

**ALLEGHENY COUNTY SANITARY AUTHORITY
PITTSBURGH, PENNSYLVANIA
CONTRACT DOCUMENTS**

**INCLUDING
LEGAL NOTICE
BIDDING DOCUMENTS
INFORMATION FOR BIDDERS
CONTRACT PROVISIONS
CONTRACT AGREEMENT
BONDS, CERTIFICATES AND STATEMENTS
DIVISION 1 – GENERAL REQUIREMENTS
PREVAILING MINIMUM WAGE PREDETERMINATION
TECHNICAL SPECIFICATIONS
APPENDICES & DRAWINGS**

FOR

**CONTRACT NO. 1823
REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**

MAY 2025

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DIRECTOR OF ENGINEERING & CONSTRUCTION**

**ALLEGHENY COUNTY SANITARY AUTHORITY
PITTSBURGH, PENNSYLVANIA
CONTRACT DOCUMENTS**

FOR

**CONTRACT NO. 1823
REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**

MAY 2025




APPROVED FOR ADVERTISEMENT:


Kimberly Kennedy, P.E.

Director of Engineering and Construction

 5/16/2025
Jeff Argyros, P.E.
Manager of Capital Projects

DOCUMENTS PREPARED BY:

 5-16-25
Jeffrey Mazza, P.E.
Project Engineer III

ALLEGHENY COUNTY SANITARY AUTHORITY

LEGAL NOTICE

CONTRACT NO. 1823

REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR

Sealed Bids for **CONTRACT NO. 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR** shall be received at the Engineering Department office of the Allegheny County Sanitary Authority, 3300 Preble Avenue, Pittsburgh, PA, 15233, until **11:00 A.M., Prevailing Time, Friday, June 13, 2025**, and then shall be publicly opened and read via Microsoft Virtual Teams Meeting. A **Pre-Bid Meeting** will be held in person on **Thursday, May 29, 2025, at 10:00 A.M., Prevailing Time**.

ALCOSAN encourages businesses owned and operated by minorities and women to submit bids on Authority Contracts or to participate as subcontractors or suppliers to successful Bidders. Successful Bidders are to use minority and women's businesses to the fullest extent possible.


Contract Documents may be examined and obtained at the Engineering office of the Authority. A non-refundable fee of **One hundred dollars (\$100) (no cash or credit cards will be accepted)** will be charged for each set of Contract Documents received. Bid Security shall be furnished by providing with the Bid a Certified Check or Bid Bond in the amount of **10%** of the Bid Price. **Contract documents must be purchased directly from ALCOSAN to qualify as an eligible bidder.**

Any questions regarding the **Contract Technical Specifications** should be directed to **Jeffrey S. Mazza, P.E., ALCOSAN**, via email at Jeffrey.Mazza@alcosan.org.

Any questions regarding the **Purchase of Contract Bidding Documents** should be directed to **Collin Keller, ALCOSAN**, via email at Contract.clerks@alcosan.org.

The Authority reserves the right to reject any or all bids, to waive any informality in any bid and to accept any bid should it be deemed in the interest of the Authority to do so.

ALLEGHENY COUNTY SANITARY AUTHORITY


Kimberly Kennedy, P.E.
Director of Engineering and Construction

May 21, 2025

**ALLEGHENY COUNTY SANITARY AUTHORITY
PITTSBURGH, PENNSYLVANIA**

CONTRACT NO. 1823

REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR

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ARTICLE 1
BIDDING DOCUMENTS

**ARTICLE 1
BIDDING DOCUMENTS**

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BID FORM

To: Allegheny County Sanitary Commission

Address: 3300 Preble Avenue, Pittsburgh, PA 15233

Project Identification: Repairs To No. 1 Economizer and Evaporator

Contract No.: 1823

1. BIDDER'S DECLARATION AND UNDERSTANDING.

- 1.1 This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.
- 1.2 In submitting this Bid, Bidder certifies Bidder is qualified to do business in the Commonwealth of Pennsylvania as required by laws, rules, and regulations or, if allowed by statute, covenants to obtain such qualification prior to contract award.

2. CONTRACT EXECUTION AND BONDS.

- 2.1 The undersigned Bidder agrees, if this Bid is accepted, to enter into an Agreement with Owner on the form included in the Bidding Documents to perform and furnish Work as specified or indicated in the Bidding Documents for the Contract Price derived from the Bid and within the Contract Times indicated in the Agreement and in accordance with the other terms and conditions of the Bidding Documents.
- 2.2 Bidder accepts the terms and conditions of the Bidding Documents.

3. INSURANCE.

- 3.1 Bidder further agrees that the Bid amount(s) stated herein includes specific consideration for the specified insurance coverage.

4. CONTRACT TIMES.

4.1 Bidder agrees to accept Contract Times set forth in **Article 4**, Contract Agreement.

5. LIQUIDATED DAMAGES.

5.1 Bidder accepts the provisions in **Article 4**, Contract Agreement as to liquidated damages.

6. ADDENDA.

6.1 Bidder hereby acknowledges that it has received Addenda No's. _____, _____, _____, _____ (Bidder shall insert number of each Addendum received) and agrees that Addenda issued are hereby made part of the Bidding Documents, and Bidder further agrees that this Bid includes impacts resulting from said Addenda.

7. SUBCONTRACTORS.

7.1 Bidder agrees to submit within **5 days** of Owner's request, a listing of subcontracting firms or businesses that will be awarded subcontracts for portions of Work as described in the Instructions to Bidders.

8. BASE BID

8.1 Lump Sum Work:

Bidder further agrees to accept as full payment for the Lump Sum Work proposed within the Bidding Documents based upon the undersigned's own estimate of quantities and costs and including sales, consumer, use, and other taxes, except as provided below, and overhead and profit, for **CONTRACT 1823**, the following lump sum of:

_____ Dollars
(Words)
and _____ Cents \$ _____
(Words) (Figures)

8.2 Unit Price Work:

Bidder further proposes to accept as full payment for the Unit Price Work proposed herein the amounts computed under the provisions of the Bidding Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. Bidder agrees that the unit prices represent a true measure of the labor, materials, and services required to furnish and install the item, including all allowances for overhead and profit for each type and unit of Work called for in these Bidding Documents.8.2

Unit Price Work

Item	Description	Quantity	Unit Price	Extended Amount
A	Remove and replace (with new) one (1) vertical side of the horizontal duct (shell, insulation, anchors, refractory, coatings, cure, dry-out, etc.) between No. 1 evaporator and the No. 1 afterburner, as described in the contract documents.	2		
B	Remove and replace one (1) square foot of refractory (full depth, from shell to the hot face, with insulation, and at least one anchor), as described in the contract documents.	120 sq. ft.		
C	Furnish, coat (both surfaces) and install one square foot of new steel overlay plate, as described in the contract documents.	400 sq. ft.		
D	Provide the services of a qualified NDT company to perform ultrasonic thickness readings for one (1) eight-hour day, as described in the contract documents.	Five days		
E	Prep and coat (exterior surface only) one square foot area of existing steel casing/shell.	700 sq. ft.		
F	Remove, replace (with new), prep & coat (both surfaces) one square foot of existing steel shell plate (same thickness as original), as described in the contract documents.	250 sq. ft.		
G	Completely vacuum, wash & clean all remaining surfaces (within the areas designated for inspection/work in the reference drawings), as described in the contract documents. This does not include surfaces requiring cleaning to perform or as a result of specified work.	---	---	
			Total	

8.3 Base Bid Summary:

8.3.1 Lump Sum Work (8.1) \$ _____

8.3.2 Total of Extended Amount for
Unit Price Work (8.2) \$ _____

TOTAL BASE BID (Sum of lines 8.3.1 and 8.3.2):

_____ Dollars
(Words)

and _____ Cents. \$ _____
(Words) (Figures)

9. SURETY.

- 9.1 If Bidder is awarded a construction contract from this Bid, the surety who provides the Performance and Payment Bond(s) shall be:

_____ whose address is

Street

City

State

Zip

- 9.2 The Bidder further certifies that the surety listed as providing the Performance Bond and the Payment Bond is listed on the Treasury Department's most current list (Circular 570 as amended) and is authorized to transact business in the Commonwealth of Pennsylvania.

10. BIDDER.

An Individual

By _____
(Individual's name and signature)

A Partnership

By _____
(Partnership name)

(Name and signature of general partner)

(Title)

A Corporation

By _____
(Corporation name)

(State of incorporation)

By _____
(Name and signature of person authorized to sign)

(Title)

(Corporate Seal)

A Joint Venture

By _____
(Business name)

(Name and signature of person authorized to sign)

By _____
(Business name)

(Name and signature of person authorized to sign)

(Each joint venturer must sign. The manner of signing each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Name, Phone Number, and Address for receipt of official communications and for additional information on this Bid:

SUBMITTED ON _____, 20__.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
 _____, as Principal, and
 _____, a corporation duly organized under
 the laws of the State of _____, as Surety, are held and firmly bound unto the Allegheny
 County Sanitary Authority, herein called the "Authority", its attorneys, successors or assigns in the
 sum of _____ Dollars
 (\$ _____) lawful money of the United States of America, for payment of which sum
 well and truly to be made, we bind ourselves, our heirs, legal representatives, successors and assigns,
 jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted the accompanying Bid for **CONTRACT NO. 1823 – REPAIRS
 TO NO. 1 ECONOMIZER AND EVAPORATOR**

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that **(1)** if the
 Principal shall not withdraw said Bid within the period specified in the Information for Bidders, and
 shall within the period therein specified therefore [or, if no time is specified, within **ten (10)**
calendar days (not including Sundays or Legal Holidays) after the prescribed forms are presented to
 it for execution] enter into a written Contract with the Authority in accordance with the Bid as
 required, for the faithful performance of such Contract and for the payment of labor and materials
 and execute and deliver to the Authority all bonds and other instruments required to be executed and
 delivered by the Principal in accordance with the Contract Documents, or **(2)** in the event of the
 unauthorized withdrawal of said Bid, or the failure to enter into such Contract and give such bonds
 within the time specified and execute and deliver to the Authority all bonds and other instruments
 required to be executed and delivered by the Principal in accordance with the Contract Documents, if
 the Principal shall pay the Authority the difference between the amount specified in said Bid and the
 amount for which the Authority may procure the required work or supplies or both, if the latter
 amount be in excess of former together with all other loss, damage or expense suffered by the
 Authority thereby, then, in either such case, the above obligation shall become void and of no effect;
 otherwise it shall remain in full force and effect.

Said Surety, for value received, hereby stipulates and agrees that the obligation of said Surety
 under this Bond shall in no way be impaired or affected by an extension of the time within which
 said Bid may be accepted and said Surety does hereby waive notice of any such extension.

Said Surety agrees that its liability hereunder shall be absolute regardless of any liability of
 the Principal hereunder whether by reason of any irregular or unauthorized execution of or failure to
 execute this Bond or otherwise.

This Bond is entered into, under and pursuant to the laws of the Commonwealth of Pennsylvania and shall in all respects be construed in accordance with the laws of said Commonwealth.

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

SURETY COMPLETE THIS PAGE

(Corporate Surety)

(Street Address)

(City, State and Zip Code)

ATTEST:

By: _____ *

(Signature)

(Title)

Date: _____, 20__

(AFFIX CORPORATE SEAL)

* The Surety should attach to the Bid Bond a currently certified Power of Attorney which should be dated, sealed and executed by a live (not facsimile) signature showing that the person signing the Bid Bond for the Surety has the current authority to do so.

CORPORATION COMPLETE THIS PAGE

_____ is a corporation organized and existing
under the laws of _____ with principal place of business at

(Street Address) (City, State and Zip Code)

and, if a non-Pennsylvania corporation [has] / [has not] been granted a certificate of authority to do business in Pennsylvania, as required by the Pennsylvania Business Corporation Law of 1988, approved December 21, 1988, P.L. 1444, as amended, 15 Pa. C.S.A. §§ 4101 et seq.

ATTEST:

(Name of Corporation)

(Signature of Certifying Officer)

(Signature of Authorized Officer)

Date: _____, 20__

(Typed name of Authorized Officer)

(AFFIX CORPORATE SEAL)

(The corporation shall make certain that the secretary or assistant secretary certifies the official character and authority of the person or persons executing this Bid Bond for the Principal according to the form attached hereto. In lieu of such certificate, attach to the Bid Bond copies of the records of the corporation that show the official character and authority of the officer signing. The records shall be duly certified to be true copies by the secretary or assistant secretary under corporate seal.)

**CORPORATION COMPLETE THIS PAGE
CERTIFICATE AS TO CORPORATE OFFICER**

I, _____, certify that I am [secretary]/[assistant secretary] of the corporation executing the within Bid Bond; that _____ who signed the said Bid Bond; on behalf of the corporation was then _____ of said corporation; that I know his signature and his signature thereto is genuine; and that said Bid Bond was duly signed, sealed and attested for and in behalf of said corporation by authority of its governing body.

Dated: _____, 20__

(Signature of secretary (or assistant secretary))

(AFFIX CORPORATE SEAL)

PARTNERSHIP COMPLETE THIS PAGE

_____ is a partnership trading under a fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

(Partner trading as above) *(SEAL)

(Partner trading as above) *(SEAL)

Date: _____, 20__

(Street Address)

(City, State and Zip Code)

* If the executing party is a partnership, the document must be signed in the name of the partnership by at least two general partners, and the names and addresses of all the partners must be listed on the attached Certificate. Principal must also attach Certificate of registration under the provisions of the Fictitious Names Act.

**PARTNERSHIP COMPLETE THIS PAGE
CERTIFICATE AS TO PARTNERSHIP**

I, a partner of _____, the partnership named _____
as Contractor in the within Bid Bond, certify that the following are the names and addresses of
all the partners of said partnership:

(Name)

(Address)

(City, State and Zip Code)

(Name)

(Address)

(City, State and Zip Code)

(Name)

(Address)

(City, State and Zip Code)

(Name)

(Address)

(City, State and Zip Code)

Date: _____, 20__

(Signature of Certifying Partner)

**INDIVIDUAL COMPLETE THIS PAGE
(WHEN THE PRINCIPAL IS AN INDIVIDUAL DOING BUSINESS UNDER
A FIRM NAME)**

_____ is an individual trading under a
fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of
Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A §§
301 et seq.

(Fictitious or assumed name)

WITNESS:

By: _____ (SEAL)
(Individual doing business as above)

(Street Address)

Date: _____, 20__

(City, State and Zip Code)

**(WHEN THE PARTY IS AN INDIVIDUAL DOING BUSINESS IN HIS/HER
INDIVIDUAL NAME)**

(Individual Name)

WITNESS:

By: _____ (SEAL)
(Individual)

(Street Address)

Date: _____, 20__

(City, State and Zip Code)

**CERTIFICATE OF MINORITY AND WOMEN'S BUSINESS
ENTERPRISE PARTICIPATION**

CONTRACT NO. 1823 - REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR

The undersigned Bidder certifies that they have read and understand the Information for Bidders Section entitled "Minority and Women's Business Enterprise and Labor Surplus Area Policy," and further understand and agree to the minority participation goal applicable to this Contract, and shall strive to expend from **ten to twenty-five percent (10-25%)** of the total cost of the Contract for minority and women's business enterprise participation.

The Bidder further certifies that they understand that they are required to submit, as part of their Bid, a specific proposal indicating the manner in which it will attempt to comply with this requirement.

Failure of the Bidder to attempt to comply with these conditions or failure to submit with the Bid the proposal described above, or failure to sign and submit this Certificate with the Bid may disqualify the Bid as being nonresponsive.

Name of Bidder _____

Signed _____

Title _____

Date _____

ALLEGHENY COUNTY SANITARY AUTHORITY

Failure to complete this form and submit it with bid will be sufficient cause for rejection of bid.

Note: Each sheet must be returned.

SOLICITATION AND COMMITMENT STATEMENT MINORITY (MBE) AND FEMALE (WBE) OWNED BUSINESS ENTERPRISES						
CONTRACT NO.	NAME OF BIDDER	ADDRESS	PHONE			
1823						
List below all MBE/WBE's that were solicited – whether or not a commitment was obtained - - Copy this form as necessary						
<input type="checkbox"/> MBE	<input type="checkbox"/> WBE	TYPE OF SUBCONTRACT WORK OR MATERIALS	<u>DATE SOLICITED</u> BY PHONE BY MAIL	<u>OMMITMENT MADE</u> YES (IF YES, GIVE DATE) NO	GIVE REASON(S) IF NO COMMITMENT MADE	
COMPANY NAME						
ADDRESS			<u>QUOTE RECEIVED</u> YES NO	<u>AMOUNT COMMITTED</u> DOLLAR AMOUNT \$		
CONTACT PERSON PHONE					PERCENT OF TOTAL BID %	
<input type="checkbox"/> MBE	<input type="checkbox"/> WBE	TYPE OF SUBCONTRACT WORK OR MATERIALS	<u>DATE SOLICITED</u> BY PHONE BY MAIL	<u>COMMITMENT MADE</u> YES (IF YES, GIVE DATE) NO	GIVE REASON(S) IF NO COMMITMENT MADE	
COMPANY NAME						
ADDRESS			<u>QUOTE RECEIVED</u> YES NO	<u>AMOUNT COMMITTED</u> DOLLAR AMOUNT \$		
CONTACT PERSON PHONE					PERCENT OF TOTAL BID %	
<input type="checkbox"/> MBE	<input type="checkbox"/> WBE	TYPE OF SUBCONTRACT WORK OR MATERIALS	<u>DATE SOLICITED</u> BY PHONE BY MAIL	<u>COMMITMENT MADE</u> YES (IF YES, GIVE DATE) NO	GIVE REASON(S) IF NO COMMITMENT MADE	
COMPANY NAME						
ADDRESS			<u>QUOTE RECEIVED</u> YES NO	<u>AMOUNT COMMITTED</u> DOLLAR AMOUNT \$		
CONTACT PERSON PHONE					PERCENT OF TOTAL BID %	

Prepared by: _____ Title: _____ Phone: _____

NOTE: It is recommended that Certification and letters of intent for each MBE/WBE commitment accompany this Solicitation and Commitment Statement.

MBE/WBE SOLICITATION AND COMMITMENT STATEMENT

BIDDER’S FIRM:

ADDRESS:

TELEPHONE:

CONTACT PERSON:

PROPOSAL AND BID FOR:

LIST BELOW ALL CONTRACTS WITH THE ALLEGHENY COUNTY SANITARY AUTHORITY DURING THE PAST THREE YEARS AND THE MBE AND WBE PARTICIPATION OBTAINED					
CONTRACT TITLE	CONTRACT DATE	AMOUNT	% PARTICIPATION		COMMENTS
			MBE	WBE	

Prepared by: _____ Title: _____ Phone: _____

MBE/WBE SOLICITATION AND COMMITMENT STATEMENT

Additional Information

The bidder presents the following as additional and supplemental
information to its MBE/WBE Solicitation and
Commitment Statement

Prepared by: _____ Title: _____ Phone: _____

Web sites that provide a list of certified MBE/WBE companies:

www.paucp.com

Suzanne Thomas
ALCOSAN DBE Coordinator
(412) 732-8020

NON-COLLUSION AFFIDAVIT

State of _____:

County of _____:

I state that I am _____ of
(Title)

_____ and that I am
(Name of Firm)

authorized to make this Affidavit on behalf of my firm and its owners, directors and officers.
I am the person responsible for the price(s) and the amount of this Bid.

I further state that:

- (1) The price(s) and amount of this Bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.
- (2) Neither the price(s) nor the amount of this Bid, and neither the approximate price(s) nor approximate amount of this Bid, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before the bid opening.
- (3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this Bid, or to submit any intentionally high or noncompetitive bid or other form of complementary bid.
- (4) The Bid is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid.
- (5) The above-named firm, its affiliates, subsidiaries, officers, directors and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or

collusion with respect to bidding on any public contract, except as follows
(Either provide an explanation or check box provided if there are no
exceptions): ☐ No Exceptions

Explanation: _____

I state that the above-named firm understands and acknowledges that the above
representations are material and important, and will be relied on by:

THE ALLEGHENY COUNTY SANITARY AUTHORITY

in awarding the Contract(s) for which this Bid is submitted. I understand and my firm
understands that any misstatement in this Affidavit is and shall be treated as fraudulent
concealment from:

THE ALLEGHENY COUNTY SANITARY AUTHORITY

of the true facts relating to the submission of bids for this contract.

(Name and Company Position)

SWORN TO AND SUBSCRIBED BEFORE ME

THIS ____ DAY OF _____, 20 ____

(Notary Public)

(My Commission Expires)

**CERTIFICATE OF COMPLIANCE WITH THE
PENNSYLVANIA STEEL PRODUCTS PROCUREMENT ACT**

This Certificate is supplied by _____ ("Contractor")
to the Allegheny County Sanitary Authority ("ALCOSAN") this _____ day of
_____, 20____.

W I T N E S S E T H :

WHEREAS, Contractor wishes to contract with ALCOSAN relative to **CONTRACT NO. 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR** (the "Contract"); and

WHEREAS, The Pennsylvania Steel Products Procurement Act, 72 P.S. § 1881 et. seq. ("Steel Procurement Act") requires that if a product contains foreign and United States steel, such product shall be determined to be a United States steel product only if at least **75%** of the cost of the articles, materials, and supplies have been mined, produced or manufactured, as the case may be, in the United States; and

WHEREAS, Contractor has represented to ALCOSAN that any and all products Contractor will supply to ALCOSAN pursuant to the Contract will be United States steel products as defined in Steel Procurement Act and Contractor does and will in all fashion and manner comply with the Steel Procurement Act and the Contract in performance of the Contract.

NOW, THEREFORE, INTENDING TO BE LEGALLY BOUND HEREBY, Contractor does represent and promise to ALCOSAN as follows:

1. The above recitals are binding between the parties and are legally enforceable as if set forth in their entirety herein.
2. Contractor will, pursuant to the Contract, meet the definition of United States steel products as set forth in the Steel Procurement Act and will in all manner and fashion otherwise comply with the Steel Procurement Act and the Contract.
3. Contractor acknowledges that its representations and promises are a material consideration to ALCOSAN with regard to considering Contractor for and possibly awarding the Contract to Contractor.

4. Contractor does hereby promise to indemnify and save harmless the Authority, its officers, agents, servants, and employees from and against any and all suits, actions, legal proceedings, claims, demands, damages, costs, expenses and attorneys fees resulting from the breach of any representation, covenant or promise contained in this Certificate.

Intending to be legally bound hereby Contractor does hereby supply this Certificate the _____ day of _____, 20____.

ATTEST: (_____)

_____ By: _____

Title: _____

Date: _____

CONTRACTOR'S QUALIFICATIONS STATEMENT

Submitted by: _____ (A Corporation)
(A Copartnership)
(An Individual)

Principal Office: _____

The signatory of this Qualifications Statement guarantees the truth and accuracy of all statements and of all answers to interrogatories hereinafter made.

1. How many years has your organization been in business under your present business name?

2. How many years experience does your organization have in this type of business?

3. On a separate sheet, attached to this document, list the categories of work, by CSI Division Number and Title that your organization will perform on this contract.
4. On a separate sheet, attached to this document, list the categories of work, by CSI Division Number and Title that your organization will sub-contract out on this contract.
5. On a separate sheet, attached to this document, list major construction projects similar in nature to this project that your organization has in progress giving the name of project, owner, architect/engineer, contract amount, percent complete, scheduled completion date, and the percentage of the total cost of the work that your organization is performing.
6. On a separate sheet, attached to this document, list major construction projects similar in nature to this project that your organization has completed in the past **five (5) years**, giving the name of project, owner, architect/engineer, contract amount, percent complete, scheduled completion date, and the percentage of the total cost of the work that your organization is performing.
7. On a separate sheet, attached to this document, list the construction experience and current commitments of the key individuals of your organization.
8. If the answer is "yes" to any of the following three questions, please attach details.
 - a. Has your organization ever failed to complete any work awarded to it? _____

- b. Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers? _____
- c. Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last **five (5) years**? _____
9. Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:
- Current Assets (e.g. cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses)
 - Net Fixed Assets
 - Other Assets
 - Current liabilities (e.g. accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries, and accrued payroll taxes)
 - Other liabilities (e.g. capital, capital stock, authorized and outstanding shares par values, earned surplus, and retained earnings)
 - Name and address of firm preparing attached financial statement and date thereof.
10. Is the attached financial statement for the identical organization named on page one? _____. If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g. parent-subsidiary)

Dated: _____

Name of Organization: _____

By: _____

Title: _____

_____ being duly sworn deposes and says that the information herein is true and sufficiently complete so as not to be misleading.

Subscribed and sworn before me this date: _____

Notary Public: _____

My Commission Expires: _____

CERTIFICATION OF SAFETY PROCEDURES COMPLIANCE

I, _____, as _____ of
(Typed Name) (Title or Office)

_____, a _____,
(Name of Corporation/Partnership) (Type of Entity)

hereby certify that I have read and understand the Safety Procedure as enumerated in the Contract Provisions Section entitled "Compliance with Health, Safety and Environmental Laws" of **CONTRACT NO. 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR** and that all Work will be conducted in accordance with OSHA standards and other applicable safety precautions.

Date: _____, 20____ By: _____

ARTICLE 2
INFORMATION FOR BIDDERS

**ARTICLE 2
INFORMATION FOR BIDDERS**

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2.01 DEFINED TERMS

The terms used in this Information for Bidders have the meanings assigned to them in Article 3, General Contract Conditions ("Contract Provisions").

Certain additional terms used in the Bidding Documents have the meanings indicated below which are applicable to both the singular and plural thereof.

- A. APPARENT LOW BIDDER is the responsible, responsive bidder whose bid as offered in the bid form represents the lowest total as determined by the Base Bid.
- B. BASE BID is the total of the Bid for the Lump Sum Work, plus the amount for any Unit Price Work if applicable. No consideration will be given to additive or deductive alternates or other credits in determining the Base Bid.
- C. BID refers to all materials, items and documents included in the Bidder's response to the Owner submitted pursuant to the Contract Documents.
- D. BIDDER is one who submits a Bid to the Owner as distinct from a sub-bidder, who submits a Bid to a Bidder.
- E. SUCCESSFUL BIDDER is the lowest, responsible and responsive Bidder to whom the Owner (on the basis of the Owner's evaluation as hereinafter provided) makes an award.

2.02 GENERAL

The information contained in this **Article 2** of the Contract Documents describes the proper form and method for submitting Bids and the accompanying security to the Allegheny County Sanitary Authority (hereinafter referred to as the "Owner"), and provides certain general information regarding the award of the Contract.

Certain provisions throughout this Article may reference certain consultants retained by the Owner such as the Construction Manager, the Consulting Engineer and the Engineering Program Manager and to certain of their duties and responsibilities. If any or all of the above-mentioned consultants are not retained for this Project, their duties and responsibilities shall, unless otherwise specified, be retained by the Director of Engineering and Construction ("Engineer") or the Engineer's written designee.

It is a condition to the Owner's evaluation of the Bid and possible award of the Contract that the Bidder carefully examine all of the Contract Documents and completely satisfy itself as to the nature and location of the Work and all Job Site

conditions that may affect performance of the Work. Submission of the Bid by the Bidder is a representation by the Bidder that it has satisfied itself with respect to the foregoing.

Unless all Bids are rejected, and except as otherwise provided by law, award will be made to the lowest responsive and responsible Bidder. The Owner reserves the right to award by item or on a total Lump Sum Price basis, whichever is deemed most advantageous to the Owner. In cases of discrepancies in prices, the unit price will be binding. In any discrepancy between words and figures, the words will take precedence. For Lump Sum Bids which include an itemized breakdown, the low Bid will be based on the stated Lump Sum Price and the Owner is not required to consider the total value of the itemized breakdown.

The Contract Documents shall be interpreted, construed and enforced in accordance with all applicable laws and regulations of the Commonwealth of Pennsylvania.

2.03 LOCATION AND DESCRIPTION OF WORK

The Work to be done as specified herein (referred to as the "Work") includes **REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**, as more fully described in the Contract Documents.

The intent and meaning of the Contract Documents is that the Successful Bidder shall, under each Contract, take any and all actions as are necessary and/or required to provide detailed construction, labor, supervision, materials, supplies, services, equipment, transportation facilities and appurtenances thereto, whether temporary or permanent, and such other items incidental to the execution of the Work.

2.04 SUBMISSION AND OPENING OF BIDS

Bids shall be submitted on the Bid Form which is attached hereto and shall state the proposed price of the Work (typewritten or in ink), both in words and in figures. Bids must be signed in ink. Bids that are not so priced and signed may be rejected.

The Bid must be submitted intact, sealed and delivered in the envelope which accompanied these Contract Documents, addressed to the Allegheny County Sanitary Authority, Director of Engineering and Construction, 3300 Preble Avenue, Pittsburgh, PA 15233. The Bidder's name and address shall be marked in the upper left-hand corner and the words "**SEALED BID FOR CONTRACT NO. 1823 REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**" shall be clearly marked in the lower left hand corner of the sealed envelope. Hand delivered Bids shall be delivered to the Contract Clerks at the Owner's Engineering Department. The envelope shall also bear notation to clearly indicate all Addenda received by its

identifying numbers and dates received. It is the responsibility of each Bidder to make sure that its Bid is received by the Owner prior to the date and time set for opening of the Bids. Upon Bidder's failure to comply with the foregoing, the Owner may treat the Bid as "nonresponsive" and return it to the Bidder unopened. Bids will be received at the office of the Owner until **11:00 A.M.**, prevailing time, on **Friday, June 13, 2025**, at which time and place said Bids will be opened publicly and read aloud.

Bids must be firm. **If a Bid is submitted with conditions or exceptions or not in conformance with the terms and conditions of the Contract Documents, it may be rejected.** The Bid may also be rejected if the product or Work offered by the Bidder is determined by the Owner not to be in substantial conformance with the Contract Documents including the Specifications.

Bidder shall not detach and submit Bid pages separately but shall submit their Bids bound with the complete **Article 1-** Bid Form, including all pages correctly assembled.

The Bid should be properly executed and accompanied by all Bonds, Certificates, Questionnaire Forms and other supporting information and documents, as described in the Bid Form.

2.05

SUPPLEMENTARY INFORMATION PACKAGE

- A. After the Bid opening, upon request of the Owner, the Apparent Low Bidder shall be required to submit, prior to the award of the contract, quadruplicate copies of a Supplementary Information Package as described in this Section. The request shall be made solely for the purposes of the Owner's evaluation and review of all proposed materials, equipment, and items of work and determination of conformance with the Contract Documents.
- B. The Supplementary Information Package shall include all such documentation as may be required elsewhere in the Contract Documents and all data and information deemed appropriate by the Bidder to completely describe its respective offering including but not necessarily limited to the following items:
 1. A list of all products or equipment that will be supplied by or through the Contractor and incorporated into the Work for which the Owner supplied no specifications, and which have a value or combined value in excess of **Ten Thousand Dollars (\$10,000)** or ten percent (**10%**) of the Lump Sum Price, whichever is less, shall be included as "Non-Specified Products." This list will include: manufacturer's name;

equipment name and model number; and the manufacturer's technical literature, brochures and catalog cuts describing the equipment.

2. Any and all other information that may be requested in the Bid Form or under **Article 6**.
3. If the Bidder intends to offer an "or equal" product as described below in **Section 2.9** or an "Alternate" as described below in **Section 2.10**, the Bidder must submit two sets of information as specified below for each proposed "or equal" product or Alternate. This information shall be clearly identified by specification section and product or system. Failure to submit the requested information, or any ambiguities found, may be considered appropriate cause for rejection of any proposed or equal" or Alternate.
 - a. All information listed in the specifications specifying the product or system and not listed below.
 - b. Complete description of the equipment, system, process, or function including a list of system components, features, dimensional and weight data on separate components and assemblies, drawings, catalog information and cuts, manufacturer's specifications, including materials.
 - c. All differences between the Specifications relating to the specified product or system and the proposed "or equal" or Alternate shall be clearly stated in writing. The proposed "or equal" or Alternate supplier shall perform a paragraph-by-paragraph comparison between the "or equal" or Alternate and the Specifications. The proposed "or equal" supplier shall perform a detailed review of the Contract Drawings associated with the proposed "or equal" or Alternate offering. Any difference with respect to any of the Contract Documents shall be clearly identified and completely described. These differences shall be appropriately indexed by Specification Section paragraph/subparagraph and/or Drawing number including applicable pan, section, and/or detail designation.
 - d. Performance data and pump curves.
 - e. Horsepower of all motors supplied.

- f. Utility requirements for each component such as water, power, fuel, air, etc.
 - g. Functional description of any internal instrumentation and control supplied.
 - h. List of parameters monitored, controlled, and alarmed.
 - i. Addresses and phone numbers of nearest service centers and a listing of the manufacturers or manufacturer's representative service available at these locations.
 - j. Addresses and phone numbers for the nearest parts warehouses capable of providing full parts replacement and/or repair services.
 - k. A list of three recent installations where a similar product is currently in service; include contact name, telephone number, mailing address, and the names of the engineer, owner, and installation contractor. If three installations do not exist, the list shall include all that do exist.
 - l. Detailed information on structural, mechanical and all other changes or modifications necessary to adapt the product or system to the arrangement shown and/or functions described on the Drawings and in the specifications.
 - m. Any additional space requirements necessary to provide the minimum clear space around the product or system as shown.
 - n. Impact on the construction schedule if the "or equal" or Alternate is accepted.
- C. After receiving all proposed "or equal" submittals, the Owner will review and notify the Apparent Low Bidder as to preliminary approval, or rejection, of any proposed "or equal". Preliminary approval of an "or equal" by the Owner shall not be construed to indicate final approval by the Owner or relieve the Successful Bidder from providing post contract award submittal information.
- D. Upon failure to provide all the supplemental information requested in Article 2.05B the Owner may (at its discretion) treat the Bid as nonresponsive and the Bid may be rejected for this reason alone.

2.06 SPARE PARTS AND SPECIAL TOOLS

- A. The Owner may purchase spare parts and special tools for the Work furnished under this Contract, sufficient to ensure Work reliability and to expedite repairs when necessary. Price quotations for Bidder or manufacturer recommended spare parts and special tools items shall be submitted as part of the Supplementary Information Package; however, unless required to be included in the Lump Sum Price on the Bid Form, the costs for spare parts and special tools shall not be included in the Bid's Lump Sum Price.
- B. Price quotations so submitted for each spare part item and all special tools must be guaranteed and fixed for either one year after the Effective Date of the Contract or until the Contract is complete, whichever occurs later.

2.07 AWARD, CONTRACT EXECUTION AND NOTICE TO PROCEED

The Contract(s) will be awarded to the lowest responsive, responsible bidder based on the Lump Sum for Bid **Item 8.1 - Lump Sum Work** as defined in **Article 1**, where only a Lump Sum amount is required, or on the sum of Bid **Items 8.1 - Lump Sum Work**, and **8.2 - Unit Price Work** as defined in **Article 1** where a Total Base Bid is required by the particular contract.

The Owner may reject all Bids. The Owner may, solely in its own discretion, award the Contract to the lowest responsive and responsible Bidder within **sixty (60) calendar days** from the date of Bid opening. A time extension may be made by the written mutual consent of the Owner and the Apparent Low Bidder.

All Bids will remain open for acceptance by Owner for **sixty (60) calendar days** after the Bid opening.

In the event a Bidder fails, refuses, or neglects to provide any requested information or documents within the time stated in the Contract Documents, the Owner will have the right to reject its Bid as nonresponsive.

The Notice to Proceed will be made by letter mailed or emailed to the Awarded Bidder and shall be effective the date of the letter. The Owner will endeavor to issue the Notice to Proceed within **ninety (90) calendar days** of the Bid opening and **thirty (30) calendar days** after the Contract is awarded. Any delays caused by the Awarded Bidder's failure to provide any required documents within the specified time may, at the Owner's option, cause an equivalent number of days to be added to these timeframes. The Awarded Bidder will commence performance immediately upon receipt of the Notice to Proceed. The Awarded Bidder should not order any materials or equipment or make any financial commitments concerning this Contract until receiving the Notice to Proceed. Awarded Bidders that do Work or prepare to do Work prior to receiving the Owner's Notice to Proceed are proceeding at their own risk.

2.08

CONTRACT DOCUMENTS

The Contract Documents address one (1) project under **CONTRACT NO. 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**. The Contract Documents are organized into one (1) volume of Specifications and one (1) volume of Contract Drawings.

The Bids submitted for **CONTRACT NO. 1823** shall be for all work required for the project. A description of the work to be performed is presented in Specification **Section 01010 - Summary of Work**.

Contract Documents may be obtained at the office of the Allegheny County Sanitary Authority, 3300 Preble Avenue, Pittsburgh, PA 15233. **A fee of One Hundred Dollars (\$100.00)** (delivered by check or money order, no cash will be accepted) shall be required for each set of Contract Documents obtained.

If the Owner is requested to mail the Contract Documents, the above fee must be submitted to the Owner in advance. With this fee, a release must be sent to ALCOSAN requesting the documents be sent by UPS, to the Bidder. For Express Shipments, the Bidder's account number must accompany this release so that the documents can be sent to the Bidder at the Bidder's expense.

Submission of a Bid constitutes a representation by the Bidder to the Owner that the Bidder has reviewed the Contract Documents in their entirety and has analyzed all applicable provisions, terms, conditions and sections and related information in preparation of its Bid. This representation is a material inducement for the Owner's consideration of the Bidder for this Contract.

2.09 "OR-EQUAL" ITEMS

Whenever a product is defined in the Contract documents by trade name and catalogue number of a manufacturer or vendor, the term "or-equal," if not inserted therewith, shall be implied. Any reference to a particular manufacturer's product either by trade name or by limited description is solely for the purpose of more clearly indicating the minimum standard of quality desired, except where a "no substitute" is requested. When a "no substitute" is requested, the Owner will consider Bids for the referenced product only. The term "or-equal" is defined as meaning any other make which, in the sole opinion of the Owner, is of such character, quality and performance equivalence as to meet the standard of quality and performance of the products specified and is such that offering the "or-equal" will not, in the Owner's opinion, constitute a change of the Project.

2.10 ALTERNATE ITEMS

- A. When provided for in the Bid Form, the Owner may request the Bidder to provide a bid on an "Alternate," defined as a "Major Piece of Equipment" or "System" which is different from that specified in the Contract Documents in, for example, composition, qualities, performance, size dimensions, etc. A "Major Piece of Equipment" is one that, when combined with necessary ancillary materials and equipment, has an installed price exceeding **\$50,000**. A "System" is an assemblage of interdependent, interactive materials and equipment designed as a unit to perform a particular process function, having an installed price exceeding **\$50,000**. A Bidder who wishes to offer an Alternate shall indicate it on the appropriate Bid Form. In addition, supplemental information from the Bidder must be submitted with a complete description of the Alternate, including trade name, brand and/or model number. The information must identify the product's deviations from the Contract Documents. The Bidder shall also furnish descriptive literature and data with respect to the Alternate it proposes to furnish, including drawings, catalog cost, performance data and any other information necessary for an evaluation. The Bidder must demonstrate the merit of the proposed Alternate to the satisfaction of the Owner.
- B. Alternates are optional and are not in lieu of furnishing a Base Bid for the actual Work specified. During the Bid review procedure, the Alternate will not be considered in determining the low responsive, responsible Bidder. The review of the Bids will be based upon the specified Work. The Owner may, but need not, analyze the Alternate for acceptability until after the award of the Contract. The decision of the Owner with regard to the acceptability of an Alternate will be final and uncontestable.

QUESTIONS REGARDING CONTRACT DOCUMENTS/ERRORS

In general, no answer will be given to prospective Bidders in reply to an oral question if the question involves an interpretation of the intent or meaning of the Contract Documents, or the equality or use of products other than those designated or described in the Contract Documents. Any information received by Bidders other than by means of the Contract Documents or by Addenda, as described herein, is given informally, for the information and convenience of the Bidder only and is not guaranteed, is without legal effect and may not be used to bind or otherwise obligate the Owner. The Bidder agrees that such information shall not be used as a basis of, nor will the giving of any such information entitle the Bidder to assert, any claim or demand against the Owner.

To receive consideration, any question, inquiry or request for interpretation or clarification shall be submitted to the Construction Manager in writing, at least ten **(10) calendar days** prior to the advertised date for receipt of Bids. The Owner will review all such questions or requests and may issue Addenda, which will become a part of the Contract Documents, to provide interpretation, clarification or to answer issues or questions so raised which, in the opinion of the Owner, require formal responses. Copies of all Addenda will be delivered or sent, prior to the advertised date for receipt of Bids, to all prospective Bidders known to have received the Contract Documents. Addenda will be delivered by messenger or sent by certified mail, return receipt requested, to prospective Bidders or their designated agents, at the addresses given by them. At its option, the Owner may transmit Addenda by facsimile.

If the question involves the use of an "or equal" item described above in **Section 2.9**, it must be accompanied by drawings, specifications, or other data in sufficient detail to enable the Owner to determine the equality or suitability of the product or method.

In general, the Owner will neither approve nor disapprove particular products prior to the opening of Bids. Such product will be considered when offered by the Contractor for incorporation into the work.

If any alleged errors are noted in the Contract Documents, Bidder should immediately notify, in writing, the Construction Manager and, if confirmed, Addenda will be sent to all prospective Bidders known to have received the Contract Documents.

2.12 REFERENCE INFORMATION

Reference Information concerning the existing facilities and the Job Site will, upon request, be made available to prospective Bidders, for reference only, at the office of the Allegheny County Sanitary Authority, 3300 Preble Avenue, Pittsburgh, PA 15233. Upon request, the Owner will provide prospective Bidders with one (1) print of selected pertinent Drawings of the existing facilities. A fee may be charged by the Owner for these Drawings.

The following information is available:

- A. Reference Drawings:
 - 1. ALCOSAN - Pittsburgh Sewage Treatment Plant
Contract Drawings: Volumes I through IV
Metcalf & Eddy Engineers, 1955
 - 2. ALCOSAN – Furnish and Installing Two Fluidized Bed Reactors
with Afterburners Contract No. 916, SE Technologies, Sept. 1991
 - 3. Construction Drawings, Contract 916 – Construction of Fluidized
Bed Incinerator – Energy Products of Idaho (EPI)
 - 4. ALCOSAN - Contracts 916E, 1664, and 1752.
- B. Reports of Explorations and Tests of Subsurface Conditions:
 - 1. “Soils Exploration and Foundation Recommendations for the
Proposed Phase One Allegheny County Sanitary Authority
Wastewater Treatment Plant Capital Improvements. ALCOSAN
EPM Team.” December 1995 with Addendum No. 1 dated May
1996, Addendum No. 2 dated July 1996, and Addendum No. 3 dated
March 1998.
 - 2. Geotechnical Data ALCOSAN Capital Improvement Program, April
1997.
 - 3. Field Permeability Testing at ALCOSAN
Gannett Fleming, Inc., March 10, 1999
 - 4. Subsurface Exploration and Geotechnical Engineering Investigation
Report, ALCOSAN Interim Grit and Screenings Improvements
Design Project,
GeoMechanics, Inc., March 2004.
- C. Asbestos Reports:
 - 1. ALCOSAN - Asbestos Assessment Report
SE Technologies, April 1989.

All information given in the Reference Information or in the Contract Documents relating to existing conditions is from the sources presently available to the Owner. All such information is furnished for the information and convenience of Bidders and is not guaranteed. All prospective Bidders agree that as a condition for Owner's review of its Bid that said information shall not be used as a basis for asserting any claims or demands against the Owner. It is understood by all prospective Bidders that they shall be responsible for determining the exact conditions prior to bidding and that they shall not be compensated for what they may feel is extra work because of their failure to discover conditions they could have discovered upon investigation.

2.13 BIDDERS TO INVESTIGATE

Bidders are required to submit their Bids upon the following express conditions which will apply to and be deemed a part of every Bid received:

- A. Bidders must satisfy themselves, by personal examination of the Job Site and by such other means as may be necessary or helpful as to the actual and exact conditions existing, the character and requirements of the Work and the difficulties attendant upon its execution and analyze all laws and regulations which may affect the Work. On written advance request, the Construction Manager will provide each Bidder reasonable access to the Job Site to conduct such explorations and tests (at Bidder's own expense) for submission of a Bid. Bidder shall fill all holes and clean up and restore the Job Site to its former condition upon completion of such explorations.
- B. If any discrepancies should be found between existing conditions and the Contract Documents, prospective Bidders shall report these discrepancies to the Construction Manager for clarification prior to submitting a Bid. Failure of the Bidder to recognize Job Site conditions that affect the Work shall not be considered sufficient cause for an increase in the Contract Price.
- C. The submission of a Bid will constitute an incontrovertible representation of Bidder that Bidder has and will comply with every term, condition and requirement of the Contract Documents and that the Contract Documents are sufficient in scope to convey all terms, conditions and requirements for performance and furnishing of the Work.

2.14 APPROXIMATE ESTIMATE OF QUANTITIES

Any estimate of quantities of Work to be done and Materials to be furnished in these Contract Documents is an approximation and is given only as a basis of calculation upon which to determine the lowest Bidder. The Owner does not assume any responsibility for the quantities. The Bidder specifically agrees not to plead

misunderstanding or deception because of such estimates, or of the character of Work or location, or other condition pertaining thereto.

2.15 HAZARDOUS AND OTHER CONTAMINATED MATERIALS

- A. Lead or Chromium Based Paint: The Owner has conducted a survey of paint at the existing plant site. On the basis of that survey, Bidders should assume that disturbing any existing paint will require its removal in accordance with all federal, state and local requirements for lead-base paint. Cost for this work will be included in the Lump Sum Bid.
- B. Asbestos: No asbestos is anticipated in the work area.
- C. Contaminated Soil: N/A

2.16 ACKNOWLEDGMENT OF ADDENDA

Bidders shall acknowledge receipt of all Addenda and signify same by attaching signed copies of each Addendum to the Contract Documents submitted along with their Bid, and by noting each Addendum received, by its identifying number and date received, on the face of its sealed Bid envelope.

2.17 RISK OF LOSS/BID PRICES

All prices quoted shall include material delivered or obtained by the Bidder to or for the Owner F.O.B. at the Job Site. All transportation charges shall be prepaid, and the risk of injury, damage or loss in transit shall be borne by the Successful Bidder. Such injury, damage or loss shall not release the Successful Bidder from any contractual obligations imposed in the Contract Documents. For Owner-Furnished Equipment to be installed under this Contract, prices quoted shall include materials, equipment and labor to load, transport and unload such items from the Owner's storage area to the Job Site, including all risks for damage of this equipment from the time these items are turned over to the Successful Awarded Bidder until the completion of the Contract.

2.18 TAX EXEMPTIONS

The Bidders shall take notice of and shall be responsible for any local or State taxes levied and applicable, and the costs for the same shall be included as part of this Bid. Sales to the Owner may be exempt from Pennsylvania Selective Sales and Use Taxes. Certain of the Bidder's tax obligations are described in more detail in Section 3.21 of the General Conditions entitled, "Sales and Use Tax."

2.19

BID SECURITY/CONTRACT EXECUTION

Bids shall be accompanied by a Certified Check or properly executed Bid Bond on the form included herein, with corporate surety approved to do business in the Commonwealth of Pennsylvania and satisfactory to the Owner and with valid Power of Attorney attached, in the amount of not less than **Ten percent (10%) of the total Lump Sum Price** quoted under the Bid, payable to the Allegheny County Sanitary Authority, as security that the Bidder, if awarded the Contract, shall enter into a written Contract with the Owner, on the form included herein, and supply to the Owner all required Bonds and all other documents, materials or items required to be executed, delivered or supplied by it.

Upon failure on the part of such Bidder to enter into a written Contract with the Owner (and return all required documents to the Owner, including Performance and Payment Bonds and Insurance Certificates, after proper execution) within **ten (10) calendar days** (not including Sundays or Legal Holidays) from the date of mailing of such Contract to it at the address given in its Bid, such defaulting Bidder and its Surety shall be liable to the Owner for the damages sustained by the Owner by reason of such default. In such event, the Bidder's liability shall not be limited to the amount of the Bid security which accompanied its Bid. If the Bid security were a certified check, such check shall be cashed by the Owner and deposited forthwith to the Owner's account. If the Owner's actual damages are less than the amount deposited, the excess shall be returned to the defaulting Bidder. No allowance for interest or the like shall be paid or payable by the Owner on any Bid security.

The Bid security of any Bidder that the Owner believes may receive the award may be retained by the Owner until the earlier of the tenth calendar day after the Effective Date of the Contract or the sixty-first calendar day after the Bid opening.

2.20

TESTING REQUIREMENTS

Bidders must review the provisions set forth in the Contract Documents related to specific testing requirements for the equipment furnished and installed under this Contract. In addition, the Bidder is advised that inasmuch as the Work of this Contract is interrelated to the proper functioning of the Project, the Awarded Bidder shall provide labor to assist in these performance tests and to make any required repairs and/or adjustments to its installed Work, as is necessary to permit these tests to be conducted or to correct any Defective Work, and is responsible to make certain

that the Work is properly installed, complete and ready for continuous use by the Owner.

2.21

WITHDRAWAL OR MODIFICATION OF BIDS

The attention of Bidders is directed to the fact that, in submitting its Bid, the Bidder agrees that it will not withdraw it within **sixty (60) calendar days** after the actual date of opening of Bids or for **one hundred twenty (120) calendar days** if so permitted under applicable law, or for such longer period as may be agreed to by the Bidder. Upon submission of a proper request to the Owner, in writing, and identification of the one making the request, a Bid may be withdrawn, at any time prior to the designated time for the opening of Bids. Certain Bids may be withdrawn after the Bid opening if in compliance with the Act of January 23, 1974, P.L. 9 No. 4 §1 et seq. 73 P.S. §1601 et seq. entitled, “Public Contracts – Withdrawal of Bids” (for purposes of this Section, the “Act”) subject to the limitations and conditions contained therein. Included in the provisions of the Act is a requirement that the Bidder present credible evidence to the Owner’s Director of Engineering and Construction within **two (2) working days** after opening the Bids of a clerical mistake, as opposed to a judgment mistake, that was actually due to an unintentional and substantial arithmetical error or an unintentional omission of a substantial quantity of work, labor, material or services made directly in the compilation of the Bid.

Unless a Bid has been formally withdrawn as provided above, it shall be deemed open for acceptance until the Contract Agreement has been executed by both the Bidder and the Owner or until the Owner manifests that it does not intend to accept the Bid. Notice of acceptance of any one Bid shall not constitute rejection of any other Bid or a manifestation that Owner does not intend to accept any other Bid.

Any Bidder may modify its Bid by telegraphic or facsimile communication at any time prior to the scheduled closing time for receipt of Bids, provided that such telegraphic or facsimile communication is received by the Owner prior to such closing time and, further, provided that a written confirmation of the telegraphic or facsimile communication, over the signature of the Bidder, was postmarked prior to such closing time. Telegraphic or facsimile modifications shall not reveal the Bid price but shall provide the amount(s) to be added to, subtracted from, or other modifications necessary to be made to the prices or terms of the Bid, so that the final prices or terms will not be known to the Owner until the sealed Bid is opened. If the required written confirmation is not received by the Owner within **two (2) calendar days** (excluding Sundays or Legal Holidays) from the closing time, the Owner may,

at its option, refuse to consider or give legal effect to such telegraphic or facsimile communication.

2.22 MORE THAN ONE BID

If more than one Bid is offered by any one Bidder in its own name or in the name of his agent, partner, or other person, then all but the lowest of such Bids will be rejected.

2.23 ALTERATION OF BIDS AND DOCUMENTS

No alteration, erasure, addition or omission of required information, or any change of the Contract Documents **is permitted**, except in accordance with the provisions of **Section 2.11** hereof entitled, "Questions Regarding Contract Documents/Errors."

2.24 RIGHT TO REJECT OR ACCEPT BIDS

The Owner reserves the right, which is understood and agreed to by all Bidders, to reject any or all Bids; to waive any informality, nonmaterial change or clarification in any part or provision of the submitted Contract Documents; or to accept any Bid, should the Owner determine that it is in its best interest to do so. The Owner's decision on the qualification of any Bidder or the adequacy, responsiveness, propriety or timeliness of the Bid and/or its decision to reject any or all Bids or to accept any Bid shall be final, binding and uncontestable as to the Bidder.

Any part of the Bid submitted by the Bidder which is unintelligible, or which exhibits any erasure or other mutilation, or is not properly signed or otherwise made up, will, at the discretion of the Owner, be considered nonresponsive and may be rejected for that reason alone.

The Owner may consider the qualifications and experience of subcontractors, suppliers, and other persons and organizations proposed for those portions of the Work as for which the identity of subcontractors, suppliers, and other persons and organizations is requested in the Contract Documents or made by the Bidder.

2.25 QUALIFICATIONS AND EXPERIENCE OF BIDDERS

Each Bidder and its subcontractor must be regularly engaged in, and have at least five (5) years experience in, the installation of the particular type(s) of construction, systems and equipment required for this contract. No award will be made to any Bidder who cannot warrant or demonstrate that it possesses the knowledge, experience, skill, capital, financial capacity, charters, licenses,

permits, patents and personnel necessary to satisfactorily enable it to prosecute and satisfactorily complete the Work within the Time for Completion as set forth in the Contract Provisions.

Completion of the Contractor's Experience Questionnaire in the Bid Documents is a mandatory requirement of all Bidders and failure to complete this Questionnaire accurately and honestly will be grounds for rejection of a Bid.

The Owner's decision or judgment on these matters will be final, conclusive and binding based upon the information provided by the Bidder in the Contractor's Experience Questionnaire and any additional investigations that it may make. The Owner may make such additional investigations as it deems necessary and the Bidder shall furnish to the Owner, under oath if so required, all such additional information and data for this purpose as the Owner may request. Contractor's who cannot demonstrate and prove that they and their subcontractors have successfully performed Work similar to that required for this contract will not be considered responsive and/or responsible and will not be considered for this Work.

2.26

MINORITY AND WOMEN'S BUSINESS ENTERPRISE AND LABOR SURPLUS AREA POLICY

It is the policy of the Owner to award a fair share of contracts to minority and women's businesses. **The goal of the Authority is that 10 to 25 percent of all dollars relating to its contracts be awarded to minority or women's business enterprises.** The Owner will make every effort to meet that goal in its contracts as well as encourage that goal among its contractors, suppliers and their subcontractors.

The Owner uses affirmative steps to assure that minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services. The Owner encourages its contractors and suppliers to take the same measures when recruiting Subcontractors. Affirmative steps include the following:

- A. Including minority and women's businesses on solicitation lists and contacting them whenever they are potential sources.
- B. Use of area newspapers that serve minority or women's groups for advertising for contracts when work permits. A statement of this policy will be included in the ad text.
- C. Use of minority or women's business associations to contact businesses of this type. A list of these organizations is maintained at the Authority.

- D. Dividing total requirements when economically feasible into small tasks or quantities to permit maximum participation of minority and women's businesses.
- E. Establishing delivery schedules when the requirements of the Work permit that will allow these businesses to participate.
- F. Requiring each party to a sub-agreement to take the affirmative steps listed above.
- G. Procuring goods and services from labor surplus area firms.

Further information concerning this matter may be obtained from the Owner's Manager of Construction.

The Owner will allow lower-tier subcontractor participation to contribute to the Bidder's MBE/WBE goal of **ten percent (10%) to twenty-five percent (25%)**.

2.27

FICTITIOUS NAME REGISTRATION

Where the Bid is made by an individual or individuals doing business under a fictitious name, there shall be attached to the Bid, Certificates from the Office of the Secretary of the Commonwealth and from the Prothonotary's Office showing that each individual or individuals are fully registered under the Fictitious Names Act of the Commonwealth of Pennsylvania 1982, Dec. 16, P.L. 1309, No. 295 § 2, 54 Pa. C.S.A. § 301, et. seq. Additional Certificates, in as many copies as may be required shall be furnished to the Owner by the successful Bidder prior to the execution of the Contract.

2.28

NON-PENNSYLVANIA CORPORATIONS

Attention is directed to the fact that if the Bidder is a non-Pennsylvania corporation, it shall obtain a Certificate of Authority to do business in Pennsylvania, as required by the Pennsylvania Business Corporation Law of 1988, approved December 21, 1988, P.L. 1444, No. 177 § 103 amended, 1990, Dec. 19, P.L. 834, No. 198, § 102, 15 Pa. C.S.A. § 4121.

2.29 PRE-BID CONFERENCE

A non-mandatory **Pre-Bid Conference** will be held at the Engineering Offices of the Authority, 3300 Preble Avenue, Pittsburgh, Pennsylvania 15233 **at 10:00 A.M. Prevailing Time on Thursday, May 29, 2025**. Prospective Bidders are encouraged to attend.

2.30 PATENTS AND PROPRIETARY RIGHTS

Prior to bidding, the Bidder shall acquire through assignment, purchase, license, or other means, all rights required to fully utilize all technology, know-how, trade secrets, inventions, processes, articles, procedures, equipment, apparatus, devices, or any part thereof, and any and all things or matters that are to be used in pursuance of its performance under the terms and conditions of this Contract. Under no circumstances may the Bidder infringe on any patent or any other proprietary rights of third parties in its performance under the terms and conditions of this Contract.

In the event that the Owner shall have any reason to believe that any Bid or performance of this Contract will in any way infringe on any patent or proprietary rights of third parties, the Owner may, at its sole discretion, reject any such Bid or take such other measures that it deems to be in its best interest (including requiring the Bidder to post security). The Bidder will defend, indemnify and save harmless Owner, and all persons acting for or on behalf of Owner, from all claims and liability of any nature or kind, including costs and expenses, arising from or occasioned by any infringement or alleged infringement of patent or proprietary rights on any technology, know-how, trade secret, invention, process, article, procedure, equipment, apparatus, device, or any part thereof, to be furnished, utilized or installed by said Bidder, or arising from or occasioned by the use or manufacture thereof, including their use by the Owner. Patents and Proprietary Rights are discussed in more detail in the Contract Provisions.

2.31 MATERIALS

Submittal of a Bidder constitutes a representation by the Bidder that all specified materials and equipment will be available in time for the timely completion of this Contract. The Awarded Bidder is responsible for making sure that the progress of the Work is orderly and timely. The Awarded Bidder's duties and responsibilities are discussed in more detail in the General Contract.

2.32 LIST OF MAJOR SUBCONTRACTORS/SUPPLIERS

The Bidder shall submit for approval a list of all subcontractors employed on the Work, whose work to be performed is anticipated to be in excess of **One Hundred Thousand Dollars (\$100,000.00)**, or **five percent (5%)** of the **Lump Sum Price**, whichever is greater, with a list of Work they are to perform. Bidders are advised that they must submit a complete list of subcontractors. Failure to provide this information at the time specified will, at the Owner's election, make the Bid nonresponsive or constitute a breach of the awarded Contract. The Bidder is also cautioned that should the Contract be awarded to it, it must use the subcontractor named in its list of subcontractors for each of the items listed, unless otherwise directed in writing by the Owner.

2.33 NEW OR REMANUFACTURED EQUIPMENT

Unless otherwise specified in the Contract Documents, all products offered by the Bidder must be new. A "new" product is one which will be used first by the Owner after it is manufactured or produced.

2.34 PROJECT LABOR AGREEMENT AND LETTER OF ASSENT

A Project Labor Agreement, which includes a letter of Assent, is included herein.

The Bidder shall acknowledge that it will abide by the Project Labor Agreement by signing and submitting a Letter of Assent (in the format given in **Attachment A**) with their bid.

The Contractor shall also require each Subcontractor to execute a copy of the Letter of Assent. The Contractor must be sure that each of its Subcontractors has furnished an executed copy of the Letter of Assent to the CM before the Subcontractor starts work on the Project. The Contractor shall abide by and ensure that each Subcontractor abides by the terms of the Project Labor Agreement.

ARTICLE 2
ATTACHMENT - A

LABOR STABILIZATION AGREEMENT
LETTER OF ASSENT

LETTER OF ASSENT

All contractors of whatever tier shall execute the following Letter of Assent prior to commencing work:

[Contractor's letterhead]

ALCOSAN
Kimberly Kennedy, P.E.
3300 Preble Avenue
Pittsburgh, PA 15233

Re: **CONTRACT 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**

Dear Ms. Kennedy:

Pursuant to **Article IV, Section 3** of the above-referenced Agreement, the undersigned Contractor hereby agrees that it will be bound by and comply with all terms and conditions of said Project Stabilization Agreement, and any amendments thereto. The undersigned Contractor specifically stipulates that it will follow and be bound by the provisions of the Agreement related to referral of employees set forth in **Article VI**; the grievance and arbitration procedure stated in **Article VII**; and the procedure for resolution of jurisdictional disputes set forth in **Article VIII** of the Agreement.

This Letter of Assent shall be in effect during the period of time the Contractor performs work on the Project and shall remain in effect for the duration of the Contractor's work on the Project.

Sincerely,

[Name of Contractor or Subcontractor]

By: _____

Title: _____

ARTICLE I

INTENT AND DURATION

Section 1. Intent and Duration. This Project Stabilization Agreement (the “Agreement”) is entered into between Allegheny County Sanitary Authority (“ALCOSAN”); [] as General Contractor (GC) and Construction Trades Council of Pittsburgh, AFL-CIO (“BCTC”); and the Signatory Unions (the “Unions”) and applies exclusively to the construction work within the scope of this Agreement to be performed on the ALCOSAN’s **CONTRACT NO. 1823– REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR** (“Project”). The purpose of this Agreement is to promote efficiency in the construction of the Project and to provide for the peaceful settlement of any and all labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the Project. This Agreement shall expire and be of no further force or effect upon the completion of the Project.

Upon execution of this Agreement by all parties, all construction work covered by this Agreement on the Project shall be contracted exclusively to Contractors who agree to execute and be bound by the terms of this Agreement. The Unions agree that other Contractors may execute the Agreement for purposes of performing such work. The GC shall monitor compliance with this Agreement by all contractors, who through their execution of a Letter of Assent hereto, together with their subcontractors, shall become bound hereto. For purposes of this Agreement, the term “Contractor” shall be deemed to include all construction contractors and subcontractors of whatever tier engaged in on-site construction work on the Project, including the GC when it performs such construction work.

The GC, the Unions and all signatory Contractors agree to abide by the terms and conditions contained in the Agreement. This Agreement represents the complete understanding of all parties, and no Contractor is or will be required to sign any other agreement with a signatory union as a condition of performing work coming within the scope of this Agreement. No practice, understanding or agreement between a Contractor and a Union which is not specifically set forth in this Agreement will be binding on any other party unless endorsed in writing by the GC.

Section 2. Limitation of Agreement to Project. The Unions agree that this Agreement will be made available to, and will fully apply to, any successful bidder for work on the Project, without regard to whether that successful bidder performs work at other sites on either a union or a non-union basis, and without regard to whether employees of such bidder are or are not members of any union. The Unions further agree that this Agreement applies only to this Project, and that by signing the Letter of Assent hereto, a Contractor, not previously in signed agreement with the Unions, does not recognize the Unions as the bargaining representative of any of its employees at any other project, site or location. It is the intent of this Agreement that Contractors

who sign it will create a relationship with the Unions governed by the provisions of Section 8(f) of the Labor Management Relations Act, 29 U.S.C. §158(f).

ARTICLE II

PURPOSE

Section 1. Purpose. The parties signatory to this Agreement accordingly pledge their complete good faith and trust to work towards an absolutely on-time completion of the Project. The signatory parties further pledge to demonstrate nationally that Western Pennsylvania enjoys a mature labor relations climate and continues to be the number one location in the United States to live and work.

Section 2. Time is of the Essence. The parties to this Agreement understand and agree that time is of the essence for this Project. The parties understand and agree that the ALCOSAN and the GC have a critical need for timely completion of the Project, as the Project must be completed prior to **[202] days from the Notice to Proceed letter**. Timely completion of the Project without interruption or delay is therefore vital. The parties understand and agree that timely construction of the Project will require substantial numbers of employees from construction and supporting crafts possessing skills and qualifications that are essential to its completion; the Unions pledge that they have members who are competent, skilled, and qualified to perform the required construction work. The parties also understand that on-budget completion of the Project is most critical; it is therefore essential that construction work on the Project be done in an efficient, economical manner with optimum productivity and no delays. In recognition of those special needs of the Project, Unions signatory hereto and their members agree not to initiate, authorize, sanction, participate in or condone, or permit their members to engage in, any strike, sympathy strike, jurisdictional strike, recognitional strike, slowdown, sabotage, work to rule, sickout, sit down, picketing of any type (including informational picketing), hand billing, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project. Contractors agree not to engage in any lockouts.

ARTICLE III

BENEFITS OF THE AGREEMENT

Section 1. **Benefits of the Agreement.** This Agreement is intended to foster the achievement of a timely and on-budget completion of the Project by, among other things:

- (a) avoiding the costly delays of potential strikes, sympathy strikes, jurisdictional strikes, slowdowns, walkouts, picketing, hand billing and any other disruptions or interference with work, and promoting labor harmony and peace for the duration of the Project;
- (b) standardizing terms and conditions governing the employment of labor on the Project;
- (c) permitting a wide flexibility in work scheduling, shift hours, and starting times;
- (d) achieving negotiated adjustments as to work rules and staffing requirements from those which otherwise might obtain;
- (e) providing comprehensive and standardized mechanisms for the settlement of work disputes;
- (f) ensuring a reliable source of skilled and experienced labor; and
- (g) furthering public policy objectives, to the extent lawful, as to improved employment opportunities for the Minority business Enterprises, Women Business Enterprises.

ARTICLE IV

SCOPE OF THE AGREEMENT

Section 1. **The Work.** This Agreement is specifically defined and limited to onsite construction work required to construct the Project. The site of the construction is agreed to be the **Alcosan Energy Recovery Facility (ERF).**

Section 2. **Exclusions from Scope.** Items specifically excluded from the scope of this Agreement, even if performed in connection with the Project, include the following:

- (a) Work of non-manual employees, including but not limited to, superintendents, supervisors, staff engineers, inspectors, quality control and quality assurance personnel, timekeepers, mail carriers, clerks, office workers including messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, supervisory and management employees.
- (b) Equipment and machinery owned or controlled and operated by ALCOSAN.
- (c) All off-site manufacture, fabrication or handling of materials, equipment or machinery (except at dedicated lay-down or storage areas), and all deliveries of any type to and from the Project site.

- (d) All employees of ALCOSAN, the GC, the design team or any other consultant when such employees do not perform manual labor coming within the scope of this Agreement.
- (e) Any work performed on or near or leading to or onto the site of work on the Project and undertaken by state, county, city or other governmental bodies, or their contractors; or by public utilities or their contractors.
- (f) Off-site maintenance of leased equipment and on-site supervision of all such maintenance work.
- (g) Work by employees of a manufacturer or vendor necessary to maintain such manufacturer's or vendor's warranty or guarantee, unless such work has historically and customarily been performed by members of a signatory union, or work performed by supervisors or technicians employed by the manufacturer or vendor to oversee the testing of equipment once installed to insure that the equipment is fully operational.
- (h) Laboratory work for specialty testing or inspections not ordinarily done by the signatory local unions.
- (i) All work done by employees of ALCOSAN, or of any State agency, authority or entity or employees of any municipality or other public employer.
- (j) All employees and entities engaged in ancillary Project work performed by electric utilities, gas utilities and telephone companies.

The Unions agree that there shall be no interference with, or disruption of work, of those contractors, employers and employees exempted from coverage of this Agreement by subparagraph (a) through (j) above.

This Agreement is a stand-alone agreement. While this Agreement expressly does not incorporate any local area collective bargaining agreements, such local area collective bargaining agreements may be referenced for the limited purposes as hereinafter set forth in this Agreement. However, to the extent, if any, that any provisions of this Agreement conflict with any provision of a local area collective bargaining agreement, the provisions of this Agreement shall control, except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, all instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exceptions of Article VII – Grievance Arbitration Procedure, Article VIII – Jurisdictional Disputes, and Article X – Work Stoppages, of this Project Agreement, which shall apply to such work.

Section 3. Contract Award and Consent to Agreement.

- (a) The GC, and/or Contractors, as appropriate have the absolute right to award contracts or subcontracts on the Project notwithstanding the existence or nonexistence of any

Agreements between such contractor and any Union party provided only that such Contractor is willing, ready and able to execute and comply with this Agreement or a Letter of Assent thereto, should such Contractor be awarded work covered by this Agreement.

- (b) All subcontractors of a Contractor, of whatever tier, who have been awarded contracts of work covered by this Agreement on or after the effective date of this Agreement shall also be required to accept and to be bound by the terms and conditions of this Agreement and shall evidence their acceptance by the execution of this Agreement or a Letter of Assent thereto, prior to the commencement of work. A copy of this Agreement or Letter of Assent executed by each Contractor shall be available for review by the Unions.

Section 4. Craft Jurisdiction. This Agreement shall recognize the traditional craft jurisdictions of the signatory unions. Any and all jurisdictional disputes shall be settled in accordance with Article VIII below. While this Agreement is a stand-alone Agreement and expressly does not incorporate any local are collective bargaining agreements, the Agreement will utilize the local area collective bargaining agreements of signatory locals as a reference to define the signatory local unions' craft jurisdiction.

Section 5. Subcontracting. ALCOSAN agrees that neither it nor any of its contractors or subcontractors will subcontract any work covered by this Agreement to be done on the Project except to a person, firm or corporation who is or agrees to become party to this Agreement. Any contractor or subcontractor working on the Project shall, as a condition to working on said Project, become a signatory to and perform all work under the terms of this Agreement. Contractors who are signatory to local collective bargaining agreements shall be bound by the terms of their respective local collective bargaining agreements on subcontracting to the extent such terms are consistent with Article IV, Section 2 of this Agreement. Disputes concerning compliance with such local subcontracting provisions for this project shall be subject to all of the dispute resolution provisions of this Agreement.

Section 6. Liability. It is understood that the liability of the Contractor and the liability of the separate Unions under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employer status between or among ALCOSAN and/or any Contractor and ALCOSAN shall not assume any liabilities of the Contractors.

Section 7. Abatement of Agreement. As areas of covered work on the Project are accepted by ALCOSAN, this Agreement shall have no further force or effect on such areas except where the Contractor is directed by ALCOSAN to engage in repairs or punch list modifications.

ARTICLE V

LABOR/MANAGEMENT COOPERATION JOINT ADMINISTRATIVE COMMITTEE

Section 1. The parties to this Agreement shall establish a Project Joint Administrative Committee (“Committee”). This Committee will be a three-person committee comprised of one member each from the General Contractor, from ALCOSAN, and from the signatory Unions, with an alternate signatory Union member available to replace the regular volunteer when a problem or grievance concerns the regular member’s Union. The members of the Project Joint Administrative Committee shall be appointed by their respective principals at a time to be determined after the time the General Contract is awarded. Each member of the Committee shall designate an alternate who shall serve in the absence of the member for any purpose contemplated by this Agreement.

Section 2. The Committee shall meet at least quarterly or more often if special circumstances warrant, to discuss the administration of the Agreement, the progress of the Project, labor/management problems that may arise, and any other relevant matters. Any need for interpretation which might arise from the application of the terms and conditions of the Agreement shall be referred directly to the Committee for resolution.

ARTICLE VI

UNION RECOGNITION AND EMPLOYMENT

Section 1. Pre-Hire Recognition. Each Contractor recognizes the Unions as the sole and exclusive bargaining representative of all craft employees within their respective jurisdictions working on the Project under the Agreement. It is contemplated that such recognition under this Agreement is pursuant to the provisions of Section 8(f) of the Labor Management Relations Act, 29 U.S.C. §158(f) unless the signatory Contractor and Unions have another, preexisting legal relationship.

Section 2. Contractor’s Right of Selection. Each Contractor shall have the right to determine the competency of all employees, the number of employees required and shall have the sole responsibility for selecting employees to be laid off.

Section 3. Union Referral. For Local Unions having a job referral system, each Contractor agrees to comply with such system, and the referral system shall be used exclusively by such Contractor, except as modified by this Article. Such job referral system will be operated in a non-discriminatory manner and in full compliance with Federal, State, and Local laws and regulations requiring equal employment opportunities and non-discrimination, and referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions or any other

aspects or obligations of union membership, policies or requirements. The Union shall indemnify and hold each Contractor harmless with respect to any claim arising out of how the Union operates and administers its referral system. All hiring procedures, including related practices affecting apprenticeship and training, will be operated so as to facilitate the ability of the contractors to meet any and all equal employment opportunity/affirmative action obligations. The Contractor may reject any referral for any reason and request another, different referral.

Section 4. Lack of Job Referral System. In the event that a signatory Local Union does not have a job referral system as set forth in Section 3 above, the Contractor shall give the Union forty-eight (48) hours to refer applicants. The Contractor may reject any referral for any reason and request another, different referral. The Contractor shall notify the Union of employees hired from any source other than referral by the Union.

Section 5. Unavailability of Union Referrals. In the event that Local Unions are unable to fill any requisitions for qualified employees within **forty-eight (48) hours** after such requisition is made by the Contractor (Saturdays, Sundays, and Holidays excepted), the Contractor may employ applicants from any other available source. The Contractor shall inform the Union of the name and social security number of any applicants hired from other sources and refer the applicant to the Local Union for dispatch to the Project.

Section 6. No Cross-Referrals. The Local Unions shall not knowingly refer an employee currently employed by any Contractor working under this Agreement to any other Contractor, nor shall any Union engage in any activity which encourages workforce turnover or absenteeism.

Section 7. Union Best Efforts. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft workers to fulfill the manpower requirements of each Contractor, including calls to local unions in other geographical areas when its referral lists have been exhausted.

Section 8. Non-Discrimination. No employee covered by this Agreement shall be required to join any Union or pay any agency fees or dues as a condition of being employed, or remaining employed, on the Project. Where, however, there is in effect and in the possession of the Contractor a voluntary written dues deduction authorization executed by the employee on a standard form furnished by the Union, the Contractor agrees to deduct union dues from the pay of the employee and to remit the dues to the Union at the same time that trust fund contributions are required to be remitted to the administrators of the appropriate trust funds on behalf of that employee.

Section 9. Core Employees. To provide opportunities to participate on the Project to minority and women owned business enterprises as well as other enterprises which do not have a relationship with the Unions signatory to this Agreement and to ensure that such enterprises will have an opportunity to employ their “core” employees on this Project, the parties agree that any such enterprise has the right to select core employees whom it will employ on site, in accordance with the formula below and who:

- (a) possess any license required by the state or federal law for the Project work to be performed;
- (b) have worked a total of at least **1,200 hours** per year in the construction craft during each of the prior **3 years**, including participating in a state certified apprenticeship program;
- (c) were on the Contractor’s active payroll for at least **60** out of the **180 calendar days** prior to the contract award;
- (d) have the ability to perform safely the basic functions of the applicable trade.

The first employee and the third employee, or up to **ten percent (10%)** percent of all employees, whichever is greater, hired by each contractor may be core employees. After such core employees have been hired by any contractor, all the employees shall thereafter be hiring hall referrals by the appropriate signatory unions in accordance with the provisions of the applicable local collective bargaining agreements.

Section 10. Craft and General Forepersons. The selection of craft foreman and/or general foreman and the number foreman required shall be the exclusive right and responsibility of each contractor.

Section 11. Helmets to Hardhats. The Employers and the Unions recognize a desire to facilitate entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veteran’s Employment (hereinafter “Center”) and the Center’s “Helmets to Hardhats” program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs identified by the parties.

The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

ARTICLE VII

GRIEVANCE ARBITRATION PROCEDURE

Section 1. This Agreement is intended to provide close cooperation between management and labor. Each of the Unions will assign a representative to this Project for the purpose of completing the construction of the Project economically, efficiently, continuously, and without interruptions, delays, or work stoppages.

Section 2. The Contractors, Unions, and the employees, collectively and individually, realize the importance to all parties to maintain continuous and uninterrupted performance of the work of the Project, and agree to resolve disputes in accordance with the grievance-arbitration provisions set forth in this Article.

Section 3. Any question or dispute arising out of and during the term of this Project Agreement (other than trade jurisdictional disputes) shall be considered a grievance and subject to resolution under the following procedures:

Step 1: (a) When any employee subject to the provisions of this Agreement feels he or she is aggrieved by a violation of this Agreement, he or she, through his or her local union business representative or job steward, shall, within **five (5) working days** after the occurrence of the violation, give notice to the work-site representative of the involved Contractor stating the provision(s) alleged to have been violated. The business representative of the local union or the job steward and the work-site representative of the involved Contractor and the General Contractor shall meet and endeavor to adjust the matter within three **(3) working days** after timely notice has been given. The representative of the Contractor shall keep the meeting minutes and shall respond to the Union representative in writing (copying the General Contractor) at the conclusion of the meeting but not later than **twenty-four (24) hours** thereafter. If they fail to resolve the matter within the prescribed period, the grieving party may, within **forty-eight (48) hours** thereafter, pursue **Step 2** of the Grievance Procedure, provided the grievance is reduced to writing, setting forth the relevant information concerning the alleged grievance, including a short descriptions thereof, the date on which the grievance occurred, and the provision(s) of the Agreement alleged to have been violated.

(b) Should the Local Union(s) or the General Contractor or any Contractor have a dispute with the other party and, if after conferring, a settlement is not reached within three **(3) working days**, the dispute may be reduced to writing and proceed to **Step 2** in the same manner as outlined herein for the adjustment of an employee complaint.

Step 2: The International Union Representative and the involved Contractor shall meet within **seven (7) working days** of the referral of a disputed to this second step to arrive at a satisfactory settlement thereof. Meeting minutes shall be kept by the Contractor. If the parties fail to reach and agreement, the dispute may be appealed in writing in accordance with the provisions of **Step 3** within **seven (7) calendar days** thereafter.

Step 3: (a) If the grievance has been submitted but not adjusted under **Step 2**, either party may request in writing, within **seven (7) calendar days** thereafter, that the grievance be submitted to an Arbitrator mutually agreed upon by them. The Contractor and the involved Union shall attempt mutually to select an Arbitrator, but if they are unable to do so, they shall request the American Arbitration Association to provide them with a list of arbitrators from which the Arbitrator shall be selected. The rules of the American Arbitration Association shall govern the conduct of the arbitration hearing. The decision of the Arbitrator shall be final and binding on all parties. The fee and expenses of such arbitration shall be borne equally by the Contractor and the involved Local Union(s).

(b) Failure of the grieving party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties involved at the particular step where the extension is agreed upon. The Arbitrator shall have the authority to make decisions only on issues presented to him or her, and he or she shall not have authority to change, amend, add to or detract from any of the provisions of this Agreement.

Section 4. The General Contractor and ALCOSAN shall be notified of all actions at Steps 2 and 3 and shall, upon their request, be permitted to participate in all proceedings at these steps.

ARTICLE VIII

JURISDICTIONAL DISPUTES

Section 1. The assignment of work will be solely the responsibility of the Contractor performing the work involved, and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

Section 2. There will be no strike, sympathy strike, jurisdictional strike, recognitional strike, slowdown, sabotage, work to rule, sickout, sitdown, picketing of any type (including informational picketing), handbilling, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project by the Unions or their members arising out of, or because of, any jurisdictional dispute. All jurisdictional disputes on this Project, between or among Building and Construction Trades Unions and employers shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Contractors and Unions party to this agreement. This Jurisdictional Dispute Resolution Procedure will only apply to work performed by Local Unions at the Project. Any Local Union involved in a jurisdictional dispute on this Project shall continue working in accordance with **Sections 1 and 2** above without disruption of any kind, and the Contractor's initial assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

Section 3. Each Contractor will conduct a pre-job conference with the appropriate Building and Construction Trades Council prior to commencing work. The General Contractor and the Owner will be advised in advance of all such conferences and may participate if they wish.

Section 4. Nothing in this Article of this Agreement shall preclude any Contractor from obtaining administrative or injunctive relief to halt any strike, picketing, or work stoppage pending resolution of a dispute pursuant to this Article.

ARTICLE IX

MANAGEMENT'S RIGHTS

Section 1. **Exclusive Authority – Workforce.** The GC and the Contractors retain the full and exclusive authority for the management of their operations and workforces. The GC and Contractors retain the right to plan, direct, and control the workforce, including the hiring, promotion, demotion, transfer, layoff, suspension, discipline or discharge for just cause of employees; the determination of crew make-up, crew size and manning levels; the selection of foremen, the assignment and scheduling of work; the promulgation of work rules; and the requirement of overtime work, the determination of when it will be worked and the number and identity of employees engaged in such work. No rules, customs, or practices which limit or restrict productivity, efficiency of the individual and/or joint working efforts of employees shall be permitted or observed. The GC and Contractors may utilize any methods or techniques of construction and operation.

Section 2. Materials, Design, Machinery, Equipment. There shall be no limitation or restriction by a signatory Union upon a Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and utilization of equipment, machinery packaging, pre-cast, pre-fabricated, pre-finish, or pre-assembled materials, tools or other labor saving devices. The on-site installation or application of all items shall be performed by the craft having jurisdiction of such work; provided, however, that installation of specialty items may be performed by employees employed under this Agreement who may be directed by other personnel in a supervisory role, in circumstances requiring special knowledge of the particular items.

Section 3. Specialty Work. It is recognized by the Contractors, the Unions, and their members that the performance of certain work on the Project shall consist of the installation of certain materials, equipment, or supplies manufactured outside this local vicinity which must, for warranty purposes, be installed by the manufacturer and/or designated specialty contractors and that such installation work is not customarily performed by the members of such unions. The Unions and their members agree that they shall make no claims for such work; provided, however, that the GC and/or the Joint Administrative Committee shall provide them with the necessary information establishing the nature of such specialty work.

Section 4. New Technology, Equipment. The use of new technology, equipment, machinery, tools and/or labor-saving devices and methods of performing work may be initiated by any Contractor from time to time during the Project. The Union agrees that it will not in any way restrict the implementation of such new devices or work methods.

Section 5. Disputes. If there is any disagreement between any Contractor and the Union concerning the manner or implementation of such device or method of work, the implementation shall proceed as directed by the Contractor, and the Union shall have the right to grieve and/or arbitrate the dispute as set forth in **Article VII** of this Agreement.

ARTICLE X

WORK STOPPAGES

Section 1. No Strikes or Work Disruptions. There shall be no strike, sympathy strike, jurisdictional strike, recognitional strike, slowdown, sabotage, work to rule, sickout, sitdown, picketing of any type (including informational picketing), hand billing, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project. The Unions signatory hereto, and each of their members, agree not to initiate, authorize, sanction, participate in, condone, or permit their members to engage in any such activity. Failure of any Union or employee covered by this Agreement to cross any picket line established by any Union, signatory or non-signatory to the Agreement, or by any other organization or individual at or in proximity to the Project construction site, is a violation of this Article. The signatory Union shall be

responsible for any action of its members, which violates this section, and its members shall be subject to discipline up to and including discharge for violation of the provisions of this article.

Section 2. Union Responsibilities. The Union shall not sanction, aid or abet, encourage or condone any conduct or activity in violation of this Article, and shall undertake all means to prevent or to terminate any such conduct immediately. No employee shall engage in activities which violate this Article, and the Union shall pursue all disciplinary action permitted by its Constitution and By-laws against any employee who engages in any activity which violates this Article.

Section 3. Violation. If any Contractor and/or ALCOSAN contends that any Union or its member(s) has violated this Article, it will notify in writing the International President(s) of the Union(s) involved, advising him of the fact, with copies of such notice to the Local Union(s) involved, and the BCTC. The International President or Presidents will immediately instruct, order and use the best efforts of his office, including discipline procedures under its Constitution and By-laws, to cause the Local Union(s) or its members to cease any violation of this Article.

Section 4. Expedited Arbitration. Should ALCOSAN, GC or any Contractor believe that there has been any violation of this Article, it may institute this expedited arbitration procedure (in addition to any action at law or in equity, or any other contractual procedure available to it). The parties to this Agreement have agreed that the Labor Arbitration Rules of the American arbitration Association shall apply, including the Rules governing Expedited Arbitration. The Arbitrator shall hold a hearing within **twenty-four (24) hours** of verbal or written notice of a claimed violation of this Article and shall complete the hearing in one session. The sole issue at the hearing shall be whether or not a violation of this article has occurred. The Arbitrator shall have no authority to consider any matter in justification, explanation, or mitigation of such violation. The arbitral award shall be issued in writing within **three (3) hours** after the close of the haring and may be issued without opinion. If any party desires an opinion, the arbitrator shall issue one within **fifteen (15) days**, but its issuance shall not delay compliance with, or enforcement of, the award.

ARTICLE XI

WAGES AND BENEFITS

Section 1. Classification – Wages. All employees covered by this Agreement shall be classified in accordance with work performed and paid the prevailing wage and benefit rates for these classifications. The GC, upon request, shall provide the Unions with substantiation that prevailing wages and benefits are being paid by Contractors on the Project.

Section 2. Payment of Benefits/Contribution. Each Contractor will also pay all required contributions in the amounts required by **Section 1** of this Article to the established employee benefit funds that accrue to the direct benefit of the employees (such as pension and

annuity, health and welfare, vacation, apprenticeship, training funds). With respect to contributions required in this Section to Employer-Union jointly trusted funds, the Contractor adopts and agrees to be bound by the written terms of the legally established trust agreement specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds. The Contractor authorizes the parties to such Trust Funds to appoint Trustees and successor Trustees to administer the Trust Funds and hereby ratifies and accepts the Trustees and successor Trustees to administer the Trust Funds and hereby ratifies and accepts the Trustees so appointed as if made by Contractor. This section does not apply to core employees unless any core employee voluntarily elects to join and become a member of any local union signatory to this Agreement, in which event this Section shall immediately apply with respect to any such core employee.

ARTICLE XII

LOCAL UNION NEGOTIATIONS DURING THE PENDENCY OF THE AGREEMENT

Section 1. All parties to this Agreement understand and acknowledge that some crafts who will be working on the Project are covered by local collective bargaining agreements that will expire prior to the projected completion of the project. All contracting parties understand and agree that irrespective of whether such local collective bargaining agreement negotiations are successful or unsuccessful, there shall be no strike, sympathy strike, jurisdictional strike, recognition strike slowdown, sabotage, work to rule, sickout, sit-down, picketing of any type (including informational picketing), hand billing, boycott, interruption of work or any disruptive activity that interferes with or interrupts in any way work on the Project by any Union involved in such local negotiations, or by any of its members, nor shall there be any lockout on the Project affecting such union or its members during the course of such negotiations. Irrespective of the status of any such local collective bargaining agreement negotiations, the affected Union and all of its members will observe and fully comply with the provisions of this Agreement.

Section 2. **Wage/Benefit Increases.** Should a craft covered by this Agreement negotiate an increase in wages or an increase in benefits with any Contractor to become effective during the term of the Project for the area of Western Pennsylvania, those wage and/or benefit increases shall be paid, as of the effective date of those increases, to those employees in that craft performing work covered by this Agreement.

ARTICLE XIII

HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. **Work Day and Work Week.** Except as provided in Section 4, the first shift shall consist of eight (8) or ten (10) hours per day between the hours of 6:00 a.m. and 5:30 p.m., plus one-half (1/2) hour for unpaid lunch, approximately mid-way through the shift. Forty (40)

hours per week shall constitute a regular week's work, whether consisting of five (5) eight (8) hour days, or four (4) ten (10) hour days. The work week will start on Monday and conclude on Sunday. A uniform starting time will be established for all crafts on each project or segment of work. Nothing herein shall be construed as guaranteeing any employee eight (8) or ten (10) hours per day or forty (40) hours per week. The Union(s) shall be informed of the work starting time set by the contractor at the pre-job conference which may be changed thereafter upon three (3) days' notice to the Union(s) and the employees. A second shift, if used, shall consist of eight hours between the 3:00 p.m. and 1:00 a.m.; a third shift, if used, shall begin between 10:00 p.m. and 1:00 a.m. For the purposes of Section 3, the third shift shall be considered as part of the prior day's work.

Section 2. Starting Times. Employees shall be at their place of work at the starting time and shall remain at their place of work (as designated by the Contractor) performing their assigned functions until quitting time, which is defined as the scheduled end of the shift. The parties reaffirm their policy of a fair day's work for a fair day's wage. There shall be no pay for time not worked unless the employee is otherwise engaged at the direction of the Contractor. Due to the magnitude of the project and congestion of the site, staggered starting times may be required. If necessary, these starting times would be between 6 AM and 8 AM. This policy could help reduce the transportation problems at start and completion times.

Section 3. Overtime. Overtime shall be defined as all hours worked in excess of forty (40) hours in a week, or for 8 hour shifts, in excess of 8 hours per day; or for 10 hour shifts, for work in excess of 10 hours per day; such work and work performed on Saturday shall be paid at one and one-half times the straight time rate of pay. However, in scheduled five day/eight hour shift work-weeks, Saturday may be scheduled as a "make-up" day at straight time to make up for a day lost (Monday through Friday) due to inclement weather; in scheduled for day/ten hour shift work weeks, Friday and/or Saturday may be scheduled as a "makeup" day at straight time to make up for a lost day (Monday through Thursday) due to inclement weather. In addition, if a makeup day is scheduled, all employees directed to work on such day will be guaranteed a minimum of four (4) hours work or pay. In any week in which employees on the Project are scheduled on four day/ten hour shifts, an employee whose first day of work on the projects begins on Wednesday, or a later day of the schedule shall be paid, during the first week of his employment only, time and a half for all hours worked in excess of eight in a day for each day he worked during said week. Work on Sundays and Holidays shall be at double time. There will be no restriction on any Contractor's scheduling of overtime or the non-discriminatory designation of employees who will work. The Contractor shall have the right to schedule work so as to minimize overtime. There shall be no pyramiding of overtime pay under any circumstances.

Section 4. Shifts.

- (a) Shift work may be performed at the option of the Contractor(s) upon three (3) days' prior notice to the Union and shall continue for a period of not less than five (5) working days. Saturdays and Sundays, if worked, may be used for establishing the

five (5) day minimum work shift. If two shifts are worked, each shall consist of eight (8) hours of continuous work exclusive of a one-half (1/2) hour non-paid lunch period for eight (8) hours pay.

- (b) The Contractor may establish a work week of four (4) consecutive ten (10) hour workdays (exclusive of one-half hour unpaid lunch, approximately midway through the shift) between Monday and Friday.

Section 5. Holidays. Recognized holidays on the Project shall be New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving Day, and Christmas Day. Work performed on holidays shall be paid at double the straight time rate of pay. A holiday falling on Sunday shall be observed the following Monday

Section 6. Meal Period. The Contractor will schedule a meal period of not more than one-half hour duration at the work location at approximately the mid-point of the scheduled work shift (4 hours in a five-day work week, 5 hours in a four-day work week), consistent with Section 1; provided, however, that the Contractor may, for efficiency of the operation, establish a schedule which coordinates the meal periods of two or more crafts. If an employee is required to work through his meal period, he shall be compensated for the time worked at the applicable overtime rate and the employee shall, when work permits, eat his lunch "on the fly."

Section 7. No Organized Work Breaks. There will be no organized breaks or other non-working time established during working hours. Individual nonalcoholic beverage containers will be permitted at the employee's work stations.

Section 8. Craft Worker Parking Facilities. Parking facilities or arrangements for employees working on the Project will be established by ALCOSAN by the time work on the Project commences.

ARTICLE XIV

APPRENTICES

Section 1. Need For. The parties recognize the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry. The Contractor(s) will accordingly employ apprentices in their respective crafts to perform work on the Project within the apprentices' capabilities.

Section 2. Ratios. The Union agrees to cooperate with the Contractor in furnishing qualified apprentices as requested. There shall be no restrictions on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

ARTICLE XVI

NON-DISCRIMINATION

Section 1. **Policy.** It is the continuing policy of the GC, the Contractors and the Unions that the provisions of this Agreement shall be applied without discrimination because of age, race, sex, color, religion, creed, national origin or union signatory or membership status. There shall be no discrimination against an employee because of her or his membership in, or activities on behalf of Unions.

ARTICLE XVII

SOLE AND COMPLETE AGREEMENT

Section 1. The parties agree that this Agreement constitutes the sole and complete agreement between them governing the rates of pay and working conditions of the construction employees working on the Project, that it settles all demands and issues on the matters subject to collective bargaining, and that it shall not be modified or supplemented in any way except by written agreement executed by both parties.

ARTICLE XVIII

SEPARABILITY AND SAVINGS CLAUSE

Section 1. **Intent of Parties.** If any article or section of this Agreement shall be held invalid by law or by a tribunal of competent jurisdiction, or if compliance with or enforcement of any article should be restrained pending a final determination as to its validity, the remainder of this Agreement shall not be affected and shall remain in full force and effect. In the event that any article or section is held invalid, the parties hereto shall, upon the request of the Unions, enter into collective bargaining negotiations for the purpose of arriving at a mutually satisfactory replacement for such article during the period of invalidity or restraint. If the parties hereto cannot agree on a mutually satisfactory replacement, either party shall be permitted to submit its demand to formal arbitration.

Section 2. **Force of Agreement.** The parties recognize the right of the ALCOSAN to withdraw, at its absolute discretion, the utilization of this Agreement as part of any bid specification should a court of competent jurisdiction issue any order which could result, temporarily or permanently, in delay of the bidding, awarding, and/or construction work on the Project. Notwithstanding such an action by the General Contractor, or such court order, the parties agree that the Agreement shall remain in full force and effect on the Project, to the maximum extent legally possible.

ARTICLE XV

DRUG AND ALCOHOL POLICY

Section 1. **Policy.** All parties understand and agree that a substance abuse program has been established by the Master Builders' Association of Western PA, Inc. (MBA) and/or the **Constructors Association of Western Pa (CAWP)**, and will be in force for all work performed under the Agreement. The substance abuse program will prohibit the use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms while on the Project's premises and will require testing of employees. The substance abuse program will be incorporated into and made part of the Agreement and implemented for all Contractors and employees working on the Project.

TERM OF AGREEMENT

This Agreement shall take effect on the 11 day of Aug, 2009 and shall remain in full force and effect through

BUILDING AND CONSTRUCTION
TRADES COUNCIL OF PITTSBURGH,
AFL-CIO

By William Brooks
(President William Brooks)

Contractor

Dennis E. Eicker
(Sectary Treasurer Dennis E. Eicker)

Richard Stanizzo
(Business Manager Richard Stanizzo)

REPRESENTING THE FOLLOWING LOCAL UNIONS

Asbestos Workers Local No. 2
Boilermakers Local No. 154
Bricklayers and Allied Craftworkers Local No. 9
Greater Pennsylvania Regional Council of Carpenters
Heavy Construction Carpenters Local No. 2274
Cement Masons Local No. 526
International Brotherhood of Electrical Workers Local No. 5
Elevator Constructors Local No. 6
International Union of Operating Engineers Local No. 66
Construction General Laborers Local No. 373
Floor Coverers and Decorators Local No. 1759
Bridge, Structural, Ornamental, and Reinforcing Iron Workers Local No. 3
Laborers' District Council of Western Pennsylvania
Construction General Labor and Material Handlers Local No. 1058
Millmen's Local No. 1160
Millwright's Local No. 2235
Plasterers' Local No. 31
Plumbers Local No. 27
District Council 57 IUPAT
Pile Drivers Local No. 2235
United Union of Roofers, Waterproofers and Allied Workers Local No. 37
Sheet Metal Workers Local No. 12
Sprinkler Fitters Local No. 542
Steamfitters Local No. 449
Teamsters Local No. 341

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GENERAL CONTRACT CONDITIONS

ARTICLE 3 GENERAL CONTRACT CONDITIONS

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GENERAL

3.1 DESCRIPTION OF WORK

A. THE PROJECT

This **Article 3**, General Contract Conditions ("Contract Provisions") is a part of that certain Contract Agreement (together with these General Conditions and the other Contract Documents, as defined herein, collectively referred to as the "Contract") awarded by the Allegheny County Sanitary Authority (the "Owner") to the Successful Bidder (hereinafter referred to as the "Contractor") for the construction of the **CONTRACT NO. 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR** at the Owner's wastewater treatment facility located in Pittsburgh, Pennsylvania (the "Facility"). This Contract is for work that will form a part of a larger capital improvements project at the Facility (the "Project").

B. THE WORK UNDER THIS CONTRACT

The intent and meaning of the Contract Documents is that the Contractor, in order to fulfill its obligations under the Contract, shall provide any and all labor, supervision, materials, supplies, services (including detailed engineering), equipment, tools, transportation, facilities and appurtenances thereto, whether temporary or permanent, and such other items as indicated, required or implied by the Contract Documents and as necessary for a complete, functional and operational **INCINERATOR/WASTE HEAT BOILER SYSTEMS** - (The "Work").

C. SEPARATE CONTRACTS

The Contractor acknowledges that the Owner may bid and award to other contractors (together with the subcontractors of such other contractors collectively referred to hereinafter as "Other Contractors") separate contracts, to provide certain general, civil, mechanical, instrumentation, controls, heating, ventilating and other construction items, facilities, equipment and/or services in connection with the Project and related to the Work. The Contractor shall cooperate fully with the Owner and Other Contractors in providing any and all design and construction information and details relative to the Work, in a timely manner, as necessary for the Owner to prepare the plans and specifications for such separate contracts, if any, or to enable the Owner's Other Contractors to complete the related work required thereunder (the Contractor and Other Contractors, not including their subcontractors, are sometimes collectively referred to hereinafter as the "Prime Contractors").

D. CONSULTANTS

Certain provisions throughout this document may refer to certain consultants retained by the Owner, including, without limitation, the Construction Manager, the Consulting Engineer(s), and describe certain of their duties and responsibilities. If any or all of the above-mentioned consultants are not retained for this Project, their duties and responsibilities shall, unless otherwise specified, remain in the Owner's

Director of Engineering and Construction ("Engineer") or the Engineer's written designee.

3.2 CONTRACT DOCUMENTS

A. DEFINITION

The term "CONTRACT DOCUMENTS" means the full and collective set of documents which form the Contract, including: **Legal Notice**; **Article 1**, Bid Form; Supplementary Information Package; Bid Bond; Certificate of MBE & WBE Participation; Non-Collusion Affidavit; Certificate of Compliance with the Pennsylvania Steel Products Procurement Act; Certification of Safety Procedures Compliance; Contractor's Experience Questionnaire; Prevailing Minimum Wage Predetermination; **Article 2**, Information for Bidders; **Article 3**, General Contract Conditions ; **Article 4**, Contract Agreement; **Article 5**, Performance Bond, Labor and Material Payment Bond, Maintenance Bond and associated Certificate of Satisfaction and Statements of Surety; Specifications; Drawings; all Addenda issued by the Owner prior to the time of opening of Bids, if any; any exceptions, changes, modifications and/or clarifications incorporated into or submitted by the Contractor along with its Bid, provided that each and every such exception, change, modification and/or clarification is specifically accepted by the Owner, in writing, as a part of the award of the Contract; and any duly executed changes, modifications and/or amendments to the Contract made and approved by the Owner's Board of Directors prior to Contract completion and any other form or document described as part of this Contract. The Contract Documents are all made a part of the Contract and supplement each other. It is the intent of the Contract Documents to describe the Work as a functionally complete system. Any work, materials or equipment that may be inferred reasonably from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for.

B. MODIFICATIONS ONLY IN WRITING

The terms, conditions, drawings, and specifications contained in the Contract Documents cannot be waived, altered or modified except by a written Change Order issued in accordance with **Section 3.32** of these General Conditions entitled, "Proposed Change Orders, Change Orders, and Change Directives."

C. CLARIFICATIONS

If, during the performance of the Work, the Contractor finds, or is made aware of, a conflict, error or discrepancy in the Contract Documents, the Contractor shall so report to the Construction Manager in writing at once before proceeding with the work affected thereby, and, if appropriate, shall obtain a written interpretation or clarification from the Construction Manager in accordance with **Section 3.31** of these General Conditions entitled, "Requests for Information and Field Instructions."

D. ORDER OF PRECEDENCE

In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based upon the following order of precedence, to be followed seriatim with item 1. being consulted first:

1. The Agreement between the Owner and the Contractor.
2. Special Conditions, if any.
3. General Contract Conditions.
4. Remaining Contract Documents (except the Specifications and Drawings).
5. Specifications (specific instructions shall supersede general instructions).
6. Drawings (details supersede plans and elevations; schedules supersede general notes).

If the foregoing order of precedence fails to resolve the conflict or discrepancy, then the better quality or greater quantity of Work shall be provided in accordance with the Owner's interpretation.

Except as otherwise specifically provided by the Owner in writing, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and (a) the provisions of any standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or (b) the provisions of any laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in a violation of any such law or regulation).

3.3 ADDITIONAL DEFINITIONS

Wherever the words defined in this Section, or pronouns used in their stead, occur in the Contract Documents, they shall have the meanings given as follows:

- A. AS-BUILT DRAWINGS refers to drawings that show how the constructed Work was installed or modified in size, arrangement, elevation, position, materials used, or other manner, from that shown on the Contract Documents.
- B. BASELINE CONTRACT SCHEDULE refers to the initial CPM formatted schedule, prepared by the Contractor, coordinated by the Construction Manager and acceptable to the Owner, covering the entire performance of the Work and incorporating such milestone dates as are necessary and appropriate to demonstrate that the Work will be completed in sufficient time to allow the achievement of the milestones set forth in the Contract Agreement.
- C. BENEFICIAL USE shall mean the acceptance of completed equipment and/or

operating systems by the Owner prior to Substantial Completion.

- D. CHANGE ORDER refers to a document recommended by Construction Manager and Engineer and signed by Contractor and Owner that authorizes an addition, deletion or revision in the Work that results in a Contract Modification, an increase or decrease to the Contract Sum, and/or extension of the Final Completion Date on or after the date of the Agreement between Owner and Contractor. A Change Order, dependent upon the value, requires prior written authorization by the Owner's Director of Engineering and Construction or Executive Director and approval by the Owner's Board of Directors.
- E. CONSTRUCTION MANAGER means the independent firm retained by the Owner to coordinate and direct activities between the Owner and the Contractor and to assist with the Contract administration and the completion of this Project.
- F. CONSULTING ENGINEER(S), also referred to herein as "Final Design Consultant(s)," means the independent consultant(s) retained by the Owner to participate in the design the Project.
- G. CONTRACT SUM means the total amount payable to the Contractor by the Owner upon satisfactory completion of the Work under this Contract, as the same may be adjusted from time to time pursuant to the Contract Documents.
- H. DEFECTIVE WORK refers to Work that, in the sole discretion of the Owner, is unsatisfactory, faulty, or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to Final Acceptance of the Work (unless responsibility for the protection from damage thereof has been assumed in writing by the Owner).
- I. DIRECTOR OF ENGINEERING & CONSTRUCTION (the "Engineer") means that person holding the position of or acting in the capacity of Director of Engineering & Construction of the Allegheny County Sanitary Authority, acting directly or through agents properly authorized in a writing signed by the Director of Engineering & Construction, such agents acting within the scope of their authorized duties.
- J. DIRECTOR or EXECUTIVE DIRECTOR means that person holding the position of or acting in the capacity of Executive Director of the Allegheny County Sanitary Authority, acting directly or through the Director of Engineering & Construction or through agents properly authorized in a writing signed by the Executive Director or the Director of Engineering and Construction, such agents acting within the scope of their authorized duties.
- K. DRAWINGS mean the drawings which give guidance in illustrating the character and scope of the Work to be performed and which have been prepared or approved by the Consulting Engineer and are referred to in the full Contract Documents.
- L. FIELD INSTRUCTION refers to a writing issued by the Engineer through the Construction Manager which is necessary or appropriate to interpret or to resolve any ambiguity or error in the Specifications or Drawings or to make any minor change to

the Specifications or Drawings that does not result in a net change in the Contract Sum or Contract Time or the quality of materials or workmanship. Field Instructions may not change or alter the terms and conditions of the Contract.

- M. FINAL COMPLETION DATE means the number of calendar days or date defined by the Owner for the completion of the Work as stated in the Contract Agreement. This includes the submission of all final closeout paperwork required by **Section 3.53** hereof.
- N. JOB SITE means the location on the Owner's premises at 3300 Preble Avenue, Allegheny County, Pittsburgh, Pennsylvania, 15233, where certain portions of the Work are to be performed or located, or any other location described in the Contract Documents.
- O. NOTICE TO PROCEED means written notice from the Owner to the Contractor to commence its Work in accordance with the Contract Documents. In issuing the Notice to Proceed, stipulations may be included as to time and other requirements that may condition commencement of the Work at the Job Site.
- P. PROJECT MANAGER means that person of the Allegheny County Sanitary Authority, named in a writing signed by the Director of Engineering & Construction, holding or acting in the capacity of Project Manager within the scope of particular duties entrusted to such person in writing.
- Q. PROJECT PROGRESS SCHEDULE refers to an integrated overall CPM formatted schedule, coordinated by the Construction Manager, which incorporates each Contractor's Contract Schedule.
- R. PROJECT RECORD shall mean all information, materials, and data of every kind and character and form (hard copy, as well as computer readable data), including without limitation, records, books, papers, documents, notes, subscriptions, recordings, agreements, purchase orders, leases, contracts, commitments, arrangements, payrolls, subcontractor files, original estimates, Applications for Payment, Change Orders, job cost reports, project notes, daily diaries, superintendent reports, drawings, receipts, vouchers, and memoranda, and any and all other agreements, sources of information and matter that may in Owner's judgment have any bearing on or pertain to any matters, rights, duties or obligations under or covered by the Contract Documents to the extent necessary to adequately permit evaluation and verification of: **(a)** Contractor compliance with the Contract Documents; **(b)** compliance with Owner's business ethics policies; and **(c)** compliance with provisions for pricing change orders, invoices or claims submitted by the Contractor or his payees.

- S. PROPOSED CHANGE ORDER refers to the first step in initiating a change in the Work, the Contract Sum, or the Contract Time. A Proposed Change Order (PCO) can be initiated in eBuilder by Owner, Engineer, or Construction Manager to make changes to the plans and specifications as a request for proposal from the Contractor to perform the change in Work.
- T. RECORD DRAWINGS refers to drawings that show how the equipment supplied under this Contract was manufactured. Record Drawings delivered to the Owner shall be certified as Record Drawings by the supplier and signed and, as appropriate under any applicable law and regulation, signed and sealed by a Licensed Professional Engineer.
- U. SCHEDULE OF VALUES refers to the listing of the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing amounts of progress payments during construction.
- V. SHOP DRAWINGS refers to all drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or for the Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams, and other information submitted by the Contractor to illustrate materials or equipment for all portions of the Work.
- W. SPECIFICATIONS, or Technical Specifications, refers to those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain details thereof. The Specifications are found in **Article 6**.
- X. SUBSTANTIAL COMPLETION means the Work of the Contract (or a specified part of the Work as provided in the Contract Documents or otherwise determined by Owner) has progressed to the point where, in the opinion of the Engineer (as certified in writing by issuance of a Certificate of Substantial Completion), the Work (or a specific part of the Work) is essentially and satisfactorily complete in accordance with the Contract Documents, as modified by approved Change Orders, and is ready for full occupancy or use by the Owner in the manner intended without inconvenience or discomfort and includes all local, state and federal approvals, permits and licenses required by all governmental agencies having jurisdiction over the Project; provided, however, that the determination of Substantial Completion of the Work shall not be withheld if the failure to obtain same is due to design errors or other causes not the fault of or responsibility of the Contractor. The determination by the Owner on the status of Substantial Completion shall generally but not specifically mean or include: all materials, equipment, systems, controls, features, Underground Facilities, accessories, and similar elements are installed in the proper manner and in operating condition; spaces and surfaces (except minor areas or spaces) have been painted or otherwise finished throughout; masonry and concrete cleaned with any sealer or other finish applied; casework installed, complete with tops, sinks, fittings and other related items installed and services connected; utilities and systems

connected and functioning; site work essentially complete; permanent heating, ventilating, air conditioning and other systems properly operating with proper controls; lighting and electrical systems installed, operable and controlled; and other work to a similar state of essential and satisfactory completion. A minor amount of work, as determined by and at the discretion of the Owner, such as installation of minor accessories or items, a minor amount of painting, seeding, landscaping, minor replacement of defective work, minor adjustment of controls, completion or correction of minor site or exterior work that cannot be completed due to weather conditions, will not delay the determination of Substantial Completion. The procedure for Certification of Substantial Completion is described in **Section 3.51** hereof entitled "Certification of Substantial Completion."

- Y. SUBSTANTIAL COMPLETION DATE means the number of calendar days or date defined by the Owner for Substantial Completion of the Work as stated in the Contract Agreement.
- Z. SUPERINTENDENT refers to the authorized agent appointed by the Contractor on a full-time basis to supervise and coordinate all Job Site activities performed by the Contractor or any subcontractor or supplier employed directly or indirectly by the Contractor.
- AA. WORKDAY means any calendar day excluding Saturdays, Sundays, and holidays.

Any pronouns used in relation to, or in place of, any of the words or combinations of words, herein defined, shall have the same meaning as the words or combinations of words themselves.

Wherever the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used in the Contract Documents, it shall be understood that the directions, requirements, permission, orders, designation or prescription of the Engineer are intended. Similarly, the words "approved," "acceptable," "suitable," "satisfactory," or words of like import shall mean approved by, acceptable to, suitable to, or satisfactory to the Engineer in each case.

3.4 TITLES NOT TO LIMIT TEXT

The titles or headings of the various divisions, sections, parts, paragraphs, or subparagraphs of the Contract Documents are for convenience of reference only and are not intended to limit and shall not be construed as in any way limiting, the application of the text.

RIGHTS AND DUTIES OF THE CONTRACTOR

3.5 MEANS AND METHODS/QUALITY OF MATERIALS

The Contractor shall complete the Work to the reasonable satisfaction of the Owner and in accordance with the Contract Documents. The Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

If requested by the Engineer or Consulting Engineer, through the Construction Manager, the Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment used in the Work. All materials and equipment shall be of first quality and applied, installed, connected, erected, used, cleaned, and conditioned in accordance with instructions of the applicable manufacturer, except as otherwise provided in the Contract Documents.

3.6 RESPONSIBILITY FOR THE WORK

The Contractor represents and warrants by submission of its Bid that it has thoroughly examined and has become familiar with the Contract Documents and determined the nature and location of the Work, the general and local conditions, the availability of labor, materials, supplies, and equipment, and all other matters which can in any way affect the Work under this Contract. Failure to make any examination necessary for this determination shall not release the Contractor from the obligations of this Contract or be grounds for any claim based on unforeseen conditions.

The Contractor shall take all responsibility for the Work performed under this Contract. It shall in no way be relieved of its responsibility by any right of the Executive Director, Engineer, the Owner's employees, or agents to give permission or orders, or by failure of such to give permission or to issue orders. The Contractor shall be responsible for all loss and damage incurred in transporting the equipment, materials, or Work while under the direction or control of the Contractor, to, from, or on the Job Site and for all loss and damage to the equipment, materials and/or Work or any part thereof caused by the Contractor, its agents, representatives or employees, any subcontractor, or any person or organization directly or indirectly employed or engaged by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, occurring prior to the Owner's Final Acceptance thereof.

3.7 COORDINATION

It shall be the Contractor's responsibility to coordinate all Work furnished under this Contract with the Construction Manager and with the Other Contractors to make sure that all Work performance guarantees are achieved and that the Work is properly constructed, assembled, installed, and configured for reliable and continuous operation. The Contractor shall require its subcontractors to review the requirements set forth herein to ensure that the Work and equipment integrated therein will be compatible and properly integrated, constructed, assembled, and installed.

The Owner shall allocate the Work and designate the sequence of construction in case of controversy between the Contractor and Other Contractors and/or suppliers. The Contractor shall, at all times, have on site a Superintendent who is fully authorized as its agent. The Superintendent shall be capable of reading and thoroughly understanding the Contract Documents and shall receive and fulfill instructions from the Owner or its authorized representatives.

3.8 COOPERATION BETWEEN CONTRACTORS/DISPUTES OR ACTIONS BETWEEN CONTRACTORS

In the event the Owner contracts with Other Contractors or third parties for work on the Project on or near the Work covered by this Contract, the Contractor shall conduct its work so as not to interfere with or hinder the progress or completion of the work being performed by such Other Contractors. The Contractor shall cooperate with the Other Contractors working on the Project and coordinate its work with that of the Other Contractors.

The Contractor shall be responsible under the Contract to include all considerations, financial and otherwise, resulting from the requirement herein to interface, coordinate, and cooperate with Other Contractors working on the Project, as well as with the Owner and its authorized representatives.

The Contractor shall afford each Other Contractor or third-party performing work on the Project and each utility owner (and the Owner, if the Owner is performing additional work with the Owner's employees) proper and safe access to the Job Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Unless otherwise provided in the Contract Documents, the Contractor shall do all cutting, fitting, and patching of the Work that may be required to make its several parts come together properly and integrate and connect with work performed by Other Contractors. The Contractor shall not endanger any work by Other Contractors by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the prior written consent, through the Construction Manager, of the Other Contractors whose work will be affected.

If any part of the Contractor's Work depends for proper execution or results upon the work of any Other Contractor, the Contractor shall within 48 hours of its anticipated start of the Work in a particular area inspect the work of the Other Contractors and report in writing to the Construction Manager any apparent discrepancies, interferences, defects, or delays in such work that render it unsuitable for the proper execution and results of the Contractor's Work. Failure of the Contractor to so inspect and report shall constitute an acceptance of the Other Contractor's work as fit and proper to receive the Contractor's Work, except as to defects which may develop in the Other Contractor's work after the execution of the Contractor's Work.

The Contractor agrees that all claims, disputes, and other matters in question between the Contractor and Other Contractors, which arise out of or are related to this Contract or the breach thereof, shall be settled by agreement or, failing agreement, resolved through arbitration in accordance with the Construction Industry Rules of the American Arbitration Association then in effect, unless the parties to the dispute mutually agree otherwise. This agreement to arbitrate shall be specifically enforceable under the prevailing Arbitration Law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any Court having jurisdiction thereof.

Notice of the demand for arbitration shall be submitted in writing to the Other Contractor(s) and filed with the Pittsburgh Regional Office of the American Arbitration Association, with a copy to the Owner and the Construction Manager. The demand for arbitration shall be

made within a reasonable time after the claim, dispute or other matter in question has arisen. Under no circumstances shall the Owner, the Final Design Consultants, the Construction Manager or any of the Owner's other agents or employees be made a party to such claim, dispute, or other matter in question.

It is agreed by the parties to this Contract (the Owner as promisee and the Contractor as promisor) that the intent of this clause is to benefit the other as an indication of the mutual intent of the Owner and the Contractor that this clause raise such Other Contractors to the status of third-party beneficiaries only as to the terms and conditions of this Contract Section. The Contractor agrees that this Contract Section is provided as a benefit to the Contractor and that it specifically excludes claims against the Owner, the Final Design Consultants, and the Construction Manager for delay or other damages.

3.9 INSURANCE

The terms, conditions, and provisions related to insurance are contained in **Exhibit "A"**, attached hereto and made a part hereof. It shall be the responsibility of the Contractor to make certain that its subcontractors and suppliers comply with any such insurance requirements relating to them.

3.10 INDEMNIFICATION

The Contractor shall be liable for, and shall protect, defend, indemnify and save harmless the Owner, the Consulting Engineer(s), the Construction Manager, and their officers, members, employees, agents and invitees (hereinafter, the "Indemnified Parties") against and from any and all liabilities, suits, actions, claims, demands, losses, expenses and costs of every kind and nature incurred by or asserted or imposed against the Indemnified Parties, or any of them, by reason of any accident, injury (including death) or damage to any person or property, or loss of use, however caused resulting in any way from any act of commission or omission of the Contractor, any subcontractor of the Contractor of any tier, or any person or organization directly or indirectly employed or engaged by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, whether or not caused in part by the active or passive negligence or other fault of any of the Indemnified Parties; provided, however, that the foregoing obligations shall not arise if such liabilities, suits, actions claims, losses, expenses and costs are caused by the sole negligence of any of the Indemnified Parties. Furthermore, the foregoing obligations shall survive the completion of the Work and/or termination of the Contract.

In any and all claims against Indemnified Parties by any employee of the Contractor, any subcontractor, any person or organization directly or indirectly employed or engaged by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the above defense, indemnification and hold harmless obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any such subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts, nor shall this defense, indemnification and hold harmless obligation be limited in any way by the amount or type of insurance coverage held by the Owner, the Consulting Engineer, the Construction Manager, or any of their subcontractors.

The Contractor and its subcontractors shall require their insurance carriers, with respect to all insurance policies, to waive all rights of subrogation against the Indemnified Parties; provided, however, that such waiver shall not extend to the Consulting Engineer, or the Construction Manager, their agents or employees, for liability arising out of (1) the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs or Specifications or (2) the giving of, or the failure to give, directions or instructions by the Consulting Engineer or the Construction Manager, their agents or employees provided that any such act or omission is the sole cause of the loss or damage claimed.

3.11 PERMITS

Unless otherwise provided in the Contract Documents or unless otherwise provided by the Engineer in writing, the Contractor shall, prior to beginning Work at the Job Site, obtain and pay for all permits and licenses necessary to complete the Work and shall provide a copy of such to the Construction Manager prior to beginning Work at the Job Site. The Owner shall assist the Contractor, when necessary, in obtaining such permits and licenses. The Contractor shall pay all governmental charges and inspection fees necessary for the

prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Contract.

3.12 NON-DISCLOSURE OF OWNER RELATED INFORMATION

During all times that the Contractor is engaged on behalf of the Owner and at all times subsequent to the date of this Agreement, Contractor acknowledges and agrees that Contractor is prohibited, without prior written consent from the Owner, from displaying or utilizing Owner Related Information on Contractor's public website, in Contractor's marketing materials or in any other form of communication intended for dissemination to third parties. Owner Related Information shall include, but is not limited to, 1) photographs, drawings or maps of the Owner's facility or the work Contractor performs for the Owner, 2) documents obtained from or prepared by the Owner or associated in any way with the Contractor's work for the Owner, 3) photographs or images of the Owner's employees or attendees at Owner's meetings, and/or 4) written descriptions of the Owner's facility or Contractor's work for the Owner.

3.13 DOCUMENTS, RECORDS AND PAYROLLS

A. Documents

The Contractor shall keep at the Job Site for inspection by the Owner all Contract Documents that reflect changes made during the performance of the Contract. If there is more than one Job Site, the Contractor shall keep complete sets of such Contract Documents at each Job Site.

The Contractor shall prepare and/or maintain all documents required by this Contract in accordance with the Contract Documents and shall deliver such documents to the Construction Manager in the specified form and quantity before final payment is made.

The Contractor shall not be compensated for performing Work or ordering materials shown on construction, shop, and detailed drawings which have been prepared under its Contract until such drawings have been reviewed and accepted in accordance with the procedure established in the Contract Documents.

B. Records

The Owner or any duly authorized representative may inspect and copy the Contractor's records, pertinent books, documents, and papers relating to the Project at any time up to **four (4) years** after the day final payment is made. In the event of arbitration, litigation, or the settlement of claims arising out of the performance of this Contract or any contracts with vendors, the time period provided in this paragraph shall be extended until **two (2) years** after any appeal, arbitration, litigation, or claim shall have been finally disposed of.

The Contractor shall check all materials, equipment, and labor entering into the Work and shall keep such full and detailed accounts as may be necessary for verification of progress payment requests and other invoices issued by the Contractor under this Contract.

C. Payrolls

The Contractor shall furnish the Owner immediately after each pay period, **two (2) copies** of each certified payroll for its Work and the Work of its subcontractors, prepared on forms furnished by the Owner, or in a form approved by the Pennsylvania Department of Labor, and executed and sworn to by the Contractor's and subcontractors' respective payroll supervisor.

The Contractor shall keep and require their subcontractors to keep for **four (4) years** from the date of payment a record showing the name, craft, and hourly wage paid to each employee working on the Project. In the event of arbitration, litigation, or the settlement of claims arising out of the performance of this Contract, the time period provided in this paragraph shall be extended until **two (2) years** after any appeal, arbitration, litigation, or claim shall have been finally disposed of.

Whenever the first payroll is filed with the Owner, or whenever a new payroll supervisor is employed, the Contractor shall file an affidavit, executed by the employer (or the employer's agent duly authorized by a written Power of Attorney or otherwise legally capable of binding the employer) setting forth the name of the payroll supervisor and that the payroll supervisor has full knowledge of the facts sworn in the payroll statement.

3.14 PATENTS AND PROPRIETARY RIGHTS

The Contractor shall acquire (in a form acceptable to legal counsel of the Owner), through assignment, purchase, license, or other means, all rights required to fully utilize all technology, know-how, trade secrets, inventions, processes, articles, procedures, equipment, apparatus, devices, or any part thereof, and any and all things or matters that are to be used in pursuance of performance of the Work under the terms and conditions of this Contract.

In case a temporary, preliminary or permanent injunction is secured because of an alleged patent or proprietary rights infringement which prevents the Owner from using the process, materials or equipment furnished, utilized or installed, the Contractor, at its option and expense, shall within **thirty (30) calendar days** following notification either: **(1)** procure the right for the Owner to continue using the same process, materials or equipment; **(2)** modify the process, materials or equipment and provide a replacement process, materials or equipment which is non-infringing, it being understood that such modification must meet the approval of the Owner (which approval must be recorded in a writing signed by the Engineer); or, **(3)** take back the materials or equipment and refund the purchase price. The Contractor will also be subject to the Owner's damages caused by any violation or alleged violation of payment or proprietary rights of a third party. The obligations of the Contractor under this paragraph continue without time limit.

The Contractor agrees to defend, indemnify and hold harmless Indemnified Parties from and against, and to reimburse the foregoing for all loss, damage, cost and expense (including attorneys' fees) arising from or resulting from the infringement, alleged infringement or violation of a patent, copyright, or other intellectual property or proprietary right, or violation of a patent right, copyright or other intellectual property or proprietary right with respect to equipment, apparatus, materials, supplies, documents, data, manuals, lists, information, technology, know-how, trade secret, invention, process, procedure, device or article, or any part thereof, furnished, utilized, or installed by the Contractor, or arising from or occasioned by the use or manufacture thereof, including their use by the Owner or resulting in any way from the Contractor's performance of the Work. The Contractor shall pay any loss, damage, cost, and expense in a suit so defended. The Owner and the Contractor further agree that the Contractor waives any and all claims, rights and causes of action it may have, now or in the future, against the Owner arising out of compliance with any specifications the Owner furnishes to the Contractor. To wit, the Contractor hereby waives and relinquishes any claim, right or cause of action it may have against the Owner deriving from the Owner's duty, under state law or otherwise, to hold the Contractor harmless against claims for infringement or the like which arises out of compliance with said specifications.

3.15 CONTRACTOR'S CERTIFICATE AND SURETY COMPANY STATEMENT

Before final payment is made by the Owner, the Contractor shall furnish to the Owner a Certificate of Satisfaction, on the form included in the Contract Documents, or, if not so included, on the form customarily used by the Owner, stating that all bills for labor, materials, and equipment and all outstanding claims and indebtedness of whatsoever nature arising out of the performance of this Contract, including payments to all subcontractors and suppliers, have been paid. The Contractor shall also furnish statements by each surety, on the form included in the Contract Documents, that the surety is satisfied that payment of all the above such bills, claims and indebtedness has been made.

3.16 NO LIEN AGREEMENT/RELEASE

The Contractor, on behalf of itself, its subcontractors, and suppliers, hereby specifically waives the right to file any mechanic's or other lien for work performed or materials furnished in or about the performance of this Contract, and it is hereby expressly agreed that no such claim or claims shall be filed by anyone or any entity and that the Contractor shall

not file or permit any subcontractor, supplier, material man, mechanic or other person or entity to file any mechanic's or other lien for work performed or materials furnished in or about the performance of this Contract against the Owner, and/or the ground upon which the structure or work herein provided for is erected or performed, or against any structure thereon erected or to be erected, or against any structure or property of the Owner.

3.17 PERMISSION TO SUBLET OR ASSIGN

The Contract Agreement may not be assigned by the Contractor nor may any obligation of the Contractor hereunder be assumed by any other person or third party without the prior written consent of the Owner and concurrence by the surety. The Contractor shall be required to present a request for such an assignment to the Owner, in writing, for consideration and approval, and the assignment shall be consummated only upon receipt of the written approval of the Owner. In the case of the Owner's approval, the Contractor shall file copies of all related legal documents with the Owner. The Contractor may perform portions of this Contract through any of its subsidiaries, affiliates, subcontractors, or licensees, however, the Owner will administer this Contract solely through the Contractor and will not deal directly with any subsidiary, affiliate, subcontractor, or licensee.

3.18 ASSIGNMENT OF ANTITRUST CLAIMS

The Contractor and the Owner recognize that in actual economic practice, overcharges by Contractor's subcontractors and/or suppliers resulting from violations of state or federal antitrust laws are in fact borne by the Owner. As part of the consideration for the award of this Contract, and intending to be legally bound, the Contractor assigns to the Owner all right, title and interest in and to any claims the Contractor now has or may hereafter acquire under state or federal antitrust laws relating to any products or the Work which is the subject of this Contract.

3.19 CONCERNING SUBCONTRACTORS AND OTHERS

The Contractor shall not employ any subcontractor, person, or entity, including those initially acceptable to the Owner against whom the Owner may have a reasonable objection. In the event the Contractor fails or refuses to replace, within a reasonable time, any subcontractor, person, or entity to which the Owner has taken reasonable objection, the Owner may stop the Contractor's performance until such time that a replacement is effectuated. The Contractor shall be liable for any and all damages related to any reasonable stoppage of the Contractor's performance under this Section. This Section shall not limit the Owner's right to recover for breach of contract or any other legally recognizable cause of action.

The Contractor shall establish the qualifications of subcontractors and will make sure that they comply with the insurance requirements of Exhibit "A". In addition, the Contractor shall establish that subcontractors providing any professional services have adequate professional liability insurance. The Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Contract Documents) of any such subcontractor or other person or entity so identified may be revoked upon the Owner's written objection, in which case the Contractor shall submit a substitute acceptable to the Owner. No acceptance by the Owner of any such subcontractor or other person or entity shall constitute a waiver of any right of the Owner to reject

Defective Work.

The Contractor shall be fully responsible to the Owner for all acts and omissions of its subcontractors and other persons and entities performing or furnishing any of the Work under a direct or indirect contract with the Contractor just as the Contractor is responsible for its own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such subcontractor or other person or entity any contractual relationship between the Owner and any such subcontractor or other person or entity, nor shall it create any obligation on the part of the Owner to pay or to see to the payment of any moneys due any such subcontractor, supplier, or other person or entity.

The Articles and Sections of the Contract Documents and the identifications of any Drawings shall not prohibit or restrict the Contractor in dividing the Work among subcontractors or delineating the Work to be performed by any specific trade.

All Work performed for the Contractor by a subcontractor will be pursuant to an appropriate agreement between the Contractor and the subcontractor which specifically binds the subcontractor to the terms, conditions, requirements, and prohibitions of the Contract Documents for the benefit of the Owner except where Owner approves otherwise, in writing. Whenever any such agreement is with a subcontractor who is listed as an additional insured on the property insurance provided in **Exhibit "A"**, the Contract Documents or in a writing signed by the Engineer, the agreement between the Contractor and the subcontractor will contain provisions whereby the subcontractor waives all rights against the Owner, the Contractor, and all other additional insureds for all losses and damages caused by, arising out of, or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; provided, however, that such waiver shall not extend to the Consulting Engineer or the Construction Manager, their agents or employees, for liability arising out of **(1)** the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs or Specifications or **(2)** the giving of, or the failure to give, directions or instructions by the Consulting Engineer or the Construction Manager, their agents or employees provided that such giving, or failure to give, is the sole cause of the loss or damage arising there from. If the insurers on any such policies require separate waiver forms to be signed by any subcontractor or any other entity engaged to do the Work, the Contractor will obtain the same.

With regard to any claim or dispute with respect to payment of a subcontractor or supplier of any tier, the Contractor expressly agrees to defend, indemnify, and hold the Owner harmless in the event any suit is brought on account of a dispute between any of the parties including, but not limited to, subcontractors, suppliers, and material men. The Contractor shall assume the defense affirmatively at its sole cost whenever such suit is brought in any jurisdiction and shall keep the Owner advised as to all material developments.

3.20 ETHICS IN PUBLIC CONTRACTING

The Contractor certifies that it has entered into the Contract without collusion or fraud; that it has not offered or received any kickbacks or inducements from any other supplier, manufacturer, or subcontractor in connection with the Contract; and that it has not conferred on any public employee having official responsibility for this construction transaction any

payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised.

3.21 INTOXICATING LIQUORS, CONTROLLED SUBSTANCES, OR SIMILAR ACTING DRUGS

The Contractor shall not sell or permit or suffer the introduction or use of intoxicating liquors, controlled substances (without benefit of prescription), or other similar-acting drugs on or about the Work.

The Contractor shall implement, maintain, and document a controlled substance surveillance program for all on-site personnel. An outline of this program shall be submitted to the Construction Manager for record prior to the issuance of the Notice to Proceed.

3.22 SALES AND USE TAX

The Owner renders a public utility service, i.e., sewage treatment. Pennsylvania Department of Revenue Regulations provide, in part, that a contractor or subcontractor's purchase of "equipment, machinery or parts thereof" which are "used directly in the rendition of a public utility service upon installation" are exempt from Pennsylvania sales tax. See Section 204(k)(8)(C) of the Tax Reform Code of 1971, Act of March 4, 1971, P.L.6, as amended (the "Act") and Pennsylvania Department of Revenue Regulation 61 Pa. Code § 31.13(b). Accordingly, the Owner shall issue to Contractor one or more exemption certificates in the form attached hereto as Exhibit D so that Contractor may avail itself of the said sales and use tax exemption.

Notwithstanding the foregoing, the Owner makes no representation or warranty regarding the applicability of the exemption with respect to any particular purchase of property by Contractor in connection with the Work. The Contractor shall remain responsible for the full amount of sales and use tax, including interest and penalty, applicable to its Work under this Contract and required to be paid pursuant to Section 204 of the Act and Pennsylvania and local law. The Contractor represents that it is familiar with the Pennsylvania and local sales and use tax law, regulations, and rulings applicable to construction contracts including Pennsylvania Department of Revenue Regulations 61 Pa. Code §§ 31.11, Construction Contractors-Definitions, 31.12, Construction Contractor-Imposition of Tax, and 31.13, Construction Contractors-Claim for Exemptions.

The Contractors shall be responsible for determining which materials and equipment it believes are entitled to exemption from sales and use tax. The Owner shall not be obligated to issue any exemption certificate if it believes an exemption is not applicable. Such decision by the Owner shall not entitle the Contractor to a change in the Contract Sum.

Contractor shall indemnify, defend, and hold harmless the Owner, and all other parties entitled to indemnification under this Contract, from the obligation to pay any Pennsylvania and local sales and use tax, interest, and penalty which may become due under this Contract.

The Contractor hereby assigns to Owner the exclusive right to seek any and all refunds of Pennsylvania and local sales and use tax erroneously paid pursuant to this Contract. The Contractor shall cooperate fully with the Owner in developing information for the preparation of its refund claim including without limitation copies of purchase invoices and

canceled checks. If Contractor concludes that use tax is due under this contract, it shall provide Owner with the basis for its determination at the time the use tax return is required to be made. The Contractor shall also provide Owner copies of its use tax returns and canceled checks for the payment of use tax. In any case where Owner files a refund claim, the Contract shall provide testimony and affidavits as necessary in support of Owner's claim.

RIGHTS AND DUTIES OF THE OWNER

3.23 AUTHORITY OF THE OWNER

The Owner, either directly or through its agents, shall be the sole judge of the intent and meaning of the Contract Documents and its decisions thereon and its interpretations thereof will be final, conclusive, and binding on all parties.

The Engineer, through the Construction Manager, shall be the representative of the Owner during the life of the Contract and will observe the Work in progress on behalf of the Owner. The Engineer shall have the authority:

- D. To act on behalf of the Owner to the extent expressly provided in the Contract or otherwise in a writing signed by the Executive Director.
- E. To stop the Work whenever such stoppage may be necessary, in its sole discretion, to prevent improper execution of the Work, or otherwise to protect the Owner's interests.
- F. To approve and direct the sequence of execution and general conduct of the Work and to direct that changes be made in such sequence where, in its sole discretion, public necessity or welfare, the interest of the Owner, or the progress of the Work will require; such approval or direction will, however, in no way relieve or diminish the responsibility of the Contractor for or in the performance of the Work;
- G. To determine the amount, quality, acceptability and fitness of all Work, materials and equipment required by the Contract; and,
- H. To decide all questions which arise in relation to the Work, the performance thereof, and the fulfillment of the Contract.

Any delay, failure, or omission of the Owner to exercise any obligations or powers shall not impair any such obligations or powers, nor shall the same be construed to be a waiver thereof or any acquiescence therein, nor shall any such action or inaction by the Owner alter or impair the obligations of the Owner.

The Owner shall not, unless specifically required by the Contract Documents, supervise, direct or have control or authority over, or be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the furnishing or performance of the Work. The Owner shall not be responsible for the Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

3.24 ACCESS TO WORK

The Owner, and its officers, agents, servants, and employees may, during the hours of 7:00 A.M. to 5:00 P.M., Monday through Friday or at such other times when the Work is being performed, enter upon the premises used by the Contractor, including the Contractor's offices and/or factory for the purpose of inspection of the Work, and the Contractor shall at all times provide safe and proper facilities, therefore. This provision shall not be interpreted as limiting or restricting, to any degree, the Owner's right to free and unrestricted access to its own property and facilities or any portion of the Work therein.

3.25 EXAMINATION OF WORK

The Contractor shall furnish the Owner with a minimum of **seven (7) calendar days** notice of the Contractor's and/or any subcontractor's or supplier's intent to conduct shop tests, Performance and Acceptance Tests, and/or any other tests, as described herein, to enable the Owner to witness such testing. The Contractor shall provide the Owner with full access to all construction, manufacturing or testing facilities for the purposes of examining and inspecting the Work; for witnessing of testing; and for ascertaining that the Work is being performed in accordance with the requirements and intent of the Contract Documents. The Contractor shall furnish the Owner with every reasonable facility necessary for the Owner to make such inspections or examinations.

3.26 RIGHT TO TEST OR INSPECT

The Owner reserves the right to conduct any test or inspection it may deem advisable to assure that construction, supplies, and services conform to the provisions of the Contract Documents. If such tests reveal that material and/or work does not meet Contract requirements, the Contractor will be responsible for the costs related to this testing or retesting.

3.27 RIGHT TO MATERIALS/REUSE OF DOCUMENTS

Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials, equipment, apparatus, and other items furnished after they have been installed or incorporated in or attached or affixed to the Work or the Job Site, but all such materials, equipment, apparatus, and other items shall, upon being so installed, incorporated, attached, or affixed, become the sole and exclusive property of the Owner.

The Specifications, Drawings, manufacturing data, and other information transmitted from the Owner to the Contractor in connection with the Contract are the property of the Owner and are disclosed in confidence on the condition that they are not to be reproduced, copied, or used for any purpose other than performance of the Contract.

The Contractor and any subcontractor or supplier or other person or organization performing or furnishing any of the Work **(i)** shall not have or acquire any title or ownership rights in any of the drawings, specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of the Engineer, the Consulting Engineer, or any other design professional performing any work on behalf of the Owner and **(ii)** shall not reuse any such drawings, specifications, or other documents or copies related to the Project without the express written consent of the Owner.

PERFORMANCE OF CONTRACT

3.28 PROJECT COORDINATION

A. Preconstruction Conference

The Owner shall designate the time and location of the Preconstruction Conference which shall be attended by principals of the Contractor, each subcontractor, and each major supplier, or their designated representatives; the Owner; the Engineering Manager; the Consultant Engineer(s); the Construction Manager; and other involved parties to establish Project administrative procedures and to discuss any other appropriate items. The Contractor shall not begin performance of the Work prior to the Preconstruction Conference unless authorized by the Construction Manager in writing.

B. Progress Meetings

Progress Meetings shall be held weekly at times designated by the Construction Manager throughout the period of this Contract. Additional meetings may be arranged at the request of either party when deemed necessary or required by the Contract Documents.

C. Contractor's Superintendent

The Contractor shall identify prior to contract award and assign to the Work, at all times during the life of this Contract, its own competent Superintendent (acceptable to the Owner), who shall not be replaced without written notice to the Construction Manager. The Superintendent will be the Contractor's representative at the Job Site and shall have authority to act on behalf of the Contractor. All communications to the Superintendent shall be as binding as if given to the Contractor.

D. Schedules

Prior to the start of Work, the Contractor shall submit the following preliminary schedules: a "Mobilization Schedule," which covers the **first ninety (90)** calendar days of performance of the Work; a "Shop Drawing and Sample Submittal Schedule"; and a completed Schedule of Values. Each preliminary schedule shall be submitted to the Construction Manager, within **ten (10) working days** of Notice of Award but, in all events, at least **five (5) working days** in advance of the Preconstruction Conference. Within **thirty (30) calendar days** of the receipt of the Notice to Proceed, the Contractor shall submit to the Construction Manager a complete "Baseline Contract Schedule" that covers the entire performance of the Work. No progress payments shall be made to the Contractor until the schedules referenced above are submitted, found acceptable to the Construction Manager, and incorporated with all other Prime Contractor's "Baseline Contract Schedules" for the accepted Master Schedule.

3.29 TIME FOR COMPLETION, MILESTONE DATES

A. Contract Time

The Contractor shall commence the Work immediately upon receipt of the written Notice to Proceed and shall prosecute the Work diligently to completion within the number of calendar days specified in of the Contract Agreement (the "Contract Time"). Time is of the essence as regards Contractor's Work.

B. Schedule

The Owner's operations, the scope of the Project, and the Work to be furnished under this Contract require careful coordination by the Construction Manager and scheduling between the Contractor and all Other Contractors. Since it will be necessary for the Owner to maintain continuity of its current operations throughout the Contractor's performance, it will be necessary for the Work to be phased in such a manner that portions of the Work will be constructed, installed, started-up, and completed in sequence with work performed by Other Contractors and suppliers. The Contract Schedule prepared by Contractor pursuant to **Section 3.28D** above must be based upon, and demonstrate the Contractor's ability to meet, the milestones established for the Project ("Project Milestones"). Where the achievement of a Project Milestone is dependent upon the Contractor's completion of all or any portion of the Work to be performed under this Contract, a "Construction Milestone" applicable to the Contractor's Work will be established by the Owner and incorporated by the Contractor into the Contract Schedule.

C. Liquidated Damages

If the Work is not completed within the Contract Time for any Construction Milestone, damage will be sustained by the Owner. It is impracticable and extremely difficult to ascertain and determine actual damages which the Owner will sustain by reason of such delay. It is therefore agreed that the Contractor will be required to

pay, as liquidated damages and not as penalty, for delay damages sustained solely by the Owner, the sum of money stipulated in Paragraph 3 of the Contract Agreement for each and every calendar day's delay in finishing the Work beyond the Contract Time prescribed for each Construction Milestone.

The Owner may, at its option, apply any liquidated damages as a credit against the Contract Sum by way of a change order or payment deduction. The remedies provided herein are not exclusive and are in addition to any other rights and remedies provided by law or under the Contract and the Contractor remains liable for damages caused by reasons other than delay.

D. Responsibility for Completion

Contractor shall furnish such manpower, materials, facilities, and equipment, and shall work such hours, including night shifts and premium time operations, as may be necessary to ensure the prosecution and Substantial and Final Completion of the Work within the number of days specified in the Contract for completion of the Work, as adjusted. If Work actually in place falls behind the latest Owner accepted Contractor's Schedule for reasons that are the responsibility of Contractor, and Owner determines that the Work will not be completed by the Final Completion Date, as adjusted, or any portion of the Work will not be completed within the Contract Time allotted for any applicable Construction Milestone, Contractor agrees that it will, as necessary, accelerate its efforts at no increase in the Contract Sum to improve its progress. Such acceleration shall include as necessary some or all of the following actions:

1. Increase manpower and crafts;
2. Increase the number of working hours per shift, shifts per Workday, Work Days per week, or the amount of equipment, or any combination of the foregoing; and/or
3. Reschedule activities.

Owner may also require Contractor to submit a revised Contractor's Schedule and description of Corrective Action it intends to take to assure completion of Work by the Final Completion Date and/or within the Contract Time for any Construction Milestone. If the Owner reasonably finds the Corrective Action not acceptable, Owner may require Contractor to submit revisions until acceptable to Owner.

Failure of Contractor to substantially comply with the requirements of this paragraph shall be considered grounds for a determination by the Owner that Contractor is failing to prosecute the Work with such diligence as will ensure its completion within the time specified and grounds for termination of this Agreement for cause.

3.30 TEMPORARY SUSPENSION OF THE WORK

The Owner shall have the authority to suspend the Work wholly, or in part, for such period or periods as it may deem necessary.

In the event that the Contractor is ordered by the Owner, in writing, to suspend the Work for some unforeseen cause not otherwise provided for in the Contract and over which the Contractor and/or its subcontractors have no control and are not in any way at fault, the Contractor may be reimbursed for actual out-of-pocket costs directly related to the suspension of the Work. No allowance will be made for any claims for lost profits or any incidental or consequential loss or damage. The period of shutdown shall be computed from the effective date of the Owner's order to suspend Work to the effective date of the Owner's order to resume the Work. Claims for additional compensation resulting from the shutdown shall be filed with the Owner within **ten (10) working days** of the Owner's order to resume Work unless otherwise stated in the Owner's order to resume Work. The Contractor shall, within **twenty (20) calendar days** or such other time as the Owner may specify, submit with its claim information substantiating the amount shown on the claim. Failure to submit any claim or substantiating information within the requisite time periods shall constitute a waiver of any such claim. The Owner will consider the Contractor's claim in accordance with the Contract Documents. No provision of this Section shall be construed as a waiver by the Owner of its right to subsequently terminate the Contract or as relieving the Contractor from its full responsibility for performance of its obligations under this Contract or as entitling the Contractor to compensation for delays due to: **(i)** the Contractor's failure to carry out orders given or to perform any or all provisions of the Contract; **(ii)** suspensions made at the request of the Contractor; or **(iii)** for any other delay provided for in the Contract Documents unless otherwise specified. Additionally, no provision of this section shall be construed as obligating the Owner to suspend Work for such reasons.

If it should become necessary to suspend Work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. It shall take every precaution to prevent damage or deterioration of the Work performed and shall provide for proper drainage of the Work. The Contractor shall, at its sole expense and without any increase in the Contract Sum, relocate, replace, or repair any materials or Work which becomes an obstruction or is damaged in any way due, in the Owner's sole opinion, to the Contractor's failure to properly store and/or protect the materials and/or Work.

3.31 REQUESTS FOR INFORMATION AND FIELD INSTRUCTIONS

A. Requests for Information

Monitoring the "Request for Information" ("RFI") process is the responsibility of the Construction Manager. In general, the Contractor is responsible for initially issuing an RFI (pursuant to the form then currently utilized by the Owner) upon discovery of a problem or question. The Construction Manager may at times issue RFIs.

B. Procedure

1. The Contractor is responsible for being thoroughly familiar with the procedures, requirements, and conditions of the Contract Documents which relate to the RFI.
2. If at any time after receiving the Notice to Proceed, the Contractor discovers or is made aware of any conflicts, omissions, errors, or ambiguity in the Contract Documents or between the Contract Documents and any provision of any law or regulation applicable to the performance of Work; or if it appears to the Contractor that the Work to be done or of any matter related thereto is not sufficiently detailed or explained in the Contract Documents; or if it appears to the Contractor that an order or direction of the Engineer, the Consulting Engineer, or the Construction Manager is unclear, then, before proceeding with the Work affected, the Contractor shall notify the Construction Manager in writing and request information/clarification or additional detailed information concerning the Work on the RFI form.
3. If pursuant to the judgment of the Construction Manager, the RFI is an emergency, the resolution will be handled by telecopy or telephone.
4. If the answer to an RFI initiated by the Contractor is clearly contained in the Contract Documents, the Contractor shall be responsible and liable for any costs or delays associated with the review of the RFI.

C. Field Instructions

The Owner may issue Field Instructions, through the Construction Manager, from time to time as may be necessary or appropriate to interpret or to resolve any ambiguity or error in the Specifications or Drawings or to make any minor change to the Specifications or Drawings that does not result in a net change in the Contract Sum, the Contract Time, or the quality of material or workmanship. Field Instructions shall be effective upon delivery to the Contractor. Field Instructions may not change or alter the General Conditions.

3.32 PROPOSED CHANGE ORDERS, CHANGE ORDERS, AND CHANGE DIRECTIVES

A. Contract Changes

1. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, and without notice to any surety, by Change Orders, Deduct Orders, Pre-Authorization Notices, and Construction Change Directives, and the Contract Sum and the Final Completion Date shall be adjusted as provided herein in connection therewith. If there is a change in the Contract Time, the Construction Schedule and any milestones set forth in the Contract Documents shall be adjusted accordingly.
2. The Owner reserves and shall have the right to make such alterations in the

Work, including changes to the Contract Sum and Contract Time, as may be necessary or desirable to complete the Work in an acceptable manner.

3. This Contract may be revised at any time by means of a written Change Order issued in accordance with this Section of the General Conditions signed by both the Owner and the Contractor. This provision cannot be waived, and no oral amendment of this Contract shall be effective.
4. A change in the Work, the Contract Sum, or the Contract Time shall be accomplished only by Change Order. Direction to proceed with a change in the Work may be given by the Owner through a Proposed Change Order (PCO) fully executed by the Owner and the Contractor which directs the Contractor to proceed with the change in the Work. Subsequently, a Change Order shall formalize any changes in the Work, Contract Sum, and/or Contract Time related to such PCO that direct the Contractor to proceed with a change.
5. Deduct Orders shall be issued in writing to Contractor and shall authorize Contractor to non-perform an entire Bid Item, or any portion thereof. A Deduct Order requires prior written authorization from the Owner. All Deduct Orders shall be tracked and will be included in the Final Adjusting Change Order for the project. The Contractor shall not be entitled to profit, markup, or fee on any work removed from its scope through a Deduct Order.
6. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that the Owner has been unjustly enriched by any alteration or addition to the Work, whether or not there is, in fact, any enrichment, shall be the basis of any claim to an increase in any amounts due under the contract Documents or a change in any time period provided for in the Contract Documents.
7. Until a PCO which directs the Contractor to proceed with a change in the Work is fully executed by the Owner and the Contractor, or a written Change Order is approved in writing by the Owner, no money or time shall be expended by the Contractor on performing work that is the subject of a Change Order pending approval and none of the money and time actually expended will be reimbursed to the Contractor and the cost of all corrective work will be the responsibility of the Contractor.

8. For a PCO where the value or extent of the Work cannot be reasonably pre-determined or agreed upon, or where time is of the essence, the Owner may issue a written Pre-Authorization Notice such that Work shall proceed on an agreed upon Time and Materials basis or a Lump Sum basis both not to exceed a pre-determined maximum amount. The final amounts of the Time and Materials or Lump Sum PCO shall be determined pursuant to the respective subparagraphs of **Section 3.32** hereof.

B. General

1. Claims for Additional Cost:
 - a. All claims by Contractor for an increase in the Contract Sum shall be made in writing to the Owner within **seven (7) Calendar Days** after the occurrence of the event giving rise to such claim. The Contractor's notice of claim shall indicate the Contractor's good faith, objective determination of the potential impact and effect to the Contract Sum and the Contractor's technical evaluation and recommendation on how to minimize the potential impact and effect to the Contract Sum.
 - b. The provision of timely notice to Owner by Contractor is a condition precedent to the Owner's obligation to pay Contractor an increase in the Contract Sum. Contractor expressly acknowledges and agrees that the notice and time of notice provisions in this Agreement are conditions precedent and necessary for Owner to determine the best course of action to implement in order to mitigate adverse consequences arising out of or related to Contractor's claim and to coordinate the Work affected by Contractor's claim with Owner's separate Contractors and other Owner-supplied Work. If a claim is made more than **seven (7) Calendar Days** after such occurrence, the claim shall be waived, and Contractor fully and completely releases Owner from all responsibility therefrom pursuant to this Agreement.
2. The Construction Manager will have primary responsibility for the administration of Change Orders approved by the Owner.
3. Upon receipt of a PCO from the Owner through the Construction Manager, the Contractor shall, within **ten (10) working days**, submit a proposal for the work covered by the PCO, including any requested adjustment in the Contract Sum or the Contract Time, properly itemized and supported by sufficient substantiating data to permit evaluation. Failure to request a modification of the Contract Time when submitting such proposal shall constitute a waiver of the Contractor's right to subsequently claim an adjustment of the Contract Time based upon such changed work.

4. The cost or credit to the Owner resulting from a change in the Work shall be determined in one or more of the following ways:
 - a. At a Lump Sum Price agreed upon before the additional Work is commenced and stated in the Change Order for the Work;
 - b. On a unit price basis at the unit prices quoted in the Contractor's Bid or, if none are established, by unit prices inferred from the Contract and agreed to by the Owner and Contractor; or
 - c. On a time and material basis as provided in Section C below (the "Time and Material Method").
5. The Owner shall have no obligation to pay for anticipated profit or consequential loss claimed by the Contractor on Work eliminated by Change Order.
6. Notwithstanding any other provisions of the Contract, if the Owner and the Contractor are unable to agree upon an adjustment of the Contract Sum or the Contract Time connected with a change in the Work, the Owner reserves the right to make other arrangements for its completion.
7. Work in addition to that prescribed by the Contract Documents shall not be performed without a signed Change Order or signed PCO except when a written Pre-Authorization Notice has been provided by the Owner or under emergency circumstances which pose a clear and present danger to property or persons. Emergency changes shall be compensated using the Time and Material Method.
8. All Work performed pursuant to any Change Order will be performed under the applicable conditions and provisions of the Contract Documents (except as otherwise specifically provided). If notice of any change relating to the general scope of the Work or the provisions of the Contract Documents is required to be given to a surety, the giving of such notice will be the Contractor's responsibility, and the Contractor will make certain that the amount of each applicable Bond will be adjusted accordingly.
9. Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work which is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the Contract Time. In the event a Change Order increases the Contract Sum, Contractor shall include the work covered by such Change Order in Applications for Payment as if such Work were originally part of the Contract Documents.

10. For Change Orders authorizing an increased Contract Sum, the Contractor may add up to a **1%** markup fee to cover the cost of bonding.

C. Lump Sum Method

1. Unless otherwise approved by the Director of Engineering and Construction, at a minimum, the cost of the Lump Sum Change Order Cost Summary prepared by Contractor shall include and indicate the items enumerated below. Rates for labor, equipment, and material shall be the same for extra and credit computations. The Contractor shall utilize a Cost Summary form approved by the Construction Manager. A separate Cost Summary shall be provided for both the prime and each tier of subcontractors. Notwithstanding the above, the Owner has the option to propose an acceptable lump sum price in lieu of the Contractor submitting a proposal.
2. Lump Sum – Labor
 - a. For all Lump Sum labor, the Contractor shall submit the proposed projected wage rates and projected fringe benefits rates that will be in effect at the time the Change Order is performed or for the time period applicable to the Change Order. An example of prior wage rates paid in the form of a certified payroll report shall be provided. The proposed fringe benefits shall include costs paid to, or on behalf of, workers by reason of health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreements or other employment contracts generally applicable to the class of labor employed to perform the Change Order. Fringe benefits on non-union employees shall not include discretionary pensions and/or bonuses and any other fringe benefit that is discretionary or based on profit sharing, including employee stock option plans. In addition to the above the Contractor shall receive the actual projected cost of social security tax and workers' compensation and a total of **4%** of direct labor cost for state and federal unemployment insurance. No other markups or allocations as a percentage of labor shall be allowed. The Contractor is required to furnish auditable evidence of past percentages paid for Worker's Compensation as evidenced by forms from the Commonwealth of Pennsylvania.
 - b. The Contractor shall not propose payment for overtime unless necessitated by the work schedule, explained in the proposal cover letter, and approved in writing by the Owner.

- c. The Contractor shall not propose payment for the designated field superintendent for the Project attributable to the Change Order, unless specifically justified in the proposal cover letter and approved in writing by the Owner.
 - d. The Contractor shall not propose payment for field engineering hours attributable to the Change Order, unless specifically justified in the proposal cover letter and approved in writing by the Owner.
 - e. The Contractor shall not propose payment for more than one foreman classification per work crew, unless specifically justified in the proposal cover letter and approved in writing by the Owner.
3. Lump Sum – Material and Supplies
- a. For Lump Sum Change Orders, the Contractor will propose to be paid, or the Owner will be credited, the cost of material and supplies approved by the Owner and incorporated into the Change Order as evidenced by supplier quotations or, by example, receipts for major materials previously purchased.
4. Lump Sum – Equipment
- a. The Contractor shall not include in the cost proposal of a Lump Sum Change Order any proposed costs or rental of small tools (defined as tools with a replacement cost of \$1,500 or less), buildings, and field trailers. These costs shall be considered part of the Contractor's Markup Fee (as hereinafter defined).
 - b. For any construction equipment included in the Contractor's cost proposal, the Contractor shall propose to charge the applicable rental rate based on the Rental Rate Blue Book for Construction Equipment published by Equipment Watch, but under such conditions as contained herein. The use of any other publication for the determination of rental rates will be at the Owner's sole discretion.
 - c. The proposed rental of equipment or equipment owned by the Contractor will be paid for by the hour. The hourly charge for equipment will be 1/176 of the monthly rate shown in the Rental Rate Blue Book for Construction Equipment.
 - d. The proposed hourly charge for equipment on standby will be 1/352 of the monthly rate shown in the Rental Rate Blue Book for Construction Equipment. Equipment on standby shall not be billed for more than **eight (8) hours** in any Calendar Day or for more than **forty (40) hours** in any calendar week. Standby time is herein defined as the portion of an **eight (8) hour** Calendar Day during which equipment is located on site, but is not in operation. No

operating or other costs shall be charged for equipment on standby.

- e. The proposed hourly charge for equipment not listed in the Rental Rate Blue Book for Construction Equipment will be the local rental rate of such equipment from area suppliers as established by the Owner or as calculated through the use of any publication for the determination of rental rates, whichever is lower.
- f. Equipment to be rented from a third party will be paid at quoted cost. In addition, at the request of the Owner, the Contractor shall present competitive quotes for the Owner's evaluation prior to renting equipment from a third party.
- g. Equipment rates are for bare rental, without an operator.
- h. The Contractor may add the actual operating costs of fuel, oil, and lubricants necessary for the operation of the equipment used for a Change Order based on published consumption rates for that piece of equipment. The Contractor will be required to provide documentation as required by Owner to support the above charges. In lieu of that method and as approved by the Owner, the Contractor may utilize the operating rate for fuel, oil, and lubricants listed in the Rental Rate Blue Book for Construction Equipment. The Contractor shall not propose to be paid for fuel, oil, and lubricant cost for any piece of equipment on standby, or for equipment that does not utilize fuel, oil, and/or lubricants.
- i. For Contractor owned equipment, the proposed aggregate equipment rental charge for any single piece of equipment used in any Change Order shall be limited to **fifty percent (50%)** of the fair market value of the piece of equipment at the time the Work Order or Change Order will be performed.
- j. Equipment which is not in good condition as decided by the Owner shall be replaced at no additional cost to Owner.
- k. If the Change Order requires the use of construction equipment not already on the Site of the Work, the Contractor shall propose to only be paid for **one (1) round-trip** transportation charge per Change Order for each piece of equipment brought to the Site, unless otherwise approved by the Owner in writing. The round-trip transportation charge shall be based on a round trip of no more than **50 miles**.

5. Lump Sum – Markup Fee

- a. The percentages for overhead and profit as set forth herein for a Lump Sum Change Order may be less depending on the nature, extent, or complexity of the Change Order, where the percentage is not commensurate with the responsibility and administration involved but in no event shall they exceed:
 - (1) In the case of a Change Order performed by the Contractor's own forces, add a twenty percent (20%) markup to the proposed costs identified and substantiated in Subparagraphs 3.32.C.1 through 3.32.C.4; and
 - (2) In the case of a Change Order performed by the Contractor's subcontractors, at whatever tier, add a fifteen percent (15%) markup to the proposed costs identified and substantiated in Subparagraphs 3.32.C.1 through 3.32.C.4 for the performing subcontractor, and the next higher subcontractor and the following subcontractor or Contractor will receive a five percent (5%) mark-up each. The maximum allowable mark-up allowed on subcontractor performed work is 26.8% (15%/5%/5%).
- b. The Markup Fee includes, but is not limited to the following costs, fees, and expenses: home office, insurance, branch office, field office, project management, superintendents, estimating, engineering, training and safety meetings, coordination, expediting, purchasing, detailing, legal, accounting, data processing or other administrative services, shop drawing, permits, taxes, comprehensive general liability insurance, auto insurance, umbrella insurance, and subcontractor bond premium.

6. Contents of a Lump Sum Cost Proposal:

- a. At a minimum the Contractor shall provide the following items before a Lump Sum cost proposal will be considered:
 - (1) Lump Sum proposal cover letter stating total proposed cost for the additional or deducted work, and;
 - (2) Lump Sum cost summary using the spreadsheet format approved by the Construction Manager for the prime contractor and each subcontractor, and;
 - (3) Auditable backup for proposed Worker's Compensation for both prime and subcontractors, and;
 - (4) Quotations and/or example invoices for any key proposed

materials, and;

- (5) Copies of published rates for the proposed equipment; and
- (6) Actual Certified Payroll Reports for the time work was performed.

D. Time and Materials Method

1. In the event the Contractor and Construction Manager are unable to agree on the basis for compensating the Contractor for a change in the Work, the Contractor, provided he receives a written Change Order or Pre-Authorization Notice signed by the Owner, shall promptly proceed with the work involved. The cost of such work shall then be determined on the basis of the reasonable expenditures and savings of those performing the work attributable to the change, including, in the case of an increase in the Contract Sum, a reasonable allowance for overhead and profit determined in accordance with **Subparagraph 3.32.D.7** below. In such case, and also under **Subparagraphs 3.32.B.4.b.** and **3.32.B.4.c.** above, the Contractor shall keep and present an itemized accounting together with appropriate supporting data for inclusion in a Change Order. If a Change Order results in additions to and decreases from the Contract Sum, the Contractor shall only be entitled to markup on the net increase to the Contract Sum, if any. If a Change Order results in a net decrease to the Contract Sum, the Change Order shall include removal of Contractor's Markup Fee for the portion of Contract Sum removed by the Change Order (i.e. the negative value of the Change Order shall be multiplied by the Contractor's markup fee percentage).
2. The Contractor and/or Subcontractor shall utilize the cost summary form approved by the Construction Manager when submitting invoices for a Change Order that is based on the actual cost of Time and Materials Work. The Contractor and/or subcontractor shall keep daily Time and Materials reports for all Change Orders. The daily reports shall include the names of employees, the employees' classifications, the nature of work performed, the hours worked, materials and equipment incorporated, and machinery or equipment used, if any, in the prosecution of each Change Order. Invoices and paid receipts will be retained by the Contractor and submitted as part of the daily Time and Materials report. Contractor's daily report shall constitute verification that the Change Order was performed, shall be submitted to the Owner at the end of each shift, and must be signed both by the Contractor and the Owner. A complete daily report for each day worked shall be submitted for each Change Order cost proposal.

3. Unless otherwise approved by the Director of Engineering and Construction, at a minimum the cost proposal for the Time and Materials Change Order prepared by Contractor shall include and indicate the items enumerated below. Rates for labor, equipment, and material shall be the same for extra and credit computations.
4. Time and Materials – Labor:
 - a. For all time and materials labor, the Contractor shall be paid the actual rate of wages and fringe benefits in effect at the time the Change Order was performed for each and every hour that said labor was actually engaged performing the Change Order. An example of the wage rate paid in the form of a certified payroll report for each employee shall be provided. Fringe benefits shall include costs paid to, or on behalf of, workers by reason of health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreements or other employment contracts generally applicable to the class of labor employed to perform the Change Order. Fringe benefits on non-union employees shall not include discretionary pensions and/or bonuses and any other fringe benefit that is discretionary or based on profit sharing, including employee stock option plans. In addition to the above the Contractor shall receive the actual cost of social security tax and workers' compensation and a total of **4%** of direct labor cost for state and federal unemployment insurance. No other markups or allocations as a percentage of labor shall be allowed. The Contractor is required to furnish auditable evidence of the actual percentages applicable at the time the Change Order was performed as evidenced by forms from the Commonwealth of Pennsylvania.
 - b. Overtime will only be paid if authorized in writing by Owner.
 - c. Any portion of the time of the designated field superintendent for the Project attributable to the Change Order shall not be billed as a direct cost, unless specifically authorized in writing by the Owner.
 - d. Payment will be made for only one foreman classification per work crew, unless specifically authorized in writing by Owner.
 - e. The Contractor shall not request reimbursement for field engineering hours attributable to the Change Order, unless specifically justified in the proposal cover letter and approved in writing by the Owner.

5. Time and Materials – Materials and Supplies:

- a. For a Time and Materials Change Order, the Contractor will be paid the cost of material and supplies approved by the Owner and incorporated into the Change Order and/or as evidenced by invoices and paid receipts.

6. Time and Materials – Equipment:

- a. The Contractor shall not include in the cost of a Change Order any cost or rental of small tools (defined as tools with a replacement cost of \$1,500 or less), buildings, and field trailers. These costs shall be considered part of the Contractor's Markup Fee (as hereinafter defined).
- b. For any construction equipment, the Contractor shall charge the applicable rental rate based on the Rental Rate Blue Book for Construction Equipment published by Equipment Watch, but under such conditions as contained herein. The use of any other publication for the determination of rental rates will be at the Owner's sole discretion.
- c. Rental of equipment or equipment owned by the Contractor will be paid for by the hour. The hourly charge for equipment will be 1/176 of the monthly rate shown in the Rental Rate Blue Book for Construction Equipment.
- d. The hourly charge for equipment on standby will be 1/352 of the monthly rate shown in the Rental Rate Blue Book for Construction Equipment. Equipment on standby shall not be billed for more than **eight (8) hours** in any Calendar Day or for more than **forty (40) hours** in any calendar week. Standby time is herein defined as the portion of an eight (8) hour Calendar Day during which equipment is located on site, but is not in operation. No operating or other costs shall be applied to equipment on standby.
- e. The hourly charge for equipment not listed in the Rental Rate Blue Book for Construction Equipment will be the local rental rate of such equipment from area suppliers as established by the Owner or as calculated through the use of any publication for the determination of rental rates, whichever is lower.
- f. Equipment rented from a third party will be paid at invoice cost. In addition, at the request of the Owner, the Contractor shall present competitive quotes for the Owner's evaluation prior to renting equipment from a third party.
- g. Equipment rates are for bare rental, without an operator.

- h. The Contractor may add the actual cost of fuel, oil, and lubricants used for the operation of the equipment used for a Change Order. The Contractor will be required to provide documentation as required by Owner to support the above charges. In lieu of that method and as approved by the Owner, the Contractor may utilize the operating rate for fuel, oil, and lubricants listed in the Rental Rate Blue Book for Construction Equipment. The Contractor shall not be paid for fuel, oil, and lubricant cost for any piece of equipment on standby.
 - i. For Contractor owned equipment, the aggregate equipment rental charge for any single piece of equipment used in any Change Order shall be limited to fifty percent (**50%**) of the fair market value of the piece of equipment at the time the Change Order was performed.
 - j. Equipment which is not in good condition as decided by the Owner shall be replaced at no additional cost to Owner.
 - k. If the Change Order requires the use of construction equipment not already on the Site of the Work, Owner will only pay for one (1) round-trip transportation charge per Change Order for each piece of equipment brought to the Site, unless authorized in writing by the Owner. The round-trip transportation charge shall be based on a round trip of no more than 50 miles unless authorized in writing by the Owner.
 - l. A list of all equipment to be used must be approved by Owner in writing prior to commencement of a Change Order.
7. Time and Materials – Markup Fee:
- a. The percentages for overhead and profit as set forth herein for a Time and Materials Work Order and/or Change Order may be less depending on the nature, extent, or complexity of the Work Order and/or Change Order, where the percentage is not commensurate with the responsibility and administration involved but in no event shall they exceed:
 - (1) In the case of a Time and Materials Work Order and/or Change Order performed by the Contractor's own forces, add a twenty percent (**20%**) markup to the costs identified and substantiated in Subparagraphs 3.32.D.1 through 3.32.D.6; and
 - (2) In the case of a Time and Materials Work Order and/or Change Order performed by the Contractor's subcontractors, at whatever tier, add a fifteen percent (**15%**) markup to the proposed costs identified and substantiated in Subparagraphs 3.32.D.1 through 3.32.D.6 for the performing subcontractor, and the next higher subcontractor and the following

subcontractor or Contractor will receive a five percent (5%) mark-up each. The maximum allowable mark-up allowed on subcontractor performed work is **26.8% (15%/5%/5%)**.

- b. The Markup Fee includes, but is not limited to the following costs, fees and expenses: home office, insurance, branch office, field office, project management, superintendents, estimating, engineering, training and safety meetings, coordination, expediting, purchasing, detailing, legal, accounting, data processing or other administrative services, shop drawing, permits, taxes comprehensive general liability insurance, auto insurance, umbrella insurance and subcontractor bond premium.

8. Contents of a Time and Materials Cost Proposal:

- a. At a minimum the Contractor shall provide the following items before a Time and Materials cost proposal will be considered:
 - (1) Time and Materials proposal cover letter stating total proposed cost for the additional work, and;
 - (2) Time and Materials cost summary using the spreadsheet format approved by the Construction Manager for the prime contractor and each subcontractor, and;
 - (3) Auditable backup for proposed Worker's Compensation for both prime and subcontractors, and;
 - (4) Invoices for any key materials used, and;
 - (5) Copies of published rates for the equipment that was utilized;
 - (6) Certified Payroll Reports for each employee billed.

E. Construction Change Directive

- 1. A Construction Change Directive is a written order signed by the Owner, directing a change in Work pursuant to a Change Order where there is a dispute as to the terms of the Change Order. A Construction Change Directive for a Change Order shall be in writing and signed by the Owner's Director of Engineering and Construction.
- 2. A Construction Change Directive shall be initiated by the Owner and used in the absence of total agreement on the terms of a Change Order.

3. An adjustment to the cost of the Work resulting from a Construction Change Directive shall be documented in a signed written agreement. The cost of the Work shall be determined as set forth in **Paragraph 3.32** of this Agreement.
4. All Construction Change Directives shall be signed first by the Owner followed by the Contractor, respectively.
5. Upon receipt of a Construction Change Directive signed by Owner, Contractor shall promptly proceed with the Change Order involved and advise the Owner of Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment to the Change Order.
6. A Construction Change Directive signed by Contractor indicates the agreement of Contractor to its terms. Such agreement shall be effective immediately and shall be followed-up by a written Change Order.
7. Except as otherwise agreed by the Owner and Contractor, the method and the adjustment shall be initially determined by the Owner on the basis of reasonable expenditures and savings of those performing the Work attributable to the Change Order, including expenditures for design services and revisions to the Contract Documents. If the Contractor does not respond within **five (5) days** or disagrees with the method for adjustment, Contractor shall keep and present, in such form as Owner may prescribe, an itemized accounting together with appropriate supporting data to substantiate the accounting to the reasonable satisfaction of Owner.
8. Pending final determination of cost to the Owner for a Change Order, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost. When both additions and credits covering related Work or substitutions are involved in a Change Order, Contractor's Markup Fee shall be figured on the basis of net increase, if any, with respect to that change.
9. If the Owner and Contractor do not agree as to the terms of a Construction Change Directive or the method for determining it, the adjustment or the method shall be decided pursuant to **Paragraph 3.55**.
10. When the Owner and Contractor, subsequent to the issuance of a Construction Change Directive, agree concerning the adjustments to the Change Order, such agreement shall be effective immediately and shall be recorded by preparation and execution of an appropriate written Change Order.

3.33 PROGRESS AND COMPLETION

- A. All time limits stated in the Contract Documents are essential conditions of the Contract. In executing the Contract and any Change Order, Contractor agrees that the number of days within which the Work shall be completed is reasonable for Contractor's Work.
- B. The Contractor shall carry the Work forward expeditiously and continuously with adequate forces to make progress in accordance with the latest Owner accepted Contractor's Schedule and to complete Contractor's Work within the time for completion of the Work.
- C. Except for constraints which may be specified for a certain part of the Work or otherwise imposed by Owner, the Work shall not be suspended or shut down, but shall progress continuously and expeditiously, unless otherwise approved in writing by the Owner. Contractor shall assemble material and equipment in advance of the need and, as may be appropriate to the progress, shall prefabricate assemblies which will comply with the Contract Documents, as may be specified, to expedite the Work and ensure completion within the interim milestone dates and dates of Substantial Completion and Final Completion required by the Contract Documents.

3.34 DELAYS AND EXTENSIONS OF TIME

- A. Should the progress, performance or completion of any portion or portions or the whole of Contractor's Work, which is on the latest Owner accepted Contractor's Schedule, be delayed as the result of:
 - 1. Any negligence of the Owner;
 - 2. Any Change Order requested by the Owner if the Change Order included additional time;
 - 3. Labor disputes (including strikes affecting transportation) that do, in fact, directly and critically affect the progress of the Work, but only if the persons or entities taking such actions are not the fault or responsibility of Contractor. An extension of time on account of an individual labor strike shall not exceed the number of Calendar Days of the strike;
 - 4. Tornado, fire, hurricane, blizzard, earthquake, flood, other acts of God, or any other unforeseeable and extreme natural event not within the control of the Contractor that prevents the progress of the Work on the critical path of the latest Owner accepted Contractor's Schedule;
 - 5. Delay authorized in writing by the Owner pending resolution of a dispute;
 - 6. Acts of the public enemy, acts of the state, federal or local government in its sovereign capacity;
 - 7. Any other cause which the Owner determines may justify the delay;

8. Delays incurred to investigate any claim by Contractor for Unforeseen Conditions authorized in writing by the Owner;
9. The occurrence of weather-related delays in excess of forty-sixty (46) Work Days per **twelve (12)-month period** as follows: **three (3) Work Days** per month between April and October, and **five (5) Work Days** per month between November and March or
10. Order of any court of competent jurisdiction enjoining the performance of the Work that is not sought by Contractor in accordance with the Contract Documents;

The time of completion of the portion or portions of the Work directly affected by such delay, shall, upon request of Contractor as provided in **Subparagraph 3.34.B**, be extended by a reasonable period, in no event to exceed the time lost on the critical path of the latest Owner accepted Contractor's Schedule.

- B. Should Contractor reasonably believe, in accordance with Subparagraph 3.34.A, that it is entitled to an extension of time for completion of any portion or portions of the Work, the Contractor shall, within **seven (7) Calendar Days** after the occurrence of the cause of the delay, notify the Owner in writing, setting forth **(a)** the cause for the delay; **(b)** the identity of the party or parties responsible for the delay; **(c)** a description of the portion or portions of Work on the critical path affected thereby; **(d)** an estimate of the probable impact and effect of the delay on the progress of the critical path Work and completion of the Work; **(e)** a technical evaluation and recommendation on how to minimize the probable impact and effect on the critical path work; and **(f)** all Project Records that document the delay. A subsequent written application for the specific number of days of extension of time requested shall be made by the Contractor to the Owner within **fourteen (14) Calendar Days** after the effects of the delay can be ascertained through use of the latest Owner accepted Contractor's Schedule. Any time extension resulting from the claim shall be authorized by a Change Order.
- C. It is a condition precedent to the consideration or prosecution of any claim for an extension of time that the foregoing provisions regarding the timing of notice be strictly adhered to in each and every instance so that Owner may determine the best course of action to implement to mitigate the impact to the critical path of the Contractor's Schedule, the Project Construction Schedule, or Other Contractors. Contractor expressly agrees that if Contractor fails to strictly comply with the notice provisions set forth in this **Paragraph 3.34**, the claim shall be deemed to have been waived by Contractor.

- D. The Contractor agrees that it shall have no claim against the Owner for an increase in the Contract Sum or for any other monetary damages resulting from delays, disruptions, or interference on account of or resulting from conditions set forth in **Subparagraph 3.34.A** except only for claims for delays caused by the Owner, as set forth in **Subparagraph 3.34.A.1** and solely as provided in this **Subparagraph 3.34.D**. The Contractor may only recover funds in excess of the Contract Sum or for any other monetary damages resulting from delays, disruptions and interferences for Actual Costs incurred by the Contractor due to the proximate cause of the actions or inactions of the Owner, provided that the Contractor satisfies in full the following conditions precedent for each claim: **(1)** claims must strictly satisfy the notice requirements of Subparagraph 3.34.B; **(2)** Contractor identifies, in writing, and demonstrates that it has used all reasonable efforts to mitigate the effects of the alleged delay; and **(3)** Contractor provides Owner with a written analysis which demonstrates the proximate cause and effect relationship between the alleged cause of the delay and the effect on the critical path of the Contractor's Schedule where a critical path method schedule is specified in the Contract Documents. Contractor agrees that after demonstrated satisfaction of the provisions of **Subsection 3.34.D(1)-(3)** as set forth above, any claim for an increase in the Contract Sum for any other monetary damages resulting from delays, disruptions, and interferences caused by the Owner shall be limited to Contractor's Actual Costs. Actual Costs shall not include other compensatory or consequential damages, including, but not limited to, loss of home office overhead, loss of profits, or loss of bonding capacity, which are expressly waived by Contractor.
- E. Should changes in the Work pursuant to **Article 3.32** materially affect the critical path progress of the Work of the Project, then any time extension request or any claim against the Owner resulting from the delay caused by the Change Order shall be submitted to Owner simultaneously with the request for monetary adjustments. Contractor acknowledges that any attempt to preserve or reserve Contractor's right to assert a subsequent claim for the effects of a prior Change Order or the cumulative effects of multiple Change Orders is ineffective and has no force or effect pursuant to this Agreement. For a Change Order which does not affect the critical path of the Contractor's Schedule, the Contractor shall not be entitled to a time extension.
- F. Delays resulting from a labor dispute not the fault or responsibility of Contractor will result in a time extension no longer than the dispute period, in addition to a reasonable mobilization period, and may be less depending on the actual effect on the critical path of the Contractor's Schedule and the operations that were actually curtailed or suspended. Lockouts and improper labor practices, over which the Contractor has control or right of control, or labor force shortages, are not valid grounds for a time extension.

- G. Delays to Subcontractors will be valid reasons for time extension only under the same conditions as set forth in this **Paragraph 3.34**. Contractor shall provide the required notice and information for all delays to the progress of the Work alleged by its Subcontractor(s) as set forth in **Subparagraph 3.34.B**.
- H. Contractor acknowledges and agrees that there may be changes to the latest Owner accepted Contractor's Schedule which may require Contractor to reschedule and resequence the Work in order to meet its obligations, to schedule and coordinate its Work with the Work of Owner's other trade contractors, if any, and to accommodate the needs and requirements of Owner. In the event the rescheduling and resequencing of the Work results in an extension of the critical path of the Contractor's Schedule where a critical path method schedule is specified in the Contract Documents, a time extension may be granted to Contractor, but only to the extent the Contractor's critical path time of performance was actually extended. If there is no extension of the critical path, Contractor agrees it is not entitled to a time extension. Contractor agrees it shall have no claim against Owner for any additional loss, cost, or expense alleged to be the result of any rescheduling or resequencing of the Work.
- I. Contractor agrees that it shall have no claim for an increase in the Base Bid Amount, any Specific Allowance or the Contract Sum for delay, disruption, interference, acceleration, or hindrance caused, in whole or in part, by reason of any delay events not proximately caused by Owner. Contractor agrees to accept, as its sole and exclusive remedy, an extension of time unless the Owner elects to accelerate Contractor's performance in lieu of granting an extension of time. If Owner elects to accelerate Contractor's performance due to delays in no way related to actions or omissions of the Contractor, subcontractor, or any entity for which Contractor may be responsible, Owner agrees to adjust the Base Bid Amount, any Specific Allowance, or the Contract Sum pursuant to **Paragraph 3.32** of this Agreement.
- J. The Owner may, if it deems necessary, direct the Contractor to work overtime (as permitted by law) or shift work, and, if so directed, Contractor shall work overtime or shift work, and the Owner shall pay the Contractor for the additional premium wages and benefits paid, plus taxes imposed by law on such additional wages pursuant to **Paragraph 3.32** of this Agreement. If, however, Contractor is, in Owner's reasonable opinion, behind schedule with the Work, the Contractor shall, at its own expenses, work such reasonable overtime as may be necessary to complete the Work on time and in compliance with the latest Owner accepted Contractor's Schedule.

3.35 PROGRESS ESTIMATES AND APPLICATIONS FOR PAYMENT

The parties hereto agree that Act 142 of 1994, amending the Public Works Contract Regulation Law (73 P.S. Section 1621) shall not apply to any Contract terms between the Owner and the Contractor.

For the purposes of this Contract, the Owner intends to make progress payments to the Contractor based upon the extent of the Work completed. Determination of the amount of Work completed will be determined in accordance with this Section 3.35.

The Contractor shall submit a proposed Schedule of Values to the Construction Manager pursuant to the Contract requirements to enable the Construction Manager to prepare an estimate form or review a payment form for use in determining the amount of monies periodically due to the Contractor for completed Work. In order to make progress payments, it will be necessary for the Contractor to include values for each item of Work shown as an activity on the Contractor's Project Schedule. The Construction Manager will have the right to approve, modify, or reject this price breakdown if, in its sole opinion, the amounts reflected are not appropriate to the Work elements involved; there are inaccurate, missing, or incomplete items; or the unit prices listed thereon are unbalanced. The determination of the Construction Manager with regard to the price breakdown shall be final, binding, and non-appealable.

The Owner, at its option, may make payments for materials and equipment stored at the Job Site or at a facility acceptable to the Construction Manager. If payment is requested on the basis of materials and equipment not incorporated in the Work, but deliberately and suitably stored at the Job Site or at another location agreed to in writing, any application for payment shall be accompanied by a bill of sale, paid invoice, or other documentation warranting that the Owner has received the materials and equipment free and clear of all liens and encumbrances and evidence that the materials and equipment are covered by Contractor supplied property insurance and other arrangements to protect the Owner's interest therein, all of which will be satisfactory to the Owner. Payment shall only be requested for those stored materials and equipment not incorporated into the Work if their unit cost is greater than \$500 or their bundled value is greater than \$1,000. (Broken bundles or boxes will be discounted.)

The Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any progress payment, whether incorporated in the Project or not, will pass to the Owner no later than the time of application for payment, free and clear of all liens and encumbrances.

If there exists a good faith dispute over the amounts to be paid, the Owner shall pay the undisputed amount, but the disputed portion may be withheld from the Contractor until resolution of the matter, with that portion due **forty-five (45) calendar days** after said resolution. No request by the Contractor for an adjustment to the Contract Sum, regardless of the reason, shall be allowed if asserted after final payment under this Contract.

Any payment made pursuant to a progress estimate is not an acceptance by the Owner of any

part of the Work, material, or equipment covered by such progress estimate. The Owner may refuse to make any partial payments under the Contract for Work performed after any applicable Milestone Date and shall be entitled to withhold payments as a result of the Contractor's failure to complete its Work in accordance with the specified Milestones.

Payments shall be subject to the retainage described in **Section 3.37** of the General Conditions entitled "Monies May Be Retained Or Withheld" and may also be reduced by the Owner for any credits due to the Owner including amounts owed for liquidated damages, amounts resulting from Defective Work, amounts resulting from claims made against the Owner on account of the Contractor's performance or furnishing of the Work, or amounts resulting from other items entitling the Owner to a set-off.

A. Payments to Subcontractors:

In the absence of a good faith reason, within **fourteen (14) calendar days** of the receipt of payment by the Contractor or **fourteen (14) calendar days** after receipt of a subcontractor's or supplier's invoice, whichever is later, the Contractor shall pay the subcontractor or supplier, with whom it has contracted, the full or proportional amount received for each such subcontractor's or supplier's Work and materials. Should the Contractor fail to pay a subcontractor or supplier without a good faith reason, the Owner may, at its discretion, withhold future payments owed to the Contractor. No subcontractor or supplier shall become a third-party beneficiary of this provision and this provision shall not afford any subcontractor or supplier a cause of action against the Owner.

B. Procedure

1. General

During the Preconstruction Conference, the specific details for progress payments will be reviewed and sample forms distributed to the Contractor.

2. Schedule of Values

The Contractor shall provide a Schedule of Values outlining the values of each component of the Work as shown on its Project Schedule as an activity. The Schedule of Values will be computerized into a standard spreadsheet format established and acceptable to the Construction Manager.

3. Draft Application for Payment

The Contractor shall prepare a draft Application for Payment in the form provided through the Construction Manager for each pay period indicating the percentages of completion for each activity and properly stored materials and equipment for which payments are to be requested. This draft will be effective for the end of the month. A review will be performed by the Construction Manager to confirm that the amounts are acceptable. Any required adjustment will be discussed with the Contractor.

4. Formal Application for Payment

After agreement between the Contractor and the Construction Manager on quantities and their associated value, the Contractor shall submit an original Formal Application for Payment signed in blue ink, and two copies of the Formal Application for Payment for that pay period, and shall perform all extensions and arithmetic, and provide back-up documentation, etc., on the forms provided through the Construction Manager. The Formal Application for Payment shall be executed by an authorized officer of the Contractor's firm and submitted by the sixth calendar day of the month.

Upon receipt of each Formal Application for Payment, the Construction Manager staff will verify that any agreed-upon modifications have been made from the Draft Application for Payment, check all extension and arithmetic, and ensure that all the Contractor provisions pertaining to progress payments have been met and that all necessary substantiating documentation is included. After review and approval of the Formal Application for Payment by the Construction Manager, the Owner shall pay the Contractor within **sixty (60) calendar days** of submitting its Formal Application for Payment unless the Owner is withholding payment.

When Work nears completion, cost estimates of uncompleted Work will be made by the Construction Manager as a means of verifying percentages of completed Work.

5. Retainage

The Construction Manager will assure the retainage, as prescribed by **Section 3.37** of the General Conditions entitled "Monies may be Retained or Withheld", will be deducted from the payment request. The retained percentage will not be relied on to cover costs of correction of defects, omissions, and the like; thus, additional sums may be withheld by the Owner to cover such items.

6. Miscellaneous

The Contractor will be advised by the Construction Manager in writing of reductions in the payment request for Work which has been performed but does not meet Contract Documents' requirements.

3.36 FINAL PAYMENT

Payment will be made by the Owner within **forty-five (45) calendar days** following submittal of the Contractor's Final Payment Application, less one- and one-half times any amount as is required to complete any then remaining uncompleted minor items as certified by the Engineer (and other adjustments and any liquidated damages as provided in the Contract Documents). The Owner's Certificate of Substantial Completion will include a punch list of uncompleted items (See Contract Provisions Section entitled "Certification of Substantial Completion"). Final payment of any amount withheld will be paid upon certification by the Engineer of Final Acceptance (See Section 3.53 entitled "Final Completion").

3.37 MONIES MAY BE RETAINED OR WITHHELD

The Owner shall at any time retain from any monies which could otherwise be payable an amount not exceeding the amount of retainage outlined in Act 317 known as the Contractor's Act approved November 26, 1978, and amended by Act 200, approved November 23, 1982. If the Act does not apply to purchases under this Contract, the Owner may utilize retention provisions similar to those contained in the Contractor's Act. The Owner may apply any moneys retained hereunder to reimburse itself for any and all costs, expenses, losses, damage and damages, liabilities, suits, judgments, and awards incurred, suffered, threatened, or sustained by the Owner and chargeable to the Contractor hereunder or as determined hereunder.

Whenever there is unacceptable or Defective Work, or there are outstanding or potential third party claims against the Owner arising from the Contractor's activities, or there is a reasonable doubt on the part of the Owner that the Contractor will satisfactorily complete its Contract, or when liquidated damages may be owed to the Owner pursuant to the terms of this Contract, the Owner may withhold so much as is necessary, in the Owner's discretion, to reimburse the Owner for any costs or expenses that may accompany these conditions.

3.38 ACCOUNTING RECORDS

- A. The Contractor shall keep full and detailed Project Records and exercise such controls as may be necessary for proper business and financial management under the Contract Agreement. The Owner, Owner's accountants or any local, state, or federal governmental authority, or their duly authorized representatives shall be afforded access to Contractor's Project Records and Contractor shall preserve the Projects Records and shall make them available for inspection or copying for a period of **four (4) years** after Substantial Completion, or for such longer period as may be required by Applicable Laws. In the event of arbitration, litigation, or the settlement of claims arising out of the performance of this Contract or any contracts with vendors, the time period provided in this paragraph shall be extended until **two (2) years** after any appeal, arbitration, litigation, or claim shall have been finally disposed of. All Project Records related to financial matters will be maintained in accordance with generally accepted accounting principles and audit standards, consistently applied. There will be an "open book" policy in effect at all times with regard to all Project Records maintained by the Contractor, or anyone on its behalf and the Owner, Owner's accountants or any local, state, or federal governmental authority, or their duly authorized representatives will be afforded full and complete access to the Project Records at all reasonable times. The Owner, Owner's accountants or any local, state, or federal governmental authority, or their duly authorized representatives will have the right to audit the Project Records of Contractor, Subcontractors, and Sub-Subcontractors. If the audit results in a finding

that an overcharge or error of any nature has occurred, Owner will adjust Contractor's Application(s) for Payment accordingly and the Contractor shall be responsible for the cost of the audit.

- B. If the Contractor carries out any of the duties of this Agreement through a Subcontract with a value of **\$25,000.00** or more over a **12-month period**, the subcontract will also contain a clause compelling the Subcontractor to abide by the provisions of **Paragraph 3.38**.
- C. Owner's authorized representative or designee shall have access to the Contractor's facilities to inspect and copy Project Records, shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of the Agreement and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with **Paragraph 3.38**.
- D. Any adjustments and/or payments which must be made as a result of any such audit or inspection of the Contractor's Project Records shall be made within a reasonable amount of time (**not to exceed 30 Calendar Days**) from the presentation of Owner's undisputed findings to the Contractor.

3.39 SUBMITTALS

- A. To assure that the products furnished under this Contract conform to the intent of the Contract Documents and requirements under the specifications, the Contractor shall submit: testing data and/or reports; manufacturer's data and pertinent system design information; certifications; installation drawings and instructions; Shop Drawings; samples; requests for substitutions as required by and in strict conformance with the Contract Documents; and, additional information as may be requested by the Owner.
- B. The Contractor shall review and submit to Owner with reasonable promptness and in such sequence required by the Contractor's Schedule, all Shop Drawings, Product Data, Samples and Contractor's other submittals required by the Contract Documents.
- C. By reviewing and submitting Shop Drawings, Product Data, Samples, and Contractor's other submittals required by the Contract Documents, Contractor represents that it has determined and verified all materials, field measurements, and field construction criteria related to the Work, or will do so, and that it has checked and coordinated the information contained within the Shop Drawings, Product Data, Samples and Contractor's other submittals with the requirements of the Work and of the Contract Documents.
- D. The Contractor shall make any corrections required by the Owner and shall resubmit the required number of corrected copies of Shop Drawings, Product Data, Samples or Contractor's other submittals required by the Contract Documents. Resubmittal of Shop Drawings, Product Data, Samples, and Contractor's other submittals necessitated by required corrections shall not be a cause for extension of time. Contractor shall direct specific attention in writing or on resubmitted Shop Drawings, Product Data, Samples, or Contractor's other submittals, to revisions other than the

corrections requested on previous submittals.

- E. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by Owner's review or approval of Shop Drawings, Product Data, Samples, or Contractor's other submittals required by the Contract Documents, unless Contractor has specifically informed the Owner in writing of such deviation at the time of submission and the Owner has given written approval to the specific deviation. All Shop Drawings, Product Data, Samples, or Contractor's other submittals required by the Contract Documents which do not strictly conform with the requirements of the Contract Documents do not alter the terms and conditions of this Agreement regardless of Owner's review or approval of same. Contractor shall not be relieved from responsibility for errors or omissions in the preparation of Shop Drawings, Product Data, Samples, or Contractor's other submittals required by the Contract Documents, including, without limitation, the failure to comply with Applicable Laws or by the Owner's review or Owner's approval.
- F. Shop Drawings, Product Data, Samples, and Contractor's other submittals required by the Contract Documents shall be dated and bear: Name of Project; description or names of equipment, materials and items, and complete identification of locations at which materials or equipment are to be installed.
- G. Submission of Shop Drawings, Product Data, Samples, and Contractor's other submittals required by the Contract Documents shall be accompanied by transmittal letter in duplicate, containing Project name, Contractor's name, number of Drawings, Product Data, Samples, and Contractor's other submittals, titles and other pertinent data. Each and every submission shall be included on Contractor's Submittal Schedule.
- H. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, Owner shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

3.40 FIELD SERVICES, FIELD INSPECTIONS AND START-UP TESTING

A. General

As part of the Work of this Contract, the Contractor shall provide (as required) field services at the Owner's facility before, during, and after Work construction and/or installation, to inspect and approve the construction and/or installation of the Contractor's Work; to conduct commissioning inspections and start-up operations; to conduct Performance and Acceptance Tests; and to train the Owner's personnel in the proper operation and maintenance of the Work provided under this Contract, as set forth herein. Specific time periods will not be less than that specified in the Contract Documents or recommended by each Component Manufacturer.

The Contractor shall cooperate fully with the Construction Manager and all others involved in the field construction so that it does not delay or interfere with their work.

Field Services, Field Inspections and Start-Up Testing may be more fully described in **Article 6**.

3.41 FIELD SERVICE ASSISTANCE/OWNER-FURNISHED EQUIPMENT

If the installation of Owner-Furnished Equipment (as further described in **Section 3.44.C** below) is part of the Work of this Contract, it is to be tested, started up and serviced as part of the Work of this Contract.

For those services specified as the responsibility of Owner-Furnished Equipment suppliers in separate contracts with the Owner, the Contractor shall schedule field services in conjunction with the Construction Manager and notify the Owner at least **21 calendar days** before the manufacturers' representatives are needed for field inspection and testing of each Owner-Furnished Equipment.

Where the manufacturer's representatives of Owner-Furnished Equipment Manufacturers will provide training, the Contractor shall schedule training sessions in conjunction with the Construction Manager, determine appropriate locations for training, and provide the Owner at least **21 calendar days'** advance notice of the training schedule.

The Owner shall assure that Owner-Furnished Equipment suppliers have provided spare parts and special tools and approved operations and maintenance manuals to the site before any field services commence.

3.42 TRAINING SERVICES

The Contractor shall adequately instruct designated employees or representatives of the Owner in the operation, maintenance, and care of all Work provided under this Contract. Such training shall be coordinated and administered through the Construction Manager.

During the Acceptance Tests, the Owner's operating personnel will assist in the operation of the item of Work being tested, performing operating adjustments under the direction of the representatives of the Contractor. To that extent, the Owner's personnel will take an active role in the operation of the item of Work being tested, as a part of their training, under the direct supervision of the Contractor's representatives.

A. Responsibility During Tests

The Contractor shall be fully responsible for the operation of the respective Work provided under this Contract during all periods of testing and instruction and will neither have nor make any claim for damage to any item of Work prior to its Final Acceptance.

Training Services may be more fully described in **Article 6**.

3.43 TESTING

Three (3) types of testing are required for certain equipment and components covered under this Contract: Shop Tests; Acceptance Tests; and Performance Tests. All Tests shall be conducted so that they may be witnessed by representatives of the Owner. It shall be the responsibility of the Contractor to assure that such tests are performed and shall submit the written test reports and certificates to the Owner summarizing the results of all tests and indicating satisfactory completion of all required tests. The reports and certificates for Shop Tests shall be submitted to the Owner as soon as possible after shipment of the equipment and components to the Owner's facility, unless they can be submitted prior to shipment. In all cases such reports and certificates shall be submitted prior to Acceptance Testing on site.

The various tests and obligations of the Contractor during testing are more specifically described in **Article 6**.

The Contractor shall note that the design requirements provided in the Contract Documents, including the Specifications for each component of work as well as overall performance, are considered essential to meeting the minimum requirements of this Contract.

3.44 CONTROL OF MATERIALS

A. Quality Requirements

The materials, labor, equipment, and systems used on the Work shall conform to the requirements of the Contract Documents.

The Owner expects that all manufactured and installed items, equipment, components, and materials will perform at or above the manufacturers or suppliers written specifications, as well as all applicable standards, laws, and regulations.

The Contractor shall be responsible for the quality of the materials and construction and shall be solely responsible for complying fully with the Contract Documents.

The Owner may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by the Manufacturer's or supplier's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract.

The Owner or its authorized representative may inspect, at its source, any specified materials or assembly to be used in the Work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the Work and to obtain samples required for the Owner's acceptance of the materials or assembly.

It is understood and agreed that the Owner shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the Job Site. The Owner shall have the right to reject material which, when retested, does not meet the requirements of the Contract, plans, or Specifications.

All storage sites on private property or the Job Site shall be restored to their original

condition by the Contractor at its entire expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

B. Unacceptable Materials

Any materials or assembly that does not conform to the requirements of the Contract Documents shall be considered unacceptable and may be rejected. The Contractor shall remove any rejected materials or assembly from the Site of the Work, unless otherwise instructed by the Owner.

No rejected materials or assembly, the defects of which have been corrected by the Contractor, shall be returned to the Job Site of the Work until such time as the Contractor has demonstrated, to the Owner's satisfaction, that the use of such materials or assembly in the Work will produce a finished product which complies, in all respects, with the requirements of the Contract Documents.

The decisions of the Engineer, through the Construction Manager, as to whether materials and workmanship should be accepted or rejected will be binding upon the Contractor.

The Owner will not be stopped by any measurement, estimate, or certificate made by it or any of its representatives from later showing that the Work, materials, or equipment do not conform to the requirements of the Contract Documents.

C. Owner-Furnished Materials and Equipment

The Contractor shall furnish all materials and equipment required to complete the Work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished Materials and Equipment shall be made available to the Contractor at the location specified in the Contract Documents.

After any Owner-Furnished Material or Equipment has been received by the Contractor, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies which may occur during the Contractor's handling, storage, or use of such Owner-Furnished Materials and Equipment. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-Furnished Materials and Equipment. After any Owner-Furnished Material or Equipment has been received by the Contractor, it shall become part of the Work for purposes of this Contract, including all indemnifications and warranty provisions as described in the Contract Documents including the Contract Provisions Sections entitled "Obligations and Liability of the Contractor" and "Warranty".

3.45 AUTHORITY AND DUTIES OF INSPECTOR

Inspectors employed by the Owner shall be authorized to inspect all Work performed and all material furnished. Such inspection may extend to all or any part of the Work, whether ongoing or completed, and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the Contract or accept any Work. Inspectors are not authorized to issue instructions contrary to

the Contract Documents or to act as foremen for the Contractor.

3.46 INSPECTION OF THE WORK

All materials and each part or detail of the Work shall be subject to inspection by the Owner. The Owner shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the Owner requests it, the Contractor, at any time before Final Acceptance of the Work, shall remove or uncover such portions of the finished Work as may be directed. After examination, the Contractor shall restore said portions of the Work to the standard required by the Specifications. Should the Work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra Work; but should the Work so exposed or examined prove unacceptable or in any way defective, the uncovering, or removing, and the replacing of the covering or making good of the parts removed and any and all attorneys' fee, Engineering fees and/or any other consulting fees, will be at the expense of the Contractor who performed the unacceptable Work.

Any Work done or materials used without inspection by an authorized representative of the Owner may be ordered removed and replaced at the Contractor's expense.

Should the Work include relocation, adjustment, or any other modification to existing facilities, not the property of the Owner or its authorized representative, the owners of such facilities shall have the right to inspect such Work. Such inspection shall in no way make any facility owner a party to the Contract and shall in no way interfere with the rights of the parties to this Contract.

If any rule or regulation of any body having jurisdiction require any Work (or any part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such body, the Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, paying all costs in connection therewith, and shall furnish the Construction Manager the required certificates of inspection, for approval. The Contractor shall also be responsible for arranging and obtaining and shall pay for all costs in connection with inspection, tests or approvals required for the Owner's acceptance of materials or equipment to be incorporated in the Work.

3.47 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

All Work which does not conform in any way to the requirements of the Contract Documents will be considered Defective Work and unacceptable, unless otherwise determined acceptable by the Owner.

Defective Work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause, shall be removed immediately and replaced in an acceptable manner in accordance with the Contract Documents. The Contractor shall pay all claims, costs, losses, and damages caused or resulting from such correction or removal (including but not limited to all costs of repair or replacement of the Work of others and any and all attorneys' fee, Engineering fees and/or any other consulting fees incurred by the

owner).

Work done contrary to the instructions of the Owner, Work done contrary to the Specifications, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the Contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply within three **(3) working days** with any order of the Owner made under the provisions of this Section, the Owner will have authority to cause Defective Work to be remedied or removed and replaced and unauthorized Work to be removed and to deduct the costs (incurred by or on behalf of the Owner) from any monies due or to become due the Contractor. If such costs and damages exceed the unpaid Contract Sum, the Contractor shall pay the difference to the Owner.

3.48 OWNER MAY STOP THE WORK

If the Work is defective, or the Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or, in the Owner's sole opinion, fails to furnish or perform the Work in such a way that the completed Work will conform with the Contract Documents, the Owner may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any surety or any other party. Only such orders issued in a writing signed by the Engineer and issued through the Construction Manager shall be considered valid.

3.49 ACCEPTANCE OF DEFECTIVE WORK

If instead of requiring correction or removal and replacement of Defective Work, the Owner prefers to accept it, the Owner may do so. The Contractor shall pay all expenses, claims, costs, losses, and damages attributable to the Owner's evaluation of and determination to accept such Defective Work, including any and all attorneys' fee, Engineering fees and/or any other consulting fees incurred by the Owner. If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the Owner shall be entitled to an appropriate decrease in the Contract Sum. If the acceptance occurs after final payment, or if such costs and damages exceed the unpaid Contract Sum, an appropriate amount will be paid by the Contractor to the Owner or, at the Owner's option, may be set off from other amounts owed by Owner to the Contractor pursuant to other contracts.

3.50 OWNER MAY CORRECT DEFECTIVE WORK

If the Contractor fails within three (3) working days after receipt of a written notice from the Engineer to correct Defective Work or to remove and replace rejected Work as required by the Owner, or if the Contractor fails to perform the Work in accordance with the Contract Documents, or if the Contractor fails to comply with any other provision of the Contract Documents, the Owner may correct and remedy any such deficiency. In connection with such corrective and remedial action, the Owner may exclude the Contractor from all or part of the Job Site, take possession of all or part of the Work, and suspend the Contractor's

services related thereto, take possession of the Contractor's tools, appliances, construction equipment and machinery at the Job Site, and incorporate in the Work all materials and equipment stored at the Job Site or for which the Owner has paid the Contractor but which are stored elsewhere. The Contractor shall allow the Owner, the Owner's representatives, agents, and employees access to the Job Site to enable the Owner to exercise the rights and remedies under this Section. All claims, costs, losses, and damages incurred or sustained by the Owner in exercising such rights and remedies will be charged against the Contractor and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the Owner shall be entitled to an appropriate decrease in the Contract Sum or any other remedy permitted in the Contract Documents or allowed by laws and regulations. Such claims, costs, losses, and damages will include, but not be limited to, all costs of repair or replacement or Work of others destroyed or damaged by correction, removal, or replacement of the Contractor's Defective Work and any and all attorneys' fee, Engineering fees and/or any other consulting fees incurred by the Owner. The Contractor shall not be allowed an extension of the Contract Time because of any delay in the performance of the Work attributable to the exercise by the Owner of the Owner's rights and remedies hereunder.

3.51 PROTECTION, MAINTENANCE AND SECURITY DURING CONSTRUCTION

The Contractor shall protect, maintain, and secure the Work during construction and until the Work is accepted. This protection, maintenance and security shall constitute continuous and effective Work prosecuted day by day, with adequate equipment and forces so that the Work is protected, maintained, and secured in satisfactory condition at all times.

All costs of protection, maintenance, and security Work during construction and before the Project is accepted shall be included in the prices for the various Contract Items, and the Contractor will not be paid an additional amount for such Work.

Should the Contractor at any time fail to so protect, maintain, and secure the Work, the Owner upon observing such a failure, shall notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory condition, not to exceed **three (3) days**.

Should the Contractor fail to respond to the Owner's notification, in addition to any and all other remedies afforded to the Owner under this Contract Agreement, the Owner may suspend any of the Contractor's Work necessary for the Owner to correct such unsatisfactory protection, maintenance, or security condition, depending on the exigency that exists. Any protection, maintenance or security cost incurred by the Owner, shall be deducted from

monies due or to become due the Contractor, or if such costs and damages exceed the unpaid Contract Sum the Contractor shall pay the difference to the Owner.

3.52 CERTIFICATION OF SUBSTANTIAL COMPLETION

A. Preliminary Procedures:

Before requesting inspection for certification of Substantial Completion of entire work, the Contractor shall have completed the following:

1. Advise the Owner of pending insurance change-over requirements.
2. Submit specific warranties, including all Manufacturer's warranties, Workmanship bonds, maintenance agreements, final certifications, and similar documents.
3. Obtain and submit any releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and other similar releases.
4. Submit As-Built and Record Drawings, operations and maintenance manuals, damage or settlement survey, property survey, (if any) and similar final record information for all work completed at substantial completion.
5. Deliver tools, spare parts, extra stock, and similar items.
6. Make any final change-over of permanent locks and transmit keys to the Owner, if necessary. Advise the Owner's personnel of change-over in security provisions.
7. Certify that Start-up, Performance and Acceptance testing of Work, and instruction and training of the Owner's operating and maintenance personnel has been completed.
8. Submit Consent of Surety to Reduction in Retainage.
9. Submit such other documentation as may be requested by the Owner.

B. Inspection Procedures:

1. On receipt of a Contractor request for inspection for certification of Substantial Completion, which shall include any known exceptions to the items described in **Section 3.43** above, the Construction Manager will coordinate, within a reasonable time thereof, a final inspection and advise the Contractor of any unfilled Contract requirements. The Owner will either prepare the Certificate of Substantial Completion form following the

inspection, or, through the use of a punch list form, will advise the Contractor of Work that must be completed prior to issuance of the certification.

2. The Construction Manager will arrange another inspection when requested and assured by the Contractor that the Work has been substantially completed. The Contractor shall bear all costs the Owner may incur with regard to such re-inspections. Results of the completed inspection will form part of the basis of the requirements for Final Acceptance.

C. Certificate of Substantial Completion:

Upon the Contractor's completion of all the above, and based upon the Construction Manager's recommendation, the Owner will issue a Certificate of Substantial Completion.

3.53 FINAL COMPLETION

A. Preliminary Procedures:

At least **five (5) calendar days** before requesting final inspection for certification of Final Acceptance and final payment, the Contractor shall have completed the following in form and substance acceptable to the Owner:

1. Submit Guarantees and Bonds as required by the Contract.
2. Submit Maintenance Bond.
3. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
4. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
5. Submit a certified copy of the final inspection punch list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for Final Acceptance, and the list has been endorsed and dated by the Engineer.
6. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.
7. Submit consent of surety to final payment.
8. Submit a final liquidated damages settlement statement.

9. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
10. Submit the Contractor's Release and Waiver of Claims.
11. Submit Releases and Waivers in form acceptable to the Owner from any or all subcontractors or suppliers or the like who performed Work or supplied labor, materials, or services pursuant to the execution of this Contract or as may be requested by the Owner.
12. Submit the Contractor's Affidavit of Payment of Debts and Claims.
13. Submit written certification that:
 - a. the Contract Documents have been reviewed.
 - b. the Work has been inspected for compliance with the Contract Documents.
 - c. the Work has been completed in accordance with the Contract Documents.
 - d. the Work has been tested in the presence of the Construction Manager and is operational.
 - e. the Work is complete and ready for final inspection.
14. Submit all other submittals required by the Contract Documents or otherwise reasonably requested by the Owner.

B. Reinspection Procedure:

The Construction Manager will coordinate reinspection of the Work upon receipt of Contractor notice that the Work, including inspection of punch list items from earlier inspections, has been completed. The Contractor shall bear all costs the Owner may incur with regard to such re-inspections.

1. Upon completion of reinspection, the Owner will either prepare a Certificate of Final Acceptance, or, through the use of a punch list form, will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance.
2. If necessary, reinspection will be repeated. This, however, shall not limit the Owner's right to receive liquidated damages for delay.
3. Non-Pennsylvania corporations and their sureties will not be relieved of their obligations until they furnish evidence that they have paid or posted security for, all state taxes and any other obligations owed to the Commonwealth.

If the Contractor refuses or fails to perform the punch list items, the Contractor hereby consents to the withholding of payments owed to the Contractor by the Owner for any reason or on any project, made at the discretion of the Owner and which may be deducted from any monies due or to become due the Contractor, or if such costs and damages exceed the unpaid Contract Sum the Contractor shall pay the difference to the Owner.

C. Certificate of Final Acceptance:

Upon the Contractor's completion of all the above, to the Construction Manager's satisfaction, the Owner will issue a Certificate of Final Acceptance.

D. Final Cleaning Up:

Upon completion of the Work and before Final Acceptance and Final Payment will be made, the Contractor shall remove from the Job Site all of its machinery, equipment, surplus and discarded materials, rubbish, and temporary structures. The Contractor shall leave the Site in a neat and presentable condition and shall call the Work "Broom-Clean" or its equivalent, except as otherwise specified. Material cleared from the Site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of such property owner and disposes of the material in a manner which complies fully with all applicable laws and regulations.

3.54 USE OR PARTIAL PAYMENT NOT ACCEPTANCE

It is agreed that this is an entire Contract for one whole and complete Work and that neither the Owner's entrance upon or use of any part of the Work nor any partial payments by the Owner shall constitute an acceptance of the Work or any part thereof before its entire completion and Final Acceptance. Accepting such instances where, as may be specifically provided for in the Specifications or by Written Amendment, the Owner provides acceptance covering one or more completed unit(s) or portion(s) of the Work.

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

3.55 ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE OF OWNER

Acceptance by the Contractor of final payment shall release the Owner, and any representative of the Owner, from any and all claims and all liability to the Contractor for all things done or furnished in connection with the Work, and from every act, omission, or neglect of the Owner, its agents, and others relating to or arising out of the Work. No payment, however, final or otherwise, shall operate to release the Contractor from its obligations under this Contract. Failure of the Owner or any of its agents or representatives during the progress of the Work to discover or reject materials, equipment, or Work not in accordance with the Contract Documents shall not be considered an acceptance or a waiver of defects therein, and payment to the Contractor or partial occupancy by the Owner shall not be considered an acceptance of the Work or materials which are not strictly in accordance with the Contract Documents.

3.56 DISPUTES AND CLAIMS

Subject to Section 3.34 and any other applicable provisions of the Contract Documents, any dispute, claim, or controversy of any nature arising out of or relating to this Contract, or the breach thereof, or otherwise related to the Project, excluding claims and disputes between Prime Contractors described above in **Section 3.8** (hereinafter called "Disputed Matter"), must be presented by the Contractor to the Construction Manager in writing within **fifteen (15) calendar days** of **(a)** discovery of the event giving rise to the Disputed Matter, or **(b)** when, by the exercise of reasonable diligence, the Contractor should have recognized the condition giving rise to the Disputed Matter.

Upon receipt of a timely Disputed Matter, the Construction Manager will render an initial decision (hereinafter called "Initial Response") approving or rejecting the Disputed Matter, or indicating that the Construction Manager is unable to resolve the Disputed Matter. This Initial Response shall **(1)** be in writing; **(2)** state the reasons therefor; and **(3)** notify the parties of any change in the Contract Sum or Contract Time or both. The Initial Decision shall be binding on the Contractor unless the Contractor timely disputes it in accordance with the process set forth below.

In the event that the Contractor disputes the Initial Response given by the Construction Manager, the Contractor must, within **fifteen (15) calendar days** of the Initial Response from the Construction Manager, refer the Disputed Matter, in writing, with all material facts described, to the Executive Director for determination. No Disputed Matter will be reviewed by the Executive Director and the Contractor shall have waived its right to contest the Disputed Matter unless the Contractor has complied with all procedures and/or requirements relating to the Disputed Matter found in the Contract Documents or otherwise established by the Owner.

As an additional express condition precedent to the Contractor's right to submit a Disputed Matter to the Executive Director, the Contractor may be required to provide certain materials utilized by the Contractor in preparation of its Bid, including, but not limited to, worksheets, quotations, calculations, pricing data, estimates and correspondence relating thereto, clarification, additional information or data requested, and shall present in writing to the Executive Director evidence regarding the Disputed Matter, including evidence regarding liability, causation and damages, sufficient to enable the Executive Director to render a decision with respect to the Disputed Matter. The Executive Director, in his/her sole discretion, may require an informal hearing prior to making a determination. The Executive Director may conduct the hearing or may appoint a hearing officer of his/her choice. If the hearing officer is anyone other than the Executive Director, the hearing officer shall make a recommendation to the Executive Director as to the disposition of the Disputed Matter. The decision of the Executive Director, or hearing officer, shall be made in writing within **fifteen (15) calendar days** of the hearing.

It is mutually agreed that any controversies, claims or disputes of any nature arising out of or relating to this Contract, or the breach thereof, or otherwise related to the Project, including any unresolved Disputed Matter, may, at the Owner's sole discretion, be settled by arbitration in accordance with the then current Construction Industry Arbitration Rules of the American Arbitration Association (in the Pittsburgh, Pennsylvania office only) and that all findings and decisions by the arbitrators shall be conclusive and binding on both parties and shall not be appealable and judgment upon the award rendered by the arbitration panel may be entered in the Court of Common Pleas of Allegheny County. The Owner may exercise its discretion to utilize arbitration at any time and shall not be deemed to have waived such discretion by any lapse of time or performance of any act.

If so determined by the arbitrators, and to the extent so determined by the arbitrators, the fees, costs and expenses of the arbitration shall be borne by the party against whom the arbitration is determined.

It is mutually agreed that any controversies, claims or disputes of any nature arising out of or relating to this Contract, or the breach thereof, or otherwise related to the Project, including any unresolved Disputed Item, may, at the Owner's sole discretion, be resolved by legal proceedings in the courts of the Commonwealth of Pennsylvania beginning in the Court of Common Pleas, Allegheny County Pennsylvania unless otherwise determined by the Owner.

The Contractor shall comply with all directions and decisions of the Owner and shall proceed diligently with performance of the Work including disputed Work pending final resolution of any Disputed Item and shall maintain the Contract Schedule during any claims, disputes, questions, or related matters or proceedings unless otherwise agreed to by the Contractor and the Owner in writing. If the Contractor is proceeding with the Work, or any portion thereof, under protest, the Contractor must notify the Construction Manager, in writing, prior to the commencement of such Work.

The Contractor shall make no claim against any officer, agent, or employee of the Owner for, or on account of, any act or omission to act in connection with the Contract, and hereby waives any and all rights to make any such claim or claims.

3.57 NO WAIVER OF RIGHTS

Neither inspection nor witnessing of tests by the Owner, nor any payment for, nor acceptance of, the whole or any part of the Work by the Owner, nor any extension of time, nor any possession taken, nor use made by the Owner, shall operate as a waiver of any provision of the Contract, nor of any power herein provided, nor shall any waiver, actual or implied, of any breach of the Contract be held to be a waiver of any other or subsequent breach. Issuance of the Final Acceptance or acceptance of any part of the Work by the Owner shall not be binding and conclusive upon the Owner with regard to Defective Work, fraud or bad faith, or such gross mistakes as may amount to fraud, or as regards to the Owner's rights under any warranty. Defective Work shall be corrected, and unsuitable materials, equipment, apparatus and other Items shall be replaced by the Contractor, notwithstanding that such Work, materials, equipment, apparatus and other Items may have been previously overlooked and/or accepted or estimated for payment. Failure of the Owner to require strict compliance with any term or condition of the Contract in any specific instance shall not be deemed a waiver of the right to subsequent enforcement thereof.

No failure of the Owner to insist upon strict compliance by the Contractor to any requirements of this Contract or to promptly exercise any right accruing from any default of the Contractor shall impair the Owner's rights in case the Contractor's default continues or in case of any subsequent default by the Contractor.

No action or failure to act by the Owner shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

3.58 BONDS

When the Contractor delivers the executed Contract Agreement, it shall also provide a Performance Bond and a Labor and Material Payment Bond on the forms included in these Contract Documents, each with corporate surety satisfactory to the Owner and valid Power of Attorney attached. Each such Bond shall be in the full amount **(100%)** of the Contract Sum, payable to the Allegheny County Sanitary Authority, said Bonds to be conditioned upon the full and faithful performance by the Contractor pursuant to the Contract Documents and payment by the Contractor for all materials and supplies furnished and labor supplied or performed, and all other legal debts incurred in the prosecution of the Work. If the Contract Sum is increased pursuant to a Change Order, the Contractor shall increase the amount of each Bond proportionately. The Contractor shall furnish the proper Performance Bond and Labor and Material Payment Bond to the Owner prior to the execution of the Contract by the Owner. The Owner reserves the right to reject any bond furnished where it determines it is

in its best interest to do so. No bond shall be furnished from a Surety which is not registered to do business with the Pennsylvania Insurance Commission for the limits so required.

Upon Final Acceptance of the completed Work and before the Surety which has furnished the Performance Bond is released, the Contractor shall furnish a Maintenance Bond of a surety company acceptable to the Owner in the amount of One Hundred **(100%)** of the Contract Sum. The form of the Maintenance Bond shall not deviate from the form Maintenance Bond attached to the Contract Documents. The Owner reserves the right to reject any surety or bond furnished where it determines it is in the best interest of the Owner to do so.

All Bonds (including any Bid Bond) shall be duly executed by the Contractor as principal and by a corporate surety or sureties approved to do business in the Commonwealth of Pennsylvania and must be satisfactory to the Owner. If the surety on any bond furnished by the Contractor is declared a bankrupt or becomes insolvent or its right to do business in Pennsylvania is terminated, the Contractor shall immediately notify the Owner in writing, and shall within **ten (10) working days** thereafter substitute another bond and surety, both of which must be acceptable to the Owner.

3.59 WARRANTY

The Contractor represents and warrants that the Work and services to be performed under the Contract, and all workmanship, materials, Work, and equipment provided, furnished, used or installed in the construction of the same, shall be safe, substantial, and durable construction in all respects, of the highest quality and best obtainable in every respect, new (unless otherwise provided herein), shall be free from faults or defects, shall be performed and furnished in strict accordance with the Contract Documents, and that the strength of parts of all manufactured equipment shall be adequate and as specified and explicitly warrants the merchantability and the fitness for use and quality of all Owner approved substituted Items provided by it or its subcontractors and warrants that all Owner approved substituted Items will perform to the standard of the Item originally specified. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of the materials and equipment. The Contractor further agrees on behalf of itself, any heirs, executors, administrators, successors and assigns that it shall repair and replace promptly, without charge, all workmanship, Work, materials, or equipment (and/or any damage to owned or controlled real or personal property resulting from Defective Work, equipment or materials or resulting from the replacement of such) furnished under the Contract that fail to meet the above standard or are otherwise Defective. This obligation shall survive the completion of the Work and/or the termination of the Contract. If within **three (3) working days** after the Contractor has been notified of a defect, the Contractor has not made substantial progress nor shown a satisfactory attempt to make the necessary corrections, the Owner is hereby authorized to make the corrections or to order the Work to be done by a third party, and the cost of the corrections shall be paid by the Contractor. This warranty shall be for a period of eighteen (18) months from the date of the delivery to the Job Site, or **twelve (12) months** from the date the Work is placed into service and Final Acceptance by the Owner, whichever is later to occur or such longer period of time as may be prescribed by law or by the terms of

the Contract Documents (the "Warranty Period"). In special circumstances where a portion of the Work is accepted by the Owner, pursuant to a signed writing, before Final Acceptance of all the Work, the Warranty Period for that portion of the Work only may start to run from an earlier date if so provided in the Specifications or by Written Amendment. If, during the Warranty Period, the Work, materials, equipment, or system is unavailable due to defects covered by the warranty in excess of **15 calendar days** during a **30-calendar day** period, the Warranty Period shall be extended by **30 calendar days**. This Warranty Period extension shall apply to all subsequent 30 calendar day periods where these provisions apply or such longer period of time as may be prescribed by law or by the terms of the Contract Documents. Malfunction of the Work, materials, equipment, or any portion thereof shall be cause for the Work, materials, or equipment replacement and an extension of the Warranty Period to a date **twelve (12) months** following acceptable replacement. Work, materials, or equipment replacement shall be defined to mean the replacement of the piece of the Work, materials or equipment containing the failed component or subsystem (e.g., pump, feed system, hydraulic power unit, control panel). Nothing herein shall limit the Owner's right to seek recovery for any defects which are not observable until after the Warranty Period has expired. The Warranty provided herein shall be in addition to and not in limitation of any other warranty or remedy required by law or the Contract Documents. The Contractor will be responsible to make sure that all third-party warranties flow through to the Owner and will enforce all such warranties for the benefit of the Owner. If the maker of any such warranties and guarantees fails to fulfill its obligations thereunder, the Contractor shall fulfill such obligation of the guarantor or reimburse the Owner for any costs incurred by the Owner in replacing Defective Materials and correcting Defective, unsound, or improper Work covered by any such warranties and guarantees.

The Contractor further represents and warrants that: **(1)** it has the right to transfer title to the materials, parts, components and Items of Work to the Owner, free and clear of any liens, security interests or other encumbrances; **(2)** all of the materials, parts, components and Items of Work will be new; and **(3)** none of the materials, parts, components and Items of Work will be substitute components, unless such substitutions have been approved in advance, in writing by the Owner.

For equipment, products or systems that carry a Manufacturer's Warranty, the Contractor shall make sure that the Manufacturer supplies the Owner with the following prior to final close out:

- A. Certificate of Warranty for the equipment, product, or system; and
- B. Letter of acknowledgment identifying:
 - 1. The starting and end dates of the Warranty Period.
 - 2. All conditions under which the Warranty operates or under which it can become null and void.
 - 3. Names, Address and Telephone Number of the authorized Warranty Service Center or Servicing Company.

3.60 TERMINATION OF THE CONTRACT

A. Termination for Cause

The Owner may, upon **seven (7) calendar days** of written notice to the Contractor and its surety, terminate and/or take over the entire Contract, or any part of it, for reasons including but not limited to the following: **(1)** the Contractor's Work or performance impairs or delays the progress of the Project or any portion thereof or any Other Contractor at the Job Site, **(2)** the Contractor fails, refuses, or neglects to supply sufficient skilled workmen or materials or equipment of proper quality and quantity or adequate equipment to perform the Work or fails to comply with the Specifications as required by this Contract, **(3)** the Contractor fails to make prompt payment to subcontractors for material or labor, **(4)** the Contractor fails, refuses, or neglects to remove materials or to perform anew such Work as may be rejected as unacceptable or unsuitable by the Owner or the Construction Manager, **(5)** the Contractor fails to keep its Work on schedule as required by the Owner through the Construction Manager, including modifications or remedial instructions or revisions, **(6)** the Contractor otherwise fails in any respect to comply with any provision of this Contract, or applicable law, ordinance, or regulation, **(7)** the Contractor becomes insolvent, files a voluntary petition for bankruptcy or becomes the subject of an involuntary petition of bankruptcy, receivership, control of assets by a Trustee, or sequestration of assets or allows any final judgment to stand against him unsatisfied for a period of **ten (10) calendar days**, makes an assignment for the benefit of creditors, or **(8)** for any other cause whatsoever, fails to carry on the Work in an acceptable manner.

If the Contractor does not remedy nor make acceptable progress at the remedy of the deficiencies or failures which are the basis of the Owner's termination notice within the **seven (7) calendar day** notice period, the Owner may, at its option and without prejudice to any other right or remedy that the Owner may have under the Contract or otherwise and without any further notice or communication of any kind, correct the deficiency or failure through any means and charge back any cost, expense, loss, and damages (including any and all direct and indirect costs incurred by the Owner including attorneys' fees, Engineers fees and/or any other consulting fees) for its correction to the Contractor as they accrue, and/or the Owner may withhold further payment to the Contractor until satisfactory performance has resumed, and/or the Owner may terminate this Contract in whole or in part in writing, and the Owner shall thereafter have the rights and remedies set forth in this Contract and as allowed by law. If the Contractor corrects the deficiency or failure within the notice period to the Owner's satisfaction, then this Contract shall continue in full force except that the Contractor shall reimburse the Owner for all of the Owner's costs, expenses, damages, losses, and other liabilities related to the deficiency or failure.

If this Contract or any part of it is terminated, the Owner shall have the option to complete the Work required by the Contract, either in whole or in part, or re-let the remaining Work. If this Contract is terminated in whole or in part, the Owner shall

have the right to take possession of all tools, equipment, scaffolding, materials, and supplies which are on the Job Site, in transit to the Job Site, or related to the Work at the Job Site, whether the Contractor owns those items or not, and to use or have others use those items to complete this Contract. The use of those items will be at no cost or liability to the Owner. The Owner may also notify and require the surety to complete the Work, either in whole or in part, in accordance with the Contract Documents.

To the extent this Contract is terminated, the Contractor shall immediately take all steps to protect the Work, discontinue the Work and not place additional orders or subcontracts for labor, materials, equipment, or services with respect to the terminated part of this Contract. The Owner may then suspend all further payments to the Contractor until after (1) this Contract Work is completed and (2) the Owner has made final payment for the Work. After the Owner makes final payment for the completed Work, and subject however to any pending or expected claims, by the Owner, the Owner shall pay the Contractor the amount or part of it, if any, due the Contractor for retainage and/or progress billings that were previously earned but unpaid as of the termination date.

In any event, the Owner's maximum liability to the Contractor shall be limited to the lesser of the pro-rata part of the Contract Sum for, or the value to the Owner of Work actually and properly completed and incorporated into the Project before the termination date. However, the above liability shall be decreased by any amounts previously paid to the Contractor or on its behalf, and also decreased by all additional costs, expenses, damages, liabilities, and/or losses the Owner incurs to complete this Contract and pay for the Work (including, but not limited to payment of any Owner's creditor claims arising from or related to this Contract, reasonable compensation for managerial and administrative services and other overhead of the Owner, the Owner's attorney fees and other legal expenses) and also decreased by all other damages, liabilities, losses, costs, and/or expenses the Owner incurs arising out of or relating to this Contract or the Contract Work. Any savings realized shall be the sole property of the Owner. If the total amounts previously paid to the Contractor and on the Contractor's behalf plus the Owner's damages, losses, costs and expenses (including but not limited to overhead and the Contractor's expected profit as reasonably determined by the Owner reasonable profit) to complete this Contract plus other losses, damages, liabilities, costs and/or expenses of the Owner arising out of or relating to the Contractor's default, this Contract and the Work, exceeds the total outstanding Contract Sum, the Contractor and its surety shall be liable for and shall reimburse the Owner for the excess upon demand at any time. Without otherwise limiting its recovery, the Owner shall be entitled to deduct that amount or any part of it from any funds otherwise payable to the Contractor. In addition to the above, the Contractor is liable for liquidated damages pursuant to the Contract Documents.

If this Contract is so terminated, the Contractor shall, at the Owner's option, assign in full force to the Owner those subcontracts of any tier (including supply contracts) held by the Contractor, or any part of them, for which the Owner requests assignment

(the Contractor shall place in all of its subcontracts and supply contracts a provision allowing such assignment at the Owner's option). The Contractor shall remain liable for all its obligations to its suppliers, subcontractors and other persons on those assigned subcontracts and supply contracts for rights that accrued before, or upon, the assignment and shall remain liable to the Owner for any breaches of the assigned subcontracts and supply contracts whether occurring before or after such assignment.

The duties and obligations of the Contractor as stated or referred to hereunder shall also apply to the surety.

Notwithstanding any termination of this Contract, the Contractor's obligations to the Owner shall continue as to all Work performed. The obligations and duties of the Contractor under this Contract, including but not limited to warranty provisions, shall remain in full force after termination, except to the extent necessarily limited by such termination, and after completion of the Work. Termination for cause shall not waive or release any of the Owner's claims, rights or remedies against the Contractor or its surety, as allowed by this Contract or applicable law. If it is subsequently determined that adequate cause did not exist for the Owner's termination of this Contract for cause, this termination by the Owner shall be then considered a termination by the Owner for its convenience under **Paragraph B**.

The rights and remedies of the Owner provided in this provision are in addition to any other rights or remedies provided by law or under the Contract Documents.

B. Termination for Convenience

The Owner shall have the right to terminate this Contract or any part of it at any time without cause upon written notice to the Contractor specifying the extent to which this Contract is terminated and the date upon which such termination becomes effective. After the Contractor receives the Owner's Notice of Termination, and unless otherwise directed, the Contractor shall **(i)** stop Work on the terminated part of this Contract on the date and to the extent specified, **(ii)** place no further orders or subcontracts for equipment, materials, labor, services, or facilities except what may be necessary for completion of that part of the Contract that is not terminated; **(iii)** transfer title for the terminated part and deliver to the Owner any Work in progress, completed Work and materials and equipment for which the Contractor has been or will be paid; **(iv)** complete performance of any part of the Work required by this Contract that is not terminated by the Owner's Notice of Termination; and **(v)** take such other actions as may be directed by the Owner.

The Contractor shall notify the Owner in writing within **seven (7) calendar days** after receipt of the Owner's Notice of Termination of the effect of such order upon the Contractor's Work.

If the Owner terminates this Contract for its convenience the Owner's liability to the Contractor for the termination shall be expressly subject and limited to **(1)** payments and retainage actually and properly accrued and unpaid for Work, materials and equipment actually and properly completed, stored and incorporated into the Project before termination and **(2)** the reasonable costs and expenses for terminating supply contracts (not to exceed actual costs) which cannot be mitigated by the Contractor and which are necessarily and unavoidably incurred by the Contractor and caused by the Owner's Notice of Termination (subject to full prior advice, cooperation and concurrence with the Owner as to mitigation measures to reduce as much as possible such termination costs and expenses as well as subsequent verification and documentation of these costs and expenses), **(3)** less any claim the Owner has against the Contractor. If the sum of all previous payments and credits made by the Owner exceeds the sums payable above, such excess shall be refunded by the Contractor to the Owner immediately upon determination of such excess by the Owner or at the Owner's option may be the basis of a claim by the Owner against any other amounts due the Contractor.

If this Contract is so terminated, the contractor shall, at the Owner's option, assign in full force to the Owner those subcontracts of any tier (including supply contracts), or parts of them, held by the Contractor, for which the Owner requests such assignment. (The Contractor shall place in all its subcontracts a provision allowing assignment at the Owner's option.) The Contractor shall remain liable for all its obligations to suppliers and subcontractors and other persons on the assigned subcontracts and supply contracts for rights that accrued before, or upon, the assignment.

In no event will the Owner be liable for the loss of anticipated profits or overhead, or any special, consequential, incidental, overhead or other costs or liability arising from any termination for convenience other than that previously described. The Contractor agrees to remove promptly its tools, equipment, materials, and employees from the Job Site upon the stated termination date. Notwithstanding any termination of this Contract, the Contractor's obligation to the Owner shall continue as to all Work performed. The obligations and duties of the Owner under this Contract, including but not limited to warranty provisions, shall remain in full force after termination, except to the extent necessarily limited by such termination, and after completion of the Work. This termination for convenience will not waive or release any of the Owner's claims, rights or remedies against the Contractor or its surety, as allowed by this Contract or applicable law.

3.61 LIMITATION OF LIABILITY

Notwithstanding any other provision of the Contract Documents, in no event shall the Owner, the Consulting Engineer, the Construction Manager, their officers, Board members, indemnitees, agents, guests, invitees and employees be liable (in contract or in tort, including negligence) to the Contractor for incidental or consequential damages, including, but not limited to, interest or carrying charges on its investment, expenses arising from costs of capital, loss of profits on Work not performed, attorneys fees, or for loss of use of or under-utilization of labor, equipment or facilities of the Contractor, resulting from any performance, nonperformance, or delay in performance on the part of the Owner, the Consulting Engineer, the Construction Manager, their officers, Board members, indemnitees, agents, guests, invitees and employees of obligations under this Contract, or from the Owner's delay, termination or suspension of the Work.

CONTRACT CONSTRUCTION

3.62 INTERPRETATION

Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, and vice versa, unless the context otherwise requires.

When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning unless defined otherwise in the Contract Documents.

Reference to standard specifications, manuals or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specifications, manuals, codes or Laws or Regulations in effect at the time of the opening of Bids (or, on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated. However, no provision of any reference, standard, specification, manual, or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the Owner or the Contractor or any of their consultants, agents, or employees from those set forth in the Contract Documents.

3.63 PARTIAL INVALIDITY

In the event any one or more of the provisions of this Contract are found by a court of competent jurisdiction to be invalid or unenforceable, the remaining provisions of the Contract shall remain in full force and effect. The Owner and the Contractor agree that the Contract shall be reformed to replace such stricken provision or part thereof, with a valid and

enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

3.64 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

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

3.65 BINDING EFFECT

The terms, provisions, covenants, and conditions contained in this Contract shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective heirs, legal representatives, successors and permitted assigns except as otherwise expressly provided.

3.66 SURVIVAL

All covenants, representations and warranties contained in this Contract shall remain in force in perpetuity unless terminated as provided in this Contract.

3.67 INTEGRATION

The terms of this Contract (including any document which is referenced by this Contract) sets forth the entire agreement and understanding between the parties.

3.68 MODIFICATIONS AND CHANGES

No verbal agreement or conversation with any officer, agent, consultant, or employee of the Owner or any other entity, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.

3.69 JURISDICTIONAL DISPUTES

The Owner or the Executive Director shall not be brought into any dispute or controversy by reason of inadvertence or seeming necessity for issuing the Contract Documents in the form herewith presented. No arrangement of topics or other interrelation or reference used throughout in connection with any of the Contract Documents shall be construed by anyone to be an inference on the part of either the Owner or the Executive Director with any jurisdictional or other trade rules or agreement.

3.70 GOVERNING LAW; FORUM

This Contract shall be governed construed and enforced in accordance with the laws of the Commonwealth of Pennsylvania. Pursuant to Section 3.55 hereof entitled "Disputes and Claims," the Executive Director may make a determination regarding any controversy, claim or dispute. The Owner may refer any controversy, claim, or dispute to arbitration or court. The exclusive venue and jurisdiction for any court proceedings regarding this Contract shall be in the courts of the Commonwealth of Pennsylvania beginning in the Court of Common Pleas, Allegheny County Pennsylvania.

3.71 ATTORNEY'S FEES

In the event of any action brought by either party against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions hereby created, the losing party shall pay the prevailing party such reasonable amounts for fees, costs and expenses.

REGULATORY REQUIREMENTS**3.72 COMPLIANCE WITH LAWS AND REGULATIONS**

The Contractor shall give all notices and comply with all laws and regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable laws and regulations, the Owner shall not be responsible for monitoring the Contractor's compliance with any laws and regulations.

If the Contractor performs any Work that is contrary to laws and regulations, the Contractor shall bear all claims, costs, losses, and damages caused by, arising out of or resulting therefrom.

The Contractor shall, throughout the performance of the Contract, keep itself fully informed of all existing and future laws and regulations in any manner affecting those engaged or employed in the Work, or in any way affecting the conduct of the Work. If any discrepancy or inconsistency is discovered in the Contract Documents in relation to any such laws and regulations, the Contractor shall indemnify and forthwith report the same, in writing, to the Engineer and the Construction Manager.

The Contractor shall at all times itself observe and comply with and cause all its agents and employees to observe and comply with all such existing and future laws and regulations; and shall protect and indemnify the Owner, its officers and agents against any claims or liability arising from or based upon violation of such laws and regulations, whether by itself or its agents or employees.

No provisions of these Contract Documents shall act to make the Owner and its agents or any other party other than the Contractor responsible for safety. The Contractor shall indemnify, defend, and hold harmless the Owner, its agents, and any Indemnified Parties from and against any and all actions, damages, fines, suits, and losses arising from the Contractor's failure to meet safety requirements and/or provide a safe worksite.

3.73 NONDISCRIMINATION CLAUSE

During the term of the Contract, the Contractor agrees as follows:

- A. The Contractor shall not discriminate against any employee, applicant for employment, independent contractor or any other person because of race, color, religious creed, ancestry, national origin, age, sex, or handicap. The Contractor shall take actions to ensure that applicants are employed, and that employees or agents are treated without regard to national origin, sex, or handicap. Such actions shall include, but are not limited to the following: employment, upgrading, demotion or transfer, recruitment, or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training. The Contractor shall post in conspicuous places, available to employees, agents, applicants for employment, and other persons, a notice to be provided by the contracting agency setting forth the provisions of this nondiscrimination clause. The Contractor shall abide by the Contract Compliance Regulations issued by the Pennsylvania Human Relations Commission ("Compliance Regulations").
- B. The Contractor shall not discriminate against the Owner's employees or agents on any of the bases set forth in the preceding paragraph. This includes, but is not limited to, the Contractor's obligation to provide the Owner's employees and agents who deal with the Contractor, a workplace that is free from any and all forms of harassment on the basis of race, color, religious creed, ancestry, national origin, age, sex, or disability. As a condition of accepting and executing this Contract, the Contractor agrees to adopt and comply with the Owner's Sexual Harassment Policy which is attached hereto and made a part hereof as **Exhibit "C"**.
- C. The Contractor shall, in advertisements or requests for employment placed by it or on its behalf, state that all qualified applicants will receive consideration for employment without regard to race, color, religious creed, ancestry, national origin, age, sex or handicap.
- D. The Contractor shall send each labor union or workers' representative with which it has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or worker's representative of its commitment to this nondiscrimination clause. Similar notice shall be sent to every other source of recruitment regularly utilized by the Contractor.

- E. It shall be no defense to a finding of noncompliance of the Compliance Regulations or with this nondiscrimination clause that the Contractor had delegated some of its employment practices to any union, training program, or other source of recruitment which prevents it from meeting its obligations. However, if the evidence indicates that the Contractor was not on notice of the third-party discrimination or made a good faith effort to correct it, such factors shall be considered in mitigation in determining appropriate sanctions.
- F. Where the practices of a union or of any training program or other source of recruitment will result in the exclusion of minority group persons, so that the Contractor will be unable to meet its obligations, under the Compliance Regulations or under this nondiscrimination clause, the Contractor shall notify the Owner in writing and then employ and fill vacancies through other nondiscriminatory employment procedures.
- G. The Contractor shall comply with the Compliance Regulations and all local, state, and federal laws prohibiting discrimination in hiring or employment opportunities. In the event of this Contractor's noncompliance with the nondiscrimination clause of this Contract or with any such laws, this Contract may be terminated or suspended, in whole or in part, and the Contractor may be declared temporarily ineligible for further Owner contracts, and other sanctions may be imposed and remedies invoked.
- H. The Contractor shall furnish all necessary employment documents and records to, and permit access to its books, records, and accounts by, the Owner or other governmental agency, for purposes of investigation to ascertain compliance with the provisions of this clause. If the Contractor does not possess documents or records reflecting the necessary information requested, it shall furnish such information on reporting forms supplied by the Owner or applicable governmental agency.
- I. The Contractor shall actively recruit minority subcontractors or subcontractors with substantial minority representation among their employees.
- J. The Contractor shall include the provisions of this nondiscrimination clause in every subcontract, so that such provisions will be binding upon each subcontractor.
- K. The Contractor's obligations under this clause are limited to the Contractor's facilities within Pennsylvania, or, where the contract is for purchase of goods manufactured outside of Pennsylvania, the facilities at which such goods are actually produced.

3.74 PROVISIONS CONCERNING THE AMERICANS WITH DISABILITIES ACT

During the term of this Contract, the Contractor agrees as follows:

- A. Pursuant to federal regulations promulgated under the authority of The Americans With Disabilities Act, 28 C.F.R. 35.101 et seq. the Contractor understands and agrees that no individual with a disability shall, on the basis of the disability, be excluded from participation in this Contract or from activities provided for under this Contract

except to the extent that accommodating such a person with a disability would impose an undue burden on the Contractor. As a condition of accepting and executing this Contract, the Contractor agrees to comply with the "General Prohibitions Against Discrimination," 28 C.F.R. §35.130, and all other regulations promulgated under Title II of The Americans With Disabilities Act which are applicable to the benefits, services, programs, and activities provided by the Owner through contracts with outside individuals and entities.

- B. The Contractor shall be responsible for and agrees to indemnify and hold harmless the Owner from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Owner as a result of the Contractor's failure to comply with the provisions of paragraph 1. above.

3.75 COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL LAWS

- A. The Contractor represents and warrants to the Owner that, to the extent it performs any Work or provides any services to the Owner, it shall be familiar and in full compliance with all applicable workplace requirements of, and standards and regulations issued by the Federal Occupational Safety and Health Administration ("OSHA") and/or by the Pennsylvania Department of Labor and Industry, including but not limited to the Occupational Health and Safety Act of 1970.

The Contractor represents and warrants to the Owner that, to the extent it or its subcontractors perform any work or provide any services to the Owner, it shall be familiar and in full compliance with all applicable workplace safety requirements.

- B. The Contractor agrees to take all reasonable and necessary precautions to prevent injury to persons, property and equipment and shall be solely responsible for the implementation and enforcement of a safety program. This safety program shall cover all subcontractors working on the Job Site for the Contractor. If at any time, and in the sole judgment and discretion of the Owner, proper safety measures are not being taken, or Work is being performed in an unsafe manner, such unsafe work shall be stopped and shall resume only after such unsafe conditions shall have been corrected. All costs incurred by the Contractor as a result of such stoppage of Work shall be borne by the Contractor without any right of reimbursement from the Owner. This right to stop Work shall impose no liability upon the Owner or Its agents to the Contractor or to any third parties for establishment of safety requirements or enforcement of job safety.

As outlined in the bid process, pre-construction meeting or OSHA and/or the Department of Labor regulation, a written site-specific health and safety plan (HASP) shall be submitted to the Owner prior to performing any Work on the Job Site. Any employees working under these site-specific conditions must have appropriate license and/or training prior to starting work on the site. Violation of these standards will be addressed with corrective action up to and including Stop Work.

- C. No Work shall be performed at the Owner's Job Site that could prevent the Owner from performing any daily operations. The Contractor shall properly protect and restrict access to the work area to protect employees/contractors as necessary and appropriate.

If at any time proper safety measures are not being taken or the work is being performed in an unsafe manner the Owner may take any or all of the following actions:

1. Require the removal of the Contractor's employee responsible for the safety violation, including the Contractor's superintendent;
2. Withhold part or all of a current payment request; and/or
3. Notify the Contractor's insurance carrier of the safety violation.

Notwithstanding the Construction Manager's right to issue Safety Non-compliance notices and the Owner's right to take actions with regard to safety infractions as described in the Contract documents, neither the Owner nor the Construction Manager shall have any obligation to exercise these rights with respect to any safety infraction by the Contractor. Furthermore, the exercise or non-exercise of these rights shall not be deemed to make the Owner or the Construction Manager responsible for the Contractor's safety.

- D. The Contractor is wholly responsible for performing the Work in a safe manner that complies with the provisions of the Contract Documents and with the requirements of the governmental agencies responsible for establishing safe procedures for the workplace and protection to the public.

The Contractor is an independent contractor and neither the Contractor nor any of its subcontractors, nor the employees of the Contractor nor any of its subcontractors shall be deemed to be servants, employees, agents or under the control of the Owner.

If an accident should occur on the Job Site, the Contractor or party involved must notify the Owner immediately after notifying any required emergency services. Copies of all accident reports shall be transmitted to the Owner's Manager of Loss Control.

No provision of the Contract Documents shall act to make the Owner, Construction Manager or any other party other than the Contractor responsible for safety. The Contractor shall indemnify, defend, and hold harmless the Owner, its Directors, the Construction Manager, the Engineer, and any of the owner's agents and employees from and against any and all actions, damages, fines, suits, and losses of any kind arising from the Contractor's failure to meet all safety requirements and/or provide a safe work site.

3.76 HAZARDOUS SUBSTANCES

A. Labeling.

The Contractor shall insure that each individual product (as well as the carton, container, or package in which the product is shipped) of any of the following substances (as defined by the Worker and Community Right-to-Know Act and the regulations promulgated thereunder) supplied to the Owner by the Contractor is clearly labeled with the information listed in **Paragraphs (1) through (4)**:

1. Hazardous substances;
 - a. the chemical name or common name,
 - b. hazard warning,
 - c. the name, address, and telephone number of the Manufacturer, and
 - d. the contractor's name and project office telephone number, and ALCOSAN contract number.
2. Hazardous mixtures;
 - a. the common name, but if none exists, then the trade name,
 - b. the chemical or common name of special hazardous substances comprising **0.1%** or more of the mixture,
 - c. the chemical or common name of hazardous substances comprising **1 %** or more of the mixture,
 - d. a hazard warning,
 - e. the name, address, and telephone number of the Manufacturer, and
 - f. the contractor's name and project office telephone number, and ALCOSAN contract number.
3. Single chemicals;

- a. the chemical name or common name,
 - b. a hazard warning, if appropriate,
 - c. the name, address, and telephone number of the Manufacturer, and
 - d. the contractor's name and project office telephone number, and ALCOSAN contract number.
4. Mixtures;
- a. the common name, but if none exists, the trade name,
 - b. a hazard warning, if appropriate,
 - c. the name, address, and telephone number of the Manufacturer,
 - d. the chemical name or common name of either the top five substances by volume or those substances constituting **5.0%** or more of the mixture, and
 - e. the contractor's name and project office telephone number, and ALCOSAN contract number.

FAILURE TO PROPERLY LABEL EACH INDIVIDUAL PRODUCT AND THE CARTON, CONTAINER OR PACKAGE IN WHICH THE PRODUCT IS SHIPPED CAN RESULT IN THE REJECTION OF THE SHIPMENT.

B. Material Safety Data Sheet.

The Contractor shall provide Material Safety Data Sheets (MSDS) with the information required by the Act and the regulations for each hazardous substance or hazardous mixture. The Owner must be provided an appropriate MSDS with the initial shipment and with the first shipment after an MSDS is updated or product changed. For any other chemical, the Contractor shall provide an appropriate MSDS, if the Manufacturer, importer, or supplier produces or possesses the MSDS. The Contractor shall also notify the Owner when a substance or mixture is subject to the provisions of the Act. Material Safety Data Sheets should be attached to the carton, container or package mailed to the Owner at the time of shipment.

C. If the Contractor performs any Work or provides any services at the Owner's Site, the Contractor shall comply with all applicable surveying, posting, labeling, reporting, disclosure, and training requirements of the OSHA Hazard Communication Standard and of the Worker and Community Right-to-Know Act and the regulations

promulgated thereunder. The Contractor hereby represents and warrants that it is familiar with the above-mentioned Standard Act and regulations.

3.77 WORKING HOURS

Work performed at the Job Site shall be performed during normal working hours (7:00 A.M. to 5:00 P.M.) or at other times approved by the Owner.

The Contractor shall schedule all Job Site Work so that its working hours and the normal working hours of the Owner coincide. Should it be necessary to work hours other than the Owner's normal working hours, the Contractor shall arrange for access to the area with the Construction Manager, in writing, no less than 48 hours prior to this need.

The Owner observes the following holidays on the day that is designated by the Federal Government:

- New Year's Day
- Martin Luther King Day
- Presidents Day
- Good Friday
- Memorial Day
- Independence Day (Fourth of July)
- Labor Day
- Columbus Day/Indigenous Peoples Day
- Election Day
- Veterans Day
- Thanksgiving Day
- Day after Thanksgiving Day
- Christmas Day

3.78 MINIMUM WAGE RATES

The Contractor shall pay not less than the minimum wage rates established by the governmental agency having jurisdiction. The Contractor shall comply with the requirements of the Pennsylvania Prevailing Wage Act, Act No. 442, approved August 15, 1961.

3.79 BUY AMERICAN

It is the desire of the Owner that items supplied under this Contract shall be manufactured and assembled in the United States of America and utilize American materials to the maximum practical extent, consistent with the needs of this Contract and the availability of products and components of American manufacture. In this respect, all items supplied under this Contract shall comply with all applicable State and Federal laws relating to utilizing products, material supplies of local or domestic origin.

3.80 PENNSYLVANIA STEEL PRODUCTS PROCUREMENT ACT

The Contractor agrees to comply with the Pennsylvania Steel Products Procurement Act and shall submit with its Bid a signed copy of the Certificate of Compliance with the Pennsylvania Steel Products Procurement Act that is incorporated as part of the Contract Documents.

3.81 TRADE PRACTICES ACT

The Contractor agrees to comply with the Trade Practices Act and shall not use or permit to be used in the Work any aluminum or steel products made in a foreign country which discriminates against aluminum or steel products manufactured in Pennsylvania.

3.82 WORKMEN'S COMPENSATION

The Contractor agrees, in any contract involving construction or doing any work involving construction or doing any work involving the employment of labor, to accept the provisions of the Workmen's Compensation Act and any reenactment, supplements or amendments thereto and shall insure its liability thereunder or file with the Owner a certificate of exemption of insurance from the Department of Labor and Industry of the Commonwealth of Pennsylvania.

EXHIBIT-A
INSURANCE

All insurance required by the Contract Documents (including this Exhibit) to be purchased and maintained by the Contractor shall be obtained from insurance companies that are duly licensed or authorized in the Commonwealth of Pennsylvania for the issuance of insurance policies for the limits and coverages so required. Such insurance companies shall also meet such additional requirements and qualifications as may be provided in the Contract Documents and provided below.

All coverage shall be without voluntary deductibles, and if the insurance contains deductibles, the Contractor shall pay all costs and expenses not covered because of such deductibles. All insurance shall be on an occurrence basis.

The Contractor shall provide to the Engineer and the Construction Manager (with copies to each additional insured identified in the Contract Documents) prior to commencing Work, Certificates of Insurance evidencing the required insurance (as well as any other evidence of insurance requested by the Owner or any other additional insured). Each certificate shall, in addition to the insurance coverage, contain the following:

1. Inception and expiration dates of insurance policy(ies);
2. Limits of liability;
3. Nature of coverage(s) provided including special hazards, if required;
4. Name(s) of insurance company(ies);
5. Policy Number(s);
6. Notation of deductible and self-insurance retention applicable to any contract of insurance;
7. Notation of policy endorsement that provides for thirty (30) calendar days prior written notice to the Owner in the event of change, canceling or renewal;
8. Underlying insurance requirements for excess liability contracts; and

The Owner will accept no certificate which exculpates the issuer or reduces any right conferred on the Owner by the above certificates, nor will the Owner accept certificates unless the certificates bear the signature of a direct representative of the insurance company authorized to do business in Pennsylvania.

The Contractor will furnish a certificate of renewal or extension of the policy that expires during the term of this contract thirty (30) calendar days prior to the expiration date of the policy.

The Contractor, upon the owners request, shall deliver to the Owner a certified copy of each policy

required hereunder, as well as a copy of the endorsement adding additional insureds hereunder (on 150 Form B for general liability coverage) as well as a listing of all policy exclusions different from the standard for CG 00 01 prior to beginning the Work.

Contractor's Liability Insurance:

The Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from the Contractor's performance and furnishing of the Work and the Contractor's other obligations under the Contract Documents, whether it is to be performed or furnished by the Contractor, any subcontractor or supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable for not less than the following amounts or greater if required by law:

1. claims under workers' compensation, disability benefits and other similar employee benefit acts pursuant to the amounts provided in 2 below;
2. claims for damages because of bodily injury, occupational sickness or disease, or death (including wrongful death) of the Contractor's employees; Worker's Compensation Insurance in compliance with all states in which the Contractor does business, including coverage B Employers' Liability;

Bodily Injury by accident, **\$100,000** for each accident;

Bodily Injury by disease **\$500,000** policy limit;

Bodily Injury by disease **\$100,000** for each employee;

3. claims for damages because of bodily injury, sickness or disease, or death (including wrongful death) of any person other than the Contractor's employees;
4. claims for damages insured by customary personal injury liability coverage which are sustained:
 - (I) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or
 - (II) by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.

The Contractor's liability insurance shall also include completed operations and product liability coverages for not less than the following amounts:

- a. General Aggregate
(except Products - Completed Operations) **\$2,000,000**
- b. Products
Completed Operations Aggregate **\$2,000,000**
- c. Personal and Advertising Injury
(Per Person/Organization) **\$1,000,000**
- d. Each Occurrence
(Bodily Injury and Property Damage) **\$1,000,000**
- e. Property Damage Liability Insurance will
provide explosion, collapse, underground
coverages where appropriate
- f. Excess Liability
General Aggregate **\$2,000,000**
Each occurrence **\$2,000,000**
- g. claims for damages because of bodily injury or death of any person or property damage
arising out of the ownership, maintenance or use of any motor vehicle.

Automobile Liability:

(1) Bodily Injury:

Each Person **\$1,000,000**

Each Accident **\$1,000,000**

and

Property Damage:

Each Accident **\$1,000,000**

or

(2) Combined Single Limit

(Bodily Injury and Property Damage):

Each Accident **\$1,000,000**

The policies of liability insurance so required by above to be purchased and maintained shall:

- (a) with respect to insurance required by paragraphs 3,4,5 and 6 include as additional insureds (subject to any customary exclusion in respect of professional liability) the

Owner, Consulting Engineer and any other persons or entities identified by the Owner, all of whom shall be listed as additional insureds, and include coverage for the respective officers and employees of all such additional insureds;

- (b) include completed operations insurance;
- (c) include contractual liability insurance covering the Contractor's indemnity obligations with coverage of not less than (1) General Aggregate **\$2,000,000**, (2) Each Occurrence (Bodily Injury and Property Damage) **\$1,000,000**.
- (d) remain in effect at least until final payment and at all times thereafter when the Contractor may be correcting, removing or replacing Defective Work in accordance with the Contract Documents; and
- (e) with respect to completed operations insurance, it shall remain in effect for at least two years after final payment (and the Contractor shall furnish the Owner and each other additional insured identified by the Owner to whom a certificate of insurance has been issued evidence satisfactory to the Owner and any such additional insured of continuation of such insurance at final payment and two years thereafter).

Owner's Protective Liability:

The Contractor shall purchase and maintain protective liability which will protect the Owner against claims which may arise from operations under the Contract Documents, with coverages of not less than:

General Aggregate	<u>\$1,000,000</u>
Each Occurrence	<u>\$1,000,000</u>

Property Insurance:

The Contractor shall purchase and maintain property insurance upon the Work at the site in the amount of the full replacement cost thereof. This insurance shall:

1. include the interests of the Owner, the Contractor, subcontractors, Consulting Engineer, and Construction Manager each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, false work and Work in transit and shall insure against at least the following perils: fire, lightning, extended coverage, theft vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of any laws, water damage, and such other perils as may be specifically required by the Owner.
3. include expense incurred in the repair or replacement of any insured property including but not limited to fees and charges of engineers and architects;

4. include coverage for loss of use or time delay;
5. cover materials and equipment in transit for incorporation in the Work or stored at the site or at another location that was agreed to in writing by the Owner prior to being incorporated in the Work.
6. Contain no partial occupancy restriction for utilization of the Project by the Owner for the purpose intended.
7. be maintained in effect until final payment is made unless otherwise agreed to in writing by the Owner, and shall provide thirty (30) calendar days written notice to each other additional insured to whom a certificate of insurance has been issued.

Waiver of Rights:

The Owner and the Contractor intend that all policies purchased related to the Work will protect the Owner, the Contractor, subcontractors, Consulting Engineer, Construction Manager and all other persons or entities identified by the Owner to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. The Owner and the Contractor waive all rights against each other and their respective officers, directors, employees and agents for all losses and damages cause by; arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against subcontractors, Consulting Engineer and all other persons or entities identified by the Owner to be listed as insureds or additional insureds under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance otherwise payable under any policy so issued.

None of the above waivers shall extend to the Consulting Engineer, or the Construction Manager, their agents or employees, for the liability arising out of (1) the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications or (2) the giving of, or the failure to give, directions or instructions by the Consulting Engineer, or the Construction Manager, their agents or employees, provided any such act or omission is the sole cause of the Damages.

EXHIBIT-B

COST REDUCTION INCENTIVE

The provisions herein will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding. The status of lowest bidder will be determined without reference to any cost reduction incentives that are proposed by the Contractor.

On projects with original contract amounts in excess of **\$100,000.00**, the Contractor may submit to the Owner, in writing, proposals for modifying the plans, specifications or other requirements of the Contract for the purpose of reducing the cost of construction. The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. Such a cost reduction proposal shall, also, not impose additional time or cost restraints upon other contractors working on the project. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

- (a) A description of both the existing Contract and proposed requirements for performing the Work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each;
- (b) An itemization of the Contract requirements that must be changed if the proposal is adopted;
- (c) A detailed estimate of the cost of performing the Work under the existing Contract and under the proposed changes;
- (d) A statement of the time by which a Change Order adopting the proposal must be issued;
- (e) A statement of the effect that adoption of the proposal will have on the Contract Time; and
- (f) The Contract Items of work affected by the proposed changes, including any quantity variation attributable to them.
- (g) An assessment of the impact the proposal would have on other work or projects of the Owner.
- (h) The Contractor shall also provide for whatever financial assistance the Owner may require to review and/or approve proposals.

The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Owner, within the period specified in the proposal. The provisions of this Section shall not be construed to require the Owner to consider any cost reduction proposal which may be submitted.

The Contractor shall continue to perform the Work in accordance with the requirements of the Contract until a Change Order incorporating the cost reduction proposal has been issued. If a Change Order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.

The Owner shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Owner may disregard the Contract Bid prices if, in the Owner's judgment, such prices do not represent a fair measure of the value of the Work to be performed or deleted.

The Owner may, whether the Contractor's proposal is accepted or not, require the Contractor to pay the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from amounts payable to the Contractor under the Contract. If the Contractor fails to acknowledge and accept such a request from the Owner his proposal shall be deemed rejected.

If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a Contract Change Order which shall specifically state that it is executed pursuant to this Section. Such Change Order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Owner's approval is based. The Change Order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net savings shall be determined as the difference in costs between the original Contract costs for the involved Work Items and the costs occurring as a result of the proposal change. The Change Order shall also establish the net savings agreed upon and shall provide for adjustment in the Contract Sum that will divide the net savings providing the Owner with **sixty percent (60%)** of the net savings and the Contractor with **forty percent (40%)** of the net savings.

The Contractor's forty percent **(40%)** share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the Work.

Acceptance of the cost reduction proposal and performance of the cost reduction Work shall not extend the Contract Time unless specifically provided for in the Contract Change Order.

EXHIBIT-C

EFFECTIVE DATE - DECEMBER, 2002 ALLEGHENY COUNTY SANITARY AUTHORITY NO HARASSMENT POLICY

This Exhibit applies to the conduct of the Contractor's employees at the Job Site, and the conduct of the Contractor's employees when representatives of the Owner visit the Contractor's facilities:

The Allegheny County Sanitary Authority is committed to maintaining a work environment free of discrimination. In keeping with this commitment, ALCOSAN will not tolerate harassment of its employees by anyone, including any supervisor, co-worker, vendor, client, contractor, or customer of ALCOSAN or any third party, based on inherent characteristics such as race, color, sex, national origin, ancestry, and place of birth, age, religious beliefs, disability and sexual orientation.

Harassment consists of unwelcome conduct, whether verbal, physical or visual. Harassment includes pranks, kidding and teasing. It includes displaying derogatory material or objects, such as cartoons or symbols that threaten or ridicule a particular race, religion or ethnic group. It also includes telling jokes based on racial, ethnic or sexual stereotypes, or which mock individuals based on their disability, race, color, sex, age, national origin, ethnicity, and ancestry, place of birth, religion or sexual orientation. Harassment may include interfering with someone's personal belongings, working space, tools, and equipment as well as touching, pushing, and other physical contact.

Sexual harassment is conduct based on sex, whether directed towards a person of the opposite or same sex, and may include explicit sexual propositions, sexual innuendo, sexually suggestive comments, gesture or noises, off-color jokes, sexually oriented "kidding," "teasing", or "practical jokes", talking about sexual behavior or sexual preferences, creating or displaying sexually suggestive, sexually demeaning or sexually explicit objects, graffiti, magazines, posters or other printed or visual material, and physical contact such as patting, pinching, grabbing, or brushing against another person's body.

All ALCOSAN employees are responsible for ensuring that the work environment is free of harassment. ALCOSAN urges any employee who believes he or she has been harassed to report the harassment to the Manager of Human Resources, or, if the employee prefers, to the Executive Director. Employees who believe they have witnessed an act of harassment against another are to notify the Manager of Human Resources or the Executive Director.

ALCOSAN'S policy is to investigate all harassment complaints thoroughly and promptly. To the fullest extent possible, ALCOSAN will keep complaints confidential. ALCOSAN will take appropriate corrective action, if an investigation confirms that a violation of this policy has occurred.

REV-1220 AS + (9-08)(1)



PENNSYLVANIA EXEMPTION CERTIFICATE

CHECK ONE:

- ☒ STATE OR LOCAL SALES AND USE TAX
- ☐ STATE OR LOCAL HOTEL OCCUPANCY TAX
- ☐ PUBLIC TRANSPORTATION ASSISTANCE TAXES AND FEES (PTA)
- ☐ VEHICLE RENTAL TAX (VRT)

(Please Print or Type)

This form cannot be used to obtain a Sales Tax License Number, PTA License Number or Exempt Status.

Read Instructions
On Reverse Carefully

THIS FORM MAY BE PHOTOCOPIED – VOID UNLESS COMPLETE INFORMATION IS SUPPLIED

- CHECK ONE: ☐ PENNSYLVANIA TAX UNIT EXEMPTION CERTIFICATE (USE FOR ONE TRANSACTION)
☐ PENNSYLVANIA TAX BLANKET EXEMPTION CERTIFICATE (USE FOR MULTIPLE TRANSACTIONS)

Name of Seller, Vendor, or Lessor

Street City State ZIP Code

NOTE: Do not use this form for claiming an exemption on the registration of a vehicle. To claim an exemption from tax for a motor vehicle, trailer, semi-trailer or tractor with the PA Department of Transportation, Bureau of Motor Vehicles, use one of the following forms:

FORM MV-1 Application for Certificate of Title (first time registrations)

FORM MV-4ST Vehicle Sales and Use Tax Return/Application for Registration (other registrations)

Property and services purchased or leased using this certificate **are exempt** from tax because: (Select the appropriate paragraph from the back of this form, check the corresponding block below and insert information requested.)

- ☐ 1. Property or services will be used directly and predominately by purchaser in performing purchaser's operation of:
- ☒ 2. Purchaser is a/an: Municipal Authority created under the "Municipality Authorities Acts".
- ☐ 3. Property will be resold under License Number _____ (If purchaser does not have a PA Sales Tax License Number, include a statement under Number 7 explaining why a number is not required.)
- ☐ 4. Purchaser is a/an: _____ holding Exemption Number _____
- ☐ 5. Property or services will be used directly and predominately by purchaser performing a public utility service.
☐ PA Public Utility Commission PUC Number _____ and/or ☐ US Department of Transportation MC/MX _____
- ☐ 6. Exempt wrapping supplies, License Number _____ (If purchaser does not have a PA Sales Tax License Number, include a statement under Number 7 explaining why a number is not required.)
- ☐ 7. Other _____
(Explain in detail. Additional space on reverse side.)

I am authorized to execute this Certificate and claim this exemption. Misuse of this Certificate by seller, lessor, buyer, lessee, or their representative is punishable by fine and imprisonment.

Name of Purchaser or Lessee	Signature	EIN	Date
Street	City	State	ZIP Code
3300 Preble Avenue	Pittsburgh	PA	15233

1. ACCEPTANCE AND VALIDITY:

For this certificate to be valid, the seller/lessor shall exercise good faith in accepting this certificate, which includes: (1) the certificate shall be completed properly; (2) the certificate shall be in the seller/lessor's possession within 60 days from the date of sale/lease; (3) the certificate does not contain information which is knowingly false; and (4) the property or service is consistent with the exemption to which the customer is entitled. For more information, refer to Exemption Certificates, Title 61 PA Code §32.2. An invalid certificate may subject the seller/lessor to the tax.

2. REPRODUCTION OF FORM:

This form may be reproduced but shall contain the same information as appears on this form.

3. RETENTION:

The seller or lessor must retain this certificate for at least four years from the date of the exempt sale to which the certificate applies.

DO NOT RETURN THIS FORM TO THE PA DEPARTMENT OF REVENUE.

4. EXEMPT ORGANIZATIONS:

This form may be used in conjunction with form REV-1715, Exempt Organization Declaration of Sales Tax Exemption, when a purchase of \$200 or more is made by an organization which is registered with the PA Department of Revenue as an exempt organization. These organizations are assigned an exemption number, beginning with the two digits 75 (example: 75-00000-0).

GENERAL INSTRUCTIONS

Those purchasers set forth below may use this form in connection with the claim for exemption for the following taxes:

- a. State and Local Sales and Use Tax;
- b. PTA rental fee or tax on leases of motor vehicles;
- c. Hotel Occupancy Tax if referenced with the symbol (●);
- d. PTA fee on the purchase of tires if referenced with the symbol (+);
- e. Vehicle Rental Tax (VRT)

EXEMPTION REASONS

- 1.) Property and/or services will be used directly and predominately by purchaser in performing purchaser's operation of:

A. Manufacturing	B. Mining	C. Dairying	D. Processing	E. Farming	F. Shipbuilding
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This exemption is not valid for property or services which are used in: (a) constructing, repairing, or remodeling of real property, other than real property which is used directly in exempt operations; or (b) maintenance, managerial, administrative, supervisory, sales, delivery, warehousing or other nonoperational activities. Effective October 1, 1991, this exemption does not apply to certain services and PTA tire fee.

- 2.) Purchaser is a/an:
 - + A. Instrumentality of the Commonwealth.
 - + B. Political subdivision of the Commonwealth.
 - + ● C. Municipal Authority created under the "Municipality Authorities Acts".
 - + ● D. Electric Cooperative Corporations created under the "Electric Cooperative Law of 1990".
 - E. Cooperative Agricultural Associations required to pay Corporate Net Income Tax under the Cooperative Agricultural Association Corporate Net Income Tax Act (exemption not valid for registered vehicles).
 - + ● F. Credit Unions organized under "Federal Credit Union Act" or Commonwealth "Credit Union Act".
 - + ● G. United States Government, its agencies and instrumentalities.
 - H. Federal employee on official business (Exemption limited to Hotel Occupancy Tax only. A copy of orders or statement from supervisor must be attached to this certificate.)
 - I. School Bus Operator (This Exemption Certificate is limited to the purchase of parts, repairs or maintenance services upon vehicles licensed as school buses by the PA Department of Transportation. For purchase of school buses, see NOTE below.)
- 3.) Property and/or services will be resold or rented in the ordinary course of purchaser's business. If purchaser does not have a PA Sales Tax License Number, complete Number 7 explaining why such number is not required. This Exemption is valid for property or services to be resold: (1) in original form; or (2) as an ingredient or component of other property.

4.) **Renewable Entities beginning with the two numbers 75:**

- A. Religious Organization
- B. Volunteer Firemen's Organization
- C. Nonprofit Educational Institution
- D. Charitable Organization

Permanent Exemptions beginning with the two numbers 76:

- E. School District

Special Exemptions:

- F. Direct Pay Permit Holder
- + ● G. Individual Holding Diplomatic ID
- H. Keystone Opportunity Zone
- I. Tourist Promotion Agency

Exemption limited to purchase of tangible personal property or services for use and not for sale. The exemption shall not be used by a contractor performing services to real property. An exempt organization or institution shall have an exemption number assigned by the PA Department of Revenue and diplomats shall have an identification card assigned by the Federal Government. The exemption for categories "A, B, C and D" are not valid for property used for the following: (1) construction, improvement, repair or maintenance of any real property, except supplies and materials used for routine repair or maintenance of the real property; (2) any unrelated activities or operation of a public trade or business; or (3) equipment used to maintain real property.

- 5.) Property or services will be used directly and predominately by purchaser in the production, delivery, or rendition of public utility services as defined by the PA Utility Code.

This Exemption is not valid for property or services used for the following: (1) construction, improvement, repair or maintenance of real property, other than real property which is used directly in rendering the public utility services; or (2) managerial, administrative, supervisor, sales or other nonoperational activities; or (3) tools and equipment used but not installed in maintenance of facilities or direct use equipment. Tools and equipment used to repair "direct use" property are exempt from tax.
- 6.) Vendor/Seller purchasing wrapping supplies and nonreturnable containers used to wrap property which is sold to others.
- 7.) Other (Attach a separate sheet of paper if more space is required.)

ARTICLE 4
CONTRACT AGREEMENT

ARTICLE 4 **CONTRACT AGREEMENT**

This CONTRACT AGREEMENT ("Agreement"), executed in the County of Allegheny, in the Commonwealth of Pennsylvania, this _____ day of _____, 20__ by and between the ALLEGHENY COUNTY SANITARY AUTHORITY (hereinafter called the "Authority" or "Owner," acting through its Chairman, who acts herein solely for the Authority and without personal liability to himself) and _____ of _____ (hereinafter called the "Contractor.")

WITNESSETH: WHEREAS, the Authority, pursuant to authority vested in it by Acts of Assembly of the Commonwealth of Pennsylvania, did, by advertisement heretofore made in accordance with the provisions of said Acts, invite bids for **CONTRACT NO. 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**

WHEREAS, in accordance with said advertisement and the Information for Bidders prepared by the Authority and submitted to Bidders, the Contractor submitted to the Authority a Bid for the materials or services herein described and a Contract was duly awarded by the Authority to the Contractor, for the materials or services to be furnished under **CONTRACT NO. 1823 – REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR** or the price specified in the Bid. Said Bid and all related Contract Documents are hereby made a part of this Agreement, whether or not hereto attached and are hereinafter referred to as the "Contract"; and,

WHEREAS, the Bid includes the following quoted amount:

Item #1: Lump Sum Work:

Bidder further agrees to accept as full payment for the Lump Sum Work proposed within the Bidding Documents based upon the undersigned's own estimate of quantities and costs and including sales, consumer, use, and other taxes, except as provided below, and overhead and profit, for **CONTRACT 1823**, the following lump sum of:

_____ Dollars
(Words)

and _____ Cents \$ _____
(Words) (Figures)

Item #2: Unit Price Work:

Bidder further proposes to accept as full payment for the Unit Price Work proposed herein the amounts computed under the provisions of the Bidding Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. Bidder agrees that the unit prices represent a true measure of the labor, materials, and services required to furnish and install the item, including all allowances for overhead and profit for each type and unit of Work called for in these Bidding Documents.

Item	Description	Quantity	Unit Price	Extended Amount
A	Remove and replace (with new) one (1) vertical side of the horizontal duct (shell, insulation, anchors, refractory, coatings, cure, dry-out, etc.) between No. 1 evaporator and the No. 1 afterburner, as described in the contract documents.	2		
B	Remove and replace one (1) square foot of refractory (full depth, from shell to the hot face, with insulation, and at least one anchor), as described in the contract documents.	120 sq. ft.		
C	Furnish, coat (both surfaces) and install one square foot of new steel overlay plate, as described in the contract documents.	400 sq. ft.		
D	Provide the services of a qualified NDT company to perform ultrasonic thickness readings for one (1) eight-hour day, as described in the contract documents.	Five days		
E	Prep and coat (exterior surface only) one square foot area of existing steel casing/shell.	700 sq. ft.		
F	Remove, replace (with new), prep & coat (both surfaces) one square foot of existing steel shell plate (same thickness as original), as described in the contract documents.	250 sq. ft.		
G	Completely wash & clean all remaining surfaces (within the areas designated for inspection/work in the reference drawings), as described in the contract documents. This does not include surfaces requiring cleaning to perform or as a result of specified work.	---	---	
			Total	

Base Bid Summary:

Item #1: Lump Sum Work \$ _____

Item #2: Total of Extended Amount for Unit Price Work \$ _____

TOTAL BASE BID (Sum of lines **Item #1** & **Item #2**)

_____ Dollars

 (Words)
 and _____ Cents. \$ _____
 (Words) (Figures)

NOW, THEREFORE, in consideration of their mutual covenants and agreements and intending to be legally bound thereby, the Authority and the Contractor agree as follows:

1. The Contractor agrees to provide any and all labor, supervision, materials, supplies, services (including detailed engineering), equipment, tools, transportation, facilities and appurtenances thereto, whether temporary or permanent, and such other items as indicated, required or implied by the Contract Documents and as necessary for a complete, functional and operational incineration system (the "Work").
2. The Contractor further agrees and acknowledges that time is of the essence of the Contract and that Contractor shall commence the Work immediately upon receipt of the Notice to Proceed and shall prosecute the Work diligently to completion within **202 calendar days** ("Contract Time") and as specified for each Construction Milestone and Substantial Completion of the entire Work as set forth below:

Construction Milestone	Contract Time Calendar Days
Substantial Completion of CONTRACT NO. 1823	185
Final Completion of CONTRACT NO. 1823	202

3. Owner and Contractor recognize that Owner will suffer financial loss if the Work is not completed within the Contract Time specified in **paragraph 2.**, plus any extensions thereof allowed in accordance with the General Conditions. They also recognize the delay, expense, and difficulty involved in proving, in a court action or

other dispute resolution proceeding, the actual loss suffered by the Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner at the daily rate indicated below for each Calendar day that expires after the Contract Time specified in **paragraph 2**, plus any extensions thereof allowed in accordance with the General Conditions, until the particular Construction Milestone or Substantial Completion of the entire Work, as the case may be, is achieved.

Construction Milestone	Liquidated Damages
Substantial Completion of CONTRACT NO. 1823	\$1,000/day
Final Completion of CONTRACT NO. 1823	\$100/day

For the purposes of this provision, the term "completion" means the work item/s are to be returned to operation by Alcosan with all work required under the contract complete. The contractor acknowledges and agrees that the liquidated damages set forth in the provision are not a penalty, but instead are intended to compensate Alcosan for those losses attributable to Alcosan's inability to access, occupy and use equipment as anticipated. Further, the receipt of liquidated damages by Alcosan shall in no way limit or reduce Alcosan's right to pursue other rights and remedies as provided in the contract with the contractor or otherwise available to. Alcosan may deduct the aforementioned liquidated damages from any unpaid amounts then or thereafter due the contractor. Any liquidated damages remaining unsatisfied shall be due and payable to Alcosan by the contractor upon demand.

4. The Owner shall, as provided in the Contract Documents, pay to the Contractor for the Work the firm lump sum of _____ as such amount maybe increased or decreased pursuant to the Contract Documents (the "Contract Sum").

5. The Contractor by executing this Agreement represents and warrants that it has read, and fully understands, each and every clause in each of the Contract Documents, including:

- a. Legal Notice
- b. Bid Form and Bid Bond
- c. Supplementary Information Package (if any)
- d. Certificate of M & WBE Participation
- e. Non-Collusion Affidavit
- f. Certificate of Compliance with the Pennsylvania Steel Products

- Procurement Act
 - g. Contractor's Experience Questionnaire
 - h. Information for Bidders
 - i. General Contract Conditions
 - j. Certificate of Safety Procedures Compliance
 - k. Contract Agreement
 - l. Bonds, Certificates and Statements
 - m. Technical Specifications and Appendices, if any
 - n. Addenda issued prior to the opening of bids, if any
 - o. Prevailing Minimum Wage Predetermination
 - p. Contract Drawings
 - q. Exceptions submitted by the Bidder and accepted in writing by the Owner
 - r. Addenda
6. In order to induce the Owner to enter into this Agreement, Contractor further represents and warrants as follows:
- a. Contractor has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, general nature of work to be performed by Owner or others at the site that relates to Work required by the Contract Documents and local conditions and federal, state, and local laws and regulations that in any manner may affect cost, progress, performance, or furnishing of the Work.
 - b. Contractor has studied carefully reports of explorations and tests of subsurface conditions and drawings of physical conditions available at the project site. Contractor acknowledges that such reports and drawings are not Contract Documents.
 - c. Contractor has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) examinations, investigations, explorations, tests, and studies (in addition to or to supplement those referred to above) which pertain to the conditions (subsurface or physical) at or contiguous to the site or otherwise and which may affect the cost, progress, performance, or furnishing of the Work as Contractor deems necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents, and no additional or supplementary examinations, investigations, explorations, tests, reports, or similar information or data are or will be required by Contractor for such purposes.
 - d. Contractor has reviewed and checked information and data shown or indicated in the Contract Documents with respect to existing underground

facilities at or contiguous to the site and has included appropriate costs.

- e. Contractor has correlated information known to Contractor and results of such observations, familiarizations, examinations, investigations, explorations, tests, and studies with the Contract Documents.
 - f. Contractor has given the Owner written notice of conflicts, errors, ambiguities, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by Owner is acceptable to Contractor, and the Contract Documents are generally sufficient to indicate and convey understanding of the terms and conditions for performing and furnishing the Work.
- 7. This Contract is entered into under and pursuant to the laws of the Commonwealth of Pennsylvania and will in all respects be construed in accordance with the laws of said Commonwealth.
 - 8. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
 - 9. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, the parties hereto have executed this instrument in Allegheny County, Pennsylvania under their several seals on the date of this Agreement the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

ALLEGHENY COUNTY SANITARY AUTHORITY

By: _____
Arletta Scott Williams, Executive Director

(Seal of Authority)

ATTEST:

Mira Praytor, Executive Assistant

Date

CORPORATION COMPLETE THIS PAGE

_____ is Corporation organized
and existing under the laws of _____ with principal place of
business at _____

(Street Address) (City, State and Zip Code)

and, if a non-Pennsylvania corporation [has] / [has not] been granted a certificate of authority to do
business in Pennsylvania, as required by the Pennsylvania Business Corporation Law of 1988,
approved December 21, 1988, P.L. 1444, as amended, 15 Pa. C.S.A. §§ 4101 et seq.

ATTEST:

(Name of Corporation)

(Signature of Certifying Officer)

(Signature of Authorized Officer)

Date: _____, 20____

(Typed name of Authorized Officer)

(AFFIX CORPORATE SEAL)

(The Corporation shall make certain that the secretary or assistant secretary certifies the official
character and authority of the person or persons executing this Contract Agreement for the
Contractor according to the form attached hereto. In lieu of such certificate, attach to the Contract
Agreement copies of the records of the corporation that show the official character and authority of
the officer signing. The records shall be duly certified to be true copies by the secretary or assistant
secretary under corporation seal.

**CORPORATION COMPLETE THIS PAGE
CERTIFICATE AS TO CORPORATE OFFICER**

I, _____, certify that I am
[secretary]/[assistant secretary] of the corporation executing the within Contract Agreement; that
_____ who signed the said Contract Agreement; on behalf of
the corporation was then _____ of said corporation; that I know his
signature and his signature thereto is genuine; and that said Contract Agreement was duly signed,
sealed and attested for and in behalf of said corporation by authority of its governing body.

Date: _____, 20____

(Signature of secretary
(or assistant and secretary))

(AFFIX CORPORATE SEAL)

PARTNERSHIP COMPLETE THIS PAGE

_____ is a partnership trading under a fictitious or assumed name and [has]/[has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

*(SEAL)
(Partner trading as above)

*(SEAL)
(Partner trading as above)

Date: _____, 20____

(Street Address)

(City, State and Zip Code)

- * If the executing party is a partnership, the document must be signed in the name of the partnership by all partners, and the names and addresses of all the partners must be listed on the attached Certificate. By executing this Contract Agreement the partners agree that two general partners are authorized to act to bind the partnership with regard to all matters under this Contract. The partnership must also attach Certificate of registration under the provisions of the Fictitious Names Act.

**PARTNERSHIP COMPLETE THIS PAGE
CERTIFICATE AS TO PARTNERSHIP**

I, a partner of _____ the
partnership named as Contractor in the within Contract Agreement, certify that the following are the
names and addresses of all partners of said partnership:

(Name)

(Name)

(Address)

(Address)

(City, State and Zip Code)

(City, State and Zip Code)

(Name)

(Name)

(Address)

(Address)

(City, State and Zip Code)

(City, State and Zip Code)

Date: _____, 20____

(Signature of Certifying Partner)

ARTICLE 5
BONDS, CERTIFICATES, AND STATEMENTS

ARTICLE 5
BONDS, CERTIFICATES AND STATEMENTS

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LABOR AND MATERIAL PAYMENT BOND	5-11
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MAINTENANCE BOND	5-22

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
as Principal, and the _____, a corporation, incorporated under the
Laws of the State of _____, as Surety, are held and firmly bound unto the
Allegheny County Sanitary Authority, herein called the "Authority" or "Owner", its attorneys,
successors or assigns in the sum of _____
Dollars (\$ _____), lawful money of the United States of America, for
payment of which sum will and truly be made, we bind ourselves, our heirs, legal representatives,
successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a Contract with the Owner, dated
_____, 20____, being Allegheny County Sanitary Authority
CONTRACT NO. 1823-REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR, (herein called the
"Contract").

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the
Principal shall faithfully perform, fulfill and faithfully keep all undertakings, duties, covenants,
terms, conditions and agreements (including any warranties) agreed by it to be performed and
kept at the time and in the manner provided in the Contract and related Contract Documents, as
the same may from time to time be amended or altered and shall defend, indemnify and save
harmless the Owner, its officers, agents, Board members and employees from any and all cost,
damage, liens and demands by reason of the manner in which such undertakings are performed
or kept and from any expense incurred by reason of the Principal's failure to perform and keep
all its undertakings under the Contract or Contract Documents and from damages growing out of
the manner of performance of said Contract Documents so set forth in the Contract Documents
and actual damages caused by delayed performance or non-performance of the Principal
including liquidated damages and including but not limited to patent, trademark, copyright
infringements or other intellectual property violations, as set forth in the Contract Documents,
then this obligation shall become void and of no effect; otherwise it shall remain in full force and
effect.

It is further agreed that any changes, extensions, alterations, deductions or additions
which may be made in the terms of the Contract Documents, or in the Work to be done, or
Materials to be furnished, or labor to be supplied or performed, or equipment to be rented, or
public utility services to be rendered, or the giving by the Owner of any extension of time for the
performance of the Contract, or reduction of the retainage percentage as permitted by the
Contract, or any other forbearance on the part of either the Owner or the Principal to the other,

shall not in any way release the Principal and the Surety or either of them, their heirs, executors, administrators, successors or assigns, from their liability for such and hereunder; notice to the Surety or Sureties of any such changes, extensions, alterations, deductions, additions or forbearance being hereby waived.

It is further agreed that in case of default and/or any action arising out of the rights and liabilities secured by this obligation, any party thereto or any person claiming by or through either may use for the purpose of establishing its or their claim a copy of this obligation, certified by the Owner and the action or actions, if any, arising on the within obligation, shall not be a bar to any subsequent action that may arise through any liability incurred in any other action therein or based upon any other part of this obligation. In the event of termination of the Supplier for cause, the Surety shall remain fully liable to the Owner for the Supplier's failure to timely complete the Contract and any liquidated damages.

It is further stipulated and agreed that if the Principal is a non-Pennsylvania corporation, neither the Principal nor the Surety shall be discharged from liability on this Bond, nor the Bond surrendered, until such Principal files with the Owner a certificate from the Pennsylvania Department of Revenue evidencing the payment in full of all bonus taxes, assessments, penalties, charges and interest, and a certificate from the Bureau of Employment and Unemployment Compensation of the Pennsylvania Department of Labor and Industry, evidencing the payment of all unemployment compensation contributions, penalties and interest due the Commonwealth of Pennsylvania from the said Principal, or any non-Pennsylvania corporation, subcontractor thereunder, or for which liability has accrued but the time for payment has not arrived, as required by the Act of June 10, 1947, P.L. 493, 8 P.S. sec 23, or as amended or superseded.

Said Surety agrees that its liability hereunder shall be absolute regardless of any liability of the Principal hereunder whether by reason of any irregular or unauthorized execution of or failure to execute this Bond or otherwise.

The Contract, together with all related Contract Documents, shall be deemed a part hereof as fully as if set forth herein, a true and correct copy of which has been obtained by the Surety, receipt of which is hereby acknowledged. Failure of the Surety to obtain a copy of the Contract Documents shall not be grounds for refusal by the Surety to investigate and respond to a claim under this Bond made by the Owner.

This Bond shall be governed and enforced in accordance with the laws of the Commonwealth of Pennsylvania.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument under their several seals this ____ day of _____, 20____, the name and corporate seal of each party being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

SURETY COMPLETE THIS PAGE

(Corporate Surety)

(Street Address)

(City, State and Zip Code)

ATTEST:

By: _____ *

(Signature)

(Title)

Date: _____, 20_____

(AFFIX CORPORATE SEAL)

* The Surety should attach to this Performance Bond a currently certified Power of Attorney which should be dated, sealed and executed by a live (not facsimile) signature showing that the person signing this Bond for the Surety has the current authority to do so.

CORPORATION COMPLETE THIS PAGE

_____ is a corporation organized and existing under the laws of _____ with principal place of business at

(Street Address) (City, State and Zip Code)

and, if a non-Pennsylvania corporation [has] / [has not] been granted a certificate of authority to do business in Pennsylvania, as required by the Pennsylvania Business Corporation Law of 1988, approved December 21, 1988, P.L. 1444, as amended, 15 Pa. C.S.A. §§ 4101 et seq.

ATTEST:

(Name of Corporation)

(Signature of Certifying Officer)

(Signature of Authorized Officer)

Date: _____, 20__

(Typed name of Authorized Officer)

(AFFIX CORPORATE SEAL)

(The corporation shall make certain that the secretary or assistant secretary certifies the official character and authority of the person or persons executing this Performance Bond for the Contractor according to the form attached hereto. In lieu of such certificate, attach to this Bond copies of the records of the corporation that show the official character and authority of the officer signing. The records shall be duly certified to be true copies by the secretary or assistant secretary under corporate seal.)

**CORPORATION COMPLETE THIS PAGE
CERTIFICATE AS TO CORPORATE OFFICER**

I, _____, certify that I am
[secretary]/[assistant secretary] of the corporation executing the within Performance Bond; that
_____ who signed the said Bond; on behalf of the
corporation was then _____ of said corporation; that I know his/her
signature and his/her signature thereto is genuine; and that said Bond was duly signed, sealed and
attested for and in behalf of said corporation by authority of its governing body.

Date: _____, 20____ (Signature of secretary (or assistant secretary))

(AFFIX CORPORATE SEAL)

PARTNERSHIP COMPLETE THIS PAGE

_____ is a partnership trading under a fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

(Partner trading as above) *(SEAL)

(Partner trading as above) *(SEAL)

Date: _____, 20__

(Street Address)

(City, State and Zip Code)

* If the executing party is a partnership, the document must be signed in the name of the partnership by at least two general partners, and the names and addresses of all the partners must be listed on the attached Certificate. The partnership must also attach Certificate of registration under the provisions of the Fictitious Names Act.

**PARTNERSHIP COMPLETE THIS PAGE
CERTIFICATE AS TO PARTNERSHIP**

I, a partner of _____, the partnership named as Contractor in the within Performance Bond, certify that the following are the names and addresses of all the partners of said partnership:

_____ (Name)	_____ (Name)
_____ (Address)	_____ (Address)
_____ (City, State and Zip Code)	_____ (City, State and Zip Code)
_____ (Name)	_____ (Name)
_____ (Address)	_____ (Address)
_____ (City, State and Zip Code)	_____ (City, State and Zip Code)
Date: _____, 20__	_____ (Signature of Certifying Partner)

**INDIVIDUAL COMPLETE THIS PAGE
(WHEN THE PRINCIPAL IS AN INDIVIDUAL DOING BUSINESS UNDER
A FIRM NAME)**

_____ is an individual trading under a fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

By: _____ (SEAL)
(Individual doing business as above)

(Street Address)

Date: _____, 20__

(City, State and Zip Code)

**(WHEN THE PARTY IS AN INDIVIDUAL DOING BUSINESS IN
HIS/HER INDIVIDUAL NAME)**

(Fictitious or assumed name)

WITNESS:

By: _____ (SEAL)
(Individual doing business as above)

(Street Address)

Date: _____, 20__

(City, State and Zip Code)

STATEMENT OF SURETY COMPANY

In accordance with the provisions of **CONTRACT NO. 1823-REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**, dated _____, 20____, by and between the ALLEGHENY COUNTY SANITARY AUTHORITY and _____, the Contractor, the Surety on the Performance Bond of the said Contractor, after a careful examination satisfied this company that all claims which in any way relate to the performance of the work under this Contract have been satisfactorily settled, hereby approves of the final payment to the said, _____ Contractor, and by these presents witnesseth that payment to the Contractor of the final estimate shall not relieve the Surety Company of any of its obligations to the Allegheny County Sanitary Authority as set forth in the said Surety Company's bond.

IN WITNESS WHEREOF, the said Surety Company has hereunto set its hand and seal this _____ day of _____, 20____.

ATTEST:

Secretary

Surety Company

By: _____
President

(AFFIX CORPORATE SEAL)

NOTE: The Surety should attach to this Statement a currently certified Power of Attorney which should be dated, sealed and executed by a live (not facsimile) signature showing that the person signing this Statement for the Surety has the current authority to do so.

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
 as Principal, and the _____, a corporation, incorporated under the
 Laws of the State of _____, as Surety, are held and firmly bound unto the Allegheny County
 Sanitary Authority, herein called the "Authority" or "Owner", its attorneys, successors or assigns, in
 the sum of _____ Dollars (\$_____),
 lawful money of the United States of America, for the payment of which we bind ourselves, our
 heirs, legal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a Contract with the Owner dated
 _____, 20__ being Allegheny County Sanitary Authority **CONTRACT NO. 1823-**
REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR (herein called the "Contract").

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the
 Principal shall promptly pay or cause to be paid all sums of money which may be due any
 person, co-partnership, association or corporation, whether as subcontractor or otherwise for all
 material or supplies furnished and labor supplied or performed in the prosecution of the Work,
 including rental for equipment employed and services rendered by public utilities, whether or not
 said material, supplies or labor entered into or became a component part of the Work or
 improvement contemplated in the Contract, then this obligation shall become void and of no
 effect; otherwise it shall remain in full force and effect.

It is further agreed that any changes, extensions, alterations, deductions or additions
 which may be made in the terms of the Contract Documents, or in the Work to be done, or
 material or supplies to be furnished, or labor to be supplied or performed, or equipment to be
 rented, or public utility services to be rendered, or the giving by the Owner of any extension of
 time for the performance of the Contract, or reduction of the retainage percentage as permitted
 by the Contract, or any other forbearance on the part of either the Owner or the Principal to the
 other, shall not in any way release the Principal and the Surety or either of them, their heirs,
 executors, administrators, successors or assigns, from their liability for such and hereunder;
 notice to the Surety or Sureties of any such changes, extensions, alterations, deductions,
 additions or forbearance being hereby waived.

The Principal and Surety further jointly and severally agrees with the Owner that every
 person, co-partnership, association or corporation, who, whether as subcontractor or otherwise,
 has furnished material or supplies or performed labor or rented equipment or furnished public
 utility services in the prosecution of the Work and who has not been paid therefore, may
 maintain an action therefore on this Bond and have execution thereon as though such person,
 co-partnership, association or corporation were named as obligee herein, provided, however that
 the Authority shall not be liable for the payment of any costs or expenses of any such suit.

It is further agreed that in case of default in, and/or any action arising out of rights and liabilities secured by this obligation, any party hereto or any person claiming by or through either may use for the purpose of establishing its or their claim a copy of this obligation, certified by the Owner and the action or actions, if any, arising on the within obligation, shall not be a bar to any subsequent action that may arise through any liability incurred in any other action therein or based upon any other part of this obligation.

It is further stipulated and agreed that if the Principal is non-Pennsylvania corporation, neither the Principal nor the Surety shall be discharged from liability on this Bond, nor the Bond surrendered, until such Principal files with the Owner a certificate from the Pennsylvania Department of Revenue evidencing the payment in full of all bonus taxes, assessments, penalties, charges and interest, and a certificate from the Bureau of Employment and Unemployment Compensation of the Pennsylvania Department of Labor and Industry, evidencing the payment of all unemployment compensation contributions, penalties and interest due the Commonwealth of Pennsylvania from the said Principal, or any non-Pennsylvania corporation, subcontractor thereunder, or for which liability has accrued but the time for payment has not arrived, as required by the Act of June 10, 1947, P.L. 493, 8 P.S. sec. 23, or as amended or superseded.

Said Surety agrees that its liability hereunder shall be absolute regardless of any liability of the Principal hereunder whether by reason of any irregular or unauthorized execution of or failure to execute this Bond or otherwise.

The Contract, together with all related Contract Documents, shall be deemed a part hereof as fully as if set forth herein, a true and correct copy of which has been obtained by the Surety, receipt of which is hereby acknowledged. Failure of the Surety to obtain a copy of the Contract Documents shall not be grounds for refusal by the Surety to investigate and respond to a claim under this Bond.

This Bond shall be governed and enforced in accordance with the laws of the Commonwealth of Pennsylvania.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

SURETY COMPLETE THIS PAGE

(Corporate Surety)

(Street Address)

(City, State and Zip Code)

ATTEST:

By: _____ *

(Signature)

(Title)

Date: _____, 20__

(AFFIX CORPORATE SEAL)

- The Surety should attach to this Labor and Material Payment Bond a currently certified Power of Attorney which should be dated, sealed and executed by a live (not facsimile) signature showing that the person signing this Bond for the Surety has the current authority to do so.

CORPORATION COMPLETE THIS PAGE

_____ is a corporation organized and existing under the laws of _____ with principal place of business at

(Street Address)

(City, State and Zip Code)

and, if a non-Pennsylvania corporation [has] / [has not] been granted a certificate of authority to do business in Pennsylvania, as required by the Pennsylvania Business Corporation Law of 1988, approved December 21, 1988, P.L. 1444, as amended, 15 Pa. C.S.A. §§ 4101 et seq.

ATTEST:

(Name of Corporation)

(Signature of Certifying Officer)

(Signature of Authorized Officer)

Date: _____, 20__

(Typed name of Authorized Officer)

(AFFIX CORPORATE SEAL)

(The corporation shall make certain that the secretary or assistant secretary certifies the official character and authority of the person or persons executing this Labor and Material Payment Bond for the Contractor according to the form attached hereto. In lieu of such certificate, attach to this Bond copies of the records of the corporation that show the official character and authority of the officer signing. The records shall be duly certified to be true copies by the secretary or assistant secretary under corporate seal.)

**CORPORATION COMPLETE THIS PAGE
CERTIFICATE AS TO CORPORATE OFFICER**

I, _____, certify that I am [secretary]/[assistant secretary] of the corporation executing the within Labor and Material Payment Bond; that _____ who signed the said Bond; on behalf of the corporation was then _____ of said corporation; that I know his/her signature and his/her signature thereto is genuine; and that said Bond was duly signed, sealed and attested for and in behalf of said corporation by authority of its governing body.

Date: _____, 20__

(Signature of Secretary (or assistant secretary))

(AFFIX CORPORATE SEAL)

PARTNERSHIP COMPLETE THIS PAGE

_____ is a partnership trading under a fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

(Partner trading as above) *(SEAL)

(Partner trading as above) *(SEAL)

Date: _____, 20____

(Street Address)

(City, State and Zip Code)

* If the executing party is a partnership, the document must be signed in the name of the partnership by at least two general partners, and the names and addresses of all the partners must be listed on the attached Certificate. The partnership must also attach Certificate of registration under the provisions of the Fictitious Names Act.

**PARTNERSHIP COMPLETE THIS PAGE
CERTIFICATE AS TO PARTNERSHIP**

I, a partner of _____, the partnership
named as Contractor in the within Labor and Material Payment Bond, certify that the following are
the names and addresses of all the partners of said partnership:

(Name)

(Name)

(Address)

(Address)

(City, State and Zip Code)

(City, State and Zip Code)

(Name)

(Name)

(Address)

(Address)

(City, State and Zip Code)

(City, State and Zip Code)

Date: _____, 20____

(Signature of Certifying Partner)

**INDIVIDUAL COMPLETE THIS PAGE
(WHEN THE PRINCIPAL IS AN INDIVIDUAL DOING BUSINESS UNDER
A FIRM NAME)**

_____ is an individual trading under a fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

By: _____ (SEAL)
(Individual doing business as above)

(Street Address)

Date: _____, 20____

(City, State and Zip Code)

**(WHEN THE PARTY IS AN INDIVIDUAL DOING BUSINESS IN
HIS/HER INDIVIDUAL NAME)**

(Individual Name)

WITNESS:

By: _____ (SEAL)
(Individual)

(Street Address)

Date: _____, 20____

(City, State and Zip Code)

STATEMENT OF SURETY COMPANY

In accordance with the provisions of **CONTRACT NO. 1823-REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR**, dated _____, 20____, by and between the ALLEGHENY COUNTY SANITARY AUTHORITY and _____, the Contractor, the Surety on the Labor and Material Payment Bond of the said Contractor, after a careful examination satisfied this company that all claims which in any way relate to the performance of the work under this Contract have been satisfactorily settled, hereby approves of the final payment to the said,

Contractor, and by these presents witnesseth that payment to the Contractor of the final estimate shall not relieve the Surety Company of any of its obligations to the Allegheny County Sanitary Authority as set forth in the said Surety Company's bond.

IN WITNESS WHEREOF, the said Surety Company has hereunto set its hand and seal this _____ day of _____, 20_____.

ATTEST:

Secretary

Surety Company

By: _____
President

(AFFIX CORPORATE SEAL)

NOTE: The Surety should attach to this Statement a currently certified Power of Attorney which should be dated, sealed and executed by a live (not facsimile) signature showing that the person signing this Statement for the Surety has the current authority to do so.

CONTRACTOR'S CERTIFICATE OF SATISFACTION

COUNTY OF ALLEGHENY)
)
 COMMONWEALTH OF PENNSYLVANIA) ss:

Before me, the undersigned, _____ in and for said
 County and Commonwealth, personally appeared * _____,
 who being duly sworn according to law, deposes and says that all outstanding claims and
 indebtedness of whatsoever nature arising out of the performance of its or their Contract(s) with the
 Allegheny County Sanitary Authority, being a Contract for _____
 _____, being Contract(s) **
 _____ have been paid in full and satisfactorily settled.

 Contractor (or Partner or Corporate
 Officer)
 Sworn to and subscribed before me this
 ____ day of _____, 20____

 My commission expires _____

- * Must be signed and sworn to by the individual Contractor, Partner (if the Contractor is a partnership), or the Corporate Officer (if the Contractor is a corporation).
- ** Enter Contract or Contracts awarded.

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
as Principal, and the _____, a corporation, incorporated under the
Laws of the State of _____, as Surety, are held and firmly bound unto the Allegheny County
Sanitary Authority, herein called the "Authority" or "Owner", its attorneys, successors or assigns in
the sum of _____ Dollars
(\$ _____), lawful money of the United States of America, for payment of
which sum will and truly be made, we bind ourselves, our heirs, legal representatives, successors and
assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a Contract with the Owner dated
_____, 20____, being Allegheny County Sanitary Authority **CONTRACT NO.**
1823-REPAIRS TO NO. 1 ECONOMIZER AND EVAPORATOR, (herein called the "Contract").

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the
Principal shall promptly remedy without cost to the Owner any Defects which may develop within a
period of **one (1) year** from _____, 20____, the date of the Certificate of Final
Completion for the Work performed under the Contract (or longer if so stated in the Contract
Documents), provided such Defects, in the judgment of the Owner or its successors having
jurisdiction in the premises, are caused by defective or inferior Materials, workmanship or design,
then this obligation shall become void and of no effect; otherwise it shall remain in full force and
effect.

It is further agreed that any changes, extensions, alterations, deductions or additions which
may be made in the terms of the Contract Documents, or in the Work to be done, or Materials to be
furnished, or labor to be supplied or performed, or equipment to be rented, or public utility services
to be rendered, or the giving by the Owner of any extension of time for the performance of the
Contract, or reduction of the retainage percentage as permitted by the Contract, or any other
forbearance on the part of either the Owner or the Principal to the other, shall not in any way release
the Principal and the Surety or either of them, their heirs, executors, administrators, successors or
assigns, from their liability for such and hereunder; notice to the Surety or Sureties of any such
changes, extensions, alterations, deductions, additions or forbearance being hereby waived.

Said Surety agrees that its liability hereunder shall be absolute regardless of any liability of
the Principal hereunder whether by reason of any irregular or unauthorized execution of or failure to
execute this Bond or otherwise.

The Contract together with all related Contract Documents, shall be deemed a part hereof as
fully as if set forth herein, a true and correct copy of which has been obtained by the Surety, receipt
of which is hereby acknowledged. Failure of the Surety to obtain a copy of the Contract Documents
shall not be grounds for refusal by the Surety to investigate and respond to a claim under this Bond.

This Bond shall be governed and enforced in accordance with the laws of the Commonwealth of Pennsylvania.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its proper officer, pursuant to authority of its governing body.

SURETY COMPLETE THIS PAGE

(Corporate Surety)

(Street Address)

(City, State and Zip Code)

ATTEST:

By: _____ *

(Signature)

(Title)

Date: _____, 20____

(AFFIX CORPORATE SEAL)

* The Surety should attach to the Maintenance Bond a currently certified Power of Attorney which should be dated, sealed and executed by a live (not facsimile) signature showing that the person signing this Bond for the Surety has the current authority to do so.

CORPORATION COMPLETE THIS PAGE

_____ is a corporation organized and existing under the laws of _____ with principal place of business at _____

(Street Address)

(City, State and Zip Code)

and, if a non-Pennsylvania corporation [has] / [has not] been granted a certificate of authority to do business in Pennsylvania, as required by the Pennsylvania Business Corporation Law of 1988, approved December 21, 1988, P.L. 1444, as amended, 15 Pa. C.S.A. §§ 4101 et seq.

ATTEST:

(Name of Corporation)

(Signature of Certifying Officer)

(Signature of Authorized Officer)

Date: _____, 20____

(Typed name of Authorized Officer)

(AFFIX CORPORATE SEAL)

(The corporation shall make certain that the secretary or assistant secretary certifies the official character and authority of the person or persons executing this Maintenance Bond for the Contractor according to the form attached hereto. In lieu of such certificate, attach to this Bond copies of the records of the corporation that show the official character and authority of the officer signing. The records shall be duly certified to be true copies by the secretary or assistant secretary under corporate seal.)

**CORPORATION COMPLETE THIS PAGE
CERTIFICATE AS TO CORPORATE OFFICER**

I, _____, certify that I am [secretary]/[assistant secretary] of the corporation executing the within Maintenance Bond; that _____ who signed the said Bond; on behalf of the corporation was then _____ of said corporation; that I know his/her signature and his/her signature thereto is genuine; and that said Bond was duly signed, sealed and attested for and in behalf of said corporation by authority of its governing body.

Date: _____, 20____

(Signature of secretary (or assistant secretary))

(AFFIX CORPORATE SEAL)

PARTNERSHIP COMPLETE THIS PAGE

_____ is a partnership trading under a fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

(Partner trading as above) *(SEAL)

(Partner trading as above) *(SEAL)

Date: _____, 20__

(Street Address)

(City, State and Zip Code)

* If the executing party is a partnership, the document must be signed in the name of the partnership by at least two general partners, and the names and addresses of all the partners must be listed on the attached Certificate. The partnership must also attach Certificate of registration under the provisions of the Fictitious Names Act.

**PARTNERSHIP COMPLETE THIS PAGE
CERTIFICATE AS TO PARTNERSHIP**

I, a partner of _____, the partnership named as Contractor in the within Maintenance Bond, certify that the following are the names and addresses of all the partners of said partnership:

_____ (Name)	_____ (Name)
_____ (Address)	_____ (Address)
_____ (City, State and Zip Code)	_____ (City, State and Zip Code)
_____ (Name)	_____ (Name)
_____ (Address)	_____ (Address)
_____ (City, State and Zip Code)	_____ (City, State and Zip Code)
Date: _____, 20____	_____ (Signature of Certifying Partner)

**INDIVIDUAL COMPLETE THIS PAGE
(WHEN THE PRINCIPAL IS AN INDIVIDUAL DOING
BUSINESS UNDER A FIRM NAME)**

_____ is an individual trading under a fictitious or assumed name and [has] / [has not] registered under the Fictitious Names Act of Pennsylvania, namely, the Act of December 16, 1982, P.L. 1309, as amended, 54 Pa. C.S.A. §§ 301 et seq.

(Fictitious or assumed name)

WITNESS:

By: _____ (SEAL)
(Individual doing business as above)

(Street Address)

Date: _____, 20____

(City, State and Zip Code)

**(WHEN THE PARTY IS AN INDIVIDUAL DOING BUSINESS IN
HIS/HER INDIVIDUAL NAME)**

(Individual Name)

WITNESS:

By: _____ (SEAL)
(Individual)

(Street Address)

Date: _____, 20____

(City, State and Zip Code)

ARTICLE 6
TECHNICAL SPECIFICATIONS

ALLEGHENY COUNTY SANITARY AUTHORITY

PITTSBURGH, PENNSYLVANIA

CONTRACT NO. 1823

REPAIRS TO No. 1 ECONOMIZER AND EVAPORATOR

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APPENDICES

Form U-1 Manufacturer's Data Report
Thermaline Heat Shield data sheet
Plasite XHT 400 data sheet

ARTICLE 7 – Prevailing Wage Determination

DRAWINGS - (Under Separate Cover)

PART 1 GENERAL

1.1 GENERAL

- A. The work included in this Contract No. 1823 is to provide the Allegheny County Sanitary Authority (ALCOSAN) with repairs to its No. 1 economizer and evaporator. Additionally, some repairs to the No. 2 economizer and evaporator will also be required, as described in the contract documents. In addition to this individual Contract, there will be construction activities for other Contracts included in the overall program underway at the plant site during part or all of the construction period for this Contract.
- B. This Contract 1823 will be constructed by one (1) Prime Contractor to meet the requirements of the Contract Documents. The following organizations may be present at the Job Site and have responsibilities described generally in Article 3, General Contract Conditions:
 - 1. Construction Manager (CM)
 - 2. Engineer
 - 3. Prime Contractor(s)
 - 4. Owner (ALCOSAN)
- C. The Owner is identified as the responsible entity for certain actions in the sections of Divisions 1 through 15. The Owner may elect to delegate certain of these respective duties and responsibilities to the aforementioned organizations.
- D. All contact between the Contractor and remaining aforementioned parties shall be through the Construction Manager
- E. The owner has two (2) incinerator trains (No. 1 and No. 2), each with its own evaporator, economizer and other related equipment. Throughout the duration of the contract, one incineration train must be in operation at all times. For myriad reasons, it is not always quick or feasible to switch from one train to another. The contractor is expected to plan the work around the Owner's operating schedule.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work Included in Contract
 - 1. The following are general descriptions of the work to be done under the Contract unless noted otherwise and are in no way meant to limit or restrict the Work that is required. Refer to the Drawings and the remainder of the Specifications for additional detail on the scope of the Work. The completed work will provide the Owner with repaired & completely functional economizers and evaporators, etc.

**SECTION 01010
SUMMARY OF WORK**

CONTRACT NO. 1823

2. The broad/general intent of this contract is to:
 - Replace the tube elements in economizer No. 1.
 - Provide NDT thickness measurement to the evaporator inlet ductwork (from each afterburner), inlet transition to evaporators, outlet transition of the economizers, and other surfaces. **(Item D)**
 - Remove & replace insulation/cladding and visually inspect the steel shell on the outlet (tapered transition) of each economizer.
 - Remove existing owner-installed overlays. (Contractor to ascertain quantity prior to bid.)
 - Reinforce portions of the economizers and evaporators (and their transitions) with an overlay of welded steel plate. **(Assume 500 square feet.)**
 - Replace a section of the ductwork (shell, insulation/refractory, etc.) that conveys hot flue gas from the afterburner into the No. 2 evaporator.
3. The following general scope of work, specification sections, and contract drawings apply to Contract 1823.
 - a. General Scope of Work: {Note that these scope items may not be listed in a logical construction sequence.}
 - 1) Prepare and maintain Contractor's staging areas.
 - 2) Pre-Construction inspection of the work area (internal and external to economizers and evaporators) for access points, rigging concerns, any possible loose refractory, etc. Bring any pertinent observations/comments to the attention of the owner.
 - 3) Remove (and later reinstall) any and all flanges, piping, hatches, connections, supports, structural steel, conduits, wiring, instrumentation, stairs, grating, railing, expansion joints, jacketing, cladding, insulation, equipment, tanks, appurtenances, curbs, toe-rails, etc. as required to effectively view, inspect, access and complete any/all aspects of the work. Reinstall these items at the end of the job, with proper new fasteners, hardware, connectors, gaskets, etc. (identical to the originals). (This also includes any and all gasketed connections, hatches, panels opened by the owner in preparation for this work.)
 - 4) Provide/install temporary replacements of any such items (such as handrails, grating, etc.) required for the safety of the contractor or the owner's personnel. Owner & inspector access to the work area/s shall be provided and maintained by the contractor for the duration of the contract.
 - 5) Remove and replace (with new) the insulation, jacketing/cladding (and any ancillary systems/supports/fasteners, etc.) on the tapered transition on top of the No. 1 and No. 2 economizers.
 - 6) Provide for any/all inspections, testing, certifications, etc. required by code or called out in the contract documents. Transmit all reports/findings to the owner within one week of the testing/inspection.

**SECTION 01010
SUMMARY OF WORK**

CONTRACT NO. 1823

- 7) Provide the services of a qualified testing company to perform NDT (ultrasonic) thickness measurement to **all** surfaces/areas mentioned in the contract documents as needing/potentially needing repairs. Test locations shall, at a minimum, be located on staggered 12" centers. Submit a written record of the thickness readings, and a dimensioned/scale sketch accurately showing the test locations. **(Item D)**
- 8) Inspect the interior of the duct that connects the afterburners with their respective evaporators. Check refractory and any exposed surfaces for excessive cracking, missing sections, exposed anchors, holes, wear, or any other signs of defects. Provide a written summary of the findings to the owner.
- 9) The contractor may commence the overlay scope of work (for the train that is offline at that time) as soon as practical, once the NDT for that portion has been complete & evaluated. No internal work (economizer tube demo/replacement or duct replacement) shall start until tubes are fabricated (or the new duct is fabricated). [This is to allow the owner to resume the use of the said incinerator train if the other operating train was to suddenly be rendered inoperable.] Once the tube elements have been fabricated, the contractor shall open the No. 1 economizer & perform the work.
- 10) Demo & remove the existing No. 1 economizer tube elements. Except as noted, all replaced items shall be fabricated in full accordance with the specifications and the reference drawings. Note: Tube supports shall be "handcuff" style flatbar, as shown on the reference drawings. Completed tube elements/header assemblies shall be hydrotested to NO LESS than 450 psig.
- 11) Once the No. 1 economizer tube work is complete (and all other work on train No. 1 is complete), and train No. 1 incineration system is brought back on-line by the owner, the contractor may commence work on train No. 2
- 12) Remove and replace in kind (including refractory, insulating blocks, anchors, and coatings) the horizontal duct (min. length 2' – 6") and expansion joint that connects the No. 2 afterburner with the No. 2 evaporator (see limits generally delineated in the drawings). Provide the services of a qualified refractory dry-out contractor to properly cure/dry the new refractory.
- 13) Remove all existing overlays. [The owner wishes to retain the existing overlays. Contractor shall arrange a storage location within the building (with the owner), and contractor shall place them at that location.] If an existing overlay is adjacent to and welded to a reinforcing angle, ensure that the existing weld bead joining the two is completely removed. All new steel overlays shall have properly beveled edges and shall be fully coated as described elsewhere in these documents. (See painting spec for more details) The overlays shall be welded all around their perimeter with full penetration seal welds that securely affix the overlay

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SUMMARY OF WORK**

CONTRACT NO. 1823

to the existing steel surface. Grind off any existing paint/ loose scale, weld bead/spatter, dirt, ash, etc. prior to welding. Wire brush all new weld bead. Touch up all exterior coatings damaged by the welding/grinding procedures.

- 14) All new overlay plates shall be at least 12" square (unless the specific geometry of a given location prevents this goal). Lesser plates may be installed with Owner approval. **For base bid purposes, assume 500 square feet of overlay plate.**
- 15) Overlay plates shall have tie-back holes drilled into them on 18" centers (minimum). Overlay plates less than/equal to 18" by 18" shall have at least one tie-back hole. (Larger plates shall have more than one hole.) Once installed, tie-back holes are to be plug-welded flush with the surface of the new overlay plate (to better secure the overlay to the existing plate).
- 16) Fully accommodate any existing instrumentation/probes and penetrations by cutting clearance holes in the new overlay. Seal-weld all around the cut area, as described elsewhere.
- 17) Reception, unloading, storage, and transportation to the project site of any equipment or items under this Contract.
- 18) Installation of all lighting, ventilation, air quality monitors, and any/all aspects of PPE, means of access, equipment/materials required for confined space work, etc.
- 19) Supply, install, and remove all necessary scaffolding, flooring, rigging, shoring, jacks, bracing, tie-offs, supports, etc.
- 20) It is noted that the owner has an annual boiler outage [to occur tentatively in August, 2025, with a maximum duration of six (6) calendar days]. During this period, both incineration trains will be out of service. This would be an opportunity for the contractor to internally inspect the ductwork or any other area readily accessible.
- 21) Prior to the bid, the bidder/contractor shall visit the site and familiarize themselves completely with the dimensions, access, height, route, access limitations, existing overlays, instrumentation penetrations, and any/all potential hinderances to the work.
- 22) Repair or replace any existing refractory showing signs of damage or excessive cracking, (as directed by the engineer). **(Item B)**
- 23) Repair or replace any refractory or refracting component damaged or otherwise affected by this work (as directed by the engineer).
- 24) Patch, prep, prime, paint, coat, repair any existing structures, equipment, surfaces, or site conditions damaged or otherwise affected by this work, as required by the owner, following the demolition or installation under this contract.
- 25) Prep, prime and paint/coat all surfaces of all new carbon steel components installed during this job. It is noted that aluminum jacketing does not require painting.
- 26) If required by the Owner, prep, prime and topcoat all remaining existing surfaces within the areas designated for inspection/work in the reference

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drawings (up to the quantity/area listed in the unit price work chart).

(Item E)

- 27) If required by the Owner, completely vacuum, rinse & clean any/all remaining areas/surfaces not already cleaned due to performance of work under this contract. This would include all surfaces within the areas designated for inspection/work in the reference drawings – such as any and all surfaces of train No. 1 and No. 2 duct (from afterburners), evaporators, economizers, transitions, etc. Loose ash shall be vacuumed and surfaces thoroughly washed. Regardless of when this cleaning is performed, the areas shall be clean as of the date of substantial completion. **(Item G)**
- 28) All field painting and identifying device work as required by the Contract Documents.
- 29) All shop prime coats and factory finishes compatible with Section 09900. All manufacturer's written procedures for surface preparation and coating system application shall be explicitly followed.
- 30) All welding shall conform to the notes, symbols, and recommendations of the respective manufacturers {Outotec (USA) Inc, formerly known as Energy Products of Idaho, Cannon Boiler, et al} and the Owner. (Refer to the documents for more information.)
- 31) All materials, installation, alignments, tolerances, welding, etc. shall conform to the notes, symbols, and recommendations of the manufacturer {Outotec (USA) Inc., formerly known as Energy Products of Idaho, Cannon Boiler, et al} and the Owner. (Refer to the contract documents/drawings for more information.)
- 32) Apply specified anti-seize product to all bolts and tighten with the proper torque value. Note that required bolt torques are lessened when the bolt threads are thusly lubricated.
- 33) Clean-up & proper disposal of any/all construction/demolition debris, materials, extra materials, etc.
- 34) Remove any temporary work/structures/supports, scaffolds, falsework, etc.
- 35) Submission of all close-out documents, including detailed as-builts.
- 36) Other work as described in more detail later in this section or elsewhere in the contract documents.
- 37) With the exception of limitations caused by the owner's schedule and/or use of a particular incineration train, and the Owner's need to constantly operate an incineration/waste heat boiler system, the order of these and any other work tasks shall be up to the contractor.

b. Specification Sections as follows are included in this Contract:

- 1) Contract 1823, Contract Documents
 - (a) Article 1 – Bidding Documents
 - (b) Article 2 – Information for Bidders

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- (c) Article 3 – General Contract Conditions
- (d) Article 4 – Contract Agreement
- (e) Article 5 – Bonds, Certificates and Statements
- (f) Article 6 - Technical Specifications
 - Division 1 – General Requirements
 - Division 2 – Site Work
 - Division 3 - Concrete
 - Division 5 – Metals
 - Division 9 – Finishes
 - Division 15 – Mechanical

- c. The following Contract Drawings depict the majority of the work to be performed by this Contract 1823.

CONTRACT 1823		
SHEET NUMBER	DRAWING TITLE	DRAWINGS NO.
01	SITE UTILIZATION PLAN	1823-SU-01

SHEET NUMBER	REFERENCE DRAWINGS	DRAWING NO.
2	INCINERATOR BUILDING – WASTE HEAT RECOVERY SYSTEM SECTIONS	916 P, sheet 22
3	ENLARGED PARTIAL SECTION AND SECTIONS	916 E, sheet 11
4	GENERAL ARRANGEMENT DRAWING OF WASTE HEAT BOILER HEAT EXCHANGERS	101-916 E
5	OFF GAS DUCTING AFTERBURNER TO EVAPORATOR	198-916
6	OFF GAS DUCTING AFTERBURNER TO EVAPORATOR - DETAILS	199-916
7	ECONOMIZER FRONT & REAR PANEL DETAILS FOR UNITS 1 & 2	138-916 E
8	ECONOMIZER UNIT # 1 ARRANGEMENT DWG.	119-916 E-3
9	ECONOMIZER UNIT # 1 BUNDLE DETAIL DWG.	120-916 E-5
10	ECONOMIZER TUBE SUPPORT DETAIL	179-916 E

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- d. The Contractor is responsible for coordinating his work with the work of all other Contractors/Entities and the Owner.
- 4. Terminology clarification:
If there is any uncertainty about the terminology used in the contract documents or reference materials, the contractor shall seek clarification during the bidding process.
- 5. Scope of work clarification:
If there is any uncertainty about the scope of work, base bid, unit prices, etc., presented in the contract documents or reference materials, the contractor shall seek clarification during the bidding process.

1.3 ALTERNATIVES

- A. Alternates, if specified, can be found listed on the Bid Forms for each Prime Contractor

1.4 REPORTS AND STUDIES

- A. In preparation of the Contract Documents, Engineering has utilized the following, which are available for review:
 - 1. Reference documents such as the following can be reviewed at the ALCOSAN Engineering Building during regular business hours. Contact Mr. James Morvay in advance if these drawings need to be referenced.
 - a. Construction Drawings, Contracts 34, 35, 36, 40, 41, Allegheny County Sanitary Authority, Pittsburgh, Pennsylvania, Pittsburgh Sewage Treatment Plant, Metcalf & Eddy, Inc., Engineers, 1955.
 - b. Construction Drawings, Contracts 301, 302, 303, 305, 306 through 310, Allegheny County Sanitary Authority, Pittsburgh, Pennsylvania, Waster-Water Treatment Plant, Metcalf & Eddy, Inc., Engineers, 1969.
 - c. Construction Drawings, Contract 916 – Construction of Fluidized Bed Incinerator – Energy Products of Idaho (EPI)
 - d. Contract 916 series – S.E. Technologies.
 - e. Contracts 916E – Cannon Boiler
 - e. Contracts 1381, 1420, 1664, 1669, 1697, 1720, and 1752.

1.5 CONFINED SPACES

- A. All work involving confined space entry will be in accordance with 29 CFR 1910.146. The Owner has adopted a Permit Required Confined Space Entry Program for its employees in accordance with OSHA requirements found at 29 CFR 1910.146. This permit Required Confined Space Entry Program must be adopted by the Contractor if its employees will be working in confined spaces. No Contractor employee shall be permitted to enter a "Permit Required Confined Space" as defined in 29 CFR 1910.146 without having complied with all of the requirements of said regulations, including the sign off on the "ALCOSAN On-Site Confined Space Entry Permit" adopted by the Contractor. The Contractor shall have gas detection equipment which is capable of detecting combustibles, oxygen, hydrogen sulfide, and carbon monoxide.
- B. The following EXISTING On-Site spaces have been identified as being a permit required confined spaces. Contractor is cautioned that there may be other work areas encountered and not listed herein that may be considered as a permit required confined spaces:
1. Multiple Hearth Incinerator.
 2. 2- Fluidized Bed Incinerators.
 3. 3- Lime Silos.
 4. 1- New Lime Silo (Bldg. #404)
 5. 3- Lime Day Bins (Bldg. #404)
 6. 6- Sludge Product Storage Bins (Bldg. #404)
 7. 3- Sludge Surge Bins (Bldg. #404)
 8. 2- Potassium Permanganate Silos
 9. 4- Polymer Tanks
 10. 1- Defoamer Tank
 11. 2- Firetube Boilers
 12. 3- Caustic Scrubbers (includes all foul air ductwork).
 13. 3- Venturi Incinerator Scrubbers.
 14. 2- Impingement Incinerator Scrubbers.
 15. 2- Sludge Blending Tanks (Old Lightning Mixing Tanks)
 16. 2- Dewatering Feed Tanks (before cleaning)
 17. 4- Grit Collecting Tanks (before cleaning)
 18. All Manholes and Access Shafts.
 19. 2- Ash Silos
 20. 2- KMNO₄ Transfer Tanks
 21. 2- KMNO₄ Feed Tanks
 22. 4- Scum Concentrators (3rd floor, ERF)
 23. 1- Scum Storage Tank (1st floor, ERF)
 24. 2- Scum Collection Tanks (N-S walkway between sedimentation tanks)

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SUMMARY OF WORK**

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- 25. Odor Control Facilities (402, 420, 720 & All Foul Air Handling Ductwork)
 - 26. Lab Building Utility Tunnel
 - 27. Maintenance Cofferdam
 - 28. 2 – Evaporators
 - 29. 1- Diesel Fuel Tank (12,000 Gallons)
 - 30. 1- Sand Silo
 - 31. 8- Ash Hoppers
 - 32. 2- Tray Towers (5 entries on each)
 - 33. 7- Sludge Bins (To be eliminated)
 - 34. 2- Economizers
 - 35. 3- After Burners
 - 36. 3- Steam Drums
 - 37. 4- Rack Channels
 - 38. 4- Return Sludge Wet Wells
 - 39. 4- Return Sludge Sump Pits
 - 40. 4- Secondary Air Intake Pipe to Compressors
 - 41. 1- Entrance to Wet Well
 - 42. 5- Sodium Hypochlorite Tanks (Temp.)
 - 43. All Underground Steam and Electrical Pits/Vaults
 - 44. 3- Main Pump Station Sump Pits (1- Sump Pit, 2- Drainage Pits)
 - 45. 1- Deaerator
 - 46. 1- Access to Grit Channels
 - 47. 1- Neutralization Tank
 - 48. 1- Sulfuric Acid Tank (Power Gen Bldg)
 - 49. 1- Caustic Soda Tank (power Gen Bldg)
 - 50. 3- Demineralization Tanks
 - 51. 2- Bucket Elevators
 - 52. All Covered Sedimentation Tanks before cleaning
 - 53. Covered Aeration Tanks before cleaning
 - 54. 1- Sump Pit, 402 Solids Handling Odor Control System
 - 55. 1- Sump Pit, 420 Headworks Odor Control System
 - 56. 3- Sludge Cake Storage Bins, Bldg. 405
 - 57. Any/all metallic or FRP ductwork
- C. No Contractor personnel shall enter any of these or any other areas identified by ALCOSAN as a permit required confined spaces without first receiving written approval from the Owner.
- D. The Contractor shall identify to the Construction Manager any new confined or enclosed space that is created as a result of the performance of the Contract Work. The Contractor shall comply with the requirements of the applicable permit-required confined space entry program whenever the potential exists that work in such spaces could be hazardous.

1.6 DESCRIPTION OF RESPONSIBILITIES

A. CONTRACTOR: As described in these Contract Documents and as follows:

1. Project Manager/Site Superintendent: On site at all times when Work in individual Contract is proceeding. The Owner reserves the right to approve the Contractors proposed Project Manager and Site Superintendent. If at any time during the execution of the Contract the Owner determines that the Contractors Project Manager and/or Site Superintendent are not executing the Work in conformance with the Contract Documents, the Owner may request in writing that they be replaced. Contractor Project Manager/Site Superintendent shall not be replaced by the Contractor without written notice to Construction Manager except under extraordinary circumstances. The Superintendent will be Contractor's representative at the site and shall have authority to act on behalf of Contractor. All communications to the Superintendent shall be binding upon the Contractor. If at any time during the Project the Superintendent leaves the Project site while Work is in progress, Construction Manager shall be notified and provided with the name of the Contractor's representative having responsible charge.
2. Quality Control Representative: Responsible for Contractor's quality control program while Work is in progress. Notify Construction Manager of any change in quality control assignment.
3. Safety and Protection:
 - a. Initiate, maintain, and supervise all safety precautions and programs in connection with the Work. Take all necessary precautions for the safety of, and provide the necessary protection to prevent damage, injury, or loss to:
 - 1) All persons on the work site or who may be affected by the Work;
 - 2) All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
 - 3) Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.
 - b. Comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury, or loss.
 - c. Before any work at the site is started, General Contractor shall submit a written Safety Plan for Project-specific safety precautions and programs and submit to the Construction Manager for record.
 - d. Each Contractor shall revise Contractor's Safety Plan for safety precautions and programs at appropriate times to reflect changes in construction conditions, the Work, Contractor's means, methods, techniques, and sequences and procedures of construction. All revised Safety Plans will be submitted to the Construction Manager for record.
 - e. Safety Representative: Each Contractor shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of

**SECTION 01010
SUMMARY OF WORK**

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safety precautions and programs. The Safety representative shall be trained in First Aid and CPR. These qualifications shall be submitted to the Construction Manager prior to beginning work on site.

- f. Emergencies: In emergencies affecting the safety or protection of persons or the work or property at the site or adjacent thereto, each Contractor, without special instruction or authorization from Owner or Construction Manager, is obligated to act to prevent threatened damage, injury or loss. Each Contractor shall give Construction Manager prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If Construction Manager determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, Construction Manager will proceed in accordance with Article 3, General Contract Conditions.

B. Owner (ALCOSAN):

- 1. Enter into legal contract with each Contractor for completion of the Work.
- 2. Approve contract amendments, progress payments, and make final acceptance of the Work.
- 3. Participate in coordination of site construction activity.
- 4. Participate in training, testing and startup activity.

C. Construction Manager (CM):

- 1. Coordinate on-site construction activity.
- 2. Pre-purchase and Construction Contract Administration.
- 3. Fabrication and construction inspection services.
- 4. Coordinate training, testing and startup activity.

D. Engineer:

- 1. Provide engineering support services.
- 2. Performs weekly site inspections.
- 3. Technical and shop drawing reviews.
- 4. Prepare drawing revisions and cost estimates.
- 5. Assist in training, testing and startup activities.

E. Supplier (Owner-Furnished Material & Equipment)

- 1. Provide manufacturer services in installation, training, testing, start-up and close-out
- 2. Coordinate support of each Contractor through the Construction Manager.

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PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

{See attached: Appendix A - Site Specific Safety Plan Template}

END OF SECTION

PART 1 GENERAL

1.1 REFERENCE

- A. See Article 3, Contract Provisions, for general requirements concerning payment.

1.2 MEASUREMENT-GENERAL

- A. Weighing, measuring, and metering devices used to measure quantity of materials for Work shall be suitable for purpose intended and conform to tolerances and specifications as specified in National Institute of Standards and Technology, Handbook 44.
- B. Whenever pay quantities of material are determined by weight, the material shall be weighed on the truck scales at the plant site and certified accurate by the state agency responsible. A weight or load slip shall be obtained from the weigher and delivered to the Owner's representative at the point of delivery of the material.
- C. If material is shipped by rail, the car weights will be accepted provided that actual weight of material only will be paid for and not minimum car weight used for assessing freight tariff, and provided further that car weights will not be acceptable for material to be passed through mixing plants.
- D. Vehicles used to haul material being paid for by weight shall be weighed empty daily and at such additional times as required by Owner. Each vehicle shall bear a plainly legible identification mark.
- E. Unit Price Items will be paid for each item/unit as approved by owner. Unit price items may or may not be needed in this contract, and the value of any unused items/quantities will be deducted from the final contract amount via credit change order. Unit price items will be measured as follows:

- 1. See charts in Articles 1 and 4.

All unit price work shall be performed as specified, and shall include all tasks, efforts, procedures, machining operations, measurement/gauging, welding, alignment, labor, transport, materials, finishing, coating, treatments and any/all related tasks required for a complete & operable system/assembly. Quantities are listed/described in Article 4 and elsewhere in the contract documents.

It is further noted that the unit prices will be used to add work as well as subtract work from the scope of this contract. There is uncertainty as to how much existing plate needs to be overlaid, how much refractory may need to be repaired/replaced, etc.

1.3 PAYMENT

- A. General: Progress payments will be made monthly on the date established at the preconstruction meeting.
- B. The Contractor shall include a line item in the Schedule of Values for the submission of approved Operation and Maintenance Manuals with an associated value of 0.25 percent of the Contract Value or \$1,000 dollars, whichever is greater. No O&M manuals will be required on this job.
- C. The Contractor shall include a line item in the Schedule of Values for the submission of approved As-built Drawings with an associated value of 0.25 percent of the of the Contract Value or \$1,000 dollars, whichever is greater.

1.4 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

- A. Payment will not be made for following:
 - 1. Loading, hauling, and disposing of rejected material.
 - 2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.
 - 3. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.
 - 4. Material not unloaded from transporting vehicle.
 - 5. Defective Work not accepted by Owner.
 - 6. Material remaining on hand after completion of Work.

1.5 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

- A. Partial Payment: No partial payments will be made for materials and equipment delivered or stored unless Shop Drawings, preliminary O & M manuals, Maintenance Summary Forms and Recommended Spare Parts for Owners' Inventory are completed and acceptable to Construction Manager.
- B. Final Payment: Will be made only for products incorporated in Work; remaining products, for which partial payments have been made, shall revert to Contractor unless otherwise agreed, and partial payments made for those items will be deducted from final payment.

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MEASUREMENT AND PAYMENT**

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PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

PART 1 GENERAL

1.1 DEFINITIONS

- A. Definitions for common terms used in these documents are provided in Article 3, Contract Provisions.

1.2 CONTRACT WORK

- A. The work of this and other contracts at the ALCOSAN site will be coordinated by the Construction Manager, with the assistance of the Owner and Engineer, as appropriate.
- B. Other work will be performed on site by others prior to, during, or, in sequence with scheduled performance of Work under these Contract Documents. This other work will occur in adjacent areas of the plant site and may also occur within the ERF facility (the building housing the Fluid Bed Incinerators). Some of this other work will involve hinderances to traffic flow and access within the plant.
- C. The Contract Drawings indicate/designate Contractor staging areas. This drawing is provided for information and planning purposes. Refer to Section 01500, CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS, as well for detailed information.
- D. The Contractor shall recognize that varying interactions with plant operations and possibly other contract activity will occur over the course of prosecuting the Work under this Contract. Coordination of work activities is critical to the effective completion of the Work, and the Contractor shall cooperate fully with the Owner and Construction Manager in planning and executing the Work in the most effective manner to ensure quality construction and proper plant operations.

1.3 UTILITY WORK

- A. Utility Contacts: Notify applicable utilities as appropriate prior to commencing Work, if damage occurs which affects the utility, or if conflicts or emergencies affecting the utility arise during Work. Note that the actual utilities listed below and the information about them may be dated and/or inaccurate. The contractor shall determine the proper utility & contact information.
 - 1. Pittsburgh Water and Sewer Authority:
 - a. Office address: 441 Smithfield Street, Pittsburgh, PA 15222.
 - b. Contact person: Mr. David Walker, Assistant Director.
 - c. Telephone: 412-255-8949.
 - 2. Equitable Gas Company:
 - a. Office address: No. 4 South Ninth Street, Pittsburgh, PA 15203.
 - b. Telephone: 412-281-9911.

3. Duquesne Light Company:
 - a. Office address: 301 Grant Street, Pittsburgh, PA 15279.
 - b. Telephone: 412-393-6000.
4. Bell of Pennsylvania:
 - a. Office address: 416 Seventh Avenue, Pittsburgh, PA 15219.
 - b. Telephone: 800-242-1776.

1.4 WORKING HOURS

- A. Normally, Contractor (and Subcontractor) working hours consist of 8 working hours within a 10-hour period between 7:00 A.M. to 5:00 P.M., on a regularly scheduled basis, excluding Sundays and holidays. Work hours outside of this time frame must be approved through the Construction Manager. Approval for work outside normal working hours shall be requested no later than 48 hours prior to start of the respective work period.
- B. The Contractor shall schedule all Job Site Work so that its working hours and the normal working hours of the Owner coincide. Should it be necessary to work hours other than the Owner's normal working hours, the Contractor shall arrange for access to the area with the Construction Manager, in writing, no less than 48 hours prior to this need.
- C. N/A

1.5 PROJECT MEETINGS

- A. General:
 1. The Construction Manager will:
 - a. Schedule and provide physical arrangements for meetings throughout progress of Work.
 - b. Prepare meeting agenda with Owner, Engineer, and Contractor input.
 - c. Distribute written notice of each meeting, with agenda attached, no less than 48 hours prior to the scheduled meeting,
 - d. Preside over meetings.
 - e. Record minutes to include significant proceedings and decisions, assign actions and deadlines to all issues, and reproduce and distribute copies of minutes within 5 days after each meeting to participants and parties affected by meeting decisions.
 2. Representatives of Owner, Construction Manager, Engineer, and Contractor shall attend meetings.
- B. Pre-Construction Conference:
 1. Reference Article 3, Contract Provisions.
 2. Contractor shall be prepared to discuss, at a minimum, the following subjects:
 - a. Mobilization schedule.

- b. Preliminary schedule of technical and administrative submittals.
- c. Procedures for processing submittals.
- d. Preliminary schedule of values.
- e. Sequencing of critical path work items.
- f. Maintenance required records.
- g. Status of Bonds and Insurance.
- h. Project changes and clarification procedures.
- i. Use of site, access, office and storage areas, security and temporary facilities.
- j. Major product delivery and priorities.
- k. Contractor's safety plan and site representative.
- l. Progress payment procedures.
- 3. Attendees shall include but not necessarily be limited to:
 - a. Contractor's Project Manager and Superintendent.
 - b. Contractor's quality control representative.
 - c. Subcontractor representatives whom Contractor may desire or Owner may request to attend.
 - d. Construction Manager.
 - e. Project Engineer
 - f. Owner representatives.

C. Progress Meetings:

- 1. Reference Article 3. Contract Provisions.
- 2. The Construction Manager will schedule weekly progress meetings at site to review work progress, progress schedule, shop drawing and sample submissions schedule, application for payment, contract clarifications and modifications, coordination with ALCOSAN and other Contractors, and other matters pertinent to project execution.
- 3. Attendees will include:
 - a. Owner's representative(s), as appropriate.
 - b. Contractor, Subcontractor, and Suppliers, as appropriate.
 - c. Construction Manager.
 - d. Project Engineer.
- 4. Attendance is mandatory for all Contractors working on the site at the time of the meeting. Contractors Project Managers shall attend all weekly progress meetings.

D. Quality Assurance and Coordination Meeting(s):

- 1. The Construction Manager will schedule on a regular basis, and as necessary, meetings to review test and inspection reports, and other matters relating to quality control of the Work.
- 2. Attendees will include:
 - a. Contractor
 - b. Contractor's designated quality control representative
 - c. Selected Subcontractors and Suppliers
 - d. Construction Manager

- e. Outotec [formerly Energy Products of Idaho (EPI)] representative (if needed or available).
- f. Any others deemed necessary by Construction Manager.

E. Pre-Start /Pre-Installation Meetings:

- 1. When required in individual Specification sections, or as stipulated in Section 01050, CONSTRUCTION SEQUENCING, convene at site prior to commencing Work of that section or task. Refer to individual sections and Section 01050, CONSTRUCTION SEQUENCING for specific requirements.
- 2. Requires attendance of entities directly affecting or affected by the Work of that section.
- 3. The Contractor shall comply with notification requirements as outlined in the specific specification sections. In the absence of a specific notification requirement, requests for a meeting shall be made to the Construction Manager by the Contractor no less than 14 calendar days in advance of the proposed meeting date.
- 4. Accompanying the request for a meeting shall be a proposed agenda prepared by the Contractor to include, at a minimum:
 - a. Reviewing conditions of installation.
 - b. Preparation, installation, and/or application procedures.
 - c. Coordination with related any Work and/or work of others.

F. Other Meetings in accordance with Contract Documents and as may be required by Owner or Construction Manager.

1.6 SEQUENCE OF WORK

- A.** Sequence of work in this Contract will be combined and coordinated with the sequencing of other Contracts to form an overall sequence approved by the Construction Manager in accordance with Specification Section 01050, CONSTRUCTION SEQUENCING.

1.7 ADJACENT FACILITIES AND PROPERTIES

A. Examination:

- 1. After the effective date of the contract and before Work at site is started, Contractor, Owner, Construction Manager, any affected property Owners and utility Owners shall make thorough examination of pre-existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be impacted by construction operations. Periodic reexamination shall be jointly performed to include, but not be limited to, traffic coordination, operational impacts or disruptions, damage to property or assets, and similar conditions.
- 2. Construction Manager shall document all observations for corroboration by

Owner and Contractor.

B. Documentation:

1. The Prime Contractors will provide three original sets of photographs, videotape, and/or other records documenting examination for Owner's and Contractor's signature. Owner and Contractor will review, sign, and date each observation document, and return all three sets to the Construction Manager. The Construction Manager shall then distribute one set to the Contractor to be kept on file in Contractor's field office as site records. A second set will be retained by the Construction Manager, and the Owner will keep the third set.
2. These observation documents are intended for use as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor's operations, and are for the mutual protection of adjacent Property Owners, Contractor, and Owner.

1.8 OWNER'S OCCUPANCY

- A. Owner will occupy the premises during the entire period of construction for the conduct of its normal operations. Contractor will cooperate with Owner in all construction operations to minimize conflict and to facilitate Owner usage. Reference Section 01050, CONSTRUCTION SEQUENCING.

1.9 REFERENCE POINTS AND SURVEYS

- A. Reference Points: Owner shall provide engineering surveys to establish reference points and monuments. Contractor shall report to Construction Manager whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by Professional land surveyor registered in the Commonwealth of Pennsylvania.
- B. Owner's Responsibilities:
1. Establish bench marks convenient to Work.
 2. Establish horizontal reference points or coordinate system with bench marks and reference points for Contractor's use as necessary to lay out Work.
- C. Location and elevation of bench marks are shown on Drawings.
- D. Dimensions for lines and elevations for grades of structures, appurtenances, and utilities are indicated on Drawings, together with other pertinent information required for laying out Work. If conditions vary from those indicated, notify Construction Manager immediately, who will make adjustments as required.
- E. Construction Manager may perform checks to verify accuracy of Contractor's layout

Work and that completed Work complies with Contract Documents.

- F. Any existing survey points or other control markers destroyed without proper authorization will be replaced by the owner of the survey points or control markers at the Contractor's expense.
- G. Contractor's Responsibilities:
1. Provide additional survey and layout required. General Contractor shall supply temporary benchmarks convenient by location for use by other Prime Contractors.
 2. Locate and protect reference points prior to starting site preparation.
 3. Notify Construction Manager at least 5 working days in advance of time when grade and line to be provided by others will be needed.
 4. Check and establish exact location of existing facilities prior to construction of new facilities and any connections thereto.
 5. In event of discrepancy in data or staking provided by Owner, request clarification before proceeding with Work.
 6. Preserve and leave undisturbed control staking until Construction Manager has completed checks it deems necessary.
 7. Re-establish reference points resulting from destruction by Contractor's operations.
 8. Establish clearing limits, center lines of roads and pipelines, set toe of fill and top of cut stakes, and set bench marks convenient for use as necessary to establish basic layout of Work.
 9. Provide professional land surveyor or civil engineer registered in Pennsylvania who shall perform or supervise engineering surveying, competent employee(s), tools, stakes, and other equipment and materials as may be required to:
 - a. Establish temporary control points, lines, and site limits.
 - b. Replace disturbed control points or bench marks.
 - c. Check layout, survey, and measurement Work performed by others.
 - d. Measure quantities for payment purposes.
 - e. Verify all as-built drawing changes made to contract drawings.
 10. Cooperate with Construction Manager so that checking and measuring may be accomplished with least interference to Contractor's operations.
 11. Maintain complete and accurate log of survey Work as it progresses as a Record Document. Submit to Construction Manager quarterly updates for review and acceptance.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 CUTTING, FITTING, AND PATCHING

This specification is intended to provide general requirements for cutting, fitting, and patching existing site features, facilities, structures, and utilities where new

installations interface with existing. In the event cutting, fitting, and patching is addressed in a technical section of the contract documents (i.e. Divisions 2 through 16, or the Drawings), this section shall be superseded by the technical specification. In cases involving prior approval for work activities, Section 01050, CONSTRUCTION SEQUENCING shall supersede this section, as appropriate.

A. General:

1. Cut, fit, adjust, or patch the Work, including excavation and backfill as required, to make the Work complete and useable.
2. Obtain authorization, no less than five (5) working days prior to initiating the work, from the Construction Manager before cutting or otherwise altering:
 - a. Existing structural or reinforcing steel, structural columns or beams, elevated slabs, trusses, or any other structural member.
 - b. Weather or moisture resistant components or elements, building shells, waterproof or water-holding components or structures, new or existing pipe.
 - c. Work of others.
3. Refinish surfaces of new and existing materials to provide a uniform and even appearance and finish.
 - a. Roadway surfaces shall be patched and restored to provide a continuous and uniform surface.
 - b. Areas of new installation that cannot be matched with existing shall be refinished to the extent that results in a uniform, finished area or surface (for example, a painted wall that has been penetrated cannot be spot painted to match the rest of the existing wall, therefore, the entire wall shall be painted to match the adjoining/adjacent walls as closely as possible).
4. All restoration work shall be accomplished with new materials, with the exception of excavated materials that satisfy the requirements of acceptable backfill material.

B. Penetrations, cuts, or connections in masonry components shall be patched and pointed with matching materials and finished in a neat and workmanlike manner so as to maintain a uniform appearance with the existing component. Weathertight conditions shall be restored or maintained as appropriate.

C. Any damages to existing structures, facilities, components, elements, or property resulting from cutting, fitting, or patching shall be repaired and restored to a condition equal to or better than was existing prior to the damage. Replacement of a damaged article, element, or component, should that be the preferred option of repair/restoration, shall be with a new article, element, or component.

D. Should specific assignment of the restorative work associated with cutting or fitting not be made in the technical sections of these documents, responsibility for the restorative effort shall fall to the party executing the cutting or fitting.

3.2 SALVAGE OF MATERIALS

- A. Materials, elements, or components identified to be salvaged shall be removed in a manner to assure no damage occurs. Salvaged items shall be moved immediately to an area within the ALCOSAN plant site, as designated by the Owner. Prior to any demo, the contractor shall consult with the CM & Owner to determine if the Owner desires any materials/items/appurtenances to be salvaged/retained.
- B. Coordinate with the Construction Manager no less than five (5) working days prior to dismantling items to be salvaged to establish the respective storage location for the salvaged item(s). Refer to Section 01050, CONSTRUCTION SEQUENCING for scheduling and approval requirements associated with such work.
- C. In the event salvaged items are damaged during the removal process, the Contractor shall repair or replace in kind the damaged item.
- D. Salvaged items shall be properly stored on pallets or supports, effectively keeping the stored item off the ground surface or floor. If stored outside and not under cover, the item shall also be completely covered with a properly and effectively secured durable 60-mil polyethylene sheet to protect the item from the weather.

END OF SECTION

PART 1 GENERAL

1.1 PURPOSE

- A. This section identifies mandatory construction sequencing requirements and constraints to provide coordination among multiple prime contracts in this contract package, to allow numerous overall contracts at the site to be executed in the same time frame, and to permit continuous and effective wastewater treatment and solids handling throughout the construction period.
- B. This contract is part of an overall Capital Improvements Plan. Other related (or unrelated) contracts which may be completed prior to, in sequence with, or following the work in this contract are:
1. Contract 1723 North End Plant Expansion
 2. Contract 1729 East Headworks
 3. Contract 1760 CSO Bypass and Disinfection
 4. Contract 1799 Solids Thickening and Dewatering Improvements
 5. Contract 1810 Misc. Roof Repairs 2024-2025
- This is only a partial list. Other contracts/work may also occur that may/may not impact this contract.
- C. Construction sequences presented in this section (or elsewhere in the contract documents) outline the intent of the Owner with respect to the general progress of work. Sequences and construction activities noted are not intended to be comprehensive or all inclusive. Many other construction activities and work components, although not specifically noted, are integral parts of the work included in the Contract Documents and must be both scheduled and completed. These include but are not limited to the following:
1. Quality control testing.
 2. Painting.
 3. Providing manufacturers' services and O&M Manuals.
 4. Functional and performance testing of equipment and systems.
 5. Startup and closeout.
- D. Construction Work must be in stages allowing for the Owner's continuous occupancy and for uninterrupted operation and maintenance during construction. Unless specifically indicated otherwise, new systems or subsystems as appropriate shall be substantially complete before existing systems are taken out of service and made available to the Contractor. See Specification Section 01650, FACILITY STARTUP. Coordinate construction schedule and plant operations with Owner.

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- E. Be responsible for flow bypass facilities and temporary connections, as required, to maintain Owner's operations. Sequences other than those specified will be considered by the Construction Manager provided they afford equivalent continuity of wastewater treatment and plant operations.
- F. Operations requiring actions by the Owner, such as but not limited to redirection of flow, isolating or draining tanks and channels, and short-term process and power outages, shall be included in Contractor's detailed progress schedule. Such scheduled operations will be considered upon 14 days written request to the Owner. Describe the reason, anticipated length of time, and areas affected by the outage in the written request. Provide temporary means for continuing power supply to critical existing facility components if requested by Owner.
- G. In addition to identifying and providing written notice for operations requiring actions by the Owner, Contractor shall include a "reasonable" time period in schedule (minimum of 14 days unless noted otherwise) for the Owner to prepare and respond to work request prior to construction activities.
- H. Perform Work continuously and expeditiously during critical connections and changeovers, and as required to prevent interruption of the Owner's operations.

1.2 DRAINING AND CLEANING OF EXISTING FACILITIES

- A. Where the Drawings indicate modifications, demolition, relocation, and/or connections to existing piping, ductwork, or conveyor systems, it shall be the Contractor's responsibility to drain and clean such systems and facilities after agreeing upon appropriate procedures and isolation points with Owner. Any hosing or cleaning of the pipe, ductwork, tanks, or conveyors, if considered necessary by the Contractor, shall be done at the sole discretion of the Contractor to suit the means and methods of construction employed and to protect the health and safety of construction personnel.

1.3 LEAKAGE HANDLING

- A. Owner will open and close existing sluice gates, knife gates and valves, in order to accommodate scheduled construction activities. However, the Contractor shall be responsible for providing and operating temporary facilities to contain and/or remove leakage through these sluice gates, knife gates and valves.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 GENERAL

- A. Include the Milestones and sequences of Work specified herein as a part of the progress schedule required under Section 01310, CONSTRUCTION SCHEDULES.

- B. Coordination:
 - 1. Construction work performed under this contract shall interfere to the least extent possible with the normal operation of the ALCOSAN Wastewater Treatment Plant. Plant shall be maintained in continuous operation at all times during the course of the work performed under this Contract.
 - 2. All operations of valves and gates required to perform the work shall be done by ALCOSAN personnel. Construction Manager, Shift Superintendent, and ALCOSAN Operations personnel will coordinate this work, and no valve, gate or other equipment shall be operated without their knowledge. Shift Superintendent shall be informed at least 24 hours in advance of the need to operate valves or gates or other actions which could affect the operation of the treatment plant.
 - 3. Insofar as possible, equipment and facilities shall be tested and in operating condition before final tie-ins are made to connect new equipment and facilities to existing equipment and facilities.

- C. Operation and Shutdown of Existing Facilities:
 - 1. Conduct Work outside regular working hours only with the prior written consent of Construction Manager. Construction Manager may approve work outside normal working hours to maintain Project Schedule or avoid undesirable conditions. However, under no circumstances cease Work at the end of a normal working day if such actions may cause a cessation of any facility operating process. In such cases, remain onsite until necessary Work is complete.
 - 2. Do not proceed with Work affecting a facility's operation without obtaining Owner's advance approval of the need for and duration of such Work.
 - 3. Provide request for approval to Owner 14 days in advance of need to shut down a process or facility. For shutdowns requiring regulatory agency permission, Owner will determine amount of time required to secure such permission and Contractor will provide appropriate notice.

- D. Relocation of Existing Facilities:
 - 1. During construction, it is expected that minor relocations of Work will be necessary. This is considered incidental and included in the Contract Price.
 - 2. Provide complete relocation of existing structures, ductwork, and underground facilities, including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and/or necessary items as required by the Contract Documents.

3. Use only new materials for relocated facilities. Match materials of existing facilities, unless otherwise shown or specified.
4. Perform relocations to minimize downtime of existing facilities.
5. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise approved by Owner.

3.2 CONSTRUCTION SEQUENCE GENERAL CONSTRAINTS

- A. Throughout the construction of the Project, operations of the ALCOSAN Wastewater Treatment Plant are to be disrupted to the least extent possible. This requires that the frequency and duration of plant system and/or subsystem outages or shutdowns be minimized. The sequence and requirements outlined in this section are intended to establish a general approach to accomplishing specific aspects of the work under this contract (not all aspects of the Work are addressed within this section).
- B. Alternatives to the specified approaches and duration limits are possible, however, deviating from the specified sequences or duration limits will require development of a formal proposal which can be reviewed by the Construction Manager for subsequent review with the Owner. Development and submission of an alternative approach or duration limit does not constitute approval by the Owner. The Contractor must be prepared to execute the Work in concert with the manner and sequences specified herein.
- C. All work within this contract, including the details outlined in this section, shall be scheduled in accordance with Section 01310, CONSTRUCTION SCHEDULES. While all work within the project scope shall be clearly identified within the schedule, work requiring a system, subsystem, or component outage or shutdown shall be preceded by no less than a 14-day confirmation notice to the Construction Manager that the outage/shutdown is planned to occur. This confirmation notice shall be made in writing, and shall be identified as, at a minimum, a milestone activity within the schedule. Confirmation notice is subject to approval by the Owner, and should operational issues require rescheduling of the specific work activity, the Contractor will be notified within 48 hours of submission of the confirmation notice that such rescheduling will be required.
- D. At a minimum of 14 days prior to submission of a confirmation notice, the Contractor shall develop and submit to the Owner a detailed plan for accomplishing the interconnection. This plan shall be reviewed by the Owner and returned to the Contractor for submission with the confirmation notice. Only an approved interconnection plan may accompany a confirmation notice submitted for final review and endorsement by the Owner. A coordination meeting will be subsequently held to ensure that all issues surrounding the interconnection are addressed and properly accommodated. The meeting will be held no less than one week prior to the planned interconnection, and shall be attended by the Contractor, Subcontractor (as appropriate), Construction Manager, Project Engineer, and Owner. At this meeting, the Contractor shall be prepared to review in detail the plan for accomplishing the

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interconnection. The plan for accomplishing the interconnection shall include, at a minimum:

1. Start time of the system interconnection work.
 2. Planned duration of the interconnection work.
 3. Valves, breakers, and circuits that need to be secured in order to isolate the point of the interconnection, and any respective timing or sequencing associated with the valves, breakers, and circuits.
 4. Contractor personnel required to effectively complete the specific task, including those personnel in supervisory positions, and those with the authority for decision-making.
 5. Materials to be on hand prior to securing any valves in the existing system.
 6. Tools to be on hand during the interconnection, including quantities.
 7. Equipment to be on hand during the interconnection, including quantities.
 8. A detailed sequence of work activities to effectively monitor, control, and complete the specific interconnection work.
 9. Any preparatory work that could/should/must be accomplished prior to initiating the interconnection work.
 10. Or other items pertinent to the interconnection that the Contractor, Owner, or Construction Manager deem necessary or appropriate to incorporate into the plan.
- E. All materials needed to effectively complete the interconnection shall be procured and on site prior to initiating the interconnection activity. Construction Manager shall review and confirm with the Contractor that all needed materials are staged at the specific work site no less than 24 hours prior to initiating the interconnection work. Failure to have all materials properly staged will constitute failure by the Contractor to be prepared to effectively complete the interconnection work, and the work will be canceled and rescheduled via the process described herein.
- F. All tools needed to effectively complete the interconnection shall be procured and on site prior to initiating the interconnection activity. Construction Manager shall review and confirm with the Contractor that all needed tools are staged at the specific work site no less than 24 hours prior to initiating the interconnection work. Failure to have all tools properly staged will constitute failure by the Contractor to be prepared to effectively complete the interconnection work, and the work will be canceled and rescheduled via the process described herein.
- G. All equipment needed to effectively complete the interconnection shall be procured and on site prior to initiating the interconnection activity. Construction Manager shall review and confirm with the Contractor that all needed equipment is staged at the specific work site no less than 24 hours prior to initiating the interconnection work. This confirmation shall include ensuring that the equipment is operable. Failure to have all equipment properly staged will constitute failure by the Contractor to be prepared to effectively complete the interconnection work, and the work will be canceled and rescheduled via the process described herein.

- H. During electrical interconnection activities, all existing breakers and circuits to be opened shall be locked, and any new breakers associated with the interconnection are to be installed in the open position.
- I. Existing level of site lighting must be maintained by the Contractor over the course of construction. Demolition of existing site lighting as a requirement to conduct construction operations must result in provision of temporary lighting to allow maintenance of plant site lighting levels. This applies to both indoor and outdoor systems. Temporary site lighting must be maintained until that point when the Contractor is complete with the work and demobilized off the site, or the permanent site lighting has been installed, whichever occurs first.
- J. Access to the plant must be maintained at all times during construction. Planned deliveries or construction activities that will result in a temporary road blockage shall be coordinated with the Owner. In any case of a temporary road blockage, proper signage shall be placed at entrances to the affected road to clearly communicate that passage along that particular route is no longer available, and what other routes are available. This signage shall be provided by the General Contractor.
- K. Valves, breakers, or circuits shall be opened and closed only by the Owner or, at the option of the Owner, by the Contractors personnel with the Owner present.

3.3 CONSTRUCTION SEQUENCES

- A. Operational Requirements:
 - 1. One of the Owner's two (2) Fluidized Bed Incinerators & their accompanying waste heat boiler components (the entire incineration equipment train) needs to remain in service throughout the duration of this contract. Likewise, the contractor shall limit the duration of any work item/component that will render that incineration train inoperable and shall coordinate closely with the Owner prior to and during said work. Owner approval is required to schedule & start any work such work.
 - 2. The work performed under this contract shall not impede or interfere with the operation of the operating incineration train or any related or unrelated process or operation

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CONSTRUCTION SEQUENCING**

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B. Construction Requirements:

1. The inside of the afterburner, ductwork, evaporator and economizer are all considered a confined space. Work inside these structures requires a confined space entry permit as specified in Section 01010. The contractor shall provide continuous ventilation and air quality monitoring for hazardous gases while working in these tanks.
2. The exact construction sequence shall be determined by the contractor, as part of their means & methods.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

- A. Reference to standards and specifications of technical societies and reporting and resolving discrepancies associated therewith shall be as provided in Article 3 - Contract Provisions and as may otherwise be required herein and in the individual specification sections.
- B. Work specified by reference to the published standard or specification of a government agency, technical association, trade association, professional society or institute, testing agency, or other organization shall meet the requirements or surpass the minimum standards of quality for materials and workmanship established by the designated standard or specification. Where Work is specified in accordance with a standard, the most current standard at the time of Bid applies; when Work is in accordance with a regulatory code, the code in effect (not necessarily the most recently published) applies.
- C. Where so specified, products or workmanship shall also meet or exceed the additional prescriptive or performance requirements included within the Contract Documents to establish a higher or more stringent standard of quality than that required by the referenced standard.
- D. Where two or more standards are specified to establish quality, the product and workmanship shall meet or exceed the requirements of the most stringent as determined by the Project Engineer and/or Owner.
- E. Where both a standard and a brand name are specified for a product in the Contract Documents, the proprietary product named shall meet or exceed the requirements of the specified reference standard.
- F. Copies of standards and specifications of technical societies:
 - 1. Copies of applicable referenced standards have not been bound in these Contract Documents.
 - 2. Where copies of standards are needed by the Contractor, obtain a copy or copies directly from the publication source and maintain in an orderly manner at the site as Work site records, available to the Contractor's personnel, Subcontractors, Owner, Construction Manager and Project Engineer.
- G. Where the Contractor is to perform work in accordance with standards, the most current standard shall apply. Where work is to conform to codes, the current code in effect (not necessarily the most recently published) shall apply.

1.2 ABBREVIATIONS

- A. Abbreviations for trade organizations and government agencies: Following is a list of construction industry organizations and government agencies to which references may be made in the Contract Documents, with abbreviations used.

1.	AA	Aluminum Association
2.	AABC	Associated Air Balance Council
3.	AAMA	American Architectural Manufacturers Association
4.	AASHTO	American Association of State Highway and Transportation Officials
5.	ACI	American Concrete Institute
6.	AFBMA	Anti-Friction Bearing Manufacturers' Association
7.	AGA	American Gas Association
8.	AGMA	American Gear Manufacturers' Association
9.	AI	Asphalt Institute
10.	AISC	American Institute of Steel Construction
11.	AISI	American Iron and Steel Institute
12.	AITC	American Institute of Timber Construction
13.	ALS	American Lumber Standards
14.	AMA	Acoustical Materials Association
15.	AMCA	Air Movement and Control Association
16.	ANSI	American National Standards Institute
17.	APA	American Plywood Association
18.	API	American Petroleum Institute
19.	APWA	American Public Works Association
20.	AREA	American Railway Engineering Association
21.	ARI	Air Conditioning and Refrigeration Institute
22.	ASA	American Standards Association
23.	ASAE	American Society of Agricultural Engineers
24.	ASCE	American Society of Civil Engineers
25.	ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
26.	ASME	American Society of Mechanical Engineers
27.	ASTM	American Society for Testing and Materials
28.	AWI	Architectural Woodwork Institute
29.	AWPA	American Wood Preservers' Association
30.	AWPB	American Wood Preservers Bureau
31.	AWPI	American Wood Preservers' Institute
32.	AWS	American Welding Society
33.	AWWA	American Water Works Association
34.	BHMA	Builders Hardware Manufacturers' Association
35.	BOCA	Building Officials and Code Administrator's
36.	CBMA	Certified Ballast Manufacturers' Association
37.	CDA	Copper Development Association
38.	CGA	Compressed Gas Association

**SECTION 01092
ABBREVIATIONS**

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39.	CIPRI	Cast Iron Pipe Research Institute
40.	CISPI	Cast Iron Soil Pipe Institute
41.	CMAA	Crane Manufacturers' Association of America
42.	CRSI	Concrete Reinforcing Steel Institute
43.	CS	Commercial Standard
44.	CSA	Canadian Standards Association
45.	CSI	Construction Specifications Institute
46.	CTSS	Caltrans Standard Specification
47.	EJCDC	Engineers Joint Contract Documents' Committee
48.	ETL	Engineering Test Laboratories
49.	FCC	Federal Communications Commission
50.	FEMA	Federal Emergency Management Agency
51.	FGMA	Flat Glass Marketing Association
52.	FM	Factory Mutual
53.	Fed. Spec.	Federal Specifications
54.	FS	Federal Specification
55.	GA	Gypsum Association
56.	HI	Hydraulic Institute
57.	HMI	Hoist Manufacturers' Institute
58.	ICBO	International Conference of Building Officials
59.	ICEA	Insulated Cable Engineers' Association
60.	IEEE	Institute of Electrical and Electronics Engineers, Inc.
61.	IES	Illuminating Engineering Society
62.	IFI	Industrial Fasteners Institute
63.	ISA	Instrument Society of America
64.	ISO	Insurance Service Office
65.	JIC	Joint Industry Conferences of Hydraulic Manufacturers
66.	MIA	Marble Institute of America
67.	Mil. Sp. or MIL	Military Specification
68.	MS	Military Specifications
69.	MMA	Monorail Manufacturers' Association
70.	NAAMM	National Association of Architectural Metal Manufacturers
71.	NACE	National Association of Corrosion Engineers
72.	NBHA	National Builders' Hardware Association
73.	NEC	National Electrical Code
74.	NECA	National Electrical Contractor's Association
75.	NEMA	National Electrical Manufacturers' Association
76.	NESC	National Electric Safety Code
77.	NFPA	National Fire Protection Association
78.	NHLA	National Hardwood Lumber Association
79.	NHPMA	Northern Hardwood and Pine Manufacturer's Association
80.	NLA	National Lime Association
81.	NLMA	National Lumber Manufacturers' Association
82.	NRCA	National Roofing Contractors Association
83.	NSF	National Sanitation Foundation Testing Laboratory

**SECTION 01092
ABBREVIATIONS**

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84.	NSPE	National Society of Professional Engineers
85.	NTMA	National Terrazzo and Mosaic Association
86.	NWWDA	National Wood Window and Door Association
87.	OECI	Overhead Electrical Crane Institute
88.	OSHA	Occupational Safety and Health Act (both Federal and State)
89.	PCI	Pre-stressed Concrete Institute
90.	PEI	Porcelain Enamel Institute
91.	PPI	Plastic Pipe Institute
92.	PS	Product Standards Section-U.S. Department of Commerce
93.	RMA	Rubber Manufacturers' Association
94.	SAE	Society of Automotive Engineers
95.	SCPRF	Structural Clay Products Research Foundation
96.	SDI	Steel Deck Institute
97.	SDI	Steel Door Institute
98.	SIGMA	Sealed Insulating Glass Manufacturing Association
99.	SJI	Steel Joist Institute
100.	SMACNA	Sheet Metal and Air Conditioning Contractors National Association
101.	SPI	Society of the Plastics Industry
102.	SSPC	Steel Structures Painting Council
103.	SWI	Steel Window Institute
104.	TEMA	Tubular Exchanger Manufacturers' Association
105.	TCA	Tile Council of America
106.	UBC	Uniform Building Code
107.	UFC	Uniform Fire Code
108.	UL	Underwriters Laboratories Inc.
109.	UMC	Uniform Mechanical Code
110.	US	U.S. Bureau of Standards
111.	USBR	Bureau of Reclamation
112.	WCLIB	West Coast Lumber Inspection Bureau
113.	WWPA	Western Wood Products Association

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

PART 1 GENERAL

1.1 GENERAL

- A. Refer to Article 3, Contract Provisions:
- B. Identification of Submittals:
 - 1. Complete, sign, and transmit with each Submittal package, one Transmittal Form furnished by the Owner.
 - 2. Identify each Submittal with the following numbering and tracking system:
 - a. Sequentially number each Submittal.
 - b. Resubmission of a Submittal will have original number with sequential alphabetic suffix.
 - 3. Format: Orderly, indexed with labeled tab dividers.
 - 4. Show date of submission.
 - 5. Show Project title and Owner's contract identification and contract number.
 - 6. Show names of Contractor, Subcontractor or Supplier, and manufacturer as appropriate.
 - 7. Identify, as applicable, Contract Document section and paragraph to which Submittal applies.
 - 8. Identify Submittal type; submit only one type in each Submittal package.
 - 9. Identify and indicate each deviation or variation from Contract Documents.
- C. Resubmissions: Clearly identify each correction or change made.
- D. Incomplete Submission of Submittals:
 - 1. At CM, Project Engineer's, or Owners discretion, CM will either (i) return the entire Submittal for Contractor's revision/correction and resubmission, or (ii) retain portions of the Submittal and request submission/resubmission of specified items or as noted thereon.
 - 2. Submittals which do not clearly bear Contractor's specific written indication of Contractor review and approval of Submittal or which are transmitted with an unsigned or uncertified submission form or as may otherwise be required under Contract Documents, will be returned to Contractor unreviewed for resubmission.
 - 3. Delays, resequencing or other impact to Work resulting from Contractor's submission of unchecked or unreviewed, incomplete, inaccurate or erroneous, or nonconforming Submittals, which will require Contractor's resubmission of a Submittal for the Project Engineer's or Owner's review, shall not constitute a basis of claim for adjustment in Contract Price or Contract Time.

E. Review of Submittals:

1. Contractor: Prior to submittal to the Construction Manager for the Engineer's review, the Contractor shall use all means necessary to fully coordinate all submitted material, including but not limited to the following procedures:
 - a. Determine and verify all necessary dimensions, conditions, materials, product information and similar data.
 - b. Indicate all deviations from the Contract Documents.
 - c. Submittals shall be marked with the date, the checker's name and be stamped "Approved for Submittal." Submittals not marked in this manner may be returned without action by the Engineer.
 - d. Submittals are intended to amplify the Contract Documents and must not contain deviations from them unless covered by a Change Order proposal. Proposed deviations shall be clearly noted on the letter of transmittal by the Contractor.
 - e. Check submittals for correctness, proper identification, and completeness. Verify that the submittal meets all Contract requirements.
2. Project/Consulting Engineer:
 - a. The Engineer shall review each submittal for approval. Such approval shall be in writing by the Engineer and shall be coded (1)"No Exceptions Taken," (2)"Make Corrections Noted," (2R) "Approved as Noted, Resubmit," (3)"Amend and Resubmit," or (4)"Rejected."
 - b. The Engineer will return the Submittals to the Construction Manager for return to the Contractor for appropriate action. Under codes (1), (2), and (2R) the Work may proceed. Under codes (3) and (4) the Work may not proceed. Under code (2R) corrected copies of the submittal are required for the Engineer and Owner's files. Resubmittals under code (2R) will only be reviewed to verify review comments have been incorporated.
 - c. No Material or Equipment shall be processed or fabricated for the Work nor delivered to the Jobsite or installed without prior written approval, Codes (1), (2), or (2R), of Shop Drawings by the Engineer which is to be obtained by the Contractor.
 - d. The Engineer's approval of Submittals, will involve a check to ascertain conformance with the design. The Contractor is responsible for confirmation and correlation of dimensions; for information pertaining solely to fabrication and installation processes or techniques; and for coordination of major system component manufacturers.
 - e. The Engineer's review shall be made as soon as practical following the Construction Manager's receipt of each submittal. In scheduling, allow 20 working days for the Engineer's review.

1.2 SAMPLES

- A. Quantity: Submit a minimum of two, unless otherwise specified in an individual Specification Section or in sufficient quantity and of size to enable examination as required, to establish quality or equality thereof. The Owner will retain one sample.

- B Identification: In accordance with Part 1.4.B.
- C. Colors and Patterns: Unless the precise color and/or pattern is specifically described in the Contract Documents and whenever a choice of color or pattern is available in a specified product, the Contractor shall submit a complete, current, and accurate set of color/pattern charts for review and selection of color/pattern by the Consulting Engineer and/or Owner.

1.3 ADMINISTRATIVE SUBMITTALS

- A. Description: Submittals required by Contract Documents that are not Shop Drawings, or Samples, or that do not reflect quality of product or method of construction. Administrative Submittals may include, but will not be limited to those Submittals identified below.
- B. Safety Program: The Contractor shall submit his Safety Program as required in Article 3 prior to commencing any work on site.
- C. Schedules:
 - 1. Project Schedule(s): Meet the requirements of Section 01310, CONTRACTOR'S PROJECT SCHEDULE.
 - 2. Submittal Schedule:
 - a. The Contractor shall submit and maintain a Submittal Schedule which shall list all of the contract required administrative, quality control, technical, and close-out submittals required to complete the Work. This schedule shall be maintained on a spreadsheet or database PC software approved by the Construction Manager.
 - b. This Schedule will contain all of the projected submittal and return dates for the required submittals, particularly emphasizing long lead items of procurement. Submittal Schedule shall contain, as a minimum, the following information for each submittal:
 - 1) Contract Article/Specification Section Reference.
 - 2) Submittal Number/Package.
 - 3) Submittal Description.
 - 4) Submission date /Return date/Review duration.
 - 5) Review Action Code.
 - 6) Comments.
 - c. Coordinate with Project Schedule and prepare schedule of submittals. Submissions to show for each clearly identified submittal, the following:
 - 1) Specifically requested and clearly identified review time if shorter than that set forth herein for Consulting Engineer, with justification for such request and critical dates Submittals will be needed from Construction Manager.
 - 2) For first 6-month period from the date the Contract Time commences or following any update or adjustment of the schedule of submittals submissions, the estimated submittal submission date shall be week,

month, and year; for submittals submissions beyond 6-month time periods, show closest month and year.

- d. The Submittal Schedule shall support the Project Schedule and reflect the dates shown on the Project Schedule.
 - e. The Contractor's Submittal Schedule shall be submitted five (5) or more working days prior to the Preconstruction Conference and will be reviewed by the Consulting Engineer, the Construction Manager, and the Owner. It will be revised by the Contractor, as required, in order to support the Project Schedule and requirements of the Contract Documents. To be listed as a minimum are:
 - 1) Shop Drawings and Samples.
 - 2) Certificates of inspection.
 - 3) Test reports.
 - 4) Operation and maintenance manuals.
 - 5) Record documents.
 - 6) Specifically required certificates, warranties, and service agreements.
 - 7) Listing of specifications and products for which substitutes or "approved equals" will be proposed.
 - f. Identify items for which Contractor anticipates proposing substitute or "approved equal" products or methods.
 - g. Submit to Construction Manager monthly:
 - 1) Updated submittals schedule if changes have occurred, otherwise submit a written communication confirming existing schedule.
 - 2) Adjusted schedule of submittals submissions reflecting submittal submission activity planned for forthcoming 6-month time period and beyond. Coordinate with progress schedule updates.
3. Schedule of Values:
- The Schedule of Values is a statement furnished by the Contractor to the Construction Manager. It shall be submitted five (5) or more working days prior to the Preconstruction Conference and shall reflect the portions of the contract price allocated to various portions of the Work.
- a. Once accepted by the Construction Manager, the Schedule of Values shall be the basis for reviewing Payment Applications by the Contractor in accordance with the Schedule of Payments in the Contract Provisions.
 - b. This Schedule will contain all of the major components making up the Work, shall be coordinated with the Schedule of Payments, and shall contain, as a minimum, the following information:
 - 1) Organization of Work Items by Specification Section Reference.
 - 2) For all major Work Items/Components:
 - a) Listing of Labor Value.
 - b) Listing of Material/Equipment/Deliverable Value
 - 3) Reflect all activities shown on the Project Schedule.
 - 4) Show all Subtotals and Totals as directed by the Construction Manager to support the Payment Application Form.

- F. Training Materials: Meet the requirements of Section 01640, MANUFACTURER'S SERVICES.

- G. Submittals Required by Laws and Regulations and Governing Agencies:
1. Promptly submit notifications, reports, certifications, payrolls, and otherwise as may be required, directly to the applicable federal, state, or local governing agency or their representative.
 2. Transmit to Construction Manager one copy of correspondence and transmittals (to include enclosures and attachments) between Contractor and governing agencies.
- H. Disposition: Construction Manager will review, stamp, and indicate requirements for resubmission or acceptance on Submittal as follows:
1. Accepted:
 - a. Schedules: Acceptance will indicate that schedules provide for the orderly progression of the Work to completion within any specified milestones and the Contract Times, but such acceptance will neither impose on Construction Manager responsibility for the sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - b. Acceptance of other Administrative Submittals will indicate that Submittal conforms to intent of Contract Documents as to form and substance.
 - c. Contractor may proceed to perform Submittal related Work.
 - d. One copy furnished to Owner.
 - e. Two copies furnished to Construction Manager.
 - f. One copy retained in Consulting Engineer's file.
 - g. Remaining copies returned to Contractor appropriately annotated.
 2. Rejected as Noted:
 - a. Two copies retained in Consulting Engineer's file.
 - b. Two copies retained in the Construction Manager's file.
 - c. Remaining copies returned to Contractor appropriately annotated.
 - d. Contractor shall revise/correct or develop replacement and resubmit.

1.4 SHOP DRAWINGS

- A. Description: All drawings, diagrams, and schedules; manufacturer product information in the form of shop drawings and product data; and other data or information required to illustrate the Work.
- B. Identify and indicate:
1. Pertinent Specification Section, Drawing sheet(s) and detail number(s), products, units and assemblies, and system or equipment identification or tag numbers.
 2. Critical field dimensions and relationships to other critical features of work.
 3. Each proposed deviation or variation from Contract Documents.
 4. Pertinent information on Contractor review stamp to include the following:
 - a. Contractor name and address.

- b. Name of project/area of project.
 - c. Contract number.
 - d. Reviewer name/Telephone Number.
 - e. Date.
 - f. Specification section and paragraph.
 - g. Contract Drawing number.
 - h. Submittal number/revision.
 - i. Equipment Number.
- 5. Submit with Owner's transmittal form.
- C. Resubmissions: Clearly identify each correction or change made.
- D. Foreign Manufacturers: When proposed, include following additional information:
 - 1. Names and addresses of at least two companies closest to Project that maintain technical service representatives.
 - 2. Complete inventory of spare parts and accessories for each piece of equipment.
 - 3. Complete documentation of why the Buy American requirements in Article CONTRACT PROVISIONS cannot be complied with by the Contractor.
- E. Sample Disposition: Samples will not be returned.

1.5 QUALITY CONTROL SUBMITTALS

- A. Certificates:
 - 1. Manufacturer's Certificate of Compliance:
 - a. When specified in individual Specification Sections or where products are specified to a recognized standard or code, submit prior to installation of product or material into the Work.
 - b. When Contractor proposes to furnish an "approved equal", submit with shop drawing submittals.
 - c. Consulting Engineer may permit use of certain materials or assemblies prior to sampling and testing if accompanied by acceptable certification of compliance.
 - d. Signed by product manufacturer certifying that materials, manufacture, and product specified conforms to or exceeds specified requirements and intent for which product will be used. Submit supporting reference data, affidavits, and certifications as appropriate.
 - e. May reflect recent or previous test results on material or product, but must be acceptable to Consulting Engineer.
 - f. The Construction Manager shall receive copies of all required Certificates of Compliance.
 - g. Materials incorporated in the Work without required certification shall either be removed from the Work or allowed to remain pending further investigation and testing by the Owner at the expense of the Contractor.

6. Manufacturer's Certificate of Compliance: Shall clearly identify the following:
 - a. Identity of the materials.
 - b. Quantity of the materials.
 - c. Conformance to specified requirements.
 - d. Suitability of materials for intended use.
 - e. Name and number of Contract.
 7. Certificates of Successful Testing or Inspection: Submit when testing or inspection is required by Laws and Regulations or governing agency or specified in the individual Specification Sections.
 8. Manufacturer's Certificate of Proper Installation: As required in Section 01640, MANUFACTURERS' SERVICES. Coordinate with Section 01650, FACILITY STARTUP.
- B. Statements of Qualification: Evidence of qualification, certification, or registration. As required in these Contract Documents, to verify qualifications of professional land surveyors, engineers, materials testing laboratories, specialty subcontractors, trades, specialists, consultants, installers, manufacturer service representatives, and other professionals.
- C. Written Test Reports of Each Shop Test and Inspection: As a minimum, include the following:
1. Date of test and date issued, Project title and number, testing laboratory name, address, and telephone number, and name and signature of laboratory inspector.
 2. Date and time of sampling or inspection and record of temperature and weather conditions.
 3. Identification of product and Specification Section, location of Sample, test or inspection in the Project, type of inspection or test with referenced standard or code, certified results of test.
 4. Compliance with Contract Documents, and identifying corrective action necessary to bring materials and equipment into compliance.
 5. Interpretation of test results.
- D. Disposition: Consulting Engineer will review, stamp, and indicate requirements for resubmission or acceptance on Submittal as follows:
1. Accepted:
 - a. Acceptance will indicate that Submittal conforms to intent of Contract Documents as to form and substance.
 - b. Contractor may proceed to perform Submittal related Work.
 - c. One copy furnished to Owner.
 - d. Two copies furnished to Construction Manager.
 - e. One copy retained in Consulting Engineer's file.
 - f. Remaining copies returned to Contractor appropriately annotated.
 2. Rejected as Noted:

- a. Two copies retained in Consulting Engineer's file.
- b. Two copies retained in Construction Manager's file.
- c. Remaining copies returned to Contractor appropriately annotated.
- d. Contractor shall revise/correct or develop replacement and resubmit.

1.6 COORDINATION DRAWINGS

- A. Contractor shall prepare basic coordination drawings for project use, showing the location of piping and equipment to be installed under his contract. The Contract Documents will be used as a guide. Final coordination drawings will govern installation sequence and will be submitted to the Owner for record.
- B. Contractor shall take basic coordination drawings and add (draft) their particular trade item, in locations decided upon in coordination meetings. Contractor shall add items to the coordination drawings only after all present at the coordination meetings agree to their location. Sequencing of drawing additions will be as follows:
 - 1. Process Mechanical (prepares original coordination documents)
 - 2. Piping
 - 3. Civil/Structural

Adjustments in sequencing will be made as necessary in coordination meetings. Final Coordination Drawings will be signed by all Contractor.

1.7 CONTRACT CLOSEOUT SUBMITTALS

- A. Record and As Built Drawings: Submit in accordance with Section 01700; CONTRACT CLOSEOUT.
- B. Special Bonds, Special Warranties, Guarantees, and Service Agreements:
 - 1. Form of Submittals:
 - a. Bind in commercial quality, 8-1/2 by 11-inch three-ring side binders with hardback, cleanable, plastic covers.
 - b. Label cover of each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address, and telephone number of Contractor; and name of responsible principal.
 - c. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project O&M Manual, with each item identified with the number and title of the specification section in which specified, the name of the Product or Work Item and the dates documents are effective.
 - d. Separate each Warranty or Bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, Contractor, and Manufacturer, with name, address, and telephone number of responsible principal.
 - e. Meet all requirements specified under Article CONTRACT PROVISIONS.
 - 2. Preparation for Submission:

- a. Obtain notarized Warranties and Bonds, executed in duplicate by responsible Subcontractors, Suppliers, and Manufacturers, within 10 days after completion of the applicable item or Work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the date of Substantial Completion is determined.
 - b. Retain Warranties, Bonds, and Service Agreements until time specified for submission.
 - c. Other required Submittals: In accordance with the Contract Documents.
- C. Disposition: Consulting Engineer will review, stamp, and indicate requirements for resubmission or acceptance on Submittal as follows:
- 1. Accepted:
 - a. Acceptance will indicate that Submittal conforms to intent of Contract Documents as to form and substance.
 - b. Contractor may proceed to perform Submittal related Work.
 - c. Two copies furnished to Owner.
 - d. Two copies furnished to Construction Manager.
 - e. One copy retained in Consulting Engineer's file.
 - f. Remaining copies returned to Contractor appropriately annotated.
 - 2. Rejected as Noted:
 - a. Two copies retained in Consulting Engineer's file.
 - b. Two copies retained in Construction Manager's file.
 - c. Remaining copies returned to Contractor appropriately annotated.
 - d. Contractor shall revise/correct or develop replacement and resubmit.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 PREPARATION

- A. Submittals
 - 1. Grouping: Whenever possible, schedule for and combine Submittals required for submission by Specification Section or Division into a single Submittal package. Also combine product data for like items into a single Submittal package.
 - 2. Presentation: In detailed and scaled drawings with plan and sectional views adequate to depict sufficient detail to show type, size, arrangement, installation, and function of components, materials, and devices and compliance with Contract Documents. Identify details by reference to sheet and detail, and schedule or room numbers shown on Drawings. Show relative location and incorporation with adjacent equipment.
 - 3. Product Data: As a minimum;
 - a. Clearly mark each copy to identify pertinent products or models and show performance characteristics and capacities, details of construction, assembly

details, dimensions and clearances required, weights, finishes, O&M data, wiring or piping diagrams and controls, instrumentation taps and mounts, Bill of Materials, and external connections, anchorages, and supports required.

- b. Modify to delete information that is not applicable to Work.
 - c. Supplement standard information to provide information specifically applicable to Work.
- 4. Equipment and Component Titles: Identical to that shown on Drawings and in the Specifications.
 - 5. Partial submittals and submittals that fail to meet any of the contract requirements may be rejected. Any delays resulting from such rejection shall not be considered as cause for a Time Extension.
 - 6. Quantities: The Contractor shall submit seven (7) copies of all submittals plus the number to be returned to the Contractor of all Submittals for this Contract unless specifically directed otherwise.
 - 7. Information shall be submitted on 8-½ inch by 11 inch sheets to the extent practicable. All drawings and plans shall be 22 inches by 34 inches in size (ANSI size "D").

B. Design Data:

- 1. Provide a Professional Engineer licensed in the Commonwealth of Pennsylvania and in the appropriate engineering discipline to perform design, oversee preparation of Shop Drawings, manufacturing, and installation, as appropriate, and to stamp and certify that Shop Drawings conform with design requirements and requirements of Laws and Regulations and governing agencies.
- 2. When specified, provide in English units Project-specific information as required and as necessary to clearly show calculations, dimensions, logic and assumptions, and referenced standards and codes upon which design is based.

END OF SECTION

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Pre-bid Schedule
- B. Procedures for preparation and updating of the Critical Path Method (CPM) CONSTRUCTION SCHEDULE.

1.2 RELATED REQUIREMENTS

- A. Each Contractor shall comply with all Contract requirements related to prosecution of the work, scheduling and time of completion including, but not limited to, the following:
 - 1. Article 3.27 - PROJECT COORDINATION
 - 2. Article 3.28 - TIME FOR COMPLETION, MILESTONE DATES
 - 3. Article 3.32 - DELAYS AND EXTENSIONS OF TIME
 - 4. Article 3.7 – COORDINATION
 - 5. Article 3.8 -COOPERATION BETWEEN CONTRACTORS/DISPUTES OR ACTIONS BETWEEN CONTRACTORS
 - 6. Section 01010 - SUMMARY OF WORK
 - 7. Section 01025 - MEASUREMENT AND PAYMENT
 - 8. Section 01040 - COORDINATION
 - 9. Section 01050 - CONSTRUCTION SEQUENCING
 - 10. Section 01300 - SUBMITTALS
 - 11. Section 01300 (1.3C.3) - SCHEDULE OF VALUES

1.3 PRE-BID SCHEDULE – None needed

1.4 CPM CONSTRUCTION SCHEDULING

- A. All Contractors will provide all information required by the Construction Manager for preparation of a Project CPM Schedule for this contract in accordance with the requirements of this section and the General Requirements.
- B. The purpose of the Project CPM Schedule will be to assure that the Contractors coordinate their work and to assist the Construction Manager in monitoring the progress of the work and evaluating the impact of proposed changes on the contract time.
- C. The precedence diagramming (activity on node) method will be used to prepare the network logic. Primavera Project Planner will be used for all computer calculations and reports.

- D. The Project CPM schedule will reflect the major activities of this contract, and will also reflect the major interface points between this contract and any other contracts. Major activities and interface points will include, but are not limited to, release of an area to another contractor, installation of piping between two points, tie-ins to air systems, and activities restricting access to certain areas, or any other activity designated by the Construction Manager. The Project CPM schedule will also reflect all work activities that will affect ALCOSAN Operations and Maintenance in any way. The Project CPM schedule will be based on the Contractor's plan for the execution of the contract and all assumptions made in preparing that plan.
- E. Any request by a Contractor to modify the time of completion must be supported by a CPM analysis that demonstrates effect on the critical path for the project.
- F. Float is to be used for the benefit of the project. Each contractor is to pursue the Original Early Schedule dates unless all the parties agree to a revised schedule, and then the Contractors will work to the early dates in the revised schedule. Any Contractor objecting to the use of float by another party must notify the Construction Manager of their objections. Any dispute arising out of the use of float will be handled in accordance with the requirements of Article 3.8 of the Contract.

1.5 INITIAL SUBMITTAL AND NETWORK PREPARATION

- A. Upon award of the contract, all Contractors must be prepared to meet with and assist the Construction Manager by furnishing schedule information to the extent necessary for the Construction Manager to prepare a Project CPM schedule and logic that demonstrates the Contractor's plan for the execution of the work.
- B. At the pre-construction meeting, the Contractors will provide the Construction Manager with information consisting of, but not limited to, the following:
 - 1. List of all construction activities.
 - 2. Anticipated duration for construction activities in workdays and proposed work calendar for all construction activities. No activity duration should exceed 10 working days except for fabrication and delivery activities and concrete curing unless otherwise agreed to by the Construction Manager.
 - 3. List of all procurement activity items.
 - 4. Predecessor and successor activities for each construction activity.
 - 5. List of all submittals with final submittal dates. The Contractor's failure to make submittals early enough to allow time for re-submittals shall not be an excusable delay or an acceptable reason for not meeting the Current Early Schedule.
 - 6. Anticipated fabrication and delivery times after receipt of approved drawings for all submittal items, as well as, for materials and equipment supplied by others.
 - 7. Identification of all interfaces with other contracts.
 - 8. Identification of all tie-ins to existing facilities with requested system downtimes and any other activity that affects ALCOSAN Operations and Maintenance.

9. Identification of all activities performed by subcontractors, suppliers, fabricators and others shall also be included in the list of activities with predecessors, successors and anticipated duration.
10. Failure to include an activity in the activity list or failure to include a logical constraint to that activity will not excuse the contractor from meeting the obligation to perform the work in such a fashion so as not to delay other parties, cause additional cost to the OWNER, or from meeting any of the intermediate or final milestone dates.
11. Each Contractor in preparing its anticipated duration and plan for executing the work should consider seasonal weather conditions.
12. After the activity lists are prepared, the Construction Manager and the Contractors will meet to review the activity lists to clarify the scope of the activities, duration and logic.
13. Once the activities and logic have been reviewed, Construction Manager will prepare Project CPM schedules and present the schedule to Contractors for their review and comment.

1.6 REVIEW AND APPROVAL

- A. After Project CPM schedule has been prepared by the Construction Manager, it will be transmitted to Prime Contractors and Owner for their review and approval.
- B. The Contractors and Owner should review the Project CPM schedule for completeness including, but not limited to, activities, duration, logic, interfaces between Contractors, and interfaces with the OWNER'S operations and maintenance activities.
- C. Contractors will either present written exceptions to Project CPM schedule or will accept the schedule as it has been presented within fourteen (14) calendar days after it is issued by the Construction Manager. Failure to comment on the schedule within fourteen (14) calendar days will confirm Contractor's acceptance of schedule. In the event that a Contractor takes exception to the schedule, and Construction Manager cannot resolve it to the mutual satisfaction of the Prime Contractors and the Construction Manager, the OWNER will make a final decision and the Contractor will be required to comply with the OWNER'S decision.

1.7 UPDATED AND REVISED SCHEDULES

- A. The Project CPM Schedule, adopted as indicated in Section 01310, Paragraph 1.6, will be established as the baseline schedule. The baseline schedule will be updated by the Contractors on a weekly basis. Updated schedules will be issued periodically as determined by the Construction Manager or as requested by a Contractor. The Contractors will mark actual start dates and remaining duration's in workdays on the look-ahead schedules provided in the Progress Meetings. As part of the update process, a marked up look-ahead schedules will be presented to the Construction

Manager before 8:00 AM on the day prior to the Weekly Progress Meeting. Progress against the schedule will be reviewed and recorded in the Progress Meetings.

- B. Should a Contractor request a revision(s) to the schedule logic, it should present the revision(s) in writing to the Construction Manager. If the requested revision(s) to schedule logic are approved by the Construction Manager, the other prime Contractors, and the OWNER, they will be included in a Revised Schedule.
- C. If a Revised Schedule is developed for any reason, the Construction Manager will issue the Revised Schedule to each of the Contractors and the Owner. Each Contractor must indicate any exceptions to the Revised Schedule in writing to the Construction Manager. Failure to indicate any exception to the Revised Schedule within fourteen (14) calendar days of the date the Construction Manager issues the Revised Schedule will confirm the acceptance of the Revised Schedule by the Contractor. In the event that a Contractor takes exception to the Revised Schedule, and the Construction Manager cannot resolve it to the mutual satisfaction of the Prime Contractors and the Construction Manager, the OWNER will make a final decision and the Contractor will be required to comply with the OWNER'S decision.

1.8 RESPONSIBILITY FOR COMPLETION

- A. Each Contractor will furnish sufficient forces, materials and equipment as necessary to ensure completion of the work in accordance with all Contract requirements. If, in the opinion of the Construction Manager, a Contractor fails to comply with any of the Contract requirements for completion of the work, the Construction Manager may advise the Contractor to take any means necessary to recover any lost progress without additional cost to the OWNER. Any and all additional expenses incurred by any Contractor due to failure of a Contractor to comply with any of the requirements of this Section 01310 will be handled in accordance with the provisions of Article 3.8 of the Contract. Notwithstanding the provisions of Article 3.8, the OWNER may also recover liquidated damages that are due as indicated in the Contract.
- B. If the Contractor fails to comply with the requirements of the Contract, the OWNER and/or the Construction Manager may contact the Contractor's bonding company. Failure to maintain progress will require the Contractor, at the request of the Construction manager, to develop a schedule recovery plan to demonstrate the Contractor's plan to recover schedule progress.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01320

PROJECT MANAGEMENT INFORMATION SYSTEM (eBuilder®)

[Note: eBuilder is now known as Trimble Unity Construct. All references to eBuilder shall be interpreted as referring to Trimble Unity Construct.]

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Related Sections
2. Contractor's Responsibilities
3. User Access Limitations
4. Data Ownership
5. Computer requirements
6. System use requirements
7. Internet connectivity
8. Program Management Information System (eBuilder®) downtime
9. eBuilder®
10. eBuilder® use and rollout
11. Communications

1.2 DEFINITIONS

A. eBuilder® - Owner's Project Management Information System (eBuilder®)

1.3 RELATED SECTIONS

A. Volume 1 - General Contractor Conditions

B. Division 01 - General Requirements

1.4 eBuilder® APPLICATION

A. ALCOSAN has implemented a Program Management Information System

(eBuilder®) for the electronic transmittal and storage for all construction documents. The system is owned and operated by ALCOSAN and runs on the eBuilder® platform. The Contractor shall use eBuilder® to electronically submit all of the data and documents required by the Contract Documents (unless specified otherwise by ALCOSAN) to achieve the following:

1. Facilitate exchanging information electronically.
2. Expedite the review process for submitted documents.
3. Centralize Project information.

B. Project communications shall be submitted and processed using eBuilder® and shall be the primary communication tool for all document transfers between the Owner, Construction Manager, the Engineer, and the Contractor(s).

C. All documents that are required in a hard copy format shall be provided in accordance with the Contract Documents.

1. eBuilder® shall be used to process/track and expedite the processing of electronic/hardcopy project-related items.
 2. The submitted documents accepted via eBuilder® shall not relieve the Contractor(s) from their accountability for any variation from the Contract Document's requirements.
- D. If a discrepancy exists between the electronic version and the paper documents, the electronic documents shall govern.

1.5 USER ACCESS LIMITATIONS

- A. ALCOSAN shall establish, assign, and manage user access and rights to eBuilder® site. The Contractor shall be provided access rights and training for two staff.
- B. Access to eBuilder® shall be provided to allow for submitting and processing documents including, but not limited to, letters, shop drawings, submittals, meeting minutes, daily reports, drawings, specifications, memoranda, payment requisitions, change order requests, testing reports, warranties, guarantees, and correspondence. Certain documents such as Requests for Information (RFIs) shall be directly entered into eBuilder® and generated by the application unless specified otherwise.
- C. Subcontractors and suppliers shall not have direct access to eBuilder®, and documents generated by eBuilder® template unless specified otherwise or approved otherwise by ALCOSAN. Entering information to be exchanged and transferred between the Contractor(s) and subcontractors and suppliers shall be the Contractor's responsibility.

1.6 DATA OWNERSHIP

- A. All data entered into eBuilder® shall be ALCOSAN's sole property.

1.7 COMPUTER REQUIREMENTS

- A. eBuilder® is accessed via the internet through a web browser using Java run-time plug-in technologies. Provide computer hardware and software that meets the eBuilder® system requirements. The Owner shall not operate, install, or troubleshoot any of the Contractor's hardware or software. The Contractor is solely responsible for their system's functionality.
- B. Should the eBuilder® version be upgraded during the Contract Time, the Contractor shall not be required to upgrade their system(s) to meet the upgraded application's requirements unless the Contractor cannot access eBuilder®. Should the Contractor be required to upgrade its computer systems as a result of Owner eBuilder® upgrades this shall not be justification for a time and/or cost modification to the Contract.
- C. ALCOSAN shall accept no liabilities arising from the Contractor(s) using eBuilder®.

1.8 SYSTEM USE REQUIREMENTS

- A. The Contractor(s) shall be responsible for the validity of the information placed in the eBuilder® and their personnel's ability to use the application.
- B. An overview of the setup and submittal processes associated with eBuilder® shall be presented by the Owner to the Contractor(s) after the Notice to Proceed is issued. The

Contractor is responsible for training their personnel in the use of eBuilder®.

- C. All costs associated with using the eBuilder® system shall be evenly distributed in the Contractor's Schedule of Values; a separate cost line item shall not be allowed.
- D. Contractor(s) shall notify the Construction Manager immediately when users no longer require eBuilder® access. Their user account shall be deactivated.
- E. The Contractor(s) shall protect the eBuilder® system's security by limiting access to authorized users only and not allowing them to share usernames and passwords.
- F. The Contractor(s) shall comply with the applicable laws and regulations regarding the electronic transmission of documents requiring the stamps or signatures of professional architects, professional engineers, geologists, and surveyors including any provisions to provide of hard copies of such documents as appropriate.
- G. The Contractor(s), their representatives, users, sub-consultants, and subcontractors shall not enter, attach, or store sensitive personal, financial or corporate information in the eBuilder®.
- H. Project Communications requiring an authorized person's signature shall use either of the following:
 - 1. An approved image of the official signature to be affixed to the document with the original signed hard copy/paper document to be provided as well.
 - 2. An electronic copy or electronic image of a fully executed document containing the required signatures with the original signed hard copy/paper document to be provided as well.

1.9 INTERNET CONNECTIVITY

- A. eBuilder® is a web-based environment subject to the Contractor's internet service provider's speed and connectivity issues. The Contractor is responsible for their own connectivity to the internet. eBuilder®'s response time depends on the user's equipment including processor speed, network interface equipment, internet service provider access speed, etc., and current traffic on the internet.
- B. ALCOSAN shall not be liable for any delays associated with the usage of eBuilder® including, but not limited to, slow response time, down time periods, connectivity problems, or information loss on the Contractor's equipment.
- C. Under no circumstances shall using eBuilder® be grounds for a time extension or cost adjustment to the Contract.
- D. The Contractor shall have access to eBuilder® and eBuilder® shall be operational on the Notice to Proceed date.

1.10 eBuilder® DOWNTIME

- A. If the eBuilder® system is temporarily unavailable, continue with project communications using an alternate secure means (e-mail) or hard copies to transmit and receive project communications.
- B. Maintain records for all project communications during the eBuilder® downtime and upload the records to eBuilder® when it is operational.

- C. Notify the Construction Manager by telephone and/or e-mail when eBuilder® is not functional.

PART 2 - PRODUCTS

2.1 CONSTRUCTION MANAGEMENT SOFTWARE

- A. eBuilder® – A Trimble Company.

PART 3 - EXECUTION

3.1 eBuilder® USE AND ROLLOUT

- A. The Contractor shall meet with the Construction Manager within 10 days after the Contract is awarded to discuss the Contractor's use of eBuilder®.
- B. Prior to providing access to eBuilder®, a system overview shall be held. The overview shall include:
 - 1. User access requirements, information (name, position, e-mail address, and phone number).
 - 2. eBuilder® site location (URL) and log-on process.
 - 3. Navigation through eBuilder®.
 - 4. Uploading documents instructions.
 - 5. Submittal review process.
 - 6. Administrative forms and processes review process.
 - 7. Correspondence requirements.

END OF SECTION

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CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

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PART 1 GENERAL

1.1 GENERAL

- A. Refer to the Article Three, Contract Provisions.

1.2 SUBMITTALS

- A. Administrative Submittals: Copies of permits and approvals for construction as required by Laws and Regulations, the Contract Documents, and governing agencies.
- B. Shop Drawings: Contractor shall provide the following:
 - 1. Temporary Utility Submittals:
 - a. Electric power supply and distribution plans.
 - b. Water supply and distribution plans.
 - 2. Temporary Construction Submittals:
 - a. Plan for maintenance of existing plant operations.
 - 3. Temporary Control Submittals:
 - a. Noise control plan.
 - b. Plan for disposal of waste materials and intended haul routes.

1.3 MOBILIZATION

- A. Use of Premises: A single area has been designated (in the site utilization plan drawing) for Contractors' office and storage trailers, staging areas, and Contractors' employee parking areas. The Contractors and their Subcontractors shall use these areas only and shall not park at other areas of the plant site, including access roads, except for deliveries of materials. All plant roadways must be kept open at all times to allow for plant deliveries and normal operations of the treatment plant personnel.
- B. Mobilization shall include, but not be limited to, these principal items. Contractor shall coordinate individual mobilization activities within this contract package.
 - 1. Obtaining required Permits.
 - 2. Moving Contractors' plant and equipment required for operations onto site.
 - 3. Installing temporary facilities by General Contractor
 - 4. Providing onsite communication facilities.
 - 5. Submitting required schedules, submittals, etc.
 - 6. Arranging for and erection of Contractors' work and storage yard.
 - 7. Posting OSHA required notices and establishing safety programs and procedures.
 - 8. Having the Contractors' project manager and/or superintendent at the site full time during the period when work in the individual Contract is proceeding.
 - 9. Early construction activities such as:
 - a) Clearing and grubbing.

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- b) Earthwork (excavation, backfill, access roads).
 - c) Subsurface work (dewatering, pile driving, exploratory excavation).
 - d) Foundation work.
 - e) Site survey and layout.
10. Site utilization.

1.4 CONTRACTORS' USE OF PREMISES

- A. Lands furnished by Owner upon which Contractors shall perform the Work are described below:
 - 1. Contractor shall coordinate use of premises with the Construction Manager and shall assume properties on which Contract work takes place will be temporarily transferred to the custody of the Contractor. The General Contractor then becomes responsible for all site activities except for those O&M activities which ALCOSAN staff must perform and for which purpose the Contractor will facilitate continuous access.
- B. Contractors' temporary facilities will be finalized upon award of contract.

1.5 PERMITS

- A. Permits, Licenses, or Approvals: Contractor shall obtain (and retain onsite) permits, licenses, and approvals necessary for the completion of the work identified in this document, including but not necessarily limited to:
 - 1. City of Pittsburgh Building permits for all applicable sub codes.
 - 2. Temporary easements and rights-of-way.
 - 3. Road opening permits.
 - 4. Utility cuts and/or connections.
 - 5. Allegheny County Health Department Plumbing Permit.
 - 6. Demolition permit (if required)
 - 7. Landfill disposal permits
- B. The Owner will obtain permits required from agencies of the State of Pennsylvania and the United States of America.

1.6 PROTECTION OF WORK AND PROPERTY

- A. Comply with HEALTH, SAFETY AND ENVIRONMENTAL LAWS in the Contract provisions while on OWNER's property.
- B. Keep Construction Manager informed of all accidents resulting in personal injury or damage to Owner's facilities on the site and related claims.
- C. Use of Explosives: No blasting or use of explosives will be allowed on the site.

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- D. During the performance of the Work, Contractors are responsible for adapting their means, methods, techniques, sequences and procedures of construction to allow Owner to maintain operation at the existing level of wastewater treatment. In performing such Work, and in cooperating with the Owner to maintain operations, it may be necessary for the Contractors to plan, design, and provide various temporary services, utilities, temporary piping and heating, access, and similar items which will be included within the Contract Price.

1.7 VEHICULAR TRAFFIC

- A. Contractor's vehicular traffic must comply with Owner's requirements. Construction Manager will coordinate vehicular traffic; Construction Manager will identify access points (gates), parking areas, and off-limits are (due to vehicle weights).

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 RESPONSIBILITIES

- A. Contractor shall provide temporary facilities and controls (as specified throughout this Section) for use by all Contractors and Subcontractors in this contract package at the site or sites of the Work until the project is complete, on an as-needed basis, and the project facilities are placed under the Owner's operation.
- B. Contractor is solely responsible for temporary facilities and controls removal and restoration of the affected area when the temporary facilities and controls are no longer needed or required by Contract Time and extensions thereof.
- C. Contractor shall include in his Bid the costs associated with the temporary facilities and controls that he provides.
- D. The Owner pays for utility consumption.
- E. Contractor shall protect installed manifolds (both existing and new) and provide a safe, stable work surface by utilizing a plywood floor inside the incinerator vessel (or any other Owner approved work surface system).

3.2 TEMPORARY UTILITIES

- A. Unless specified otherwise, the following will apply to temporary utilities:
 - 1. Contractor taps the required utility on Owner's property; Contractor is responsible and pays for the installation of the temporary utility conveying/distribution system.

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2. Owner pays for utility consumption.
- B. Electrical Energy:
1. Contractor shall provide and pay for all temporary wiring, switches, and connections that he may require.
 2. During the construction period of this Contract, the Owner will make available a 480 volt power supply for welding and a 120 volt power supply. General Contractor shall provide any and all necessary wiring, connections, welding outlets and/or appurtenances or use existing welding outlets etc., that were utilized previously for the same purpose, required for the Work, from the power supplies to the point(s) of usage. All such temporary facilities, existing or new, shall be removed by the General Contractor at the completion of the Work.
- C. Lighting:
1. Contractor shall provide sufficient electric lighting so that all work may be done in a workmanlike manner when there is not sufficient daylight and in accordance with OSHA guidelines.
- D. Heating, Cooling, and Ventilating:
1. Temporary Heat and Ventilation in Structures: Contractor shall provide temporary heat and ventilation as required to maintain adequate environmental conditions to facilitate the progress of the work and as stated in the various Specifications Sections of this Contract.
 - a. Select heater units and fuels for temporary heat in accordance with requirements of OSHA and NFPA, complete with controls that will not damage permanent finishes, materials and equipment including equipment finishes. Heater units emitting products of combustion into interior structure spaces may void guarantees on certain finishes, materials and equipment, therefore all units shall be suitably vented.
 - b. Provide adequate forced ventilation of interior and enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.
 2. Provide as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation of materials, and to protect materials, equipment, and finishes from damage due to temperature or humidity. Costs for temporary heat shall be borne by the General Contractor.
 3. Pay all costs of installation, maintenance, operation, removal, and fuel consumed.
- E. Water: Water for construction purposes shall be obtained from the existing water system where directed by the Construction Manager. Contractor will provide temporary facilities and piping required to bring water to the point of use, and remove them when no longer required. The Owner will pay for water used for construction purposes.

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F. Sanitary and Personnel Facilities:

1. Contractor will provide and maintain sanitary facilities for Contractors' employees, Subcontractors, and all other onsite employer's employees.
2. Contractor's temporary facilities should include water for washing.
3. Use of Owner's existing sanitary facilities by construction personnel will not be allowed.

G. Telephone Service:

1. The Contractor shall arrange and provide onsite telephone service for Contractor's use during construction. Pay all costs of installation, equipment, and monthly bills.
2. No incoming telephone calls allowed to Owner's plant telephone system.

H. Abuse of Owner's paying for any utility by any Contractor will warrant to the Owner the right to discontinue use of utilities and make all Contractor(s) responsible for supply of their own needs.

3.3 PROTECTION OF WORK AND PROPERTY

A. General:

1. Perform Work within contract limits in a systematic manner that minimizes inconvenience to Owner.
2. Maintain in continuous service all existing oil and gas pipelines, underground power, telephone or communication cable, water mains, sewers, poles and overhead power, and all other utilities encountered while performing the Work, unless other arrangements satisfactory to the Construction Manager have been made.
3. Where completion of Work requires temporary or permanent removal and/or relocation of an existing utility, coordinate all activities with Construction Manager and perform all work to the satisfaction of the Construction Manager.
4. Protect, shore, brace, support, and maintain underground pipes, conduits, drains, and other underground utility construction uncovered or otherwise affected by construction operations.
5. Keep fire hydrants and water control valves free from obstruction and available for use at all times.
6. In areas where the Contractors' operations are adjacent to or near a utility such as gas, telephone, television, electric power, water, sewer, or irrigation system and such operations may cause damage or inconvenience, suspend operations until arrangements necessary for protection thereof have been made by the Contractor.

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7. Notify Construction Manager of any utility that may be affected by the construction operation at least 2 days in advance.
 - a. Before exposing a utility, obtain Construction Manager's permission. Should service of utility be interrupted due to the Contractors' operation, notify Construction Manager immediately. Cooperate in restoring service as promptly as possible and bear costs incurred.
8. Do not impair operation of existing sewer systems. Prevent construction material, pavement, concrete, earth, volatile and corrosive wastes, and other debris from entering sewers, pump stations, or other sewer structures. Maintain original site drainage wherever possible.

B. Tree and Plantings:

1. Protect from damage and preserve trees, shrubs, and other plants outside the limits of the Work and within the limits of the Work which are designated on the Drawings to remain undisturbed.
 - a. Where practical, tunnel beneath trees when on or near the line of trench.
 - b. Employ hand excavation as necessary to prevent tree injury.
 - c. Do not stockpile materials or permit traffic within drip lines of trees.
 - d. Provide and maintain temporary barricades around trees.
 - e. Water vegetation as necessary to maintain health.
 - f. Cover temporarily exposed roots with wet burlap, and keep the burlap moist until soil is replaced around the roots.
 - g. No trees, except those specifically shown on Drawings to be removed, shall be removed without written approval of the Construction Manager.
 - h. Dispose of removed trees in a legal manner off the site.
2. The balling and burlapping of trees indicated for replacement shall conform to the recommended specifications set forth in the American Standards for Nursery Stock, published by American Association of Nurserymen. All balls shall be firm and intact and made-balls will not be accepted. Handle ball and burlap trees by the ball and not by the top.
3. In the event of damage to bark, trunks, limbs, or roots of plants that are not designated for removal, treat damage by corrective pruning, bark tracing, application of a heavy coating of tree paint, and other accepted horticultural and tree surgery practices.
4. Replace each plant that dies as a result of construction activities.

C. Existing Structures: Where Contractor contemplates removal of small structures such as mailboxes, signposts, and culverts that interfere with Contractors' operations, obtain approval of Construction Manager. Replace those removed in a condition equal to or better than original.

D. Finished Construction: Protect finished floors, walls and ceilings, architectural items, doors and windows, and all other finished Work until Acceptance by the Owner.

3.4. TEMPORARY CONTROLS

- A. Air Pollution Control:
1. Minimize air pollution from construction operations.
 2. Burning of waste materials, rubbish, or other debris will not be permitted on or adjacent to the site.
 3. Conduct operations of dumping rock and of carrying rock away in trucks to cause a minimum of dust. Give unpaved streets, roads, detours, or haul roads used in the construction area a dust-preventive treatment or periodically water to prevent dust. Strictly adhere to applicable environmental regulations for dust prevention.
 4. General Contractor shall provide and maintain temporary dust-tight partitions, bulkheads, or other protective devices during construction to permit normal operation of existing facilities. Construct partitions of plywood, insulating board, plastic sheets, or similar material(s). Construct partitions in such a manner that dust and dirt from demolition and cutting will not enter other parts of existing building or facilities. Remove temporary partitions as soon as the need no longer exists.
- B. Noise Control: Provide acoustical barriers so noise from tools or equipment will neither exceed legal noise levels nor interfere with Plant operations.

3.5. STORAGE YARDS AND BUILDINGS

- A. Temporary Storage Yards: Contractor shall construct temporary storage yards that are not subject to damage by weather conditions for storage of all products. Location is subject to Construction Manager's approval.
- B. Temporary Storage Trailers: Trailers may be utilized for temporary storage, subject to Owner's approval.

3.6 PARKING AREAS

- A. **Parking for vehicles belonging to employee's of the Contractor or their subcontractors will be limited to that shown on the Site Utilization Plan (SUP). Parking will not be permitted within the plant area or on Tracy Street or on Preble Avenue.** The Contractor shall be allotted two (2) Vehicle Site Passes and two (2) parking spaces, to fit within their designated area shown on the aforementioned SUP. If additional parking is required the Contractor shall arrange and pay for off site parking including provisions for transportation to and from the offsite parking area.
- B. Vehicle site passes will be issued to the Contractor, in the quantities stated above. This vehicle site pass must be displayed in the vehicle windshield whenever a vehicle is on site. The vehicle access pass will permit passage through the site from the

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designated access point to the construction site. Vehicles found parked in other areas of the plant will be towed offsite at the Contractor's expense.

3.7 SITE SECURITY

- A. All Contractors' employees will be issued identification badges, which must be worn whenever the individual is at the plant site.
- B. All employees must enter the site at the locations to be determined.
- C. All vehicles that may be parked or driven at the site will be registered and will receive an identification tag, which must be displayed whenever the vehicle is on the site.

3.8 VEHICULAR TRAFFIC

- A. Comply with Laws and Regulations regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by written permission of the proper authority. Assure the least possible obstruction to traffic and normal commercial pursuits.
- B. Conduct Work to interfere as little as possible with public travel, whether vehicular or pedestrian.
 - 1. Whenever it is necessary to cross, close, or obstruct roads, driveways, and walks, whether public or private, provide and maintain suitable and safe bridges, detours, or other temporary expedients for accommodation of public and private travel.
 - 2. Road Closures: Maintain satisfactory means of access for Owner at all times. If it is necessary to close off a site roadway providing vehicular access to Owner's facilities for periods greater than 2 hours, provide written notice to the Construction Manager 3 days prior to such closure. In such cases, closings of up to 4 hours may be allowed. Closures of up to 10 hours may be allowed if a week's written notice is given and undue hardship does not result.
 - 3. Maintenance of traffic is not required if Contractor obtains written permission from the Construction Manager to obstruct traffic at the designated point.
 - 4. In making roadway crossings, do not block more than one-half the road at a time. Whenever possible, widen the shoulder on the opposite side to facilitate traffic flow. Provide temporary surfacing on shoulders as necessary.
- C. When flaggers and guards are required by regulation or when deemed necessary for safety, Contractor shall furnish them with approved safety apparel and other regulation traffic control devices.
- D. Snow removal to facilitate vehicular traffic on the site will be provided by the Owner.

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- E. Coordination: Coordinate traffic routing with that of others working in the same or adjacent areas.

3.10 CLEANING DURING CONSTRUCTION

1. Wet down exterior surfaces prior to sweeping to prevent blowing of dust and debris. When requested by Construction Manager, sweep all floors (basins, tunnels, platforms, walkways, roof surfaces), and pick up all debris and dispose.
2. Provide approved containers for collection and disposal of waste materials, debris, and rubbish. At least at weekly intervals, dispose of such waste materials, debris, and rubbish offsite.
3. When requested by the Construction Manager, brush sweep the entry drive and roadways, and all other streets and walkways affected by Work and where adjacent to Work.

{See attached document: Contractor Personnel and Delivery Control Procedure}

END OF SECTION

ATTACHMENT A

ALCOSAN Contract No. 1823, Repairs to No. 1 Economizer and Evaporator - Contractor Personnel and Delivery Control Procedure

Contractor is responsible for controlling its personnel and on-site traffic on the property of ALCOSAN Woods Run WWTP. The following procedure is incorporated into the Project Manual for implementation beginning with Notice to Proceed.

1) REGULAR WORKFORCE PERSONNEL – ENTERING PLANT PROPERTY NORMAL WORKING HOURS

- a) Each Prime Contractor (Contractor) is allowed two autos or pick-ups (vehicles) onto the project site. The vehicles shall be registered with ALCOSAN to two Contractor personnel who will be issued card-reader (access) Cards for access to the Plant through the right gate at the ALCOSAN Security (Security) Station off of Preble Avenue. These access passes shall not be shared for security reasons.
- b) One vehicle per subcontractor will be allowed on site when the subcontractor is working on site. This vehicle and its passengers will register at the Security Station as a subcontractor. This allowance is conditional upon contractor control of vehicle parking in its staging areas.
- c) Security will need the make, model, color license plate of the Contractor vehicles parked on site. They have a vehicle registration form that should be filled out when ALCOSAN ID access badge is issued
- d) Excluding the Contractor personnel mentioned above, all Contractor regular workforce personnel shall park off site. This parking shall be coordinated/arranged by the Contractor. Off-site parking shall not violate public or private restrictions.
- e) Contractor regular workforce personnel parking offsite shall enter the Plant in a Contractor provided bus or van (bus) which can be parked on site in an assigned staging area after discharging regular workforce personnel at the Contractor's site office/staging area. The bus driver shall be an employee of the Contractor and must follow the approved Contractor access route and speed limits at the time through the Plant.
- f) Bus driver, or some responsible Contractor employee on the bus, shall maintain a daily roster of Contractor personnel identifying who is on the bus at the time it pulls up to the Security Station in the left lane. The passenger roster shall be given to the Security Guard who will verify the identity of the passengers. It will be the responsibility of the Contractor to provide an accurate roster of daily personnel entering the Plant. The roster shall remain with the Guard who will keep the original and provide Contractor with a copy of the roster. Contractor should keep this copy of the roster to identify who is on the bus when the bus leaves the Plant at quitting time. Contractor personnel on the roster that leave the plant prior to the expected end of their shift shall sign out at Security so that their name can be taken off the roster of remaining personnel on site.
- g) New union personnel may be on the bus/van when it enters the site, but their name must be on the roster and identified as new personnel. After new personnel have been registered at the Contractor's site office he/she will be given a color-coded badge by the Contractor (see Badging Section).

- h) Contractor bus shall discharge passengers at the Contractor's site office/staging area .
- i) Contractor regular workforce personnel wanting to enter the Plant during the course of the workday shall park off site, walk to the Security Station and identify themselves and who they work for. That person's employer will be notified by Security to come to the Security Station to retrieve them. This person's name will be added to Security's copy of the Contractor's daily roster of regular workforce personnel in order to track all of the Contractor's personnel on site that day.

2) AFTER-HOUR WORKFORCE PERSONNEL – ENTERING PLANT PROPERTY BEYOND NORMAL WORKING HOURS

- a) Contractor shall identify and give Security 24 hours' notice of Contractor after-hour personnel working before or after normal shifts and on weekends and holidays. These personnel will not be part of shift personnel but persons entering on site to do maintenance or refueling work on equipment, prep work for early morning/next day concrete pours, etc..
- b) 24-hour advance notice shall include a list/roster of after-hour workforce personnel requiring access on site and who the responsible on-site person in charge is for the Contractor. This can be part of a Visitor Request Form (VRF). (CM will provide.)
- c) After-hour personnel working before and after regular/scheduled shift work, weekends and holidays will be allowed vehicles on site. At no time shall the number of Contractor vehicles on site exceed the number allowed. After-hour workforce personnel will report to the left lane of the Security Station, identify themselves and Security will check their names against the Contractor-provided list/roster on the VRF. After-hour personnel not on the roster will not be signed in and allowed into the Plant unless they are retrieved by a responsible person-in- charge for the Contractor.
- d) On second and third shifts, weekends or holidays when the Contractor has a large complement of its forces working it shall follow the procedures outlined above in Step 1.
- e) Regular workforce personnel who are to remain on site after normal shift work shall be considered after-hour workforce personnel. See Step 3.

3) REGULAR WORKFORCE PERSONNEL – EXITING PLANT PROPERTY

- a) Contractor regular workforce personnel exiting the Plant at the end of the work-day shall exit on the same or similar bus/van/truck (bus) that brought them to work that morning. The bus driver shall be an employee of the Contractor and must follow the approved Contractor access route and speed limits at the time through the Plant. The bus shall leave the Plant immediately after Contractor personnel are on board.
- b) Bus driver, or some responsible Contractor employee on the bus, shall use that day's roster of Contractor regular workforce personnel identifying who is on the bus at the time it pulls up to the west side of the Security Station. The passenger roster shall be given to the Security Guard who will verify the identity of the passengers who are leaving the Plant and who is still on site. The roster shall remain with the Guard who will make a copy for the Contractor.
- c) Using the Contractor's daily roster submitted and updated during the course of the workday in Steps 1d, 2b and 3b Security is aware of Contractor regular workforce personnel entering and leaving the Plant. The roster is critical in identifying who is and is not on the Plant in case of emergencies and evacuations.

- d) Those regular workforce personnel remaining on the site beyond normal quitting time will be considered after-hour workforce personnel. See Step 4.

4) AFTER-HOUR WORKFORCE PERSONNEL – EXITING THE PLANT PROPERTY BEYOND NORMAL WORKING HOURS

- a) After-hour workforce personnel will be on site weekdays before and after normal working hours, weekends and holidays. Documentation of their presence at the Plant is addressed in Steps 2 and 3.
- b) When exiting the Plant after-hour workforce personnel will identify themselves to Security who will verify whether or not they are on that day's roster of remaining on site personnel.
- c) If for some reason the after-hour workforce personnel leaving the site in Step 4b is not on that day's roster that person(s) will confirm their identity with Security and be allowed to leave the site. Security will notify the CM the next working day of the discrepancy in the Contractor's roster information.

5) CONTRACTOR VISITORS TO THE SITE

- a) This procedure applies to visitors to the Contractor at the Plant. This could include but not be limited to corporate staff, meeting attendees, salespersons, business agents, suppliers, manufacturer representatives – any persons not a regular on-site member of the Contractors site work forces covered on their daily roster.
- b) CM shall give ALCOSAN Security advance notice of Visitors expected to the site by way of a Visitor Request Form (VRF). (CM to Provide). Contractor shall fill out this Form and send to the CM with the information necessary so that the CM can submit it to ALCOSAN Security. Contractor shall submit the information to the CM 24 hours in advance of the Visitors expected arrival time.
- c) Security will direct Visitors to park in any available parking space closest to the location of their meeting but no further north than the parking places in front of the ALCOSAN Administration Building after checking in at the left lane of the Security Station off of Preble Avenue. Visitors shall present identification and sign in. Security shall verify the VRF against the information presented by the Visitor. Visitor will be issued a temporary badge.
- d) Once Visitor credentials are confirmed Security will call the Contractor contact given on the VRF notifying them that their Visitor has arrived. Contractor shall retrieve their Visitor where they are parked.
- e) Should there not be a VRF with Security in anticipation of a Visitor that arrives at the Plant the Visitor will not be allowed entrance to the Plant. Security must have a VRF to allow entry into the plant.
- f) Exiting Visitors shall be escorted by the Contractor to their parking spot. Visitors shall exit through west side of Security Station signing out.

6) CONTRACTOR DELIVERIES TO THE SITE

- a) There will be various types of deliveries/traffic in and out of the Plant to support Contractor work activity. In general, they can be categorized as the following:

- i. Type 1 - 'Light' deliveries – FedEx/UPS type deliveries in the way of vans, pickups, two—axle box truck and the like.
 - ii. Type 2 - 'Medium' deliveries/traffic – dump trucks, concrete trucks, and the like that will enter and exit the site in a continuous repetitive manner over a period of time. Contractor will submit to the CM a Delivery Notice Form for Type ii deliveries.
 - iii. Type 3 - 'Heavy' deliveries – 18-wheeler semi-trailer truck, low boys, large equipment deliveries, and the like. Contractor will submit to the CM a Delivery Notice Form for Type 3 deliveries.
- b) There are two entrances into the Plant – through the Security Station off of Preble Avenue and the Tracy Street Entrance at the southwest corner of the Plant at the end of Tracy Street. Generally, traffic will be routed as follows. Exceptions can be made in advance of traffic arrival/departure.
 - i. Preble Street Entrance – Types 1 & 3 traffic
 - ii. Tracy Street Entrance – Type 2 traffic
- c) 'Type 1' deliveries will be made through the Security Station.
 - i. Driver shall check in at the left lane. Driver shall have its contact and contractor information on the deliverable. Deliveries shall not be made care of ALCOSAN or the CM or the delivery will be turned away.
 - ii. Contractors will be notified by Security of the delivery. Because of the volume of construction work and traffic on site these delivery vehicles will not be allowed on site to drive to the Contractors site office so the Contractor will have to retrieve deliveries at the McKees Rocks Bridge.
- d) 'Type 2' deliveries /traffic will generally be made through the Tracy Street entrance depending upon the anticipated volume (concrete and earthwork) and time sensitivity (concrete) of traffic and location of the related work. Upon ALCOSAN approved exception this traffic may be allowed to enter the Plant at the Preble Avenue entrance.
 - i. 24 hours prior to the day of the anticipated truck traffic the Contractor will notify the CM via a Construction Delivery Notice Form (DNF) of the anticipated truck volume. (DNF form provide by the CM) Contractor shall fill out this Form and send to the CM with the information necessary so that the CM can submit it to ALCOSAN Security.
 - ii. Vehicle must follow the approved Contractor access route and speed limits at the time through the Plant.
 - iii. CM will submit to Security the DNF with the Contractor's delivery/traffic information. CM will coordinate Plant Entrance to be used for the deliveries/traffic with Security and notify Contractor.
 - iv. At the Preble Avenue entrance drivers will enter the left side visitor entry and Security will document the entry on the ALCOSAN Daily Delivery Log. Outbound traffic should not go out of the Plant through the west side of the Security Station when construction work on the new parking lot/laboratory is underway. Traffic should leave the Plant through the Tracy Street gate when possible. They will be checked out there and exit time recorded, if there is a reason to exit the west side of the main plant exit, their exit time will be recorded on the delivery log.
 - v. There may be a line placed on the road or a sign erected at self-opening gates so that drivers know how closely they should approach the gate to get it to open. Leaving the east road gates open during the day is only an option on a high volume delivery day if

traffic is backing up and deemed necessary. ALCOSAN priority will always be to secure the plant by keeping the gates closed unless an exception is needed. There will always be the pull up option and gate will automatically open.

- vi. At the Tracy Street entrance: This entrance will be manned every day with a computer. The same documentation process applies at both Tracy and Preble Main entrances; the officer assigned to Tracy entrance will have the same access to the DNF as the main security office and he/she will record entry/exit times for all deliveries.
- e) 'Type 3' deliveries will be made through the Security Station.
- i. Generally, these types of deliveries will involve large deliveries of heavy construction equipment, sheeting and rebar, construction materials, etc. transported by 18-wheel semi-trailer trucks or 'low boys' with limited turning radius and backing up capabilities.
 - ii. CM will submit to Security the DNF with the Contractor's delivery information.
 - iii. Use of the Tracy Street Entrance for these vehicles may not be practical because of road conditions on site that do not suit these types of vehicles. Therefore, the Preble Street Entrance will be most likely be used. There are width considerations the Contractor must consider for wide loads at the Preble Street Entrance location. Therefore, some oversized loads may have to go through the Tracy Street Entrance.
 - iv. Vehicle must follow the approved Contractor access route and speed limits at the time through the Plant.
 - v. Delivery vehicle shall pull up to the Security Station in the Visitor's lane and the Driver will present identification and paperwork on deliverables. Security will check against the DNF for that delivery.
 - vi. Vehicle will be allowed to pull up to the bridge along the east road] where the contractor will retrieve it to take it back to the site. Contractors should be expecting the call from Security so they can receive the delivery in a timely fashion; this is crucial to ensure there is not a delay in the communication process which could potentially cause a traffic back-up on site.
 - vii. Contractor becomes responsible for the delivery vehicle from the time it retrieves it until it returns it to the point of retrieval
 - viii. If the delivery does not meet the information on the DNF it will not be allowed further into the Plant until the Contractor accurately reconciles with Security the content of the deliverables.
 - ix. Delivery vehicle, escorted by the Contractor, will exit the Plant through the incoming right lane at the Security Station stopping at the barrier Arm. Special exceptions such as these will need to be coordinated with Security to ensure a safe traffic pattern for all; when possible, the Contractor will escort the delivery vehicle to exit out the Tracy Street gate exit to mitigate issues that may arise by using the Preble Avenue entrance/exit area.

7) BADGING CONTRACTOR PERSONNEL

- a) ALCOSAN will turnover color-coded badges to the Contractor to give to its personnel at the start of their employment with the Contractor. The Contractor will assign badge numbers to its personnel and keep a record of badge number/personnel assignments. This record shall be copied to Security. At the end of personnel employment, the Contractor will recover the badge from the terminated personnel.

- b) All Prime Contractors that receive a parking space will receive a project-term Alcosan Photo ID access badge granting them right side arm gate access for the main plant entrance during standard business hours. ALCOSAN screening is only required of Contractor personnel getting access cards. Each Contractor will provide four names and ALCOSAN will schedule them to get the badge made with ALCOSAN (HR) See Step 1A.
- c) Contractor personnel Badges will be color coded by project so that employees can be identified with the project/ area of the Plant that they are working on. The Badge will also have additional identification information such as CONTRACTOR and a number.
- d) If a Contractor has more than one active project at the Plant and its personnel are pooled with more than one project in different areas of the site those personnel shall be registered for both projects obtaining more than one badge, each colored according to the area they are working in.
- e) Badges shall be visibly worn by Contractor personnel at all times – including on the bus into and out of the Plant. It will be the responsibility of the Contractor superintendent to ensure that this requirement is met by all its personnel. Security may conduct spot checks for this and other compliance issues. Contractor has the option to assign a color coded badge to personnel to be kept on site and displayed daily throughout their time working on site. Security will need a copy of the assigned badge list to include the names of the personnel and badge number assigned to each individual. These badges signify the zone the employee should be working in.
- f) If contractor personnel are observed not wearing a Badge by ALCOSAN they shall report it to the CM inspector or Resident Engineer. He/she will report this to the Contractor superintendent. This process is the same if the observation is made by a CM employee.
- g) It will be the responsibility of the Contractor superintendent to recover identification cards of personnel who are dismissed from the Contractor's workforce. Dismissed personnel shall be escorted off the site by the Contractor superintendent. Security can assist the superintendent if there are workplace violence concerns.

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MANUFACTURERS' SERVICES

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PART 1 GENERAL

1.1 DEFINITIONS

- A. Reference the Contract Provisions, as well as Section 01650, FACILITY STARTUP.
- B. Person-Day: One person for eight (8) continuous working hours regardless of time of day.
- C. Owner-furnished equipment Supplier: The party under separate contract with Owner to furnish identified equipment, and responsible for specified services during facility startup.
- D. Time periods: Those given in the supplements at the end of this section for field services by representatives and each type of field service to be provided, as further described in Article 6, are approximate and may be redistributed by the Owner, at its sole discretion, to meet the needs of the Work. This Contract is based upon the Owner's purchasing of the amounts of time for each Component of Work, and the Owner shall be entitled to receive the total of the number of days listed for all field activities for any such purposes it may deem necessary or appropriate.

1.2 SUBMITTALS

- A. Quality Control Submittals: When specified in the individual Specifications, submit:
 - 1. Manufacturer's Certificate of Proper Installation: On form appended to this section.
 - 2. Testing Reports: For all Shop, Acceptance and Performance Testing required by the contract documents and performed.
- B. Resume of Manufacturer's Representative for Contractor supplied equipment shall be submitted for acceptance and record.

1.3 OWNER-FURNISHED MATERIALS AND EQUIPMENT

- A. The Contractor is also responsible for coordinating the required manufacturers' representative services for installation, testing, training, and start-up from Suppliers of Owner-Furnished Equipment.

1.4 QUALIFICATION OF MANUFACTURER'S REPRESENTATIVE

- A. A Manufacturer's Representative shall be an authorized representative of the equipment manufacturer, factory trained, and experienced in the technical applications, installation, operation, and maintenance of respective equipment,

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MANUFACTURERS' SERVICES

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subsystem, or system. Representatives are subject to acceptance by Owner and Project Engineer. No substitute representatives will be allowed unless prior written approval by Project Engineer has been given.

1.5 FULFILLMENT OF SPECIFIED MINIMUM SERVICES

- A. Where manufacturers' services are specified, furnish manufacturer's qualified representative.
 - 1. Where time is taken in excess of that stated in the Specifications by manufacturers' representative for reasons beyond the control of the Owner, additional time required to perform the specified services shall be considered incidental work.
 - 2. Where time taken by manufacturers' representative to perform the specified services is less than that stated in the Specifications, the value of the remaining time shall be credited to the Owner.
 - 3. Where time is taken by manufacturers' representative to perform additional services beyond the scope of that stated in the Specification, the value of the surplus time shall be added to the contract by a change order.
- B. Contractor will schedule their own and coordinate all Owner furnished equipment manufacturer onsite services to avoid conflicting with other onsite testing or other manufacturer's onsite services.
 - 1. Determine that all conditions necessary to require manufacturer services have been met before requesting same. Verify and coordinate with the Construction Manager.
- C. Only those days of service approved by Construction Manager will be credited to fulfill the specified minimum services. Manufacturer representative shall document all time spent on site with the Construction Manager.
- D. Time periods listed for manufacturers' services in the Supplements to this section are tabulated by Specification Section. In the event that different manufacturers furnish the same equipment under one specification section, both manufacturers shall furnish the specified manufacturers' services for the required time periods.
- E. Unless specified otherwise, manufacturer's on-site services shall include as a minimum:
 - 1. Assistance during equipment installation to include observation, guidance, and instruction of Contractor's assembly, erection, installation and/or application procedures.
 - 2. Inspection, checking, and adjustment as required for equipment to function as warranted by manufacturer and as necessary to furnish written approval of installation.

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3. Revisiting the site as required to correct problems and until installation and operation are acceptable to the owner.
4. Resolution of assembly or installation problems attributable to, or associated with, respective manufacturer's products and systems.
5. Taking the lead role in conducting respective equipment acceptance testing, performance testing, startup activities, and until product acceptance by the Owner.
6. Training of Owner's personnel in the operation and maintenance of respective equipment as required herein.
7. Completion of Manufacturer's Certificate of Proper Installation (form enclosed at end of this section) with applicable certificates for proper installation, testing and service.
8. Reporting to the Construction Manager any unusual circumstances that occur during installation and testing that may require additional manufacturer representative time at the jobsite which would cause the stipulated time in the contract to be exceeded.
9. Being present during facility start up period for observation and equipment adjustment.

- | | | |
|------|-------------------------------|------------|
| 1.6 | TRAINING SCHEDULE | <u>N/A</u> |
| 1.7 | TRAINING PLAN | <u>N/A</u> |
| 1.8 | TRAINING COORDINATION MEETING | <u>N/A</u> |
| 1.9 | TRAINING OWNER'S PERSONNEL | <u>N/A</u> |
| 1.10 | TRAINING EVALUATION | <u>N/A</u> |
| 1.11 | SUPPLEMENTS | |

A. The supplements listed below, following "END OF SECTION," are part of this Specification.

1. Forms: Manufacturer's Certificate of Proper Installation.
2. Section 01640 - Manufacturers' On-Site Services for Facility Startup
3. Section 01640 - Suppliers' On-Site Training Requirements for Owner's Operation and Maintenance Personnel.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 MANUFACTURER REPRESENTATIVE FIELD INSPECTIONS

- A. This applies to Owner as well as Contractor furnished Equipment.
- B. The purpose of the Manufacturer Representative's field inspections is to assure the Work has been constructed and/or installed in accordance with the Contract Documents including the design Drawings, Specifications, and any Manufacturer's recommendations. The Contractor shall coordinate all inspections through the Construction Manager.
- C. The Manufacturer Representative shall exercise particular care to verify all component interconnecting facilities and such other Items of a critical nature to the proper and safe operation of the Work are in place, protected or otherwise ready for start-up and initial operations.
- D. The Manufacturer Representative's inspections shall include, but will not be limited to, the following points as applicable: soundness of construction and/or installed equipment, if any (without cracked or otherwise damaged parts); completeness in all details, as specified; correctness of setting, alignment and relative arrangement of various parts; adequacy and correctness of all interface connections, utilities and necessary support facilities.
- E. All defective or deficient construction, materials, components or workmanship disclosed through these inspections and tests shall be repaired, replaced or corrected immediately under the supervision of the manufacturer's representative, or provisions shall be made by the Contractor for their prompt repair, replacement or correction. The remedial work shall be done at the expense of the responsible party as determined by the Owner.
- F. No electrical power shall be turned on to any of the Work until the Manufacturer's Representative has inspected the construction and/or installed items and certified that the construction and/or installation is satisfactory; that the electrical power may be applied; and that nothing in the construction and/or installation shall negate any warranty which covers any portion of the Work and the Manufacturer Representative has submitted a signed writing verifying the above.

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MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

PROJECT: Repairs to No. 1 Economizer and Evaporator EQPT. SERIAL NO.: _____
CONTRACT NO.: 1823 EQPT/SYSTEM: _____
EQUIPMENT NO.: _____ SPEC. SECTION: _____

I hereby certify that the above-referenced equipment/system has been:

(Check Applicable)

- ☐ Installed in accordance with Manufacturer's recommendations and approved shop drawings.
- ☐ Inspected, checked, and adjusted.
- ☐ Serviced with proper initial lubricants.
- ☐ Electrical and mechanical connections meet required quality and safety standards.
- ☐ All applicable safety equipment has been properly installed.
- ☐ Acceptance and performance tested, and meets or exceeds specified performance requirements. (See attached testing report.)

Comments: _____

I, the undersigned Manufacturer's Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate his equipment and (iii) authorized to make recommendations required to assure that the equipment furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date: _____, 20____

Manufacturer: _____

By Manufacturer's Authorized Representative: _____
(Authorized Signature)

SECTION 01640 - MANUFACTURERS' ON-SITE SERVICES FOR FACILITY START-UP

Note: Number of trips refer to separate, non-consecutive visits to the ALCOSAN plant site.

Spec. No.	Technical Specification Equipment Description	Special Requirements	Number of Trips	Time in Person-Days		
				Assistance during Installation & Inspection	Acceptance/Performance Testing & Certification of Proper Installation	Facility Startup
09900	Painting		2	2		

**SECTION 01640 - SUPPLIERS' ON-SITE TRAINING REQUIREMENTS FOR OWNER'S OPERATION AND
MAINTENANCE PERSONNEL**

- Notes:
1. Number of trips refer to separate, non-consecutive visits to the ALCOSAN plant site.
 2. Training sessions are attended by Operations and Maintenance staff unless otherwise stated.
 3. A maximum of two training sessions can be held per day.

Spec. No.	Technical Specification	Equipment/Training Description			
N/A	N/A	N/A			

END OF SECTION

PART 1 GENERAL

1.1 GENERAL

- A. Refer to Contract Provisions as well as Section 01640 MANUFACTURERS' SERVICES.
- B. The exact sequence of the facility start-up, if any, will depend upon a start-up schedule, proposed by the Construction Manager, which will be based upon the schedule information provided by the Contractor; the Project Schedule; and a priority list of the equipment and systems, developed by the Consulting Engineer and or Owner, which are critical and required for start-up. The start-up schedule will be updated on a periodic basis as determined by the Construction Manager.
- C. It is the Contractor's responsibility to make sure that all Work is completed in time to support facility start-up and it is the Contractor's further duty to notify the Construction Manager when the Work is ready to begin start-up. Initial operation and testing may begin only after the Owner receives written certification of the complete and correct installation of the Work and that the electrical power has been provided.
- D. All equipment testing and operation may be witnessed by the Owner and shall be performed as required to prove that the Work has been constructed and/or installed properly and will operate satisfactorily under the specified conditions of service. No power is to be turned on to any piece of equipment and no equipment is to be started or tested by the Contractor or Manufacturer's representative outside the presence of the Owner.
- E. The Contractor must verify the integrity of the Work and make any adjustments; calibrations and/or remedial measures required to prepare the Work for Acceptance and Performance Testing.

1.2 DEFINITIONS

- A. Owner-furnished equipment Supplier: The party under separate contract with Owner to furnish identified equipment, and responsible for support services during facility startup.
- B. Physical Checkout: The process of verification that the equipment/system has been installed, adjusted and readied for operation in accordance with the contract and manufacturer's recommendations. The proper installation shall be certified by the completion and submittal of a Certificate of Proper Installation in accordance with Section 01640, MANUFACTURERS' SERVICES by the equipment Supplier or manufacturer's representative responsible for the equipment.

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- C. **Acceptance Test:** A specified test or series of tests performed by the Contractor in the presence of the Consulting Engineer and Construction Manager, sometimes referred to as functional testing in the technical specifications.
1. After the performance of physical checkout of the equipment/system by the manufacturer representative and after the acceptance of this certificate by the Consulting Engineer.
 2. For the express purpose of proving that the equipment/system operates as it is intended with operational checks such as rotation, vibration, temperature, amperage draw, functioning instrumentation and controls, alignment, noise, etc.
 3. Prior to performance testing.
 4. Contractor takes lead on testing Contractor supplied equipment. The Supplier takes the lead on testing Owner-furnished equipment. Construction Manager will identify interfaces for testing responsibilities.
- D. **Performance Test:** A specified test or series of tests performed by the Contractor in the presence of the Consulting Engineer, Construction Manager, and Owner and after any specified acceptance testing; to demonstrate and confirm that the equipment and/or system meets the specified performance requirements;
1. To demonstrate that the equipment/system meets the functional, technical and/or process design criteria in the contract documents.
 2. Prior to the Start-Up Period and acceptance by the Owner.
 3. Contractor takes lead on Contractor supplied equipment. The Supplier takes the lead on testing Owner-furnished equipment. Construction Manager will identify interfaces for testing responsibilities.
- E. **Start-Up Period:**
1. The effort after successful acceptance and performance testing which includes the process of putting the facility in operating order, final cleaning, adjusting and balancing of equipment, initial operation (start-up) of equipment, operating equipment and systems, and demonstration and verification of the completed facility as a unit.
 2. Demonstrate proper installation, adjustment, function, performance, and operation of equipment, systems, control devices, and required interfaces individually and in conjunction with process instrumentation and control system.
 3. Unless otherwise specified, start-up of the entire facility or any portion thereof shall be considered complete when, in the opinion of the Consulting Engineer, the facility or designated portion has operated in the manner intended for 5 continuous days without a significant interruption. This period is in addition to any training, acceptance, or performance test periods specified elsewhere. A significant interruption will require the startup then in progress to be stopped and restarted after corrections are made.

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- F. Operation Period: The operation period begins when the facility has been successfully started up as defined under Start-Up Period and the Final Acceptance requirements of the contract have been met.
- G. Significant Interruption of Start-Up: May include, but is not limited to, any of the following events;
 - 1. Failure of Contractor to maintain qualified on-site startup personnel as scheduled;
 - 2. Failure to meet specified performance criteria for more than 2 consecutive hours;
 - 3. Failure of any critical equipment unit, system, or subsystem that is not satisfactorily corrected within 5 hours after failure;
 - 4. Failure of noncritical unit, system, or subsystem that is not satisfactorily corrected within 8 hours after failure; and/or,
 - 5. As may be determined by Consulting Engineer.
- H. System: The overall process, or a portion thereof, that performs a specific function. A system may consist of two or more subsystems as well as two or more types of equipment.

1.3 SUBMITTALS

- A. Administrative Submittals:
 - 1. Acceptance and performance test schedules and plan for equipment, units, and systems at least 14 days prior to start of related testing. Include test plan, procedures, and log format.
 - 2. Schedule and plan of facility startup activities at least 21 days prior to commencement.
- B. Quality Control Submittals:
 - 1. Manufacturer's Certificate of Proper Installation as required in Section 01640, MANUFACTURERS' SERVICES.
 - 2. Test Reports: Acceptance and performance testing;
 - a. In a format appropriate for equipment and testing performed.
 - b. Acceptable to Consulting Engineer.
 - c. Submitted for each piece of equipment or system tested.
 - 3. Certifications of Calibration: Testing equipment calibration records if requested.

1.4 CONTRACTOR STARTUP RESPONSIBILITIES

- A. See this Section, Section 01640, MANUFACTURERS' SERVICES, and the Technical Specifications.

1.5 CONSTRUCTION MANAGER STARTUP RESPONSIBILITIES

A. General

1. Conduct Pre-Test/Startup Meeting.
2. Coordinate development of the testing and start-up schedule based on information provided by Contractor and Owner.
3. Coordinate review of Contractor's test and start-up plans and schedules for each piece of equipment and/or system.
4. Witness and document each acceptance and/or performance test.
5. Coordinate plant operations, if necessary, to facilitate Contractor's tests.
6. Verify submittal of all required deliverables by Contractor.
7. Schedule manufacturer's representative(s) for Owner furnished equipment.
8. Document Contractor's completion of start-up requirements.

1.6 OWNER STARTUP RESPONSIBILITIES

A. General:

1. Operate process units and devices, with support of Contractor.
2. Provide sampling, labor, and materials as required and provide laboratory analyses.
3. Make available spare parts and special tools and operation and maintenance information for Owner-furnished equipment.
4. Provide water, power, chemicals, and other items as required for testing, unless otherwise indicated.

1.7 PRE-TEST/STARTUP COORDINATION MEETING

- A. A pre-test/startup coordination meeting will be conducted by the Construction Manager to discuss the overall testing and startup program associated with the equipment being provided under this contract. The Construction Manager will notify the Contractor and Supplier(s) of the time and place of the meeting. The purpose of this meeting will be to:

1. Review the testing and startup requirements of both the Contractor and Supplier(s).
2. Develop a testing and startup plan based upon Owner, Contractor, Supplier, Consulting Engineer, and Construction Manager input on the:
 - a. Status of equipment installation and readiness for testing and operation.
 - b. Status of Owner personnel training.
 - c. Status of required testing and startup deliverables.
 - d. Requirements of the Contract Documents for Owner personnel training, testing and startup involvement.

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3. Incorporate the above into the Project Schedule for testing and startup of the equipment/sub-system/system/facility.
- B. The following shall have the required representatives at this meeting:
 1. Contractor
 2. Construction Manager (CM).
 3. Consulting Engineer.
 4. Owner (ALCOSAN).
 5. Supplier.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 TESTING PREPARATION

- A. General:
 1. Complete Work associated with the unit and related processes before testing, including related manufacturer's representative services.
 2. Furnish related operating and maintenance manuals, and have on hand necessary spare parts and special tools before testing any unit or system.
 3. Furnish qualified manufacturer's representatives to assist in testing.
 4. Utilize the Manufacturer's Certificate of Proper Installation Form from Section 01640, MANUFACTURERS' SERVICES, supplemented as necessary and as required in the Contract Provisions, to document acceptance and performance test procedures, results, problems, and conclusions.
 5. Schedule and attend pretest (acceptance and performance) meetings related to test schedule, plan of test, materials, chemicals, and liquids required, facilities' operations interface, Owner's, Consulting Engineer's, and Construction Manager's involvement.
 6. Designate and furnish one or more persons to be responsible for coordinating and expediting Contractor's facility startup duties. The person or persons shall be present during facility startup meetings and shall be available at all times during the facility startup period.
 7. Provide temporary valves, gauges, piping, test equipment and other materials and equipment required to conduct testing.
 8. Provide all labor required to aid the manufacturer representatives with their inspection and in making required adjustments to all equipment installed under this contract.
- B. Cleaning and Checking: Prior to starting acceptance and performance testing:
 1. Calibrate testing equipment for accurate results.
 2. Inspect and clean equipment, devices, connected piping, and structures so they are free of foreign material.

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3. Lubricate equipment in accordance with manufacturer's instructions.
4. Turn rotating equipment by hand and check motor-driven equipment for correct rotation.
5. Open and close valves by hand and operate other devices to check for binding, interference, or improper functioning.
6. Check power supply to electric-powered equipment for correct voltage.
7. Adjust clearances and torques.
8. Test piping for leaks.
9. Balance HVAC systems, measuring airflow (cfm) static pressure, and component pressure losses. Furnish typed report documenting results of balancing.
10. Obtain completion of applicable portions of Manufacturer's Certificate of Proper Installation in accordance with Section 01640, MANUFACTURERS' SERVICES.

C. Ready-to-test determination will be by the Construction Manager based at least on the following:

1. Notification by Contractor of equipment and system readiness for testing.
2. Acceptable testing plan.
3. Acceptable operation and maintenance manuals incorporating review comments.
4. Receipt of Manufacturer's Certificate of Proper Installation, if specified.
5. Adequate completion of Work adjacent to, or interfacing with, equipment to be tested, including items to be furnished by Owner.
6. Availability and acceptability of manufacturer's representative, when specified, to assist in testing of respective equipment, and satisfactory fulfillment of other specified manufacturers' responsibilities.
7. Equipment and electrical tagging complete.
8. Necessary spare parts and special tools on hand.

3.2 ACCEPTANCE TESTING

A. General:

1. Begin testing at a time mutually agreed upon by the Owner, Construction Manager, Consulting Engineer, manufacturer's representative(s), and Contractor.
2. Notify, in writing, the Owner, Consulting Engineer, Construction Manager, and manufacturer's representative at least 10 days prior to scheduled date of tests.
3. Separate items of equipment demonstrated to function properly during subsystem testing may require no further acceptance test if documentation of subsystem testing is acceptable to Consulting Engineer.
4. Conduct test until each individual component item or system has achieved 4 continuous hours of satisfactory operation. Demonstrate all operational features and controls function during this period while in automatic modes.
5. If, in Consulting Engineer's opinion, each system meets the functional requirements specified, such system will be accepted as conforming for purposes

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of advancing to performance testing phase, if required. If, in Consulting Engineer's opinion, acceptance test results do not meet requirements specified, the systems will be considered as nonconforming.

6. Performance testing shall not commence until the equipment or system meets acceptance tests specified.

3.3 PERFORMANCE TESTING

A. General

1. Begin testing at time mutually agreed upon by the Owner, Construction Manager, Consulting Engineer, manufacturers' representative(s), and Contractor, as appropriate.
 - a. Consulting Engineer will be present during test.
 - b. Notify Consulting Engineer and Construction Manager at least 14 calendar days prior to scheduled date of test.
2. Follow approved testing plan and detailed procedures specified.
3. Source and type of fluid, gas, or solid for testing shall be as specified.
4. Unless otherwise indicated, furnish all labor, materials, and supplies for conducting the test and taking all samples and performance measurements.
5. Prepare performance test report summarizing test method and results. Include test logs, pertinent calculations, and certification of performance.

3.4 STARTUP PERIOD

A. Test Reports: As applicable to the equipment furnished, certify in writing that:

1. Equipment systems and subsystems have been checked for proper installation, started, and successfully tested to indicate that they are operational,
2. Systems and subsystems are capable of performing their intended functions,
3. Facilities are ready for intended operation.

B. Attend Pre-Test/Startup Meeting and arrange for attendance of major equipment manufacturer representatives as required by the Contract Documents.

C. Designate and furnish one or more persons to be entirely responsible for coordinating and expediting Contractor's facility startup duties.

D. When facility startup has commenced, schedule remaining Work so as not to interfere with or delay the completion of facility startup. Support the facility startup activities with adequate staff to prevent delays and process upsets. This staff shall include, but not be limited to, major equipment and system manufacturers' representatives, Subcontractors, electricians, instrumentation personnel, millwrights, pipefitters and plumbers.

E. Supply and coordinate specified manufacturer's facility startup services.

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- F. Make adjustments, repairs, and corrections necessary to complete facility startup.
- G. After the facility is operating, complete the testing of those items of equipment, systems, and subsystems which could not be or were not adequately or successfully tested prior to startup test period.

3.5 BENEFICIAL OCCUPANCY

- A. After successful performance testing of a particular equipment type or system, Owner may elect to start up a portion of the equipment or system for continuous operation. Such operation will not interfere with testing of other equipment and systems that may still be underway, and shall not preclude the need to startup that portion operated in combination with the rest of the facility when testing is completed.
 - 1. Owner may request in writing to use any such part of the Work which Owner believes to be ready for its intended use. If Contractor agrees that such part of the Work is ready for Beneficial Occupancy, Contractor will request Consulting Engineer to issue a certificate Beneficial Occupancy for that part of the Work.
 - 2. No occupancy or separate operation of part of the Work will be accomplished prior to insurers providing property insurance have been notified and acknowledged occupancy. Insurance provisions may be amended, but the insurance cannot be canceled because of Owner occupancy.

3.6 SUBSTANTIAL COMPLETION

- A. In accordance with the requirements of the Contract Provisions.

3.7 FINAL ACCEPTANCE

- A. In accordance with the requirements of the Contract Provisions.

3.8 CONTINUOUS OPERATIONS

- A. Owner will accept equipment and systems as substantially complete and ready for continuous operation only after successful facility startup is completed and documented and reports submitted, all required spare parts and special tools are turned over by the Contractor, and manufacturers' services completed for training of Owner's personnel.

END OF SECTION

PART 1 GENERAL

1.1 SUBMITTALS

- A. Quality Control Submittals: The Contractor shall submit written procedures for maintenance and markup of as-built documentation on this contract prior to issuance of the Notice to Proceed.
- B. Contract Closeout Submittals: Submit as required under the Contract Provisions and Specification Section 01300, SUBMITTALS prior to a request for Certificate for Substantial Completion or Final Acceptance.

1.2 RECORD DOCUMENTS

- A. Definition: Record Drawings and As-Built Drawings (including Technical Specifications) as required under the Contract Provisions.
- B. Quality Assurance:
 - 1. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain all contract as-built documents.
 - 2. Accuracy of Records:
 - a. Coordinate changes within all contract as-built documents, making legible and accurate entries on each page of Specifications, each sheet of the Drawings, and all other contract documents where such entry is required to show change.
 - b. Purpose of as-built documents is to document factual information regarding aspects of Work, both concealed and visible, to enable future modification of Work to proceed without lengthy and expensive site measurement, investigation, and examination.
 - 3. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded.
 - 4. Prior to submitting each request for progress payment, request Construction Manager's review and approval of current status of as-built drawings and Consulting Engineer's review and approval of as-built drawing status. Failure to properly maintain, update, and submit as-built documentation may result in a deferral by Construction Manager to recommend the whole or any part of the Contractor's Application for Payment, either partial or final.

1.3 RELEASES FROM AGREEMENTS

- A. Furnish Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor's operations have not been kept within the Owner's construction right-of-way.
- B. Furnish Owner written releases from any or all subcontractors or suppliers or the like who performed Work or supplied labor, materials or services pursuant.
- C. In the event Contractor is unable to secure written releases, inform the Owner of the reasons.

1. Owner or its representatives will examine the site and/or Work, and Owner will direct Contractor to complete Work that may be necessary to satisfy terms of the agreement.
2. Should Contractor refuse to perform this Work, Owner reserves the right to have it done by separate contract and deduct the cost of same from the Contract Price, or require the Contractor to furnish a satisfactory Bond in a sum to cover legal claims for damages.
3. When Owner is satisfied that Work has been completed in agreement with the Contract Documents and terms of easements, the right is reserved to waive the requirement for written release if:
 - a. Contractor's failure to obtain such statement is due to the grantor's refusal to sign, and this refusal is not based upon any legitimate claims that Contractor has failed to fulfill the terms of the easement.
 - b. Contractor is unable to contact or has had undue hardship in contacting the grantor.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 MAINTENANCE OF AS-BUILT DOCUMENTS

A. As-Built: Drawings and Technical Specifications

1. Promptly following Award of Contract, secure from Owner at no cost to Contractor, one complete set of Contract Documents. Drawings will be full size.
2. Delete Consulting Engineer title block and seal from all documents.
3. Label or stamp each as-built document with title, "AS-BUILT DOCUMENTS," in neat large printed letters.
4. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded.

B. Record Drawings: All final shop drawings shall be submitted with a label or stamp "RECORD DRAWINGS" in neat large letters.

1. Procedure
 - a. Make all corrections and add full information on the originally approved shop drawings and furnish to the Owner through the Construction Manager.
 - b. Submit four (4) sets of Record Drawings/Certified Vendor Drawings and one (1) set of reproducible Record Drawings on Mylar.
 - c. Mark drawings "Record Drawings" and all changes made and notes added shall be clearly indicated and keyed to a legend of revisions made to the Drawings.

C. Preservation:

1. Maintain all record and as-built documents in a clean, dry, legible condition and in good order. Do not use record or as-built documents for construction purposes.

2. Make record and as-built documents and samples available at all times for observation by Construction Manager and Consulting Engineer.

D. Making Entries on As-Built Drawings (including Technical Specifications):

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.
 - a. Color Coding:
 - 1) Green when showing information deleted from Documents.
 - 2) Red when showing information added to Documents.
 - 3) Blue and circled in blue to show notes.
2. Date entries.
3. Call attention to entry by "cloud" drawn around area or areas affected.
4. Legibly mark to record actual changes made during construction, including, but not limited to:
 - a. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.
 - b. Horizontal and vertical locations of existing and new underground facilities and appurtenances, and other underground structures, equipment, or Work. Reference to at least two measurements to permanent surface improvements.
 - c. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
 - d. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.
 - e. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, Written Amendment, and Consulting Engineer's written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.
5. Dimensions on Schematic Layouts: Show on as-built drawings, by dimension, the centerline of each run of items such as are described in previous subparagraph above.
 - a. Clearly identify the item by accurate note such as "cast iron drain," "galv. water," and the like.
 - b. Show, by symbol or note, vertical location of item ("under slab," "in ceiling plenum," "exposed," and the like).
 - c. Make identification so descriptive that it may be related reliably to the Technical Specifications.
6. Technical Specifications: Legibly mark to record and reference actual changes made during construction, including, but not limited to:
 - a. Approved changes to material, equipment or construction procedures referencing the document (RFI, CO, Addendum, Shop Drawing Submittal, etc.) that authorized the change.
 - b. Note all changes to material and equipment design, performance and maintenance criteria.

3.2 FINAL CLEANING

- A. At completion of Work or of a part thereof and immediately prior to Contractor's request for Certificate of Substantial Completion; or if no Certificate is issued, immediately prior to Contractor's notice of completion, clean entire site or parts thereof, as applicable.
1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner and Construction Manager.
 2. Remove grease, dirt, dust, paint or grout splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.
 3. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.
 4. Clean all windows.
 5. Clean all floors and wax vinyl tile floors.
 6. Broom clean exterior paved driveways and parking areas.
 7. Hose clean sidewalks, loading areas, and others contiguous with principal structures.
 8. Rake clean all other surfaces.
 9. Remove snow and ice from access to buildings.
 10. Replace air-handling filters and clean ducts, blowers, and coils of ventilation units operated during construction.
 11. Leave water courses, gutters, and ditches open and clean.
- B. Use only the cleaning materials recommended by the manufacturer of surfaces to be cleaned.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Buildings, tanks, concrete structures, piping and equipment and adjacent designated areas scheduled for demolition are as shown and described on the Contract Drawings.
- B. The Contractor shall coordinate and confirm with OWNER, prior to demolition, material and equipment to be salvaged for future use by OWNER.
- C. Contractor shall be responsible for complete and careful removal of salvageable items and shall transport said items to an on-site location designated by the Owner.
- D. All existing paint is assumed to include lead and/or chromium. Remove and dispose of in accordance with current Federal, State and Local requirements.

1.2 SUBMITTAL

- A. Quality Control Submittal:
 - 1. Method of supporting/bracing/reinforcing any portion of existing equipment/apparatus that is impacted by the performance of this scope of work.
 - 2. Methods of demolition and equipment proposed to remove and/or demolished.
 - 2. Rigging plan/methodology.
 - 3. Copies of any authorizations and permits required to perform Work.
 - 4. Any other documentation/descriptive materials requested by the CM.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 PREPARATION

- A. Coordinate all demolition activities with the Owner, Section 01050 CONSTRUCTION SEQUENCING, Section 01010 SUMMARY OF WORK, and all other spec sections & contract documents **before proceeding** with the various phases of demolition.

3.2 SEQUENCE OF REMOVAL

- A. Coordinate all demolition activities with the Owner, Section 01050 CONSTRUCTION SEQUENCING, Section 01010 SUMMARY OF WORK, and all

other spec sections & contract documents **before proceeding** with the various phases of demolition.

3.3 DISPOSAL

- A. Dispose of debris and other non-salvaged materials offsite in licensed landfills. Contractor shall be responsible for any/all requirements (including any/all costs/fees) necessary for the proper, lawful disposal of any/all debris resulting from the execution of the work/demolition under this contract. The aforementioned does **not** include items that the contractor wishes to salvage, keep, or sell for scrap

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American Concrete Institute (ACI): 506.2-90. Specification for Materials, Proportioning, and Application of Shotcrete.
2. American Society for Testing and Materials (ASTM):
 - a. A185-90a, Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
 - b. C42-90, Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
 - c. C94-90, Standard Specification for Ready-Mixed Concrete.
 - d. C150-89, Standard Specification for Portland Cement.
 - e. C173-78, Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - f. C231-91, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 - g. C260-86, Standard Specification for Air-Entraining Admixtures for Concrete.
 - h. C457-90, Standard Test Method for Microscopical Determination of Parameters of the Air Void System in Hardened Concrete.

1.2 SUBMITTALS

- A. Product data for refractory, insulating blocks and anchors.
- B. Quality Control Submittals:
1. Manufacturer's Written Instructions (for refractory & block installation):
 - a. Installation of anchors.
 - b. Project-specific instructions for mix, mixing, application of refractory, curing and dry-out.
 2. SDS

PART 2 PRODUCTS

- 1.1 **Insulation layers** Two layers of insulating block. Joints shall be overlapped and cemented together to form a continuous bond. The block shall be rated for continuous service temperatures of 1800 degrees F.
- 1.2 **Refractory layer** Ultra-Tek 60 ALK SC (or owner-approved equal).
- 1.3 **Anchors (see below).**

PART 3 EXECUTION

NOTE: The refractory demo/installation shall be performed by a qualified firm that specializes in refractory installation/application, and that has at least 5 years of experience applying the specified products. **The refractory installation shall be performed in full accordance with the written recommendations (pertaining to application, surface preparation, installation, and drying/curing) of the manufacturer and these specifications. In the case of contradictory information, consult the owner for guidance.**

A. Storage:

Store material in a 60°-85°F (16°-29°C) environment for at least 48 hours prior to use. Do not store material in direct sunlight or in areas that include high humidity. The environment must be dry.

B. Surface Preparation:

Remove all loose, damaged and/or unsound existing refractory at adjacent areas. Do not leave sharp edges on existing refractory. All such edges shall be radiused or chamfered.

All surfaces to receive refractory shall be thoroughly cleaned of all loose material and dust.

Prior to application, all existing adjacent refractory surfaces shall be moistened so these surfaces will not pull moisture from the newly applied refractory.

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C. Anchors:

Type "VS" anchors shall be welded to the inside surface of the shell. Anchors shall be 310 stainless steel and shall have their tips capped (covered with a suitable polymer substance) to reduce/minimize expansion cracks. Anchor thickness shall be 5/16". Anchor tips (with plastic caps installed) shall be at least 1.5" away from the hot surface of the refractory layer. Anchors shall be mounted (welded) to 1/2" diameter 310 stainless steel pins (studs) and affixed (welded) to the shell on 9" centers. (See reference drawings for more details) The vertex of the anchor's "Y" shall fall at the interface of the insulation and the refractory.

D. Weep Holes:

The need for weep holes (or any other special provisions) in the refractory shall be determined by the manufacturer and shall be considered part of the bid price.

E. Curing:

1. The material should cure for a minimum of 24 hours before drying can commence. Use wet burlap, plastic sheet or resin-based curing compound to minimize moisture loss during the curing stage.
4. Water spraying should be avoided.
5. The material should not be disturbed, allowed to freeze, or be heated above 120°F during the curing stage. The material should have a noticeable "ring" sound when tapped with a piece of metal after this proper cure.

F. Dry-out

1. The contractor shall provide for the proper dry-out of the refractory. Dry-out procedure shall be in accordance with the written guidelines of the refractory manufacturer.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

- A. American Institute of Steel Construction (AISC):
 - 1. Specifications and Code of Standard Practice.
 - 2. Specifications for Structural Joints.
 - 3. Standard Connections.

- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A992, Standard Specification of Structural Steel Shapes.
 - 2. ASTM A36, Standard Specification for Carbon Structural Steel.
 - 3. ASTM A53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.
 - 4. ASTM A325, Standard Specification for High-Strength Bolts for Structural Steel Joints.
 - 5. ASTM A490, Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength.
 - 6. ASTM A500, Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
 - 7. ASTM A501, Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.
 - 8. ASTM F436, Standard Specification for Hardened Steel Washers.
 - 9. ASTM A759, Standard Specification for Carbon Steel Crane Rails.
 - 10. ASTM B695, Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
 - 11. ASTM F959, Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners.
 - 12. ASTM F1554, Standard Specification for Anchor Bolts, Steel, 36, 55 and 105 Yield Strength.

- C. American Welding Society (AWS): ANSI/AWS D1.1, Structural Welding Code Steel.
 - 1. AWS A3.4, Standard Symbols for Welding, Bracing, and Non-Destructive Examination.
 - 2. AWS A5.1, Specification for Carbon Steel Electrodes for Shielded Metal Arc Welding.
 - 3. ANSI/AWS D1.1, Structural Welding Code-Steel.

- D. Crane Manufacturers Association of American (CMAA)

1. CMMA 74, Specification for Top Running and Under Running single Girder Electric Overhead Traveling Cranes.

- E. When reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.2 SUBMITTALS

A. Shop Drawings:

1. Meet requirements of AISC.
2. Provide details showing members and connections
3. Name and address of manufacturer(s).
4. Product specifications.
5. Manufacturer's testing procedures and standards.

B. Quality Control Submittals:

1. Welder Certifications:
 - a. Submit for shop and field welders.
 - b. Issued by recognized testing laboratory.
2. Weld Inspection Test Reports: Submit for review prior to completion of Work.
3. High-Strength Connection Bolts (Galvanized and Non-galvanized):
 - a. Certificates of Compliance that products meet chemical and mechanical requirements of standards specified.
 - b. Manufacturer's inspection test report results for production lot(s) furnished, to include:
 - 1) Tensile strength.
 - 2) Yield strength.
 - 3) Reduction of area.
 - 4) Elongation and hardness.
 - c. Certified Mill Test Reports for Bolts and Nuts:
 - 1) Name and address of manufacturer.
 - 2) Bolts correctly marked.
 - 3) Marked bolts and nuts used in required mill tests and manufacturer's inspection tests.
4. Mill Certificates for the structural steel.
5. Direct Tension Indicators: Furnish manufacturer's test report meeting requirements of ASTM F959.
6. Methods proposed to resolve misalignment between anchor bolts and bolt holes in steel members.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Welders: Meet requirements of ANSI/AWS D1.1 for procedures and qualifications of welders.
 - 2. Steel Fabricator: Certified under AISC Quality Certification Program.
- B. Regulatory Requirements: Comply with current provisions, except as otherwise indicated:
 - 1. AISC "Code of Standard Practice for Steel Buildings and Bridges."
 - 2. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings" and including "Commentary of the AISC Specification."
 - 3. AISC "Specifications for Structural Joints Using ASTM A325 or ASTM A490 Bolts" approved by Research Council on Structural Connections of the Engineering Foundation; endorsed by American Institute of Steel Construction and Industrial Fasteners Institute.
 - 4. AWS Structural Welding Code ANSI/AWS D1.1 and "Standard Qualification Procedure."
 - 5. Manual of Steel Construction, American Institute of Steel Construction, Inc.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Load structural members in such a manner that they will be transported and unloaded without damage to coatings and without being excessively stressed, deformed, or otherwise damaged.
- B. Storage:
 - 1. Protect structural steel members and packaged materials from corrosion and deterioration.
 - 2. Store in dry area and not in direct contact with ground.
 - 3. If stainless steel, avoid any carbon steel contamination at all times.
- C. Handle materials to avoid distortion or damage to members or supporting structures.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Rolled Plates, Shapes (other than wide flange), Angles and Bars: ASTM A36 unless otherwise shown. All overlay plates shall be 3/16" thick, unless otherwise stated. Reconstructed components (such as the refractory-lined duct linking the afterburner

with the evaporator) shall be fabricated of ¼" thick plate, unless otherwise shown in the reference drawings.

2.2 ANCILLARY MATERIALS

- A. Surface Preparation and Primer: As specified in Section 09900, PAINTING.
- B. Welding Electrodes:
 - 1. For carbon steel plate overlays: Use E70XX in accordance with AWS D1.1; full penetration welds.
 - 3. For 310 refractory anchors: use E 310, full penetration welds.
 - 3. For dissimilar metals: Use E309 electrode, as specified. Full penetration welds.
 - 5. See reference drawings for additional welding information.

2.3 FABRICATION

- A. General:
 - 1. Fabricate in accordance with AISC Specifications, Contractor's erection requirements, and approved Shop Drawings.
 - 2. Mark and match mark materials for field assembly.
 - 3. Complete assembly, including bolting and welding of units, before start of finishing operations.
 - 4. Fabricate to agree with field measurements.
- B. Welded Construction: Comply with ANSI/AWS D1.1 for procedures, appearance, and quality of welds, and methods used in correcting welding Work.
 - 1. Butt Welds: Complete penetration unless otherwise specified.
- C. Surface Preparation and Shop Coatings:
 - 1. Surface Preparation: Clean and remove slag from welds before painting.
 - 2. Coat members with primer except at future field welds, bolt-ups, and concrete embedment.
 - 3. Apply primer in accordance with Section 09900, PAINTING, within 8 hours after surface preparation.

PART 3 EXECUTION

3.1 N/A

3.2 N/A

3.3 N/A

3.4 FIELD ASSEMBLY

- A. Set structural members accurately to lines and elevations shown.
- B. Align and adjust various members forming a part of a complete frame or structure before permanently fastening.
- C. Clean bearing surfaces and other surfaces that will be in permanent contact before assembly.
- D. Perform necessary adjustments to compensate for minor discrepancies in elevations and alignment.
- E. Level and plumb individual members of structure within AISC tolerances or to the tolerances noted on drawings & specs (contract documents), whichever is more stringent.

3.5 PAINTING

- A. Shop and field painting shall be as specified in Section 09900 (and elsewhere in the contract documents). All areas that are to be welded shall be masked to at least 0.5 inches on all sides of welds. All slip critical connections which must be fully torqued shall have contact surfaces of connection masked prior to painting.

3.6 FIELD QUALITY CONTROL

- A. Weld Testing Requirements: All welded connections for structural steel will be subject to inspection and nondestructive testing by the third party inspector (provided/coordinated by the contractor) in accordance with the ANSI/AWS D1.1 Structural Welding Code-Steel as follows:
 - 1. Qualification records for welding procedures and welding operators.
 - 2. Visual inspection of all welds.
 - 3. Random ultrasonic or radiographic testing for groove welds
 - 4. Random inspection of fillet welds using either dye penetrant or magnetic particle method.
- B. Provide unlimited access to the Work. The number and frequency of visual inspections and tests will be at the discretion of the Owner. Notify the Engineer in writing 4 working days in advance of high strength bolting and field welding operations, including pre-installation verification of high strength bolt assemblies.
- C. The fact that steel work has been accepted at the shop and mill will not prevent its final rejection at the site, before or after erection, if it is found to be defective.
- D. Repair of Defective Connections:
 - 1. All defective welds shall be repaired and retested in accordance with ANSI/AWS D1.1.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
1. American National Standards Institute (ANSI):
 - a. 359-A, Standard Colors for Color Identification and Coding.
 - b. A1 3.1, Scheme for the Identification of Piping Systems.
 - c. ANSI/NSF Standard 60 and 61.
 2. American Water Works Association (AWWA).
 - a. C203, Coal-Tar Protective Coatings and Linings for Steel Water Pipelines-Enamel and Tape-Hot-Applied.
 - b. C210, Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines.
 - c. C214, Tape Coating Systems for the Exterior of Steel Water Pipelines.
 3. National Association of Corrosion Engineers (NACE): Manual for Painter Safety.
 4. Occupational Safety and Health Act (OSHA).
 5. Steel Structure Painting Council (SSPC):
 - a. Solvent Cleaning: SP 1.
 - b. Hand Tool Cleaning: SP 2.
 - c. Power Tool Cleaning: SP 3.
 - d. White Metal Blast Cleaning: SP 5.
 - e. Commercial Blast Cleaning: SP 6.
 - f. Brush-Off Blast Cleaning: SP 7.
 - g. Pickling: SP 8.
 - h. Near-White Blast Cleaning: SP 10.
 - i. Power Tool Cleaning to Bare Metal: SP 11.
 - j. Guide No. 3, PA, Guide to Safety in Paint Application.

1.2 DEFINITIONS

- A. Terms used in this section:
1. Coverage: Total minimum dry film thickness in mils, or square feet per gallon.
 2. FRP: Fiberglass Reinforced Plastic.
 3. HCl: Hydrochloric Acid.
 4. MDFT: Minimum Dry Film Thickness.
 5. MDFTPC: Minimum Dry Film Thickness Per Coat.
 6. Mil: Thousandth of an inch.

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7. MIL-P: Military Specification-Paint.
8. PSDS: Paint System Data Sheet.
9. SFPG: Square Feet Per Gallon.
10. SFPGPC: Square Feet Per Gallon Per Coat.
11. SP: Surface Preparation.

1.3 SUBMITTALS

A. Shop Drawings:

1. Data Sheets:
 - a. For each paint system, furnish a Paint System Data Sheet (PSDS), the manufacturer's Technical Data Sheets, and paint colors available (where applicable) for each product used in the paint system. The PSDS form is appended to the end of this section.
 - b. Submit required information on a system-by-system basis.
 - c. Furnish copies of paint system submittals to the coating applicator.
 - d. Indiscriminate submittal of manufacturer's literature only is not acceptable.

B. Samples:

1. Reference Panel:
 - a. Prior to start of surface preparation, furnish a 4-inch by 4-inch steel panel for each grade of sandblast specified herein, prepared to specified requirements.
 - b. Provide panel representative of the steel used; prevent deterioration of surface quality.
 - c. Upon approval by the Owner, panel to be reference source for inspection.
2. Unless otherwise specified, before painting work is started, prepare minimum 8-by 10-inch samples with type of paint and application specified on similar substrate to which paint is to be applied.
3. Furnish additional samples as required until colors, finishes, and textures are approved.
4. Approved samples to be the quality standard for final finishes.

C. Quality Control Submittals:

1. Applicator's Experience: List of references substantiating experience.
2. Factory Applied Coatings: Manufacturer's certification stating factory applied coating system meets or exceeds requirements specified.
3. If the manufacturer of finish coating differs from that of shop primer, provide both manufacturers written confirmation that materials are compatible.
4. Manufacturer's written instructions and special details for applying each type of paint.
5. Manufacturers' Certificate of Proper Installation.

- D. Abrasive Blasting Permit
- E. Contract Closeout Submittals: Special guarantee.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Applicator's Experience: Minimum 5 years experience in application of specified products.
- B. Regulatory Requirements:
 - 1. Meet federal, state, and local requirements limiting the emission of volatile organic compounds.
 - 2. Perform surface preparation and painting in accordance with recommendations of the following:
 - a. Paint manufacturer's instructions.
 - b. SSPC-PA Guide No. 3, Guide to Safety in Paint Applications.
 - c. Federal, state, and local agencies having jurisdiction.
- C. Mockup:
 - 1. Before proceeding with Work under this section, finish one complete space or item of each color scheme required showing selected colors, finish texture, materials, quality of work, and special details.
 - 2. After approval, sample spaces or items shall serve as a standard for similar work throughout the Project.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in a protected area that is heated or cooled to maintain temperatures within the range recommended by paint manufacturer.
- B. Shipping:
 - 1. Where pre-coated items are to be shipped to the site, protect coating from damage. Batten coated items to prevent abrasion.
 - 2. Use nonmetallic or padded slings and straps in handling.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply paint in temperatures outside of manufacturer's recommended maximum or minimum allowable, or in dust, smoke-laden atmosphere, damp or humid weather.
- B. Do not perform abrasive blast cleaning whenever relative humidity exceeds 85 percent, or whenever surface temperature is less than 5 degrees F above dew point of ambient air.
- C. Perform work in accordance with all Allegheny County Permit requirements.

1.7 SPECIAL GUARANTEE

- A. Product: Furnish manufacturer's extended guarantee or warranty, with OWNER named as beneficiary, in writing, as special guarantee. Special guarantee shall provide for correction, or at the option of the OWNER, removal and replacement of Work specified in this Specification section found *defective* during a period of 2 years after the date of Substantial Completion. Duties and obligations for correction or removal and replacement of *defective* Work shall be as specified in Contract Provisions.
- B. CONTRACTOR and paint manufacturer shall jointly and severally furnish guarantee.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Coatings Manufacturers Code A:
 - 1. Ameron Protective Coatings, Brea, CA.
 - 2. Carboline Coatings Co., St. Louis, MO.
 - 3. ICI Devoe Co., Louisville, KY.
 - 4. Dampney Company, Everett MA.
 - 5. Tnemec Coatings, Kansas City, MO.
 - 6. Keeler and Long, Inc., Watertown, CT.
 - 7. Pittsburgh Paints, Pittsburgh, PA.
 - 8. Valspar Corp., Azusa, CA.
- B. Paint Manufacturers Code B (Able to supply most architectural and institutional paints):

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1. Ameritone, Long Beach, CA.
2. Benjamin Moore Paints, New York, NY.
3. Detroit Graphite Co., Rockford, IL.
4. Fuller/O'Brien Paint Co., San Francisco, CA.
5. Pittsburgh Paints, Pittsburgh, PA.
6. Pratt and Lambert, Inc., Buffalo, NY.
7. Rustoleum Corp., Evanston, IL.
8. Samuel Cabot, Inc., Boston, MA.
9. Sherwin Williams, Cleveland, OH.
10. Textured Coatings of America, Los Angeles, CA.
11. Thoro Systems, Miami, FL.

C. Specialty Manufacturers Code C:

1. Darworth Co., Avon, CT.
2. Jasco Chemical Co., Mountain View, CA.
3. McCloskey Varnish Co., Philadelphia, PA.
4. Olympic Stain & Varnish, Seattle, WA.
5. Pittsburgh Paints, Pittsburgh, PA.

D. Elastomeric Coating Manufacturers Code D:

1. Futura Coatings, Hazelwood, MO.
2. Gaco Western, Seattle, WA.
3. 3M Co., St. Paul, MN.
4. Plas-Chem Coatings, St. Louis, MO.
5. Polibrid Coatings, Brownsville, TX.
6. Polymer Development Laboratories, Inc., Orange, CA.
7. Technical Urethanes, Inc., Clearbrook, VA.
8. Thane-Coat, Houston, TX.
9. United Coatings Co., Spokane, WA.
10. Tnemec Coatings, Kansas City, MO.

E. Fusion Bonded Coating Applicators Code E:

1. Amrep, Marietta, GA.
2. 3M Co., St. Paul, MN.
3. McMaster-Carr Co., Elmhurst, IL.

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2.2 MATERIALS

- A. General:
1. Material Quality: Manufacturer's highest quality products and suitable for intended service.
 2. Materials Including Primer and Finish Coats: Produced by same manufacturer.
 3. Thinners, Cleaners, Driers, and Other Additives: As recommended by manufacturer of the particular coating.
- B. Products are listed below according to their approximate order of appearance in the systems. The letter designating the manufacturer code refers to Article MANUFACTURERS.

Product	Definition	Manufacturer Code
Tar Stop	Coating designed to prevent bleeding of black asphaltic varnish through finish paint; Shellac is suitable alternate; not applicable for white and pastel colors	A
Polyamide Epoxy	Potable grade polyamide epoxy coatings approved for potable water contact and conforming to NSF Standards 60 and 61	A
Epoxy Primer	Polyamide, anticorrosive, converted epoxy primer containing rust-inhibitive pigments	A
Coal-Tar Epoxy	Amine or phenolic epoxy type; 70 percent volume solids minimum, suitable for immersion service	A
Organic Zinc Rich Primer	Converted epoxy, epoxy/phenolic or urethane type, minimum 10 pounds metallic zinc content per gallon	A
Rust-Inhibitive Primer	Single-package steel primer with anticorrosive pigment loading	A, B

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Product	Definition	Manufacturer Code
Alkyd Enamel	Optimum quality, gloss finish, medium long oil	A, B
Wash Primer	Vinyl butyral acid	A
Epoxy Nonskid	Polyamide or amine converted epoxies; aggregated may be packaged separately	A
Inorganic Zinc Primer	Solvent or water based, 14 pounds metallic zinc content per gallon minimum; follow manufacturer's recommendation for top coating	A
Silicone/Silicone Acrylic	Elevated temperature silicone or silicone/acrylic based	A, B
Acrylic Aliphatic Urethane	High build acrylic catalyzed with aliphatic isocyanate	A
Fire Retardant Latex	Intumescent latex with Class A interior finish under NFPA 101 Life Safety Code and UL label certifying testing in the "Tunnel Test" (ASTM E84)	C
Elastomeric Polyurethane	100 Percent solids, plural component, spray applied, high build, elastomeric polyurethane coating, suitable for the intended service	D
Polyamide High Build Epoxy	Capability of 4 to 8 MDFT per coat	A
Polyamide Epoxy, High Solids	Percent of volume solids 80 percent minimum, suitable for immersion service	A

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Product	Definition	Manufacturer Code
Polyurethane Enamel	Percent of volume solids 80 percent minimum, suitable for immersion service	A
Acrylic/Latex Finish	High-gloss, single-component	A, B
Canvas Sealer	Single-package latex or alkyd primer for canvas surfaces; follow manufacturer's recommendations for surface preparation	A, B
Bituminous Paint	Single-component, coal-tar pitch based	A
Block Filler	Primer-sealer designed for rough masonry surfaces, 100 percent acrylic emulsion	A
Alkyd (Semi gloss)	Semi gloss alkyd	A, B
Fusion Bonded, TFE Lube or Grease Lube	Tetrafluoroethylene, liquid coating; No. 62-4621-4830-5 as manufactured by 3M Co., St. Paul, MN; or open gear grease as supplied by McMaster-Carr Co., Elmhurst, IL; RL 736 manufactured by Amrep, Marietta, GA	E
Acrylic Latex (Flat)	Flat Latex	A, B

2.3 MIXING

A. Multiple-Component Coatings:

1. Prepare using the contents of the container for each component as packaged by paint manufacturer.
2. No partial batches will be permitted.
3. Do not use multiple-component coatings that have been mixed beyond their pot life.
4. Furnish small quantity kits for touchup painting and for painting other small areas.

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5. Mix only components specified and furnished by paint manufacturer.
6. Do not intermix additional components for reasons of color or otherwise, even within the same generic type of coating.

- B. Colors: Formulate paints with colorants free of lead, lead compounds, or other materials that might be affected by presence of hydrogen sulfide or other gas likely to be present at the site.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Surface Preparation Verifications:
1. Inspect and provide substrate surfaces prepared in accordance with these specifications and the printed directions and recommendations of paint manufacturer whose product is to be applied. The more stringent requirements shall apply.
 2. Provide the Owner minimum 7 days advance notice to start of shop or field surface preparation work and coating application work.
 3. Perform such work only in presence of the Owner, unless the Owner grants prior approval to perform such work in Owner's absence.
- B. Schedule inspection with the Owner in advance for cleaned surfaces and all coats prior to succeeding coat.

3.2 PREPARATION

- A. Shop Blast Cleaning:
1. Notify the Owner at least 7 days, prior to start of shop blast cleaning to allow for inspection of the work during surface preparation and shop application of paints.
 2. Structural steel, metal doors and frames, metal louvers, and similar items, as reviewed by the Owner, may be shop prepared and primed.
Centrifugal wheel blast cleaning is an acceptable alternate to shop blast cleaning.
- B. Field Abrasive Blasting: Perform blasting for items and equipment where specified and as required to restore damaged surfaces previously shop or field blasted and primed.
- C. Protection of Items not to be Painted:
1. Remove, mask, or otherwise protect hardware, lighting fixtures, switch plates, aluminum surfaces, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not intended to be painted.

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2. Provide drop cloths to prevent paint materials from falling on or marring adjacent surfaces.
3. Protect working parts of mechanical and electrical equipment from damage during surface preparation and painting process.
4. Mask openings in motors to prevent paint and other materials from entering the motors.

3.3 PREPARATION OF SURFACES

A. Metal Surfaces:

1. Where indicated, meet requirements of the following SSPC Specifications:
 - a. Solvent Cleaning: SP 1.
 - b. Hand Tool Cleaning: SP 2.
 - c. Power Tool Cleaning: SP 3.
 - d. White Metal Blast Cleaning: SP 5.
 - e. Commercial Blast Cleaning: SP 6.
 - f. Brush-Off Blast Cleaning: SP 7.
 - g. Pickling: SP 8.
 - h. Near-White Blast Cleaning: SP 10.
 - i. Power Tool Cleaning to Bare Metal: SP 1 1.
2. The words "solvent cleaning," "hand tool cleaning," "wire brushing," and "blast cleaning," or similar words of equal intent in these Specifications or in paint manufacturer's specifications refer to the applicable SSPC Specifications.
3. Where Federal, State, or Local regulations preclude standard abrasive blast cleaning, wet or vacu-blast methods may be required. Coating manufacturers' recommendations for wet blast additives and first coat application shall apply.
4. DeLavaud Process Ductile Iron Pipe:
 - a. Use SSPC SP grades as guide only.
 - b. For high performance (epoxy) coatings, follow recommendations of pipe and coating manufacturers.
 - c. For conventional (alkyd) coatings, clean asphalt varnish supplied on pipe and apply one full coat of a tar stop before two full coats of the color coats specified.
5. Hand tool clean areas that cannot be cleaned by power tool cleaning.
6. Round or chamfer sharp edges and grind smooth burrs, jagged edges, and surface defects.
7. Welds and Adjacent Areas:
 - a. Prepare such that there is:
 - 1) No undercutting or reverse ridges on weld bead.
 - 2) No weld spatter on or adjacent to weld or any other area to be painted.
 - 3) No sharp peaks or ridges along weld bead.
 - 4) Grind to proper contour (per weld inspector) and wire brush
 - 5) This applies to ALL welds requiring painting, regardless of who made the weld (owner or contractor).

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- b. Grind embedded pieces of electrode or wire flush with adjacent surface of weld bead.
- 8. Preblast Cleaning Requirements:
 - a. Remove oil, grease, welding fluxes, and other surface contaminants prior to blast cleaning.
 - b. Cleaning Methods: Steam, open flame, hot water, or cold water with appropriate detergent additives followed with clean water rinsing.
 - c. Clean small isolated areas as above or solvent clean with suitable solvents and clean cloths.
- 9. Blast Cleaning Requirements:
 - a. Type of Equipment and Speed of Travel: Design to obtain specified degree of cleanliness. Minimum surface preparation is as specified herein and takes precedence over coating manufacturer's recommendations.
 - b. Select type and size of abrasive to produce a surface profile that meets coating manufacturer's recommendations for particular primer to be used.
 - c. Use only dry blast cleaning methods.
 - d. Do not reuse abrasive, except for designed recyclable systems.
 - e. Meet applicable federal, state, and local air pollution and environmental control regulations for blast cleaning, confined space entry (if required), and disposition of spent aggregate and debris.
- 10. Post-Blast Cleaning and Other Cleaning Requirements:
 - a. Clean surfaces of dust and residual particles from cleaning operations by dry (no oil or water vapor) air blast cleaning or other method prior to painting. Vacuum clean enclosed areas and other areas where dust settling is a problem and wipe with a tack cloth.
 - b. Paint surfaces the same day they are blasted. Reblast surfaces that have started to rust before they are painted.

B. Concrete Surfaces:

- 1. Do not begin until 30 days after concrete has been placed.
- 2. Remove grease, oil dirt, salts or other chemicals, loose materials, or other foreign matter by solvent, detergent, or other suitable cleaning methods.
- 3. Brush-off blast clean to remove loose concrete and provide a tooth for binding. Upon approval by ENGINEER, surface may be cleaned by acid etching method. Approval subject to producing desired profile.
- 4. Secure coating manufacturer's recommendations for additional preparation if required for excessive bug holes exposed after blasting.
- 5. Unless otherwise required for proper adhesion, ensure surfaces are dry prior to painting.

C. Existing Surfaces to be Painted:

- 1. Detergent wash and freshwater rinse.
- 2. Clean loose, abraded, or damaged coatings to substrate by Hand or Power Tool, SP 2 or SP 3. **Pay special attention to weld beads – grind & wire brush!**

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3. Feather surrounding intact coating with a minimum 6-inch overlay.
4. Apply one spot coat of the specified primer to bare areas, overlapping prepared existing coating.
5. Apply one full finish coat of the specified primer or finish coat(s) overall.
6. If an aged, plural-component material is to be top coated, contact coating manufacturer concern for additional surface preparation requirements.
7. For preprinted ductile iron pipe, apply a coat of tar stop seal coat prior to application of a cosmetic finish coat.
8. Application of Cosmetic Coat:
 - a. It is assumed that existing coatings have oxidized sufficiently to prevent lifting or peeling when over coated with paints specified.
 - b. Check compatibility by application to a small area prior to starting painting.
 - c. If lifting or other problems occur, request disposition from OWNER.
9. Perform blasting as required to restore damaged surfaces. Materials, equipment, procedures shall meet requirements of Steel Structures Painting Council.

3.4 SURFACE CLEANING METHODS

A. Brush-off Blast Cleaning:

1. Equipment, procedure, and degree of cleaning shall meet requirements of SSPC-SP7, Brush-off Blast Cleaning.
2. Abrasive: Either wet or dry blasting sand, grit, or nut shell.
3. Select various surface preparation parameters such as size and hardness of abrasive, nozzle size, air pressure, and nozzle distance from surface such that surface is cleaned without pitting, chipping, or other damage.
4. Verify parameter selection by blast cleaning a trial area that will not be exposed to view.
5. Owner will approve acceptable trial blast cleaned area and will use area as a representative sample of surface preparation.
6. Repair or replace surfaces damaged by blast cleaning.

B. Acid Etching:

1. After pre-cleaning, spread the following solution by brush or plastic sprinkling can: 1 part commercial muriatic acid reduced by 2 parts water by volume. Adding acid to water in these proportions gives an approximate 10 percent solution of HCl.
2. Application:
 - a. Application Rate: Approximately 2 gallons per 100 square feet.
 - b. Work acid solution into surface by hard-bristled brushes or brooms until complete wetting and coverage is obtained.
 - c. Acid will react vigorously for a few minutes, during which time brushing is continued.

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- d. After bubbling subsides (10 minutes), hose down the remaining slurry with high pressure clean water.
 - e. Rinse immediately to avoid formation on the surface of salts that are difficult to remove.
 - f. Thoroughly rinse to remove any residual acid surface condition that can impair adhesion.
3. Ensure surface is completely dry before application of coating.
 4. Apply acid etching, to obtain a "grit sandpaper" surface profile. If not, repeat treatment.

C. Solvent Cleaning:

1. Consists of removal of foreign matter such as oil, grease, soil, drawing and cutting compounds, and any other surface contaminants by using solvents, emulsions, cleaning compounds, steam cleaning, or similar materials and methods which involve a solvent or cleaning action.
2. Meets requirements of SSPC-SP 1.

3.5 APPLICATION

A. General:

1. The intention of these Specifications is for new, interior and exterior metal, as well as all metal impacted by the work/repairs, and any other existing surface indicated in the contract documents as requiring painting to be painted, whether specifically mentioned or not, except as specified otherwise. Prime coat structural steel surfaces.
2. For coatings subject to immersion, obtain full cure for completed system. Consult coatings manufacturer's written instructions for these requirements. Do not immerse coating for any purpose until completion of curing cycle.
3. Apply coatings in accordance with these Specifications and the paint manufacturers printed recommendations and special details. The more stringent requirements shall apply. Allow sufficient time between coats to assure thorough drying of previously applied paint.
4. Apply each coat of paint slightly darker than the preceding coat unless otherwise approved.
5. Coat units or surfaces to be bolted together or joined closely to structures or to one another prior to assembly or installation.
6. On pipelines, terminate coatings along pipe runs to 1 inch inside pipe penetrations.
7. Keep paint materials sealed when not in use.
8. Where more than one coat of a material is applied within a given system, alternate color to provide a visual reference that the required number of coats have been applied.

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B. Shop Primed and Factory Finished Surfaces:

1. Schedule inspection with Owner before shop priming or topcoating factory finished items delivered to site.
2. Prepare surfaces and spot prime using specified primer.
3. Apply mist coat of primer, 1-mil dry film thickness.
4. After welding, prepare and prime holdback areas as required for paint system. Apply primer in accordance with manufacturer's instructions.

C. Manufacturer Applied Paint Systems:

1. Repair abraded areas on factory finished items as recommended by manufacturer.
2. Carefully blend repaired areas into original finish.
3. Fusion Bonded Coatings: Provide appropriate liquid repair kits for field use.

D. Film Thickness:

1. Number of Coats: Minimum required without regard to coating thickness. Additional coats may be required to obtain minimum required paint thickness, depending on method of application, differences in manufacturers' products, and atmospheric conditions.
2. Maximum film build per coat shall not exceed coating manufacturer's recommendations.
3. Film Thickness Measurements and Electrical Inspection of Coated Surfaces:
 - a. Perform with properly calibrated instruments.
 - b. Recoat and repair as necessary for compliance with the Specifications.
 - c. All coats are subject to inspection by Owner and coating manufacturer's representative.
4. Visually inspect concrete, nonferrous metal, plastic, and wood surfaces to ensure proper and complete coverage has been attained.
5. Give particular attention to edges, angles, flanges, and other similar areas, where insufficient film thickness are likely to be present, and ensure proper mileage in these areas.
6. Thickness Testing:
 - a. After repaired and recoated areas have dried sufficiently, final tests will be conducted by the Owner.
 - b. Measure coating thickness specified in mils with a magnetic type dry film thickness gauge.
 - c. Test finish coat, except zinc primer, galvanizing, and elastomeric coatings in excess of 25 mils dry, for holidays and discontinuities with an electrical holiday detector.
 - d. Holiday detect coatings in excess of 25 mils dry with high voltage units recommended by the coating manufacturer.
 - e. Check each coat for correct mileage. Do not make measurement before a minimum of 8 hours after application of coating.

E. Porous Surfaces, Such as Concrete, Masonry:

1. Filler/Surfacer: Use coating manufacturer's recommended product to fill air holes, bug holes, and other surface defects.
2. Prime Coat: May be thinned to provide maximum penetration and adhesion.
 - a. Type and Amount of Thinning: Determined by paint manufacturer and dependent on surface density and type of coating.
3. Surfaces Specified to Receive Water Base Coating: Damp, but free of running water, just prior to application of coating.

F. Damaged Coatings, Pinholes, and Holidays:

1. Feather edges and repair in accordance with recommendations of paint manufacturer.
2. Apply finish coats, including touchup and damage-repair coats in a manner which will present a uniform texture and color-matched appearance.

G. Unsatisfactory Application:

1. If item has an improper finish color, or insufficient film thickness, clean surface and topcoat with specified paint material to obtain specified color and coverage. Obtain specific surface preparation information from coating manufacturer.
2. Hand or power sand visible areas of chipped, peeled, or abraded paint, and feather the edges. Follow with primer and finish coat. Depending on extent of repair and appearance, a finish sanding and topcoat may be required.
3. Evidence of runs, bridges, shiners, laps, or other imperfections is cause for rejection.
4. Repair defects in accordance with written recommendations of coating manufacturer.
5. Leave staging and lighting up until Owner has inspected surface or coating. Replace staging removed prior to approval by Owner. Provide additional staging and lighting as requested by Owner.

3.6 FIELD QUALITY CONTROL

A. Testing Gauges:

1. Provide a magnetic type dry film thickness gauge to test coating thickness specified in mils, as manufactured by Nordson Corp., Anaheim, CA, Mikrotest.
2. Provide an electrical holiday detector, low voltage, wet sponge type to test finish coat, except zinc primer, high-build elastomeric coatings, and galvanizing, for holidays and discontinuities as manufactured by Tinker and Rasor, San Gabriel, CA, Model M-1.

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3. Provide a high voltage holiday detector for elastomeric coatings in excess of 25 mils dry film thickness. Unit to be as recommended by the coating manufacturer.

3.7 MANUFACTURER'S SERVICES

- A. Provide manufacturer's representative at site in accordance with Section 01640, MANUFACTURERS' SERVICES, for installation assistance, inspection, and certification of installation.

3.8 CLEANUP

- A. Place cloths and waste that might constitute a fire hazard in closed metal containers or destroy at the end of each day.
- B. Upon completion of the Work, remove staging, scaffolding, and containers from the site or destroy in a legal manner.
- C. Completely remove paint spots, oil, or stains upon adjacent surfaces and floors and leave the entire job clean.

3.9 PROTECTIVE COATINGS SYSTEMS

- A. All surfaces of all new steel installed on this job, all existing steel surfaces impacted/damaged by this job, or any other exterior surface delineated in the contract documents, shall be prepped and coated. New duct (connecting afterburner to evaporator) shall have its interior and exterior surfaces coated after anchors are installed and any/all other welding is completed. (This is prior to installation of block insulation and refractory.) Overlay plates shall also be coated. The surface that will be placed against the existing steel plate (casing) of the economizer/evaporator/duct shall be prepped and coated with the "Interior" system prior to installation. Leave a ½" wide uncoated border around the edges of the new overlay plate (and the edges of the tie-back holes) for welding purposes (for the purpose of not contaminating the weld bead). Coat the other surface of the new overlay plate (after all welding/grinding has been completed) with the exterior system. Surface prep and other details as recommended by manufacturer.
- B. Economizer: Interior coating of Plasite XHT 400. [Color: Grey] One coat at 30 – 40 mils DFT. Steel is exposed directly to flue gas.
Exterior coating of Thermaline Heat Shield. [Color: Metallic Grey] Two coats at 5 mils DFT per coat (Total DFT of 10 mils). Steel is directly exposed to ambient (room) air or may be under a layer of insulation & jacketing.
- Evaporator (and duct): Interior coating of Plasite XHT 400. [Color: Grey] One coat at 30 – 40 mils DFT. Steel is covered by insulating block, which is then covered by refractory.

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Exterior coating of Thermaline Heat Shield. [Color: Metallic Grey]
Two coats at 5 mils DFT per coat (Total DFT of 10 mils). Steel is directly exposed to ambient (room) air or may be under a layer of insulation & jacketing.

- C. For any existing piping/supports/brackets/ handrails (or any ferrous metal whose coating was affected by this work) prep, prime & topcoat in accordance with paint system # 5 (see other details within these specifications).
- D. All newly-installed insulation jacketing material shall be painted to match the adjacent (existing) jacketing color.

- D. System No. 5 Exposed Metal-Mildly Corrosive:

Surface Prep.	Paint Material	Min. Coats, Cover
Abrasive Blast, or Centrifugal Wheel Blast (SP 10)	Polyamide, Anticorrosive Epoxy Primer	coat, 2.5 MDFT
	Polyurethane Enamel	2 coats, 3 MDFT

- E. System No. 6 Exposed Metal-Atmospheric:

Surface Prep.	Paint Material	Min. Coats, Cover
Abrasive Blast, or Centrifugal Wheel Blast (SP 6)	Rust-Inhibitive Primer	1 coat, 2 MDFT
	Polyurethane Enamel	1 coat, 3 MDFT

- F. System No. 10 Galvanized Metal Conditioning:

Surface Prep.	Paint Material	Min. Coats, Cover
Solvent Clean (SP 1) Followed by Hand Tool (SP 2) or Power Tool(SP 3)	Wash Primer or Coating Manufacturer's Recommendation	1 coat, 0.4 MDFT
	Polyamide Epoxy Tie Coat Primer	1 coat, 2 MDFT

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	Polyamide Epoxy (Interior surfaces)	1 coat, 2.5 MDFT
	Polyurethane Enamel (Exterior surfaces)	1 coat, 2.5 MDFT

G. System No. 11 Galvanized Metal Repair:

Surface Prep.	Paint Material	Min. Coats, Cover
Solvent Clean (SP 1) Followed by Hand Tool (SP 2), Power Tool (SP 3), or Brushoff Blast (SP 7)	Organic Zinc Rich Primer	1 coat, 3 MDFT

H. System No. 28 Repair of Existing Coatings:

Surface Prep.	Paint Material	Min. Coats, Cover
Refer to Article PREPARATION OF SURFACES – Existing Surfaces to be painted.	To Match Existing	To Match Existing

I. System No. 121 Concrete, Skid-Resistant:

Surface Prep.	Paint Material	Min. Coats, Cover
Concrete	Epoxy Nonskid (Aggregated)	2 coats, 160 SFPG

3.10 ARCHITECTURAL PAINT SYSTEMS

A. System No. 106 Galvanized Metal:

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Surface Prep.	Paint Material	Min. Coats, Cover
Solvent Clean (SP 1) Followed By Hand Tool (SP 2) or Power Tool (SP 3)	Wash Primer or Coating Manufacturer's Recommendation	1 coat, 0.4 MDFT
	Alkyd Enamel (Semigloss)	2 coats, 4 MDFT

B. System No. 107 Metal Trim and Structural Steel:

Surface Prep.	Paint Material	Min. Coats, Cover
Abrasive Blast, or Centrifugal Wheel Blast (SP 6) -OR- Pickle (SP 8)	Rust-Inhibitive Primer	1 coat, 2 MDFT
	Alkyd Enamel (Semigloss)	2 coats, 4 MDFT

3.11 APPLICATION SCHEDULE

A. (As previously stated.)

B. Areas to be painted with bitumastic coating:

1. N/A

C. Unless otherwise shown or specified, paint surfaces in accordance with the following application schedule. In the event of discrepancies or omissions in the following, request clarification from Owner before starting work in question.

D. System No. 5 Exposed Metal-Mildly Corrosive: Use on the following items or areas:

1. Exposed metal surfaces, new and located inside or outside of structures and exposed to weather or in a highly humid atmosphere, such as pipe galleries and similar areas.

E. System No. 6 Exposed Metal-Atmospheric: Use on the following items or

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areas:

1. Exposed metal surfaces, new and located inside or outside of structures or exposed to weather, including metal doors and frames, vents, louvers, exterior metal ductwork, flashings, sheet metalwork and miscellaneous architectural metal trim, and the following specific surfaces:
 - a. Inside duct stack heads behind diffusers, registers, and grilles with flat black.
 - b. Uninsulated copper tubing, valves, and fittings.
 2. Apply surface preparation and primer to surfaces prior to installation. Finish coats need only be applied to surfaces exposed after completion of construction.
- F. System No. 10 Galvanized Metal Conditioning: Use on the following items or areas:
1. Galvanized surfaces requiring painting.
 2. Metal doors and frames.
- G. System No. 11 Galvanized Metal Repair: Use on the following items or areas:
1. Galvanized surfaces that are abraded, chipped, or otherwise damaged.
- H. System No. 107 Metal Trim and Structural Steel: Use on the following items or areas:
1. Structural steel components.
 2. Stair elements.
- I. System No. 5 Aluminum Surfaces. Use on the following items or areas.
1. Piping and equipment insulation protective jacket.
- J. System No. 121 Concrete, Skid-Resistant: Use on the following areas:
1. Floor slabs.
- K. Surfaces Not Requiring Painting: Unless otherwise stated or shown, the following areas or items will not require painting or coating:
1. Reinforcing steel.
 2. Nonferrous and corrosion-resistant ferrous alloys such as copper, bronze, monel, aluminum, chromium plate, atmospherically exposed weathering steel, and stainless steel, except where:
 - a). Required for electrical insulation between dissimilar metals.
 - b). Aluminum and stainless steel are embedded in concrete or masonry, or aluminum is in contact with concrete or masonry.

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- c). Color coding of equipment and piping is required.
- 3. Nonmetallic materials such as glass, PVC, wood, porcelain, and plastic (FRP) except as required for architectural painting or color coding.
- 4. Prefinished electrical and architectural items such as motor control centers, switchboards, switchgear, panelboards, transformers, disconnect switches (if prefinished in OSHA yellow), acoustical tile, cabinets, elevators, building louvers, and wall panels; color coding of equipment is required.
- 5. Nonsubmerged electrical conduits attached to unpainted concrete surfaces.
- 6. Cathodic protection anodes.
- 7. Items specified to be galvanized after fabrication, unless specified elsewhere or subject to immersion.

3.12 COLORS

A. Pipe Identification Painting:

- 1. Color code non-submerged metal piping except electrical conduit. Paint fittings and valves the same color as pipe, except equipment isolation valves.
- 2. Piping Color Coding: As shown in table below.
- 3. On exposed stainless steel piping, apply color 24 inches in length along pipe axis at connections to equipment, valves, or branch fittings, at wall boundaries, and at intervals along piping not greater than 9 feet on center.
- 4. Pipe Supports: Mild steel, painted No. 70 light gray as specified in ANSI 359-A-85, as manufactured by Tnemec Co., No. BJ45.
- 5. Fiberglass reinforced plastic (FRP) pipe and polyvinyl chloride (PVC) pipe located outside of buildings and enclosed structures will not require painting, except as noted or scheduled.

B. Colors: Provide as shown for equipment and appurtenances shown in Piping Schedule and selected by Owner.

C. Proprietary identification of colors is for identification only. Selected manufacturer may supply matches.

D. Equipment Colors:

- 1. Equipment includes the machinery or vessel itself plus the structural supports and fasteners and attached electrical conduits.
- 2. Paint nonsubmerged portions of equipment the same color as the piping it serves, except as itemized below:
 - a. Dangerous Parts of Equipment and Machinery: OSHA Orange.
 - b. Fire Protection Equipment and Apparatus: OSHA Red.
 - c. Radiation Hazards: OSHA Purple.
 - d. Physical hazards in normal operating area and energy lockout devices, including, but not limited to, electrical disconnects for equipment and

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equipment isolation valves in air and liquid lines under pressure: OSHA Yellow.

E. Pipe System Color Code:

Component	Specified Color	Sherwin Williams Color	Color Code	Comments
Afterburner Combustion Air	Green	Safety Green	SW4 085	
Ambient Air	Green	Safety Green	SW4 085	
Plant Air (low Pressure from Compressor)	Light Green	Emerald Ice	SW4 069	
Ash	Gray	Flint Gray	SW4 019	
Atomizing Air	Green	Safety Green	SW4 085	
Boiler Blowdown	Orange	Safety Orange	SW4 083	
Boiler Feedwater	Orange	Safety Orange	SW4 083	
Burner Combustion Air	Green	Safety Green	SW4 085	
Effluent Flushing Water	Gray	Flint Gray	SW4 019	
Cold Potable City Flushing Water	Blue	Dewpoint	SW4 067	
Drains (Area, Roof and Floor)	Black	Black	NA	
Drains (Equipment, Filtrate and Duct)	Black	Black	NA	
Fire Protection	Red	Safety Red	SW4 081	
Foam Spray Water	Gray	Flint Gray	SW4 019	
Foul Air	Cobalt	Laser Blue	SW4 079	
FRP Flue Gas Ductwork	Cobalt Blue	Laser Blue	SW4 079	
Fuel Oil	Dark Green	Rain Forest	SW4 071	
Grit and Dewatered Sludge Feed	Brown	Bolt Brown	SW4 001	
Grit and Dewatered Sludge Transfer	Brown	Bolt Brown	SW4 001	

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Component	Specified Color	Sherwin Williams Color	Color Code	Comments
High Pressure Condensate	Orange	Safety Orange	SW4 083	
High Pressure	Gray	Flint Gray	SW4 019	
Hot Protected Water	Blue	Dewpoint	SW4 067	
Hydraulic Oil	Dark Green	Rain Forest	SW4 071	
Instrument Air	Green	Safety Green	SW4 085	
Lime	White	Pillar White	SW4 029	
Lime Stabilized Sludge Product	Tan	Pallet Tan	SW4 003	
Low Pressure Condensate	Orange	Safety Orange	SW4 083	
Lubrication Oil	Dark Green	Rain Forest	SW4 071	With White Stripes at 6' Intervals
Medium Pressure Condensate	Orange	Safety Orange	SW4 083	
Mixed Liquor	Silver/Gray	Flint Gray	SW4 019	
Natural Gas	Red	Safety Red	SW4 081	With Yellow Stripes at 6" Intervals
Overflow	Gray	Flint Gray	SW4 019	
Polymer, Diluted	Buff	Pallet Tan	SW4 003	
Polymer, Liquid	Buff	Pallet Tan	SW4 003	
Primary Effluent	Silver/Gray	Flint Gray	SW4 019	
Primary Scum	Tan	Tannery	SW4 004	
Primary Sludge	Brown	Bolt Brown	SW4 001	
Protected Water	Blue	Dewpoint	SW4 067	
Raw Sewage	Gray	Flint Gray	SW4 019	
Raw Sludge	Brown	Bolt Brown	SW4 001	

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Component	Specified Color	Sherwin Williams Color	Color Code	Comments
Recirculating Water	Orange	Safety Orange	SW4 083	
Return Activated Sludge	Brown	Bolt Brown	SW4 001	
Sanitary and Storm Drains	Black	Black	NA	
Sanitary Force Main (Pressure Waste)	Black	Black	NA	
Saturated Low Pressure Steam	Orange	Safety Orange	SW4 083	
Saturated Medium Pressure Steam	Orange	Safety Orange	SW4 083	
Screening Process	Green	Safety Green	SW4 085	With Black Stripes at 6' Intervals
Scrubber Blowdown	Orange	Safety Orange	SW4 083	
Scrubber Drain (including Bridge)	Cobalt Blue	Laser Blue	SW4 079	
Screening Recycle	Gray	Flint Gray	SW4 019	
Scum & Grease Process	Tan	Tannery	SW4 004	
Scum and Grease Reject	Tan	Tannery	SW4 004	
Scum and Grease Transer	Tan	Tannery	SW4 004	
Secondary Clarifier Maintenance Platform Grating	Yellow	Safety Yellow	SW4 084	
Secondary Effluent	Silver/Gray	Flint Gray	SW4 019	
Secondary Scum	Tan	Tannery	SW4 004	
Superheated Low Pressure Steam	Orange	Safety Orange	SW4 083	
Superheated Medium Pressure Steam	Orange	Safety Orange	SW4 083	
Thickened Blended Sludge	Brown	Bolt Brown	SW4 001	
Thickened Primary Sludge	Brown	Bolt Brown	SW4 001	
Thickened Waste Activated Sludge	Brown	Bolt Brown	SW4 001	

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Component	Specified Color	Sherwin Williams Color	Color Code	Comments
Vacuum and Vacuum Exhaust Vent	Black	Black	NA	
Waste Activated Sludge	Brown	Bolt Brown	SW4001	

NOTE:

1. NA = A Sherwin Williams color code number is not available for "Black".
2. Unless noted otherwise, PVC and/or CPVC chemical piping shall **not** be painted.
3. Proper labeling and identification of the piping is described in Specification Section 10400 and referenced to ANSI 13.1 standards.

(See PSDS form attached)

END OF SECTION

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PAINT SYSTEM DATA SHEET

Complete and attach manufacturer's Technical Data Sheet to this PSDS for each coating system.

Paint System Number (from Spec.):
Paint System Title (from Spec.):
Coating Supplier:
Representative:
Surface Preparation:

Paint Material (Generic)	Product Name/Number (Proprietary)	Min. Coats, Coverage

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PAINTING AND PROTECTIVE COATINGS

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. All work necessary to fabricate and install, complete, economizer tube bundles & appurtenances.
- B. All work shall be completed as required by applicable codes, good practice, the contract documents, and in full accordance with the recommendations & design of Cannon Boiler.
- C. See section 01010 (as well as the drawings & all other sections/portions of the contract documents) for additional information/details regarding the work.

1.2 REFERENCES

- A. American Society of Mechanical Engineers (ASME):
 - 1. Boiler and Pressure Vessel Code, Section VIII, Division 1, Pressure Vessels.
 - 2. Boiler and Pressure Vessel Code, Section IX, Welding and Brazing Qualifications.
 - 3. B31.1, Power Piping.
 - 4. B31.3, Chemical Plant and Petroleum Refinery Piping.
 - 5. B31.9, Building Services Piping.
 - 6. B36.10M, Welded and Seamless Wrought Steel Pipe.
- B. American Society for Nondestructive Testing (ASNT): SNT-TC-1A, Recommended Practice for Nondestructive Testing Personnel Qualifications.
- C. American Society for Testing and Materials (ASTM):
 - 1. A47, Standard Specification for Ferritic Malleable Iron Castings.
 - 2. A53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - 3. A105/A105M, Standard Specification for Forgings, Carbon Steel, for Piping Components.
 - 4. A106, Standard Specification for Seamless Carbon Steel Pipe for High Temperature Service.
 - 5. A126, Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 - 6. A135, Standard Specification for Electric-Resistance-Welded Steel Pipe.

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7. A139, Standard Specification for Electric-Fusion (Arc)-Welded Steel Pipe (NPS 4 and Over).
8. A153, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
9. A181/181M, Standard Specification for Forgings, Carbon Steel, for General-Purpose Piping.
10. A182/182M, Standard Specification for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service.
11. A183, Standard Specification for Carbon Steel Track Bolts and Nuts.
12. A193/A193M, Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service.
13. A194/A194M, Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service.
14. A197, Standard Specification for Cupola Malleable Iron.
15. A216/A216M, Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High Temperature Service.
16. A234/A234M, Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.
17. A240, Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels.
18. A276, Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
19. A283/A283M, Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
20. A285/A285M, Standard Specification for Pressure Vessel Plates, Carbon Steel, Low and Intermediate Tensile Strength.
21. A307, Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.

D. American Welding Society (AWS):

1. A5.8, Specification for Filler Metals for Brazing and Braze Welding.
2. Q1, Standard for AWS Certification of Welding Inspectors.

1.3 SUBMITTALS

A. Quality Control Submittals: Furnish the following:

1. Welders and Welding:
 - a. Inspection and Testing Laboratory Qualifications: Submit background information including experience, years in business, and five references for proposed independent testing laboratory.
 - b. Performance Qualifications: Prior to start of work, submit list of welders and welding operators, and types of welding for which each has been

qualified, for both shop and field welding. Welder qualifications shall be reviewed and approved by the Engineer prior to any shop or field welding being performed.

B. Submit form P-3 for the economizer.

1.4 QUALITY ASSURANCE

A. Weld Inspection and Testing Laboratory Qualifications:

1. Contractor shall be responsible for inspection on all welding.
2. Retain approved independent testing laboratory that will provide the services of an AWS certified welding inspector qualified in accordance with AWS QC1 with prior inspection experience of welds specified herein.
3. Perform weld examinations with qualified testing personnel who will carry out radiography, ultrasonic, magnetic particle, and other nondestructive testing methods as specified herein.
4. Welding Inspector:
 - a. Be present when shop or field welding is performed to certify that welding is in accordance with specified standards and requirements.
 - b. Duties include, but are not limited to, the following:
 - (1) Job material verification and storage.
 - (2) Qualification of welders.
 - (3) Certify conformance with approved welding procedure specifications.
 - (4) Maintain records and prepare reports in a timely manner.
 - (5) Notify OWNER within 1 hour of discovery of unsatisfactory weld performance and within 24 hours of weld test failure.
 - (6) Supervision of testing personnel.

B. Welder and Welding Operator Performance:

1. Qualify welders and welding operators by approved testing laboratory before performing any welding under this section.
2. Perform welder qualification tests in accordance with Section IX, Article III of the ASME Boiler and Pressure Vessel Code.
3. Qualification tests may be waived if evidence of prior qualification is deemed suitable by the OWNER.
4. Qualify welders and operators in the performance of making groove welds in each different pipe material, including carbon steel pipe, in Positions 2G and 5G for each welding process to be used.
5. Qualify welders and welding operators for stainless steel as stated herein on the type of stainless steel being welded with the welding process used.
6. Retest any welders at any time OWNER considers the quality of the welder's work substandard.

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- a. When the OWNER requests a retest of a previously qualified welder, the labor costs for the retest will be at OWNER's expense if the welder successfully passes the test.
- b. If the welder fails the retest, all costs shall be at the CONTRACTOR's expense.

C. Certifications:

1. Weld Testing Agency: Certified in accordance with current American Society for Nondestructive Testing (4153 Arlingate Plaza, Columbus, OH 43228) recommended practice SNT-TC-1A, NDT Level II.

1.5 DELIVERY, STORAGE AND HANDLING

A. General:

Items delivered and placed in storage shall be stored with protection from the weather, humidity and temperature variations, dirt and dust, or other contaminants. Any/all materials, products, fabrications, equipment, etc. for this entire contract shall be delivered F.O.B. the jobsite in Pittsburgh, PA. Such delivery/shipping costs shall be included in the bid price.

PART 2 PRODUCTS

2.1 GENERAL

A. Tube Materials:

1. Economizer tubes shall be SA-178A steel fabricated to the diameter and thicknesses as shown on the Form U-1 manufacturer's data report, included in the appendices.

B. Components: Furnish new products of equal material and rating as connecting pipe.

C. Tube support saddles and rods shall be type 304stainless steel.

D. Insulation: re-use existing insulation and panels. If damaged or unusable replace in kind.

E. Refractory or insulating materials removed shall be replaced with suitable products, as indicated in the contract documents.

PART 3 EXECUTION

3.1 DEMOLITION

- A. Disconnect/demo and remove Unit 1 Economizer tube bundles/elements and appurtenances, as required to perform the work.

3.2 INSTALLATION REQUIREMENTS.

- A. General:
 - 1. Perform in accordance with latest editions of Section IX, ASME Boiler and Pressure Vessel Code and ANSI Code for Pressure Piping, as follows:
 - a. All Piping: ASME Section IX.
 - b. Support Steel welding in accordance with AWS and reference drawing details.
- B. Reference Drawings indicate general location and existing conditions. Contractor to field verify any and all dimensions before fabrication.
- C. Contractor to remove existing tube bundles to header. Grind smooth and connect in accordance with ASME code and the reference drawings.
- D. Hydrostatic test to be performed on each installed tube section. Test pressure to be no less than 450 psig.

3.3 Warranty

- A. The successful bidder/supplier shall warrant the work for a period of two (2) years from the date of installation (not to exceed 6 months from the date of delivery). This warranty shall cover all material, labor, freight, and incidental costs needed to repair/replace the defective component. The warranty shall be for manufacturing/fabricating/workmanship defects, errors of omission and commission, and inherent material defects. A notarized, written warranty statement stating same shall be furnished to ALCOSAN prior to final payment.

END OF SECTION

APPENDIX

FORM U-1 MANUFACTURER'S DATA REPORT

THERMALINE HEAT SHIELD DATA SHEET

PLASITE XHT 400 DATA SHEET

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by CANNON BOILER WORKS, INC., SCHREIBER INDUSTRIAL PARK, 12TH ST., BLDG 9B
(Name and address of manufacturer) NEW KENSINGTON, PA. 15068

2. Manufactured to Alegheny County Sanitary Authority, 3300 Preble Avenue, Pgh., PA 15233
(Name and address of purchaser)

3. Location of installation Same as above.
(Name and address)

4. Type Economizer 7026-1-1EC D-7026-7 Rev. 4 12271 1992
(horiz. or vert. tank) (Mfr's serial No.) (CRN) (Drawing) (Mat'l. Bd. No.) (Year Built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME Boiler and Pressure Vessel Code, 1989
The design, construction and workmanship conform to ASME Rules, Section VIII, Division 1

12/31/1990
Addenda (date)

Items 6-11 Incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers

6. Shell: Mat'l. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (Overall) (ft. & in.)

7. Seams: Long. (Dbl., Sngl.) R.T. (Spot or Full) Eff. (%) H.T. Temp. (F)
Time Girth. (Dbl., Sngl.) R.T. (Spot or Full) No. of Courses

8. Heads: (a) Mat'l. (Spec. No., Grade) (b) Mat'l. (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)										
(b)										

If removable, bolts used (describe other fastenings) N/A

9. Type of Jacket N/A (Mat'l., Spec. No., Gr., Size, No.) Proof Test N/A

10. Jacket Closure N/A If bar, give dimensions. N/A If bolted, describe or sketch.
(Describe as edges & weld, bar, etc.)

11. MAWP psi at max. temp. F, Min. design metal temp. psi. F at psi.
Hydro., pneu., or comb. test press.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: N/A N/A N/A N/A N/A

	Stationary Mat'l. (Spec. No., Gr)	Diam. (in.) (Subject to pressure)	Nom. Thk. (in.)	Corr. Allow. (in.)	Attach. (Welded, Bolted)
	<u>SA-106 GRB</u>	<u>4" NPS</u>	<u>0.531</u>	<u>0.0"</u>	<u>Welded</u>

13. Tubes: SA-178 Gr. A 1 1/4" .120" 18 Serpentine

	Mat'l. (Spec. No., Gr)	O.D. (in.)	Nom. Thk. (in. or Gauge)	Number	Type (Straight or "U")

Items 14-17 Incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

14. Shell: Mat'l. (Spec. No., Gr) Nom. Thk. (in.) Corr. Allow. (in.) Diam I.D. (ft & in.) Length (Overall) (ft. & in.)

15. Seams: Long. (Dbl., Sngl.) R.T. (Spot or Full) Eff. (%) H.T. Temp. (F)
Time Girth. (Dbl., Sngl.) R.T. (Spot partial or Full) No. of Courses

16. Heads: (a) Mat'l. (Spec. No., Grade) (b) Mat'l. (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)										
(b)										

If removable, bolts used (describe other fastenings) ---

17. MAWP 600 psi at max. temp. 500 F, Min. design metal temp. 35 F at 600 psi.
Hydro., pneu., or comb. test press. 900 psi.

Form U-1 (Back)

18. Nozzles, Inspection and Safety Valve Openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diam. or Size	Type	Mat'l	Nom. Thk.	Reinforcement Mat'l.	How Attach.	Location
Vent	one	3/4" NPS	Pipe	SA-106 Gr. B	0.154	None	Welded	Header
Drain	one	3/4" NPS	Pipe	SA-106 Gr. B	0.154	None	Welded	Header
Instr	three	3/4" NPS	Pipe	SA-106 Gr. B	0.154	None	Welded	Header

19. Supports: Skirt No Lugs 0 Legs 0 Other N/A Attach. Headers supported by Duct frame
(Yes or no) (No.) (No.) (Describe) (Where and how)

20. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: No Partial Data Reports.

(Name of part, item number, mfr's. name and identifying stamp)

Economizer consists of (2) 4" SCH 160 SA-106B headers with 4" 600# RF so flanges and 1/2"
SA-285 GRC heads joined by (18) 1 1/4" (.120) SA-178 GrA serpentine tubes enclosed
in flanged duct casing of 3/16" THK carbon steel plate. Safety valves located on associated piping.
S/O 7026 Impact Test Exempt per UG-20(f).

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

"U" Certificate of Authorization no. 14,693 expires July 11, 1993.

Date 5-18-92 Name Cannon Boiler Works, Inc. Signed Charles J. Thompson
(Manufacturer that constructed and certified boiler) (by representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Cannon Boiler Works, Inc. at Schrelber Industrial Park, 12th St. Bldg. 9-B, New Kensington, Pa. 15068

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the state or province of Pennsylvania and employed by Kemper National Insurance Companies

of Long Grove, IL have inspected the pressure vessel described in this Manufacturer's Data

Report on 5-18, 1992, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his

employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturer's Data Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss

of any kind arising from or connected with this inspection.

Date 5-18-92 Signed Arthur J. Thompson Commissions NB8153 PA2227
(Authorized Inspector) (Nat'l. bd. (incl. endorsements) state, prov. and no.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the filed assembly construction of all parts of this vessel conforms with the requirements of SECTION VIII, Division 1 of the ASME Boiler and Pressure Vessel Code.

"U" Certificate of Authorization no. _____ expires _____, 19____.

Date _____ Name _____ Signed _____
(Assembler that certified and constructed field assembly) (by representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the state or province of _____ and employed by _____

of _____ have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the

certificate of shop inspection, have been inspected by me and that, to the best of my knowledge and belief, the Manufacturer has

constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was

inspected and subjected to a hydrostatic test of _____ psi. By signing this certificate neither the Inspector nor his employer

makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report.

Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ Signed _____ Commissions _____
(Authorized Inspector) (Nat'l. bd. (incl. endorsements) state, prov. and no.)

SELECTION & SPECIFICATION DATA

Generic Type	Reinforced inorganic polymer (inert multi-polymeric matrix)
Description	<p>This is an extreme performance coating for hot, cryogenic and cycling exposures. Thermaline Heat Shield contains a unique blend of plate-like reinforcing pigments fortified with an inert polymeric matrix. The resulting film provides an outstanding barrier against corrosives and harsh exposures typically seen in elevated temperature environments. This versatile coating is ideal for all piping, vessels and equipment operating from cryogenic conditions up to 1200°F. It is particularly well suited to prevent corrosion under insulated equipment/piping for both carbon steel substrates and stainless steels. This fortified coating has superior shop handling properties over standard silicone coatings (see Curing). It is recommended for CS-6 and SS-5 systems of NACE SP0198 Standard Practice for coatings to control corrosion under insulation (CUI).</p>
Features	<ul style="list-style-type: none"> • Unique reinforced but flexible polymer film • Versatile use from cryogenic to 1200°F (650°C) exposures • Dries to handle without heat cure (See curing schedule) • Outstanding barrier properties • Protects steel from thermal wet cyclic conditions • Suitable for both shop and field application • Provides corrosion protection even with ambient temperature cure • Meets ISO 12944-6 C5-M Medium • Self priming or apply over Carbozinc 11 primers when uninsulated • Protects stainless steels from chlorides and stress corrosion cracking • Very fast recoat times
Color	0700 (Metallic Aluminum Grey) and J700 (Metallic Grey) only
Finish	Eggshell
Primer	Self-priming. May be used over Carbozinc 11 primers for uninsulated applications.
Dry Film Thickness	<p>3.5 - 5 mils (89 - 127 microns) per coat</p> <p>Two coats are recommended for optimal performance. For best results keep maximum dry film thickness below 12 mils (300 microns).</p>
Solids Content	By Volume 51% +/- 2%
Theoretical Coverage Rate	<p>818 ft²/gal at 1.0 mils (20.1 m²/l at 25 microns) 234 ft²/gal at 3.5 mils (5.7 m²/l at 88 microns) 164 ft²/gal at 5.0 mils (4.0 m²/l at 125 microns) Allow for loss in mixing and application.</p>
VOC Values	<p>As Supplied : 3.5 lbs/gal (420 g/l) Thinner 235 : 3.72 lbs/gal (446 g/l) Thinner 10 : 3.72 lbs/gal (446 g/l)</p>
Maximum Service Temperature	This product will handle thermal cycling from cryogenic of -321°F (-196°C) to high heat of 1200°F (649°C).
Topcoats	<ul style="list-style-type: none"> • Thermaline 4900 and 4900 VOC colors may be used, except for Thermaline 4900 Aluminum and 4900 VOC Aluminum. • Only topcoat for atmospheric service.

Thermaline® Heat Shield

PRODUCT DATA SHEET



SUBSTRATES & SURFACE PREPARATION

General	All surfaces must be thoroughly cleaned to remove dirt, grease, mill scale, loose rust and any other contaminants that can reduce adhesion via SSPC-SP1 solvent cleaning along with the recommended surface preparation as referenced below.
Stainless Steel	See SSPC-SP16 for reference. Surface profile should be a dense angular 1-3 mils and is best achieved through abrasive blasting. Remove all contaminants that would interfere with the performance of stainless steel for the intended service such as, but not limited to, embedded iron or chlorides. Follow SSPC-SP11 for repairs.
Ferrous Metal	For optimum performance, abrasive blast to SSPC-SP10 (NACE No.2) to obtain a 1-3 mil (25-75 micron) blast profile. Where blasting is impractical or not permitted use hand power tools to prepare surface to SSPC-SP11 or SSPC-SP15 to obtain a 1-2 mil profile (25-50 microns). A better cleaning method will improve performance and service life.

MIXING & THINNING

Mixing	Power mix base component and then add Thermaline Heat Shield Part B (Fortifier HT) to base and mix to uniformity. For field applications only to in situ equipment and structures, please note that the addition of Thermaline Heat Shield Part B (Fortifier HT) to the base component may be considered optional.
Thinning	Thinning not normally required for spray application. For applications over hot surfaces (up to 500°F/260°C) conventional spray is the preferred method of application. For small areas or touch-up use a brush and thin up to 6% by volume with Thinner #10 or Thinner 236 E for normal temperatures or up to 6% with Thinner 230 for hot surface applications. Use of thinners other than those supplied or approved by Carboline may adversely affect product performance and will void product warranty whether express or implied.
Ratio	(Optional) Add Fortifier HT at a ratio of 25:1 or 5.12oz/gallon, yielding 133.12 oz/kit If not using Fortifier HT, follow heat curing instructions found on the Thermaline Heat Shield Application Guide before handling the coated items.
Pot Life	8 hours at 75°F (24°). Less at higher temperatures.

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Conventional Spray	Pressure pot equipped with dual regulators, 3/8" ID minimum material hose, 0.070" fluid tip with appropriate air cap. Adjust air pressure to provide uniform spray pattern.
Airless Spray	Pump Ratio: 32:1 (min)* Volume Output: 2.5 gpm (11.5 lpm)(min) Material Hose: 1/2" ID (12.5 mm)(min) Tip Size: 0.017-0.021" (0.043-0.053 mm) Output PSI: 1500-2000 (105-140 kg/cm2) *PTFE packings are recommended and available from the pump manufacturer.
Brush & Roller (General)	Use a natural bristle brush applying in full strokes. Avoid rebrushing. If rolled, use a short nap roller with solvent resistant core. Avoid rerolling. Appearance will vary using brush or roller application methods due to the orientation of the aluminum flake.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	55°F (13°C)	50°F (10°C)	45°F (7°C)	0%
Maximum	90°F (32°C)	500°F (260°C)	100°F (38°C)	95%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry to Recoat	Dry to Handle
50°F (10°C)	1 Hour	6 Hours	6 Hours
60°F (16°C)	1 Hour	3 Hours	5.5 Hours
75°F (24°C)	45 Minutes	1 Hour	5 Hours
90°F (32°C)	30 Minutes	1 Hour	2 Hours

Curing Details

These times are based on the recommended dry film thicknesses, 3.5 to 5 mils. Excessive film thickness or inadequate ventilating conditions after application require longer dry times and will cause premature failure in extreme cases. Lower humidity may lengthen dry time.

Force Cure Parameters: Raise substrate temperature slowly until it reaches 500°F (260°C). The maximum rate of heat increase is 30°F (17°C) every thirty minutes, but Carboline recommends a gentle heat rise of 30°F (17°C) every sixty minutes (approximately 7-14 hours from 25°C to 260°C). Once the substrate has reached 500°F (260°C), hold for two hours to achieve maximum film durability.

Note: Avoid rapid temperature excursion for the first heat cycle; particularly early in the cure.

For recoat time via brush or roller, follow the dry to handle time (thumb twist test). This product has superior handling properties over standard silicones (harder film), but has some thumbnail softness until it has undergone a heat excursion. In these cases use padded slings and dunnage. Typical dry-to-ship time is 24 hours.

CLEANUP & SAFETY

Cleanup | Use Thinner #2 or Acetone.

Ventilation | When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.

Caution | This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life | 12 months at 75°F(24°C)

Storage Temperature & Humidity | 40°-120°F(4°-49°C)
0-95% Relative Humidity

Thermaline[®] Heat Shield

PRODUCT DATA SHEET



PACKAGING, HANDLING & STORAGE

Storage	Store indoors
Shipping Weight (Approximate)	1.04 Gallon - 14 lbs (6.35 kg) 5.2 Gallon - 70 lbs (31.75 kg)
Flash Point (Setaflash)	Part A (base component): 80°F(27°C) Thermaline Heat Shield Part B (Fortifier HT): 108°F (42°C)

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.

SELECTION & SPECIFICATION DATA

Generic Type	Ultra high performance epoxy hybrid
Description	A single coat lining fortified with Supoxy®, an advanced resin technology, champions exceptional chemical and heat resistance. This intricately crosslinked, ceramic-filled lining establishes a resilient barrier tailored for demanding service conditions, including firetubes, heater-treaters, knockout drums, separators, and the containment of molten sulfur.
Features	<ul style="list-style-type: none"> • High temperature and pressure resistance • Exceptional wear resistance • Excellent performance in Steam Out service • Outstanding adhesion • Single coat protection • Batch mix application • Fast return to service • Thin film protection • Suitable for use on fire tubes and knock out drums • Suitable for use on molten sulfur rail cars
Typical Uses	High temperature pressure vessel lining applications are possible, however specific conditions must be validated in lab or in situ.
Color	Grey (0700)
Finish	Semi-Gloss
Primer	Primer is not recommended; Plasite XHT 400 should be applied direct to metal.
Dry Film Thickness	12 - 40 mils (305 - 1016 microns) per coat 10-14 mils (254-356 microns) for fire tubes. Consult Carboline for appropriate thickness for vessel lining applications.
Solids Content	By Volume 85% +/- 2%
Theoretical Coverage Rate	1363 ft²/gal at 1.0 mils (33.5 m²/l at 25 microns) 114 ft²/gal at 12.0 mils (2.8 m²/l at 300 microns) 34 ft²/gal at 40.0 mils (0.8 m²/l at 1000 microns) Allow for loss in mixing and application.
VOC Values	As Supplied : 98 g/L
Dry Temp. Resistance	Continuous: 450°F (232°C) Discoloration and loss of gloss occurs above 200°F (93°C) but does not affect performance.

SUBSTRATES & SURFACE PREPARATION

General	<p>Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.</p> <p>Remove excessive soluble salts by using Chlor*Rid, Holdtight 102, OxNot, CleanWirx, or approved equal per their most recent published directions. Contact Technical Service for more detailed testing and removal standards.</p>
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SUBSTRATES & SURFACE PREPARATION

Steel	Immersion: Minimum surface cleanliness of SSPC-SP10/NACE No. 2 is Required with a minimum 3 mil angular anchor profile with no low mil areas. SSPC-SP5/NACE No. 1 is required for high temperature or extreme services such as Fire Tubes.
Stainless Steel	Prepare by abrasive blasting to SSPC-SP 17 Thorough Abrasive Blast to a minimum of 3 mils (75 microns) dense angular anchor profile.

MIXING & THINNING

Mixing	Mix Part A with a power mixer. Add Part B and continue mixing until homogeneous.
Thinning	Thinning is not recommended
Ratio	Approximately 4.88:1 A:B Do not mix partial kits.
Working Time at 75° F (24° C)	60 minutes

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Conventional Spray	Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, 0.070" I.D. fluid tip and appropriate air cap. Adjust air pressure to approximately 45 psi at the gun and provide 10-20 lbs. of pot pressure.
Airless Spray	<p>A stainless steel hopper feed is recommended when applying by airless sprayer. Pump Ratio: 30:1 (min.) GPM Output: 2.5 ga/min (9.5 L/min) (min.) Material Hose: 3/8" (905 mm) I.D. (min.) Tip Size: .021" -.029"</p> <p>NOTE: Due to the high abrasion resistant additives in this product, a greater degree of tip wear is to be expected. Best spray tip results/longevity are obtained by using TriTech MAXX spray tips.</p> <p>Output Pressure: 1500-2300 psi (10.4-17.2 MPa) Filter Size: 60 mesh PTFE packings are recommended and available from pump manufacturer.</p>
Brush	Use a high quality, medium bristle brush. Recommended for small areas and repairs only. Apply a very light crisscross brush coat. Allow to dry for approximately 5 minutes. Then apply a heavy coat using a crisscross brush pattern. "Flow" the coating on rather than try to "brush out." Allow to dry tack free. Repeat until sufficient film thickness is obtained. Normally, a film thickness of 2.5-3 mils (62-75 microns) can be obtained per coat by this method. Any recoating must occur before the lining has reached dry to handle.
Roller	Not recommended.

APPLICATION CONDITIONS

Condition	Surface	Ambient	Humidity
Minimum	50°F (10°C)	35°F (2°C)	0%
Maximum	125°F (52°C)	110°F (43°C)	85%

Do not apply material when temperature will fall within 5 °F (3 °C) of the dew point.

Note: Prior to spray application, stripe brush all weld attachments and surface irregularities using Plasite XHT 400 thinned a minimum of 50% by volume with Thinner 76.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Touch	Final Cure Immersion
40°F (4°C)	30 Hours	15 Hours	4 Days
50°F (10°C)	15 Hours	9 Hours	3 Days
60°F (16°C)	9 Hours	6 Hours	2 Days
70°F (21°C)	7.5 Hours	4.5 Hours	24 Hours
80°F (27°C)	6 Hours	3.5 Hours	18 Hours
90°F (32°C)	4.5 Hours	3 Hours	12 Hours
100°F (38°C)	3.5 Hours	2.5 Hours	8 Hours

Cure times are based on surface temperatures and 50% relative humidity. If applying a stripe coat, the full coat must be applied while the stripe coat is still wet. Once the stripe coat becomes tacky, the recoat window has been exceeded. Once the recoat window has been exceeded, the lining must be allowed to harden and then abraded and cleaned before applying the full coat.

CLEANUP & SAFETY

Cleanup	Use Carboline Thinner 76. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions.
Ventilation	Ventilation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. Use MSHA/NIOSH approved air respirators as needed.
Caution	Fire and explosion hazards. Vapors are heavier than air and can travel long distances, ignite and flash back. Eliminate all ignition sources. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: 12 months at 75°F (24°C) Part B: 24 months at 75°F (24°C)
Storage Temperature & Humidity	40-110 °F (4-43 °C) 0-90% Relative Humidity
Storage	Store indoors, avoiding direct sunlight.

Plasite[®] XHT 400

PRODUCT DATA SHEET



PACKAGING, HANDLING & STORAGE

Shipping Weight (Approximate)	0.8 Gallon Kit - 11.4 lbs (5.2 kg) 4 Gallon Kit - 57 lbs (25.9 kg)
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Flash Point (Setaflash)	Part A: 70°F Part B: >200°F
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WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.

ARTICLE 7
PREVAILING MINIMUM
WAGE DETERMINATION

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project Name:	Contract 1803 Repairs to No. 1 Economizer and Evaporator
General Description:	Re-tube No. 1 economizer, perform steel plate casing overlays to the evaporators and economizers, replace a section of flue gas ductwork, etc.
Project Locality	Pittsburgh, PA
Awarding Agency:	Allegheny County Sanitary Authority
Contract Award Date:	6/26/2025
Serial Number:	25-04930
Project Classification:	Building
Determination Date:	5/7/2025
Assigned Field Office:	Pittsburgh
Field Office Phone Number:	(412)565-5300
Toll Free Phone Number:	(877)504-8354
Project County:	Allegheny County

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 25-04930 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	8/1/2023		\$42.40	\$29.01	\$71.41
Asbestos & Insulation Workers	8/1/2024		\$43.40	\$29.51	\$72.91
Boilermakers	6/1/2016		\$40.90	\$27.61	\$68.51
Bricklayer	6/1/2024		\$40.25	\$25.34	\$65.59
Bricklayer	12/1/2024		\$41.00	\$25.59	\$66.59
Carpenters - Piledriver/Welder	1/1/2023		\$40.63	\$21.22	\$61.85
Carpenters - Piledriver/Welder	1/1/2024		\$42.13	\$21.97	\$64.10
Carpenters - Piledriver/Welder	1/1/2025		\$43.38	\$22.72	\$66.10
Carpenters - Piledriver/Welder	1/1/2026		\$44.63	\$23.47	\$68.10
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2023		\$39.69	\$19.93	\$59.62
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2024		\$41.49	\$19.93	\$61.42
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2025		\$43.34	\$19.93	\$63.27
Cement Masons	6/1/2023		\$33.07	\$23.59	\$56.66
Cement Masons	7/1/2024		\$34.57	\$25.09	\$59.66
Drywall Finisher	6/1/2023		\$32.39	\$23.75	\$56.14
Drywall Finisher	6/1/2024		\$34.01	\$24.63	\$58.64
Electricians & Telecommunications Installation Technician	12/22/2023		\$48.61	\$31.80	\$80.41
Electricians & Telecommunications Installation Technician	12/27/2024		\$50.86	\$32.69	\$83.55
Electricians & Telecommunications Installation Technician	12/26/2025		\$54.16	\$32.69	\$86.85
Elevator Constructor	1/1/2023		\$56.14	\$42.83	\$98.97
Elevator Constructor	1/1/2024		\$58.55	\$43.87	\$102.42
Elevator Constructor	1/1/2025		\$61.07	\$40.05	\$101.12
Glazier	9/1/2023		\$35.65	\$30.05	\$65.70
Glazier	9/1/2024		\$37.06	\$31.89	\$68.95
Iron Workers	6/1/2023		\$38.89	\$35.02	\$73.91
Iron Workers	6/1/2024		\$39.89	\$36.47	\$76.36
Iron Workers	6/1/2025		\$41.50	\$37.36	\$78.86
Laborers (Class 01 - See notes)	1/1/2023		\$25.82	\$19.46	\$45.28
Laborers (Class 01 - See notes)	1/1/2024		\$26.82	\$19.46	\$46.28
Laborers (Class 01 - See notes)	1/1/2025		\$27.32	\$19.96	\$47.28
Laborers (Class 01 - See notes)	1/1/2026		\$27.82	\$20.46	\$48.28
Laborers (Class 02 - See notes)	1/1/2023		\$25.97	\$19.46	\$45.43
Laborers (Class 02 - See notes)	1/1/2024		\$26.97	\$19.46	\$46.43
Laborers (Class 02 - See notes)	1/1/2025		\$27.47	\$19.96	\$47.43
Laborers (Class 02 - See notes)	1/1/2026		\$27.97	\$20.46	\$48.43
Laborers (Class 03 - See notes)	1/1/2023		\$28.97	\$19.46	\$48.43
Laborers (Class 03 - See notes)	1/1/2024		\$29.97	\$19.46	\$49.43
Laborers (Class 03 - See notes)	1/1/2025		\$30.47	\$19.96	\$50.43
Laborers (Class 03 - See notes)	1/1/2026		\$30.97	\$20.46	\$51.43
Laborers (Class 04 - See notes)	1/1/2021		\$23.57	\$19.32	\$42.89

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 25-04930 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Landscape Laborer (Skilled)	1/1/2024		\$24.79	\$18.53	\$43.32
Landscape Laborer (Skilled)	1/1/2025		\$25.79	\$18.78	\$44.57
Landscape Laborer (Skilled)	1/1/2026		\$26.79	\$19.03	\$45.82
Landscape Laborer (Tractor Operator)	1/1/2024		\$25.09	\$18.53	\$43.62
Landscape Laborer (Tractor Operator)	1/1/2025		\$26.09	\$18.78	\$44.87
Landscape Laborer (Tractor Operator)	1/1/2026		\$27.09	\$19.03	\$46.12
Landscape Laborer	1/1/2024		\$24.37	\$18.53	\$42.90
Landscape Laborer	1/1/2025		\$25.37	\$18.78	\$44.15
Landscape Laborer	1/1/2026		\$26.37	\$19.03	\$45.40
Millwright	6/1/2020		\$41.68	\$20.32	\$62.00
Operators (Class 01 - see notes)	6/1/2022		\$38.89	\$23.69	\$62.58
Operators (Class 01 - see notes)	6/1/2023		\$40.69	\$23.89	\$64.58
Operators (Class 01 - see notes)	6/1/2024		\$41.69	\$24.39	\$66.08
Operators (Class 01 - see notes)	6/1/2025		\$42.72	\$24.79	\$67.51
Operators (Class 01 - see notes)	6/1/2026		\$43.74	\$25.29	\$69.03
Operators (Class 02 -see notes)	6/1/2022		\$32.82	\$23.69	\$56.51
Operators (Class 02 -see notes)	6/1/2023		\$34.62	\$23.89	\$58.51
Operators (Class 02 -see notes)	6/1/2024		\$35.62	\$24.39	\$60.01
Operators (Class 02 -see notes)	6/1/2025		\$36.67	\$24.79	\$61.46
Operators (Class 02 -see notes)	6/1/2026		\$37.67	\$25.29	\$62.96
Operators (Class 03 - See notes)	6/1/2022		\$30.03	\$23.69	\$53.72
Operators (Class 03 - See notes)	6/1/2023		\$31.83	\$23.89	\$55.72
Operators (Class 03 - See notes)	6/1/2024		\$32.83	\$24.39	\$57.22
Operators (Class 03 - See notes)	6/1/2025		\$33.88	\$24.79	\$58.67
Operators (Class 03 - See notes)	6/1/2026		\$34.88	\$25.29	\$60.17
Painters Class 6 (see notes)	6/1/2023		\$30.56	\$24.01	\$54.57
Painters Class 6 (see notes)	6/1/2024		\$32.14	\$24.93	\$57.07
Painters Class 6 (see notes)	6/1/2025		\$34.16	\$25.81	\$59.97
Piledrivers	1/1/2023		\$39.13	\$21.22	\$60.35
Piledrivers	1/1/2024		\$40.63	\$21.97	\$62.60
Piledrivers	1/1/2025		\$41.88	\$22.72	\$64.60
Piledrivers	1/1/2026		\$43.13	\$23.47	\$66.60
Plasterers	6/1/2023		\$32.14	\$20.54	\$52.68
Plasterers	6/1/2024		\$33.14	\$21.04	\$54.18
plumber	6/1/2023		\$48.65	\$25.87	\$74.52
plumber	6/1/2024		\$51.75	\$25.87	\$77.62
plumber	6/1/2025		\$54.95	\$25.87	\$80.82
plumber	6/1/2026		\$58.05	\$25.87	\$83.92
plumber	6/1/2027		\$61.15	\$25.87	\$87.02
Pointers, Caulkers, Cleaners	12/1/2022		\$35.47	\$20.88	\$56.35
Pointers, Caulkers, Cleaners	6/1/2024		\$38.59	\$21.36	\$59.95
Pointers, Caulkers, Cleaners	12/1/2024		\$39.69	\$21.61	\$61.30
Roofers	6/1/2023		\$37.00	\$19.92	\$56.92
Roofers	6/2/2024		\$38.00	\$20.67	\$58.67

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 25-04930 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Sheet Metal Workers	8/1/2023		\$41.00	\$32.94	\$73.94
Sheet Metal Workers	7/1/2024		\$43.00	\$33.96	\$76.96
Sign Makers and Hangars	7/15/2023		\$31.76	\$24.63	\$56.39
Sign Makers and Hangars	7/15/2024		\$32.32	\$25.82	\$58.14
Sprinklerfitters	7/1/2023		\$43.84	\$25.50	\$69.34
Sprinklerfitters	1/1/2024		\$43.28	\$26.06	\$69.34
Sprinklerfitters	7/1/2024		\$45.38	\$26.46	\$71.84
Sprinklerfitters	1/1/2025		\$44.79	\$27.05	\$71.84
Steamfitters	6/1/2023		\$46.10	\$28.37	\$74.47
Steamfitters	6/1/2024		\$48.15	\$29.57	\$77.72
Steamfitters	6/1/2025		\$50.20	\$31.02	\$81.22
Stone Masons	6/1/2024		\$42.35	\$23.97	\$66.32
Stone Masons	12/1/2024		\$43.10	\$24.22	\$67.32
Terrazzo Finisher	6/1/2023		\$39.79	\$18.47	\$58.26
Terrazzo Finisher	12/1/2024		\$41.04	\$18.72	\$59.76
Terrazzo Mechanics	12/1/2022		\$35.49	\$20.32	\$55.81
Terrazzo Mechanics	6/1/2024		\$39.14	\$20.77	\$59.91
Terrazzo Mechanics	12/1/2024		\$40.39	\$21.02	\$61.41
Tile Finisher	12/1/2022		\$28.76	\$17.34	\$46.10
Tile Finisher	6/1/2024		\$31.56	\$17.74	\$49.30
Tile Finisher	12/1/2024		\$32.51	\$17.99	\$50.50
Tile Setter	12/1/2022		\$35.64	\$21.81	\$57.45
Tile Setter	6/1/2024		\$38.46	\$22.19	\$60.65
Tile Setter	12/1/2024		\$39.41	\$22.44	\$61.85
Truckdriver class 1(see notes)	1/1/2023		\$33.18	\$22.21	\$55.39
Truckdriver class 1(see notes)	1/1/2024		\$34.93	\$22.71	\$57.64
Truckdriver class 1(see notes)	1/1/2025		\$36.43	\$23.21	\$59.64
Truckdriver class 1(see notes)	1/1/2026		\$37.93	\$23.71	\$61.64
Truckdriver class 2 (see notes)	1/1/2023		\$33.64	\$22.52	\$56.16
Truckdriver class 2 (see notes)	1/1/2024		\$35.39	\$23.02	\$58.41
Truckdriver class 2 (see notes)	1/1/2025		\$36.89	\$23.52	\$60.41
Truckdriver class 2 (see notes)	1/1/2026		\$38.39	\$24.02	\$62.41
Window Film / Tint Installer	10/1/2019		\$25.00	\$2.63	\$27.63

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 25-04930 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter	1/1/2023		\$38.60	\$20.59	\$59.19
Carpenter	1/1/2024		\$40.10	\$21.34	\$61.44
Carpenter	1/1/2025		\$41.35	\$22.09	\$63.44
Carpenter	1/1/2026		\$42.60	\$22.84	\$65.44
Carpenter Welder	1/1/2023		\$40.10	\$20.59	\$60.69
Carpenter Welder	1/1/2024		\$41.60	\$21.34	\$62.94
Carpenter Welder	1/1/2025		\$42.85	\$22.09	\$64.94
Carpenter Welder	1/1/2026		\$44.10	\$22.84	\$66.94
Carpenters - Piledriver/Welder	1/1/2023		\$40.63	\$21.22	\$61.85
Carpenters - Piledriver/Welder	1/1/2024		\$42.13	\$21.97	\$64.10
Carpenters - Piledriver/Welder	1/1/2025		\$43.38	\$22.72	\$66.10
Carpenters - Piledriver/Welder	1/1/2026		\$44.63	\$23.47	\$68.10
Cement Finishers	1/1/2023		\$34.14	\$25.05	\$59.19
Cement Finishers	1/1/2024		\$35.14	\$26.30	\$61.44
Cement Finishers	1/1/2025		\$35.94	\$27.50	\$63.44
Cement Masons	1/1/2020		\$32.84	\$21.10	\$53.94
Electric Lineman	5/29/2023		\$52.56	\$29.99	\$82.55
Electric Lineman	6/3/2024		\$53.97	\$31.05	\$85.02
Electricians & Telecommunications Installation Technician	12/22/2023		\$48.61	\$31.80	\$80.41
Electricians & Telecommunications Installation Technician	12/27/2024		\$51.76	\$31.80	\$83.56
Electricians & Telecommunications Installation Technician	12/26/2025		\$55.06	\$31.80	\$86.86
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2023		\$38.89	\$35.02	\$73.91
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2024		\$39.89	\$36.47	\$76.36
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	6/1/2025		\$41.50	\$37.36	\$78.86
Laborers (Class 01 - See notes)	1/1/2023		\$29.95	\$25.50	\$55.45
Laborers (Class 01 - See notes)	1/1/2024		\$32.20	\$25.50	\$57.70
Laborers (Class 01 - See notes)	1/1/2025		\$33.70	\$26.00	\$59.70
Laborers (Class 01 - See notes)	1/1/2026		\$34.70	\$27.00	\$61.70
Laborers (Class 02 - See notes)	1/1/2023		\$30.11	\$25.50	\$55.61
Laborers (Class 02 - See notes)	1/1/2024		\$32.36	\$25.50	\$57.86
Laborers (Class 02 - See notes)	1/1/2025		\$33.86	\$26.00	\$59.86
Laborers (Class 02 - See notes)	1/1/2026		\$34.86	\$27.00	\$61.86
Laborers (Class 03 - See notes)	1/1/2023		\$30.50	\$25.50	\$56.00
Laborers (Class 03 - See notes)	1/1/2024		\$32.75	\$25.50	\$58.25
Laborers (Class 03 - See notes)	1/1/2025		\$34.25	\$26.00	\$60.25
Laborers (Class 03 - See notes)	1/1/2026		\$35.25	\$27.00	\$62.25
Laborers (Class 04 - See notes)	1/1/2023		\$30.95	\$25.50	\$56.45
Laborers (Class 04 - See notes)	1/1/2024		\$33.20	\$25.50	\$58.70
Laborers (Class 04 - See notes)	1/1/2025		\$34.70	\$26.00	\$60.70
Laborers (Class 04 - See notes)	1/1/2026		\$35.70	\$27.00	\$62.70

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 25-04930 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 05 - See notes)	1/1/2023		\$31.36	\$25.50	\$56.86
Laborers (Class 05 - See notes)	1/1/2024		\$33.61	\$25.50	\$59.11
Laborers (Class 05 - See notes)	1/1/2025		\$35.11	\$26.00	\$61.11
Laborers (Class 05 - See notes)	1/1/2026		\$36.11	\$27.00	\$63.11
Laborers (Class 06 - See notes)	1/1/2023		\$28.20	\$25.50	\$53.70
Laborers (Class 06 - See notes)	1/1/2024		\$30.45	\$25.50	\$55.95
Laborers (Class 06 - See notes)	1/1/2025		\$31.95	\$26.00	\$57.95
Laborers (Class 06 - See notes)	1/1/2026		\$32.95	\$27.00	\$59.95
Laborers (Class 07 - See notes)	1/1/2023		\$30.95	\$25.50	\$56.45
Laborers (Class 07 - See notes)	1/1/2024		\$33.20	\$25.50	\$58.70
Laborers (Class 07 - See notes)	1/1/2025		\$34.70	\$26.00	\$60.70
Laborers (Class 07 - See notes)	1/1/2026		\$35.70	\$27.00	\$62.70
Laborers (Class 08 - See notes)	1/1/2023		\$32.45	\$25.50	\$57.95
Laborers (Class 08 - See notes)	1/1/2024		\$34.70	\$25.50	\$60.20
Laborers (Class 08 - See notes)	1/1/2025		\$36.20	\$26.00	\$62.20
Laborers (Class 08 - See notes)	1/1/2026		\$37.20	\$27.00	\$64.20
Millwright	6/1/2023		\$45.50	\$23.72	\$69.22
Millwright	6/1/2024		\$47.59	\$23.72	\$71.31
Millwright	6/1/2025		\$49.72	\$23.72	\$73.44
Operators (Class 01 - see notes)	1/1/2023		\$36.79	\$23.58	\$60.37
Operators (Class 01 - see notes)	1/1/2024		\$38.59	\$24.03	\$62.62
Operators (Class 01 - see notes)	1/1/2025		\$40.39	\$24.23	\$64.62
Operators (Class 01 - see notes)	1/1/2026		\$41.96	\$24.66	\$66.62
Operators (Class 02 -see notes)	1/1/2023		\$36.53	\$23.58	\$60.11
Operators (Class 02 -see notes)	1/1/2024		\$38.33	\$24.03	\$62.36
Operators (Class 02 -see notes)	1/1/2025		\$40.13	\$24.23	\$64.36
Operators (Class 02 -see notes)	1/1/2026		\$41.70	\$24.66	\$66.36
Operators (Class 03 - See notes)	1/1/2023		\$32.88	\$23.58	\$56.46
Operators (Class 03 - See notes)	1/1/2024		\$34.68	\$24.03	\$58.71
Operators (Class 03 - See notes)	1/1/2025		\$36.48	\$24.23	\$60.71
Operators (Class 03 - See notes)	1/1/2026		\$38.05	\$24.66	\$62.71
Operators (Class 04 - See notes)	1/1/2023		\$32.42	\$23.58	\$56.00
Operators (Class 04 - See notes)	1/1/2024		\$34.22	\$24.03	\$58.25
Operators (Class 04 - See notes)	1/1/2025		\$36.02	\$24.23	\$60.25
Operators (Class 04 - See notes)	1/1/2026		\$37.59	\$24.66	\$62.25
Operators (Class 05 - See notes)	1/1/2023		\$32.17	\$23.58	\$55.75
Operators (Class 05 - See notes)	1/1/2024		\$33.97	\$24.03	\$58.00
Operators (Class 05 - See notes)	1/1/2025		\$35.77	\$24.23	\$60.00
Operators (Class 05 - See notes)	1/1/2026		\$37.34	\$24.66	\$62.00
Operators Class 1-A	1/1/2023		\$39.79	\$23.58	\$63.37
Operators Class 1-A	1/1/2024		\$41.59	\$24.03	\$65.62
Operators Class 1-A	1/1/2025		\$43.39	\$24.23	\$67.62
Operators Class 1-A	1/1/2026		\$44.96	\$24.66	\$69.62
Operators Class 1-B	1/1/2023		\$38.79	\$23.58	\$62.37

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

Project: 25-04930 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators Class 1-B	1/1/2024		\$40.59	\$24.03	\$64.62
Operators Class 1-B	1/1/2025		\$42.39	\$24.23	\$66.62
Operators Class 1-B	1/1/2026		\$43.96	\$24.66	\$68.62
Painters Class 1 (see notes)	6/1/2022		\$34.45	\$22.82	\$57.27
Painters Class 2 (see notes)	6/1/2023		\$36.01	\$24.01	\$60.02
Painters Class 2 (see notes)	6/1/2024		\$38.09	\$24.93	\$63.02
Painters Class 2 (see notes)	6/1/2025		\$40.36	\$25.81	\$66.17
Painters Class 3 (see notes)	6/1/2023		\$38.33	\$24.01	\$62.34
Painters Class 3 (see notes)	6/1/2024		\$40.66	\$24.93	\$65.59
Painters Class 3 (see notes)	6/1/2025		\$43.69	\$25.81	\$69.50
Painters Class 4 (see notes)	6/1/2019		\$28.20	\$20.06	\$48.26
Painters Class 5 (see notes)	6/1/2019		\$22.91	\$20.06	\$42.97
Pile Driver Divers (Building, Heavy, Highway)	1/1/2023		\$58.70	\$21.22	\$79.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2024		\$60.95	\$21.97	\$82.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2025		\$62.82	\$22.72	\$85.54
Pile Driver Divers (Building, Heavy, Highway)	1/1/2026		\$64.70	\$23.47	\$88.17
Piledrivers	1/1/2023		\$39.13	\$21.22	\$60.35
Piledrivers	1/1/2024		\$40.63	\$21.97	\$62.60
Piledrivers	1/1/2025		\$41.88	\$22.72	\$64.60
Piledrivers	1/1/2026		\$43.13	\$23.47	\$66.60
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2022		\$48.43	\$40.28	\$88.71
Truckdriver class 1(see notes)	1/1/2023		\$33.18	\$22.21	\$55.39
Truckdriver class 1(see notes)	1/1/2024		\$34.93	\$22.71	\$57.64
Truckdriver class 1(see notes)	1/1/2025		\$36.43	\$23.21	\$59.64
Truckdriver class 1(see notes)	1/1/2026		\$37.93	\$23.71	\$61.64
Truckdriver class 2 (see notes)	1/1/2023		\$33.64	\$22.52	\$56.16
Truckdriver class 2 (see notes)	1/1/2024		\$35.39	\$23.02	\$58.41
Truckdriver class 2 (see notes)	1/1/2025		\$36.89	\$23.52	\$60.41
Truckdriver class 2 (see notes)	1/1/2026		\$38.39	\$24.02	\$62.41