient or sub recipient may also obtain additional guidance from DOL's website at <http://www.dol.gov/whd/>.

**Under these terms and conditions, the sub recipient must submit its proposed DB wage determinations to the State recipient for approval prior to including the wage determination in any solicitation, contract task orders, work assignments, or similar instruments to existing contractors.**

### **1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.**

Under Title VI of the CWA, DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund. If a sub recipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the sub recipient must discuss the situation with the recipient State before authorizing work on that site.

### **2. Obtaining Wage Determinations.**

(a) Sub recipients must obtain proposed wage determinations for specific localities at <https://sam.gov/>. After the sub recipient obtains its proposed wage determination, it must submit the wage determination to Ms. Bambi Turner, [bambi.turner1@maryland.gov](mailto:bambi.turner1@maryland.gov), (410) 537-3146, for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing contractors (ordering instruments unless subsequently directed otherwise by the State recipient Award Official.)



(b) Sub recipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

- i) While the solicitation remains open, the sub recipient shall monitor <https://sam.gov/> on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The sub recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the sub recipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the sub recipient.
- ii) If the sub recipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the sub recipient, obtains an extension of the 90-day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The sub recipient shall monitor <https://sam.gov/> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the sub recipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the sub recipient shall insert the appropriate DOL wage determination from <https://sam.gov/> into the ordering instrument.

(d) Sub recipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(e) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a sub recipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the sub recipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the sub recipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The sub recipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

### **3. Contract and Subcontract provisions.**

- (a) The Recipient shall insure that the sub recipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF - or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or Title VI of the CWA, the following clauses:

(1) Minimum wages.

- (i) All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and



not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3) ), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the DB Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the DB poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Sub recipients may obtain wage determinations from the DOL's website, <https://sam.gov/>.

(ii)(A) The sub recipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the sub recipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient(s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov) and to the EPA DB Regional Coordinator concurrently. The DOL Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the sub recipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar), which

indicates the State award official's disagreement and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov) and to the EPA DB Regional Coordinator concurrently. The DOL

Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the DB Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The sub recipient(s) shall upon written request of the EPA Award Official or an authorized representative of the DOL, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to DB prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the DB Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the DB Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the sub recipient, that is, the entity that receives the sub-grant or loan from the State capitalization

grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the sub recipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site.

The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the sub recipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the DOL for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sub recipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

## (4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractors registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended

and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with DB and Related Act requirements. All rulings and interpretations of the DB and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the DOL set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Sub recipient(s), State, EPA, DOL, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### **4. Contract Provision for Contracts in Excess of \$100,000.**

(a) Contract Work Hours and Safety Standards Act. The sub recipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for

liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The sub recipient shall upon the request of the EPA Award Official or an authorized representative of the DOL, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(c) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Sub recipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Sub recipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the DOL, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

## **5. Compliance Verification**

(a) The sub recipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(3), all interviews must be conducted in confidence. The sub recipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The sub recipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Sub recipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB. Sub recipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c). The sub recipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The sub recipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the sub recipient should spot check payroll data within two weeks of each contractor or subcontractor's submission

of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Sub recipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the sub recipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.

(d). The sub recipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either DOL or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Sub recipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <https://www.dol.gov/agencies/whd/contact/local-offices>.

### **Prevailing Wage Requirements for DWSRF Capitalization Grants**

The recipient agrees to include in all agreements to provide assistance for any construction project carried out in whole or in part with such assistance made available by a drinking water revolving loan fund as authorized by Section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12), a term and condition requiring compliance with the requirements of section 1450(e) of the Safe Drinking Water Act (42 U.S.C.300j-9(e)) in all procurement contracts and sub-grants, and require that loan recipients, procurement contractors and sub-grantees include such a term and condition in subcontracts and other lower tiered transactions. All contracts and subcontracts for any construction project carried out in whole or in part with assistance made available as stated herein shall insert in full in any contract in excess of \$2,000 the contract clauses as attached hereto entitled "Wage Rate Requirements Under The Clean Water Act, Section 513 and the Safe Drinking Water Act, Section 1450(e)." This term and condition applies to all agreements to provide assistance under the authorities referenced herein, whether in the form of a loan, bond purchase, grant, or any other vehicle to provide financing for a project, where such agreements are executed on or after October 30, 2009.

### **Preamble**

With respect to the DWSRF program, EPA provides capitalization grants to each State which in turn provides sub grants or loans to eligible entities within the State. Typically, the sub recipients are municipal or other local governmental entities that manage the funds. For these types of recipients, the provisions set forth under Roman numeral I, below, shall apply. Although EPA and the State remain responsible for ensuring sub recipients' compliance with the wage rate requirements set forth herein, those sub recipients shall have the primary responsibility to maintain payroll records as described in Section I-3(ii)(A), below and for compliance as described in Section I-5.

Occasionally, the sub recipient may be a private for profit or not for profit entity. For these types of recipients, the provisions set forth in Roman Numeral II, below, shall apply. Although EPA and the State remain responsible for ensuring sub recipients' compliance with the wage rate requirements set forth herein, those sub recipients shall have the primary responsibility to maintain payroll records as described in Section II-3(ii)(A), below and for compliance as described in Section II-5.

## **ATTACHMENT 1**

### **I. Requirements Under Section 1452(a)(5) of the Safe Drinking Water Act For Sub recipients That Are Governmental Entities:**

The following terms and conditions specify how recipients will assist EPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to EPA awards of financial assistance with respect to State recipients and sub



recipients that are governmental entities. If a sub recipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient. If a State recipient needs guidance, the recipient may contact EPA's Office of Grants and Debarment for guidance at [EPA\\_Grants\\_Info@epa.gov](mailto:EPA_Grants_Info@epa.gov). The recipient or sub recipient may also obtain additional guidance from the U.S. Department of Labor's (DOL) website at <http://www.dol.gov/whd/>

### **1. Applicability of the DB prevailing wage requirements.**

DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a sub recipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the sub recipient must discuss the situation with the recipient State before authorizing work on that site.

### **2. Obtaining Wage Determinations.**

(a) Sub recipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

- (i) While the solicitation remains open, the sub recipient shall monitor <https://sam.gov/> weekly to ensure that the wage determination contained in the solicitation remains current. The sub recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the sub recipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the sub recipient.
- (ii) If the sub recipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the sub recipient, obtains an extension of the 90-day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The sub recipient shall monitor <https://sam.gov/> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the sub recipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the sub recipient shall insert the appropriate DOL wage determination from <https://sam.gov/> into the ordering instrument.

(c) Sub recipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a sub recipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the sub recipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the sub recipient shall either terminate the contract



or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The sub recipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

### **3. Contract and Subcontract provisions.**

(a) The Recipient shall insure that the sub recipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project carried out in whole or in part with assistance made available by the DWSRF, and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the Safe Drinking Water Act, Section 1452(a)(5), the following clauses:

#### **(1) Minimum wages.**

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the DB Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the DB poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Sub recipients may obtain wage determinations from the U.S. Department of Labor's website, <https://sam.gov/>.

(ii)(A) The sub recipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the sub recipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov) and to the EPA DB Regional Coordinator concurrently. The Department of Labor Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the sub recipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) which indicates the State award official's disagreement and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov) and to the EPA DB Regional Coordinator concurrently. The Department of Labor Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the DB Act have been met. The Secretary of Labor may require the contractor to set aside assets in a separate account for the meeting of obligations under the plan or program.

(2) Withholding. The sub recipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to DB prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of

the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the DB Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the DB Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the sub recipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the sub recipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site.

The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the sub recipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sub recipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### (4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress,

expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with DB and Related Act requirements. All rulings and interpretations of the DB and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and sub recipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### 4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The sub recipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The sub recipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Sub recipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Sub recipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

## 5. Compliance Verification

- (a) The sub recipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(3), all interviews must be conducted in confidence. The sub recipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.
- (b) The sub recipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Sub recipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB. Sub recipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.
- (c) The sub recipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The sub recipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the sub recipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Sub recipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the sub recipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.
- (d) The sub recipient shall periodically review contractor's and subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.
- (e) Sub recipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <https://www.dol.gov/agencies/whd/contact/local-offices>.

## **II. Requirements Under Section 1452(a)(5) of the Safe Drinking Water Act For Sub recipients That Are Not Governmental Entities:**

The following terms and conditions specify how recipients will assist EPA in meeting its DB responsibilities when DB applies to EPA awards of financial assistance under the Safe Drinking Water Act, Section 1452(a)(5) with respect to sub recipients that are not governmental entities. If a sub recipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State recipient for guidance. If a State recipient needs guidance, the recipient may contact EPA's Office of Grants and Debarment for guidance at [EPA\\_Grants\\_Info@epa.gov](mailto:EPA_Grants_Info@epa.gov). The recipient or sub recipient may also obtain additional guidance from DOL's website at <http://www.dol.gov/whd/>

**Under these terms and conditions, the sub recipient must submit its proposed DB wage determinations to the State recipient for approval prior to including the wage determination in any solicitation, contract task orders, work assignments, or similar instruments to existing contractors.**



## 1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the Safe Drinking Water Act, Section 1452(a)(5), DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund and to any construction project carried out in whole or in part by assistance made available by a drinking water treatment revolving loan fund. If a sub recipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the sub recipient must discuss the situation with the recipient State before authorizing work on that site.

## 2. Obtaining Wage Determinations.

(a) Sub recipients must obtain proposed wage determinations for specific localities at <https://sam.gov/>. After the sub recipient obtains its proposed wage determination, it must submit the wage determination to Ms. Bambi Turner, [bambi.turner1@maryland.gov](mailto:bambi.turner1@maryland.gov), (410) 537-3146, for approval prior to inserting the wage determination into a solicitation, contract or issuing task orders, work assignments or similar instruments to existing contractors (ordering instruments unless subsequently directed otherwise by the State recipient Award Official.)

(b) Sub recipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

- (i) While the solicitation remains open, the sub recipient shall monitor <https://sam.gov/> on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The sub recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the sub recipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the sub recipient.
- (ii) If the sub recipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State recipient, at the request of the sub recipient, obtains an extension of the 90-day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The sub recipient shall monitor <https://sam.gov/> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(c) If the sub recipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the sub recipient shall insert the appropriate DOL wage determination from <https://sam.gov/> into the ordering instrument.

(d) Sub recipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(e) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a sub recipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the sub recipient has failed to incorporate a wage determination or has used a wage determination that clearly does not



apply to the contract or ordering instrument. If this occurs, the sub recipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The sub recipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

### **3. Contract and Subcontract provisions.**

(a) The Recipient shall insure that the sub recipient(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF or a construction project carried out in whole or in part with assistance made available by the DWSRF, and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or the Safe Drinking Water Act, Section 1452(a)(5), the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3) ), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the DB Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the DB poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Sub recipients may obtain wage determinations from DOL's website, <https://sam.gov/>.

(ii)(A) The sub recipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage

rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the sub recipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient(s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov) and to the EPA DB Regional Coordinator concurrently. The Department of Labor Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the sub recipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) which indicates the State award official's disagreement and supporting materials to [WHD-CBACONFORMANCE\\_INCOMING@dol.gov](mailto:WHD-CBACONFORMANCE_INCOMING@dol.gov), and to the EPA DB Regional Coordinator concurrently. The Department of Labor Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the DB Act have been met. The Secretary of Labor may require the contractor to set aside assets in a separate account for the meeting of obligations under the plan or program.

(2) Withholding. The sub recipient(s) shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to DB prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the

work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the DB Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the DB Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the sub recipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the sub recipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site.

The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the sub recipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sub recipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### (4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractors registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less

than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with DB and Related Act requirements. All rulings and interpretations of the DB and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and Sub recipient(s), State, EPA, DOL, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### 4. Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The sub recipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The sub recipient shall upon the request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Sub recipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Sub recipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

## 5. Compliance Verification

- (a) The sub recipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(3), all interviews must be conducted in confidence. The sub recipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.
- (b) The sub recipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Sub recipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB. Sub recipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.
- (c). The sub recipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The sub recipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable the sub recipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Sub recipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the sub recipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.
- (d). The sub recipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.
- (e) Sub recipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <https://www.dol.gov/agencies/whd/contact/local-offices>.

[*Contract Name*]

### **Access to Audit Records**

The Engineer, [*name of firm*], agrees to maintain books, records, documents and other evidence pertinent to performance under this project in accordance with accepted professional practice, appropriate accounting procedures and practices, and shall make such materials available to the Grant/Loan Recipient, State of Maryland, EPA, the Comptroller of the United States, Maryland Department of the Environment, or any duly authorized representatives thereof at reasonable times during the period of this project and for three years from the date of final payment of any grant or loan monies received by the [*owner*].

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Name and Title

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Date

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Signature

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